11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

UNDERGROUND COAL MINING AND RECLAMATION PERMIT APPLICATION

Applicant The Ohio Valley Coal Company

A. Type of Operation (check appropriate space(s)):

_____ Shaft, _____ Slope, _____ Drift,
_X_ Room and Pillar, _____ Pillar Extraction,
_X_ Longwall, _____ Combined Surface and Underground

B. Type of Application (check appropriate space(s)):

(1) _____ New
(2) _____ Initial Underground Workings to Existing Permit
(3) _X_ Additional Underground Workings

C. Address the following if applicable:

(1) Permit Number D-0360
(2) Date Issued 6/20/84

D. Did a person other than an employee of the applicant prepare this application? _____ Yes, _X_ No. If "yes," provide:

Preparer's Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

E. I, the undersigned, a responsible official of the applicant, do hereby verify the information in the complete permit application as true and correct to the best of my information and belief.

Printed Name Robert E. Murray; Title President and Chief Executive Officer

Signature Robert E. Murray; Date May 2, 1997

Sworn before me and subscribed in my presence this

2ND day of May, 1997.

Claude L. Luke
Notary Public

NOTARIAL SEAL STATE OF OHIO

CLAUDE L. LUKE
Notary Public, State of Ohio
My Commission Expires August 21, 2001
Recorded in Belmont County

Probable Hydrologic Consequences

Ohio Valley Coal Company
Powhatan No. 6 Mine
Application Area D-0360-7

Prepared For:

The Ohio Valley Coal Company
56854 Pleasant Ridge Road
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April 25, 1997
Revised January 29, 1998
Revised March 3, 1998

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TABLE OF CONTENTS

INTRODUCTION 1
TOPOGRAPHIC SETTING 1
GEOLOGIC SETTING 2
GENERAL HYDROLOGIC SETTING 3
Aquifer A: Unconsolidated Material 5
Aquifer B: Washington No. 12 Cyclothem 5
Aquifer C: Waynesburg No. 11 Cyclothem 6
Aquifer D: Sewickley No. 9 Cyclothem 6
WATER SUPPLIES 6
EVALUATION OF HYDROLOGIC IMPACT IN PREVIOUSLY MINED AREAS 7
Literature Review 7
Quantity Impacts In Previously Mined Areas 8
Quality Impacts In Previously Mined Areas 13
PROBABLE HYDROLOGIC CONSEQUENCES SUMMARY 14
Surface Water 14
Ground Water 15
Post Mining Water Breakouts 16
Abandoned Mine Bt – 100 16
Water Supplies 17
FIGURE 1 - Sketch Showing Relationship of Water Supplies to Longwall Panel .....
TABLE 1 - Water Well Data Summary Application Area D-0360-6 .....
TABLE 2 - Developed Spring Data Summary Application Area D-0360-6 .....
TABLE 3 - Summary of Mining Impacts on Wells - Areas D-0360-2 and D-0360-3 .....
TABLE 4 - Summary of Mining Impacts on Springs - Areas D-0360-2 and D-0360-3 .....
TABLE 5 - Distance from Mine Face to Impacted Wells and Springs Areas D-0360-2 and D-0360-3 .....
TABLE 6 - Ground Water Quality Summary - Areas D-0360-2 and D-0360-3 .....
TABLE 7 - Comparison of Actual and Predicted Hydrologic Impacts for Application Area D-0360-2 .....
APPENDIX A - Well Hydrographs - Applications Areas D-0360-2 and D-0360-3 .....End of Text
APPENDIX B - Spring Discharge Graphs-Applications Areas D-0360-2 and D-0360-3 .....End of Text
ANNOTATED BIBLIOGRAPHY .....End of Text

INTRODUCTION

Since 1987, seven longwall application areas of the Powhatan No. 6 Mine have been evaluated relative to the Potential Hydrologic Consequences (PHC) of mining activities. These areas, which are contiguous, are illustrated on the past and future application map of the permit application and include:

Application Area	Year Prepared	Prepared By
R-0360-2	1987	Moody and Associates, Inc.
D-0360-1	1990	Moody and Associates, Inc.
D-0360-2	1991	Moody and Associates, Inc.
D-0360-3	1992	William Siplivy P.E. & C.P.G. (Two additional applications were prepared by OVCC using this PHC for two small areas within the D-0360-3 area. They were identified as D-0360-4 and D-0360-5).
D-0360-6	1996	Moody and Associates, Inc.

This PHC has been prepared for Application Area D-0360-7 on behalf of the Ohio Valley Coal Company by Moody and Associates, Incorporated. Through the efforts of OVCC, an extensive water well and spring monitoring program has been developed and it is now possible to evaluate the impacts of past mining activities on water supplies in detail thereby improving the predictive capabilities of the PHC.

TOPOGRAPHIC SETTING

The Powhatan No. 6 Mine is located in Belmont County in southeastern Ohio. The topography of the entire application area is typical of the Appalachian Plateau Province and is characterized by narrow rounded ridges and deep V shaped valleys dissecting the terrain, which is underlain by essentially horizontal sedimentary rocks. Topographic relief within the D-0360-7 application area is approximately 380 feet. The lowest elevation is approximately 1020 feet, located where Hutchison Run crosses the northeastern application area boundary. The highest elevation is 1397 feet at the benchmark on the top of Galloway Knob in the center of the application area.

The surface drainage within the application area is divided into three drainage areas. Lucas Lash Road, which runs east to west through the center of the application area, marks the approximate

location of the drainage divide. The southern half of the area drains to the south, through unnamed tributaries of Williams Creek. Williams Creek is a tributary of McMahon Creek. The northern half drains to the north and east through Hutchison Run and unnamed tributaries to McMahon Creek. Hutchison Run is also a tributary of McMahon Creek. A small portion of the southwest corner of the application area drains southward to Joy Fork, which is a part of the Captina Creek drainage area.

Most of the developed water supplies (wells and springs) are located along the roads in the application area. There is a concentration of water supplies in the southeast corner of the application area along Hart Road and State Route 9. Another concentration is located along Lucas Lash Road. The remainder of the water supplies are scattered throughout the area along other roads. There are two large sections of the applications area that have few developed water supplies in them. These two sections are the section north of Lucas Lash Road to McMahon Creek and the section south of Lucas Lash Road to Hart Road. A total of 38 used wells and 18 used developed springs were identified and inventoried within the hydrologic boundary of the application area. Fifteen (15) of the used wells and six (6) of the used developed springs are outside the planned mining area but are within the hydrologic boundary. There are 21 unused wells and 10 unused developed springs within the hydrologic boundary. Seventeen ponds were identified and inventoried within the hydrologic boundary.

GEOLOGIC SETTING

A detailed discussion of the stratigraphic and structural setting of the Application Area is provided in the Geologic Section of this application. However, those properties of the geologic setting pertinent to ground water occurrence and movement are described here.

The bedrock units that outcrop in the Application Area belong to the Dunkard Group that is Upper Pennsylvanian to Permian in age. The rocks consist of interbedded sandstone, siltstone, shale, mudstone, clay, fresh to brackish water limestone and coal. The Monongahela Formation (Pennsylvanian) underlies the Dunkard Group and consists of similar rock types. The Pittsburgh (No. 8) Coal Bed, which is the seam to be mined, marks the bottom of the Monongahela Formation. According to Mr. James M. Raab, a hydrogeologist with the Ohio Department of Natural Resources, in correspondence to Dave Bartsch of the Ohio Valley Coal Company dated January 30, 1989, water below 250 feet beneath the stream bottoms is brackish (personal communication).

TOVCC 09814

Based on corehole data presented in other parts of this application, "soft" rocks constitute 46 to 81 percent of the rock column in the D-0360-7 Application Area. Soft rocks are defined here as shale, mudstone, claystone, sandy shale and clay. The relatively high percentage of soft rocks is significant as these units have limited primary permeability, tend to deform in a more plastic manner and are more prone to self-healing after fracturing. Aquifers in these units normally have low yields, are less susceptible to subsidence fracturing due to mining, fractures tend to close in response to lithostatic pressures or plug with fine-grained sediment and may contain clays that swell when wetted.

In addition, there is considerable horizontal and vertical variability of the rock units. Rapid facies and hydrologic property changes tend to limit the horizontal continuity of the individual rock units. With the exception of major coal seams, very few lithologic units are continuous across the proposed application area. Horizontal facies changes and corresponding changes in hydrologic properties of the rocks tend to enhance the importance of localized flow systems. In addition, most available ground water in this region is limited to the first 100 feet of the surface where enhanced secondary permeability associated with rock fracturing is present. This information is supported by the OVCC drilling records and from locally developed wells and springs. Ground water recharge in the upland or ridge top areas results in downward migration primarily within this shallow saturated zone. Because the topographic relief between ridge tops often exceeds 100 feet, there are localized flow systems under the hilltops that are not in hydrologic communication with adjacent hilltops. While the ground water under any given ridge top can be viewed as being continuous, the continuity generally does not extend to adjacent hilltops

The geologic structures in the Application Area consist of gently folded rocks that dip to the southeast at approximately 40 feet per mile. Overburden thickness above the Pittsburgh coal seam ranges from a low of approximately 210 feet in the northeast section of the area to almost 600 feet in the east-central section of the area beneath Galloway Knob. While geologic structure can influence regional ground water flow patterns, local variations in hydraulic properties of the rocks tend to accentuate localized flow systems.

GENERAL HYDROLOGIC SETTING

The source of all ground and surface water in the mine plan area is precipitation. Upon reaching the land surface, water that is not part of direct surface runoff or evapotranspiration infiltrates into the subsurface and contributes to soil moisture and ground water.

Within the bedrock aquifer system, ground water occurs in primary and secondary openings. Primary openings are pore spaces between sand, silt and clay grains formed at the time of sediment depositions. Primary permeability is the ability of water to move between pore spaces. In this area, primary permeability is very low and limited ground water movement occurs in hard or soft rocks as a result of primary openings (Stoner 1983, Siplivy 1992).

Secondary porosity and permeability is formed by fractures or partings in the rock mass. Most available ground water in the application area occurs within the first 100 feet below the surface within these secondary openings and the success of a water well in terms of yield potential is dependent upon the well encountering water filled fracture zone(s) that transmit enough water to the well bore to meet the well's intended use (Schmitt et al, 1983; Waite, 1987).

Fractures are not ubiquitous in the area, however, and are not interconnected over large areas. For these reasons, it is very difficult to identify aquifers over large areas and the ground water flow system tends to be made up of small localized fracture controlled systems. While fractures in hard rocks tend to stay open better than fractures in soft rock, the horizontal and vertical variability of even the hard rock units tend to produce hydraulically isolated areas.

In addition, fractures tend to close at increasing depths due to overlying lithostatic pressures, thereby limiting the effective depth of the ground water flow system (Stoner, 1983). This condition is evident throughout the Powhatan No. 6 Mine. The mine, in general, is very dry with very minor amounts of water inflow limited to the low cover areas (generally less than 200 feet). The overburden thickness in the application area ranges from about 200 to just over 500 feet. Very little water inflow into the mine is expected in the deeper cover areas.

During full recovery mining, where the roof is allowed to collapse, existing natural fractures are often reopened and new fractures are created. Typically, a rubble zone develops above the extracted coal seam with a gradually reduced fracture density pattern above the rubble zone. However, the fractures developed by subsidence are normally a poorly interconnected network of cracks and are rarely continuous from the land surface to the mine void (Rauch, 1987). This condition is evidenced by the fact that recent longwall mining to the south and southeast has not resulted in large volumes of water in-flow in the longwall or adjacent areas in the Powhatan No. 6 Mine (Bartsch, 1994).

The soft rocks (which account for 46 to 81 percent of the rock column in the Application Area) tend to deform in a more plastic manner with limited fracturing. Many of the fractures that do

form in soft rocks tend to "heal" by fracture compression or clogging. This process limits the amount of water that would tend to migrate downward. The mining conditions experienced in the longwall panels immediately southeast of this Application Area where cover thickness was in excess of 300 feet substantiates this interpretation of the subsidence affected flow systems. On two separate occasions, in-mine inspections were made to observe water conditions. It was noted that no water was accumulating in the completed longwall panel in Application Areas D-0360-2 or -3 and no water was being pumped from the sections. An inspection of the chain pillar areas, including close inspection of the accessible areas of the gob in three completed panels, did not reveal any ground water in-flow. Interviews with several mine foremen, who directed mine operations of the longwall panel areas, verified generally dry conditions prevailed throughout the mining and post-mining phases of the analog areas.

A readjustment of the subsurface flow system does occur in areas of high cover (>200 feet) resulting in some changes in ground water levels and a repositioning of some hillside springs. Changes to the net hydrologic balance in these areas, however, are minimized. The water that infiltrates from the land surface remains in the flow system and does not, to a major degree, enter the mine. The repositioning of the static water levels often results in inconvenience (usually temporary) to the ground water users in the area There are no areas within the D-0360-7 Application Area with less than 200 feet of overburden.

Based on an evaluation of the geologic units presently supplying water to wells or springs in the Application Area, a total of four aquifers have been identified within the D-0360-7 hydrologic boundary. These units, which are also outlined on Form 14B of this application, are summarized below:

Aquifer A: Unconsolidated Material

Includes the layer of weathered bedrock above solid bedrock.

Aquifer B: Washington No. 12 Cyclothem

Includes the rock sequence from the Washington Coal Bed to the surface of the consolidated bedrock. Occurs from approximately 350 feet to 500 feet above the No. 8 Pittsburgh Coal Bed.

TOVCC 09817

Aquifer C: Waynesburg No. 11 Cyclothem

Includes the rock sequence from the Waynesburg No. 11 Coal Bed to the Washington No. 12 Coal Bed. Occurs from approximately 250 feet to 350 feet above the No. 8 Pittsburgh Coal Bed.

Aquifer D: Sewickley No. 9 Cyclothem

Includes the rock sequence from the Sewickley No. 9 Coal Bed to the Waynesburg No. 11 Coal Bed. Occurs from approximately 90 feet to 250 feet above the No. 8 Pittsburgh Coal Bed.

These units are only recognized as aquifers where they occur within 100 feet of the surface where secondary porosity and permeability is greatest.

WATER SUPPLIES

A total of 56 water supplies (38 wells and 18 developed springs), that serve domestic and agricultural needs have been inventoried with in the hydrologic boundary of the Application Area. The Application Map illustrates the location of these supplies. Nineteen of the inventoried wells and eight of the inventoried springs are outside the planned mining area but are within the hydrologic boundary. Nineteen of the water supplies, in the hydrologic boundary, are over 500 feet from the closest planned longwall panel. The water supply inventory also identified all of the unused wells and developed springs with in the hydrologic boundary of the application area. These unused supplies are included on ATTACHMENT 14C. Only the used supplies are discussed in the PHC.

TABLE 1 presents a summary of the pertinent data for used wells in the Application Area D-0360-7. In general, the average well depth in the Application Area is 72 feet. The average overburden thickness is 376 feet and the rock column contains about 68 percent of soft rocks (shale, clay, mudstone, and sandy shale). There are two wells located in the valley bottoms, 9 wells located on hillsides and 27 wells located on hilltops. Twenty of the wells are located over planned longwall panels and three wells are located over gate areas. Fifteen well are outside the panel or gate areas.

TABLE 2 presents a summary of the pertinent data for the used developed springs. Similar overburden, lithologic, and topographic settings are associated with the springs. Most of the inventoried springs occur as hillside seeps. This is a common phenomenon in this hydrogeologic

setting and it reflects the presence of low permeability units that act as aquitards that promotes horizontal flow to the side of the hills.

In addition, five ponds have been recognized as agricultural water supplies.

EVALUATION OF HYDROLOGIC IMPACT IN PREVIOUSLY MINED AREAS

Literature Review

Since 1972, when the Powhatan No. 6 Mine was opened, considerable research has been conducted relative to the impacts on the ground water flow system by longwall mining in the western Pennsylvania, northern West Virginia and southeastern Ohio areas. This literature database was reviewed as a guide to selecting those variables pertinent to predicting the hydrologic consequences of mining in the application area. An annotated bibliography of this literature is provided as the end of this report.

Stoner (1983); Rauch (1984); Cifelli (1986); and Dixon et al (1988 & 1990) explored the relation between overburden thickness and effects on ground water levels. In general, a conclusion was drawn that there is an inverse relation between overburden thickness and detrimental impacts to water levels. Aquifers less than 200 feet above longwall mines are more likely to be partially dewatered than aquifers greater than 200 feet above the mine.

The importance of rock fracturing was investigated by Dixon et al (1990), Parizek (1971), Schubert (1980), and Stoner (1983). The studies conclude that secondary rock fractures have a major influence on ground water occurrence and movement. In addition, Rauch (1984), determined that rock lithology of the overburden material was important in evaluating hydrologic impacts of mining. In general, the presence of a high percentage of soft rocks such as shale, clay, and mudstones minimizes negative impacts.

TOVCC 09819

Walker (1988) and Leavitt et al (1992) indicated the position of the water supply over the longwall panel affected the degree of hydrologic impact. In general, the greatest water level declines occurred directly over the panels and decreased away from the panels. Water wells outside the angle of draw were generally unaffected.

Leavitt et al (1992) found a strong correlation between topographic position and water level declines over longwall mines. In general, where overburden thickness exceeded 300 feet, the greatest impacts occurred in hilltop wells and springs, a lesser impact was noted in hillside wells and springs and the least impacts were noted in valley bottom wells and springs.

Leavitt et al (1992) and Tieman et al (1986) made a correlation between hydrologic base level and water level declines. In general, the closer the bottom of the well (or spring) is to the local hydrologic base level, the less severe and less permanent are the impacts. However, Leavitt noted that base level and topographic position are similar variables and topographic position proved to be a more reliable variable in predicting hydrologic impacts.

These variables, which include overburden thickness, local rock lithology, position over the longwall mining panel, topographic position and local hydrologic base level, are used here to evaluate the potential hydrologic impacts in the application area.

Quantity Impacts In Previously Mined Areas

In November 1992, the Ohio Valley Coal Company submitted a PHC prepared by Mr. William J. Siplivy, P.E., C.P.G., for Application Area No. D-0360-3. This report included a detailed summary of the effects of mining on well and spring water supplies in the R-0360-2 and D-0360-1 Application Areas. At the time the D-0360-3 PHC was prepared, no mining had occurred in the D-0360-2 Application Area. At this time mining has been completed in the D-0360-2 Area

TOVCC 09820

and is nearly complete in the D-0360-3 Area. The data generated by OVCC in these two areas has been reviewed in order to improve the predictive capabilities of the PHC.

Hydrographs of well water levels and spring flows in Areas D-0360-2 and D-0360-3 that have been undermined and have detailed monitoring data, have been prepared and are attached as APPENDIX A-Wells and APPENDIX B-Springs. A total of 46 well hydrographs and 32 spring hydrographs have been evaluated. It has been OVCC's policy to measure water levels and flow rates on a monthly basis for one year prior to undermining until the longwall face is within 3 weeks of undermining the supply, at which point monitoring frequency is increased to a weekly basis. Monitoring is reduced to a monthly basis 3 weeks after undermining and discontinued after one year. The distance to and from the face is represented on the graphical data by positive numbers (distance from water supply to advancing face) and by negative numbers (distance in feet to face after it passes the water supply).

Each of the 46 well hydrographs and 32 spring hydrographs include both static water level measured in feet from the top of casing or spring flow rates and the position of the panel through time. At any point in time as the panel approaches, passes by and moves away from the supply, the flow rate or static water level can be determined. In addition, the variables that may affect the impacts of mining on the water supply are listed on the graph. These include elevation, depth of wells, topographic position (as hilltop, hillside or valley bottom), hydrologic base level elevation, position in relation to mining (as outside mine area, over the gates or chain pillars of the panel, over the quarter panel or over the midpanel), the overburden thickness and the percent of soft rock in the overburden.

Based on the observed changes in water levels or flows, the water supplies were placed in one of three categories. These categories describe the impact that mining

had on the water supplies. The following are the categories and the criteria that define each category.

Minimal Impacts - Water levels for wells or flow rates for springs either did not decline during mining or returned to pre-mining conditions within two months of undermining

Moderate Impacts - Water levels for wells or flow rates for springs decline during mining but return to premining ranges within two to six months after mining.

Severe Impacts - Water levels for wells or flow rates for springs decline during mining and do not return to premining ranges within six months (or the duration of the monitoring period) after undermining.

A total of 46 wells met the criteria for detailed analysis, which included static water level measurements prior to, during and after mining operations. Of these 46 wells, 19 (41%) had minimal impacts as a result of mining; five (11%) were moderately impacted by mining and 22 (48%) were severely impacted as a result of mining.

There is not a discernible correlation between the minimally impacted wells, the moderately impacted wells or the severely impacted wells and the variables of overburden thickness, overburden lithology, position over the panel or well depth. This may be attributed to the relatively narrow range of difference in these variables in the areas previously mined. All of the water wells in areas D-0360-2 and D-0360-3 that have currently been undermined have similar characteristics of overburden, lithology, panel position and well depth. The well data for areas D-0360-2 and D-0360-3, is summarized in TABLE 3. The hydrographs of the individual wells are attached as APPENDIX A.

TOVCC 09822

There is, however, an apparent relation between topographic position and the impacts of longwall mining on water well supplies. In general, at the Powhatan No. 6 Mine, fewer wells in a valley setting experienced significant water level declines than wells located on hillsides or hilltops. This is consistent with the investigations of Mr. Bruce Leavitt, et. al., who reported a similar finding in their 1992 report, "Effects of Longwall Coal Mining on Rural Water Supplies and Stress Relief Fracture Flow Systems"..

The conclusion derived from this data analysis is that of the wells in Application Area D-0360-7 with geologic settings similar to those described above; 41% may be minimally impacted by mining with no changes in water levels or water levels that recover within two months of undermining, 11% may be moderately impacted with water level declines that recover within six months and 48% may be severely affected with water level declines that do not recover within six months.

A similar analysis was performed for the developed springs that were undermined in the D-0360-2 and D-0360-3 areas. A total of 32 springs met the criteria for detailed analysis, which included flow measurements prior to, during and after mining operations. Of these 32 springs, 2 (6%) had minimal decreases in flow rates (no decrease or recovery within two months); 1 (3%) had moderate decreases in flow rates (decreased flow rates with recovery within six months), and 29 (91%) had severe decreases in flow rates (decreased flow rates that do not recover to pre-mining levels within six months). The spring data for Areas D-0360-2 and D-0360-3, is summarized in TABLE 4. The hydrographs of the individual springs are attached as APPENDIX B.

Like the water wells discussed above, there is not a discernible correlation between the minimally impacted springs, the marginally impacted springs and the severely impacted springs and the variables of overburden thickness, overburden

TOVCC 09823

lithology, position over the panel, discharge rates and also topographic position. This again is attributed to the very narrow range in the evaluation variables. All of the springs in the D-0360-2 and D-0360-3 areas that have currently been undermined have similar characteristics of overburden thickness, lithology, topographic position, panel position and depth.

The conclusion based on this data analysis is that, of the springs in the Application Area with hydrogeologic settings similar to those described above; 6% of the springs may be minimally impacted by mining; 3% may be moderately impacted by mining with temporary decreases in flow rates that persist for less than six months and 91% may be severely impacted by mining with decreased flow rates that do not recover within six months

The break down of impacts on the wells and springs in areas D-0360-2 and D-0360-3 were revised from those presented in the D-0360-6 PHC to those presented in this PHC. The hydrographs were updated using data collected since the D-0360-6 PHC was prepared. The impacts to the water supplies were reevaluated using the updated hydrographs. The impacts of mining on six wells and three springs were changed. The impact changes are now listed on the cover sheets to APPENDICES A and B. The discussion in the texts and the information presented in TABLES 3 and 4 has been revised to reflect these changes.

The database was also used to estimate the distance from the advancing longwall face at which measurable impacts on water supplies occurred. This was done by evaluating changes in static water levels in wells and flow rates in springs of water supplies located within the hydrologic boundary. Ohio Valley Coal Company monitors water levels and spring flows weekly for three weeks as the longwall face approaches the supply and for three weeks after the face passes the supply. The monitoring data does not show the exact time and distance to face at which an impact may have occurred, although the interval during which the impact occurred can be bracketed. The distance to the longwall

TOVCC 09824

face that coincides with the last water level or flow monitoring event prior to an impact occurring and the distance to the face at which an impact was detected were determined for 22 wells and 10 springs in Application Areas D-0360-2 and D-0360-3. The distance to the advancing longwall face that bracket the interval during which an impact occurred are listed on TABLE 5. The observed impacts included short and long term changes in well water levels and spring flows. In two springs, flows increased as mining approached the supply and returned to the normal flow range after the mining passed the supply. In several supplies there was no detectable impact observed.

Quality Impacts In Previously Mined Areas

The water quality affects of longwall mining on the ground water flow system were also reviewed. A total of 28 wells and 22 springs were evaluated. Each of these 50 water supplies are located over previously mined sections of the D-0360-2 and D-0360-3 areas. In each case, an affect on water quantity in terms of reduced water levels or reduced flow rates was documented and water quality data was available both before and after the impacts occurred. A summary of the water quality data for those supplies is presented in TABLE 6, which presents the range of water quality in both the pre-mining phase and post- mining phase for pH, acidity, alkalinity, iron, manganese, hardness and sulfate. Nitrate concentrations did not appear to vary in response to mining.

This data indicates the water quality changes from the premining to the post mining phase are relatively minor. However, the following trends were noted:

For Wells:

15 of the 28 wells exhibited increasing levels of iron in the post-mining phase
Seven of the 16 wells tested for manganese exhibited increasing levels of manganese in the post-mining phase

For Springs:

10 of the 22 springs exhibited increased iron levels in the post-mining phase
Seven of the 22 springs exhibited increased manganese levels in the post-mining phase

TOVCC 09825

Seven of the 22 springs exhibited increased hardness levels in the post-mining phase

Typically the iron and manganese increases were temporary and not persist for more than a year.

PROBABLE HYDROLOGIC CONSEQUENCES SUMMARY

Surface Water

Based on a review of the existing literature, it is expected water flow in selected sections of first order streams where overburden thickness exceeds 200 feet may be temporarily reduced over relatively short stream segments. Due to the high percentage of soft rocks in the mine overburden, the overburden thickness and the minimal amount of water that enters the mine, any stream water loss that may occur is not expected to drain into the mine.

This generalized theory for areas with 200 feet or more of cover is supported by the data generated by the OVCC in the D-0360-2 and D-0360-3 areas where undermining has occurred and hydrologic changes have been monitored. These areas are in very similar hydrogeologic settings and a temporary lowering of the water table under the hilltops and higher elevations is documented in water wells and spring flows. It is expected that any reduction in stream flows will be limited in the upper elevations primarily in the first order streams. Some impacts to the first order streams north of Lucas Lash Road may occur.

Four stream segments that were monitored in the pre and post mining phases in Application Area D-0360-3 were selected at random for detailed evaluation. Hydrographs of these four data sets are presented on APPENDIX C at the end of this report. These data verify the general predictions listed above are verbalized as follows:

Monitoring Point U34-067

This unnamed tributary to Williams Creek was monitored for flow rates on twelve separate occasions prior to undermining and 14 times post undermining. This first

TOVCC 09826

order stream is shown on the U.S.G.S. Topographic map as an intermittent stream and there was approximately 265 feet of overburden in the area. There was no apparent impact on stream flow as a result of undermining.

Monitoring Point U34-144

This unnamed tributary to Williams Creek was monitored for flow rates on nine separate occasions prior to undermining and 15 times post undermining. This is a first order stream and is shown as intermittent on the U.S.G.S. Topographic map. There is approximately 288 feet of overburden in the area. There was no apparent impact on stream flow as a result of undermining.

Monitoring Point U34-038

This point on Williams Creek was monitored for flow rates on 12 occasions prior to mining and nine times post mining. Williams Creek is a third order stream and has perennial flow. There is approximately 250 feet of cover at this location. There was no apparent impact on stream flow as a result of undermining.

Monitoring Point U29-C

Flow in this first order intermittent stream was monitored on twelve occasions prior to undermining and 13 times after undermining. The overburden thickness is approximately 260 feet. No apparent impacts were noted as a result of undermining.

Ground Water

The data generated in the D-0360-2 and D-0360-3 areas indicate that ground water levels may decline as mining passes under an area. Most developed water supplies will most likely experience a decline in static water level or flow. The amount of this decline appears to be dependent on the topographic position of the water supply. Hilltop water supplies may be impacted more often than water

TOVCC 09827

supplies located in valley bottoms. Springs are generally more significantly impacted than wells. Approximately 90% of the springs undermined may experience significant impacts, while approximately 50% of the wells may be significantly impacted. Some recovery of ground water levels occurs after mining has passed under a water supply.

Post Mining Water Breakouts

The area with the lowest cover is located in the northeast section of Application Area D-0360-7. The lowest surface elevation in the Application Area is approximately 1020 feet msl. The lowest surface opening elevation for the Powhatan No. 6 Mine is 847 feet msl. The maximum coal elevation in Application Area D-0360-7 is approximately 845 feet msl or 2 feet below the lowest surface elevation. The addition of the D-0360-7 area will raise maximum elevation in the Powhatan No. 6 Mine to approximately 845 msl or 2 feet below the lowest surface opening in the Powhatan No. 6 Mine. No post mining water breakouts are predicted to occur due to mining in the D-0360-7 area.

Abandoned Mine Bt – 100

The abandoned Consolidation Coal Company Eleanor Mine (Bt – 100) is located to the northeast of the D-0360-7 Application Area. The Eleanor Mine is 513 feet from the D-0360-7 Application Area. The coal elevation, in the Eleanor Mine, ranges from 785 feet to 826 feet. The lowest surface elevation over the Eleanor Mine is approximately 920 feet. The coal elevation in the D-0360-7 Application Area ranges from approximately 840 feet to 760 feet. The lowest surface elevation over the D-0360-7 Application Area is 1030 feet. The Eleanor Mine was closed in the late 1920's. It is not known if the Eleanor mine is flooded or what the mine pool level may be.

TOVCC 09828

Mining in the D-0360-7 Application Area is not expected to have any impact on the abandoned Eleanor Mine. A 500 foot thick solid coal barrier will be left between the two areas. Due to the slight difference in coal elevation between the Eleanor Mine and the D-0360-7 Application Area, no hydraulic communication between the mines is expected.

Water Supplies

A total of 56 water supplies (38 wells and 18 springs) have been inventoried in Application Area D-0360-7, including the hydrologic boundary area. The potential impacts on these water supplies by mining have been evaluated based on monitoring of springs and wells in mined out sections of the D-0360-2 and D-0360-3 areas and a review of pertinent literature

For areas with high cover (>200 feet overburden) the predicted impact on wells and springs are exactly as they were documented in the mined sections of Application Areas D-0360-2 and D-0360-3. The notable exception is the limited impact observed in wells in valley settings (this may reflect the limited database for wells of this type). When cover thickness exceeds 200 feet in valley bottom settings, an 11% likelihood of severe impacts, an 11% likelihood of moderate impacts and a 78% likelihood of minimal impacts is used to be consistent with the findings of the analog areas. These impacts are summarized on TABLE 3 for wells and TABLE 4 for springs and are expressed as a percent of the wells that experienced significant, moderate or minimal impacts. As outlined above, for the purposes of these predictions:

- Severe indicates water level declines or reduced flow rates that persist for more than six months.
- Moderate indicates water level decline or reduced flow rates that recover within two to six months.
- Minimal indicates a water level decline or reduced flow rates that recover within two months.

TOVCC 09829

Although the analog areas D-0360-2 and D-0360-3 did not include low cover (<200') situations, it is recognized from the literature review that significant water level declines or diminished spring flow rates are likely in those settings. Thus all water wells and springs with less than 200 feet of cover are predicted to have a greater than (>) 75% chance of significant water level declines or dewatering for a period of six months or more. Water wells and springs located 700 or more feet outside the limit of longwall mining (but within the hydrologic boundary) are not expected to be impacted by mining operations.

Previous PHC's

As outlined above, OVCC has prepared five previous PHC's in the past for various areas in the Powhatan No. 6 Mine area. Since 1987, there has been a concerted effort to improve the predicative capabilities of mining impacts on surface water and ground water. This has included an extensive premining and postmining quantity and quality monitoring of wells and springs. This PHC reflects the database now available and represents an improved method of evaluation.

The early PHCs used overburden thickness and percentage of soft rocks as the primary indicators of potential impacts. The data now indicates that the topographic position of the water supply may be the primary indicator of the potential impact.

A comparison between the predicted hydrologic consequences for the D-0360-2 and D-0360-3 Application Areas and the actual hydrologic impact was made. There were 63 water supplies (40 wells and 23 springs) that have been undermined and for which there was sufficient data available to make this comparison. The predicted and actual hydrologic impacts are listed in TABLE 7.

TOVCC 09830

The predicted impact was correct for 30% of the water supplies and incorrect for 37% of the supplies. The predicted impact was close (only off by one category) for 33% of the water supplies. For nine water supplies the actual impact was milder than the predicted impact (i.e., a severe impact was predicted and the actual impact was minimal). As mining progresses and more data is collected, the accuracy of the predictions is expected to improve.

APPENDICES A and B include hydrographs that are not listed on TABLE 7. TABLE 7 only includes water supplies for which an impact prediction was made in the D-0360-2 and D-0360-3 PHCs. APPENDICES A and B contain hydrographs for water supplies for which monitoring data is available regardless of whether or not a previous impact prediction was made. TABLE 7 was used to evaluate the accuracy of the impact predictions. The actual impacts from mining determined from the hydrographs were used in TABLE 7. The hydrographs were used to evaluate to actual impacts of mining on water supplies. Limiting the hydrographs available for these evaluations to water supplies for which an impact prediction was made would affect the accuracy of this evaluation.

TOVCC 09831

TABLE 2

Ohio Valley Coal Company
Application Area D-0360-7

Summary of Spring Data

Used developed springs within the D-0360-7 hydrologic boundary

Total Number of Developed Springs	18
Average Overburden Thickness	423 feet
Range of Overburden Thickness	318-515 feet
Number of Springs on Hilltops	5
Number of Springs on Hillsides	11
Number of Springs in Valley Bottoms	2
Number of Springs Outside Panels	6
Number of Springs Over Gates	3
Number of Springs Over Quarter Panel	7
Number of Springs Over Middle Panel	2
Average Percent Soft Rocks	72%
Range of Percent of Soft Rocks	52% - 81%

TABLE 6

Ohio Valley Coal Company
Application Area D - 0360-7

Ground Water Quality Summary
Pre and Post Mining Water Quality
Application Areas: R-0360-2, D-0360-1, D-0360-2, D-0360-3

	pH		Acid		Alk.		Iron		Manganese		Hardness		Sulfate	
Supply No.	Pre SU	Post SU	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l
SP-21	7.3-8.26	7.2-8	3.5-47.4	7.2-30.4	39.1-90.9	74-186.77	0.03-0.08	<0.04-.28			100-106	101-218	37-41	24-47
SP-22	7.7-7.83	7.1-7.7	5.3-8.1	2-7.03	47-88.7	58.9-94.5	0.04-0.06	0.08-0.76			105-119	95-136	55.2-66	10-78
SP-23	6.3-7.1	6.86-7.9	15.3-40.47	22.6-68.4	98.42-112	150-304.6	0.11-0.97	2.04-6.2			127-357	294-778	70-81	105-220
SP-24	6.4-7.4	6.9-7.3	11.4-27.5	2.2-15.4	82.46-118	44.6-91.8	<0.04-0.18	<0.04-1.15			198-276	144-267	50-84	42-83
SP-30	6.74-7.3	6.9-7.5	3.1-61.4	0-29.83	26.5-100.5	129.6-226.67	0.01-0.18	<0.04-0.34			193-217	166-320	89-97	26-61
SP-31	6.61-7	6.2-7.1	0-81.6	11.4-34.39	70-166	38.4-224.39	<0.02-0.24	<0.04-3.95			114-263	100-319	44-89	41-50
SP-35	7.3-7.7	7.3-7.6	8.4-11.6	10.8-15	139.4-216.2	110-251.4	<0.04-0.52	0.07-0.94			176-276	180-276	24-56	36-41
SP-36	6.9-7.5	7.4	0-24.32	14.6	46.6-176	174.6	0.06-2.12	1.67			22-262	200	33-54	46
SP-38	7.3-7.9	7.5-7.8	0-24.8	2.8-13.4	136-212	142.4-178.6	0.05-0.64	0.09-0.22			100-215	151-229	12-61	20-44
SP-39	7.27-7.6	7.7-8.4	7-15.6	<1.5-8	155.8-169.6	47-190	<0.04-34.7	0.07-0.33			0.06-184	136-230	<10.0-36	17-50
SP-41	6.6-7.3	7.6	9-14	17	60-178	167	.02-.23	0.53	<0.02-.06	.03	80-216	172	20-42	32
SP-44	7.0-7.4	7.3	24-46	0	188-206	173	<0.04-.08	0.18	<0.02-.02	<0.02	235-251	301	36-43	45
SP-45	6.7-7.1	6.7-6.8	15.77-56.24	4.4-11.2	115.8-168.91	53.4-127	<0.04-4	0.09-0.24			160-236	76-120	34-49	16-43
SP-93	7.2-7.8	7.2-7.6	0-52	5.8-9.6	63.65-32.48	122.6-160	0.01-4.5	0.16-0.95			80.4-240	142-190	17-37	33-34
SP-172	7.3-7.7	7.1-7.9	7.6-19.4	7.2-16.8	165-212.4	170-200	0.09-1.27	0.04-0.24			261-280	239-310	23-42	29-42
SP-173	6.8-8.2	7.4-7.8	6-21	6-8	79-132	96-133	<0.04-.25	.04-.13	<0.02-.02	<0.02	124-168	146-182	21-44	31-49
SP-174	7.2-7.9	6.1	16-40	9	20-204	30	<0.04-.15	.26	<0.02	<0.02	186-200	182	10-38	18
SP-175	7.4-7.7	7	17-47	5-8	166-238	31	.1-7	.41	.05-2.0	.03	272-401	66	24-51	12

TOVCC 09833

TABLE 6

Ohio Valley Coal Company
Application Area D - 0360-7

Ground Water Quality Summary
Pre and Post Mining Water Quality
Application Areas: R-0360-2, D-0360-1, D-0360-2, D-0360-3

	pH		Acid		Alk.		Iron		Manganese		Hardness		Sulfate	
Supply No.	Pre SU	Post SU	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l
SP-176	7.1-7.6	6.9	11-31	4-9	150-201	131-166	<0.04-.18	.07-.15	<0.02-.04	<0.02	216-304	210-252	33-49	25-49
SP-198	7.8-7.7	6.9-7.4	5.8-31.8	7.2-20	159.6-198.6	123.6-280	<0.04-0.15	0.04-0.6			173-252	216-378	24-43	53-70
SP-216	6.8-7.7	6.7-6.8	4-74	5-10	70-119	51-53	.05-.52	.14-.17	<.02-.06	<0.02	90-147	75-81	15-38	23-27
SP-220	6.8-7.7	7.6	5.6-25.4	4.4	20.4-196.8	150	0.08-1.66	5.2			58-264	188	10-54	44
W-24	7.1-7.93	6.9-8.2	9.4-18.3	6.27-27.6	96-148	116.47-169.86	<0.02-0.09	0.08-10.5	0.02-0.04	0.02-0.69	121-163	154-200	37.6-61	39-77
W-25	6.88-7.7	7.4-7.7	4.2-67.3	10.26-38.8	83-112	114.21-166	0.04-.14	<0.04-2.78	<0.02-0.04	<0.02-0.56	139-157	188-215	76-80	30-40
W-26	7.28-7.57	7.3-7.5	16.2-37.5	22.23-51.2	186-214	204.2-229.6	0.04-0.1	0.06-0.74	0.03	<0.02-0.07	217-308	258-280	61-75.2	23-49
W-28	7.2-7.41	7-7.5	18-23.4	7.6-62.8	163-189	25.3-266.8	1.03-1.34	<0.04-7.9	0.18-0.27	<0.02-0.41	238-261	266-304	56-69	14-35
W-30	7.49-7.65	7.3-7.6	8.3-11.6	10-20.71	14-206	108-248.4	0.04-0.09	0.04-1.24	0.01-0.03	<0.02-0.07	259-289-	296-312	56-59	43-59
W-33	6.9-7.61	7.1-7.8	14.52-53.2	20.2-34.8	150.1-196	22.23-186.6	<0.04-0.17	<0.04-0.11	<0.02-0.03	<0.02-0.08	214-242	155-240	34-58	32-115
W-34	6-8.09	6.5-7.1	12.2-24.13	0-33	29.64-160.17	48.6-113	0.11-3.01	<0.02-1.41	<0.02-0.85	<0.02-10.05	136-282	155-190	49-67	52-56
W-38	7.3-7.57	6.9-7.6	9.05-17.3	11.4-43.2	19.4-231	171-223.4	0.09-8.54	0.07-5.62	<0.02-0.26	0.02-0.2	198-233	198-272	37.6-46.4	29-46
W-44	7.1-7.5	7.3-8.9	1.2-71.4	0-40.8	76-343.9	29.8-268	0.04-1.98	<0.04-2.09	<0.02-0.45	<0.02-0.07	219-371	111-264	<10-140	33-100
W-51	7.3-7.8	7.8	0-40	14	158-243	286	0.04-.65	0.77	<0.02-.23	0.05	84-277	97	26-68	44
W-52	7.4-7.8	7.4-8.2	0-28.4	4.2-20.0	141-255.6	192-213	<0.04- 0.22	0.06-0.25			91-280	256-303	31-62	47-63
W-53	7.4-7.8	7.4-7.8	0-16	8-16	96-214	171-213	<0.04-1.3	.16-.75	<0.02-.05	.06-.08	84-256	228-242	11-56	35-49
W-54	7.3-7.7	7.4	0-19.2	8.8-12	94-268	192-240	<0.04-3.06	0.91-2.7			76-232	56-120	11-71	86-109
W-55	7.3-7.6	7.7-8.3	0-54	4-11	184-214	177-221	<0.04-.24	.07-1.4	<.02-.09	<0.02-4.2	71-272	120-232	35-63	24-67

TOVCC 09834

TABLE 6

Ohio Valley Coal Company
Application Area D - 0360-7

Ground Water Quality Summary
Pre and Post Mining Water Quality
Application Areas: R-0360-2, D-0360-1, D-0360-2, D-0360-3

	pH		Acid		Alk.		Iron		Manganese		Hardness		Sulfate	
Supply No.	Pre SU	Post SU	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l
W-56	7-7.6	7.5-7.8	0-86.4	10.6-13	156-300	207-250	0.02-1.73	0.10-5.8			24-403	244-313	31-84	35-72
W-57	6.8-7.8	7.3-7.8	0-22	11-17	87-261	179-208	0.04-0.45	.15-.46	<0.02-.02	.02-.06	63-184	200-252	31-46	12-77
W-58	7.2-7.8	7.7	0-15	9	150-335	215	<0.04-.08	0.08	<0.02-0.3	<0.02	72-196	112	41-61	43
W-92	6.9-7.0	7.2-7.4	16-72	32-131	66-127	.83-100	.65-2.2	<0.02-2.9	<0.02-.02	.02-11	162-239	72-250	93-100	70-819
W-214	6.4-6.8	6.6-7.6	0–37.24	7.36	116-172	33-50	0-.30	<0.02-.71			100-276	72-260	44-716	17-110
W-215	7.5-8.3	6.8-7.36	0-20.3	4.2-19	189-380	68-150	1.21-0.12	0.6-3.8			20-200	72-160	14-186	89-41
W-216	7.2-7.6	7.39-8.4	11.4-28.5	8.8-34	236-27	300-380	0.0-0.3	.48-.95			248-360	160-620	130-183	77-520
W-260	6.9-7.3	`7.2-7.3	0-39.71	33-46	3315-380	310-360	0.02-.87	.07-.41			168-446	380-470	40-165	50-95
W-282	7.4-7.9	7.4-8.1	2.4-17	3.2-25	182-250	169-335	0.17-2.3	.11-5.5	<0.02-0.1	.02-.16	199-227	60-253	38-43	40-84
W-282A	7.3-7.7	7.4-8.4	12.54-30.4	9.6-17.1	154.6-225.71	176-279	0.21-0.6	0.02-1.91			189-204	115-262	37-44	30-116
W-283	7.5-7.9	7.4-7.9	2.4-32	3.2-15.4	182-191	218-334	0.17-2.27	0.11-2.38			199-216	60-253	38-43	44-80
W-285	6.8-7.7	7.3-7.8	8.8-16.6	15.8-27	185-196	170-234	0.86-10.90	0.69-21			262-320	12-160	52-120	290-430
W-288	7.2-8.3	7.2-7.57	3.3-32.6	16-17	150-240	150-180	0.15-2.55	0.07-.13			180-423	210-380	36-91	44-55
W72	7.2	7.4-7.5	21-29	11-21	120-138	120	0.17-2.82	0.06-0.22			330-400	290-300	11-92	59-100

TOVCC 09835

TABLE A

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Data
and
Predicted Hydrologic Impacts Summary

Well	Elevation (feet)	Well Depth (feet)	Bottom Elevation (feet)	Coal Elevation (feet)	Overburden Depth well bottom to coal (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance To Nearest Panel Edge (feet)	Use	Predicted Hydrologic Impact		
												Minimal	Moderate	Severe
W 167	1090	96	994	765	229	D	50	Hillside	Outside	850	Domestic	No impact expected; >700' to mining		
WL 168	1112	62	1050	775	275	C	52	Valley Bottom	Outside	350	Domestic	41%	11%	48%
DW 169	1112	25	1087	775	312	A	52	Valley Bottom	Outside	350	Domestic	41%	11%	48%
DW 173	1166	25	1141	765	376	A	51	Hillside	Quarter	300	Domestic	41%	11%	48%
WL 177	1183	71	1112	780	332	C	51	Hilltop	Quarter	200	Domestic	41%	11%	48%
DW 178	1225	44	1181	785	396	A	75	Hilltop	Outside	600	Domestic	41%	11%	48%
W 294	1125	57	1068	775	293	C	52	Hillside	Outside	200	Domestic	41%	11%	48%
WL 317	1303	90	1213	780	433	B	74	Hilltop	Quarter	200	Domestic	41%	11%	48%
DW 318	1304	18	1286	775	511	A	74	Hilltop	Outside	800	Domestic	No impact expected; >700' to mining		
W 323	1138	120	1018	775	243	D	52	Hillside	Outside	300	Domestic	41%	11%	48%
W 374	1290	51	1239	805	434	B	81	Hilltop	Outside	900	Domestic	No impact expected; >700' to mining		
W 375	1247	Unk	Unk	790	Unk	Unk	77	Hillside	Middle	300	Domestic	41%	11%	48%
DW 376	1250	30	1220	800	420	A	77	Hillside	Middle	400	Domestic	41%	11%	48%
W 377	1282	86	1196	800	396	B	77	Hilltop	Middle	350	Domestic	41%	11%	48%
W 378	1325	68	1257	805	452	B	77	Hilltop	Quarter	200	Domestic	41%	11%	48%
W 379	1323	120	1203	805	398	B	77	Hilltop	Gate	Edge	Domestic	41%	11%	48%
W 380	1350	80	1270	820	450	B	77	Hilltop	Quarter	200	Domestic	41%	11%	48%
WL 381	1325	112	1213	805	408	B	77	Hilltop	Quarter	150	Domestic	41%	11%	48%
W 382	1350	155	1195	820	375	B	77	Hilltop	Quarter	100	Domestic	41%	11%	48%

TOVCC 09836

TABLE A

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Data
and
Predicted Hydrologic Impacts Summary

Well	Elevation (feet)	Well Depth (feet)	Bottom Elevation (feet)	Coal Elevation (feet)	Overburden Depth well bottom to coal (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance To Nearest Panel Edge (feet)	Use	Predicted Hydrologic Impact		
												Minimal	Moderate	Severe
W 383	1362	125	1237	815	422	B	77	Hilltop	Quarter	100	Domestic	41%	11%	48%
W 384	1335	80	1255	815	440	B	77	Hilltop	Quarter	350	Domestic	41%	11%	48%
W 385	1363	100	1263	815	448	B	77	Hilltop	Quarter	175	Domestic	41%	11%	48%
W 386	1350	Unk	Unk	830	Unk	Unk	49	Hilltop	Gate	25	Domestic	41%	11%	48%
DW 387	1260	24	1236	840	396	A	49	Hilltop	Middle	375	Domestic	41%	11%	48%
W 388	1160	Unk	Unk	845	Unk	Unk	49	Hilltop	Outside	300	Domestic	41%	11%	48%
W 389	1145	Unk	Unk	845	Unk	Unk	49	Hilltop	Outside	550	Domestic	41%	11%	48%
W 390	1030	66	964	850	114	D	49	Hillside	Outside	900	Domestic	No impact expected; >700' to mining		
DW 391	1120	30	1090	840	250	A	49	Hilltop	Outside	175	Domestic	41%	11%	48%
WL 392	1325	74	1251	815	436	B	77	Hilltop	Quarter	150	Domestic	41%	11%	48%
DW 393	1330	30	1300	815	485	A	77	Hilltop	Quarter	50	Domestic	41%	11%	48%
W 394	1259	80	1179	820	359	B	77	Hilltop	Middle	250	Domestic	41%	11%	48%
W 396	1305	70	1235	785	450	B	81	Hilltop	Outside	500	Domestic	41%	11%	48%
W 397	1310	51	1259	780	479	B	81	Hilltop	Outside	750	Domestic	No impact expected; >700' to mining		
W 401	1318	113	1205	800	405	B	81	Hilltop	Middle	225	Domestic	41%	11%	48%
W 402	1325	119	1206	830	376	B	79	Hilltop	Outside	600	Domestic	41%	11%	48%
W 404	1130	52	1078	835	243	D	79	Hillside	Middle	400	Domestic	41%	11%	48%
DW 408	1305	33	1272	780	492	A	81	Hilltop	Gate	50	Domestic	41%	11%	48%
W 417	1165	90	1075	835	240	D	79	Hillside	Middle	300	Domestic	41%	11%	48%

TOVCC 09837

TABLE B

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring and Pond Data
and
Predicted Hydrologic Impacts Summary

Spring	Surface Elevation (feet)	Coal Elevation (feet)	Overburden Thickness (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel (feet)	Use	Predicted Hydrologic Impact		
										Minimal	Moderate	Severe
DS 111	1120	770	350	C	52	Hillside	Outside	1100	Domestic	No impact expected; >700' to mining		
DS 226 A	1163	770	393	B	51	Hillside	Quarter	200	Livestock	6%	3%	91%
DS 240	1170	780	390	B	74	Hillside	Middle	300	Domestic/ Livestock	6%	3%	91%
DS 241	1190	780	410	C	52	Hillside	Quarter	200	Domestic/ Livestock	6%	3%	91%
DS 242	1103	785	318	C	52	Valley Bottom	Gate	70	Livestock	6%	3%	91%
DS 244	1290	775	515	B	81	Hilltop	Outside	900	Livestock	No impact expected; >700' to mining		
DS 265	1200	800	400	B	75	Valley Bottom	Gate	50	Livestock	6%	3%	91%
DS 267	1225	810	415	B	75	Hillside	Gate	50	Livestock	6%	3%	91%
DS 268	1180	790	390	C	75	Hillside	Quarter	100	Livestock	6%	3%	91%
DS 269	1220	800	420	B	75	Hillside	Quarter	75	Livestock	6%	3%	91%

TOVCC 09838

TABLE B

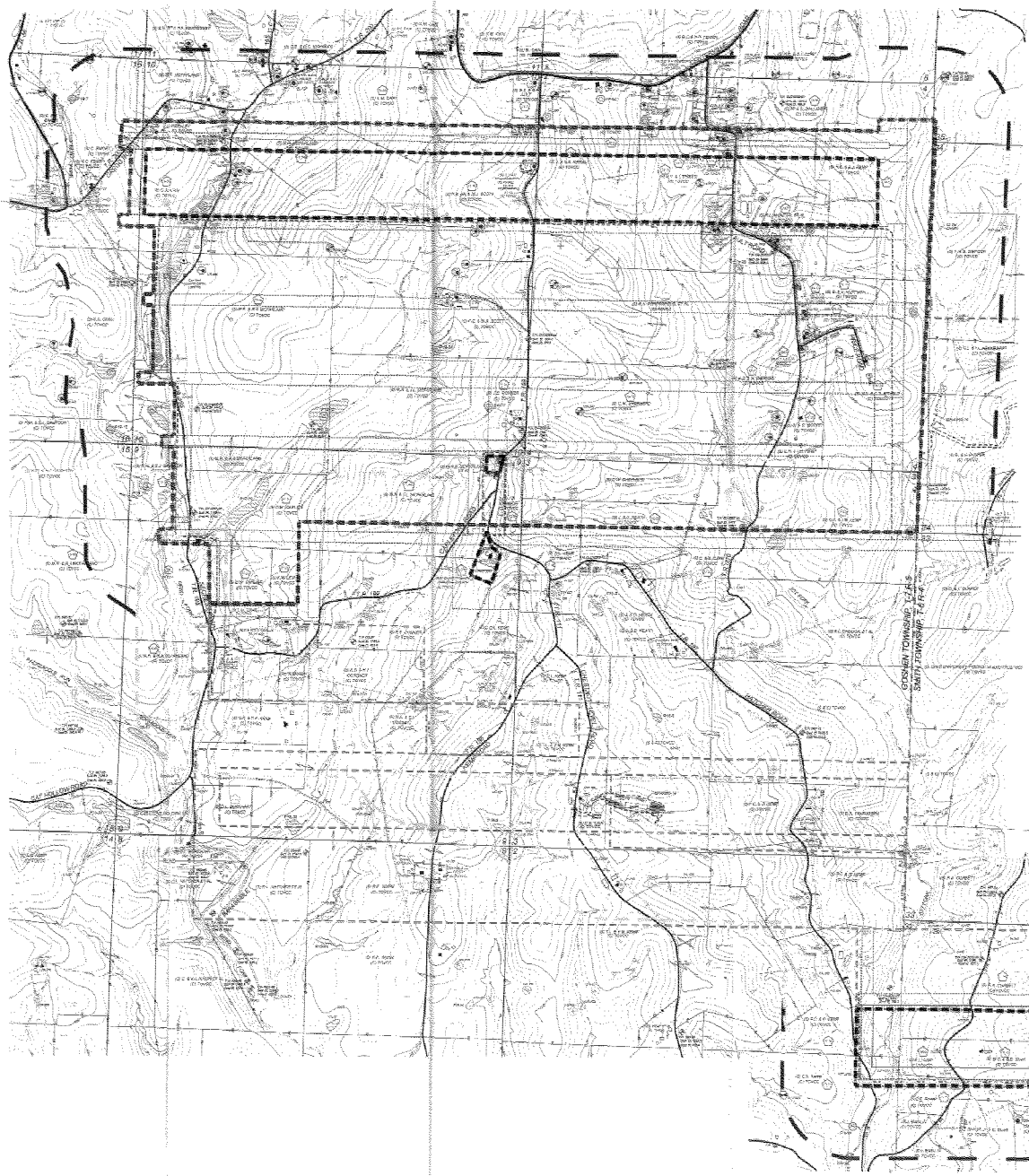
Addendum to Page 18, Part 2, F(1)

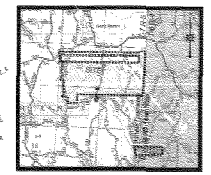
Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring and Pond Data
and
Predicted Hydrologic Impacts Summary

Spring	Surface Elevation (feet)	Coal Elevation (feet)	Overburden Thickness (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel (feet)	Use	Predicted Hydrologic Impact		
										Minimal	Moderate	Severe
DS 270	1260	800	460	B	75	Hillside	Middle	350	Domestic	6%	3%	91%
DS 271	1323	815	508	B	77	Hilltop	Quarter	250	Livestock	6%	3%	91%
DS 272	1258	815	443	B	77	Hilltop	Quarter	200	Domestic	6%	3%	91%
DS 277	1264	780	484	B	81	Hilltop	Outside	575	Livestock	6%	3%	91%
DS 278	1230	780	450	B	81	Hillside	Outside	850	Livestock	No impact expected; >700' to mining		
DS 282	1268	780	488	B	81	Hilltop	Outside	200	Livestock	6%	3%	91%
DS 283	1263	790	473	B	81	Hillside	Quarter	200	Livestock	6%	3%	91%
DS 285	1190	800	390	B	81	Hillside	Outside	900	Domestic	No impact expected; >700' to mining		
P 2	1190	795	395	NA	75	Hillside	Quarter	100	Livestock	No impact expected		
P 15	1175	795	380	NA	75	Hillside	Quarter	110	Livestock	No impact expected		
P 16	1250	800	450	NA	78	Hillside	Gate	Edge	Livestock	No impact expected		
P 17	1330	800	530	NA	78	Hilltop	Middle	225	Livestock	No impact expected		
P 18	1250	805	445	NA	78	Valley Bottom	Quarter	100	Livestock	No impact expected		

TOVCC 09839





Location Map - Belmont County Highway Map
Scale 1" = 1 Mile
Quadrangle Names: Hunter, Bellaire and Armstrongs Mills
Drainage Basin: Captina Creek
Mapping compiled from the Belmont County GIS Department's 2005 photo taken April 1941

NOTES:

1. Surface, coal, and mine information shown hereon within the permit area provided by the applicant.
2. The maximum overburden is 500 feet. The lowest mined coal bench is 778 feet.
3. The boundary lines of Mineral Rock subsidence will not be an aggrieved environmental topic like Flood Edge.
4. Approximately 12.9 acres will being pre-permitted due to a change in the mining method in these areas.

SUMMARY OF ACREAGES

1096.1	FULL COAL RECOVERY ACREAGE
166.7	PARTIAL COAL RECOVERY ACREAGE
1262.8	TOTAL COAL ACREAGE (SHADOW AREA)
1262.8	TOTAL APPLICATION ACREAGE

LEGEND

- OCCUPIED DWELLING
- UNOCCUPIED DWELLING
- PUBLIC BUILDING (SCHOOL, CHURCH, COMMUNITY OR INSTITUTIONAL BUILDING)
- SCHOOL
- CHURCH
- CEMETERY
- COMMERCIAL OR INDUSTRIAL BUILDING
- ROAD (STATE OR COUNTY OR TOWNSHIP), AND OUTSIDE PERMIT AREA
- PROPERTY LINE
- SURFACE OWNER
- COAL OWNER
- LESSEE
- WELL (Producing Gas Well)
- TEST BORING
- EXISTING WATER IMPOUNDMENT / POND
- PERENNIAL STREAM
- INTERMITTENT STREAM
- PROPOSED APPLICATION AREA
- PARTIAL COAL RECOVERY AREA
- SHADOW AREA
- 1000' HYDROLOGY MAP
- PERMIT BOUNDARY LINE
- SEEP, SEEPAGE ZONE
- CISTERN
- UPSTREAM SAMPLING STATION
- DOWNSTREAM SAMPLING STATION
- DRILLED WELL (NO LOG AVAILABLE)
- DUG WELL
- DEVELOPED SPRING
- UNDEVELOPED SPRING
- WATER IMPOUNDMENT / POND
- BACKGROUND SAMPLING STATION
- MONITORING STATION
- MINING FAMILIARITY
- AERIAL POWER LINE
- GAS LINE (COLUMBIA GAS TRANSMISSION)
- UNDERGROUND TELEPHONE
- AERIAL POWER AND TELEPHONE LINE
- PERMIT GUARD
- THE OHIO VALLEY COAL COMPANY
- SUBSIDENCE CONTROL SURVEYING
- ARCHEOLOGY - UNDERGROUND
- ZERO SUBSIDENCE LINE
- WETLAND
- PREVIOUS SURFACE MINE - D-0370
- PREVIOUS SURFACE MINE - D-0390

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS MAP IS CORRECT, AND SHOWS TO THE BEST OF MY KNOWLEDGE AND BELIEF ALL THE INFORMATION REQUIRED BY CHAPTER [illegible] OF THE REVISED CODE AND RULES ADOPTED THEREUNDER

TERRY L. STOPS
PROFESSIONAL SURVEYOR
No. 8014

[signature] 11/9/06

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC THIS 3RD DAY OF [illegible] 2006

[signature]
NOTARY PUBLIC

My Commission Expires

OPERATOR

RECEIVED

APPLICATION & HYDROLOGY MAP - D-0360-19

The Ohio Valley Coal Company
56598 Pleasant Ridge Road, Alledonia, Ohio, 43902

SECTIONS: 2, 3, 4, 5, 10 & 15	T-7	R-5	TWP: Goshen
SECTIONS: 32	T-6	R-4	TWP: Smith

COUNTY: Belmont — CONTOUR INTERVAL: 20'
SCALE: 1" = 1000' — DATE REVISED: March 14, 2006
DATE PREPARED: Feb. 15, 2006 — DATE REVISED: May 22, 2006
DATE REVISED: June 15, 2006

HAMILTON
& Associates, Inc.

642 Higbee Ave. (RT. 47)
Pickerington, Ohio 43147
Ph. (740) 862-4040
Fax (740) 862-4070
email: hamilton@hamilton-assoc.com
www.hamilton-assoc.com

DRAWN BY: SBH

09860 00001

Dysart Woods
SCALE 1" = 500'
0
500
1000
2000
LOCATION MAP
CERTIFICATION
APPROVED
DATE
SURVEYOR
CONSULTING ENGINEER
OWNER
DEVELOPER
The Deer Valley LRT Company
LEGEND
PROPERTY LINE
EXISTING CONTOUR
PROPOSED CONTOUR
EXISTING ROAD
PROPOSED ROAD
EXISTING TRAIL
PROPOSED TRAIL
EXISTING STRUCTURE
PROPOSED STRUCTURE
EXISTING UTILITY
PROPOSED UTILITY
EXISTING TREE
PROPOSED TREE
EXISTING SHRUB
PROPOSED SHRUB
EXISTING FENCE
PROPOSED FENCE
EXISTING GATE
PROPOSED GATE
EXISTING SIGN
PROPOSED SIGN
EXISTING LIGHT
PROPOSED LIGHT
EXISTING MAILBOX
PROPOSED MAILBOX
EXISTING HYDRANT
PROPOSED HYDRANT
EXISTING VALVE
PROPOSED VALVE
EXISTING MANHOLE
PROPOSED MANHOLE
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PROPOSED CATCH BASIN
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PROPOSED INLET
EXISTING OUTLET
PROPOSED OUTLET
EXISTING CULVERT
PROPOSED CULVERT
EXISTING BRIDGE
PROPOSED BRIDGE
EXISTING RETAINING WALL
PROPOSED RETAINING WALL
EXISTING SLOPE
PROPOSED SLOPE
EXISTING DRAINAGE
PROPOSED DRAINAGE
EXISTING EASEMENT
PROPOSED EASEMENT
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY
EXISTING BUILDING
PROPOSED BUILDING
EXISTING PARKING
PROPOSED PARKING
EXISTING LANDSCAPE
PROPOSED LANDSCAPE
EXISTING IRRIGATION
PROPOSED IRRIGATION
EXISTING LIGHTING
PROPOSED LIGHTING
EXISTING SIGNAGE
PROPOSED SIGNAGE
EXISTING FURNITURE
PROPOSED FURNITURE
EXISTING PLAYGROUND
PROPOSED PLAYGROUND
EXISTING SPORTS FIELD
PROPOSED SPORTS FIELD
EXISTING POOL
PROPOSED POOL
EXISTING TENNIS COURT
PROPOSED TENNIS COURT
EXISTING BASKETBALL COURT
PROPOSED BASKETBALL COURT
EXISTING VOLLEYBALL COURT
PROPOSED VOLLEYBALL COURT
EXISTING SOCCER FIELD
PROPOSED SOCCER FIELD
EXISTING BASEBALL FIELD
PROPOSED BASEBALL FIELD
EXISTING FOOTBALL FIELD
PROPOSED FOOTBALL FIELD
EXISTING GOLF COURSE
PROPOSED GOLF COURSE
EXISTING PARK
PROPOSED PARK
EXISTING OPEN SPACE
PROPOSED OPEN SPACE
EXISTING WETLAND
PROPOSED WETLAND
EXISTING FLOODPLAIN
PROPOSED FLOODPLAIN
EXISTING STREAM
PROPOSED STREAM
EXISTING POND
PROPOSED POND
EXISTING LAKE
PROPOSED LAKE
EXISTING RIVER
PROPOSED RIVER
EXISTING CREEK
PROPOSED CREEK
EXISTING DITCH
PROPOSED DITCH
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EXISTING VOLLEYBALL COURT
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EXISTING SOCCER FIELD
PROPOSED SOCCER FIELD
EXISTING BASEBALL FIELD
PROPOSED BASEBALL FIELD
EXISTING FOOTBALL FIELD
PROPOSED FOOTBALL FIELD
EXISTING GOLF COURSE
PROPOSED GOLF COURSE
EXISTING PARK
PROPOSED PARK
EXISTING OPEN SPACE
PROPOSED OPEN SPACE
EXISTING WETLAND
PROPOSED WETLAND
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PROPOSED FLOODPLAIN
EXISTING STREAM
PROPOSED STREAM
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PROPOSED POND
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PROPOSED LAKE
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PROPOSED RIVER
EXISTING CREEK
PROPOSED CREEK
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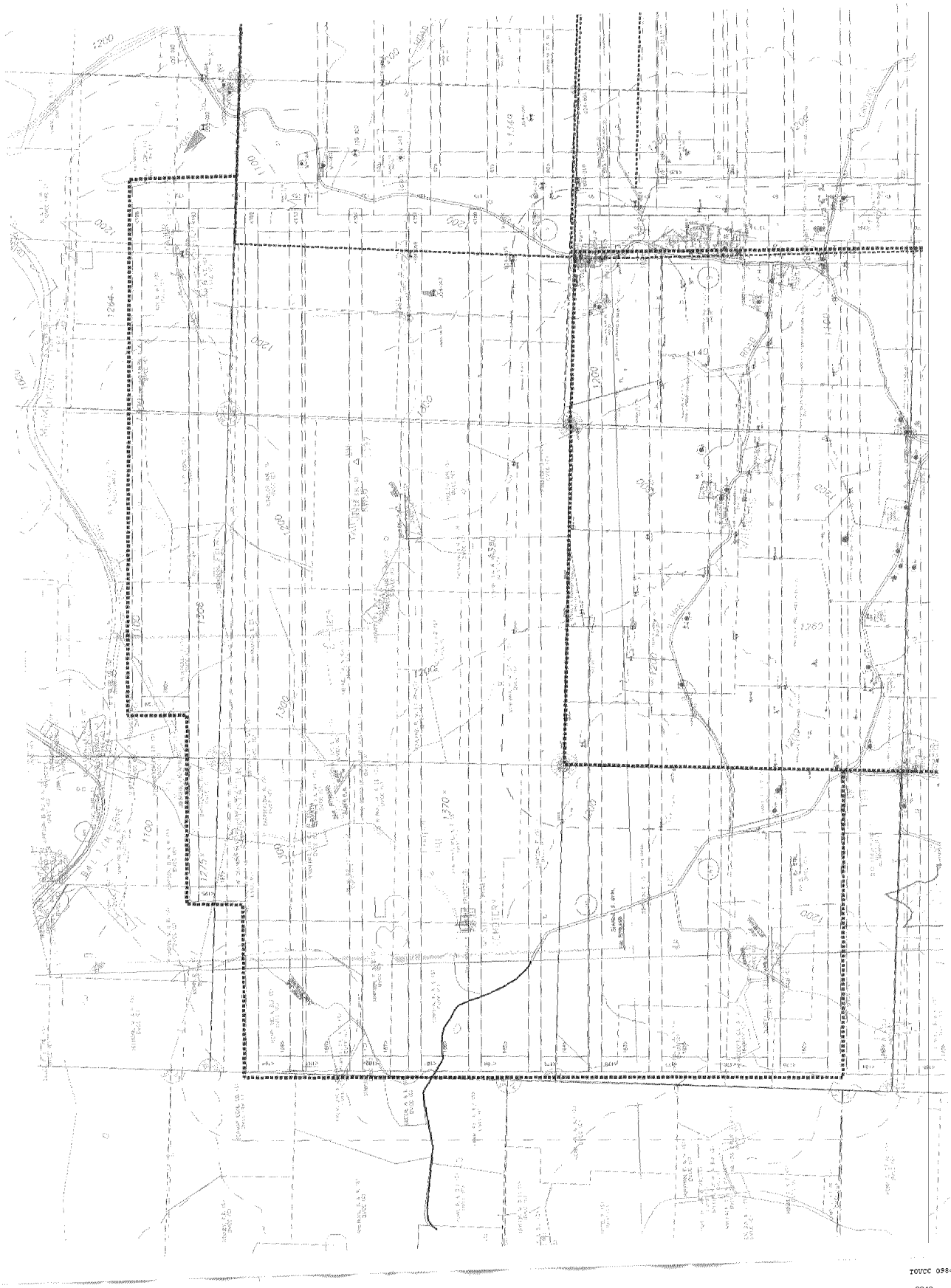
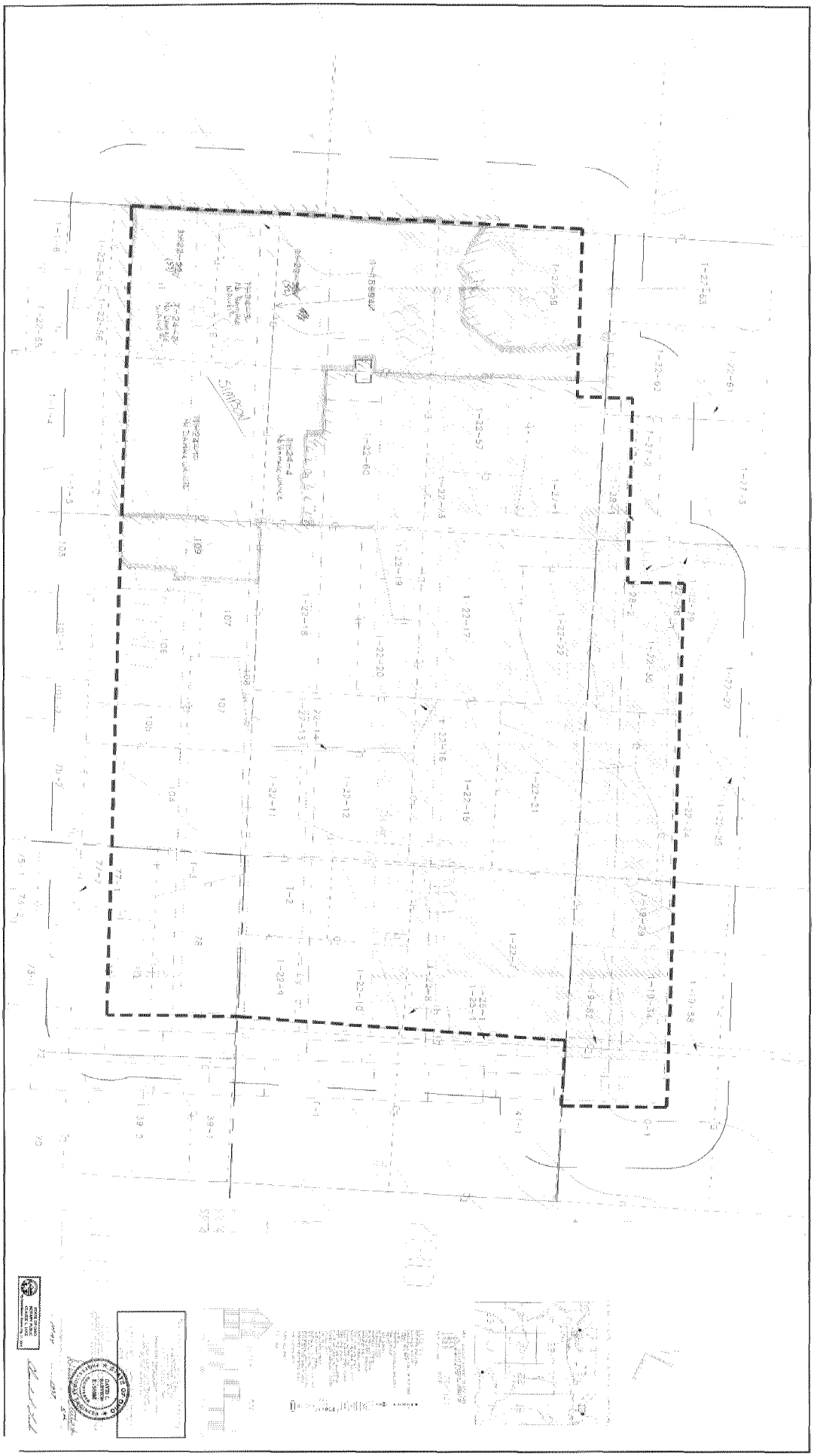
EXISTING WALL
PROPOSED WALL



70VCC 09842

TCVCC 9842



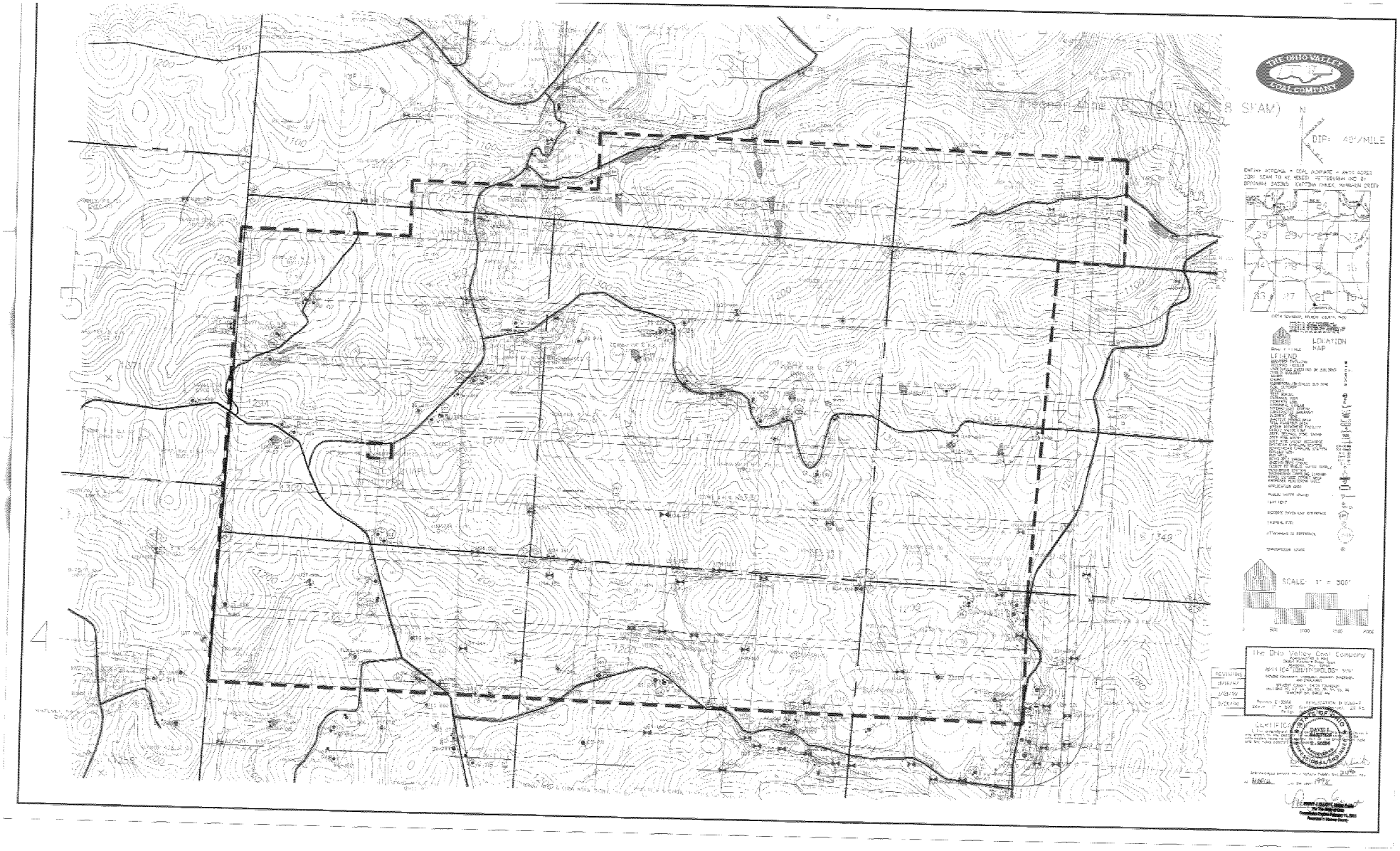

THE OHIO VALLEY COAL COMPANY
DIP: 45'/MILE
LOCATION MAP
SCALE: 1" = 300'
The Ohio Valley Coal Company

TABLE A

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Data
and
Predicted Hydrologic Impacts Summary

Well	Surface Elevation (feet)	Well Depth (feet)	Bottom Elevation (feet)	Coal Elevation (feet)	Overburden Depth well bottom to coal (feet)	Aquifer *See Attachment 14B*	Percent Soft Rocks	Topographic Position	Panel Position	Distance To Nearest Panel Edge (feet)	Use	Predicted Hydrologic Impact		
												Minimal	Moderate	Significant
W 167	1090	96	994	765	229	D	50	Hillside	Outside	850	Domestic	No impact expected; > 500' to mining		
WL 168	1112	62	1050	775	275	C	52	Valley Bottom	Outside	350	Domestic	44%	9%	47%
DW 169	1112	25	1087	775	312	A	52	Valley Bottom	Outside	350	Domestic	44%	9%	47%
DW 173	1116	25	1091	765	326	A	51	Hillside	Outside	300	Domestic	44%	9%	47%
WL 177	1183	43	1140	780	360	C	51	Hilltop	Quarter	200	Domestic	44%	9%	47%
W 294	1120	57	1063	775	288	C	52	Valley Bottom	Outside	200	Domestic	44%	9%	47%
W 315	1288	88	1200	775	425	B	74	Hilltop	Outside	1100	Domestic	No impact expected; > 500' to mining		
WL 317	1303			780			74	Hilltop	Quarter	200	Domestic	44%	9%	47%
DW 318	1304	18	1286	775	511	A	74	Hilltop	Outside	800	Domestic	No impact expected; > 500' to mining		
W 323	1138	120	1018	775	243	D	52	Hillside	Outside	300	Domestic	44%	9%	47%
W 344	1185	54	1131	810	321	C	75	Hilltop	Outside	1000	Domestic	No impact expected; > 500' to mining		
W 374	1290	51	1239	795	444	B	81	Hilltop	Outside	900	Domestic	No impact expected; > 500' to mining		
W 375	1247			790			77	Hillside	Middle	300	Domestic	44%	9%	47%
DW 376	1250	30	1220	800	420	A	77	Hillside	Middle	400	Domestic	44%	9%	47%
W 377	1282	86	1196	800	396	C	77	Hilltop	Middle	350	Domestic	44%	9%	47%
W 378	1325	68	1257	805	452	B	77	Hilltop	Quarter	200	Domestic	44%	9%	47%
W 379	1323	120	1203	805	398	C	77	Hilltop	Gate	Edge	Domestic	44%	9%	47%
W 380	1350	80	1270	820	450	B	77	Hilltop	Quarter	200	Domestic	44%	9%	47%
W 381	1325	100	1225	805	420	B	77	Hilltop	Quarter	150	Domestic	44%	9%	47%
W 382	1350	155	1195	820	375	C	77	Hilltop	Quarter	100	Domestic	44%	9%	47%

DW - Dug Well
WL - Well With Log
W - Well

TOVCC 09845

TABLE A

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Data
and
Predicted Hydrologic Impacts Summary

Well	Surface Elevation (feet)	Well Depth (feet)	Bottom Elevation (feet)	Coal Elevation (feet)	Overburden Depth well bottom to coal (feet)	Aquifer *See Attachment 14B*	Percent Soft Rocks	Topographic Position	Panel Position	Distance To Nearest Panel Edge (feet)	Use	Predicted Hydrologic Impact		
												Minimal	Moderate	Significant
W 383	1362	125	1237	815	422	B	77	Hilltop	Quarter	100	Domestic	44%	9%	47%
W 384	1335	80	1255	815	440	B	77	Hilltop	Quarter	100	Domestic	44%	9%	47%
W 385	1363	100	1263	815	448	B	77	Hilltop	Quarter	175	Domestic	44%	9%	47%
W 386	1350			830			49	Hilltop	Gate	25	Domestic	44%	9%	47%
W 387	1260	24	1236	840	396	A	49	Hilltop	Middle	375	Domestic	44%	9%	47%
W 388	1160			845			49	Hilltop	Outside	300	Domestic	44%	9%	47%
W 389	1145	78	1067	845	222	C	49	Hilltop	Outside	550	Domestic	No impact expected; > 500' to mining		
WL 390	1030	66	964	850	114	D	49	Hilltop	Outside	800	Domestic	No impact expected; > 500' to mining		
DW 391	1120	30	1090	840	250	A	49	Hilltop	Outside	175	Domestic	44%	9%	47%
WL 392	1325	68	1257	815	442	B	77	Hilltop	Quarter	50	Domestic	44%	9%	47%
DW 393	1330	30	1300	815	485	A	77	Hilltop	Quarter	150	Domestic	44%	9%	47%
W 394	1259	80	1179	820	359	C	77	Hilltop	Middle	250	Domestic	44%	9%	47%
W 396	1305	70	1235	785	450	B	81	Hilltop	Outside	500	Domestic	44%	9%	47%
W 397	1310	51	1259	780	479	B	81	Hilltop	Outside	750	Domestic	No impact expected; > 500' to mining		
W 398	1303	60	1243	780	463	B	81	Hilltop	Outside	1150	Domestic	No impact expected; > 500' to mining		
W 401	1318	113	1205	800	405	C	81	Hilltop	Middle	425	Domestic	44%	9%	47%
W 402	1325			830			79	Hilltop	Outside	600	Domestic	No impact expected; > 500' to mining		
W 404	1155	52	1103	835	268	C	79	Hillside	Middle	400	Domestic	44%	9%	47%
DW 408	1305	33	1272	780	492	A	81	Hilltop	Gate	50	Domestic	44%	9%	47%
W 417	1142	90	1052	835	217	C	79	Hillside	Middle	300	Domestic	44%	9%	47%
DW 421	1080	24	1056	850	206	A	49	Valley Bottom	Outside	1000	Domestic	No impact expected; > 500' to mining		

DW - Dug Well
WL - Well With Log
W - Well

TOVCC 09846

TABLE B

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring and Pond Data
and
Predicted Hydrologic Impacts Summary

Spring	Surface Elevation (feet)	Coal Elevation (feet)	Thickness (feet)	Aquifer *See Attachment 14B*	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel (feet)	Use	Predicted Hydrologic Impact		
										Minimal	Moderate	Significant
DS 111	1120	770	350	C	52	Hillside	Outside	1100	Domestic	No impact expected; > 500' to mining		
DS 226 A	1170	770	400	C	51	Hillside	Quarter	200	Livestock	6%	3%	91%
DS 230	1181	770	411	C	74	Hillside	Outside	700	Livestock	No impact expected; > 500' to mining		
DS 231	1246	770	476	B	74	Hillside	Outside	1100	Livestock	No impact expected; > 500' to mining		
DS 240	1170	780	390	C	74	Hillside	Middle	300	Domestic/ Livestock	6%	3%	91%
DS 241	1190	780	410	C	52	Hillside	Quarter	200	Domestic/ Livestock	6%	3%	91%
DS 242	1100	785	315	D	52	Valley Bottom	gate	70	Livestock	6%	3%	91%
DS 244	1290	775	515	B	81	Hilltop	Outside	900	Livestock	No impact expected; > 500' to mining		
DS 265	1200	800	400	B	75	Valley Bottom	Gate	50	Livestock	6%	3%	91%
DS 267	1225	810	415	B	75	Hillside	Gate	50	Livestock	6%	3%	91%
DS 268	1180	790	390	C	75	Hillside	Quarter	100	Livestock	6%	3%	91%
DS 269	1220	800	420	B	75	Hillside	Quarter	75	Livestock	6%	3%	91%
DS 270	1260	800	460	B	75	Hillside	Middle	350	Domestic	6%	3%	91%
DS 271	1323	815	508	B	77	Hilltop	Quarter	250	Livestock	6%	3%	91%
DS 272	1258	815	443	B	77	Hilltop	Quarter	200	Domestic	6%	3%	91%

DS - Developed Spring
P - Pond

TOVCC 09847

TABLE B

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring and Pond Data
and
Predicted Hydrologic Impacts Summary

Spring	Surface Elevation (feet)	Coal Elevation (feet)	Thickness (feet)	Aquifer *See Attachment 14B*	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel (feet)	Use	Predicted Hydrologic Impact		
										Minimal	Moderate	Significant
DS 277	1264	780	484	B	81	Hilltop	Outside	575	Livestock	No impact expected; > 500' to mining		
DS 278	1230	780	450	B	81	Hilltop	Outside	850	Livestock	No impact expected; > 500' to mining		
DS 282	1268	780	488	B	81	Hilltop	Outside	200	Livestock	6%	3%	91%
DS 283	1263	790	473	B	81	Hillside	Quarter	200	Livestock	6%	3%	91%
DS 285	1190	800	390	C	81	Hillside	Outside	900	Domestic	No impact expected; > 500' to mining		
P 2	1190	795	395	NA	75	Hillside	Quarter	100	Livestock	No impact expected		
P 15	1175	795	380	NA	75	Hillside	Quarter	110	Livestock	No impact expected		
P 16	1250	800	450	NA	78	Hillside	Gate	Edge	Livestock	No impact expected		
P 17	1330	800	530	NA	78	Hilltop	Middle	225	Livestock	No impact expected		
P 18	1250	805	445	NA	78	Valley Bottom	Quarter	100	Livestock	No impact expected		
P 28	1240	820	420	NA	79	Hilltop	Quarter	200	Livestock	No impact expected		

DS - Developed Spring
P - Pond

TOVCC 09848

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL - 1997

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	0.00	0.00	1.10	0.00									
2	0.01	T	1.20	0.00									
3	0.03	0.14	0.30	0.00									
4	0.60	0.35	0.00	T									
5	0.00	0.01	0.35	0.00									
6	0.00	0.00	T	0.00									
7	0.00	0.1	0.00	0.00									
8	0.00	T	0.00	0.01									
9	0.29	0.00	0.71	0.00									
10	T	T	0.00	0.00									
11	0.00	T	0.00	0.21									
12	T	0.00	0.00	0.48									
13	0.00	0.52	0.29	0.00									
14	0.00	0.00	0.02	0.00									
15	T	0.00	0.00	0.00									
16	0.28	0.05	0.00	T									
17	T	0.00	0.00	0.00									
18	0.00	0.00	0.20	0.00									
19	0.00	0.1	0.00	0.00									
20	0.00	0.00	0.00	0.00									
21	0.00	0.02	0.00	0.00									
22	0.27	0.00	0.00	0.01									
23	0.00	0.00	0.02	0.04									
24	0.23	0.00	T	0.79									
25	0.01	0.00	1.04	0.6									
26	0.00	0.17	T	0.00									
27	0.79	0.00	0.00	0.39									
28	0.08	0.00	0.05	0.00									
29	0.00		0.00	0.00									
30	0.00		0.18	0.03									
31	0.00		T										
TOTAL	2.59	1.46	5.46	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.07
H/L	L	L	H										

TOVCC 09849

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14B
(GROUND WATER HYDROLOGY DESCRIPTION)

APPLICANT'S NAME The Ohio Valley Coal Company

Aquifer/Zone Identification	Aquifer/Zone Lithology	Aquifer/Zone Thickness	Aquifer/Zone Elev.(msl)	Aquifer/Zone Horiz. Extent	Aquifer/Zone Known Uses	Approx. Rate of Discharge/Usage of Aquifer/Zone (gpm or cfs)
Near Surface Saturated Zone	Generally Fractured Strata, All Rock Types	Approx. first 100 ft. below the surface	Varies according to topography	Regional	Domestic Livestock	Generally less than 2 GPM

TOVCC 09850

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 0.00		Y 0.00		LOCATION	ERR
1.	Identification No. of Sampling Station from Hydrology Map						
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)						
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made						
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)						
11.	Total Acidity (mg/l CAC03)						
12.	Total Alkalinity (mg/l CAC03)						
13.	Specific Conductivity (µmhos/cm at 25°C)						
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)						
16.	Total Sulfates (mg/l)						
17.	Total Iron (mg/l)						
18.	Total Suspended Solids (mg/l)						
19.	Total Hardness (mg/l CAC03)						
20.	Nitrates (mg/l)						
21.	Date Sampled for Analysis						
22.	Date Last Precipitaiton Event Occurred						

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,998.76		Y 735,074.54		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-170	U34-170	U34-170			
2.	Lab Identification Number	9701244	9702208	9703137			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1175	1175	1175			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.001	0.004	0.007			
8.	Date Above Measurements Made	01/27/97	02/21/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.8	7.4	7.3			
11.	Total Acidity (mg/l CAC03)	11	7.5	7.4			
12.	Total Alkalinity (mg/l CAC03)	110	96	75			
13.	Specific Conductivity (µmhos/cm at 25°C)	240	240	170			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.33	0.4	0.14			
16.	Total Sulfates (mg/l)	29	28	28			
17.	Total Iron (mg/l)	0.59	0.88	0.58			
18.	Total Suspended Solids (mg/l)	22	18	8.5			
19.	Total Hardness (mg/l CAC03)	140	130	150			
20.	Nitrates (mg/l)	2.2	2	5.3			
21.	Date Sampled for Analysis	01/27/97	02/21/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/21/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,172.16		Y 735,892.11		LOCATION GTE	
1.	Identification No. of Sampling Station from Hydrology Map	U34-171	U34-171	U34-171			
2.	Lab Identification Number	9701245	9702207	9703135			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1255	1255	1255			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.001	0.005	0.008			
8.	Date Above Measurements Made	01/27/97	02/21/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.8	7.7	7.9			
11.	Total Acidity (mg/l CAC03)	9.4	3.9	8			
12.	Total Alkalinity (mg/l CAC03)	130	120	130			
13.	Specific Conductivity (µmhos/cm at 25°C)	310	330	330			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.14	0.1			
16.	Total Sulfates (mg/l)	35	35	37			
17.	Total Iron (mg/l)	2	0.91	0.81			
18.	Total Suspended Solids (mg/l)	53	34	38			
19.	Total Hardness (mg/l CAC03)	180	170	200			
20.	Nitrates (mg/l)	9.8	8.6	11			
21.	Date Sampled for Analysis	01/27/97	02/21/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/21/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,382.77		Y 735,717.03		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-172	U34-172	U34-172			
2.	Lab Identification Number	9701249	9702203	9703151			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1255	1255	1255			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.003	0.004	0.005			
8.	Date Above Measurements Made	01/27/97	02/21/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	6.7	6.7	7.2			
11.	Total Acidity (mg/l CAC03)	11	14	13			
12.	Total Alkalinity (mg/l CAC03)	80	54	54			
13.	Specific Conductivity (µmhos/cm at 25°C)	200	180	170			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	1.8	0.88	0.94			
16.	Total Sulfates (mg/l)	31	20	23			
17.	Total Iron (mg/l)	1.5	1.5	5.7			
18.	Total Suspended Solids (mg/l)	5	14	100			
19.	Total Hardness (mg/l CAC03)	130	60	120			
20.	Nitrates (mg/l)	0.62	2.2	3.8			
21.	Date Sampled for Analysis	01/27/97	02/21/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/21/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,424,865.31		Y 736,262.73		LOCATION	[AM
1.	Identification No. of Sampling Station from Hydrology Map	U34-173	U34-173	U34-173			
2.	Lab Identification Number	9701297	9702215	9703179			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1200	1200	1200			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.008	0.008	0.011			
8.	Date Above Measurements Made	01/28/97	02/21/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.2	7.6	7.5			
11.	Total Acidity (mg/l CAC03)	4.7	8.3	10			
12.	Total Alkalinity (mg/l CAC03)	50	120	120			
13.	Specific Conductivity (µmhos/cm at 25°C)	130	310	270			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.15	0.32	0.04			
16.	Total Sulfates (mg/l)	25	30	29			
17.	Total Iron (mg/l)	1	0.54	0.74			
18.	Total Suspended Solids (mg/l)	3.3	4.7	9.3			
19.	Total Hardness (mg/l CAC03)	110	160	180			
20.	Nitrates (mg/l)	2.8	0.51	0.77			
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,164.45		Y 739,004.37	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-035	U35-035	U35-035		
2.	Lab Identification Number	9701286	9702229	9703141		
3.	High (H)/Low (L) Designation (if applicable)	L	L	H		
4.	Surface Elevation for Sampling Station (msl)	1120	1120	1120		
5.	Depth of Well below Land Surface (msl)	NA	NA	NA		
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA		
7.	Flow for Spring/Stream (gpm or cfs)	0.004	0.011	0.04		
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97		
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA		
10.	pH (Standard Units)	6.7	7.4	7.8		
11.	Total Acidity (mg/l CAC03)	5.1	4.7	13		
12.	Total Alkalinity (mg/l CAC03)	10	94	170		
13.	Specific Conductivity (µmhos/cm at 25°C)	120	250	360		
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.09	0.06		
16.	Total Sulfates (mg/l)	47	30	47		
17.	Total Iron (mg/l)	1.2	0.68	0.34		
18.	Total Suspended Solids (mg/l)	8	18	25		
19.	Total Hardness (mg/l CAC03)	80	120	240		
20.	Nitrates (mg/l)	0.43	0.24	1		
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97		
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/13/97		

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,427,318.70	Y	740,992.54	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-036	U35-036	U35-036			
2.	Lab Identification Number	9701289	9702226	9703145			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	995	995	995			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	1.3	1.3	1.6			
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.8	8	7.8			
11.	Total Acidity (mg/l CAC03)	4.3	3.2	8.8			
12.	Total Alkalinity (mg/l CAC03)	130	140	130			
13.	Specific Conductivity (µmhos/cm at 25°C)	380	450	420			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.44	0.22	0.15			
16.	Total Sulfates (mg/l)	96	120	130			
17.	Total Iron (mg/l)	1.6	0.26	0.38			
18.	Total Suspended Solids (mg/l)	25	0.00	7.3			
19.	Total Hardness (mg/l CAC03)	200	250	240			
20.	Nitrates (mg/l)	0.16	0.25	0.46			
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/13/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,610.52		Y 739,910.98		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-037	U35-037	U35-037			
2.	Lab Identification Number	9701290	9702227	9703144			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1035	1035	1035			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.5	0.6	0.7			
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.8	7.9	7.8			
11.	Total Acidity (mg/l CAC03)	5.5	6.1	9.4			
12.	Total Alkalinity (mg/l CAC03)	150	150	130			
13.	Specific Conductivity (μmhos/cm at 25°C)	380	450	380			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.72	0.73	0.57			
16.	Total Sulfates (mg/l)	110	100	100			
17.	Total Iron (mg/l)	0.56	0.74	0.54			
18.	Total Suspended Solids (mg/l)	4.7	13	4			
19.	Total Hardness (mg/l CAC03)	260	240	230			
20.	Nitrates (mg/l)	0.00	0.16	0.32			
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/13/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,271.81		Y 736,533.13	LOCATION	ADJ	
1.	Identification No. of Sampling Station from Hydrology Map	U35-038	U35-038	U35-038			
2.	Lab Identification Number	9702006	9702309	9703193			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1038	1038	1038			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.003	0.005	0.015			
8.	Date Above Measurements Made	01/31/97	02/27/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.4	7.5	7.5			
11.	Total Acidity (mg/l CAC03)	2.9	5	4.7			
12.	Total Alkalinity (mg/l CAC03)	91	90	84			
13.	Specific Conductivity (µmhos/cm at 25°C)	260	290	270			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00			
16.	Total Sulfates (mg/l)	32	32	30			
17.	Total Iron (mg/l)	0.00	0.1	0.23			
18.	Total Suspended Solids (mg/l)	0.00	0.00	6			
19.	Total Hardness (mg/l CAC03)	140	150	120			
20.	Nitrates (mg/l)	1	1.3	1.4			
21.	Date Sampled for Analysis	01/31/97	02/27/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,345.14		Y 738,660.89	LOCATION	ADJ	
1.	Identification No. of Sampling Station from Hydrology Map	U35-039	U35-039	U35-039			
2.	Lab Identification Number	9702007	9702310	9703194			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1055	1055	1055			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.005	0.008	0.018			
8.	Date Above Measurements Made	01/31/97	02/27/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.4	7.5	7.5			
11.	Total Acidity (mg/l CAC03)	2	4.6	3.9			
12.	Total Alkalinity (mg/l CAC03)	90	92	84			
13.	Specific Conductivity (µmhos/cm at 25°C)	260	290	250			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00			
16.	Total Sulfates (mg/l)	32	32	30			
17.	Total Iron (mg/l)	0.00	0.08	0.28			
18.	Total Suspended Solids (mg/l)	0.00	0.00	6			
19.	Total Hardness (mg/l CAC03)	140	140	150			
20.	Nitrates (mg/l)	0.98	1.3	1			
21.	Date Sampled for Analysis	01/31/97	02/27/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,423,302.23		Y	739,756.13	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-040	U35-040					
2.	Lab Identification Number	9702305	9703270					
3.	High (H)/Low (L) Designation (if applicable)	L	H					
4.	Surface Elevation for Sampling Station (msl)	1095	1095					
5.	Depth of Well below Land Surface (msl)	NA	NA					
6.	Static Water Level of Well below Land Surface (msl)	NA	NA					
7.	Flow for Spring/Stream (gpm or cfs)	0.001	0.002					
8.	Date Above Measurements Made	02/27/97	03/20/97					
9.	Aquifer/Zone Identification for Well/Spring	NA	NA					
10.	pH (Standard Units)	7.5	7.9					
11.	Total Acidity (mg/l CAC03)	6.2	3.1					
12.	Total Alkalinity (mg/l CAC03)	130	100					
13.	Specific Conductivity (µmhos/cm at 25°C)	390	390					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-	
15.	Total Manganese (mg/l)	0.05	0.15					
16.	Total Sulfates (mg/l)	45	45					
17.	Total Iron (mg/l)	0.09	0.11					
18.	Total Suspended Solids (mg/l)	0.00	0.00					
19.	Total Hardness (mg/l CAC03)	170	150					
20.	Nitrates (mg/l)	0.00	0.22					
21.	Date Sampled for Analysis	02/27/97	03/20/97					
22.	Date Last Precipitation Event Occurred	02/26/97	03/18/97					

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,041.26		Y 739,677.36		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U35-041	U35-041				
2.	Lab Identification Number	9702306	9703143				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1083	1083				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	0.26	0.36				
8.	Date Above Measurements Made	02/26/97	03/13/97				
9.	Aquifer/Zone Identification for Well/Spring	NA	NA				
10.	pH (Standard Units)	7.8	7.8				
11.	Total Acidity (mg/l CAC03)	4.6	7.4				
12.	Total Alkalinity (mg/l CAC03)	120	99				
13.	Specific Conductivity (µmhos/cm at 25°C)	310	250				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.29	0.18				
16.	Total Sulfates (mg/l)	52	51				
17.	Total Iron (mg/l)	0.16	0.29				
18.	Total Suspended Solids (mg/l)	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	210	160				
20.	Nitrates (mg/l)	0.26	0.4				
21.	Date Sampled for Analysis	02/26/97	03/13/97				
22.	Date Last Precipitation Event Occurred	02/26/97	03/13/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,863.53		Y 739,867.65		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-042	U35-042				
2.	Lab Identification Number	9702307	9703229				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1150	1150				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	0.016	0.022				
8.	Date Above Measurements Made	02/26/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NA	NA				
10.	pH (Standard Units)	7.5	7.6				
11.	Total Acidity (mg/l CAC03)	3.6	6				
12.	Total Alkalinity (mg/l CAC03)	82	76				
13.	Specific Conductivity (µmhos/cm at 25°C)	230	260				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00				
16.	Total Sulfates (mg/l)	29	28				
17.	Total Iron (mg/l)	0.1	0.24				
18.	Total Suspended Solids (mg/l)	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	130	190				
20.	Nitrates (mg/l)	0.12	0.28				
21.	Date Sampled for Analysis	02/26/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/26/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,449.16		Y 738,583.04		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-043	U35-043				
2.	Lab Identification Number	9702285	9703284				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1070	1070				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	1.9	2				
8.	Date Above Measurements Made	02/27/97	03/25/97				
9.	Aquifer/Zone Identification for Well/Spring	NA	NA				
10.	pH (Standard Units)	8.2	8.1				
11.	Total Acidity (mg/l CAC03)	23	4.2				
12.	Total Alkalinity (mg/l CAC03)	180	190				
13.	Specific Conductivity (µmhos/cm at 25°C)	590	630				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.24	0.28				
16.	Total Sulfates (mg/l)	130	150				
17.	Total Iron (mg/l)	0.09	0.11				
18.	Total Suspended Solids (mg/l)	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	320	350				
20.	Nitrates (mg/l)	0.00	0.18				
21.	Date Sampled for Analysis	02/27/97	03/25/97				
22.	Date Last Precipitation Event Occurred	02/26/97	03/25/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,970.11		Y 740,067.85		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-044	U35-044				
2.	Lab Identification Number	9702286	9703285				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1035	1035				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	3.37	3.5				
8.	Date Above Measurements Made	02/27/97	03/25/97				
9.	Aquifer/Zone Identification for Well/Spring	NA	NA				
10.	pH (Standard Units)	8.2	8.1				
11.	Total Acidity (mg/l CAC03)	11	2.3				
12.	Total Alkalinity (mg/l CAC03)	150	160				
13.	Specific Conductivity (µmhos/cm at 25°C)	460	510				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.12	0.1				
16.	Total Sulfates (mg/l)	100	100				
17.	Total Iron (mg/l)	0.00	0.07				
18.	Total Suspended Solids (mg/l)	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	230	260				
20.	Nitrates (mg/l)	0.00	0.09				
21.	Date Sampled for Analysis	02/27/97	03/25/97				
22.	Date Last Precipitation Event Occurred	02/26/97	03/25/97				

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,424,457.04			Y 738,906.85	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	U35-045					
2.	Lab Identification Number	9703049					
3.	High (H)/Low (L) Designation (if applicable)	H					
4.	Surface Elevation for Sampling Station (msl)	1115					
5.	Depth of Well below Land Surface (msl)	NA					
6.	Static Water Level of Well below Land Surface (msl)	NA					
7.	Flow for Spring/Stream (gpm or cfs)	0.13					
8.	Date Above Measurements Made	03/04/97					
9.	Aquifer/Zone Identification for Well/Spring	NA					
10.	pH (Standard Units)	6.7					
11.	Total Acidity (mg/l CAC03)	23					
12.	Total Alkalinity (mg/l CAC03)	34					
13.	Specific Conductivity (µmhos/cm at 25°C)	150					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.05					
16.	Total Sulfates (mg/l)	36					
17.	Total Iron (mg/l)	0.73					
18.	Total Suspended Solids (mg/l)	0.00					
19.	Total Hardness (mg/l CAC03)	9					
20.	Nitrates (mg/l)	1.22					
21.	Date Sampled for Analysis	03/04/97					
22.	Date Last Precipitation Event Occurred	03/03/97					

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Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,418,046.40	Y	731,429.30	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U37-000	U37-000	U37-000			
2.	Lab Identification Number	9701117	9702295	9703272			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1150	1150	1150			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.5	1	1.75			
8.	Date Above Measurements Made	01/13/97	02/27/97	03/22/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.9	7.8	7.7			
11.	Total Acidity (mg/l CAC03)	4.7	4	3.9			
12.	Total Alkalinity (mg/l CAC03)	160	130	140			
13.	Specific Conductivity (µmhos/cm at 25°C)	480	340	370			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.06	0.00			
16.	Total Sulfates (mg/l)	42	32	32			
17.	Total Iron (mg/l)	0.22	0.14	0.09			
18.	Total Suspended Solids (mg/l)	18	8	6			
19.	Total Hardness (mg/l CAC03)	200	190	170			
20.	Nitrates (mg/l)	2.2	1.1	0.94			
21.	Date Sampled for Analysis	01/13/97	02/27/97	03/22/97			
22.	Date Last Precipitation Event Occurred	01/12/97	02/26/97	03/18/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,187.26		Y 730,104.93		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U37-001	U37-001	U37-001			
2.	Lab Identification Number	9701313	9702298	9703271			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1135	1135	1135			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.008	0.018	0.035			
8.	Date Above Measurements Made	01/30/97	02/27/97	03/22/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7	7.6	7.8			
11.	Total Acidity (mg/l CAC03)	13	5.8	3.9			
12.	Total Alkalinity (mg/l CAC03)	220	150	140			
13.	Specific Conductivity (µmhos/cm at 25°C)	390	320	350			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.09	0.06			
16.	Total Sulfates (mg/l)	28	31	33			
17.	Total Iron (mg/l)	0.00	0.29	0.15			
18.	Total Suspended Solids (mg/l)	0.00	4.7	0.00			
19.	Total Hardness (mg/l CAC03)	240	180	180			
20.	Nitrates (mg/l)	1.8	0.5	0.37			
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/22/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/18/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,015.99			Y 734,695.85	LOCATION GTE	
1.	Identification No. of Sampling Station from Hydrology Map	U37-003	U37-003				
2.	Lab Identification Number	9702124	9703232				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1238	1238				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	0.006	0.026				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NA	NA				
10.	pH (Standard Units)	8	7.2				
11.	Total Acidity (mg/l CAC03)	12	2.7				
12.	Total Alkalinity (mg/l CAC03)	160	69				
13.	Specific Conductivity (µmhos/cm at 25°C)	1200	890				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.14	0.06				
16.	Total Sulfates (mg/l)	48	38				
17.	Total Iron (mg/l)	0.39	0.56				
18.	Total Suspended Solids (mg/l)	0.00	5				
19.	Total Hardness (mg/l CAC03)	350	210				
20.	Nitrates (mg/l)	5.1	0.00				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,418,391.35	Y	729,783.17	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	D37-000	D37-000	D37-000			
2.	Lab Identification Number	9701115	9702296	9703273			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1095	1095	1095			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	1.6	2.6	3			
8.	Date Above Measurements Made	01/13/97	02/27/97	03/22/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.9	7.9	7.7			
11.	Total Acidity (mg/l CAC03)	5.8	4.2	4.3			
12.	Total Alkalinity (mg/l CAC03)	150	130	130			
13.	Specific Conductivity (µmhos/cm at 25°C)	370	340	360			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.05	0.04	0.00			
16.	Total Sulfates (mg/l)	35	30	33			
17.	Total Iron (mg/l)	0.52	0.14	0.08			
18.	Total Suspended Solids (mg/l)	5.3	5.3	0.00			
19.	Total Hardness (mg/l CAC03)	230	180	190			
20.	Nitrates (mg/l)	1.4	1	0.78			
21.	Date Sampled for Analysis	01/13/97	02/27/97	03/22/97			
22.	Date Last Precipitation Event Occurred	01/12/97	02/26/97	03/18/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,870.56		Y 735,928.92		LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	SP-265	SP-265	SP-265			
2.	Lab Identification Number	9701246	9702206	9703136			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1200	1200	1200			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.75	3	3			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.2	7.2	7.3			
11.	Total Acidity (mg/l CAC03)	13	11	23			
12.	Total Alkalinity (mg/l CAC03)	180	170	160			
13.	Specific Conductivity (µmhos/cm at 25°C)	320	380	330			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	42	40	40			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	200	220	200			
20.	Nitrates (mg/l)	2.8	3.8	5.4			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,423,767.24		Y	739,902.41	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	SP-266	SP-266					
2.	Lab Identification Number	9702304	9703138					
3.	High (H)/Low (L) Designation (if applicable)	L	H					
4.	Surface Elevation for Sampling Station (msl)	1100	1100					
5.	Depth of Well below Land Surface (msl)	NA	NA					
6.	Static Water Level of Well below Land Surface (msl)	NA	NA					
7.	Flow for Spring/Stream (gpm or cfs)	0.05	0.07					
8.	Date Above Measurements Made	02/26/97	03/13/97					
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ					
10.	pH (Standard Units)	7.1	6.5					
11.	Total Acidity (mg/l CAC03)	8.2	15					
12.	Total Alkalinity (mg/l CAC03)	120	89					
13.	Specific Conductivity (µmhos/cm at 25°C)	280	200					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-	
15.	Total Manganese (mg/l)	0.02	0.02					
16.	Total Sulfates (mg/l)	39	38					
17.	Total Iron (mg/l)	0.54	0.2					
18.	Total Suspended Solids (mg/l)	0.00	4					
19.	Total Hardness (mg/l CAC03)	150	120					
20.	Nitrates (mg/l)	0.76	0.84					
21.	Date Sampled for Analysis	02/26/97	03/13/97					
22.	Date Last Precipitation Event Occurred	02/26/97	03/13/97					

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,147.68		Y 737,000.34		LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	SP-267	SP-267	SP-267			
2.	Lab Identification Number	9701248	9702204	9703148			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1225	1225	1225			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	1.5	2	2.5			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.2	7.4	7.4			
11.	Total Acidity (mg/l CAC03)	9.6	5.1	6.6			
12.	Total Alkalinity (mg/l CAC03)	140	90	120			
13.	Specific Conductivity (µmhos/cm at 25°C)	330	260	320			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.18	0.00			
16.	Total Sulfates (mg/l)	35	27	34			
17.	Total Iron (mg/l)	0.00	3.2	0.34			
18.	Total Suspended Solids (mg/l)	0.00	150	8.7			
19.	Total Hardness (mg/l CAC03)	230	140	160			
20.	Nitrates (mg/l)	8.4	6.6	9.5			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,427,810.89	Y	734,047.87	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	SP-268	SP-268	SP-268			
2.	Lab Identification Number	9701251	9702200	9703149			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1180	1180	1180			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	3.33	6	3			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7	7.2			
11.	Total Acidity (mg/l CAC03)	15	23	27			
12.	Total Alkalinity (mg/l CAC03)	190	180	180			
13.	Specific Conductivity (µmhos/cm at 25°C)	430	480	430			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	59	58	56			
17.	Total Iron (mg/l)	0.00	0.00	0.06			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	260	230	240			
20.	Nitrates (mg/l)	5.8	8.1	9.7			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,125.58		Y 735,053.79		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	SP-269	SP-269	SP-269			
2.	Lab Identification Number	9701252	9702201	9703150			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1220	1220	1220			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	5	5	5			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.1	7	7.1			
11.	Total Acidity (mg/l CAC03)	13	14	22			
12.	Total Alkalinity (mg/l CAC03)	160	140	140			
13.	Specific Conductivity (µmhos/cm at 25°C)	340	370	330			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	48	46	43			
17.	Total Iron (mg/l)	0.00	0.00	0.06			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	200	180	200			
20.	Nitrates (mg/l)	4.2	5.7	4.6			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,044.70		Y 735,336.25	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	SP-270	SP-270	SP-270			
2.	Lab Identification Number	9701254	9702209	9703134			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1260	1260	1260			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.71	0.75	0.75			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7	7.4	7.3			
11.	Total Acidity (mg/l CAC03)	13	6.1	16			
12.	Total Alkalinity (mg/l CAC03)	160	140	130			
13.	Specific Conductivity (µmhos/cm at 25°C)	340	360	330			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.02			
16.	Total Sulfates (mg/l)	48	46	43			
17.	Total Iron (mg/l)	0.39	0.54	0.27			
18.	Total Suspended Solids (mg/l)	6	17	11			
19.	Total Hardness (mg/l CAC03)	250	210	200			
20.	Nitrates (mg/l)	4	7.8	7.1			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,357.36		Y 735,287.95		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	SP-271	SP-271	SP-271			
2.	Lab Identification Number	9701282	9702258	9703188			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1323	1323	1323			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	1.33	3	3.25			
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.3			
11.	Total Acidity (mg/l CAC03)	11	20	12			
12.	Total Alkalinity (mg/l CAC03)	200	250	240			
13.	Specific Conductivity (µmhos/cm at 25°C)	390	530	480			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	42	49	45			
17.	Total Iron (mg/l)	0.53	0.00	0.06			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	240	280	280			
20.	Nitrates (mg/l)	3.9	3.6	4			
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,302.52		Y 736,743.90	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	SP-272	SP-272	SP-272			
2.	Lab Identification Number	9701295	9702218	9703178			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1258	1258	1258			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	4.28	4	5			
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.3			
11.	Total Acidity (mg/l CAC03)	9	14	12			
12.	Total Alkalinity (mg/l CAC03)	170	200	190			
13.	Specific Conductivity (µmhos/cm at 25°C)	330	440	410			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	42	48	56			
17.	Total Iron (mg/l)	1.4	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	190	220	250			
20.	Nitrates (mg/l)	3	1.4	2.1			
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/14/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,594.71		Y 736,871.47		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	SP-273	SP-273	SP-273			
2.	Lab Identification Number	9701298	9702216	9703176			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1265	1265	1265			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	1	1.5	1.5			
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.3			
11.	Total Acidity (mg/l CAC03)	14	11	18			
12.	Total Alkalinity (mg/l CAC03)	200	220	220			
13.	Specific Conductivity (µmhos/cm at 25°C)	440	630	470			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	54	52	51			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	260	280	300			
20.	Nitrates (mg/l)	9.2	8.6	7.8			
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/14/97			

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,901.57		Y 736,509.40		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	SP-274	SP-274	SP-274			
2.	Lab Identification Number	9701299	9702220	9703180			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1230	1230	1230			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.5	3	5			
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	6.9	6.9	7			
11.	Total Acidity (mg/l CAC03)	9.9	18	9.2			
12.	Total Alkalinity (mg/l CAC03)	88	120	100			
13.	Specific Conductivity (µmhos/cm at 25°C)	180	270	230			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	29	32	31			
17.	Total Iron (mg/l)	1.6	0.11	0.22			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	150	130	130			
20.	Nitrates (mg/l)	10	1.1	1.8			
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/14/97			

Laboratory Name: Tradet, Inc.
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,858.90		Y 730,184.40	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	SP-277	SP-277	SP-277		
2.	Lab Identification Number	9702001	9702229	9703254		
3.	High (H)/Low (L) Designation (if applicable)	L	L	H		
4.	Surface Elevation for Sampling Station (msl)	1264	1264	1264		
5.	Depth of Well below Land Surface (msl)	NA	NA	NA		
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA		
7.	Flow for Spring/Stream (gpm or cfs)	0.25	0.5	0.25		
8.	Date Above Measurements Made	01/30/97	02/27/97	03/24/97		
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ		
10.	pH (Standard Units)	7.4	7.4	8.5		
11.	Total Acidity (mg/l CAC03)	14	12	11		
12.	Total Alkalinity (mg/l CAC03)	210	200	200		
13.	Specific Conductivity (µmhos/cm at 25°C)	850	830	800		
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.02		
16.	Total Sulfates (mg/l)	66	60	65		
17.	Total Iron (mg/l)	0.00	0.00	0.00		
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00		
19.	Total Hardness (mg/l CAC03)	420	410	370		
20.	Nitrates (mg/l)	2.6	1.6	11		
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/24/97		
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/24/97		

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,905.84		Y 729,898.49	LOCATION	ADJ	
1.	Identification No. of Sampling Station from Hydrology Map	SP-278	SP-278	SP-278			
2.	Lab Identification Number	9702002	9702300	9703258			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1230	1230	1230			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	0.5	0.75	0.75			
8.	Date Above Measurements Made	01/30/97	02/27/97	03/24/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	6.9	7.4	7.3			
11.	Total Acidity (mg/l CAC03)	8	5	13			
12.	Total Alkalinity (mg/l CAC03)	100	110	120			
13.	Specific Conductivity (µmhos/cm at 25°C)	270	330	370			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	34	34	57			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	170	170	160			
20.	Nitrates (mg/l)	6.7	5	19			
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/24/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/24/97			

Laboratory Name Tradet, Inc.

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State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,692.58		Y 730,521.26		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	SP-282	SP-282				
2.	Lab Identification Number	9702123	9703240				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1268	1268				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	2.7	8.5				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	6.9	6.8				
11.	Total Acidity (mg/l CAC03)	22	24				
12.	Total Alkalinity (mg/l CAC03)	150	150				
13.	Specific Conductivity (µmhos/cm at 25°C)	570	610				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.00				
16.	Total Sulfates (mg/l)	57	57				
17.	Total Iron (mg/l)	0.06	0.06				
18.	Total Suspended Solids (mg/l)	2.7	0.00				
19.	Total Hardness (mg/l CAC03)	240	260				
20.	Nitrates (mg/l)	5.1	6.6				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

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OHIO DEPARTMENT OF NATURAL RESOURCES
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ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,404.89		Y 731,588.03		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	SP-283	SP-283				
2.	Lab Identification Number	9702121	9703241				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1263	1263				
5.	Depth of Well below Land Surface (msl)	NA	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA	NA				
7.	Flow for Spring/Stream (gpm or cfs)	2.1	15				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7.5	7				
11.	Total Acidity (mg/l CAC03)	14	9.9				
12.	Total Alkalinity (mg/l CAC03)	97	97				
13.	Specific Conductivity (µmhos/cm at 25°C)	570	530				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.00				
16.	Total Sulfates (mg/l)	37	34				
17.	Total Iron (mg/l)	0.22	0.00				
18.	Total Suspended Solids (mg/l)	2	6				
19.	Total Hardness (mg/l CAC03)	190	190				
20.	Nitrates (mg/l)	1.9	1.2				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
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Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,664.88			Y 730,052.03	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	SP-285					
2.	Lab Identification Number	9703077					
3.	High (H)/Low (L) Designation (if applicable)	H					
4.	Surface Elevation for Sampling Station (msl)	1190					
5.	Depth of Well below Land Surface (msl)	NA					
6.	Static Water Level of Well below Land Surface (msl)	NA					
7.	Flow for Spring/Stream (gpm or cfs)	8					
8.	Date Above Measurements Made	03/04/97					
9.	Aquifer/Zone Identification for Well/Spring	NSSZ					
10.	pH (Standard Units)	7.1					
11.	Total Acidity (mg/l CAC03)	20					
12.	Total Alkalinity (mg/l CAC03)	140					
13.	Specific Conductivity (µmhos/cm at 25°C)	300					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00					
16.	Total Sulfates (mg/l)	25					
17.	Total Iron (mg/l)	0.27					
18.	Total Suspended Solids (mg/l)	0.00					
19.	Total Hardness (mg/l CAC03)	150					
20.	Nitrates (mg/l)	0.38					
21.	Date Sampled for Analysis	03/04/97					
22.	Date Last Precipitation Event Occurred	03/03/97					

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
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Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,707.83		Y 730,750.24	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	SP-286				
2.	Lab Identification Number	9703267				
3.	High (H)/Low (L) Designation (if applicable)	H				
4.	Surface Elevation for Sampling Station (msl)	1220				
5.	Depth of Well below Land Surface (msl)	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA				
7.	Flow for Spring/Stream (gpm or cfs)	2.6				
8.	Date Above Measurements Made	03/20/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ				
10.	pH (Standard Units)	6.9				
11.	Total Acidity (mg/l CAC03)	12				
12.	Total Alkalinity (mg/l CAC03)	140				
13.	Specific Conductivity (µmhos/cm at 25°C)	390				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00				
16.	Total Sulfates (mg/l)	31				
17.	Total Iron (mg/l)	0.00				
18.	Total Suspended Solids (mg/l)	0.00				
19.	Total Hardness (mg/l CAC03)	180				
20.	Nitrates (mg/l)	13				
21.	Date Sampled for Analysis	03/20/97				
22.	Date Last Precipitation Event Occurred	03/18/97				

Laboratory Name: Tradet, Inc.
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
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Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,473.61			Y 730,721.64	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	SP-287					
2.	Lab Identification Number	9703268					
3.	High (H)/Low (L) Designation (if applicable)	H					
4.	Surface Elevation for Sampling Station (msl)	1220					
5.	Depth of Well below Land Surface (msl)	NA					
6.	Static Water Level of Well below Land Surface (msl)	NA					
7.	Flow for Spring/Stream (gpm or cfs)	2.4					
8.	Date Above Measurements Made	03/20/97					
9.	Aquifer/Zone Identification for Well/Spring	NSSZ					
10.	pH (Standard Units)	7					
11.	Total Acidity (mg/l CAC03)	12					
12.	Total Alkalinity (mg/l CAC03)	120					
13.	Specific Conductivity (µmhos/cm at 25°C)	370					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00					
16.	Total Sulfates (mg/l)	37					
17.	Total Iron (mg/l)	0.07					
18.	Total Suspended Solids (mg/l)	0.00					
19.	Total Hardness (mg/l CAC03)	200					
20.	Nitrates (mg/l)	7.2					
21.	Date Sampled for Analysis	03/20/97					
22.	Date Last Precipitation Event Occurred	03/18/97					

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,369.97		Y 732,007.11	LOCATION GTE	
1.	Identification No. of Sampling Station from Hydrology Map	SP-288				
2.	Lab Identification Number	9703269				
3.	High (H)/Low (L) Designation (if applicable)	H				
4.	Surface Elevation for Sampling Station (msl)	1245				
5.	Depth of Well below Land Surface (msl)	NA				
6.	Static Water Level of Well below Land Surface (msl)	NA				
7.	Flow for Spring/Stream (gpm or cfs)	20				
8.	Date Above Measurements Made	03/20/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ				
10.	pH (Standard Units)	7.3				
11.	Total Acidity (mg/l CAC03)	14				
12.	Total Alkalinity (mg/l CAC03)	190				
13.	Specific Conductivity (µmhos/cm at 25°C)	420				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00				
16.	Total Sulfates (mg/l)	33				
17.	Total Iron (mg/l)	0.00				
18.	Total Suspended Solids (mg/l)	0.00				
19.	Total Hardness (mg/l CAC03)	220				
20.	Nitrates (mg/l)	0.58				
21.	Date Sampled for Analysis	03/20/97				
22.	Date Last Precipitation Event Occurred	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,271.59		Y 730,759.40	LOCATION	ADJ	
1.	Identification No. of Sampling Station from Hydrology Map	W-374	W-374	W-374			
2.	Lab Identification Number	9701127	9702308	9703266			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1290	1290	1290			
5.	Depth of Well below Land Surface (msl)	1239	1239	1239			
6.	Static Water Level of Well below Land Surface (msl)	1249	1249	1248			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/15/97	02/27/97	03/22/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.3			
11.	Total Acidity (mg/l CAC03)	13	10	12			
12.	Total Alkalinity (mg/l CAC03)	140	130	150			
13.	Specific Conductivity (µmhos/cm at 25°C)	300	280	340			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	31	30	30			
17.	Total Iron (mg/l)	0.32	0.00	0.06			
18.	Total Suspended Solids (mg/l)	15	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	150	150	270			
20.	Nitrates (mg/l)	1.4	1.8	1.2			
21.	Date Sampled for Analysis	01/15/97	02/27/97	03/22/97			
22.	Date Last Precipitation Event Occurred	01/15/97	02/26/97	03/18/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,427,833.18	Y	734,509.96	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-375	W-375	W-375			
2.	Lab Identification Number	9701250	9702202	9703147			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1247	1247	1247			
5.	Depth of Well below Land Surface (msl)	1247	1247	1247			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.5	7.4	7.2			
11.	Total Acidity (mg/l CAC03)	11	13	26			
12.	Total Alkalinity (mg/l CAC03)	200	200	230			
13.	Specific Conductivity (µmhos/cm at 25°C)	430	490	500			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	65	66	38			
17.	Total Iron (mg/l)	0.00	0.00	0.14			
18.	Total Suspended Solids (mg/l)	0.00	0.00	1.5			
19.	Total Hardness (mg/l CAC03)	270	260	290			
20.	Nitrates (mg/l)	8.2	9.5	11			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,888.56		Y 735,335.78		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-377	W-377	W-377			
2.	Lab Identification Number	9701255	9702211	9703132			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1282	1282	1282			
5.	Depth of Well below Land Surface (msl)	1196	1196	1196			
6.	Static Water Level of Well below Land Surface (msl)	1252	1253	1253			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.2	7.3	7.3			
11.	Total Acidity (mg/l CAC03)	11	5.3	24			
12.	Total Alkalinity (mg/l CAC03)	190	190	190			
13.	Specific Conductivity (µmhos/cm at 25°C)	380	430	410			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00			
16.	Total Sulfates (mg/l)	54	51	53			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	2	0.00			
19.	Total Hardness (mg/l CAC03)	220	230	230			
20.	Nitrates (mg/l)	3.6	3.9	3.9			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,756.00		Y 735,684.33		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-378	W-378	W-378			
2.	Lab Identification Number	9701256	9702212	9703131			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325			
5.	Depth of Well below Land Surface (msl)	1257	1257	1257			
6.	Static Water Level of Well below Land Surface (msl)	1298	1298	1298			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.2			
11.	Total Acidity (mg/l CAC03)	12	9.8	41			
12.	Total Alkalinity (mg/l CAC03)	220	230	190			
13.	Specific Conductivity (µmhos/cm at 25°C)	410	470	430			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	51	21	53			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	260	280	250			
20.	Nitrates (mg/l)	3.1	2.3	6.8			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,633.15		Y 735,888.66	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-379	W-379	W-379			
2.	Lab Identification Number	9701257	9702214	9703175			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1323	1323	1323			
5.	Depth of Well below Land Surface (msl)	1203	1203	1203			
6.	Static Water Level of Well below Land Surface (msl)	1245	1246	1247			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.4	7.4			
11.	Total Acidity (mg/l CAC03)	8.4	10	16			
12.	Total Alkalinity (mg/l CAC03)	200	20	210			
13.	Specific Conductivity (µmhos/cm at 25°C)	380	430	420			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	41	38	36			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	230	260	240			
20.	Nitrates (mg/l)	12	2	4.6			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,874.06		Y 736,765.16		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-380	W-380	W-380			
2.	Lab Identification Number	9701258	9702222	9703182			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1350	1350	1350			
5.	Depth of Well below Land Surface (msl)	1270	1270	1270			
6.	Static Water Level of Well below Land Surface (msl)	1289	1287	1291			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.4	7.4	7.3			
11.	Total Acidity (mg/l CAC03)	9.2	11	14			
12.	Total Alkalinity (mg/l CAC03)	200	220	210			
13.	Specific Conductivity (µmhos/cm at 25°C)	360	420	380			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	35	35	32			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	220	230	240			
20.	Nitrates (mg/l)	0.58	0.51	0.5			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/14/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,426,233.39	Y	735,733.97	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-381	W-381	W-381			
2.	Lab Identification Number	9701259	9702213	9703130			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325			
5.	Depth of Well below Land Surface (msl)	1225	1225	1225			
6.	Static Water Level of Well below Land Surface (msl)	1283	1285	1285			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.2	7.3			
11.	Total Acidity (mg/l CAC03)	10	8.1	65			
12.	Total Alkalinity (mg/l CAC03)	240	240	250			
13.	Specific Conductivity (µmhos/cm at 25°C)	530	560	630			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	110	93	51			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	300	310	340			
20.	Nitrates (mg/l)	1.1	0.72	1.2			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,507.50		Y 736,867.40	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-382	W-382	W-382			
2.	Lab Identification Number	9701260	9702221	9703242			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1350	1350	1350			
5.	Depth of Well below Land Surface (msl)	1195	1195	1195			
6.	Static Water Level of Well below Land Surface (msl)	1268	1272	1273			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/19/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7	7.3			
11.	Total Acidity (mg/l CAC03)	14	20	19			
12.	Total Alkalinity (mg/l CAC03)	240	260	270			
13.	Specific Conductivity (µmhos/cm at 25°C)	480	540	590			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	44	45	54			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	300	300	320			
20.	Nitrates (mg/l)	3.8	3.6	5.3			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/19/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/18/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,573.93		Y 735,152.30		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-383	W-383	W-383			
2.	Lab Identification Number	9701279	9702257	9703187			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1362	1362	1362			
5.	Depth of Well below Land Surface (msl)	1237	1237	1237			
6.	Static Water Level of Well below Land Surface (msl)	1305	1305	1306			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.2	7	7.2			
11.	Total Acidity (mg/l CAC03)	14	23	15			
12.	Total Alkalinity (mg/l CAC03)	220	200	220			
13.	Specific Conductivity (µmhos/cm at 25°C)	580	530	590			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	77	34	72			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	330	240	330			
20.	Nitrates (mg/l)	4.6	7.5	7			
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,978.49		Y 735,577.66	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-384	W-384	W-384			
2.	Lab Identification Number	9701280	9702256	9703185			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1335	1335	1335			
5.	Depth of Well below Land Surface (msl)	1255	1255	1255			
6.	Static Water Level of Well below Land Surface (msl)	1303	1302	1302			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.2	7	7.1			
11.	Total Acidity (mg/l CAC03)	11	18	15			
12.	Total Alkalinity (mg/l CAC03)	190	180	230			
13.	Specific Conductivity (µmhos/cm at 25°C)	450	450	610			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	54	45	69			
17.	Total Iron (mg/l)	1.2	0.08	0.00			
18.	Total Suspended Solids (mg/l)	17	3	0.00			
19.	Total Hardness (mg/l CAC03)	260	210	360			
20.	Nitrates (mg/l)	8.4	5.9	9.4			
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,736.73		Y 735,222.29	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-385	W-385	W-385			
2.	Lab Identification Number	9701281	9702259	9703186			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1363	1363	1363			
5.	Depth of Well below Land Surface (msl)	1263	1263	1263			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7	6.7	7.1			
11.	Total Acidity (mg/l CAC03)	20	32	16			
12.	Total Alkalinity (mg/l CAC03)	170	160	160			
13.	Specific Conductivity (µmhos/cm at 25°C)	450	470	420			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.04			
16.	Total Sulfates (mg/l)	67	67	61			
17.	Total Iron (mg/l)	0.25	0.00	0.89			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	230	220	270			
20.	Nitrates (mg/l)	5.4	6.8	7.7			
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,064.07		Y 737,117.16		LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	W-386	W-386	W-386			
2.	Lab Identification Number	9701283	9702253	9703228			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1350	1350	1350			
5.	Depth of Well below Land Surface (msl)	1350	1350	1350			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/24/97	03/18/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7	7.2			
11.	Total Acidity (mg/l CAC03)	13	34	27			
12.	Total Alkalinity (mg/l CAC03)	230	230	220			
13.	Specific Conductivity (µmhos/cm at 25°C)	470	530	610			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	48	55	48			
17.	Total Iron (mg/l)	0.05	0.11	0.05			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	250	310	270			
20.	Nitrates (mg/l)	5.4	7.2	2.8			
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/18/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/18/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,422,250.08	Y	738,446.98	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-387	W-387	W-387			
2.	Lab Identification Number	9701284	9702233	9703146			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1260	1260	1260			
5.	Depth of Well below Land Surface (msl)	1260	1260	1260			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/20/97	03/13/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.4	7.3			
11.	Total Acidity (mg/l CAC03)	6.8	9.8	22			
12.	Total Alkalinity (mg/l CAC03)	160	160	200			
13.	Specific Conductivity (µmhos/cm at 25°C)	430	480	500			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00			
16.	Total Sulfates (mg/l)	94	90	94			
17.	Total Iron (mg/l)	0.18	0.16	0.13			
18.	Total Suspended Solids (mg/l)	0.00	2	0.00			
19.	Total Hardness (mg/l CAC03)	230	250	260			
20.	Nitrates (mg/l)	4.1	3.8	4.8			
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/13/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/13/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,958.81		Y 739,274.74	LOCATION	ADJ	
1.	Identification No. of Sampling Station from Hydrology Map	W-388	W-388	W-388			
2.	Lab Identification Number	9701285	9702230	9703140			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1160	1160	1160			
5.	Depth of Well below Land Surface (msl)	1160	1160	1160			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.2	7.3	7.4			
11.	Total Acidity (mg/l CAC03)	12	12	27			
12.	Total Alkalinity (mg/l CAC03)	220	190	210			
13.	Specific Conductivity (µmhos/cm at 25°C)	470	430	420			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	63	57	60			
17.	Total Iron (mg/l)	0.13	0.16	0.28			
18.	Total Suspended Solids (mg/l)	0.00	2	0.00			
19.	Total Hardness (mg/l CAC03)	250	230	260			
20.	Nitrates (mg/l)	2.6	2.2	6.2			
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/13/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,026.09		Y 739,508.63	LOCATION	ADJ	
1.	Identification No. of Sampling Station from Hydrology Map	W-389	W-389	W-389			
2.	Lab Identification Number	9701287	9702231	9703139			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1145	1145	1145			
5.	Depth of Well below Land Surface (msl)	1145	1145	1145			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/20/97	03/13/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	8	7.6	7.6			
11.	Total Acidity (mg/l CAC03)	4.5	3.3	15			
12.	Total Alkalinity (mg/l CAC03)	330	330	330			
13.	Specific Conductivity (µmhos/cm at 25°C)	570	590	590			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	44	43	49			
17.	Total Iron (mg/l)	0.00	0.00	0.1			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	60	80	180			
20.	Nitrates (mg/l)	0.00	0.11	0.16			
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/13/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/13/97			

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,235.24		Y 735,803.17	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-392	W-392	W-392			
2.	Lab Identification Number	9701292	9702255	9703184			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325			
5.	Depth of Well below Land Surface (msl)	1257	1257	1257			
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.1	7.1	7			
11.	Total Acidity (mg/l CAC03)	25	23	19			
12.	Total Alkalinity (mg/l CAC03)	260	260	250			
13.	Specific Conductivity (µmhos/cm at 25°C)	520	550	520			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	58	63	57			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	270	300	320			
20.	Nitrates (mg/l)	1.8	2	6.7			
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2,425,408.07		Y	736,696.92	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-394	W-394	W-394				
2.	Lab Identification Number	9701294	9702217	9703177				
3.	High (H)/Low (L) Designation (if applicable)	L	L	H				
4.	Surface Elevation for Sampling Station (msl)	1259	1259	1259				
5.	Depth of Well below Land Surface (msl)	1179	1179	1179				
6.	Static Water Level of Well below Land Surface (msl)	1231	1231	1233				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA				
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ				
10.	pH (Standard Units)	7.4	7.4	7.3				
11.	Total Acidity (mg/l CAC03)	8.8	14	14				
12.	Total Alkalinity (mg/l CAC03)	250	240	240				
13.	Specific Conductivity (µmhos/cm at 25°C)	560	560	520				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-	
15.	Total Manganese (mg/l)	0.02	0.00	0.00				
16.	Total Sulfates (mg/l)	61	64	64				
17.	Total Iron (mg/l)	0.11	0.00	0.06				
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	290	290	300				
20.	Nitrates (mg/l)	3.2	1.3	4.4				
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97				
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/14/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,210.18		Y 736,705.15	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-395	W-395	W-395			
2.	Lab Identification Number	9701296	9702219	9703181			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1258	1258	1258			
5.	Depth of Well below Land Surface (msl)	1208	1208	1208			
6.	Static Water Level of Well below Land Surface (msl)	1243	1243	1244			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.5	7.5			
11.	Total Acidity (mg/l CAC03)	3.9	3.2	7			
12.	Total Alkalinity (mg/l CAC03)	72	110	120			
13.	Specific Conductivity (µmhos/cm at 25°C)	160	270	250			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.06	0.06			
16.	Total Sulfates (mg/l)	22	26	29			
17.	Total Iron (mg/l)	2.2	4.5	1.9			
18.	Total Suspended Solids (mg/l)	10	12	60			
19.	Total Hardness (mg/l CAC03)	110	130	170			
20.	Nitrates (mg/l)	1.4	0.73	1.5			
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/19/97	03/14/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,417.13		Y 730,260.52		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-396	W-396	W-396			
2.	Lab Identification Number	9701306	9702311	9703259			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1305	1305	1305			
5.	Depth of Well below Land Surface (msl)	1235	1235	1235			
6.	Static Water Level of Well below Land Surface (msl)	1268	1268	1283			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/30/97	02/27/97	03/22/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.2			
11.	Total Acidity (mg/l CAC03)	34	9	17			
12.	Total Alkalinity (mg/l CAC03)	180	170	170			
13.	Specific Conductivity (µmhos/cm at 25°C)	380	430	440			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00			
16.	Total Sulfates (mg/l)	54	58	57			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	240	240	190			
20.	Nitrates (mg/l)	2.4	2.6	2			
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/22/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/18/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,817.23		Y 732,166.19		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-401	W-401	W-401			
2.	Lab Identification Number	9701315	9702265	9703235			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1318	1318	1318			
5.	Depth of Well below Land Surface (msl)	1205	1205	1205			
6.	Static Water Level of Well below Land Surface (msl)	1279	1280	1280			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/30/97	02/24/97	03/19/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7.3	7.3	7.3			
11.	Total Acidity (mg/l CAC03)	12	16	12			
12.	Total Alkalinity (mg/l CAC03)	210	220	210			
13.	Specific Conductivity (µmhos/cm at 25°C)	720	660	670			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.04	0.00			
16.	Total Sulfates (mg/l)	120	100	130			
17.	Total Iron (mg/l)	0.00	0.00	0.00			
18.	Total Suspended Solids (mg/l)	0.00	0.00	0.00			
19.	Total Hardness (mg/l CAC03)	380	370	350			
20.	Nitrates (mg/l)	2.5	3.4	2.2			
21.	Date Sampled for Analysis	01/30/97	02/24/97	03/19/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/18/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,701.83		Y 735,301.88		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-402	W-402	W-402			
2.	Lab Identification Number	9702005	9702260	9703191			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325			
5.	Depth of Well below Land Surface (msl)	1206	1206	1206			
6.	Static Water Level of Well below Land Surface (msl)	1252	1253	1260			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/30/97	02/24/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	6.8	6.8	6.9			
11.	Total Acidity (mg/l CAC03)	3.5	20	8.8			
12.	Total Alkalinity (mg/l CAC03)	81	90	88			
13.	Specific Conductivity (µmhos/cm at 25°C)	180	220	190			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00			
16.	Total Sulfates (mg/l)	26	28	31			
17.	Total Iron (mg/l)	0.07	0.00	0.27			
18.	Total Suspended Solids (mg/l)	0.00	0.00	4			
19.	Total Hardness (mg/l CAC03)	120	120	110			
20.	Nitrates (mg/l)	0.65	0.81	6.2			
21.	Date Sampled for Analysis	01/30/97	02/24/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/21/97	03/14/97			

Laboratory Name: Tradet, Inc.
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,828.96		Y 736,640.28	LOCATION	PAN	
1.	Identification No. of Sampling Station from Hydrology Map	W-404	W-404	W-404			
2.	Lab Identification Number	9702136	9703236	9702120			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1155	1155	1155			
5.	Depth of Well below Land Surface (msl)	1103	1103	1103			
6.	Static Water Level of Well below Land Surface (msl)	1137	1137	1137			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA			
8.	Date Above Measurements Made	01/31/97	02/27/97	03/14/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ	NSSZ			
10.	pH (Standard Units)	7	7.3	6.9			
11.	Total Acidity (mg/l CAC03)	14	8.6	25			
12.	Total Alkalinity (mg/l CAC03)	180	270	100			
13.	Specific Conductivity (µmhos/cm at 25°C)	460	440	350			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.37	0.04			
16.	Total Sulfates (mg/l)	49	45	46			
17.	Total Iron (mg/l)	2	12	0.21			
18.	Total Suspended Solids (mg/l)	26	740	4			
19.	Total Hardness (mg/l CAC03)	250	330	170			
20.	Nitrates (mg/l)	2.6	1.8	5			
21.	Date Sampled for Analysis	01/31/97	02/27/97	03/14/97			
22.	Date Last Precipitation Event Occurred	01/28/97	02/26/97	03/14/97			

Laboratory Name: Tradet, Inc.
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,513.59		Y 730,938.19		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-405	W-405				
2.	Lab Identification Number	9703237	9702127				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1322	1322				
5.	Depth of Well below Land Surface (msl)	1219	1219				
6.	Static Water Level of Well below Land Surface (msl)	1246	1248				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7	7.3				
11.	Total Acidity (mg/l CAC03)	7.4	16				
12.	Total Alkalinity (mg/l CAC03)	94	180				
13.	Specific Conductivity (µmhos/cm at 25°C)	360	970				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.3				
16.	Total Sulfates (mg/l)	47	72				
17.	Total Iron (mg/l)	0.08	0.55				
18.	Total Suspended Solids (mg/l)	0.00	5.3				
19.	Total Hardness (mg/l CAC03)	140	450				
20.	Nitrates (mg/l)	4.8	10				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,471.67		Y 730,939.61		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-406	W-406				
2.	Lab Identification Number	9703239	9702122				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1322	1322				
5.	Depth of Well below Land Surface (msl)	1298	1298				
6.	Static Water Level of Well below Land Surface (msl)	1300	1302				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7.3	7.3				
11.	Total Acidity (mg/l CAC03)	12	12				
12.	Total Alkalinity (mg/l CAC03)	190	90				
13.	Specific Conductivity (µmhos/cm at 25°C)	910	660				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.03				
16.	Total Sulfates (mg/l)	77	59				
17.	Total Iron (mg/l)	0.12	0.12				
18.	Total Suspended Solids (mg/l)	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	450	270				
20.	Nitrates (mg/l)	15	7				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,885.87		Y 730,869.55		LOCATION GTE	
1.	Identification No. of Sampling Station from Hydrology Map	W-407	W-407				
2.	Lab Identification Number	9703238					
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1306	1306				
5.	Depth of Well below Land Surface (msl)	1243	1243				
6.	Static Water Level of Well below Land Surface (msl)	1250	1248				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7.1					
11.	Total Acidity (mg/l CAC03)	8					
12.	Total Alkalinity (mg/l CAC03)	87					
13.	Specific Conductivity (µmhos/cm at 25°C)	610					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00					
16.	Total Sulfates (mg/l)	58					
17.	Total Iron (mg/l)	1.7					
18.	Total Suspended Solids (mg/l)	0.00					
19.	Total Hardness (mg/l CAC03)	230					
20.	Nitrates (mg/l)	7.3					
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,782.11		Y 730,843.49		LOCATION GTE	
1.	Identification No. of Sampling Station from Hydrology Map	W-408	W-408				
2.	Lab Identification Number		9702128				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1305	1305				
5.	Depth of Well below Land Surface (msl)	1272	1272				
6.	Static Water Level of Well below Land Surface (msl)	1279	1283				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)		7				
11.	Total Acidity (mg/l CAC03)		13				
12.	Total Alkalinity (mg/l CAC03)		180				
13.	Specific Conductivity (µmhos/cm at 25°C)		440				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)		0.14				
16.	Total Sulfates (mg/l)		34				
17.	Total Iron (mg/l)		1.1				
18.	Total Suspended Solids (mg/l)		27				
19.	Total Hardness (mg/l CAC03)		240				
20.	Nitrates (mg/l)		4				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,508.04		Y 731,248.48		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-409	W-409				
2.	Lab Identification Number	9703233					
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1318	1318				
5.	Depth of Well below Land Surface (msl)	1318	1318				
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7.2					
11.	Total Acidity (mg/l CAC03)	9.2					
12.	Total Alkalinity (mg/l CAC03)	170					
13.	Specific Conductivity (µmhos/cm at 25°C)	430					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04					
16.	Total Sulfates (mg/l)	38					
17.	Total Iron (mg/l)	0.88					
18.	Total Suspended Solids (mg/l)	16					
19.	Total Hardness (mg/l CAC03)	220					
20.	Nitrates (mg/l)	4.3					
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,885.19		Y 733,138.33	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-410	W-410			
2.	Lab Identification Number		9702135			
3.	High (H)/Low (L) Designation (if applicable)	L	H			
4.	Surface Elevation for Sampling Station (msl)	1310	1310			
5.	Depth of Well below Land Surface (msl)	1225	1225			
6.	Static Water Level of Well below Land Surface (msl)	1254	1258			
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA			
8.	Date Above Measurements Made	02/13/97	03/19/97			
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ			
10.	pH (Standard Units)		7.3			
11.	Total Acidity (mg/l CAC03)		18			
12.	Total Alkalinity (mg/l CAC03)		210			
13.	Specific Conductivity (µmhos/cm at 25°C)		950			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-
15.	Total Manganese (mg/l)		0.04			
16.	Total Sulfates (mg/l)		60			
17.	Total Iron (mg/l)		0.34			
18.	Total Suspended Solids (mg/l)		12			
19.	Total Hardness (mg/l CAC03)		370			
20.	Nitrates (mg/l)		3			
21.	Date Sampled for Analysis	02/13/97	03/19/97			
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97			

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,783.06			Y 733,245.59	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-411	W-411				
2.	Lab Identification Number	9703234	9702130				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1310	1310				
5.	Depth of Well below Land Surface (msl)	1310	1310				
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7.3	7.2				
11.	Total Acidity (mg/l CAC03)	12	16				
12.	Total Alkalinity (mg/l CAC03)	220	200				
13.	Specific Conductivity (µmhos/cm at 25°C)	860	1200				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02				
16.	Total Sulfates (mg/l)	73	58				
17.	Total Iron (mg/l)	0.11	0.1				
18.	Total Suspended Solids (mg/l)	0.00	0.00				
19.	Total Hardness (mg/l CAC03)	350	450				
20.	Nitrates (mg/l)	2.4	1.4				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,781.02		Y 732,484.14		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-412	W-412				
2.	Lab Identification Number	9703231	9702129				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1305	1305				
5.	Depth of Well below Land Surface (msl)	1237	1237				
6.	Static Water Level of Well below Land Surface (msl)	1246	1247				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	7.2	6.1				
11.	Total Acidity (mg/l CAC03)	16	13				
12.	Total Alkalinity (mg/l CAC03)	170	48				
13.	Specific Conductivity (µmhos/cm at 25°C)	890	370				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.09	0.04				
16.	Total Sulfates (mg/l)	50	46				
17.	Total Iron (mg/l)	2.4	0.62				
18.	Total Suspended Solids (mg/l)	150	31				
19.	Total Hardness (mg/l CAC03)	360	110				
20.	Nitrates (mg/l)	0.89	2.1				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,162.72		Y 734,971.97		LOCATION GTE	
1.	Identification No. of Sampling Station from Hydrology Map	W-413	W-413				
2.	Lab Identification Number	9703230					
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1280	1280				
5.	Depth of Well below Land Surface (msl)	1233	1233				
6.	Static Water Level of Well below Land Surface (msl)	1253	1253				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)	6.5					
11.	Total Acidity (mg/l CAC03)	20					
12.	Total Alkalinity (mg/l CAC03)	62					
13.	Specific Conductivity (µmhos/cm at 25°C)	500					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.07					
16.	Total Sulfates (mg/l)	48					
17.	Total Iron (mg/l)	1.8					
18.	Total Suspended Solids (mg/l)	18					
19.	Total Hardness (mg/l CAC03)	100					
20.	Nitrates (mg/l)	0.96					
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,366.30			Y 734,855.79	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-414	W-414				
2.	Lab Identification Number		9702262				
3.	High (H)/Low (L) Designation (if applicable)	L	H				
4.	Surface Elevation for Sampling Station (msl)	1280	1280				
5.	Depth of Well below Land Surface (msl)	1225	1225				
6.	Static Water Level of Well below Land Surface (msl)	1266	1267				
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA				
8.	Date Above Measurements Made	02/13/97	03/19/97				
9.	Aquifer/Zone Identification for Well/Spring	NSSZ	NSSZ				
10.	pH (Standard Units)		7.2				
11.	Total Acidity (mg/l CAC03)		20				
12.	Total Alkalinity (mg/l CAC03)		240				
13.	Specific Conductivity (µmhos/cm at 25°C)		470				
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)		0.02				
16.	Total Sulfates (mg/l)		41				
17.	Total Iron (mg/l)		0.00				
18.	Total Suspended Solids (mg/l)		0.00				
19.	Total Hardness (mg/l CAC03)		260				
20.	Nitrates (mg/l)		1.7				
21.	Date Sampled for Analysis	02/13/97	03/19/97				
22.	Date Last Precipitation Event Occurred	02/13/97	03/18/97				

Laboratory Name Tradet, Inc.

Department of Natural Resources

George V. Voinovich ◦ *Governor*
Donald C. Anderson ◦ *Director*

March 3, 1998

RECEIVED
MAR 11 1998
DAVE BARTSCH

The Ohio Valley Coal Company
56854 Pleasant Ridge Road
Alledonia OH 43902

RE: **Revised** - Historic and Prehistoric Properties Survey
Notification Application # D-0360-7 (2,650 acres)
Full Coal Recovery

Dear Applicant:

This letter places the December 31, 1997 survey notification letter.

The Division of Mines and Reclamation has determined a survey (see below) be performed on your proposed permit area prior to permit issuance (excluding previously disturbed areas per Attachment 27):

Phase I historic architectural survey is necessary on several (17+) historic properties (structures and/or farmsteads) within the proposed full coal recovery area. This conclusion is predicated on archival research performed by me at the Ohio Historical Center (OHPO), an on-site review with the applicant and OHPO, including landowner interviews as well as OHPO comment. In addition, the applicant submitted photographs and the Attachment 27. Based upon this submitted information, and OHPO comment on it, the Division is in agreement, with OHPO that a Phase I historic architectural survey is warranted to determine whether any of the historic properties are potentially eligible for listing on the National Register of Historic Places. The F. Simpson historic farmstead appears to be eligible for listing. Please inform both myself and OHPO (Dr. David Snyder) if the Simpson property is, in fact, part of the D-0360-7 application area. If it is not, the scope on work for the Phase I survey will be revised.

Finally, prior to any surface affectment or repair, including any structural affectment or repair by the applicant due to subsidence, ventilation shaft construction sites, etc. Further, coordination between the Division and OHPO is necessary. Per PPD Underground 89-3 the applicant must submit an attachment

27, map, etc., in these instances since they are considered as surface affectment from a mining operation.

The survey must be performed by professionals who meet the qualifications standards in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (Standards). Survey reports must also conform to the guidelines in the Standards.

Please have the contracting professionals contact the Division archeologist prior to undertaking the survey to check on the availability of any in-house environmental and cultural resource information on the proposed area.

Send two (2) copies of the survey report to my attention at the Division of Reclamation, Fountain Square, H-3, Columbus, Ohio 43224. You will be informed of the status of the report.

If you have any questions regarding this matter, please contact me at (614) 265-6633.

Sincerely,

Jeffrey C. Reichwein, Ph.D.
Archeologist
Division of Mines & Reclamation

JCR:pmp

Enclosures

c: Ohio Historic Preservation Office #960851
Inspector Cambridge District Office
File

F. For Revision Review Only. This item is to be completed after revisions, if any, have been made to the permit application.

I, the undersigned, a responsible official of the applicant, do hereby verify and acknowledge the revisions made during the permit review process as true and correct to the best of my information and belief.

Printed Name David L. Bartsch; Title Permit Administrator

Signature _____; Date _____

Sworn before me and subscribed in my presence this

_____ day of _____, 19_____.

_____
Notary Public

PART 1, LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

A. IDENTIFICATION OF INTERESTS

(1) Applicant's Name The Ohio Valley Coal Company

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Telephone 614 - 926 - 1351

Employer Identification No. (EIN) 34-1041310, or

Social Security No. (SSN), _____

(2) Indicate business structure of applicant and additional information:

_____ Single proprietorship,
_____ Partnership (registration no. and date obtained)
_____,
__X__ Corporation (charter no. and date incorporated)
5/25/88 384971,
_____ Association, _____ Other, specify _____

(3) If the applicant is a single proprietorship, provide the following:

Owner's Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, or SSN _____

Beginning date of ownership _____

F. For Revision Review Only. This item is to be completed after revisions, if any, have been made to the permit application.

I, the undersigned, a responsible official of the applicant, do hereby verify and acknowledge the revisions made during the permit review process as true and correct to the best of my information and belief.

Printed Name David L. Bartsch; Title Permit Administrator

Signature David L Bartsch; Date January 29, 1998

Sworn before me and subscribed in my presence this 29th day of January, 1998.

DEBORAH E. ABREGG, Notary Public
For The State of Ohio
My Commission Expires August 11, 1998
Recorded in Monroe County

Deborah E. Abregg
Notary Public

PART 1. LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

A. IDENTIFICATION OF INTERESTS

(1) Applicant's Name The Ohio Valley Coal Company

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Telephone 614 - 926 - 1351

Employer Identification No. (EIN) 34-1041310, or

Social Security No. (SSN), _____

(2) Indicate business structure of applicant and additional information:

_____ Single proprietorship,
_____ Partnership (registration no. and date obtained) _____,
__X__ Corporation (charter no. and date incorporated) 5/25/88 384971,
_____ Association, _____ Other, specify _____

(3) If the applicant is a single proprietorship, provide the following:

Owner's Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, or SSN _____

Beginning date of ownership _____

F. For Revision Review Only. This item is to be completed after revisions, if any, have been made to the permit application.

I, the undersigned, a responsible official of the applicant, do hereby verify and acknowledge the revisions made during the permit review process as true and correct to the best of my information and belief.

Printed Name David L. Bartsch ; Title Permit Administrator

Signature David L Bartsch ; Date 3-20-98

Sworn before me and subscribed in my presence this

20th day of March, 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L Luke
Notary Public

PART 1, LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

A. IDENTIFICATION OF INTERESTS

(1) Applicant's Name The Ohio Valley Coal Company

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Telephone 614 - 926 - 1351

Employer Identification No. (EIN) 34-1041310, or

Social Security No. (SSN), _____

(2) Indicate business structure of applicant and additional information:

_____ Single proprietorship,
_____ Partnership (registration no. and date obtained) _____,
X Corporation (charter no. and date incorporated) 5/25/88 384971,
_____ Association, _____ Other, specify _____

(3) If the applicant is a single proprietorship, provide the following:

Owner's Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, or SSN _____

Beginning date of ownership _____

Robert E. Murray
President & Chief Executive Officer

January 27, 1997

Ms. Lisa Morris, Chief
Division of Mines and Reclamation
Ohio Department of Natural Resources
1855 Fountain Square Court
Columbus, Ohio 43224

Dear Ms. Morris:

This letter is to certify that

David L. Bartsch, P.E.

is authorized to sign application revisions for The Ohio Valley Coal Company. Permit D-0360 will be the subject of applications to add underground mining areas. In his job as the Environmental Coordinator and Permit Administrator, Mr. Bartsch acts as a responsible official of this company. If you have any questions, please contact me.

Sincerely,
THE OHIO VALLEY COAL COMPANY

Robert E. Murray
President and
Chief Executive Officer

56854 PLEASANT RIDGE ROAD ◦ ALLEDONIA OHIO 43902
(614) 926-1351 ◦ FAX (614) 926-1615

(4) If the applicant is a business entity other than a single proprietorship, provide the following for the applicant's statutory agent and submit Attachment 1.

Agent's Name A & H Statutory

Address 1100 Huntington Building

City Cleveland State Ohio Zip 44115

Telephone 216 - 696 - 1100

EIN 34-104-130, or SSN (optional) _____

(5) Is the operator of the mine to be a person different from the applicant? _____ Yes, X No. If "yes," provide the operator's name and submit Attachment 17. (Note: if more than one operator, indicate operator's name and submit a separate attachment for each.)

Operator's Name _____

(6) Provide the following for the person who will pay the abandoned mine land reclamation fee for the applicant.

Name The Ohio Valley Coal Company

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Telephone 614 - 926 - 1351

EIN 34-1041310, or SSN (optional) _____

(7) Provide the following for all persons having the authority or ability to commit the financial, real property assets, or working resources of the applicant who are not otherwise identified as officers, directors, or owners of the applicant. If none, check box: [ ]. If any person listed is a business entity and not an individual, also complete Attachment 1 for that person.

Name Robert E. Murray

Address 29525 Chagrin Boulevard, Suite 111

City Pepper Pike State Ohio Zip 44122

Telephone 216 - 765 - 1240

EIN _____, or SSN 295-36-8852

Date O & C relationship began/ended (if applicable)

5/25/88 /

Submit and identify additional pages necessary to complete response.

See Attachment 1's

(8) Provide the following for all persons owning or controlling the coal to be mined by another person under a lease, sublease, or other contract and (a) having the right to receive the coal after mining, or (b) having the authority to determine the manner in which another person conducts coal mining operations. If none, check box: [x]. If any person listed is a business entity and not an individual, also complete Attachment 1 for that person.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone ____-____-____

EIN _____, or SSN _____

O & C relationship to entity _____

Date O & C relationship began/ended (if applicable)

_____/_____

Submit and identify additional pages necessary to complete response.

(9) List below the person or persons primarily responsible for ensuring that the applicant will comply with Chapter 1513. of the Revised Code and the rules adopted pursuant thereto while mining and reclaiming the area for which this permit is requested.

Robert E. Murray

(10) Has the applicant, any person listed under items A(3), (7), and (8), or any person listed on Attachment 1 who "owned or controlled" or "owns or controls" as defined in 1501:13-4-03(A), held a coal mining permit in the United States within the five years preceding the date of the application? __X__ Yes, _____ No. If "yes," submit Attachment 5. See Attachment 5's

(11) Does the applicant, any person listed under items A(3), (7), and (8), or any person listed on Attachment 1 have a pending coal mining application in any state of the United States? __X__ Yes, _____ No. If "yes," submit Attachment 23. See Attachment 23's

(12) Indicate name of mine Powhatan No. 6 Mine

(13) List below the MSHA identification numbers for the mine and for all mine-associated structures requiring MSHA approval on the proposed permit area.

33-01159
1210-0H8-0025-003
1210-0H8-0025-004
1210-0H8-0025-005

(14) Submit Attachment 22, Certificate of Liability Insurance. See Attachment 22

Ohio Department of Natural Resources
Division of Mines and Reclamation

Attachment 23
(Pending Permit Applications)

Applicant's Name The Ohio Valley Coal Company

Provide the following information for each pending coal mining application for either the applicant or any person who owns or controls the applicant..

Indicate the business entity for which this listing has been completed. The Ohio Valley Coal Company

Application No.	Name of Regulatory Authority	State
D-0360-6	Division of Mines and Reclamation	OH

11-89

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 22
(CERTIFICATE OF LIABILITY INSURANCE)

Name of Insured The Ohio Valley Coal Company

This is to certify that the policy of insurance listed below has been issued to the above named insured and is in force at this time. The policy provides bodily injury and property damage insurance for all coal mining and reclamation operations of the insured in the State of Ohio as required by paragraph (E) of rule 1501:13-7-07 of the Administrative Code stated below.

Name of Insurer Federal Insurance Company
Policy Number 37104410
Policy Period 1 year 6/1/97 to 6/1/98
Name of Underwriting Agent Daniel R. Jack
Address of Underwriting Agent 922 Philadelphia Street, Indiana PA 15701
Telephone Number of Underwriting Agent (412) 349 - 1300

In the event of cancellation or non-renewal of this policy, including non-payment of policy premiums, the insurer agrees to promptly notify:

The Division of Reclamation
Foundation Square
Columbus, OH 43224

6/1/97
Date

Signature of Underwriting Agent

This certificate is issued as a matter of information only and confers no rights upon the Division of Reclamation. This certificate does not amend, extend, or alter the coverage afforded by the policy listed above.

1501:13-7-07(E) The Public Liability Insurance Policy shall:

1.) Be in effect during the term of the permit or any renewal, including the length of all reclamation operations;

2.) Provide for personal injury and property damage protection in amounts adequate to compensate any persons injured or property damaged as a result of coal mining and reclamation operations, including the use of explosives. The minimum insurance coverage for bodily injury and property damage shall be three hundred thousand dollars for each occurrence and five hundred thousand dollars in the aggregate; and

3.) Include a rider requiring that the insurer notify the Chief whenever substantive changes are made in the policy, including any termination or failure to renew.

JUN 27 1997

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY) 06/06/1997

PRODUCER (412)349-1300 FAX (412)349-1446
Reschini Agency Inc
922 Philadelphia Street
P.O. Box 449
Indiana, PA 15701
Attn: Amy Rhoades Ext 5911

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
The Ohio Valley Coal Company
56854 Pleasant Ridge Road
Alledonia, OH 43902

COMPANIES AFFORDING COVERAGE

COMPANY A: Federal Insurance Co.
COMPANY B:
COMPANY C:
COMPANY D:

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY					
	X COMMERCIAL GENERAL LIABILITY				GENERAL AGGREGATE	$ 2,000,000
	CLAIMS MADE X OCCUR				PRODUCTS - COMP/OP AGG	$ 1,000,000
A	OWNER'S & CONTRACTOR'S PROT	37104410	06/01/1997	06/01/1998	PERSONAL & ADV INJURY	$ 1,000,000
					EACH OCCURRENCE	$ 1,000,000
					FIRE DAMAGE (Any one fire)	$ 100,000
					MED EXP (Any one person)	$ 10,000
	AUTOMOBILE LIABILITY					
	ANY AUTO				COMBINED SINGLE LIMIT	$
	ALL OWNED AUTOS					
	SCHEDULED AUTOS				BODILY INJURY (Per person)	$
	HIRED AUTOS					
	NON-OWNED AUTOS				BODILY INJURY (Per accident)	$
					PROPERTY DAMAGE	$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	ANY AUTO				OTHER THAN AUTO ONLY:	
					EACH ACCIDENT	$
					AGGREGATE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	UMBRELLA FORM				AGGREGATE	$
	OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				WC STATU-TORY LIMITS / OTH-ER	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: INCL / EXCL				EL EACH ACCIDENT	$
					EL DISEASE - POLICY LIMIT	$
					EL DISEASE - EA EMPLOYEE	$
	OTHER Pollution					
A		73170889	06/01/1997	06/01/1998	Limits $1,000,000 Occurrence $1,000,000 Aggregate	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS
Degradation loss, diminution in quality and quantity of public and private water supplies covered.

CERTIFICATE HOLDER

ODR - Reclamation - 70245
Bannock - Uniontown Road
St. Clairsville, OH 43950

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

ACORD 25-S (9/90)

JUN 27 1997

TOVCC 09931

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

RECEIVED
JUN 1 1998
PAUL PICCOLINI

ATTACHMENT 22
(CERTIFICATE OF LIABILITY INSURANCE)

Name of Insured The Ohio Valley Coal Company

This is to certify that the policy of insurance listed below has been issued to the above named insured and is in force at this time. The policy provides bodily injury and property damage insurance for all coal mining and reclamation operations of the insured in the State of Ohio as required by paragraph (E) of rule 1501:13-7-07 of the Administrative Code stated below.

Name of Insurer Federal Insurance Company
Policy Number 37104410
Policy Period 1 year 6/1/98 to 6/1/99
Name of Underwriting Agent Raymond O. Mullen
Address of Underwriting Agent 922 Philadelphia Street, Indiana PA 15701
Telephone Number of Underwriting Agent (412) 349 - 1300

In the event of cancellation or non-renewal of this policy, including non-payment of policy premiums, the insurer agrees to promptly notify:

The Division of Reclamation
Foundation Square
Columbus, OH 43224

5-28-98
Date

Raymond O Mullen
Signature of Underwriting Agent

This certificate is issued as a matter of information only and confers no rights upon the Division of Reclamation. This certificate does not amend, extend, or alter the coverage afforded by the policy listed above.

1501:13-7-07(E) The Public Liability Insurance Policy shall:

1.) Be in effect during the term of the permit or any renewal, including the length of all reclamation operations;

2.) Provide for personal injury and property damage protection in amounts adequate to compensate any persons injured or property damaged as a result of coal mining and reclamation operations, including the use of explosives. The minimum insurance coverage for bodily injury and property damage shall be three hundred thousand dollars for each occurrence and five hundred thousand dollars in the aggregate; and

3.) Include a rider requiring that the insurer notify the Chief whenever substantive changes are made in the policy, including any termination or failure to renew.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the response to item A. (11) in Part 1 of the permit application is "yes". A separate attachment is to be submitted for each business entity.

Name of business entity The Ohio Valley Coal Company

Statutory Agent A. & H. Statutory

Address 1100 Huntington Building

City Cleveland State Ohio Zip 44115

Person's Name Robert E. Murray Position President & C.E.O.

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Person's Name Stephen C. Ellis Position Secretary

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Person's Name _____ Position _____

Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Address _____

City _____ State _____ Zip _____

B. COMPLIANCE INFORMATION

(1) Has the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant:

(a) Had a federal or state coal mining permit suspended or revoked in the five years preceding the data of submission of this application? _____ Yes, __X__ No. If "yes," submit Attachment 6.

(b) Forfeited a mining bond or similar security deposited in lieu of bond? _____ Yes, __X__ No. If "yes," submit Attachment 6.

(2) Has the applicant been issued a notice of violation (NOV) in connection with any coal mining and reclamation operation during the three years preceding the date of submission of this application for violations of Chapter 1513. of the Revised Code or these rules, or of any federal or state law, rule, or regulation pertaining to air or water environmental protection? __X__ Yes, _____ No. If "yes," submit Attachment 7A.

(3) Have any unabated federal or state cessation orders (COs) and unabated air and water quality notices of violations (NOVs) been received prior to the submission date of this application by any coal mining and reclamation operation owned or controlled by either the applicant or by any person who owns or controls the applicant? _____ Yes, __X__ No. If "yes," submit Attachment 7B.

C. RIGHT OF ENTRY INFORMATION

(1)(a) Provide the following information for every legal or equitable owner of record, surface and mineral, of the property to be mined on the permit area (i.e. areas affected by surface operations and facilities), indicating whether the ownership is of surface, coal, or noncoal mineral. N/A - No Permit Area

Name _____

Address _____

City _____ State _____ Zip _____

Surface _____, Coal _____, Noncoal _____

Deed Parcel No. _____

Name _____

Address _____

City _____ State _____ Zip _____

Surface _____, Coal _____, Noncoal _____

Deed Parcel No. _____

Name _____

Address _____

City _____ State _____ Zip _____

Surface _____, Coal _____, Noncoal _____

Deed Parcel No. _____

Name _____

Address _____

City _____ State _____ Zip _____

Surface _____, Coal _____, Noncoal _____

Deed Parcel No. _____

C.(1)(b) Provide the following information for every legal or equitable owner of the property to be mined covered by the underground workings indicating whether ownership is for the surface or coal.

Name ROBERT L. BARRICKLOW

Address 98 BORDER LANE

City ST. CLAIRSVILLE State OHIO Zip 43950

Surface X, Coal

Deed Parcel No. 1-27-1

Name THE BELMONT ELECTRIC CORP., INC.
c/o SOUTH CENTRAL POWER COMPANY - BELMONT DIV.

Address P.O. BOX 270

City BARNESVILLE State OHIO Zip 43713

Surface X, Coal

Deed Parcel No. 1-27-1

Name CHAD A. BLAKE

Address 63643 CHAPEL HILL ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-23

Name CHAD & CARMEN BLAKE

Address 45655 LUCAS-LASH ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-12, 1-22-14

Name JACK LEE BLAKE JR.

Address 63645 CHAPEL HILL ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-23

Name JACK L. & IRIS D. BLAKE

Address 63641 CHAPEL HILL ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-23

Name BOROUGH COMPANY

Address 4470 INDIANOLA AVENUE

City COLUMBUS State OHIO Zip 43214

Surface X, Coal

Deed Parcel No. T-1, 1-22-9, T-2

Name BOROUGH COMPANY, ETAL

Address 4470 INDIANOLA AVENUE

City COLUMBUS State OHIO Zip 43214

Surface X, Coal

Deed Parcel No. T-3

Name FRANK & TERESA CARNAHAN

Address 71548 SUNNY ACRES DRIVE

City MARTINS FERRY State OHIO Zip 43935

Surface X, Coal

Deed Parcel No. 1-22-13

Name TERANCE & MARGARET COYNE

Address 45282 LUCAS-LASH ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-22-17, 1-22-20, 108, 1-22-13

Name THOMAS K. & JOAN C. COYNE

Address 45000 LUCAS-LASH ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-22-17

Name RALPH N. & FRANCES K. DELANEY

Address 46025 BELMONT-CENTERVILLE ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 78

Name ANNA FUNKHOUSER

Address 45839 HART ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 104

Name FRANK P. AND ANNA FUNKHOUSER

Address 45839 HART ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 77-1, 77-2

Name CARL E. JR. & CYNTHIA FUNKHOUSER

Address 45843 HART ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 104

Name CARL E. & INGRID FUNKHOUSER

Address 45881 HART ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 104

Name ROY L. & MARY J. GROVER

Address 45332 LUCAS-LASH ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-17

Name FRANCES T. HART

Address 45239 HART ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 103, 106, 107, 109

Name RANDALL L. HAYES

Address 62920 CENTERVILLE-WARNOCK ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 78

Name FRANK & WANDA HORVATH

Address 1070 EDWARD AVENUE SW

City MASSILLON State OHIO Zip 44647

Surface X, Coal

Deed Parcel No. 1-22-23

Name MARION L. & EDNA S. HUGHES

Address 117 HAYDEN AVENUE

City COLUMBUS State OHIO Zip 43222

Surface X, Coal

Deed Parcel No. 1-22-29

Name CARL JOHNSON

Address ROUTE #2, CHAPEL HILL ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-28-1

Name J & CF KEMP

Address BISHOP ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-59

Name ROBERT & BETTY KEMP

Address 43830 BELMONT-CENTERVILLE ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-59

Name DOUGLAS KINDLER - c/o DORSEY B. KINDLER SR.

Address 45810 LUCAS-LASH ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-22-21, 1-22-15, 1-22-12, 1-22-11, 1-22-7, 1-22-8, 1-22-10, 1-22-14

Name W & B MILHOAN

Address 44310 WATERTOWER ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-27-1, 1-22-62

Name JOHN MITCHELL

Address 1626 DONNE ROAD

City COLUMBUS State OHIO Zip 43221

Surface X, Coal _____

Deed Parcel No. 1-22-30

Name ANNE T. NIXON

Address 601 SUMATRA AVENUE

City AKRON State OHIO Zip 44305

Surface X, Coal _____

Deed Parcel No. 1-19-34

Name CHARLES & MARY ANN PICKENS

Address 45458 LUCAS-LASH ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-22-16

Name CARLOS & SUSAN POWELL

Address 63454 BISHOP ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-59

Name J & T Reese

Address 9014 OUTLOOK DRIVE

City BROOKLYN State OHIO Zip 44144

Surface X, Coal

Deed Parcel No. 1-19-29

Name RICHARD S. RICE

Address 62800 CENTERVILLE-WARNOCK ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 76

Name THOMAS N. & ELDA M. RUBEL

Address ROUTE #2, CENTERVILLE-BELMONT ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 103

Name R & F COAL COMPANY

Address 232 SOUTH MAIN STREET

City CADIZ State OHIO Zip 43907

Surface X, Coal

Deed Parcel No. C-1, 1-22-21, 1-22-22, 1-22-24, 1-19-58, 1-19-82

Name ROBERT SR. & JANIE SAFFELL

Address 45438 HART ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 105, 106

Name MARK & TINA SEACREST

Address 63511 CHAPEL HILL ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-60

Name FLOYD SIMPSON

Address 44680 BELMONT-CENTERVILLE ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-24-4, 1-24-1, 1-24-2, 1-24-3,

Name SHIRLEY SIMPSON, ETAL

Address 44377 BELMONT-CENTERVILLE ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-24-1, 1-24-2, 1-24-3

Name F. & S. SIMPSON

Address 44680 BELMONT-CENTERVILLE ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal

Deed Parcel No. 1-22-59, 1-18-94, 1-22-53, 1-22-52

Name ORVILLE E. JR. & BETTY SIMPSON

Address 65343 PLAINFIELD ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-27-1

Name ALENE A. SMITH

Address P.O. BOX 160

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-22-57

Name JOHN D. STANFORD, ETAL-c/o HELEN V. STANFORD

Address 63850 CHAPEL HILL ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 1-22-57

Name JEFFERY L. & MARY L. THOMAS

Address 62938 CENTERVILLE-WARNOCK ROAD

City BELMONT State OHIO Zip 43718

Surface X, Coal _____

Deed Parcel No. 78

Name DOROTHY THORNBURG, ETAL

Address 211 EAST MAIN STREET

City ST. CLAIRSVILLE State OHIO Zip 43950

Surface X, Coal _____

Deed Parcel No. 1-22-22

Name THE BOARD OF TOWNSHIP TRUSTEES
c/o LARRY A. OGILBEE
Address 59643 OGILBEE ROAD

City JACOBSBURG State OHIO Zip 43933

Surface X, Coal _____

Deed Parcel No. 1-22-60, 1-18-94, 1-22-23

Name ROBERT WINLAND, ETAL

Address P.O. BOX 111

City SHARON CENTER State OHIO Zip 44274

Surface X, Coal _____

Deed Parcel No. 1-22-18, 1-22-19,

Name The Ohio Valley Coal Company

Address 56854 Pleasant Ridge Road

City Aledonia State OH Zip 43902

Surface _____ Coal X

Deed Parcel No. All tracts in Sections 22 and 28, T-1, T-3

Name Consolidation Coal Company

Address 1800 Washington Road

City Pittsburgh State PA Zip 15241

Surface _____ Coal X

Deed Parcel No. C-1, 41-1

Name Consolidated Land Company

Address Box 505, 34208 Aurora Road

City Solon State OH Zip 44139

Surface _____ Coal X

Deed Parcel No. All remaining tracts in sections 23,24,29,30,34,35,36

Name _____

Address _____

City _____ State _____ Zip _____

Surface _____ Coal _____

Deed Parcel No. _____

Name _____

Address _____

City _____ State _____ Zip _____

Surface _____ Coal _____

Deed Parcel No. _____

C. (2) Provide the following information for the holders of record of any leasehold interest in the coal to be mined or property to be affected by surface operations or facilities, indicating whether the held interest is of surface, coal, or noncoal rights.

Name The Ohio Valley Coal Company

Address 56854 Pleasant Ridge Road

City Alledonia State Ohio Zip 43902

Surface X, Coal X, Noncoal _____

Name SEE ADDENDUM TO PAGE 8, C(2)

Address _____

City _____ State _____ Zip _____

Surface _____, Coal _____, Noncoal _____

Submit and identify additional pages necessary to complete response.

(3) Are there purchasers of record under a real estate contract of the coal to be mined or property to be affected by surface operations and facilities?
_____ Yes, X No. If "yes," submit Attachment 2.

(4) Is any owner, holder, or purchaser listed in items C(1) (a and b), (2), or (3) respectively, a business entity other than a single proprietorship?
X Yes, _____ No. If "yes," submit Attachment 3.
See Attachment 3

(5) Is any part of the proposed permit area adjacent to any lands which are not owned by those persons identified in item C(1)(a)? _____ Yes, _____ No. If "yes," submit Attachment 4. N/A No Permit Area

(6) Does the applicant hold lands, interests in lands, options, or pending bids on interests for lands which are contiguous to the property to be mined?
X Yes, _____ No. If "yes," provide a description of the lands. See Map - Future Application Areas

(7) Is it anticipated that individual mining permits will be sought for any of those lands described in item C(6) above? _____ Yes, X No. If "yes," submit as an addendum and identify those lands to include the size, sequence, and timing of future mining permits, utilizing a map pursuant to 1501:13-4-13(J)(29), Ohio Administrative Code.

C. (8)(a) Provide either of the following to allow for coal mining operations on the permit area:

N/A - No Permit Area

(i) A copy of the documents, or

(ii) An affidavit wherein the documents are described.

AFFIDAVIT

State of Ohio, _____ County, ss. _____ being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document _____

Execution Date _____

Expiration Date _____

Parties: From _____ To _____

Description of land: No. Acres _____

County _____ Township _____

Sections _____ Lots _____

Parcel #_____

Explanation of legal rights claimed _____

_____

_____

Pending litigation _____ Yes, _____ No.

_____ _____

Signature of Affiant Date

_____

Position

Sworn before me and subscribed in my presence this

_____ day of _____, 19_____.

_____

Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LEASE

Execution Date 10/23/97

Expiration Date 10/23/2007

Parties: From CONSOL. COAL CO to OVCC

Description of land: PORTIONS OF SMITH TWP, BELMONT CO, SEC. 24

County Belmont Township Smith

Sections 24 Lots

Parcel # C-1

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b)

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/29/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 29th day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document SUBLEASE

Execution Date 04/27/94

Expiration Date N/A

Parties: From CONSOL. LAND CO. to OVCC

Description of land: PORTIONS OF THE FOLLOWING SECTIONS

County Belmont Township Smith

Sections 22,23,24,28,29,30,34,35,36 Lots _____

Parcel # SEE DEED PARCEL MAP

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b)

Pending litigation _____ yes ____X____ no.

David L Bartsch
Signature of Affiant

01/29/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 29th day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29,30 Lots

Parcel # 1-22-30

Explanation of legal rights claimed See Addendum to Page 10 Part 1, C(8)(b), Item 19

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 35 Lots

Parcel # 1-18-94

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 1

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 24 Lots

Parcel # 1-19-34

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 2

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 24 Lots

Parcel # 1-19-58

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 3

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 23 Lots

Parcel # 1-22-7

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 4

Pending litigation ____ yes ____X____ no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN, 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 23 Lots

Parcel # 1-22-8

Explanation of legal rights claimed See Addendum to Page 16, Part 1, C(8)(b), Item 5

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 23 Lots

Parcel # 1-22-9

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b),

Item 6

Pending litigation yes X no.

David L. Bartsch 01/27/98
Signature of Affiant Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan, 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 23 Lots

Parcel # 1-22-10

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 7

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-11

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 8

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 19 98

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-12

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 9

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-15

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 10

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-17

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 11

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-18

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 12

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN, 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-19

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 13

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29, 30 Lots

Parcel # 1-22-21

Explanation of legal rights claimed See Addendum to Page 13a, Part 1, C(8)(b), Item 14

Pending litigation ____ yes ____X____ no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

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Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29, 30 Lots

Parcel # 1-22-22

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 15

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29, 35 Lots

Parcel # 1-22-23

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 16

Pending litigation_____yes ___X___no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 30 Lots

Parcel # 1-22-24

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 17

Pending litigation_____yes __X__no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan, 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 30 Lots

Parcel # 1-22-29

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 18

Pending litigation ____ yes ____X____ no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 34 Lots

Parcel # 1-22-52

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 20

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 34 Lots

Parcel # 1-22-53

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 21

Pending litigation_____yes ___X___no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 35 Lots

Parcel # 1-22-57

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b),

Item 22

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 35 Lots

Parcel # 1-22-59

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 23

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 34,35 Lots

Parcel # 1-24-1, -2, -3, -4

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 24

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 23 Lots

Parcel # 1-25-1

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 25

Pending litigation yes X no.

David L. Bartsch 01/27/98
Signature of Affiant Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 23 Lots

Parcel # 1-26-1

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 26

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 35, 36 Lots

Parcel # 1-27-1

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(6)(b), Item 27

Pending litigation ____ yes ____X____ no.

Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 36 Lots

Parcel # 1-28-1

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 28

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan, 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 24 Lots

Parcel # 1-19-29

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 29

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 22 Lots

Parcel # 76

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 30

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L LUKE
My Commission Expires Aug. 21, 2001

Claude L Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 22 Lots

Parcel # 77-1, -2

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 31

Pending litigation yes X no.

David L. Bartsch 01/27/98
Signature of Affiant Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 22 Lots

Parcel # 78

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 32

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 104

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 33

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 105

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 34

Pending litigation yes X no.

David L. Bartsch 01/27/98
Signature of Affiant Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 106

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 35

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 107

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 36

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 108

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 37

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 109

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 38

Pending litigation_____yes __X__ no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 04/30/96

Expiration Date 06/30/11

Parties: From BOUROUGH CO to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 22, 23 Lots

Parcel # T2, T3

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 39

Pending litigation yes X no.

David L Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L LUKE
My Commission Expires Aug. 21, 2001

Claude L Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 35 Lots

Parcel # 1-22-60

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 40

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L LUKE
My Commission Expires Aug. 31, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-20

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 41

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-16

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 42

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 29 Lots

Parcel # 1-22-13, 14

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 43

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 19 98.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 24 Lots

Parcel # 1-19-82

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 44

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LEASE

Execution Date 09/26/95

Expiration Date 09/26/10

Parties: From CONSOLIDATION COAL to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 24 Lots

Parcel # C-1

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 45

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document LIMITED WARRANTY DEED

Execution Date 05/01/97

Expiration Date NONE

Parties: From CONSOL. LAND CO. to OVCC

Description of land: No. Acres

County Belmont Township Smith

Sections 36 Lots

Parcel # 1-22-62

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 46

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of JAN., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the **underground workings.**

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document WARRANTY DEED

Execution Date 12/29/70

Expiration Date NONE

Parties: From N. AMER. COAL CORP. to OVCC (FORMERLY NACCO MINING CO)

Description of land: No. Acres

County Belmont Township Smith

Sections 28 Lots

Parcel # 103

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b), Item 47

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Nov., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

RIGHT OF ENTRY INFORMATION

C.(8)(B) Provide either of the following to allow for coal mining operations on the underground workings.

(i) A copy of the documents, or
(ii) An affidavit wherein the documents are described. For all documents or affidavits provided for the shadow area, the specific parcels are to be identified on the application map.

AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of Document 0.00

Execution Date 0.00

Expiration Date 0.00

Parties: From 0.00 to 0.00

Description of land: No. Acres

County Belmont Township Smith

Sections 0.00 Lots

Parcel # 0.00

Explanation of legal rights claimed See Addendum to Page 10, Part 1, C(8)(b),

Item 0.00

Pending litigation yes X no.

David L. Bartsch
Signature of Affiant

01/27/98
Date

Environmental Coordinator and Permit Administrator
Position

Sworn before me and subscribed in my presence this 27 day of Jan., 1998.

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

Claude L. Luke
Notary Public

C. (9)(a) List below the following information for each surface owner of land within the proposed permit area.

N/A No Permit Area

OWNER NAME	COUNTY	TOWNSHIP	SEC./LOT	T- ,R-

C. (9)(b) List below the following information for each surface owner of land within the proposed underground workings.

OWNER NAME	COUNTY	TOWNSHIP	SEC./LOT	T-	R-
R. BARRICKLOW	BELMONT	SMITH	35/36	6N	4W
S. CentralPower Co, formerly THE BELMONT ELECTRIC CORP.	BELMONT	SMITH	35	6N	4W
C.A. BLAKE	BELMONT	SMITH	35	6N	4W
C. & C. BLAKE	BELMONT	SMITH	29	6N	4W
J.L. JR. BLAKE	BELMONT	SMITH	35	6N	4W
J.L. & I.D. BLAKE	BELMONT	SMITH	35	6N	4W
BOROUGH COMPANY	BELMONT	SMITH	23	6N	4W
BOROUGH COMPANY, ETAL	BELMONT	SMITH	22	6N	4W
F.N. & T.M. CARNAHAN	BELMONT	SMITH	29	6N	4W
T.A. & M.B. COYNE	BELMONT	SMITH	28/29	6N	4W
T.K. & J.C. COYNE	BELMONT	SMITH	29	6N	4W
R.N. & F.K. DELANEY	BELMONT	SMITH	22	6N	4W
A. FUNKHOUSER	BELMONT	SMITH	22/28	6N	4W
C.E. & I FUNKHOUSER	BELMONT	SMITH	28	6N	4W
C.E. JR. & C. FUNKHOUSER	BELMONT	SMITH	28	6N	4W
F.P. & A. FUNKHOUSER	BELMONT	SMITH	22	6N	4W
R.L. & M.J. GROVER	BELMONT	SMITH	29	6N	4W
F.T. HART	BELMONT	SMITH	28	6N	4W
R.L. HAYES	BELMONT	SMITH	22	6N	4W
F. & W.L. HORVATH	BELMONT	SMITH	29/35	6N	4W
M. L. & E.S. HUGHES	BELMONT	SMITH	30	6N	4W

C	JOHNSON	BELMONT	SMITH	36	6N	4W
J. & CF	KEMP	BELMONT	SMITH	35	6N	4W
R.E. & B.J.	KEMP	BELMONT	SMITH	35	6N	4W
D.M.	KINDLER	BELMONT	SMITH	23/29	6N	4W
R.M.	MILHOAN	BELMONT	SMITH	35/36	6N	4W
J.S.	MITCHELL	BELMONT	SMITH	29/30	6N	4W
A.T.	NIXON	BELMONT	SMITH	24	6N	4W
C.A. & M.A.	PICKENS	BELMONT	SMITH	29	6N	4W
C. & S.	POWELL	BELMONT	SMITH	35	6N	4W
J.L. JR. & T.A.	REESE	BELMONT	SMITH	24	6N	4W
R.S.	RICE	BELMONT	SMITH	22	6N	4W
T.N. & E.M.	RUBEL	BELMONT	SMITH	28	6N	4W
R & F COAL COMPANY		BELMONT	SMITH	24/30	6N	4W
R. SR. & J.	SAFFELL	BELMONT	SMITH	28	6N	4W
M.E. & T.	SEACREST	BELMONT	SMITH	35	6N	4W
F.	SIMPSON	BELMONT	SMITH	34/35	6N	4W
S. ETAL	SIMPSON	BELMONT	SMITH	34	6N	4W
F. & S.	SIMPSON	BELMONT	SMITH	34/35	6N	4W
O. JR. & B.	SIMPSON	BELMONT	SMITH	36	6N	4W
A.A.	SMITH	BELMONT	SMITH	35	6N	4W
J.D. ETAL	STANFORD	BELMONT	SMITH	35	6N	4W
J.L. & M.L.	THOMAS	BELMONT	SMITH	22	6N	4W
D. ETAL	THORNBURG	BELMONT	SMITH	29/30	6N	4W
THE BOARD OF TOWNSHIP TRUSTEES		BELMONT	SMITH	35	6N	4W
R.W. ETAL	WINLAND	BELMONT	SMITH	29	6N	4W

D. AREAS WHERE MINING IS PROHIBITED OR LIMITED-Permit Area

(1) Does the permit area included in this permit application include any area dedicated as a nature preserve pursuant to Chapter 1517., Ohio Revised Code? _____ Yes, _____ No. If "yes," submit proof of valid existing right. N/A No Permit Area

(2) Does the permit area included in this permit application include any area within one thousand feet of the waterlines of any wild, scenic, or recreational river dedicated pursuant to Chapter 1501., Ohio Revised Code? _____ Yes, _____ No. If "yes," submit proof of valid existing right. N/A No Permit Area

(3) Does the permit area included in this permit application include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas, or wild and scenic rivers or river corridors, including those rivers under study? _____ Yes, _____ No. If "yes," submit proof of valid existing right.

N/A No Permit Area

(4) Does the permit area included in this permit application include any federal lands within the boundaries of any national forest? _____ Yes, _____ No. If "yes," submit approval of the U.S. Secretary of Interior of proof of valid existing right.

N/A No Permit Area

(5) Will operations in the permit area conducted under this permit adversely affect any publicly owned park or places included on the National Register of Historic Places? _____ Yes, _____ No. If "yes," submit joint approval from the chief and the federal, state, or local agency with jurisdiction over the park or places or proof of valid existing right.

N/A No Permit Area

(6) Will operations in the permit area conducted under this permit affect land within one hundred feet of the outside right-of-way of a public highway? _____ Yes, _____ No. If "yes," list the highway(s) in the space below and submit Attachment 9 or proof of valid existing right.

N/A No Permit Area

D. (7) Will operations in the permit area conducted under this permit affect land within three hundred feet of any occupied dwelling? _____ Yes, _____ No. If "yes," list the name of the owner(s) in the space below and submit Attachment 10 or proof of valid existing right.

N/A No Permit Area

(8) Will operations in the permit area conducted under this permit affect land within three hundred feet of any public building, school, church, community or institutional building, or public park? _____ Yes, _____ No. If "yes," submit proof of valid existing right. N/A No Permit Area

(9) Will operations in the permit area conducted under this permit affect land within one hundred feet of a cemetery? _____ Yes, _____ No. If "yes," submit proof of valid existing right or appropriate authorization to relocate the cemetery. N/A No Permit Area

(10) Will operations conducted during this permit result in the extension of any part of the pit within fifty feet of horizontal distance to any adjacent land or water in which the applicant does not own either the surface or mineral rights? _____ Yes, _____ No. If "yes," list below the name(s) of the adjacent owner(s) and submit Attachment 11. N/A No Permit Area

E. **AREAS WHERE MINING IS PROHIBITED OR LIMITED-Permit and Shadow Area**

Are there areas within the proposed permit area, shadow area, or adjacent areas designated unsuitable for coal mining operations under rule 1501:13-3-07 of the Administrative Code or under study for designation in an administrative proceeding under this rule?
_____ Yes, __X__ No.

(1) If "yes" to the item above, did the applicant make substantial legal and financial commitments in the proposed areas prior to January 4, 1977?
_____ Yes, _____ No. N/A

(2) If "yes" to item (1) above, submit as an addendum to the permit application information supporting the assertions that the commitments were made prior to January 4, 1977.

N/A

F. **PERMIT TERM AND EXTENT-Permit and Underground Workings**

(1) Anticipated/actual date for:

(a) Starting mining operations 1/1/99

(b) Terminating mining operations N/A

(2) Does the applicant propose a permit term in excess of five (5) years? _____ Yes, __X__ No. If "yes," submit an addendum with the information required by 1501:13-4-03(E)(3), Ohio Administrative Code.

(3) Indicate the following acreage figures:

(a) Total Acres 0 (Permit area)

(b) Total Acres 2650 (Underground Workings)

(4) Horizontal extent of underground workings over life of permit in acres:

(a) Full Coal Recovery 2650

(b) Room and Pillar 0

G. **PUBLIC NOTICE-Permit and Shadow Area**

(1) In the space below, provide the name and address of the public office where a complete copy of this permit application is to be filed.

Recorder's Office
Belmont County Court House
Main Street
St. Clairsville, Ohio 43950

(2) In the space below, list the name and address of the newspaper and submit an addendum providing the text of the advertisement that is to be published in a newspaper of general circulation in the locality of the proposed operation. **Note**: The advertisement is to provide the information required by paragraph (A) of rule 1501:13-5-01 of the Administrative Code.

The Times Leader
200 South Fourth Street
Martins Ferry, Ohio 43935

PART 2 ENVIRONMENTAL RESOURCES INFORMATION

A. CULTURAL, HISTORIC, AND ARCHEOLOGICAL INFORMATION-**Permit and Planned Subsidence Area**

(1) Are there any cultural or historic resources or structures listed or eligible for listing on the National Register of Historic Places within the proposed permit or planned subsidence area? __X__ Yes, _____ No. If "yes," submit an addendum describing the resources and structures including the location and submit Attachment 27 or 27A as appropriate. See Attachment 27A.

(2) Are there any known archeological sites within the proposed permit or planned subsidence area? _____ Yes, __X__ No. If "yes," submit an addendum describing the site including the location and submit Attachment 27 or 27A as appropriate.

(3) If applicable, based upon the review of the proposed planned subsidence areas and the completed Attachment 27A for the initial six months of projected mining, have any properties listed or eligible for listing on the National Register of Historic Places been identified? _____ Yes, __X__ No. If "yes," submit an addendum listing each property identified.

(4) Submit an addendum indicating the method to be used to identify historic properties on planned subsidence areas as mining progresses. See Addendum to Page 16, Part 2, A(4)

B. GEOLOGY DESCRIPTION-**Permit and Shadow Area**

(1) Submit an addendum describing the geology within the proposed permit area and shadow area down to and including the first stratum below the lowest coal seam to be mined or any aquifer below the lowest coal seam to be mined which may be adversely affected by mining. The description shall also include information on the areal and structural geology of the permit and shadow area and any other geologic parameters which may influence the probable hydrologic consequences and protection of the hydrologic balance from material damage outside of the permit area.
See Addendum to Page 16, Part 2, B.(1)

(2) Submit an addendum describing how the areal and structural geology may affect the occurrence, availability, movement, quantity, and quality of potentially affected surface and ground waters per paragraph (C) of rule 1501:13-4-13 of the Administrative Code.
See Addendum to Page 16, Part 2, B (2)

B. (3) For those areas to be affected by underground mining surface operations where removal of the overburden down to the level of the coal seam will occur, submit Attachment 12(s) as required by paragraphs (C)(2)(a) and (c) of rule 1501:13-4-13 of the Administrative Code. N/A

(4) For those areas within the shadow area where the stratum above the coal seam to be mined will not be removed, submit Attachment 13(s) as required by paragraphs (C)(2)(d) and (e) of rule 1501:13-4-13 of the Administrative Code. See Attachment 13's

C. GROUND WATER INFORMATION-Permit, Shadow Area, and Adjacent Area

(1) Submit an Attachment 14B which describes the ground water hydrology of the proposed permit area, shadow area, and adjacent area. The Attachment 14B is to include information on each waterbearing stratum or zone as required by paragraph (D) of rule 1501:13-4-13 of the Administrative Code, including the first waterbearing stratum below the coal to be mined.
See Attachment 14B

(2) Are there any wells on the proposed permit area, shadow area, and adjacent area? X Yes, _____ No. If "yes," submit Attachment 14C.
See Attachment 14C

(3) Are there any springs on the proposed permit area, or developed springs on the shadow area and adjacent area? X Yes, _____ No. If "yes," submit Attachment 14C.
See Attachment 14C

(4) Are there any public water supply sources on the proposed permit area, shadow area, and adjacent area? _____ Yes, X No. If "yes," submit Attachment 14A, Attachment 14D, and show location on the hydrology map.
See Attachment 14D and Hydrology Map

(5) Submit Attachment 14A for representative wells and developed springs as required by paragraph (D)(4) of rule 1501:13-4-13. Based on this data identify the seasonal variations of ground water quality and quantity. See Attachment 14A and Addenda

D. SURFACE WATER INFORMATION-Permit, Shadow Area, and Adjacent Area

(1) List the name of the watershed that will receive water discharges from the proposed permit, shadow, and adjacent areas as listed in the "Gazetteer of Ohio Streams" published by the Ohio Department of Natural Resources. McMahon Creek , Captina Creek

(2) Are there any perennial or intermittent streams or other surface water bodies on the proposed permit, shadow area, and adjacent area? X Yes, _____ No. If "yes," submit Attachment 14A and Attachment 14D and show location on application and hydrology map.
See Attachments 14A, 14D and Hydrology Map.

D. (3) Based on the data listed on Attachment 14A, and other information submitted with this application, identify the seasonal variations in water quality and quantity for the streams identified in Part 2, D(2).

See Attachment 14A, Addenda, PHC

E. HYDROLOGIC DETERMINATION-Permit, Shadow Area, and Adjacent Area

Based on the information submitted in response to items B, C, and D in this part of the permit application, submit an addendum describing the probable hydrologic consequences of this proposed underground mining operation on the hydrologic regime of the proposed permit area, shadow area, and adjacent area. The description shall include findings on each of the following items:

(1) The consequences of the proposed operation on the contents of total suspended and dissolved solids, total iron, total manganese, acidity, and pH;

See Addendum to Page 18, Part 2, E

(2) Whether adverse impacts may occur to the hydrologic balance; and

See Addendum to Page 18, Part 2, E

(3) The impact the proposed operation will have on:

(a) sediment yield from the disturbed area,

(b) flooding and stream flow alteration or diminution,

(c) ground water and surface water availability.

See Addendum to Page 18, Part 2, E

F. ALTERNATIVE WATER SUPPLY INFORMATION-Permit, Shadow Area, and Adjacent Area

(1) Based on the response in Part 2, item E, submit an addendum identifying the extent to which the proposed coal mining activities may proximately result in contamination, diminution, or interruption of an underground or surface source of water within the proposed permit area, shadow area, and adjacent area that is used for domestic, agricultural, industrial, or other legitimate use. See Addendum to Page 18, Page 2, F

(2) If contamination, diminution, or interruption may result, submit an addendum identifying the alternative sources of water supply that could be developed to replace the existing sources including information on water availability and suitability of alternative sources for existing pre-mining uses and postmining land use. See Addendum to Page 18, Part 2, F

G. LAND USE INFORMATION-**Permit Area**

(1) Describe the uses of the land within the proposed permit area existing at the time of the filing of this permit application and provide a map which delineates the area of each land use.

N/A - No Permit Area

(2) Was the land use described in item G(1) above changed within five years before the anticipated date of beginning this proposed mining operation? _____ Yes, _____ No. If "yes," submit an addendum describing the historic use of the land.

N/A - No Permit Area

(3) Analyze the capability of the land within the proposed permit area before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover, and hydrology of the proposed permit area.

N/A - No Permit Area

(4) Analyze the productivity of the land within the proposed permit area before any mining to include average yields obtained under high level of management.

N/A - No Permit Area

(5) Is any land within the proposed permit area classified as prime farmland? _____ Yes, _____ No.

N/A - No Permit Area

(6) Submit an addendum describing the use of the land within the permit area, including the creation of permanent water impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses. N/A - No Permit Area

(7) Are there existing land use classifications under local law of the proposed permit area? _____ Yes, _____ No. If "yes," describe the land use classification and submit as an addendum to the permit application, the comments of the governmental agency which would have to initiate, implement, approve or authorize the proposed use of the land following reclamation. If "no," describe the sources of information on which the determination was made.

N/A - No Permit Area

G. (8) Submit as an addendum a copy of the comments from the legal or equitable owner of record of the surface of the proposed permit area concerning the proposed land use.

N/A - No Permit Area

(9) Describe the consideration which has been given to making all of the proposed coal mining activities consistent with surface owner plans and applicable state and local land use plans and programs.

N/A - No Permit Area

(10) Describe how the proposed land use is to be achieved and the necessary support activities that may be needed to achieve the proposed land use.

N/A - No Permit Area

(11) Is the postmining land use to be different from the premining land use? _____ Yes, _____ No. If "yes," submit as an addendum to the permit application, the plans and findings required by paragraph (D) of rule 1501:13-9-17 of the Administrative Code.

N/A - No Permit Area

(12) Has the proposed permit area been previously mined? _____ Yes, _____ No. If "yes," provide the following information, if available. N/A No Permit Area

(a) Type of mining method _____

(b) Coal seam mined _____

(c) Non coal mineral mined _____

(d) Extent of mining (acres) _____

(e) Approximate dates _____

(f) Land use preceding mining _____

H. PRIME FARMLAND INVESTIGATION-Permit Area

(1) Does the proposed permit area include any land that is prime farmland, taking into consideration the negative determinations listed in paragraph (L)(2) of rule 1501:13-4-13 of the Administrative Code?
_____ Yes, _____ No. N/A No Permit Area

(2) If the response to item H.(1) is "yes," submit Attachment 15.

(3) If the response to item H.(1) is "no," submit Attachment 16.

PART 3 RECLAMATION AND OPERATIONS PLAN

A. GENERAL REQUIREMENTS-**Permit Area** (Items A.(1) and A.(2)-**Permit and Underground Workings)**

(1) Submit an addendum describing the type and method of coal mining procedures for this application. Explain how these procedures will maximize the use and conservation of the coal resources. Recovery for the longwall areas is high. Room and Pillar areas will mine the maximum amount of coal and still provide for no subsidence.

(2) Indicate the anticipated annual and total production of coal from this proposed operation.

Annual 5.0 million Total 25 million

(3) Will this operation be combined with surface coal mining activities to the extent that contemporaneous reclamation of areas disturbed by surface mining will be delayed or such that the underground workings will be within 500 feet of the surface mining activities? _____ Yes, _____ No. If "yes," submit Attachment 30.

N/A - No Permit Area

(4) Are experimental mining practices to be employed in the proposed mining operations? _____ Yes, _____ No. If "yes," submit as an addendum to the permit application, the description, maps, and plans required by paragraph (B) of rule 1501:13-4-12 of the Administrative Code.

N/A - No Permit Area

(5) Are mountaintop removal mining practices to be employed in the proposed mining operations? _____ Yes, _____ No. If "yes," submit as an addendum to the permit application the information required by paragraph (C) of rule 1501:13-4-12 of the Administrative Code.

N/A - No Permit Area

(6) Are the natural pre-mining slopes within the permit area in excess of twenty (20) degrees? _____ Yes, _____ No. If "yes," submit an addendum demonstrating compliance with the steep slope mining provisions of paragraph (D) of rule 1501:13-4-12 and 1501:13-13-05 of the Administrative Code.

N/A - No Permit Area

(7) Is augering proposed within the permit area? _____ Yes, _____ No. If "yes," submit Attachment 18.

N/A - No Permit Area

(8) Are variances from approximate original contour to be employed for the proposed underground mining surface operations? _____ Yes, _____ No. If "yes," submit an addendum to the permit application demonstrating compliance with paragraph (E) and/or (K) of rule 1501:13-4-12 of the Administrative Code.

N/A - No Permit Area

A. (9) Will access to the underground workings be gained through a drift entry? _____ Yes, _____ No. If "yes," provide as an addendum sufficient information to determine the location of the entry relative to the highest elevation of the coal reserve. Is the drift entry located so as to eliminate the potential for a gravity discharge? _____ Yes, _____ No. If "no," the applicant must demonstrate that the coal seam is not acid or iron producing. Provide an analysis of the strata immediately above and below the coal, and the coal seam itself, sufficient to demonstrate that the water quality from the entry will meet effluent limitations without treatment.

N/A - No Permit Area

(10) For entries to underground workings other than drift entries, provide as an addendum sufficient information to determine the location of the entry relative to the coal reserve. Are the entries located so as to eliminate the potential for a gravity discharge? _____ Yes, _____ No. If "no," provide the following demonstration: N/A - No Permit Area

(a) the gravity discharge will meet effluent limitations without treatment, or

(b) the water will be treated to meet effluent limitations and provisions will be made for consistent maintenance of the treatment facility throughout the anticipated period of gravity discharge.

(11) Will the permanent entry seals be designed to withstand the maximum anticipated hydraulic head when the operations are abandoned? _____ Yes, _____ No. If "yes," submit the appropriate information demonstrating that this will be accomplished. If "no," provide a typical plan for the seals to be used to close the mine entries pursuant to applicable state and federal regulations. N/A - No Permit Area

(12) Submit an addendum describing the construction, modification, maintenance, and removal (unless to be retained for postmining land use), including the proposed engineering techniques and major equipment to be used, of the following facilities:

(a) dams, embankments, and other impoundments. Do any of the plans for water, sediment or slurry impoundments meet the requirements of 30 CFR 77.216? _____ Yes, _____ No. If "yes," submit as an addendum a plan that addresses each of the requirements in 30 CFR 77.216-2.

(b) overburden and topsoil handling and storage areas and structures.

N/A - No Permit Area

A. (12) (c) coal removal, handling, storage, cleaning, and transportation areas and structures; including, but not limited to, preparation plants, beltlines, tipples, rail sidings, and primary roads. For roads, conveyors and rail systems, submit an addendum describing the information required pursuant to paragraph (L) of rule 1501:13-4-14 and 1501:13-10-01 of the Administrative Code.

N/A - No Permit Area

(d) spoil removal, handling, storage, transportation, and disposal areas and structures, including underground development waste or excess spoil disposal sites. If underground development waste or excess spoil is to be generated, submit an addendum describing the information required by paragraphs (O) and (P) of rule 1501:13-4-14 and 1501:13-9-07 of the Administrative Code.

N/A - No Permit Area

(e) mine facilities such as portal/shaft development, boreholes, de-gas holes, vents, office or shop buildings and maintenance facilities.

N/A - No Permit Area

(f) water and air pollution control facilities.

N/A - No Permit Area

(13) Provide an estimate of the cost per acre to reclaim the permit area. _____

N/A - No Permit Area

(14) Will the proposed operation include any of the following:

N/A - No Permit Area

(a) disposal of coal mine waste from a wash plant, tipple, or other source? _____ Yes, _____ No. If "yes," submit Attachment 28 and, if applicable, the information required by paragraph (H) of rule 1501:13-4-14 of the Administrative Code.

(b) disposal of fly ash or other noncoal wastes? _____ Yes, _____ No. If "yes," submit an addendum which addresses the disposal material and a detailed disposal plan, pursuant to paragraph (E) of rule 1501:13-9-09 of the Administrative Code.

(c) return of slurry or other mine waste or material into the abandoned underground workings? _____ Yes, _____ No. If "yes," comply with provisions contained in paragraph (N) of rule 1501:13-4-14 and paragraph (Q) of 1501:13-9-04 of the Administrative Code, and submit copies of the required MSHA approvals as an addendum.

B. <u>EXISTING STRUCTURES-Permit Area</u>

(1) Are any existing structures proposed to be used in connection with or to facilitate the coal mining and reclamation operation? _____ Yes, _____ No. If "yes," submit as an addendum to the permit application a description of each structure. The description shall include the information required by paragraph (B)(1) of rule 1501:13-4-14 of the Administrative Code.

N/A - No Permit Area

B. (2) Are any existing structures proposed to be modified or reconstructed for use in connection with or to facilitate the coal mining and reclamation operation? _____ Yes, _____ No. If "yes," submit as an addendum to the permit application, a compliance plan for each structure. The plan shall include the information required by paragraph (B)(2) of rule 1501:13-4-14 of the Administrative Code.

N/A - No Permit Area

C. BLASTING-**Permit Area**

Will blasting occur within 25 feet of the surface during shaft and portal development or other on-site development? _____ Yes, _____ No. If "yes," submit Attachment 29.

N/A - No Permit Area

D. RECLAMATION PLAN - GENERAL REQUIREMENTS-**Permit Area** (Item D.(12)-**Permit, Shadow, and Adjacent Area**)

(1) Provide a detailed timetable for the completion of backfilling and grading for each mining year.

N/A

(2) Provide a detailed timetable for the completion of resoiling for each mining year.

N/A

(3) Provide a detailed timetable for the completion of planting for each mining year.

N/A

(4) Describe the plan for backfilling, compacting and grading of the disturbed permit area, including the disposal of all mine generated debris.

N/A

(5) Submit an addendum describing the plan for the removal, storage, redistribution and stabilization of topsoil, subsoil, or approved alternative resoiling material to meet the requirements of rule 1501:13-9-03 of the Administrative Code. If an alternative resoiling material is to be used, submit Attachment 19.

N/A

(6) Provide the following information for the revegetation plan:

(a) Schedule for revegetation to include planting of temporary vegetation.

N/A

D. (6) (b) List the species and amounts per acre of seeds and seedlings to be used.

N/A

(c) Describe the methods to be used in planting and seeding.

N/A

(d) Describe the mulching techniques.

N/A

(7) Describe the soil testing plan for evaluation of the results of topsoil handling and reclamation procedures related to revegetation.

N/A

(8) Submit an addendum describing the measures to be employed to handle and place acid or toxic-forming materials in accordance with paragraph (J) of rule 1501:13-9-04 and paragraph (J) of rule 1501:13-9-14 of the Administrative Code. N/A

(9) Describe the measures, including appropriate cross-sections and maps, to be used to plug, case or manage mine openings or bore holes other than those entries utilized to gain access to the underground workings, pursuant to rule 1501:13-9-02 of the Administrative Code.

N/A

(10) Is the reclamation plan consistent with local physical, environmental, and climatological conditions?
_____ Yes, _____ No. N/A

(11) Identify any other applicable air and water quality laws and regulations and health and safety standards and describe the steps to be taken to comply with each.

N/A

(12) Submit an addendum describing the plan for minimizing to the extent possible and using the best technology currently available disturbances and adverse impacts of the operation on fish and wildlife and related environmental values and achieving enhancement of such resources where practical for the permit, shadow, and adjacent areas.

See Addendum to Page 25, Part 3, D(12)

E. RECLAMATION PLAN-PROTECTION OF HYDROLOGIC BALANCE-**Permit and Adjacent Area**

Submit an addendum describing the measures to be taken during and after the proposed mining operations to:

See Addendum to Page 26, Part 3E (1-3)

(1) minimize disturbance to the hydrologic balance, including quality and quantity, within the permit and adjacent areas and to prevent material damage outside the permit area;

(2) protect the rights of present users of surface and ground water;

(3) avoid acid or toxic drainage.

F. GROUND WATER AND SURFACE WATER MONITORING PLAN-**Permit and Shadow Area**

Based upon the probable hydrologic consequences determination and analysis of all baseline hydrologic, geologic, and other information submitted in this application, address the following items in accordance with paragraph (F) of rule 1501:13-4-14 and paragraph (N) of rule 1501:13-9-04 of the Administrative Code.

See Addendum to Page 29, Part 3, F

(1) In addition to the quality and quantity parameters required for quarterly monitoring and NPDES monitoring, will any other parameters be monitored?
_____ Yes, __X__ No. If "yes," indicate the parameter(s) and the site(s) where such monitoring will occur.

(2) Do you propose or anticipate the need for a variation in the required monitoring frequency for ground and surface water sites and monthly monitoring for NPDES?
_____ Yes, __X__ No. If "yes," describe the variation in frequency and the monitoring sites to be affected.

(3) Describe the plan for collection, recording, and reporting of all surface and ground water quality and quantity monitoring data, including data collected for the NPDES program.

G. DIVERSIONS AND DRAINAGE CONTROLS-**Permit Area**

(1) Will the proposed coal mining activities result in diversions of overland flow away from the disturbed areas? _____ Yes, _____ No. If "yes," describe, including maps and cross sections, the diversion to be constructed to achieve compliance with paragraph (I) of rule 1501:13-4-14 of the Administrative Code.

N/A - No Permit Area

(2) Will the proposed coal mining activities result in the diversion of intermittent or perennial streams within the proposed permit area? _____ Yes, _____ No. If "yes," describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (I) of rule 1501:13-4-14 of the Administrative Code.

N/A - No Permit Area

(3) Will the proposed coal mining activities result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds? _____ Yes, _____ No. If "yes," submit an addendum to describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (I) of rule 1501:13-4-14 of the Administrative Code.

N/A - No Permit Area

(4) Indicate which of the following are proposed to be constructed within the proposed permit area and submit as an addendum the detailed design plans for each structure in accordance with paragraph (H) of rule 1501:13-4-14 and 1501:13-9-04 of the Administrative Code.

_____ sedimentation pond(s) (submit Attachment 20)

_____ water impoundment(s) (submit Attachment 20)

_____ other (specify) _____

N/A - No Permit Area

(5) Submit an addendum describing the plan for the control of water drainage into, through, and out of the proposed permit area. If applicable, submit as an addendum any request for variances pursuant to paragraphs (B) and (E) of rule 1501:13-9-04 of the Administrative Code.

N/A - No Permit Area

(6) Describe the treatment, when required, of ground and surface water drainage from the area to be disturbed by the proposed coal mining activities

N/A - No Permit Area

H. PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES-Permit and Planned Subsidence Area

Will the proposed coal mining activities adversely affect any public parks and places listed on the National Register of Historic Places? _____ Yes, __X__ No. If "yes," submit an addendum describing the measures to minimize or prevent these impacts.

I. MINING NEAR OR THROUGH A PUBLIC ROAD-Permit Area

If the response to Part 1, item D(6) of the permit application is "yes," submit an addendum describing the measures to be used to ensure that the interests of the public and landowners are protected.

N/A - No Permit Area

J. SUBSIDENCE CONTROL SURVEY-Shadow Area

(1) Is this a full coal recovery operation?
__X__ Yes, _____ No. If "yes," complete Attachment 31, Subsidence Control Survey, and following items J(2) and (3). See Attachment 31

(2) Does the shadow area contain any of the structures or facilities listed in 1501:13-12-03(J)(1-3)?
_____ Yes, __X__ No. If "yes," complete Attachment 32, Protection of Specific Structures, and specifically identify the structures or facilities on the application map.

(3) Are any aquifers or bodies of water that serve as a significant water source for any public water supply system present in the shadow area?
_____ Yes, __X__ No. If "yes," complete Attachment 32, Protection of Specific Structures, and specifically identify the areas on the application map.

K. SUBSIDENCE CONTROL PLAN-Shadow Area

(1) Submit an addendum which describes the method of coal removal, and indicates the size, sequence, and timing of the development of the underground workings.
See Addendum to Page 28, Part 3, K(1)/Timing, Struc. Cont., and Parcel Ma

(2) Utilizing the application map, specifically indicate areas where planned subsidence mining methods (i.e. longwall or pillar extraction) will be used.
See Application Map and Timing, Struc. Cont., and Parcel Map.

(3) Utilizing the application map, specifically indicate room-and-pillar mining areas where subsidence will be prevented or minimized.
See Application Map and Timing, Struc. Cont., and Parcel Map.

K. (4) Submit as an addendum, for those areas mapped as room-and-pillar mining, the following information:

There are no room-and-pillar areas planned

(a) the maximum and average overburden thickness.

(b) the projected maximum extraction ratios for mains, submains, and butt sections, as well as the existing ranges of values for the same areas.

(c) projected maximum width of entries and cross cuts throughout the mine, as well as the existing ranges of values for the same areas.

(d) the center spacing for entries and cross cuts.

(e) minimum pillar dimensions for mains, submains, and butt sections, as well as the existing ranges of values for these areas.

(f) the barrier pillar width between butt sections, as well as the existing ranges of values for the same areas.

(g) the engineering properties of the clay/shale, or other soft rock material in the roof and floor of the mine.

(h) measures to be taken on the surface to prevent damage or lessening of the value or reasonably foreseeable use of the surface, if any.

(i) the minimum pillar safety factor, for protected structures, based upon coal strength and load.

(j) methods and calculations used to determine the safety factor.

(5) Submit as an addendum for those areas mapped as full coal recovery mining, the following information:

See Addendum to Page 29, Part 3, K(5)(a).

(a) for each method to be employed (i.e. longwall or pillar extraction), provide the following:

i) rate and direction of dip for the coal seam.

ii) dimensions of panels or butt sections.

iii) thickness of coal to be extracted (mining height).

iv) maximum angle of draw.

v) maximum anticipated subsidence.

vi) width of barrier pillars or chain pillars between sections or panels.

vii) the maximum extraction ratio within a pillaring section.

K. (5) (b) the anticipated effects of planned subsidence upon the land and water resources identified in the subsidence control survey and survey of ground and surface water resources.
See Addendum to Page 30, Part 3, K(5)(b) and Attachment 31

(c) the measures to be taken to mitigate the anticipated effects of planned subsidence to the land and water resources.
See Addendum to Page 30, Part 3, K(5)(c)

(d) the anticipated effects of planned subsidence upon the structures identified in the subsidence control survey.
See Addendum to Page 30, Part 3, K(5)(d)

(e) the proposed measures to be taken to mitigate anticipated effects to structures.
See Addendum to Page 30, Part 3, K(5)(e)

(f) the proposed measures to determine the extent of mining related damages including a presubsidence survey with an indication of the timing of the survey.
See Addendum to Page 30, Part 3, K(5)(f)

(g) the provisions for repair and/or compensation for damages to structures.
See Addendum to Page 30, Part 3, K(5)(g)

(h) describe the monitoring, if any, needed to determine the commencement and degree of subsidence so that, when appropriate, other measures can be taken to prevent, reduce, or correct material damage in accordance with rule 1501:13-12-03 of the Administrative Code.
See Addendum to Page 30, Part 3, K(5)(h)

(6) Will planned subsidence operations be conducted within the angle of draw of urbanized areas, cities, towns, communities, industrial or commercial buildings, major impoundments, or perennial streams?
_____ Yes, __X__ No. If "yes," describe any measures or activities that will prevent a condition or practice that could result in an imminent danger to the health or safety of the public.

(7) Will planned subsidence operations be conducted within the angle of draw of transmission pipelines?
__X__ Yes, _____ No. If "yes," describe the procedural plan to avoid the creation of a situation of imminent danger to the health and safety of the public.

See Addendum to Page 30, Part 3, K(7)

PART 4 FORMAT AND CONTENT

A. FILING OF ADDENDA

If an addendum is needed to present the information required by the items in the permit application, the addendum is to be submitted with the permit application and each page, map, plan or other document in the addendum should include the applicant's name and indicate to what item the addendum applies. For example, "Addendum to Part 3, item K(2) Zebco Coal Company."

B. Provide the information requested below for all technical data submitted in the application.

Identification of Technical Data (1)	Person/Organization that Collected Data and Date	Methodology for Collecting Data	Person/Organization that Collected Data and Date	Methodology Used to Analyze Data
Attachments, Addenda	D. Bartsch (OVCC)	N/A	Quality Environmental Services, Tra-Det, Inc.	Water Sampling Lab Analysis Field Analysis

(1) The technical data is to be identified by referencing the particular item in the application for which the data was used in preparing the response (e.g. Part 2, B(1); Attachment 14; Part 4, A).

TOVCC 10020

C. Provide the name, address, and position of officials of each private or academic research organization or governmental agency contacted in the preparation of the application for information on land uses, soils, geology, vegetation, fish and wildlife, water quantity and quality, air quality, and archeological, cultural, and historic features.

Name and Address of Official	Position of Official	Name of Agency/ Organization	Type of information (e.g.Geology)
Bill Haiker	Hydrologist	ODNR, Division of Water	Ground Water Inventory Report
No contact person - Public Document		USGS	Water Resources Data

D. APPLICATION FOR ABANDONED MINED LAND DIRECT NEGOTIATED CONTRACT (IF APPLICABLE)

In accordance with Section 1513.27 of the Ohio Revised Code, the chief of the Division of Reclamation has been granted the authority to enter into contracts with licensed operators for reclamation of abandoned mined lands affected by coal mining prior to April 10, 1972 and located adjacent to a permit area. To be eligible for reclamation funding, the abandoned mined land must be causing offsite environmental problems, will not be affected by the operator during the normal course of mining, and is not likely to be mined in the foreseeable future. If such lands exist adjacent to your permit area and you are interested in contracting for reclamation of the lands, complete this application, detach and send directly to:

Robert S. Baker, Manager
Mined Land Reclamation
Division of Reclamation
Fountain Square, H-2
Columbus, Ohio 43224

Upon receipt, a representative from the Mined Land Reclamation section will contact you.

Applicant: _____

Address: _____

City: _____ State: _____ Zip: _____

Business Telephone: _____

Contact Person: _____

Description of Abandoned Mined Land:

County: _____
Township: _____
Section/Lot: _____
Approximate Acreage _____

Environmental Problems Associated with Site:

_____

_____

_____

_____

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION
ATTACHMENT 1
(OWNERS AND CONTROLLERS)

Applicant's Name THE OHIO VALLEY COAL COMPANY

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. If any person listed is a business entity and not an individual, also complete an Attachment 1 for that entity.

Name of business entity THE OHIO VALLEY COAL COMPANY

Name STEPHEN C. ELLIS
Street address 1100 HUNTNGTON BLDG
City CLEVELAND State OH Zip 44115
EIN SSN (Optional) 279-42-7396
Title of position within entity SECRETARY
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 0 Date of ownership
Location in organizational structure OFFICER

Name OHIO VALLEY RESOURCES INC.
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN 34-1586391 SSN (Optional)
Title of position within entity CORPORATION
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 100 Date of ownership 05/28/88
Location in organizational structure CORPORATION

Name ROBERT E. MURRAY
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN SSN (Optional) 295-36-8852
Title of position within entity PRESIDENT, CEO, TREASURER
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 0 Date of ownership
Location in organizational structure OFFICER

Name MICHAEL D. LOIACONO
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN SSN (Optional) 206-36-6784
Title of position within entity ASST SECY & CORP. COMPT.
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 0 Date of ownership
Location in organizational structure OFFICER

Submit and identify additional pages necessary to complete response.

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION
ATTACHMENT 1
(OWNERS AND CONTROLLERS)

Applicant's Name THE OHIO VALLEY COAL COMPANY

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. If any person listed is a business entity and not an individual, also complete an Attachment 1 for that entity.

Name MICHAEL D. LOIACONO
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN SSN (Optional) 206-36-6784
Title of position within entity TREASURER, ASST. SECRETARY
Date position assumed/ended (if appropriate) 06/29/88
Percent of ownership 0 Date of ownership
Location in organizational structure OFFICER

Name ROBERT E. MURRAY
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN SSN (Optional) 295-36-8852
Title of position within entity CEO
Date position assumed/ended (if appropriate) 06/29/88
Percent of ownership Date of ownership
Location in organizational structure OFFICER

Name
Street address
City State Zip
EIN SSN (Optional)
Title of position within entity
Date position assumed/ended (if appropriate)
Percent of ownership Date of ownership
Location in organizational structure

Name
Street address
City State Zip
EIN SSN (Optional)
Title of position within entity
Date position assumed/ended (if appropriate)
Percent of ownership Date of ownership
Location in organizational structure

Submit and identify additional pages necessary to complete response.

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION
ATTACHMENT 1
(OWNERS AND CONTROLLERS)

Applicant's Name THE OHIO VALLEY COAL COMPANY

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. If any person listed is a business entity and not an individual, also complete an Attachment 1 for that entity.

Name of business entity OHIO VALLEY RESOURCES INC.

Name MICHAEL D. LOIACONO
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN SSN (Optional) 206-36-6784
Title of position within entity ASST. SECY, CORP. COMPTROLLER
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 0 Date of ownership
Location in organizational structure OFFICER

Name ROBERT E. MURRAY
Street address SUITE 111 29525 CHAGRIN BOULEVARD
City PEPPER PIKE State OH Zip 44122
EIN SSN (Optional) 295-36-8852
Title of position within entity PRESIDENT, CEO, TREASURER
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 100 Date of ownership 05/25/88
Location in organizational structure OFFICER

Name STEPHEN C. ELLIS
Street address 1100 HUNTINGTON BLDG
City CLEVELAND State OH Zip 44115
EIN SSN (Optional) 279-42-7396
Title of position within entity SECRETARY
Date position assumed/ended (if appropriate) 05/25/88
Percent of ownership 0 Date of ownership
Location in organizational structure OFFICER

Name
Street address
City State Zip
EIN SSN (Optional)
Title of position within entity
Date position assumed/ended (if appropriate)
Percent of ownership Date of ownership
Location in organizational structure

Submit and identify additional pages necessary to complete response.

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part 1 of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity R & F Coal Company

Statutory agent Prentice Hall Corporation Systems

Street Address 16 E. Broad Street

City Columbus State Ohio Zip 43215

Person's name Michael D. Jamison Position President

Street Address 538 N. Main Street

City Cadiz State Ohio Zip 43907

Person's name K. L. Yocum Position Secretary

Street Address 538 N. Main Street

City Cadiz State Ohio Zip 43907

Person's name S. M. Desai Position Treasurer

Street Address 538 N. Main Street

City Cadiz State Ohio Zip 43907

Person's name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name THE OHIO VALLEY COAL CO.

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part 1 of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity SOUTH CENTRAL POWER CO. (FORMERLY BELMONT ELECTRIC)

Statutory agent R. DANE SWINEHART

Street Address 2780 COON PATH RD.

City LANCASTER State OHIO Zip 43130

NON-PROFIT/SPECIAL UTILITY - NO OFFICERS LISTED

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part 1 of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity Borough Company

Statutory agent This is a partnership

Street Address 4470 Indianola

City Columbus State Ohio Zip 43214

Person's name John R. Thornborough Position _____

Street Address 4470 Indianola

City Columbus State OH Zip 43214

Person's name Stephen N. Thornborough Position _____

Street Address 4470 Indianola

City Columbus State OH Zip 43214

Person's name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part 1 of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity CONSOLIDATION COAL COMPANY

Statutory agent C. T. CORPORATION SYSTEMS

Street Address 815 SUPERIOR AVENUE

City CLEVELAND State OHIO Zip 44114

Person's Name B.R. BROWN Position PRESIDENT

Street Address 1800 WASHINGTON ROAD

City PITTSBURGH State PENNSYLVANIA Zip 15241

Person's Name W.C. KARRAS Position VICE PRESIDENT

Street Address 1800 WASHINGTON ROAD

City PITTSBURGH State PENNSYLVANIA Zip 15241

Person's Name D.L. FAZIO Position SEC./TREA.

Street Address 1800 WASHINGTON ROAD

City PITTSBURGH State PENNSYLVANIA Zip 15241

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 7A
(NOTICES OF VIOLATION)

Applicant's Name: The Ohio Valley Coal Company

Violation Number	Date of Issuance	Issuing Agency	State	Brief Description of N.O.V.	Action Taken to Abate N.O.V.	Current Status of N.O.V. (1)

(1) If administrative or judicial proceedings have been initiated concerning any of the violations, identify the violation and provide an addendum indicating the date, location, type of proceeding, and current status.

TOVCC 10030

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 5
(PERMIT LISTING)

Applicant's Name The Ohio Valley Coal Company

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of business entity The Ohio Valley Coal Company
Address 56854 Pleasant Ridge Road
City Alledonia State OH Zip 43902
Telephone 614 - 926 - 1351
EIN 34-104130 SSN (Optional) _____

Permit No.	State	Name of Regulatory Agency	MSHA No. and Date Issued
D-0360	OH	Div. Of Mines and Reclamation	33-01159 5/25/88

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

_____

_____

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY) 05/28/1998

PRODUCER (724)349-1300 FAX (724)349-1446
Reschini Agency Inc
922 Philadelphia Street
P.O. Box 449
Indiana, PA 15701
Attn: Amy N.. Rhoades Ext: 5911

INSURED
The Ohio Valley Coal Company, Inc.
56854 Pleasant Ridge Road
Alledonia, OH 43902

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A: Federal Insurance Co.
COMPANY B:
COMPANY C:
COMPANY D:

RECEIVED
JUN 1 1998
PAUL BICCOLINI

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR OWNER'S & CONTRACTOR'S PROT	37104410	06/01/1998	06/01/1999	GENERAL AGGREGATE PRODUCTS - COMP/OP AGG PERSONAL & ADV INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person)	$ 2,000,000 $ 1,000,000 $ 1,000,000 $ 1,000,000 $ 100,000 $ 10,000
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS				COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	$ $ $ $
	GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EACH ACCIDENT AGGREGATE	$ $ $
	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM				EACH OCCURRENCE AGGREGATE 	$ $ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: INCL / EXCL				WC STATU-TORY LIMITS / OTH-ER EL EACH ACCIDENT EL DISEASE - POLICY LIMIT EL DISEASE - EA EMPLOYEE	 $ $ $
A	OTHER Pollution	73170889	06/01/1998	06/01/1999	Limits $1,000,000 Aggregate $1,000,000 Occurrence	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Degradation, loss, diminution of quality and quantity of public and private water supplies covered. Damage caused by use of explosives or damage caused by blasting is covered.

CERTIFICATE HOLDER

ODR - Reclamation - 70245
Bannock - Uniontown Road
St. Clairsville, OH 43950

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
Raymond O Miller

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,458.35		Y 730,044.15		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-000	U34-000	U34-000	U34-000	U34-000	U34-000
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1075	1075	1075	1075	1075	1075
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.02	3.9	1.44	4.35	4.45	3.15
8.	Date Above Measurements Made	11/29/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.5	7.5	7.8	8	8	8.1
11.	Total Acidity (mg/l CAC03)				13.49	8.55	15.96
12.	Total Alkalinity (mg/l CAC03)	118	122	126	148.77	124.07	189.24
13.	Specific Conductivity (µmhos/cm at 25°C)	310	305	325	378	280	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.09	0.03	0.06	0.03	0.02
16.	Total Sulfates (mg/l)	45	37	39	29	30	28
17.	Total Iron (mg/l)	0.73	0.22	0.19	0.16	0.12	0.07
18.	Total Suspended Solids (mg/l)	20	0.3	5.6	15	6	11
19.	Total Hardness (mg/l CAC03)	135	62.4	111.9	176	146	180
20.	Nitrates (mg/l)	23.3	6.6	6.6	1.55	6.23	4.3
21.	Date Sampled for Analysis	11/29/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/27/90	12/18/90	01/07/91	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

Spring flow = GPM
Stream flow = CFS

9/88
D34-001
2427056.5
730073.78
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	D34-1	D34-1	D34-1	D34-1	D34-1	D34-1
2. Lab Identification Number	93-11-973	93-12-553	94-01-745	94-02-577	94-03-971	94-04-925
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1075	1075	1075	1075	1075	1075
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	3.0	2.14	32.63	3.49	8.8	4.6
8. Date Above Measurements Made	11/27/93	12/15/93	01/27/94	02/16/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	8.0	7.3	7.9	7.8	7.9
11. Total Acidity (mg/l CAC03)	5.00	7.40	6.60	4.40	2.80	11.60
12. Total Alkalinity (mg/l CAC03)	109.00	124.60	78.20	105.20	101.60	140.00
13. Specific Conductivity (μmhos/cm at 25°C)	353	395	280	310	310	330
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.18	0.03	0.97	0.04	0.02	0.10
16. Total Sulfates (mg/l)	35.0	23.0	24.0	30.0	35.0	32.0
17. Total Iron (mg/l)	1.58	0.13	9.40	0.25	0.19	0.52
18. Total Suspended Solids (mg/l)	50.0	3.0	459.0	8.0	4.0	22.0
19. Total Hardness (mg/l CAC03)	157.0	169.0	125.0	152.0	180.0	164.0
20. Nitrates (mg/l)	0.77	0.77	2.20	0.66	0.68	1.00
21. Date Sampled for Analysis	11/27/93	12/15/93	01/27/94	02/16/94	03/25/94	04/16/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/13/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,826.06		Y 730,804.51		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-001	U34-001	U34-001	U34-001	U34-001	U34-001
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.03	0.33	0.00	0.00	0.00	0.02
8.	Date Above Measurements Made	11/02/90	12/11/90	01/01/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.7	7.4	7	7	7.6	7.5
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	2.66	17.86	10.45
12.	Total Alkalinity (mg/l CAC03)	108	196	80	42.37	74.48	113.05
13.	Specific Conductivity (μmhos/cm at 25°C)	260	250	230	100	160	260
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.12	0.59	1.79	0.15	0.27	0.4
16.	Total Sulfates (mg/l)	29	28	36		16	18
17.	Total Iron (mg/l)	0.43	0.8	3.43	0.14	0.45	1.59
18.	Total Suspended Solids (mg/l)	3.7	17	4.3	6	13	28
19.	Total Hardness (mg/l CAC03)	94	91	69.4	40	80	114
20.	Nitrates (mg/l)	1.1	2.77	4.84	0.00	1.46	2.32
21.	Date Sampled for Analysis	11/02/90	12/11/90	01/01/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/04/90	12/30/90	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,882.14		Y 729,983.79		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-002	U34-002	U34-002	U34-002	U34-002	U34-002
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1072	1072	1072	1072	1072	1072
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.03	0.70	0.18	0.01	0.33	0.02
8.	Date Above Measurements Made	11/29/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8	7	7.5	7.5	8	7.5
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	15.39	9.69	12.92
12.	Total Alkalinity (mg/l CAC03)	118	76	124	104.12	127.3	109.25
13.	Specific Conductivity (µmhos/cm at 25°C)	310	240	325	280	270	240
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.03	0.18	0.03	0.08	0.07	0.52
16.	Total Sulfates (mg/l)	41	37	40	30	29	20
17.	Total Iron (mg/l)	0.18	0.59	0.21	0.35	0.14	1.69
18.	Total Suspended Solids (mg/l)	4.7	4	17	8	6	33
19.	Total Hardness (mg/l CAC03)	170	44.4	116.1	132	143	120
20.	Nitrates (mg/l)	7.04	9.24	5.28	1.89	3.47	3.39
21.	Date Sampled for Analysis	11/29/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/27/90	12/18/90	01/07/91	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,333.17		Y 729,847.87		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-003	U34-003	U34-003	U34-003	U34-003	U34-003
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1070	1070	1070	1070	1070	1070
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.90	4.00	1.72	4.40	4.62	3.17
8.	Date Above Measurements Made	11/29/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8	7.4	7.8	8	8	8.1
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	13.68	11.02	14.25
12.	Total Alkalinity (mg/l CAC03)	132	114	124	146.68	119.13	152
13.	Specific Conductivity (µmhos/cm at 25°C)	375	300	325	367	270	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.03	0.08	0.05	0.06	0.05	0.02
16.	Total Sulfates (mg/l)	51	39	40	30	27	28
17.	Total Iron (mg/l)	0.21	0.25	0.21	0.22	0.12	0.08
18.	Total Suspended Solids (mg/l)	0.3	5.3	12.6	16	8	15
19.	Total Hardness (mg/l CAC03)	172	63.9	114.6	172	148	176
20.	Nitrates (mg/l)	7.04	7.04	4.84	1.7	2.39	4.66
21.	Date Sampled for Analysis	11/29/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/27/90	12/18/90	01/07/91	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,587.63		Y 729,823.16		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-004	U34-004	U34-004	U34-004	U34-004	U34-004
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1069	1069	1069	1069	1069	1069
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	1.11	4.10	1.75	4.48	4.64	3.27
8.	Date Above Measurements Made	11/03/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8	7.3	7.8	8	8	8.1
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	17.48	12.92	9.88
12.	Total Alkalinity (mg/l CAC03)	152	110	128	146.11	123.69	149.72
13.	Specific Conductivity (µmhos/cm at 25°C)	400	300	340	378	270	368
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.09	0.07	0.04	0.06	0.02
16.	Total Sulfates (mg/l)	38	31	34	30	25	31
17.	Total Iron (mg/l)	0.09	0.15	0.2	0.33	0.19	0.00
18.	Total Suspended Solids (mg/l)	4.7	3	9	6	10	4
19.	Total Hardness (mg/l CAC03)	135	57.43	109.1	174	140	180
20.	Nitrates (mg/l)	4.84	5.28	5.72	1.82	2.92	4.67
21.	Date Sampled for Analysis	11/03/90	12/20/90	01/07/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	10/24/90	12/18/90	01/07/91	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,070.02			Y 733,719.52	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-005	U34-005	U34-005	U34-005	U34-005	U34-005
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1135	1135	1135	1135	1135	1135
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.30	1.30	0.84	0.13	0.58	0.63
8.	Date Above Measurements Made	11/28/90	12/20/90	01/07/91	02/02/91	03/02/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.7	7.5	7.7	7.5	7.7	7.6
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	16.34	22.8	14.25
12.	Total Alkalinity (mg/l CAC03)	160	112	114	131.1	191.14	149.15
13.	Specific Conductivity (μmhos/cm at 25°C)	400	310	310	330	310	368
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.47	0.07	0.02	0.12	0.24	0.04
16.	Total Sulfates (mg/l)	65	41	38	36	37	31
17.	Total Iron (mg/l)	1.09	0.22	0.12	0.37	0.89	0.53
18.	Total Suspended Solids (mg/l)	21	3	2.6	17	22	17
19.	Total Hardness (mg/l CAC03)	177	60.2	115.4	160	180	180
20.	Nitrates (mg/l)	17.2	8.8	6.16	3	8.25	7.16
21.	Date Sampled for Analysis	11/28/90	12/20/90	01/07/91	02/02/91	03/02/91	04/24/91
22.	Date Last Precipitation Event Occurred	11/27/90	12/18/90	01/07/91	01/31/91	03/02/91	04/24/91

Laboratory Name ERI LABS
Address PO BOX 259
State bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,580.08			Y 732,676.84	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-006	U34-006	U34-006	U34-006	U34-006	U34-006
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1110	1110	1110	1110	1110	1110
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	1.01	1.30	0.93	1.03	0.60	0.66
8.	Date Above Measurements Made	11/24/90	12/20/90	01/07/91	02/02/91	03/02/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.6	7.5	7.7	7.4	7.7	7.7
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	12.35	19	12.73
12.	Total Alkalinity (mg/l CAC03)	156	110	116	129.2	160.17	147.63
13.	Specific Conductivity (µmhos/cm at 25°C)	400	300	310	367	320	410
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.25	0.08	0.03	0.13	0.17	0.02
16.	Total Sulfates (mg/l)	44	36	41	36	37	33
17.	Total Iron (mg/l)	0.46	0.18	0.11	0.49	0.61	0.34
18.	Total Suspended Solids (mg/l)	11.3	2.3	1	15	20	18
19.	Total Hardness (mg/l CAC03)	143	54.9	110.6	160	172	184
20.	Nitrates (mg/l)	12.8	9.24	7.04	2.74	6.33	6.86
21.	Date Sampled for Analysis	11/24/90	12/20/90	01/07/91	02/02/91	03/02/91	04/24/91
22.	Date Last Precipitation Event Occurred	11/22/90	12/18/90	01/07/91	01/31/91	03/02/91	04/24/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,299.51		Y 731,366.87		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-007	U34-007	U34-007	U34-007	U34-007	U34-007
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1085	1085	1085	1085	1085	1085
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.50	1.40	1.44	1.65	1.23	1.38
8.	Date Above Measurements Made	11/03/90	12/20/90	01/07/91	02/02/91	03/02/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8	7.5	7.7	7.5	7.8	7.8
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	11.59	13.87	11.59
12.	Total Alkalinity (mg/l CAC03)	142	112	122	119.12	143.45	141.36
13.	Specific Conductivity (µmhos/cm at 25°C)	400	300	320	320	290	347
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.09	0.03	0.05	0.06	0.00
16.	Total Sulfates (mg/l)	37	31	38	34	34	27
17.	Total Iron (mg/l)	0.03	0.24	0.1	0.3	0.24	0.1
18.	Total Suspended Solids (mg/l)	2.7	4.3	8.3	12	8	6
19.	Total Hardness (mg/l CAC03)	142	54.93	108.6	160	160	176
20.	Nitrates (mg/l)	11.9	7.92	7.48	2.14	4.72	4.8
21.	Date Sampled for Analysis	11/03/90	12/20/90	01/07/91	02/02/91	03/02/91	04/24/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/18/90	01/07/91	01/31/91	03/02/91	04/24/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,551.08			Y 729,877.63	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-008	U34-008	U34-008	U34-008	U34-008	U34-008
2.	Lab Identification Number	NA	NA	NA	NA	NA	NA
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1055	1055	1055	1055	1055	1055
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.50	1.40	1.44	1.70	1.87	1.07
8.	Date Above Measurements Made	11/03/90	12/20/90	01/07/91	02/05/91	03/18/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8	7.5	7.7	7.5	7.9	7.8
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	9.12	7.79	10.64
12.	Total Alkalinity (mg/l CAC03)	148	114	128	133.19	127.87	150.1
13.	Specific Conductivity (µmhos/cm at 25°C)	375	300	320	330	3280	310
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.05	0.03	0.02	0.00	0.02
16.	Total Sulfates (mg/l)	35	34	38	34	29	25
17.	Total Iron (mg/l)	0.01	0.17	0.12	0.12	0.08	0.07
18.	Total Suspended Solids (mg/l)	3.3	3.7	8	3	3	3
19.	Total Hardness (mg/l CAC03)	129	57.93	108.9	159	172	164
20.	Nitrates (mg/l)	8.8	7.92	9.68	1.78	3.62	6.5
21.	Date Sampled for Analysis	11/03/90	12/20/90	01/07/91	02/05/91	03/18/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/18/90	01/07/91	02/05/91	03/18/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,921.09			Y 729,652.19	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-009	U34-009	U34-009	U34-009	U34-009	U34-009
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1045	1045	1045	1045	1045	1045
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	2.20	6.20	3.19	7.62	6.41	4.09
8.	Date Above Measurements Made	11/03/90	12/20/90	01/07/91	02/05/91	03/18/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8.8	7.3	7.8	8.1	8	8.2
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	10.64	8.36	12.73
12.	Total Alkalinity (mg/l CAC03)	154	94	120	151.05	138.51	147.63
13.	Specific Conductivity (µmhos/cm at 25°C)	400	300	320	367	280	310
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.09	0.04	0.04	0.00	0.00
16.	Total Sulfates (mg/l)	40	31	36	30	25	25
17.	Total Iron (mg/l)	0.04	0.19	0.17	0.13	0.06	0.00
18.	Total Suspended Solids (mg/l)	5.7	2	5	4	2	2
19.	Total Hardness (mg/l CAC03)	136	60.18	106.4	167	148	180
20.	Nitrates (mg/l)	7.04	5.28	5.28	1.53	2.92	4.53
21.	Date Sampled for Analysis	11/03/90	12/20/90	01/07/91	02/05/91	03/18/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/18/90	01/07/91	02/05/91	03/18/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,430,389.30		Y 729,660.74		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-010	U34-010	U34-010	U34-010	U34-010	U34-010
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1068	1068	1068	1068	1068	1068
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	3.5	0.2	0.45	0.133	0.293	0.004
8.	Date Above Measurements Made	11/03/90	12/20/90	01/07/91	02/05/91	03/18/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	8.2	7	7.7	7.6	7.6	7.7
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	8.36	6.46	5.7
12.	Total Alkalinity (mg/l CAC03)	132	84	102	113.24	109.25	110.58
13.	Specific Conductivity (µmhos/cm at 25°C)	350	240	290	260	240	260
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.08	0.04	0.03	0.00	0.02
16.	Total Sulfates (mg/l)	34	29	32	28	24	25
17.	Total Iron (mg/l)	0.01	0.16	0.15	0.08	0.15	0.25
18.	Total Suspended Solids (mg/l)	10.3	3.3	8.6	2	10	18
19.	Total Hardness (mg/l CAC03)	139	46.19	96.9	126	156	132
20.	Nitrates (mg/l)	15	4.84	2.73	1.03	2.44	3.85
21.	Date Sampled for Analysis	11/03/90	12/20/90	01/07/91	02/05/91	03/18/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/18/90	01/07/91	02/05/91	03/18/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,431,161.24		Y 733,698.28		LOCATION PAN	
1.	Identification No. of Sampling Station from Hydrology Map	U34-015	U34-015	U34-015	U34-015	U34-015	U34-015
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1120	1120	1120	1120	1120	1120
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.75	1.1	1.63	0.9702	0.708	0.811
8.	Date Above Measurements Made	11/24/90	12/14/90	01/15/91	02/04/91	03/02/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.8	7.8	7.8	7.9	7.8	7.7
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	13.87	19.19	10.83
12.	Total Alkalinity (mg/l CAC03)	186	164	104	160.74	169.1	160.55
13.	Specific Conductivity (µmhos/cm at 25°C)	400	410	300	388	310	399
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.16	0.09	0.13	0.15	0.06	0.00
16.	Total Sulfates (mg/l)	48	44	0.45	35	36	30
17.	Total Iron (mg/l)	0.2	0.1	0.4	0.25	0.19	0.08
18.	Total Suspended Solids (mg/l)	6.7	4.3	20.3	16	6	2
19.	Total Hardness (mg/l CAC03)	178	83.4	101.1	180	173	184
20.	Nitrates (mg/l)	8.8	5.28	4.84	1.57	3.34	3.75
21.	Date Sampled for Analysis	11/24/90	12/14/90	01/15/91	02/04/91	03/02/91	04/24/91
22.	Date Last Precipitation Event Occurred	11/22/90	12/14/90	01/15/91	01/31/91	03/02/91	04/24/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,430,856.24		Y 732,664.67		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-016	U34-016	U34-016	U34-016	U34-016	U34-016
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.47	1.3	3.12	1.081	1.08	1.097
8.	Date Above Measurements Made	11/03/90	12/14/90	01/15/91	02/04/91	03/02/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.9	7.8	7.7	8	7.9	7.8
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	11.78	19	7.6
12.	Total Alkalinity (mg/l CAC03)	170	168	100	144.59	162.83	149.34
13.	Specific Conductivity (µmhos/cm at 25°C)	425	410	300	388	310	368
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.08	0.13	0.08	0.03	0.00
16.	Total Sulfates (mg/l)	34	38	38	34	34	31
17.	Total Iron (mg/l)	0.01	0.08	0.47	0.16	0.16	0.05
18.	Total Suspended Solids (mg/l)	3.7	0.3	13	3	3	4
19.	Total Hardness (mg/l CAC03)	158	96.13	93.9	175	173	178
20.	Nitrates (mg/l)	5.72	4.4	4.84	1.55	3.37	4.04
21.	Date Sampled for Analysis	11/03/90	12/14/90	01/15/91	02/04/91	03/02/91	04/24/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/14/90	01/15/91	01/31/91	03/02/91	04/24/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,431,204.49		Y 732,022.47		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-017	U34-017	U34-017	U34-017	U34-017	U34-017
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1085	1085	1085	1085	1085	1085
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	1.331	1.86	2.81	1.118	2.64	1.013
8.	Date Above Measurements Made	11/05/90	12/28/90	01/15/91	02/04/91	03/08/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA	NA	NA	NA
10.	pH (Standard Units)	7.9	7.7	7.8	8.1	8	7.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	9.31	32.3	9.12
12.	Total Alkalinity (mg/l CAC03)	172	142	100	144.78	130.91	151.24
13.	Specific Conductivity (µmhos/cm at 25°C)	450	360	300	399	347	378
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.13	0.12	0.13	0.06	0.02
16.	Total Sulfates (mg/l)	34	33	39	34	31	27
17.	Total Iron (mg/l)	0.01	0.15	0.38	0.53	0.23	0.07
18.	Total Suspended Solids (mg/l)	3.7	0.03	18	27	5	10
19.	Total Hardness (mg/l CAC03)	158	79.65	94.4	178	156	184
20.	Nitrates (mg/l)	5.72	7.92	4.84	1.7	2.64	3.3
21.	Date Sampled for Analysis	11/05/90	12/28/90	01/15/91	02/04/91	03/08/91	04/24/91
22.	Date Last Precipitation Event Occurred	11/05/90	12/27/90	01/15/91	01/31/91	03/06/91	04/24/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

U34-018
2432246.5
733049.79
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-18	U34-18	U34-18	U34-18	U34-18	U34-18
2.	Lab Identification Number	S-Q5	S-Q5	S-Q5	S-Q5	S-Q5	S-Q5
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1150	1150	1150	1150	1150	1150
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	0.024 cfs	0.131 cfs	0.177 cfs	0.142 cfs	0.249 cfs	0.072 cfs
8.	Date Above Measurements Made	11/24/90	12/26/90	01/03/91	02/02/91	03/08/91	04/12/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.6	7.6	7.7	7.6	7.6	7.6
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	14.82	6.84	14.82
12.	Total Alkalinity (mg/l CAC03)	170.00	128.00	128.00	137.37	116.66	177.46
13.	Specific Conductivity (μmhos/cm at 25°C)	400	340	330	320	290	357
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.34	0.11	0.01	0.08	0.10	0.15
16.	Total Sulfates (mg/l)	34.0	36.0	34.0	29.0	25.0	20.0
17.	Total Iron (mg/l)	0.40	0.16	0.01	0.15	0.18	0.17
18.	Total Suspended Solids (mg/l)	7.0	0.3	0.3	10.0	8.0	6.0
19.	Total Hardness (mg/l CAC03)	153.0	68.7	113.1	160.0	136.0	192.0
20.	Nitrates (mg/l)	4.40	8.80	6.60	1.32	1.23	3.67
21.	Date Sampled for Analysis	11/24/90	12/26/90	01/03/91	02/02/91	03/08/91	04/12/91
22.	Date Last Precipitaiton Event Occurred	11/22/90	12/24/90	12/30/90	01/31/91	03/06/91	04/09/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

U34-019
2432345.8
732638.83
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-19	U34-19	U34-19	U34-19	U34-19	U34-19
2.	Lab Identification Number	S-R2	S-R2	S-R2	S-R2	S-R2	S-R2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1130	1130	1130	1130	1130	1130
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	0.367 cfs	0.26 cfs	0.35 cfs	0.185 cfs	0.301 cfs	0.085 cfs
8.	Date Above Measurements Made	11/06/90	12/26/90	01/03/91	02/02/91	03/08/91	04/12/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	7.6	7.6	7.7	7.6	7.6
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	13.30	10.26	6.46
12.	Total Alkalinity (mg/l CAC03)	148.00	120.00	114.00	134.14	120.08	159.60
13.	Specific Conductivity (μmhos/cm at 25°C)	450	300	305	310	290	310
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.13	0.17	0.11	0.12	9.91	0.20
16.	Total Sulfates (mg/l)	32.0	34.0	33.0	25.0	24.0	25.0
17.	Total Iron (mg/l)	0.08	0.23	0.17	0.38	0.30	0.20
18.	Total Suspended Solids (mg/l)	0.3	14.7	5.0	18.0	11.0	9.0
19.	Total Hardness (mg/l CAC03)	164.0	63.4	108.9	152.0	139.0	172.0
20.	Nitrates (mg/l)	7.04	5.28	7.04	0.00	1.17	3.69
21.	Date Sampled for Analysis	11/06/90	12/26/90	01/03/91	02/02/91	03/08/91	04/12/91
22.	Date Last Precipitaiton Event Occurred	11/05/90	12/24/90	12/30/90	01/31/91	03/06/91	04/09/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

U34-020
2432104.1
731686.5
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-20	U34-20	U34-20	U34-20	U34-20	U34-20
2.	Lab Identification Number	S-G2	S-G2	S-G2	S-G2	S-G2	S-G2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	0.195 cfs	0.3 cfs	0.396 cfs	0.22 cfs	0.333 cfs	0.132 cfs
8.	Date Above Measurements Made	11/05/90	12/14/90	01/03/91	02/02/91	03/08/91	04/12/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.9	8.0	7.8	7.9	7.7	7.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	14.44	8.93	12.35
12.	Total Alkalinity (mg/l CAC03)	180.00	180.00	148.00	144.59	131.86	165.30
13.	Specific Conductivity (μmhos/cm at 25°C)	425	450	380	388	320	368
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.17	0.08	0.06	0.07	0.02
16.	Total Sulfates (mg/l)	34.0	35.0	34.0	34.0	26.0	19.0
17.	Total Iron (mg/l)	0.01	0.14	0.17	0.07	0.19	0.06
18.	Total Suspended Solids (mg/l)	2.7	0.3	11.0	6.0	4.0	2.0
19.	Total Hardness (mg/l CAC03)	160.0	98.6	126.6	190.0	156.0	200.0
20.	Nitrates (mg/l)	3.70	2.64	3.87	1.20	1.43	3.90
21.	Date Sampled for Analysis	11/05/90	12/14/90	01/03/91	02/02/91	03/08/91	04/12/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	12/30/90	01/31/91	03/06/91	04/09/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

U34-021
2431758.2
730897.19
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-21	U34-21	U34-21	U34-21	U34-21	U34-21
2.	Lab Identification Number	S-H2	S-H2	S-H2	S-H2	S-H2	S-H2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	2.276 cfs	2.01 cfs	4.21 cfs	1.73 cfs	3.41 cfs	1.34 cfs
8.	Date Above Measurements Made	11/05/90	12/27/90	01/15/91	02/04/91	03/08/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8.0	7.7	7.8	7.7	7.8	7.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	8.55	8.36	8.93
2.	Total Alkalinity (mg/l CAC03)	166.00	165.00	98.00	139.65	124.83	151.81
13.	Specific Conductivity (μmhos/cm at 25°C)	425	375	300	357	320	389
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.09	0.08	0.06	0.04	0.00
16.	Total Sulfates (mg/l)	34.0	34.0	34.0	32.0	30.0	27.0
17.	Total Iron (mg/l)	0.01	0.12	0.36	0.20	0.18	0.12
18.	Total Suspended Solids (mg/l)	0.3	0.3	16.6	2.0	30.0	4.0
19.	Total Hardness (mg/l CAC03)	162.0	75.7	95.4	171.0	140.0	176.0
20.	Nitrates (mg/l)	3.70	6.60	4.09	1.24	2.11	3.17
21.	Date Sampled for Analysis	11/05/90	12/27/90	01/15/91	02/04/91	03/08/91	04/24/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/24/90	01/14/91	01/31/91	03/06/91	04/22/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

U34-022
2432051.5
730704.81
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-22	U34-22	U34-22	U34-22	U34-22	U34-22
2.	Lab Identification Number	S-F7	S-F7	S-F7	S-F7	S-F7	S-F7
3.	High (H)/Low (L) Designation (if applicable)	L	H	H	L	H	H
4.	Surface Elevation for Sampling Station (msl)	1120	1120	1120	1120	1120	1120
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	0.001 cfs	0.013 cfs	0.21 cfs	0.089 cfs	0.032 cfs	0.008 cfs
8.	Date Above Measurements Made	11/30/90	12/28/90	01/03/91	02/02/91	03/08/91	04/12/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	7.4	7.8	7.6	7.7	7.7
11.	Total Acidity (mg/l CAC03)		0.00	0.00	11.21	8.93	11.21
2.	Total Alkalinity (mg/l CAC03)		140.00	166.00	136.23	132.81	193.23
13.	Specific Conductivity (μmhos/cm at 25°C)		350	410	310	310	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)		0.33	0.06	0.17	0.04	0.63
16.	Total Sulfates (mg/l)		33.0	47.0	28.0	29.0	0.0
17.	Total Iron (mg/l)		1.00	0.16	1.27	0.36	0.43
18.	Total Suspended Solids (mg/l)		18.7	0.3	18.0	2.0	7.0
19.	Total Hardness (mg/l CAC03)		143.0	145.8	150.0	153.0	204.0
20.	Nitrates (mg/l)		2.33	11.40	0.00	1.35	3.77
21.	Date Sampled for Analysis	11/30/90	12/28/90	01/03/91	02/02/91	03/08/91	04/12/91
22.	Date Last Precipitaiton Event Occurred	11/27/90	12/27/90	12/30/90	01/31/91	03/06/91	04/09/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

U34-023
2432043.2
730298.24
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

pplicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-23	U34-23	U34-23	U34-23	U34-23	U34-23
2.	Lab Identification Number	S-V2	S-V2	S-V2	S-V2	S-V2	S-V2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	0.092 cfs	0.07 cfs	0.53 cfs	0.287 cfs	0.425 cfs	0.16 cfs
8.	Date Above Measurements Made	11/06/90	12/27/90	01/03/91	02/02/91	03/08/91	04/12/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.9	7.6	7.8	7.3	7.7	7.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	17.10	11.59	7.22
2.	Total Alkalinity (mg/l CAC03)	182.00	160.00	150.00	165.30	155.04	194.18
13.	Specific Conductivity (μmhos/cm at 25°C)	450	370	370	399	347	399
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.10	0.23	0.05	0.05	0.04
16.	Total Sulfates (mg/l)	40.0	45.0	33.0	35.0	30.0	24.0
17.	Total Iron (mg/l)	0.01	0.16	0.41	0.38	0.27	0.12
18.	Total Suspended Solids (mg/l)	0.3	8.7	3.3	12.0	5.0	10.0
19.	Total Hardness (mg/l CAC03)	151.0	85.2	151.1	192.0	166.0	216.0
20.	Nitrates (mg/l)	10.10	12.32	1.06	2.37	3.25	5.04
21.	Date Sampled for Analysis	11/06/90	12/27/90	01/03/91	02/02/91	03/08/91	04/12/91
22.	Date Last Precipitaiton Event Occurred	11/05/90	12/24/90	12/30/90	01/31/91	03/06/91	04/09/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

9/88
U34-163
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-163	U34-163	U34-163	U34-163	U34-163	
2. Lab Identification Number	93-11-968	93-12-796	94-01-740	94-02-686	94-03-986	
3. High (H)/Low (L) Designation (if applicable)	L	L	H	L	H	
4. Surface Elevation for Sampling Station (msl)	1115	1115	1115	1115	1115	
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	
7. Flow for Spring/Stream (gpm or cfs)	0.01	1.53	.37	.2	.09	
8. Date Above Measurements Made	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94	
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	
10. pH (Standard Units)	7.4	7.7	7.2	7.2	7.7	
11. Total Acidity (mg/l CAC03)	4.60	4.00	6.80	4.60	3.80	
12. Total Alkalinity (mg/l CAC03)	103.60	146.40	61.00	66.60	94.80	
13. Specific Conductivity (μmhos/cm at 25°C)	310	361	150	210	260	
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	
15. Total Manganese (mg/l)	0.07	<0.02	0.76	0.02	<0.02	
16. Total Sulfates (mg/l)	30.0	33.0	24.0	25.0	37.0	
17. Total Iron (mg/l)	3.22	<0.04	6.90	0.35	0.19	
18. Total Suspended Solids (mg/l)	23.0	7.0	478.0	11.0	8.0	
19. Total Hardness (mg/l CAC03)	140.0	188.0	85.0	100.0	128.0	
20. Nitrates (mg/l)	0.59	2.22	2.32	1.54	1.10	
21. Date Sampled for Analysis	12/17/93	1/27/94	2/21/94	3/24/94	4/26/94	
22. Date Last Precipitaiton Event Occurred	12/15/94	1/27/94	2/21/94	3/23/94	4/26/94	

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88

U34-164
2425273.6
730219.96
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-164	U34-164	U34-164	U34-164	U34-164	U34-164
2. Lab Identification Number	93-11-969	93-12-797	94-01-648	94-02-687	94-03-987	94-04-948
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1110	1110	1110	1110	1110	1110
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	.4	0.40	0.49	2.82	1.0	.4
8. Date Above Measurements Made	11/30/93	12/16/93	01/24/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.8	8.1	7.8	7.3	7.8	7.8
11. Total Acidity (mg/l CAC03)	4.60	1.20	2.80	5.00	5.20	5.60
12. Total Alkalinity (mg/l CAC03)	107.20	148.80	147.20	80.40	114.00	142.00
13. Specific Conductivity (μmhos/cm at 25°C)	395	391	452	320	382	374
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.12	<0.02	0.04	0.04	0.02	0.02
16. Total Sulfates (mg/l)	25.0	28.0	28.0	27.0	34.0	28.0
17. Total Iron (mg/l)	0.56	<0.04	0.13	0.35	0.14	0.17
18. Total Suspended Solids (mg/l)	30.0	8.0	4.0	10.0	6.0	6.0
19. Total Hardness (mg/l CAC03)	159.0	203.0	188.0	124.0	160.0	176.0
20. Nitrates (mg/l)	0.78	1.20	1.25	1.76	0.80	0.68
21. Date Sampled for Analysis	11/30/93	12/16/93	01/24/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/24/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,514.62		Y 729,593.65		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-165	U34-165	U34-165	U34-165	U34-165	U34-165
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1112	1112	1112	1112	1112	1112
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.02	0.08	3.09	0.75	0.32	0.14
8.	Date Above Measurements Made	11/30/93	12/16/93	01/27/94	02/21/94	03/24/94	04/26/94
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.6	7.7	7.1	6.8	7.5	7.7
11.	Total Acidity (mg/l CAC03)	4.8	4.2	4.6	4.8	3.6	10.6
12.	Total Alkalinity (mg/l CAC03)	114.2	134.8	62	48.8	83.6	117.8
13.	Specific Conductivity (µmhos/cm at 25°C)	290	330	120	140	230	250
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.13	0.00	0.71	0.02	0.00	0.02
16.	Total Sulfates (mg/l)	27	24	14	27	33	29
17.	Total Iron (mg/l)	0.72	0.00	5.4	0.34	0.15	0.21
18.	Total Suspended Solids (mg/l)	37	15	534	15	12	12
19.	Total Hardness (mg/l CAC03)	143	161	86	76	106	138
20.	Nitrates (mg/l)	0.5	0.57	2.25	0.91	0.54	0.00
21.	Date Sampled for Analysis	11/30/93	12/16/93	01/27/94	02/21/94	03/24/94	04/26/94
22.	Date Last Precipitation Event Occurred	04/29/91	04/29/91	04/29/91	04/29/91	04/29/91	04/29/91

Laboratory Name: INDUSTRIAL LAB ANALYSIS
Address: 2240 WILLIAMSBURG FARM, BOX 81, GLEN DALE
State: WEST VIRGINIA, 26038

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

U34-166
2426895.6
730201.94
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-166	U34-166	U34-166	U34-166	U34-166	U34-166
2. Lab Identification Number	93-11-971	93-12-552	94-01-742	94-02-575	94-03-989	94-04-950
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1075	1075	1075	1075	1075	1075
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	2.90	2.024	29.51	3.15	8.3	3.1
8. Date Above Measurements Made	11/29/93	12/15/93	01/27/94	02/16/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.8	7.9	7.3	7.8	7.8	7.9
11. Total Acidity (mg/l CAC03)	5.40	0.60	8.40	5.00	3.80	7.40
12. Total Alkalinity (mg/l CAC03)	109.00	121.40	70.40	108.00	99.20	130.60
13. Specific Conductivity (μmhos/cm at 25°C)	310	354	250	310	290	310
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.17	0.17	1.27	0.05	0.03	0.11
16. Total Sulfates (mg/l)	41.0	21.0	25.0	30.0	35.0	33.0
17. Total Iron (mg/l)	1.24	0.31	9.80	0.17	0.22	0.72
18. Total Suspended Solids (mg/l)	44.0	9.0	41.0	4.0	3.0	40.0
19. Total Hardness (mg/l CAC03)	150.0	161.0	95.0	161.0	132.0	158.0
20. Nitrates (mg/l)	0.84	0.62	1.33	0.61	0.67	0.54
21. Date Sampled for Analysis	11/29/93	12/15/93	01/27/94	02/16/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/27/94	02/13/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-166A
2430042.8
735213.91
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2430389.50	Y	735350.35	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-166A	U34-166 A	U34-166A	U34-166A	U34-166A	U34-166 A
2.	Lab Identification Number	9511132	9512079	9601040	9602166	9603219	9604322
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1170	1170	1170	1170	1170	1170
5.	Depth of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
6.	Static Water Level of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
7.	Flow for Spring/Stream (gpm or cfs)	0.06	0.026	0.27	0.01	0.11	0.10
8.	Date Above Measurements Made	11/14/95	12/07/95	01/03/96	02/12/96	03/18/96	04/19/96
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.7	7.7	7.3	7.3	7.7	7.8
11.	Total Acidity (mg/l CAC03)	7.0	6.2	5.3	6.1	3.8	2.4
12.	Total Alkalinity (mg/l CAC03)	150	160	90	110	98	120
13.	Specific Conductivity (µmhos/cm at 25°C)	380	350	340	300	290	310
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.18	0.32	0.07	0.15	0.12	0.27
16.	Total Sulfates (mg/l)	54	48	40	39	36	34
17.	Total Iron (mg/l)	0.29	0.13	0.29	0.36	0.68	1.2
18.	Total Suspended Solids (mg/l)	<1.0	<1.0	7.6	2.4	17	38
19.	Total Hardness (mg/l CAC03)	220	200	160	170	160	160
20.	Nitrates (mg/l)	1.0	0.86	7.3	5.0	5.0	3.2
21.	Date Sampled for Analysis	11/14/95	12/07/95	01/03/96	02/12/96	03/18/96	04/19/96
22.	Date Last Precipitaiton Event Occurred	11/14/95	12/05/95	01/03/96	02/12/96	03/17/96	04/18/96

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

Spring flow = GPM
Stream flow = CFS

9/88
U34-167
2,430,784.32
734,948.47

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-167	U34-167	U34-167	U34-167	U34-167	U34-167
2. Lab Identification Number	93-11-972	93-12-554	94-01-649	94-02-576	94-03-1371	94-04-1009
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1205	1205	1205	1205	1205	1205
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.002	0.006	0.006	.006	.01	.004
8. Date Above Measurements Made	11/29/93	12/15/93	01/24/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.6	7.4	7.2	6.0	7.7	7.7
11. Total Acidity (mg/l CAC03)	5.60	7.20	9.60	6.40	5.80	7.20
12. Total Alkalinity (mg/l CAC03)	126.40	120.40	136.80	105.40	85.60	106.20
13. Specific Conductivity (μmhos/cm at 25°C)	300	364	430	320	300	310
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.16	0.24	0.68	0.34	0.12	0.37
16. Total Sulfates (mg/l)	21.0	27.0	36.0	34.0	44.0	39.0
17. Total Iron (mg/l)	1.31	0.78	0.80	0.50	0.43	0.85
18. Total Suspended Solids (mg/l)	15.0	4.0	14.0	5.0	10.0	10.0
19. Total Hardness (mg/l CAC03)	150.0	148.0	183.0	143.0	140.0	138.0
20. Nitrates (mg/l)	0.70	0.59	1.06	0.85	1.01	0.55
21. Date Sampled for Analysis	11/29/93	12/15/93	01/24/94	02/16/94	03/31/94	04/28/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/24/94	02/13/94	03/28/94	04/28/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-168
2431400.7
735309.16
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X	2431400.65		Y	735309.16	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U34-168	U34-168	U34-168	U34-168	U34-168	U34-168	
2.	Lab Identification Number	9511133	9512080	9601041	9602168	9603221	9604324	
3.	High (H)/Low (L) Designation (if applicable)							
4.	Surface Elevation for Sampling Station (msl)	1205	1205	1205	1205	1205	1205	
5.	Depth of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00	
6.	Static Water Level of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00	
7.	Flow for Spring/Stream (gpm or cfs)	0.01	0.002	0.05	0.04	0.20	0.06	
8.	Date Above Measurements Made	11/14/95	12/07/95	01/03/96	02/12/96	03/18/96	04/19/96	
9.	Aquifer/Zone Identification for Well/Spring							
10.	pH (Standard Units)	7.6	7.5	7.3	7.4	7.8	7.6	
11.	Total Acidity (mg/l CAC03)	12	7.6	7.5	8.7	4.2	5.0	
12.	Total Alkalinity (mg/l CAC03)	190	170	120	120	110	130	
13.	Specific Conductivity (µmhos/cm at 25°C)	470	390	380	290	290	330	
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-	
15.	Total Manganese (mg/l)	0.49	0.13	0.07	0.06	0.06	0.34	
16.	Total Sulfates (mg/l)	120	66	47	44	39	39	
17.	Total Iron (mg/l)	1.5	0.12	0.14	0.15	0.20	2.1	
18.	Total Suspended Solids (mg/l)	38	<1.0	4.0	<1.0	2.8	52	
19.	Total Hardness (mg/l CAC03)	282	230	200	160	160	170	
20.	Nitrates (mg/l)	0.42	0.88	6.0	4.5	5.6	2.8	
21.	Date Sampled for Analysis	11/14/95	12/07/95	01/03/96	02/12/96	03/18/96	04/19/96	
22.	Date Last Precipitaiton Event Occurred	11/14/95	12/05/95	01/03/96	02/12/96	03/17/96	04/18/96	

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

Spring flow = GPM
Stream flow = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,998.76			Y 735,074.54	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-170	U34-170	U34-170	U34-170	U34-170	U34-170
2.	Lab Identification Number	9701244	9702208	9703137	9704123	9705250	9706185
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1175	1175	1175	1175	1175	1175
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.001	0.004	0.007	0.005	0.001	0.003
8.	Date Above Measurements Made	01/27/97	02/21/97	03/12/97	04/10/97	05/20/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	7.4	7.3	7.9	7.3	8.3
11.	Total Acidity (mg/l CAC03)	11	7.5	7.4	8.4	6	8.2
12.	Total Alkalinity (mg/l CAC03)	110	96	75	110	100	120
13.	Specific Conductivity (µmhos/cm at 25°C)	240	240	170	260	250	270
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.33	0.40	0.14	0.91	0.14	2.60
16.	Total Sulfates (mg/l)	29	28	28	26	27	13
17.	Total Iron (mg/l)	0.59	0.88	0.58	0.7	1	4.9
18.	Total Suspended Solids (mg/l)	22	18	8.5	11	31	67
19.	Total Hardness (mg/l CAC03)	140	130	150	130	140	150
20.	Nitrates (mg/l)	2.2	2	5.3	0.69	1.9	8.3
21.	Date Sampled for Analysis	01/27/97	02/21/97	03/12/97	04/10/97	05/20/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/21/97	03/09/97	04/08/97	05/19/97	06/18/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,172.16			Y 735,892.11	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	U34-171	U34-171	U34-171	U34-171	U34-171	U34-171
2.	Lab Identification Number	9701245	9702207	9703135	9704105	9705147	9706186
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1255	1255	1255	1255	1255	1255
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.001	0.005	0.008	0.002	0.0006	0.003
8.	Date Above Measurements Made	01/27/97	02/21/97	03/12/97	04/10/97	05/15/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	7.7	7.9	7.7	7.7	7.2
11.	Total Acidity (mg/l CAC03)	9.4	3.9	8	16	1.5	10
12.	Total Alkalinity (mg/l CAC03)	130	120	130	150	84	150
13.	Specific Conductivity (µmhos/cm at 25°C)	310	330	330	390	200	430
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.14	0.10	0.43	0.34	0.45
16.	Total Sulfates (mg/l)	35	35	37	32	28	61
17.	Total Iron (mg/l)	2	0.91	0.81	5.2	4.2	11
18.	Total Suspended Solids (mg/l)	53	34	38	87	69	200
19.	Total Hardness (mg/l CAC03)	180	170	200	190	240	260
20.	Nitrates (mg/l)	9.8	8.6	11	6.2	2.1	9.2
21.	Date Sampled for Analysis	01/27/97	02/21/97	03/12/97	04/10/97	05/15/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/21/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,382.77			Y 735,717.03	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-172	U34-172	U34-172	U34-172	U34-172	U34-172
2.	Lab Identification Number	9701249	9702203	9703151	9704107	9705134	9706179
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1255	1255	1255	1255	1255	1255
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.003	0.004	0.005	0.001	0.001	0.003
8.	Date Above Measurements Made	01/27/97	02/21/97	03/12/97	04/10/97	05/15/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	6.7	6.7	7.2	8.9	8.7	8.8
11.	Total Acidity (mg/l CAC03)	11	14	13	21	6.8	5.9
12.	Total Alkalinity (mg/l CAC03)	80	54	54	88	100	99
13.	Specific Conductivity (µmhos/cm at 25°C)	200	180	170	250	220	250
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	1.80	0.88	0.94	2.00	17.00	2.10
16.	Total Sulfates (mg/l)	31	20	23	27	14	11
17.	Total Iron (mg/l)	1.5	1.5	5.7	0.99	3.9	4.1
18.	Total Suspended Solids (mg/l)	5	14	100	24	67	46
19.	Total Hardness (mg/l CAC03)	130	60	120	100	180	100
20.	Nitrates (mg/l)	0.62	2.2	3.8	3.7	0.26	2
21.	Date Sampled for Analysis	01/27/97	02/21/97	03/12/97	04/10/97	05/15/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/21/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,424,865.31			Y 736,262.73	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-173	U34-173	U34-173	U34-173	U34-173	U34-173
2.	Lab Identification Number	9701297	9702215	9703179	9704109	9705241	9706219
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1200	1200	1200	1200	1200	1200
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.008	0.008	0.011	0.0016	0.008	0.001
8.	Date Above Measurements Made	01/28/97	02/21/97	03/14/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.2	7.6	7.5	7.8	7.2	7.2
11.	Total Acidity (mg/l CAC03)	4.7	8.3	10	15	15	17
12.	Total Alkalinity (mg/l CAC03)	50	120	120	140	190	140
13.	Specific Conductivity (µmhos/cm at 25°C)	130	310	270	340	380	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.15	0.32	0.04	0.14	0.00	0.19
16.	Total Sulfates (mg/l)	25	30	29	36	50	19
17.	Total Iron (mg/l)	1	0.54	0.74	1.7	0.17	0.78
18.	Total Suspended Solids (mg/l)	3.3	4.7	9.3	60	0	8
19.	Total Hardness (mg/l CAC03)	110	160	180	160	200	170
20.	Nitrates (mg/l)	2.8	0.51	0.77	0.44	0	0.17
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/14/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/25/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,107.50		Y 735,426.57		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U34-174	U34-174	U34-174			
2.	Lab Identification Number	9702205	9703152	9701247			
3.	High (H)/Low (L) Designation (if applicable)	L	L	H			
4.	Surface Elevation for Sampling Station (msl)	1280	1280	1280			
5.	Depth of Well below Land Surface (msl)	NA	NA	NA			
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA			
7.	Flow for Spring/Stream (gpm or cfs)	1.5	1.5	2			
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97			
9.	Aquifer/Zone Identification for Well/Spring	NA	NA	NA			
10.	pH (Standard Units)	7.4	7.6	7.7			
11.	Total Acidity (mg/l CAC03)	6.9	12	9.6			
12.	Total Alkalinity (mg/l CAC03)	120	140	160			
13.	Specific Conductivity (µmhos/cm at 25°C)	340	370	380			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.5	0.13	0.08			
16.	Total Sulfates (mg/l)	42	50	58			
17.	Total Iron (mg/l)	12	1.2	1.7			
18.	Total Suspended Solids (mg/l)	650	49	49			
19.	Total Hardness (mg/l CAC03)	200	210	220			
20.	Nitrates (mg/l)	3.8	5.4	8.1			
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97			
22.	Date Last Precipitation Event Occurred	01/27/97	02/19/97	03/09/97			

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2431446.09		Y 738939.13		LOCATION PAN	
1.	Identification No. of Sampling Station from Hydrology Map	U35-001	U35-001	U35-001	U35-001	U35-001	U35-001
2.	Lab Identification Number	9511135	9512194	9601042	9602172	9603040	9604191
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1060	1060	1060	1060	1060	1060
5.	Depth of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
6.	Static Water Level of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
7.	Flow for Spring/Stream (gpm or cfs)	0.10	0.15	0.70	0.35	0.35	0.20
8.	Date Above Measurements Made	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.7	7.6	7.6	7.8	7.8	7.7
11.	Total Acidity (mg/l CAC03)	4.9	8.2	3.1	5.2	24	4.6
12.	Total Alkalinity (mg/l CAC03)	140	180	100	120	110	140
13.	Specific Conductivity (µmhos/cm at 25°C)	320	430	320	270	310	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	<0.02	0.13	1.02	<0.02	<0.02	0.07
16.	Total Sulfates (mg/l)	6.3	74	37	37	35	47
17.	Total Iron (mg/l)	0.07	0.14	0.16	0.43	0.30	0.12
18.	Total Suspended Solids (mg/l)	<1.0	4.8	2.0	<1.0	6.4	1.2
19.	Total Hardness (mg/l CAC03)	190	280	170	180	160	220
20.	Nitrates (mg/l)	0.25	0.77	2.2	1.9	1.6	7.4
21.	Date Sampled for Analysis	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96
22.	Date Last Precipitaiton Event Occurred	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

Spring flow = GPM
Stream flow = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2433450.69		Y 738581.18		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-002	U35-002	U35-002	U35-002	U35-002	U35-002
2.	Lab Identification Number	9511134	9512195	9601043	9602173	9603041	9604192
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1000	1000	1000	1000	1000	1000
5.	Depth of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
6.	Static Water Level of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
7.	Flow for Spring/Stream (gpm or cfs)	0.33	0.37	1.0	0.40	0.39	0.30
8.	Date Above Measurements Made	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.7	7.6	7.4	7.6	7.8	7.7
11.	Total Acidity (mg/l CAC03)	4.6	11	9.9	6.1	<1.5	3.4
12.	Total Alkalinity (mg/l CAC03)	140	180	130	140	140	140
13.	Specific Conductivity (µmhos/cm at 25°C)	490	570	480	400	410	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.13	0.29	0.18	0.26	0.09	0.08
16.	Total Sulfates (mg/l)	170	140	120	80	72	48
17.	Total Iron (mg/l)	0.44	0.21	0.22	0.93	0.09	0.13
18.	Total Suspended Solids (mg/l)	<1.0	<1.0	2.8	<1.0	<1.0	<1.0
19.	Total Hardness (mg/l CAC03)	270	310	260	230	210	190
20.	Nitrates (mg/l)	0.18	0.64	1.2	1.1	1.4	0.94
21.	Date Sampled for Analysis	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96
22.	Date Last Precipitaiton Event Occurred	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

Spring flow = GPM
Stream flow = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2433523.58		Y 738017.38		LOCATION PAN	
1.	Identification No. of Sampling Station from Hydrology Map	U35-003	U35-003	U35-003	U35-003	U35-003	U35-003
2.	Lab Identification Number	9511136	9512196	9601044	9602159	9603042	9604193
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1070	1070	1070	1070	1070	1070
5.	Depth of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
6.	Static Water Level of Well below Land Surface (msl)	0.00	0.00	0.00	0.00	0.00	0.00
7.	Flow for Spring/Stream (gpm or cfs)	0.30	0.33	0.5	0.07	0.07	0.02
8.	Date Above Measurements Made	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.6	7.6	7.4	7.5	7.8	7.8
11.	Total Acidity (mg/l CAC03)	8.2	9.6	5.8	3.0	6.4	6.7
12.	Total Alkalinity (mg/l CAC03)	130	140	110	130	120	200
13.	Specific Conductivity (µmhos/cm at 25°C)	750	610	720	560	500	510
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.15	0.03	0.03	0.02	<0.02	0.04
16.	Total Sulfates (mg/l)	110	91	70	63	52	110
17.	Total Iron (mg/l)	0.19	<0.05	0.06	0.06	0.24	0.43
18.	Total Suspended Solids (mg/l)	3.6	2.0	<1.0	<1.0	2.0	12
19.	Total Hardness (mg/l CAC03)	270	280	230	240	200	300
20.	Nitrates (mg/l)	0.22	0.98	2.5	1.3	1.6	0.16
21.	Date Sampled for Analysis	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96
22.	Date Last Precipitaiton Event Occurred	11/14/95	12/18/95	01/03/96	02/12/96	03/05/96	04/15/96

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

Spring flow = GPM
Stream flow = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,164.45			Y 739,004.37	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-035	U35-035	U35-035	U35-035	U35-035	U35-035
2.	Lab Identification Number	9701286	9702229	9703141	9704116	9705139	9706204
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1120	1120	1120	1120	1120	1120
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.004	0.011	0.04	0.008	0.008	0.013
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	6.7	7.4	7.8	7.9	7.7	7.2
11.	Total Acidity (mg/l CAC03)	5.1	4.7	13	14	4.8	24
12.	Total Alkalinity (mg/l CAC03)	10	94	170	170	180	150
13.	Specific Conductivity (µmhos/cm at 25°C)	120	250	360	390	400	360
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.09	0.06	0.16	0.17	0.16
16.	Total Sulfates (mg/l)	47	30	47	52	46	35
17.	Total Iron (mg/l)	1.2	0.68	0.34	0.21	0.29	0.36
18.	Total Suspended Solids (mg/l)	8	18	25	3.3	0	0
19.	Total Hardness (mg/l CAC03)	80	120	240	210	240	210
20.	Nitrates (mg/l)	0.43	0.24	1	0.3	0	0
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/13/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,318.70			Y 740,992.54	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-036	U35-036	U35-036	U35-036	U35-036	U35-036
2.	Lab Identification Number	9701289	9702226	9703145	9704111	9705144	9706199
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	995	995	995	995	995	995
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	1.3	1.3	1.6	0.46	0.39	0.34
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	8	7.8	8.2	8.1	8.1
11.	Total Acidity (mg/l CAC03)	4.3	3.2	8.8	13	1.1	24
12.	Total Alkalinity (mg/l CAC03)	130	140	130	160	180	170
13.	Specific Conductivity (µmhos/cm at 25°C)	380	450	420	560	570	660
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.44	0.22	0.15	0.14	0.12	0.14
16.	Total Sulfates (mg/l)	96	120	130	190	190	150
17.	Total Iron (mg/l)	1.6	0.26	0.38	0.15	0.21	0.35
18.	Total Suspended Solids (mg/l)	25	0	7.3	0	0	7.3
19.	Total Hardness (mg/l CAC03)	200	250	240	310	330	310
20.	Nitrates (mg/l)	0.16	0.25	0.46	0	0	0
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/13/97	04/08/97	05/13/97	06/18/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,610.52			Y 739,910.98	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-037	U35-037	U35-037	U35-037	U35-037	U35-037
2.	Lab Identification Number	9701290	9702227	9703144	9704112	9705143	9706200
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1035	1035	1035	1035	1035	1035
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.5	0.6	0.7	0.15	0.15	0.2
8.	Date Above Measurements Made	01/28/97	02/21/97	03/13/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	7.9	7.8	8.1	8	8.1
11.	Total Acidity (mg/l CAC03)	5.5	6.1	9.4	12	1.3	13
12.	Total Alkalinity (mg/l CAC03)	150	150	130	150	180	140
13.	Specific Conductivity (µmhos/cm at 25°C)	380	450	380	500	560	480
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.72	0.73	0.57	0.47	0.37	0.16
16.	Total Sulfates (mg/l)	110	100	100	150	180	110
17.	Total Iron (mg/l)	0.56	0.74	0.54	0.46	0.15	0.13
18.	Total Suspended Solids (mg/l)	4.7	13	4	7.3	0	0
19.	Total Hardness (mg/l CAC03)	260	240	230	260	380	270
20.	Nitrates (mg/l)	0	0.16	0.32	0	0	0
21.	Date Sampled for Analysis	01/28/97	02/21/97	03/13/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/13/97	04/08/97	05/13/97	06/18/97

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9/88

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(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,271.81			Y 736,533.13	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-038	U35-038	U35-038	U35-038	U35-038	U35-038
2.	Lab Identification Number	9702006	9702309	9703193	9704336	9705267	9706293
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1138	1138	1138	1138	1138	1138
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.003	0.005	0.015	0.003	0.0001	0.004
8.	Date Above Measurements Made	01/31/97	02/27/97	03/14/97	04/25/97	05/22/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.4	7.5	7.5	7.3	7.6	7.6
11.	Total Acidity (mg/l CAC03)	2.9	5	4.7	10	15	6.3
12.	Total Alkalinity (mg/l CAC03)	91	90	84	100	120	150
13.	Specific Conductivity (µmhos/cm at 25°C)	260	290	270	310	300	440
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00	0.02	0.02	0.12
16.	Total Sulfates (mg/l)	32	32	30	31	32	29
17.	Total Iron (mg/l)	0	0.1	0.23	0.07	0.06	0.78
18.	Total Suspended Solids (mg/l)	0	0	6	0	0	16
19.	Total Hardness (mg/l CAC03)	140	150	120	130	120	180
20.	Nitrates (mg/l)	1	1.3	1.4	0.32	0.46	0
21.	Date Sampled for Analysis	01/31/97	02/27/97	03/14/97	04/25/97	05/22/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/14/97	04/25/97	05/19/97	06/26/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,302.23			Y 739,756.13	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-040	U35-040	U35-040	U35-040	U35-040	U35-040
2.	Lab Identification Number	9702305	9703270	9704347	9705149	9706207	9707264
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1095	1095	1095	1095	1095	1095
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.001	0.002	0.0001	0.0015	0.0008	0
8.	Date Above Measurements Made	02/27/97	03/20/97	04/25/97	05/15/97	06/21/97	07/19/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.5	7.9	7.6	7.7	7.6	7.2
11.	Total Acidity (mg/l CAC03)	6.2	3.1	6.6	3.8	19	19
12.	Total Alkalinity (mg/l CAC03)	130	100	140	150	160	190
13.	Specific Conductivity (µmhos/cm at 25°C)	390	390	400	400	400	400
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.05	0.15	0.23	0.23	1.20	0.91
16.	Total Sulfates (mg/l)	45	45	44	40	29	18
17.	Total Iron (mg/l)	0.09	0.11	0.1	0.3	0.2	0.22
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	20
19.	Total Hardness (mg/l CAC03)	170	150	160	180	180	200
20.	Nitrates (mg/l)	0	0.22	0.12	0	0	0
21.	Date Sampled for Analysis	02/27/97	03/20/97	04/25/97	05/15/97	06/21/97	07/19/97
22.	Date Last Precipitaiton Event Occurred	02/26/97	03/18/97	04/25/97	05/13/97	06/18/97	07/09/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,041.26			Y 739,677.36	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U35-041	U35-041	U35-041	U35-041	U35-041	U35-041
2.	Lab Identification Number	9702306	9703143	9704113	9705142	9706201	9707232
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1095	1095	1095	1095	1095	1095
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.26	0.36	0.155	0.22	0.1	0.03
8.	Date Above Measurements Made	02/26/97	03/13/97	04/10/97	05/15/97	06/21/97	07/19/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.8	7.8	8.5	7.9	7.5	7.3
11.	Total Acidity (mg/l CAC03)	4.6	7.4	11	4.2	24	19
12.	Total Alkalinity (mg/l CAC03)	120	99	150	130	140	180
13.	Specific Conductivity (µmhos/cm at 25°C)	310	250	500	350	390	450
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.29	0.18	0.40	0.50	0.81	1.80
16.	Total Sulfates (mg/l)	52	51	160	82	53	84
17.	Total Iron (mg/l)	0.16	0.29	0.23	0.27	0.47	0.45
18.	Total Suspended Solids (mg/l)	0	0	0	0	2.7	0
19.	Total Hardness (mg/l CAC03)	210	160	260	270	200	270
20.	Nitrates (mg/l)	0.26	0.4	0	0	0	0.22
21.	Date Sampled for Analysis	02/26/97	03/13/97	04/10/97	05/15/97	06/21/97	07/19/97
22.	Date Last Precipitaiton Event Occurred	02/26/97	03/13/97	04/08/97	05/13/97	06/18/97	07/09/97

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SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,863.53			Y 739,867.65	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-042	U35-042	U35-042	U35-042	U35-042	U35-042
2.	Lab Identification Number	9702307	9703229	9704103	9705145	9706187	
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1150	1150	1150	1150	1150	1150
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.016	0.022	0.043	0.02	0.007	0
8.	Date Above Measurements Made	02/26/97	03/19/97	04/10/97	05/05/97	06/19/97	07/19/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.5	7.6	7.8	7.8	7.8	
11.	Total Acidity (mg/l CAC03)	3.6	6	9.6	1.9	3.5	
12.	Total Alkalinity (mg/l CAC03)	82	76	89	99	99	
13.	Specific Conductivity (µmhos/cm at 25°C)	230	260	240	230	250	
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.05	0.02	0.02	
16.	Total Sulfates (mg/l)	29	28	30	34	29	
17.	Total Iron (mg/l)	0.1	0.24	0.6	0.32	0.75	
18.	Total Suspended Solids (mg/l)	0	0	21	5.3	8.7	
19.	Total Hardness (mg/l CAC03)	130	190	120	110	150	
20.	Nitrates (mg/l)	0.12	0.28	0	0	0	
21.	Date Sampled for Analysis	02/26/97	03/19/97	04/10/97	05/05/97	06/19/97	07/19/97
22.	Date Last Precipitaiton Event Occurred	02/26/97	03/18/97	04/08/97	05/05/97	06/18/97	07/09/97

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SPRING FLOW = GPM
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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,449.16			Y738,583.04	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-043	U35-043	U35-043	U35-043	U35-043	U35-043
2.	Lab Identification Number	9702285	9703284	9704118	9705216	9706255	9708064
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1065	1065	1065	1065	1065	1065
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	1.9	2	0.9	2.4	0.32	0.26
8.	Date Above Measurements Made	02/27/97	03/25/97	04/10/97	05/26/97	06/23/97	07/31/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8.2	8.1	8	7.9	8.1	8.2
11.	Total Acidity (mg/l CAC03)	23	4.2	13	5.8	5.7	38
12.	Total Alkalinity (mg/l CAC03)	180	190	190	140	210	290
13.	Specific Conductivity (µmhos/cm at 25°C)	590	630	580	400	580	810
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.24	0.28	0.33	0.39	0.44	0.82
16.	Total Sulfates (mg/l)	130	150	150	82	140	240
17.	Total Iron (mg/l)	0.09	0.11	0.15	0.4	0.55	0.26
18.	Total Suspended Solids (mg/l)	0	0	0	6	9.3	0
19.	Total Hardness (mg/l CAC03)	320	350	300	250	330	470
20.	Nitrates (mg/l)	0	0.18	0	0.07	0	0
21.	Date Sampled for Analysis	02/27/97	03/25/97	04/10/97	05/26/97	06/23/97	07/31/97
22.	Date Last Precipitaiton Event Occurred	02/26/97	03/25/97	04/08/97	05/25/97	06/22/97	07/28/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,970.11			Y 740,067.85	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U35-044	U35-044	U35-044	U35-044	U35-044	U35-044
2.	Lab Identification Number	9702286	9703285	9705217	9706256	9708065	9704120
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1035	1035	1035	1035	1035	1035
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	3.37	3.5	0.53	0.42	0.63	2.5
8.	Date Above Measurements Made	02/27/97	03/25/97	05/26/97	06/23/97	07/31/97	4/10/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8.2	8.1	7.9	8.1	7.1	8.0
11.	Total Acidity (mg/l CAC03)	11	2.3	5.3	2.1	24	8.6
12.	Total Alkalinity (mg/l CAC03)	150	160	120	170	290	170
13.	Specific Conductivity (µmhos/cm at 25°C)	460	510	330	470	820	500
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.12	0.10	0.13	0.08	0.84	0.06
16.	Total Sulfates (mg/l)	100	100	55	86	230	120
17.	Total Iron (mg/l)	0	0.07	0.32	0.25	0.34	0.10
18.	Total Suspended Solids (mg/l)	0	0	1.3	0	0	0
19.	Total Hardness (mg/l CAC03)	230	260	190	250	450	250
20.	Nitrates (mg/l)	0	0.09	0	0	0	0
21.	Date Sampled for Analysis	02/27/97	03/25/97	05/26/97	06/23/97	07/31/97	4/10/97
22.	Date Last Precipitaiton Event Occurred	02/26/97	03/25/97	05/25/97	06/22/97	07/28/97	4/08/97

Laboratory Name Tradet, Inc.
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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,424,457.04			Y 738,906.85	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	U35-045	U35-045	U35-045	U35-045	U35-045	U35-045
2.	Lab Identification Number	9703049	9704114	9705141	9706202	9707263	9708218
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1115	1115	1115	1115	1115	1115
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.13	0.01	0.011	0.005	0	0.005
8.	Date Above Measurements Made	03/04/97	04/10/97	05/15/97	06/21/97	07/19/97	08/23/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	6.7	8.1	7.7	7.7	7.7	7.6
11.	Total Acidity (mg/l CAC03)	23	6.5	4.2	13	6.8	7.3
12.	Total Alkalinity (mg/l CAC03)	34	74	86	91	95	120
13.	Specific Conductivity (µmhos/cm at 25°C)	150	250	250	260	280	300
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.05	0.16	0.13	0.35	0.25	0.84
16.	Total Sulfates (mg/l)	36	49	54	36	36	54
17.	Total Iron (mg/l)	0.73	0.68	0.34	0.2	0.25	0.41
18.	Total Suspended Solids (mg/l)	0	4.7	2.7	0	0	0
19.	Total Hardness (mg/l CAC03)	9	110	140	160	150	170
20.	Nitrates (mg/l)	1.2	0.13	0	0	0	0
21.	Date Sampled for Analysis	03/04/97	04/10/97	05/15/97	06/21/97	07/19/97	08/23/97
22.	Date Last Precipitaiton Event Occurred	03/03/97	04/08/97	05/13/97	06/18/97	07/09/97	08/21/97

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Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,434.86			Y 737,076.55	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U35-046					
2.	Lab Identification Number	9712108					
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1115					
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.03					
8.	Date Above Measurements Made	12/15/97					
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.5					
11.	Total Acidity (mg/l CAC03)	28					
12.	Total Alkalinity (mg/l CAC03)	130					
13.	Specific Conductivity (µmhos/cm at 25°C)	330					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.16					
16.	Total Sulfates (mg/l)	66					
17.	Total Iron (mg/l)	0.17					
18.	Total Suspended Solids (mg/l)	0.00					
19.	Total Hardness (mg/l CAC03)	170					
20.	Nitrates (mg/l)	0.00					
21.	Date Sampled for Analysis	12/15/97					
22.	Date Last Precipitation Event Occurred	12/11/97					

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,046.40			Y 731,429.30	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U37-000	U37-000	U37-000	U37-000	U37-000	U37-000
2.	Lab Identification Number	9701117	9702295	9703272	9704161	9705214	9706251
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1125	1125	1125	1125	1125	1125
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.5	1	1.75	0.32	0.84	0.11
8.	Date Above Measurements Made	01/13/97	02/27/97	03/22/97	04/11/97	05/26/97	06/24/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.9	7.8	7.7	8.3	7.7	8.1
11.	Total Acidity (mg/l CAC03)	4.7	4	3.9	6.9	5.6	3.3
12.	Total Alkalinity (mg/l CAC03)	160	130	140	150	140	180
13.	Specific Conductivity (µmhos/cm at 25°C)	480	340	370	370	330	450
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.06	0.00	0.03	0.13	0.04
16.	Total Sulfates (mg/l)	42	32	32	36	33	34
17.	Total Iron (mg/l)	0.22	0.14	0.09.	0.13	1.4	0.28
18.	Total Suspended Solids (mg/l)	18	8	6	11	69	2
19.	Total Hardness (mg/l CAC03)	200	190	170	170	200	230
20.	Nitrates (mg/l)	2.2	1.1	0.94	1	1.4	1
21.	Date Sampled for Analysis	01/13/97	02/27/97	03/22/97	04/11/97	05/26/97	06/24/97
22.	Date Last Precipitaiton Event Occurred	01/12/97	02/26/97	03/18/97	04/11/97	05/25/97	06/22/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,187.26			Y 730,104.93	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U37-001	U37-001	U37-001	U37-001	U37-001	U37-001
2.	Lab Identification Number	9701313	9702298	9703271	9704157	9705213	9706249
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1135	1135	1135	1135	1135	1135
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.008	0.018	0.035	0.1	0.17	0.048
8.	Date Above Measurements Made	01/30/97	02/27/97	03/22/97	04/11/97	05/26/97	06/24/97
9.	Aquifer/Zone Identification for Well/Spring	0	0	0	0	0	0
10.	pH (Standard Units)	7	7.6	7.8	8.3	7.9	8
11.	Total Acidity (mg/l CAC03)	13	5.8	3.9	0	6	2
12.	Total Alkalinity (mg/l CAC03)	220	150	140	160	100	160
13.	Specific Conductivity (µmhos/cm at 25°C)	390	320	350	340	230	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.09	0.06	0.08	0.13	0.09
16.	Total Sulfates (mg/l)	28	31	33	36	26	30
17.	Total Iron (mg/l)	0	0.29	0.15	0.08	1.2	0.4
18.	Total Suspended Solids (mg/l)	0	4.7	0	0	10	0
19.	Total Hardness (mg/l CAC03)	240	180	180	200	160	190
20.	Nitrates (mg/l)	1.8	0.5	0.37	0.4	0.44	0
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/22/97	04/11/97	05/26/97	06/24/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/18/97	04/11/97	05/25/97	06/22/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,015.99			Y 734,695.85	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U37-003	U37-003	U37-003	U37-003	U37-003	U37-003
2.	Lab Identification Number	9702124	9703232	9704284	9705247	9707011	9707251
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1238	1238	1238	1238	1238	1238
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.006	0.026	0.003	0.008	0	0
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8	7.2	8	7.3	7.5	7.3
11.	Total Acidity (mg/l CAC03)	12	2.7	6.5	1.5	0	12
12.	Total Alkalinity (mg/l CAC03)	160	69	84	72	75	120
13.	Specific Conductivity (µmhos/cm at 25°C)	1200	890	1000	580	1100	1100
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.14	0.06	0.09	0.09	0.16	1.00
16.	Total Sulfates (mg/l)	48	38	34	18	13	6.4
17.	Total Iron (mg/l)	0.39	0.56	0.9	2.1	1.5	2.6
18.	Total Suspended Solids (mg/l)	0	5	4.7	27	20	18
19.	Total Hardness (mg/l CAC03)	350	210	240	100	200	300
20.	Nitrates (mg/l)	5.1	0	0	2.6	0.2	0
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,723.82			Y 732,416.52	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	U37-005					
2.	Lab Identification Number	9712109					
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1180					
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.01					
8.	Date Above Measurements Made	12/15/97					
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	6.9					
11.	Total Acidity (mg/l CAC03)	16					
12.	Total Alkalinity (mg/l CAC03)	54					
13.	Specific Conductivity (µmhos/cm at 25°C)	610					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.06					
16.	Total Sulfates (mg/l)	43					
17.	Total Iron (mg/l)	1.3					
18.	Total Suspended Solids (mg/l)	13					
19.	Total Hardness (mg/l CAC03)	130					
20.	Nitrates (mg/l)	4.7					
21.	Date Sampled for Analysis	12/15/97					
22.	Date Last Precipitation Event Occurred	12/11/97					

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,224.22			Y 732,826.42	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	U37-006					
2.	Lab Identification Number	9712110					
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1155					
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.01					
8.	Date Above Measurements Made	12/15/97					
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8.1					
11.	Total Acidity (mg/l CAC03)	22					
12.	Total Alkalinity (mg/l CAC03)	180					
13.	Specific Conductivity (µmhos/cm at 25°C)	390					
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.03					
16.	Total Sulfates (mg/l)	36					
17.	Total Iron (mg/l)	0.26					
18.	Total Suspended Solids (mg/l)	7.3					
19.	Total Hardness (mg/l CAC03)	180					
20.	Nitrates (mg/l)	1.5					
21.	Date Sampled for Analysis	12/15/97					
22.	Date Last Precipitation Event Occurred	12/11/97					

Laboratory Name ERI LABS
Address PO BOX 259
State bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,391.35			Y 729,783.17	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	D37-000	D37-000	D37-000	D37-000	D37-000	D37-000
2.	Lab Identification Number	9701115	9702296	9703273	9704158	9705215	9706250
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1095	1095	1095	1095	1095	1095
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	1.6	2.6	3	0.56	1.92	0.21
8.	Date Above Measurements Made	01/13/97	02/27/97	03/22/97	04/11/97	05/26/97	06/24/97
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.9	7.9	7.7	8.3	7.8	7.9
11.	Total Acidity (mg/l CAC03)	5.8	4.2	4.3	6.9	5.5	4.3
12.	Total Alkalinity (mg/l CAC03)	150	130	130	140	110	170
13.	Specific Conductivity (µmhos/cm at 25°C)	370	340	360	340	280	380
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.05	0.04	0.00	0.04	0.08	0.04
16.	Total Sulfates (mg/l)	35	30	33	36	31	32
17.	Total Iron (mg/l)	0.52	0.14	0.08	0.29	0.97	0.36
18.	Total Suspended Solids (mg/l)	5.3	5.3	0	4.7	26	7
19.	Total Hardness (mg/l CAC03)	230	180	190	180	160	220
20.	Nitrates (mg/l)	1.4	1	0.78	0.59	0.99	0.64
21.	Date Sampled for Analysis	01/13/97	02/27/97	03/22/97	04/11/97	05/26/97	06/24/97
22.	Date Last Precipitaiton Event Occurred	01/12/97	02/26/97	03/18/97	04/11/97	05/25/97	06/22/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,428,061.86		Y 729,677.08		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-111	DS-111	DS-111	DS-111	DS-111	DS-111
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1120	1120	1120	1120	1120	1120
5.	Depth of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
6.	Static Water Level of Well below Land Surface (msl)	NA	NA	NA	NA	NA	NA
7.	Flow for Spring/Stream (gpm or cfs)	0.5	0.6	1.5	1.2	3	0.75
8.	Date Above Measurements Made	11/02/90	12/10/90	01/07/91	02/04/91	03/08/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	6.7	6.8	7.5	6.6	7	6.9
11.	Total Acidity (mg/l CAC03)	0.00		0.00	11.02	15.39	22.42
12.	Total Alkalinity (mg/l CAC03)	146		96	119.32	134.71	133.95
13.	Specific Conductivity (µmhos/cm at 25°C)	350		275	330	389	280
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01		0.04	0.03	0.00	0.00
16.	Total Sulfates (mg/l)	29		35	28	29	26
17.	Total Iron (mg/l)	0.13		0.47	0.04	0.04	0.06
18.	Total Suspended Solids (mg/l)	8.3		24	4	4	4
19.	Total Hardness (mg/l CAC03)	148		59.4	156	156	155
20.	Nitrates (mg/l)	7.04		2.24	1.15	1.87	2.21
21.	Date Sampled for Analysis	11/02/90	12/10/90	01/07/91	02/04/91	03/08/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/04/90	01/07/91	01/31/91	03/06/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

Spring flow = GPM
Stream flow = CFS

SP-223
2429599.4
730712.48
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Spring flow = GPM
Stream flow = CFS

Applicant's Name The Ohio Valley Coal Company

1.	Identification No. of Sampling Station from Hydrology Map	DS-223	DS-223	DS-223	DS 223	DS 223	DS 223
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1130	1130	1130	1130	1130	1130
5.	Depth of Well below Land Surface (feet)	----	----	----	----	----	----
6.	Static Water Level of Well below Land Surface (feet)	----	----	----	----	----	----
7.	Flow for Spring/Stream (gpm or cfs)	2.0	.5	.75	.326	.326	.227
8.	Date Above Measurements Made	5-30-91	6-25-91	7-30-91	8-22-91	9-13-91	10-29-91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	7.5	6.8	6.9	6.9	7.8	7.0
11.	Total Acidity (mg/l CAC03)	8.93	12.92	8.36	14.63	11.59	7.60
12.	Total Alkalinity (mg/l CAC03)	127.49	174	174	147.6	183	191.14
13.	Specific Conductivity (μmhos/cm at 25°C)	310	389	347	347	399	378
14.	Total Dissolved Solids (mg/l)	----	----	----	----	----	----
15.	Total Manganese (mg/l)	0.03	< 0.02	< 0.02	0.06	0.03	0.07
16.	Total Sulfates (mg/l)	11.0	21.0	<10.0	<10.0	14.0	20.0
17.	Total Iron (mg/l)	< 0.04	0.08	0.04	0.16	0.26	0.48
18.	Total Suspended Solids (mg/l)	4.0	1.0	7.0	2.0	10.0	56.0
19.	Total Hardness (mg/l CAC03)	162	152	159	132	183	189
20.	Nitrates (mg/l)	4.11	0.51	0.69	0.69	0.88	<1.00
21.	Date Sampled for Analysis	5-30-91	6-25-91	7-30-91	8-22-91	9-13-91	10-29-91
22.	Date Last Precipitaiton Event Occurred	5-28-91	6-16-91	7-25-91	8-21-91	9-11-91	10-26-91

Laboratory Name ERI Labs
Address P. O. Box 259 City Brockway
State Pennsylvania Zip 15824

Note: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A, a statement giving the reasons why the information is unobtainable.
Note: For each sample provide data for either item 13 or item 14.

9/88
SP-226A
2430850.9
730971.06
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Spring flow = GPM
Stream flow = CFS

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	DS -226A	DS -226A	DS -226A	DS -226A	DS -226A	DS -226A
2. Lab Identification Number	93-12-771	94-01-730	94-02-872	94-03-1372	94-04-1155	94-05-938
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1163	1163	1163	1163	1163	1163
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	.79	3.0	1.32	1.25	.75	0.44
8. Date Above Measurements Made	12/16/93	01/27/94	02/28/94	03/31/94	04/28/94	05/27/94
9. Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10. pH (Standard Units)	7.8	7.3	7.7	7.6	7.7	7.8
11. Total Acidity (mg/l CAC03)	4.20	10.00	5.00	7.40	14.20	10.20
12. Total Alkalinity (mg/l CAC03)	217.60	114.00	248.00	233.00	259.0	241.60
13. Specific Conductivity (μmhos/cm at 25°C)	680	220	530	545	530	524
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	<0.02	0.05	<0.02	<0.02	<0.02	<0.02
16. Total Sulfates (mg/l)	24.0	21.0	23.0	27.0	29.0	27.0
17. Total Iron (mg/l)	0.05	1.60	0.10	0.08	0.16	0.06
18. Total Suspended Solids (mg/l)	2.0	30.0	2.0	2.0	3.0	6.0
19. Total Hardness (mg/l CAC03)	216.0	126.0	280.0	276.0	268.0	255.0
20. Nitrates (mg/l)	2.65	0.81	2.49	1.88	1.44	0.95
21. Date Sampled for Analysis	12/16/93	01/27/94	02/25/94	03/31/94	04/28/94	05/27/94
22. Date Last Precipitaiton Event Occurred	12/15/93	01/27/94	02/24/94	03/28/94	04/28/94	05/27/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

9/88

SP-226B

PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES: X 2,423,400.83 Y 740,603.06

1. Identification No. of Sampling Station from Hydrology Map	DS-226B	DS-226B				
2. Lab Identification Number	94-06-1041	94-07-660				
3. High (H)/Low (L) Designation (if applicable)	H	L	H	H	H	
4. Surface Elevation for Sampling Station (msl)	1155	1155				
5. Depth of Well below Land Surface (feet)	N/A	N/A				
6. Static Water Level of Well below Land Surface (feet)	–	–				
7. Flow for Spring/Stream (gpm or cfs)	.16	.12				
8. Date Above Measurements Made	06/30/94	07/26/94				
9. Aquifer/Zone Identification for Well/Spring	B	B				
10. pH (Standard Units)	6.1	6.2				
11. Total Acidity (mg/l CAC03)	53.00	40.80				
12. Total Alkalinity (mg/l CAC03)	223.80	223.60				
13. Specific Conductivity (μmhos/cm at 25°C)	496	460				
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.12	0.04				
16. Total Sulfates (mg/l)	36.0	30.0				
17. Total Iron (mg/l)	0.13	0.23				
18. Total Suspended Solids (mg/l)	4.0	3.6				
19. Total Hardness (mg/l CAC03)	277.0	482				
20. Nitrates (mg/l)	0.93	0.56				
21. Date Sampled for Analysis	06/30/94	07/26/94				
22. Date Last Precipitaiton Event Occurred	6/29/94	07/25/94				

Laboratory Name INDUSTRIAL LAB ANALYSIS Spring flow = GPM

Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE Stream flow = CFS

State WEST VIRGINIA Zip 26038

9/88
SP-231
2424250.5
730012.72
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	DS -231	DS -231	DS -231	DS -231	DS -231	DS -231
2. Lab Identification Number	93-11-805	93-12-776	94-01-656	94-02-703	94-03-1300	94-04-879
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1230	1230	1230	1230	1230	1230
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.64	2.4	3.26	15.0	11.5	11.5
8. Date Above Measurements Made	11/19/93	12/16/93	01/24/94	02/24/94	03/30/94	04/22/94
9. Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10. pH (Standard Units)	7.6	7.4	7.6	7.3	7.2	7.5
11. Total Acidity (mg/l CAC03)	8.00	3.60	4.80	7.00	9.60	12.20
12. Total Alkalinity (mg/l CAC03)	168.40	186.60	188.20	171.80	171.40	165.80
13. Specific Conductivity (μmhos/cm at 25°C)	445	453	504	477	460	452
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
16. Total Sulfates (mg/l)	39.0	34.0	34.0	30.0	48.0	38.0
17. Total Iron (mg/l)	0.18	<0.04	0.21	<0.04	0.05	0.05
18. Total Suspended Solids (mg/l)	9.0	3.0	4.0	4.0	3.0	6.0
19. Total Hardness (mg/l CAC03)	230.0	260.0	267.0	216.0	240.0	228.0
20. Nitrates (mg/l)	4.50	3.10	3.41	3.51	2.95	2.78
21. Date Sampled for Analysis	11/19/93	12/16/93	01/24/94	02/24/94	03/30/94	04/22/94
22. Date Last Precipitaiton Event Occurred	11/17/93	12/15/93	01/24/94	02/24/94	03/28/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
SP-240
2423785.4
731190.07
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	DS -240	DS -240	DS -240	DS -240	DS -240	DS -240
2. Lab Identification Number	93-11-947	93-12-782	94-01-732	94-02-690	94-03-991	94-04-953
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1170	1170	1170	1170	1170	1170
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	-	-	-	-	-	-
7. Flow for Spring/Stream (gpm or cfs)	0	2.14	3.75	1.88	3.9	5.5
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10. pH (Standard Units)	7.5	7.3	7.3	6.8	7.0	7.2
11. Total Acidity (mg/l CAC03)	6.60	6.60	9.60	8.60	9.40	11.40
12. Total Alkalinity (mg/l CAC03)	210.80	220.80	199.40	187.20	197.20	205.80
13. Specific Conductivity (μmhos/cm at 25°C)	520	525	509	466	498	468
14. Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15. Total Manganese (mg/l)	0.03	<0.02	<0.02	<0.02	<0.02	0.02
16. Total Sulfates (mg/l)	37.0	40.0	42.0	33.0	45.0	43.0
17. Total Iron (mg/l)	0.16	<0.04	0.24	0.09	0.05	0.07
18. Total Suspended Solids (mg/l)	2.0	5.0	3.0	3.0	4.0	3.0
19. Total Hardness (mg/l CAC03)	265.0	264.0	262.0	226.0	242.0	242.0
20. Nitrates (mg/l)	3.23	2.82	2.21	2.89	1.75	2.84
21. Date Sampled for Analysis	11/26/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/26/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS Spring flow = GPM
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE Stream flow = CFS
State WEST VIRGINIA Zip 26038

9/88
SP-241
2425369.4
731065.93
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	D S -241	DS -241	DS -241	DS -241	D S -241	DS-241
2. Lab Identification Number	93-12-530	91-01-733	94-02-554	94-03-1373	94-04-972	
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1190	1190	1190	1190	1190	1190
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	-	-	-	-	-	-
7. Flow for Spring/Stream (gpm or cfs)	2.5	1.07	6.67	1.5	1.9	1.9
8. Date Above Measurements Made	11/29/93	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10. pH (Standard Units)	7.3	7.2	7.9	7.0	6.8	LAB DID NOT SEE REPORT RESULTS
11. Total Acidity (mg/l CAC03)	7.20	17.60	2.00	11.20	17.40	
12. Total Alkalinity (mg/l CAC03)	232.40	234.40	207.60	230.40	232.00	
13. Specific Conductivity (μmhos/cm at 25°C)	645	403	593	654	683	
14. Total Dissolved Solids (mg/l)	-	-	-	-	-	
15. Total Manganese (mg/l)	0.04	0.09	0.09	<0.02	<0.02	
16. Total Sulfates (mg/l)	40.0	50.0	45.0	59.0	51.0	
17. Total Iron (mg/l)	0.65	1.64	0.47	0.06	0.06	
18. Total Suspended Solids (mg/l)	11.0	103.0	15.0	4.0	4.0	
19. Total Hardness (mg/l CAC03)	314.0	312.0	279.0	368.0	360.0	
20. Nitrates (mg/l)	4.56	8.14	4.89	11.90	14.20	
21. Date Sampled for Analysis	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94	
22. Date Last Precipitaiton Event Occurred	12/15/93	01/27/94	02/13/94	03/28/94	04/28/94	

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
SP-242
2426238.8
730734.33
GTE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	DS -242	DS -242	DS -242	DS -242	DS -242	DS-241
2. Lab Identification Number	93-12-531	94-01-734	94-02-555	94-03-1374	94-04-973	
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1103	1103	1103	1103	1103	1103
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	4.4	1.5	6.0	2.5	4.7	4.7
8. Date Above Measurements Made	11/29/93	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring						
10. pH (Standard Units)	7.3	6.8	7.2	6.8	6.7	
11. Total Acidity (mg/l CAC03)	9.40	12.60	9.00	9.60	15.40	LAB DID NOT REPORT RESULTS
12. Total Alkalinity (mg/l CAC03)	187.60	143.40	165.40	141.20	162.40	
13. Specific Conductivity (μmhos/cm at 25°C)	655	466	551	567	525	
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	
15. Total Manganese (mg/l)	<0.02	<0.02	<0.02	<0.02	<0.02	
16. Total Sulfates (mg/l)	26.0	30.0	25.0	29.0	33.0	
17. Total Iron (mg/l)	0.14	0.56	0.04	<0.04	0.08	
18. Total Suspended Solids (mg/l)	2.0	15.0	2.0	2.0	6.0	
19. Total Hardness (mg/l CAC03)	278.0	196.0	261.0	264.0	254.0	
20. Nitrates (mg/l)	7.59	7.03	12.30	9.77	11.00	
21. Date Sampled for Analysis	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94	
22. Date Last Precipitaiton Event Occurred	12/15/93	01/27/94	02/13/94	03/28/94	04/28/94	

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
SP-244
2422169.7
729835.3
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	D S -244	D S -244	D S -244	D S -244	DS -244	DS -244
2. Lab Identification Number	93-11-951	93-12-533	94-01-661	94-02-557	94-03-1375	94-04-974
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1290	1290	1290	1290	1290	1290
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.24	0.833	1.0	.83	1.4	.6
8. Date Above Measurements Made	11/30/93	12/15/93	01/24/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10. pH (Standard Units)	7.2	7.2	7.2	7.4	6.8	6.7
11. Total Acidity (mg/l CAC03)	10.20	10.40	12.40	11.20	12.40	19.20
12. Total Alkalinity (mg/l CAC03)	202.00	216.80	210.40	222.00	215.60	230.40
13. Specific Conductivity (μmhos/cm at 25°C)	1040	811	672	742	763	672
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
16. Total Sulfates (mg/l)	57.0	41.0	45.0	35.0	39.0	38.0
17. Total Iron (mg/l)	0.04	0.06	0.12	<0.04	<0.04	0.05
18. Total Suspended Solids (mg/l)	3.0	4.0	7.0	3.0	<2.0	9.0
19. Total Hardness (mg/l CAC03)	428.0	316.0	290.0	292.0	324.0	312.0
20. Nitrates (mg/l)	1.47	1.96	2.98	2.60	4.12	3.26
21. Date Sampled for Analysis	11/30/93	12/15/93	01/24/94	02/16/94	03/31/94	04/28/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/24/94	02/13/94	03/28/94	04/28/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,429,870.56			Y 735,928.92	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	DS-265	DS-265	DS-265	DS-265	DS-265	DS-265
2.	Lab Identification Number	9701246	9702206	9703136	9704104	9705146	9706183
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1200	1200	1200	1200	1200	1200
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.75	3	3	1.03	0.37	1
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.2	7.2	7.3	7.3	7.3	7.2
11.	Total Acidity (mg/l CAC03)	13	11	23	21	6.6	8
12.	Total Alkalinity (mg/l CAC03)	180	170	160	180	190	180
13.	Specific Conductivity (µmhos/cm at 25°C)	320	380	330	390	410	400
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.03	0.00	0.00
16.	Total Sulfates (mg/l)	42	40	40	41	41	39
17.	Total Iron (mg/l)	0	0	0	0	0	0.08
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	200	220	200	210	250	230
20.	Nitrates (mg/l)	2.8	3.8	5.4	2.3	3	3.3
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,767.24			Y 739,902.41	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-266	DS-266	DS-266	DS-266	DS-266	DS-266
2.	Lab Identification Number	9702304	9703138	9704122	9705150	9706208	9707231
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.05	0.07	0.37	0.5	0.14	0.15
8.	Date Above Measurements Made	02/26/97	03/13/97	04/10/97	05/15/97	06/21/97	07/19/97
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	7.1	6.5	7.5	7.5	7.4	7.7
11.	Total Acidity (mg/l CAC03)	8.2	15	13	3	14	19
12.	Total Alkalinity (mg/l CAC03)	120	89	160	160	160	210
13.	Specific Conductivity (µmhos/cm at 25°C)	280	200	360	350	400	440
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.02	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	39	38	44	45	35	35
17.	Total Iron (mg/l)	0.54	0.2	0.19	0.19	0.25	0.15
18.	Total Suspended Solids (mg/l)	0	4	0	0	1.5	0
19.	Total Hardness (mg/l CAC03)	150	120	170	190	210	240
20.	Nitrates (mg/l)	0.76	0.84	0.67	0.58	0.64	0.48
21.	Date Sampled for Analysis	02/26/97	03/13/97	04/10/97	05/15/97	06/21/97	07/19/97
22.	Date Last Precipitaiton Event Occurred	02/26/97	03/13/97	04/08/97	05/13/97	06/18/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY.

STATE PLANE COORDINATES:		X 2,428,147.68			Y 737,000.34	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	DS-267	DS-267	DS-267	DS-267	DS-267	DS-267
2.	Lab Identification Number	9701248	9702204	9703148	9704106	9705133	9706178
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1225	1225	1225	1225	1225	1225
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	1.5	2	2.5	0.85	0.07	1.4
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.2	7.4	7.4	7.2	7.8	7.2
11.	Total Acidity (mg/l CAC03)	9.6	5.1	6.6	18	6.6	8.5
12.	Total Alkalinity (mg/l CAC03)	140	90	120	150	160	160
13.	Specific Conductivity (µmhos/cm at 25°C)	330	260	320	410	420	490
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.18	0.00	0.05	0.00	0.00
16.	Total Sulfates (mg/l)	35	27	34	34	38	36
17.	Total Iron (mg/l)	0	3.2	0.34	0	0.16	0.1
18.	Total Suspended Solids (mg/l)	0	150	8.7	0	0	0
19.	Total Hardness (mg/l CAC03)	230	140	160	200	240	230
20.	Nitrates (mg/l)	8.4	6.6	9.5	13	13	14
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,810.89			Y 734,047.87	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-268	DS-268	DS-268	DS-268	DS-268	DS-268
2.	Lab Identification Number	9701251	9702200	9703149	9704125	9705129	9706181
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1180	1180	1180	1180	1180	1180
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	3.33	6	3	2.1	0.1	0.42
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	7.3	7	7.2	7	7.3	7.1
11.	Total Acidity (mg/l CAC03)	15	23	27	20	21	14
12.	Total Alkalinity (mg/l CAC03)	190	180	180	200	220	200
13.	Specific Conductivity (µmhos/cm at 25°C)	430	480	430	490	530	490
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	59	58	56	62	63	55
17.	Total Iron (mg/l)	0	0	0.06	0.05	0.15	0.05
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	260	230	240	260	310	250
20.	Nitrates (mg/l)	5.8	8.1	9.7	6.1	8.3	11
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,125.58			Y 735,053.79	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-269	DS-269	DS-269	DS-269	DS-269	DS-269
2.	Lab Identification Number	9701252	9702201	9703150	9704126	9705130	9706180
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1220	1220	1220	1220	1220	1220
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	5	5	5	1.2	0.1	1.4
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.1	7	7.1	7.1	7.2	7.1
11.	Total Acidity (mg/l CAC03)	13	14	22	16	11	12
12.	Total Alkalinity (mg/l CAC03)	160	140	140	160	180	160
13.	Specific Conductivity (µmhos/cm at 25°C)	340	370	330	400	420	380
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.02
16.	Total Sulfates (mg/l)	48	46	43	47	54	40
17.	Total Iron (mg/l)	0	0	0.06	0	0	0.23
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	200	180	200	200	250	180
20.	Nitrates (mg/l)	4.2	5.7	4.6	4.9	2.8	3.9
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,044.70			Y 735,336.25	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-270	DS-270	DS-270	DS-270	DS-270	DS-270
2.	Lab Identification Number	9701254	9702209	9703134	9704128	9705136	9706224
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1260	1260	1260	1260	1260	1260
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.71	0.75	0.75	0.25	0.03	0.37
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7	7.4	7.3	7.1	7.6	7.3
11.	Total Acidity (mg/l CAC03)	13	6.1	16	10	6.3	19
12.	Total Alkalinity (mg/l CAC03)	160	140	130	180	200	190
13.	Specific Conductivity (µmhos/cm at 25°C)	340	360	330	420	420	460
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.02	0.02	0.05	0.04
16.	Total Sulfates (mg/l)	48	46	43	50	50	46
17.	Total Iron (mg/l)	0.39	0.54	0.27	1.2	1.4	1.7
18.	Total Suspended Solids (mg/l)	6	17	11	36	45	0
19.	Total Hardness (mg/l CAC03)	250	210	200	210	290	260
20.	Nitrates (mg/l)	4	7.8	7.1	5	2.5	2.5
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,357.36			Y 735,287.95	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-271	DS-271	DS-271	DS-271	DS-271	DS-271
2.	Lab Identification Number	9701282	9702258	9703188	9704144	9705225	9706294
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1323	1323	1323	1323	1323	1323
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	1.33	3	3.25	1.25	1.15	1.9
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.3	7.3	7	7.2
11.	Total Acidity (mg/l CAC03)	11	20	12	19	16	16
12.	Total Alkalinity (mg/l CAC03)	200	250	240	250	220	250
13.	Specific Conductivity (µmhos/cm at 25°C)	390	530	480	520	460	610
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	42	49	45	51	42	45
17.	Total Iron (mg/l)	0.53	0	0.06	0	0.06	0.17
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	240	280	280	290	260	300
20.	Nitrates (mg/l)	3.9	3.6	4	4.9	2.7	3
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/25/97	06/26/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,302.52			Y 736,743.90	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-272	DS-272	DS-272	DS-272	DS-272	DS-272
2.	Lab Identification Number	9701295	9702218	9703178	9704134	9705242	9706216
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1258	1258	1258	1258	1258	1258
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	4.28	4	5	2	1.5	1.5
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97	04/10/97	05/22/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.3	7.1	7.1	7.3
11.	Total Acidity (mg/l CAC03)	9	14	12	16	16	24
12.	Total Alkalinity (mg/l CAC03)	170	200	190	200	200	220
13.	Specific Conductivity (µmhos/cm at 25°C)	330	440	410	430	400	490
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.02
16.	Total Sulfates (mg/l)	42	48	56	54	52	48
17.	Total Iron (mg/l)	1.4	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	190	220	250	200	240	240
20.	Nitrates (mg/l)	3	1.4	2.1	0.85	1.1	2.7
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97	04/10/97	05/22/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/14/97	04/08/97	05/19/97	06/18/97

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9/88

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(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,594.71			Y 736,871.47	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-273	DS-273	DS-273	DS-273	DS-273	DS-273
2.	Lab Identification Number	9701298	9702216	9703176	9704135	9705220	9706217
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1265	1265	1265	1265	1265	1265
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	1	1.5	1.5	1	1.3	0.77
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.3	7.1	7.2	7.2
11.	Total Acidity (mg/l CAC03)	14	11	18	22	13	24
12.	Total Alkalinity (mg/l CAC03)	200	220	220	220	210	230
13.	Specific Conductivity (µmhos/cm at 25°C)	440	630	470	520	470	560
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	54	52	51	53	50	50
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	260	280	300	270	260	310
20.	Nitrates (mg/l)	9.2	8.6	7.8	5.6	7	7.9
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/14/97	04/08/97	05/25/97	06/18/97

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
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ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,901.57			Y 736,509.40	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-274	DS-274	DS-274	DS-274	DS-274	DS-274
2.	Lab Identification Number	9701299	9702220	9703180	9704110	9705221	9706214
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1230	1230	1230	1230	1230	1230
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.5	3	5	0.86	1.2	0.75
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	6.9	6.9	7	7.6	7.3	7.3
11.	Total Acidity (mg/l CAC03)	9.9	18	9.2	17	23	21
12.	Total Alkalinity (mg/l CAC03)	88	120	100	140	120	160
13.	Specific Conductivity (µmhos/cm at 25°C)	180	270	230	340	250	370
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.05	0.00	0.00
16.	Total Sulfates (mg/l)	29	32	31	38	28	33
17.	Total Iron (mg/l)	1.6	0.11	0.22	0	0.23	0.06
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	150	130	130	180	130	220
20.	Nitrates (mg/l)	10	1.1	1.8	0	0.54	1.1
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/14/97	04/08/97	05/25/97	06/18/97

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9/88

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Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,858.90			Y 730,184.40	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-277	DS-277	DS-277	DS-277	DS-277	DS-277
2.	Lab Identification Number	9702001	9702229	9703254	9704319	9705276	9706289
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1264	1264	1264	1264	1264	1264
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.25	0.5	0.25	0.25	0.102	0.21
8.	Date Above Measurements Made	01/30/97	02/27/97	03/24/97	04/28/97	05/24/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.4	7.4	8.5	7.3	7.6	7.5
11.	Total Acidity (mg/l CAC03)	14	12	11	10	11	17
12.	Total Alkalinity (mg/l CAC03)	210	200	200	230	190	230
13.	Specific Conductivity (µmhos/cm at 25°C)	850	830	800	850	880	960
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.02	0.00	0.03	0.02
16.	Total Sulfates (mg/l)	66	60	65	72	70	66
17.	Total Iron (mg/l)	0	0	0	0	0.08	0.05
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	2
19.	Total Hardness (mg/l CAC03)	420	410	370	400	430	460
20.	Nitrates (mg/l)	2.6	1.6	11	2.3	1.7	0.75
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/24/97	04/28/97	05/24/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/24/97	04/27/97	05/24/97	06/26/97

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9/88

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Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,905.84			Y 729,898.49	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-278	DS-278	DS-278	DS-278	DS-278	DS-278
2.	Lab Identification Number	9702002	9702300	9703258	9704320	9705277	9706285
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1230	1230	1230	1230	1230	1230
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	0.5	0.75	0.75	0.75	0.62	0.38
8.	Date Above Measurements Made	01/30/97	02/27/97	03/24/97	04/28/97	05/24/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	6.9	7.4	7.3	7.3	7.4	6.9
11.	Total Acidity (mg/l CAC03)	8	5	13	13	8.4	16
12.	Total Alkalinity (mg/l CAC03)	100	110	120	160	160	170
13.	Specific Conductivity (µmhos/cm at 25°C)	270	330	370	420	420	460
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	34	34	57	41	39	36
17.	Total Iron (mg/l)	0	0	0	0.08	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	170	170	160	200	200	220
20.	Nitrates (mg/l)	6.7	5	19	0.17	1.8	3.6
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/24/97	04/28/97	05/24/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/24/97	04/27/97	05/24/97	06/26/97

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9/88

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Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,692.58			Y 730,521.26	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-282	DS-282	DS-282	DS-282	DS-282	DS-282
2.	Lab Identification Number	9702123	9703240	9704294	9705227	9706291	9707261
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1268	1268	1268	1268	1268	1268
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	2.7	8.5	1.75	1	1	0.19
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/27/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	6.9	6.8	7	7	6.9	7.2
11.	Total Acidity (mg/l CAC03)	22	24	13	6.4	17	14
12.	Total Alkalinity (mg/l CAC03)	150	150	160	86	170	170
13.	Specific Conductivity (µmhos/cm at 25°C)	570	610	600	450	690	630
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	57	57	56	48	53	51
17.	Total Iron (mg/l)	0.06	0.06	0.28	0.22	0.12	0.11
18.	Total Suspended Solids (mg/l)	2.7	0	1.3	0	2	0
19.	Total Hardness (mg/l CAC03)	240	260	240	210	260	260
20.	Nitrates (mg/l)	5.1	6.6	6.6	7.8	4.1	5.3
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/27/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

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9/88

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ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,404.89			Y 731,588.03	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DS-283	DS-283	DS-283	DS-283	DS-283	DS-283
2.	Lab Identification Number	9702121	9703241	9704288	9705234	9707013	9707254
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1263	1263	1263	1263	1263	1263
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	2.1	15	3.33	2.5	1.8	0.25
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.5	7	7.7	7.5	7.3	7.4
11.	Total Acidity (mg/l CAC03)	14	9.9	3.9	12	10	5.1
12.	Total Alkalinity (mg/l CAC03)	97	97	120	99	140	140
13.	Specific Conductivity (µmhos/cm at 25°C)	570	530	620	480	760	740
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.00	0.11	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	37	34	40	33	32	37
17.	Total Iron (mg/l)	0.22	0	9.4	0.05	0	0.14
18.	Total Suspended Solids (mg/l)	2	6	260	0	0	2
19.	Total Hardness (mg/l CAC03)	190	190	270	160	290	290
20.	Nitrates (mg/l)	1.9	1.2	1.9	5	2	1.9
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,664.88			Y 730,052.03	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-285	DS-285	DS-285	DS-285	DS-285	DS-285
2.	Lab Identification Number	9703077	9704323	9705263	9706253	9707246	9708212
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1190	1190	1190	1190	1190	1190
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	8	2.5	0.45	2	1.1	1.9
8.	Date Above Measurements Made	03/04/97	04/28/97	05/22/97	06/24/97	07/19/97	08/23/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.1	7.4	7.3	7.2	7.3	7.5
11.	Total Acidity (mg/l CAC03)	20	6.2	5.6	13	10	6.9
12.	Total Alkalinity (mg/l CAC03)	140	170	160	170	180	160
13.	Specific Conductivity (µmhos/cm at 25°C)	300	360	310	280	330	300
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.03
16.	Total Sulfates (mg/l)	25	27	26	24	25	23
17.	Total Iron (mg/l)	0.27	0.1	0.23	0.06	0.08	0.54
18.	Total Suspended Solids (mg/l)	0	0	10	0	0	11
19.	Total Hardness (mg/l CAC03)	150	190	180	190	200	180
20.	Nitrates (mg/l)	0.38	0.62	0.7	0.63	0.83	0.37
21.	Date Sampled for Analysis	03/04/97	04/28/97	05/22/97	06/24/97	07/19/97	08/23/97
22.	Date Last Precipitaiton Event Occurred	03/03/97	04/27/97	05/19/97	06/22/97	07/09/97	08/21/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,707.83			Y 730,750.24	LOCATION PAN	
1.	Identification No. of Sampling Station from Hydrology Map	DS-286	DS-286	DS-286	DS-286	DS-286	DS-286
2.	Lab Identification Number	9703267	9704295	9705231			
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1220	1220	1220	1220	1220	1220
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	2.6	0.37	1.25	0	0	0
8.	Date Above Measurements Made	03/20/97	04/23/97	05/22/97	06/28/97	07/20/97	08/23/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	6.9	7.1	7.1			
11.	Total Acidity (mg/l CAC03)	12	9.4	16			
12.	Total Alkalinity (mg/l CAC03)	140	170	82			
13.	Specific Conductivity (µmhos/cm at 25°C)	390	400	240			
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00			
16.	Total Sulfates (mg/l)	31	36	32			
17.	Total Iron (mg/l)	0	0.81	0			
18.	Total Suspended Solids (mg/l)	0	9.3	0			
19.	Total Hardness (mg/l CAC03)	180	200	140			
20.	Nitrates (mg/l)	13	3.7	1.4			
21.	Date Sampled for Analysis	03/20/97	04/23/97	05/22/97	06/28/97	07/20/97	08/23/97
22.	Date Last Precipitaiton Event Occurred	03/18/97	04/23/97	05/19/97	06/26/97	07/09/97	08/21/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,473.61			Y 730,721.64	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	DS-287	DS-287	DS-287	DS-287	DS-287	DS-287
2.	Lab Identification Number	9703268	9704296	9705232	9707017	9707255	9708219
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1220	1220	1220	1220	1220	1220
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	2.4	0.25	1.15	0.75	0.68	0.11
8.	Date Above Measurements Made	03/20/97	04/23/97	05/27/97	06/28/97	07/20/97	08/23/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7	7.3	7.3	7.1	7.6	7.6
11.	Total Acidity (mg/l CAC03)	12	8.4	12	14	7.8	8.7
12.	Total Alkalinity (mg/l CAC03)	120	150	120	160	170	160
13.	Specific Conductivity (µmhos/cm at 25°C)	370	530	400	630	580	520
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.04	0.00	0.00	0.06
16.	Total Sulfates (mg/l)	37	39	33	38	38	41
17.	Total Iron (mg/l)	0.07	0	0.08	0.18	0.12	0.24
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	200	250	200	290	230	270
20.	Nitrates (mg/l)	7.2	2.8	2.1	2	2.2	1.6
21.	Date Sampled for Analysis	03/20/97	04/23/97	05/27/97	06/28/97	07/20/97	08/23/97
22.	Date Last Precipitaiton Event Occurred	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97	08/21/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,369.97			Y 732,007.11	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	DS-288	DS-288	DS-288	DS-288	DS-288	DS-288
2.	Lab Identification Number	9703269	9704297	9705244	9707012	9707256	9708211
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1245	1245	1245	1245	1245	1245
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	20	6	4.25	3.5	1.44	0.7
8.	Date Above Measurements Made	03/20/97	04/23/97	05/27/97	06/28/97	07/20/97	08/23/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.2	7.4	7.4	7.5	7.5
11.	Total Acidity (mg/l CAC03)	14	6.2	8.4	12	8	6.9
12.	Total Alkalinity (mg/l CAC03)	190	180	180	170	170	180
13.	Specific Conductivity (µmhos/cm at 25°C)	420	370	350	390	350	350
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.02	0.00	0.02	0.02
16.	Total Sulfates (mg/l)	33	33	32	30	47	31
17.	Total Iron (mg/l)	0	0	0.15	0.06	0.12	0.12
18.	Total Suspended Solids (mg/l)	0	0	6	0	0	0
19.	Total Hardness (mg/l CAC03)	220	190	210	200	180	190
20.	Nitrates (mg/l)	0.58	0.46	1.5	0.32	0.41	0.27
21.	Date Sampled for Analysis	03/20/97	04/23/97	05/27/97	06/28/97	07/20/97	08/23/97
22.	Date Last Precipitaiton Event Occurred	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97	08/21/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,704.17			Y 730,871.34	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DS-289	DS-289	DS-289	DS-289	DS-289	DS-289
2.	Lab Identification Number	9703283	9704162	9705262	9706252	9707245	9708213
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1195	1195	1195	1195	1195	1195
5.	Depth of Well below Land Surface (msl)						
6.	Static Water Level of Well below Land Surface (msl)						
7.	Flow for Spring/Stream (gpm or cfs)	2.4	1.97	0.68	1.8	0.9	1.7
8.	Date Above Measurements Made	03/25/97	04/11/97	05/22/97	06/24/97	07/19/97	08/23/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.4	7.5	7.4	7.6	7.6	7.6
11.	Total Acidity (mg/l CAC03)	6.2	9.9	6.4	6.9	6.8	6.3
12.	Total Alkalinity (mg/l CAC03)	130	130	140	140	140	150
13.	Specific Conductivity (µmhos/cm at 25°C)	320	290	290	280	310	300
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.03	0.00	0.00	0.05
16.	Total Sulfates (mg/l)	26	28	29	28	29	28
17.	Total Iron (mg/l)	0.06	0	0.5	0.39	0.17	0.84
18.	Total Suspended Solids (mg/l)	0	0	0	9.3	0	16
19.	Total Hardness (mg/l CAC03)	160	140	170	190	200	180
20.	Nitrates (mg/l)	0.5	0.47	0.88	0.81	1	1.1
21.	Date Sampled for Analysis	03/25/97	04/11/97	05/22/97	06/24/97	07/19/97	08/23/97
22.	Date Last Precipitaiton Event Occurred	03/25/97	04/11/97	05/19/97	06/22/97	07/09/97	08/21/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,430,923.06		Y 729,578.63		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-166	W-166	W-166	W-166	W-166	W-166
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1106	1106	1106	1106	1106	1106
5.	Depth of Well below Land Surface	108'	108'	108'	108'	108'	108'
6.	Static Water Level of Well below Land Surface	69	68	69	71	71	83
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA	NA	NA	NA
8.	Date Above Measurements Made	11/02/90	12/10/90	01/04/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	8.8	9	8.7	9	8.5	9
11.	Total Acidity (mg/l CAC03)	0	0	0	0	0	0
12.	Total Alkalinity (mg/l CAC03)	640	640	626	572.09	602.3	513
13.	Specific Conductivity (µmhos/cm at 25°C)	1150	1250	1260	1260	1050	882
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.06	0.01	0.00	0.00	0.02
16.	Total Sulfates (mg/l)	5	4	16			
17.	Total Iron (mg/l)	0.06	0.01	0.01	0.00	0.00	0.00
18.	Total Suspended Solids (mg/l)	0.3	0.3	3	5	8	0.00
19.	Total Hardness (mg/l CAC03)	15	6.2	4.2	136		60
20.	Nitrates (mg/l)	7.48	4.4	0.04	0.00	1.81	5.04
21.	Date Sampled for Analysis	11/02/90	12/10/90	01/04/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/04/90	01/04/91	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,430,588.68		Y 729,788.22		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-167	W-167	W-167	W-167	W-167	W-167
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)	-	-	-	-	-	-
4.	Surface Elevation for Sampling Station (msl)	1090	1090	1090	1090	1090	1090
5.	Depth of Well below Land Surface (msl)	96'	96'	96'	96'	96'	96'
6.	Static Water Level of Well below Land Surface (msl)	60	60	48	59	59	56
7.	Flow for Spring/Stream (gpm or cfs)	NA	NA	NA	NA	NA	NA
8.	Date Above Measurements Made	11/03/90	12/10/90	01/04/91	02/05/91	03/05/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	8	8	8.1	8	7.6	8.5
11.	Total Acidity (mg/l CAC03)	0	0	0	12.16	13.87	0
12.	Total Alkalinity (mg/l CAC03)	350	416	296	303.24	319.58	383.23
13.	Specific Conductivity (µmhos/cm at 25°C)	725	850	660	630	588	735
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.03	0.08	0.07	0.04	0.00	0.00
16.	Total Sulfates (mg/l)	26	11	74		11	
17.	Total Iron (mg/l)	0.07	0.21	0.68	0.33	0.07	0.05
18.	Total Suspended Solids (mg/l)	1.7	3	4	10	9	2
19.	Total Hardness (mg/l CAC03)	60	33.9	161.1	100	75	64
20.	Nitrates (mg/l)	3.74	2.11	0.97	0.00	0.00	3.42
21.	Date Sampled for Analysis	11/03/90	12/10/90	01/04/91	02/05/91	03/05/91	04/08/91
22.	Date Last Precipitation Event Occurred	11/01/90	12/04/90	01/04/91	02/05/91	03/03/91	04/08/91

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

W-168
2427613.9
730333.5
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name The Ohio Valley Coal Company LOG # 221729

1.	Identification No. of Sampling Station from Hydrology Map	WL-168	WL-168	WL-168	WL-168	WL-168	WL-168
2.	Lab Identification Number	W-L2	W-L2	W-L2	W-L2	W-L2	W-L2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1112	1112	1112	1112	1112	1112
5.	Depth of Well below Land Surface (feet)	62'	62'	62'	62'	62'	62'
6.	Static Water Level of Well below Land Surface (feet)	45'	42'	43'	45'	18'	30'
7.	Flow for Spring/Stream (gpm or cfs)	----	----	----	----	----	----
8.	Date Above Measurements Made	11-2	12-11	1-7	2-5	3-5	4-8
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	7.3	7.2	7.5	7.3	7.3	7.1
11.	Total Acidity (mg/l CAC03)	0	0	0	19.76	17.10	20.14
12.	Total Alkalinity (mg/l CAC03)	188	190	160	163.59	158.84	194.94
13.	Specific Conductivity (μmhos/cm at 25°C)	460	450	400	180	357	399
14.	Total Dissolved Solids (mg/l)	----	----	----	----	----	----
15.	Total Manganese (mg/l)	0.03	0.08	0.02	<0.02	<0.02	<0.02
16.	Total Sulfates (mg/l)	46	48	44	16	37	29
17.	Total Iron (mg/l)	0.21	0.14	0.08	0.18	0.16	<0.04
18.	Total Suspended Solids (mg/l)	0.3	0.3	3.6	3.0	4.0	2.0
19.	Total Hardness (mg/l CAC03)	156	82.9	132.8	180	176	210
20.	Nitrates (mg/l)	15.4	11.0	10.12	1.80	3.38	4.00
21.	Date Sampled for Analysis	11-2-90	12-11-90	1-7-91	2-5-91	3-5-91	4-8-91
22.	Date Last Precipitaiton Event Occurred	10-24-90	12-4-90	1-5-91	1-31-91	3-3-91	4-5-91

Laboratory Name ERI Labs

Address P. O. Box 259 City Brockway

State Pennsylvania Zip 15824

Note: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A, a statement giving the reasons why the information is unobtainable.

Note: For each sample provide data for either item 13 or item 14.

W-169
2427679.2
730337.4
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name The Ohio Valley Coal Company

1.	Identification No. of Sampling Station from Hydrology Map	DW-169	DW-169	DW-169	DW-169	DW-169	DW-169
2.	Lab Identification Number	W-K2	W-K2	W-K2	W-K2	W-K2	W-K2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1112	1112	1112	1112	1112	1112
5.	Depth of Well below Land Surface (feet)	25'	25'	25'	25'	25'	25'
6.	Static Water Level of Well below Land Surface (feet)	19'	18'	19'	19'	19'	19'
7.	Flow for Spring/Stream (gpm or cfs)	----	----	----	----	----	----
8.	Date Above Measurements Made	11-2-90	12-11-90	1-7-91	2-5-91	3-5-91	4-8-91
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.0	6.9	7.3	7.3	7.2	7.0
11.	Total Acidity (mg/l CAC03)	0	0	0	18.05	24.51	17.67
12.	Total Alkalinity (mg/l CAC03)	204	194	60	158.65	103.93	113.81
13.	Specific Conductivity (μmhos/cm at 25°C)	500	500	255	410	270	347
14.	Total Dissolved Solids (mg/l)	----	----	----	----	----	----
15.	Total Manganese (mg/l)	0.17	0.11	0.06	0.02	0.03	<0.02
16.	Total Sulfates (mg/l)	58	68	37	20.0	45.0	38.0
17.	Total Iron (mg/l)	0.79	0.29	0.84	0.19	3.33	0.07
18.	Total Suspended Solids (mg/l)	0.3	4.0	21.3	4.0	18	1.0
19.	Total Hardness (mg/l CAC03)	178	103.6	70.2	176	136	132
20.	Nitrates (mg/l)	1.72	13.6	12.32	1.93	4.18	5.39
21.	Date Sampled for Analysis	11-2-90	12-11-90	1-7-91	2-5-91	3-5-91	4-8-91
22.	Date Last Precipitaiton Event Occurred	10-24-90	12-4-90	1-5-91	1-31-91	3-3-91	4-5-91

Laboratory Name ERI Labs

Address P. O. Box 259 City Brockway

State Pennsylvania Zip 15824

Note: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A, a statement giving the reasons why the information is unobtainable.

Note: For each sample provide data for either item 13 or item 14.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	W-170	W-170	W-170	W-170	W-170	W-170
2.	Lab Identification Number	W-M2	W-M2	W-M2	W-M2	W/M2	W-M2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1105	1105	1105	1105	1105	1105
5.	Depth of Well below Land Surface (feet)	75	75	75	75	75	75
6.	Static Water Level of Well below Land Surface (feet)	50	52	47	52	52	53
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/02/90	12/11/90	01/18/91	02/05/91	03/04/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	7.0	6.8	6.9	7.0	7.0	7.0
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	29.26	21.28	30.02
12.	Total Alkalinity (mg/l CAC03)	186.00	160.00	88.00	151.62	139.27	146.49
13.	Specific Conductivity (μmhos/cm at 25°C)	1025	975	610	945	714	840
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.03	.28	.03	.02	.04	.10
16.	Total Sulfates (mg/l)	76.0	88.0	64.0	54.0	51.0	49.0
17.	Total Iron (mg/l)	0.13	0.12	0.06	0.09	0.20	0.00
18.	Total Suspended Solids (mg/l)	3.0	2.0	4.0	2.0	3.0	3.0
19.	Total Hardness (mg/l CAC03)	256	141.1	137.8	288	276	304
20.	Nitrates (mg/l)	36.1	29.04	29.04	5.16	7.81	3.5
21.	Date Sampled for Analysis	11/02/90	12/11/90	01/18/91	02/05/91	03/04/91	04/08/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	01/17/91	01/31/91	03/03/91	04/05/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	W-171	W-171	W-171	W-171	W-171	W-171
2.	Lab Identification Number	W-V2	W-V2	W-V2	W-V2	W-V2	W-V2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1113	1113	1113	1113	1113	1113
5.	Depth of Well below Land Surface (feet)	89	89	89	89	89	89
6.	Static Water Level of Well below Land Surface (feet)	33	32	20	22	19	23
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/05/90	12/12/90	01/22/91	02/05/91	03/18/91	04/26/91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	6.7	6.6	7.3	7.0	7.0	6.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	26.03	14.44	36.86
12.	Total Alkalinity (mg/l CAC03)	124.00	190.00	140.00	160.36	132.24	168.72
13.	Specific Conductivity (μmhos/cm at 25°C)	700	700	550	651	473	798
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.05	.09	.03	.02	0	0
16.	Total Sulfates (mg/l)	57.0	59.0	88.0	41.0	50.0	42.0
17.	Total Iron (mg/l)	0.40	1.17	0.33	0.60	0.12	0.05
18.	Total Suspended Solids (mg/l)	16.7	2.0	3.3	2.0	5.0	0.0
19.	Total Hardness (mg/l CAC03)	315	160.5	169	270	212	367
20.	Nitrates (mg/l)	12.8	11.88	25.5	2.52	8.24	4.85
21.	Date Sampled for Analysis	11/05/90	12/12/90	01/22/91	02/05/91	03/18/91	04/26/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	01/21/91	01/31/91	03/17/91	04/24/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	W-172	W-172	W-172	W-172	W-172	W-172
2.	Lab Identification Number	W-W2	W-W2	W-W2	W-W2	W-W2	W-W2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1106	1106	1106	1106	1106	1106
5.	Depth of Well below Land Surface (feet)	116	116	116	116	116	116
6.	Static Water Level of Well below Land Surface (feet)	21	19	17	20	17	25
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/05/90	10/12/90	01/22/91	02/05/91	03/18/91	04/26/91
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	7.0	6.9	7.0	7.0	7.0	7.0
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	20.90	18.62	13.49
12.	Total Alkalinity (mg/l CAC03)	176.00	180.00	150.00	156.37	154.85	175.37
13.	Specific Conductivity (μmhos/cm at 25°C)	610	603	475	588	441	630
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.09	.07	.02	0	0	0
16.	Total Sulfates (mg/l)	50.0	58.0	58.0	40.0	18.0	45.0
17.	Total Iron (mg/l)	1.48	0.12	0.06	0.09	0.04	0.07
18.	Total Suspended Solids (mg/l)	11.0	0.3	2.3	3.0	2.0	4.0
19.	Total Hardness (mg/l CAC03)	220	130.3	154.3	230	200	264
20.	Nitrates (mg/l)	36.5	25.96	16.28	3.69	6.18	5.6
21.	Date Sampled for Analysis	11/05/90	10/12/90	01/22/91	02/05/91	03/18/91	04/26/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	01/02/91	01/31/91	03/17/91	04/24/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	DW-173	DW-173	DW-173	DW-173	DW-173	D W-173
2.	Lab Identification Number	W-J2	W-J2	W-J2	W-J2	W-J2	W-J2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1166	1166	1166	1166	1166	1166
5.	Depth of Well below Land Surface (feet)	25	25	25	25	25	25
6.	Static Water Level of Well below Land Surface (feet)	17	18	13	16	17	15
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/02/90	12/11/90	01/04/91	02/04/91	03/18/91	04/11/91
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.3	7.3	7.3	7.3	7.3	7.0
	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	27.55	25.27	18.24
12.	Total Alkalinity (mg/l CAC03)	240.00	254.00	260.00	245.86	245.67	235.03
13.	Specific Conductivity (μmhos/cm at 25°C)	550	520	560	567	473	483
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.23	.34	.06	.06	0	.02
16.	Total Sulfates (mg/l)	47.0	56.0	61.0	35.0	34.0	34.0
17.	Total Iron (mg/l)	0.19	0.15	0.16	0.34	0.00	0.04
18.	Total Suspended Solids (mg/l)	1.7	4.0	3.6	18.0	6.0	5.0
19.	Total Hardness (mg/l CAC03)	219	134.6	205.3	275	268	252
20.	Nitrates (mg/l)	15.4	13.6	9.24	1.89	4.48	3.91
21.	Date Sampled for Analysis	11/02/90	12/11/90	01/04/91	02/04/91	03/18/91	04/11/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	12/30/90	01/31/91	03/17/91	04/09/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	W-174	W-174	W-174	W-174	W-174	W-174
2.	Lab Identification Number	W-Q2	W-Q2	W-Q2	W-Q2	W-Q2	W-Q2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1117	1117	1117	1117	1117	1117
5.	Depth of Well below Land Surface (feet)	101	101	101	101	101	101
6.	Static Water Level of Well below Land Surface (feet)	90	97	83	85	82	63
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/03/90	12/11/90	01/18/91	02/05/91	03/04/91	04/08/91
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	7.3	7.6	7.6	7.4	8.0	7.5
	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	19.38	6.27	17.29
12.	Total Alkalinity (mg/l CAC03)	324.00	248.00	300.00	270.56	68.97	269.23
13.	Specific Conductivity (μmhos/cm at 25°C)	675	610	600	630	389	503
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.04	.07	.01	0	0	0
16.	Total Sulfates (mg/l)	28.0	25.0	64.0	22.0	84.0	21.0
17.	Total Iron (mg/l)	0.57	0.57	0.03	0.07	0.53	0.10
18.	Total Suspended Solids (mg/l)	7.0	1.6	3.0	0.0	8.0	4.0
19.	Total Hardness (mg/l CAC03)	100	40.7	91.6	190	138	212
20.	Nitrates (mg/l)	4.84	1.58	.04	0	7.46	2.97
21.	Date Sampled for Analysis	11/03/90	12/11/90	01/18/91	02/05/91	03/04/91	04/08/91
?.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	01/17/91	01/31/91	03/03/91	04/05/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	W-175	W-175	W-175	W-175	W-175	W-175
2.	Lab Identification Number	W-B3	W-B3	W-B3	W-B3	W-B3	W-B3
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1132	1132	1132	1132	1132	1132
5.	Depth of Well below Land Surface (feet)	46	46	46	46	46	46
6.	Static Water Level of Well below Land Surface (feet)	15	15	14	14	14	15
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/08/90	12/14/90	01/14/91	02/05/91	03/11/91	04/09/91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	6.9	6.5	7.0	6.8	6.6	7.0
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	26.79	28.50	37.24
12.	Total Alkalinity (mg/l CAC03)	188.00	192.00	188.00	178.22	177.46	183.54
13.	Specific Conductivity (μmhos/cm at 25°C)	1150	1015	1060	1155	987	861
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.19	.19	1.07	.12	3.14	1.4
16.	Total Sulfates (mg/l)	76.0	105.0	96.0	70.0	65.0	65.0
17.	Total Iron (mg/l)	0.38	0.71	3.41	0.16	18.40	9.00
18.	Total Suspended Solids (mg/l)	4.0	0.3	9.3	2.0	18.0	12.0
19.	Total Hardness (mg/l CAC03)	30	24.7	370.1	120	422	438
20.	Nitrates (mg/l)	6.16	4	1.7	1.11	1.43	2.58
21.	Date Sampled for Analysis	11/08/90	12/14/90	01/14/91	02/05/91	03/11/91	04/09/91
22.	Date Last Precipitaiton Event Occurred	11/07/90	12/04/90	12/30/90	01/31/91	03/10/91	04/08/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	W-176	W-176	W-176	W-176	W-176	W-176
2.	Lab Identification Number	W-R2	W-R2	W-R2	W-R2	W-R2	W-R2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1142	1142	1142	1142	1142	1142
5.	Depth of Well below Land Surface (feet)	43	43	43	43	43	43
6.	Static Water Level of Well below Land Surface (feet)	16	15	15	16	16	17
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/03/90	12/14/90	01/04/91	02/05/91	03/04/91	04/09/91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	6.7	7.0	7.3	6.5	7.0	7.0
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	39.52	29.64	33.25
12.	Total Alkalinity (mg/l CAC03)	216.00	146.00	214.00	204.82	198.55	194.56
13.	Specific Conductivity (μmhos/cm at 25°C)	1325	1410	1480	1470	1155	1155
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.14	.14	.11	.05	.05	.08
16.	Total Sulfates (mg/l)	66.0	110.0	96.0	72.0	75.0	68.0
17.	Total Iron (mg/l)	0.42	0.44	0.19	0.25	0.21	0.09
18.	Total Suspended Solids (mg/l)	1.0	0.6	2.3	1.0	3.0	0.0
19.	Total Hardness (mg/l CAC03)	386	244.9	377.5	486	460	496
20.	Nitrates (mg/l)	10.1	6.6	3.87	1.28	1.2	2.78
21.	Date Sampled for Analysis	11/03/90	12/14/90	01/04/91	02/05/91	03/04/91	04/09/91
22.	Date Last Precipitaiton *Event Occurred*	10/24/90	12/04/90	12/30/90	01/31/91	03/03/91	04/08/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY LOG # 185216

1.	Identification No. of Sampling Station from Hydrology Map	WL -177	WL -177	WL-177	WL-177	WL -177	WL -177
2.	Lab Identification Number	W-Y2	W-Y2	W-Y2	W-Y2	W-Y2	W-Y2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1183	1183	1183	1183	1183	1183
5.	Depth of Well below Land Surface (feet)	71	71	71	71	71	71
6.	Static Water Level of Well below Land Surface (feet)	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/06/90	12/11/90	01/22/91	02/02/91	03/02/91	04/09/91
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	6.7	7.3	7.3	7.4	7.2	7.3
1.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	22.42	14.63	8.55
12.	Total Alkalinity (mg/l CAC03)	288.00	220.00	216.00	214.13	210.14	211.28
13.	Specific Conductivity (μmhos/cm at 25°C)	500	510	510	546	441	452
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.04	.09	.01	0	0	0
16.	Total Sulfates (mg/l)	38.0	37.0	47.0	36.0	37.0	31.0
17.	Total Iron (mg/l)	0.06	0.10	0.01	0.11	0.04	0.00
18.	Total Suspended Solids (mg/l)	0.3	2.0	1.7	1.0	2.0	1.0
19.	Total Hardness (mg/l CAC03)	209	132.8	194.5	242	228	224
20.	Nitrates (mg/l)	22.9	22.44	22.88	3.16	8.54	7.12
21.	Date Sampled for Analysis	11/06/90	12/11/90	01/22/91	02/02/91	03/02/91	04/09/91
22.	Date Last Precipitaiton Event Occurred	11/05/90	12/04/90	01/21/91	01/31/91	03/01/91	04/08/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

LOCATION
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Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	D W-178	D W-178	D W-178	D W-178	D W-178	D W-178
2.	Lab Identification Number	W/X2	W-X2	W-X2	W-X2	W-X2	W-X2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1225	1225	1225	1225	1225	1225
5.	Depth of Well below Land Surface (feet)	44	44	44	44	44	44
6.	Static Water Level of Well below Land Surface (feet)	39	30	23	34	17	39
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	11/06/90	12/11/90	01/04/91	02/06/91	03/08/91	04/09/91
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	6.7	7.4	7.3	7.8	7.3	7.4
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	20.71	18.24	15.20
12.	Total Alkalinity (mg/l CAC03)	290.00	188.00	240.00	234.65	215.84	189.05
13.	Specific Conductivity (μmhos/cm at 25°C)	915	675	825	892	819	630
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	.03	.08	.02	.02	.05	.05
16.	Total Sulfates (mg/l)	76.0	96.0	91.0	60.0	52.0	70.0
17.	Total Iron (mg/l)	0.16	0.14	0.03	0.21	0.92	0.35
18.	Total Suspended Solids (mg/l)	0.3	2.3	3.0	15.0	6.0	11.0
19.	Total Hardness (mg/l CAC03)	275	158.8	263.2	320	272	260
20.	Nitrates (mg/l)	48.4	42.24	30.36	6.92	12.10	11.2
21.	Date Sampled for Analysis	11/06/90	12/11/90	01/04/91	02/06/91	03/08/91	04/09/91
22.	Date Last Precipitaiton Event Occurred	11/05/90	12/04/90	12/30/90	02/05/91	03/06/91	04/08/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

W-268
2430612.5
732223.72
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	DW-268	DW-268	D W-268	D W-268	DW-268	D W-268
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1190	1190	1190	1190	1190	1190
5.	Depth of Well below Land Surface (feet)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
6.	Static Water Level of Well below Land Surface (feet)	COVERED	COVERED	COVERED	COVERED	COVERED	COVERED
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made						
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
0.	pH (Standard Units)						
	Total Acidity (mg/l CAC03)						
12.	Total Alkalinity (mg/l CAC03)						
13.	Specific Conductivity (μmhos/cm at 25°C)						
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)						
16.	Total Sulfates (mg/l)						
17.	Total Iron (mg/l)						
18.	Total Suspended Solids (mg/l)						
19.	Total Hardness (mg/l CAC03)						
20.	Nitrates (mg/l)						
21.	Date Sampled for Analysis						
22.	Date Last Precipitaiton Event Occurred						

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

9/88
W-294
2427477.6
730426.84
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	W-294	W-294	W-294	W-294	W-294	W-294
2. Lab Identification Number	93-11-605	93-12-560	94-01-743	94-02-560	94-03-1380	94-04-980
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1125	1125	1125	1125	1125	1125
5. Depth of Well below Land Surface (feet)	57	57	57	57	57	57
6. Static Water Level of Well below Land Surface (feet)	42	42	44	43	43	53
7. Flow for Spring/Stream (gpm or cfs)	–	–	–	–	–	–
8. Date Above Measurements Made	11/17/93	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10. pH (Standard Units)	7.8	7.4	7.4	7.7	7.6	7.7
11. Total Acidity (mg/l CAC03)	0.00	7.20	6.60	5.60	5.00	8.40
12. Total Alkalinity (mg/l CAC03)	213.20	209.60	215.20	204.00	181.20	210.60
13. Specific Conductivity (μmhos/cm at 25°C)	426	452	435	413	447	399
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	<0.02	0.03	0.02	<0.02	0.12	<0.02
16. Total Sulfates (mg/l)	<10.0	5.0	<10.0	12.0	12.0	<10.0
17. Total Iron (mg/l)	0.10	0.56	0.53	0.14	6.00	0.29
18. Total Suspended Solids (mg/l)	1.0	5.0	6.0	2.0	15.0	4.0
19. Total Hardness (mg/l CAC03)	<10.0	197.0	200.0	197.0	188.0	184.0
20. Nitrates (mg/l)	1.00	0.85	0.61	0.42	0.33	0.60
21. Date Sampled for Analysis	11/17/93	12/15/93	01/27/94	02/16/94	03/31/94	04/29/94
22. Date Last Precipitaiton Event Occurred	11/17/93	12/15/93	01/27/94	02/13/94	03/28/94	04/29/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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W-316
2425571.9
731002.22
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	W-316	W-316	W-316	W-316	W-316	W-316
2. Lab Identification Number	93-11-943	93-12-578	94-01-744	94-02-565	94-03-1391	94-04-1002
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1203	1203	1203	1203	1203	1203
5. Depth of Well below Land Surface (feet)	72	72	72	72	72	72
6. Static Water Level of Well below Land Surface (feet)	52	42	45	40	39	42
7. Flow for Spring/Stream (gpm or cfs)	–	–	–	–	–	–
8. Date Above Measurements Made	11/29/93	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10. pH (Standard Units)	7.3	7.0	6.9	7.3	6.1	6.7
11. Total Acidity (mg/l CAC03)	9.20	8.20	17.00	11.20	8.00	6.40
12. Total Alkalinity (mg/l CAC03)	240.80	140.60	168.00	239.80	21.60	41.40
13. Specific Conductivity (μmhos/cm at 25°C)	686	582	615	742	458	483
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.05	0.18	<0.02	<0.02	0.05	0.04
16. Total Sulfates (mg/l)	47.0	28.0	57.0	37.0	93.0	83.0
17. Total Iron (mg/l)	0.31	1.41	0.46	0.08	0.66	0.37
18. Total Suspended Solids (mg/l)	9.0	9.0	9.0	4.0	6.0	6.0
19. Total Hardness (mg/l CAC03)	328.0	234.0	289.0	368.0	152.0	187.0
20. Nitrates (mg/l)	10.63	10.12	1.52	17.20	6.80	18.20
21. Date Sampled for Analysis	11/29/93	12/15/93	01/27/94	02/16/94	03/31/94	04/28/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/27/94	02/13/94	03/28/94	04/28/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

W-317
2424458.3
731106.97

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

PAN Applicant's Name The Ohio Valley Coal Company LOG # 723694

1.	Identification No. of Sampling Station from Hydrology Map	WL-317					
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1303					
5.	Depth of Well below Land Surface (feet)	REP 90					
6.	Static Water Level of Well below Land Surface (feet)	Buried					
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made						
9.	Aquifer/Zone Identification for Well/Spring	B					
10.	pH (Standard Units)						
11.	Total Acidity (mg/l CAC03)						
12.	Total Alkalinity (mg/l CAC03)						
13.	Specific Conductivity (μmhos/cm at 25°C)						
14.	Total Dissolved Solids (mg/l)						
15.	Total Manganese (mg/l)						
16.	Total Sulfates (mg/l)						
17.	Total Iron (mg/l)						
18.	Total Suspended Solids (mg/l)						
19.	Total Hardness (mg/l CAC03)						
20.	Nitrates (mg/l)						
21.	Date Sampled for Analysis						
22.	Date Last Precipitaiton Event Occurred						

Laboratory Name ERI Labs

Address P. O. Box 259 City Brockway

State Pennsylvania Zip 15824

Note: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A, a statement giving the reasons why the information is unobtainable.

Note: For each sample provide data for either item 13 or item 14.

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729933.58
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	D W-318	D W-318	D W-318	D W-318	DW-318	DW-318
2. Lab Identification Number	93-11-944	93-12-580	94-01-651	94-02-566	94-03-1392	94-04-1003
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1304	1304	1304	1304	1304	1304
5. Depth of Well below Land Surface (feet)	18	18	18	18	18	18
6. Static Water Level of Well below Land Surface (feet)	7	8	11	7.5	18	8
7. Flow for Spring/Stream (gpm or cfs)	–	–	–	–	–	–
8. Date Above Measurements Made	11/30/93	12/15/93	01/24/94	02/16/94	03/31/94	04/28/94
9. Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10. pH (Standard Units)	7.2	7.0	7.2	7.0	6.8	6.7
11. Total Acidity (mg/l CAC03)	14.40	11.20	14.80	10.00	16.60	23.80
12. Total Alkalinity (mg/l CAC03)	200.00	209.20	233.20	226.40	220.60	220.20
13. Specific Conductivity (μmhos/cm at 25°C)	1040	832	735	700	741	672
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	<0.02	0.02	<0.02	<0.02	<0.02	0.02
16. Total Sulfates (mg/l)	64.0	34.0	14.0	29.0	41.0	42.0
17. Total Iron (mg/l)	0.09	0.30	0.09	0.05	0.04	0.18
18. Total Suspended Solids (mg/l)	8.0	4.0	3.0	6.0	3.0	8.0
19. Total Hardness (mg/l CAC03)	358.0	332.0	323.0	319.0	319.0	336.0
20. Nitrates (mg/l)	2.90	2.58	3.45	3.41	5.62	3.81
21. Date Sampled for Analysis	11/30/93	12/15/93	01/24/94	02/16/94	03/31/94	04/29/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/24/94	02/13/94	03/28/94	04/29/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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W-323
2428247.8
730732.16
ADJ

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES: X 2,428,446 Y 730,695

1. Identification No. of Sampling Station from Hydrology Map	W-323	W-323				
2. Lab Identification Number	94-06-994	94-07-665				
3. High (H)/Low (L) Designation (if applicable)	H	L				
4. Surface Elevation for Sampling Station (msl)	1138	1138				
5. Depth of Well below Land Surface (feet)	120	120				
6. Static Water Level of Well below Land Surface (feet)	59	62				
7. Flow for Spring/Stream (gpm or cfs)	-	-				
8. Date Above Measurements Made	06/25/94	07/26/94				
9. Aquifer/Zone Identification for Well/Spring	D	D				
10. pH (Standard Units)	8.3	8.9				
11. Total Acidity (mg/l CAC03)	0.0	0				
12. Total Alkalinity (mg/l CAC03)	344.80	351				
13. Specific Conductivity (μmhos/cm at 25°C)	663	665				
14. Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15. Total Manganese (mg/l)	<0.02	<0.02				
16. Total Sulfates (mg/l)	<10.0	5.0				
17. Total Iron (mg/l)	0.06	0.62				
18. Total Suspended Solids (mg/l)	3.0	14.0				
19. Total Hardness (mg/l CAC03)	80.0	682				
20. Nitrates (mg/l)	3.16	<0.50				
21. Date Sampled for Analysis	06/25/94	07/26/94				
22. Date Last Precipitaiton Event Occurred	06/24/94	07/25/94				

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,271.59			Y 730,759.40	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-374	W-374	W-374	W-374	W-374	W-374
2.	Lab Identification Number	9701127	9702308	9703266	9704344	9705261	9706283
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1290	1290	1290	1290	1290	1290
5.	Depth of Well below Land Surface (msl)	51	51	51	51	51	51
6.	Static Water Level of Well below Land Surface (msl)	41	41	42	43	44	43
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/15/97	02/27/97	03/22/97	04/25/97	05/22/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.3	7.3	7.3	7.8
11.	Total Acidity (mg/l CAC03)	13	10	12	8	9	4.8
12.	Total Alkalinity (mg/l CAC03)	140	130	150	140	150	130
13.	Specific Conductivity (µmhos/cm at 25°C)	300	280	340	320	340	310
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	31	30	30	31	31	29
17.	Total Iron (mg/l)	0.32	0	0.06	0	0	0.1
18.	Total Suspended Solids (mg/l)	15	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	150	150	270	150	170	200
20.	Nitrates (mg/l)	1.4	1.8	1.2	1.3	1.7	0.85
21.	Date Sampled for Analysis	01/15/97	02/27/97	03/22/97	04/25/97	05/22/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/15/97	02/26/97	03/18/97	04/25/97	05/19/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,833.18			Y 734,509.96	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-375	W-375	W-375	W-375	W-375	W-375
2.	Lab Identification Number	9701250	9702202	9703147	9704124	9705131	9706184
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1247	1247	1247	1247	1247	1247
5.	Depth of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/20/97	06/19/97
9.	Aquifer/Zone Identification for Well/Spring	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
10.	pH (Standard Units)	7.5	7.4	7.2	7.2	7.6	7.4
11.	Total Acidity (mg/l CAC03)	11	13	26	16	11	8.4
12.	Total Alkalinity (mg/l CAC03)	200	200	230	200	200	190
13.	Specific Conductivity (µmhos/cm at 25°C)	430	490	500	490	490	510
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.03
16.	Total Sulfates (mg/l)	65	66	38	64	69	64
17.	Total Iron (mg/l)	0	0	0.14	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	1.5	0	0	0
19.	Total Hardness (mg/l CAC03)	270	260	290	300	300	310
20.	Nitrates (mg/l)	8.2	9.5	11	7.8	8.6	13
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/20/97	06/19/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/19/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,427,224.62			Y 735,390.79	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DW-376	DW-376	DW-376	DW-376	DW-376	DW-376
2.	Lab Identification Number	9701253	9702210	9703133	9704127	9705135	9706225
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1250	1250	1250	1250	1250	1250
5.	Depth of Well below Land Surface (msl)	30	30	30	30	30	30
6.	Static Water Level of Well below Land Surface (msl)	7	4	5	6	5	4
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7	7	7.1	7.1	7.4	7.2
11.	Total Acidity (mg/l CAC03)	11	6.1	22	14	7.4	17
12.	Total Alkalinity (mg/l CAC03)	160	140	110	140	170	150
13.	Specific Conductivity (µmhos/cm at 25°C)	340	360	280	390	380	410
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	46	44	40	49	47	41
17.	Total Iron (mg/l)	0.06	0	0.16	0	0.06	0.07
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	230	200	180	190	300	210
20.	Nitrates (mg/l)	3.5	5.8	7.8	6.5	5.3	5.5
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,888.56			Y 735,335.78	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-377	W-377	W-377	W-377	W-377	W-377
2.	Lab Identification Number	9701255	9702211	9703132	9704129	9705137	9706223
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1282	1282	1282	1282	1282	1282
5.	Depth of Well below Land Surface (msl)	86	86	86	86	86	86
6.	Static Water Level of Well below Land Surface (msl)	30	29	29	30	57	46
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.2	7.3	7.3	7.2	7.4	7.4
11.	Total Acidity (mg/l CAC03)	11	5.3	24	16	5.3	13
12.	Total Alkalinity (mg/l CAC03)	190	190	190	190	190	190
13.	Specific Conductivity (µmhos/cm at 25°C)	380	430	410	460	420	470
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00	0.00	0.02	0.00
16.	Total Sulfates (mg/l)	54	51	53	56	54	50
17.	Total Iron (mg/l)	0	0	0	0.05	0.23	0
18.	Total Suspended Solids (mg/l)	0	2	0	0	0	0
19.	Total Hardness (mg/l CAC03)	220	230	230	220	220	240
20.	Nitrates (mg/l)	3.6	3.9	3.9	4	3.2	0.56
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,426,756.00			Y 735,684.33	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-378	W-378	W-378	W-378	W-378	W-378
2.	Lab Identification Number	9701256	9702212	9703131	9704130	9705251	9706222
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325	1325	1325	1325
5.	Depth of Well below Land Surface (msl)	68	68	68	68	68	68
6.	Static Water Level of Well below Land Surface (msl)	27	27	27	28	28	29
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/20/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.2	7.1	7.3	7.4
11.	Total Acidity (mg/l CAC03)	12	9.8	41	17	19	19
12.	Total Alkalinity (mg/l CAC03)	220	230	190	230	250	240
13.	Specific Conductivity (µmhos/cm at 25°C)	410	470	430	460	470	520
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	51	21	53	52	47	47
17.	Total Iron (mg/l)	0	0	0	0	0	0.05
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	260	280	250	270	260	270
20.	Nitrates (mg/l)	3.1	2.3	6.8	4	1.4	2.6
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/20/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/19/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,633.15			Y 735,888.66	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-379	W-379	W-379	W-379	W-379	W-379
2.	Lab Identification Number	9701257	9702214	9703175	9704131	9705252	9706220
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1323	1323	1323	1323	1323	1323
5.	Depth of Well below Land Surface (msl)	120	120	120	120	120	120
6.	Static Water Level of Well below Land Surface (msl)	78	77	76	82	79	82
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/14/97	04/10/97	05/21/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.4	7.4	7.2	7.2	7.6
11.	Total Acidity (mg/l CAC03)	8.4	10	16	16	7.4	14
12.	Total Alkalinity (mg/l CAC03)	200	20	210	200	180	210
13.	Specific Conductivity (µmhos/cm at 25°C)	380	430	420	430	420	420
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	41	38	36	44	40	39
17.	Total Iron (mg/l)	0	0	0	0	0.07	0.06
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	230	260	240	230	220	220
20.	Nitrates (mg/l)	12	2	4.6	1.5	1.2	1.3
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/14/97	04/10/97	05/21/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/14/97	04/08/97	05/19/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
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SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,874.06			Y 736,765.16	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-380	W-380	W-380	W-380	W-380	W-380
2.	Lab Identification Number	9701258	9702222	9703182	9704139	9705249	9706213
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1350	1350	1350	1350	1350	1350
5.	Depth of Well below Land Surface (msl)	80	80	80	80	80	80
6.	Static Water Level of Well below Land Surface (msl)	61	63	59	65	61	61
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/14/97	04/10/97	05/20/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.4	7.4	7.3	7.3	7.3	7.3
11.	Total Acidity (mg/l CAC03)	9.2	11	14	14	4.5	8.2
12.	Total Alkalinity (mg/l CAC03)	200	220	210	220	160	160
13.	Specific Conductivity (µmhos/cm at 25°C)	360	420	380	410	340	370
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.02	0.00
16.	Total Sulfates (mg/l)	35	35	32	38	36	32
17.	Total Iron (mg/l)	0	0	0	0	0.28	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	220	230	240	230	130	190
20.	Nitrates (mg/l)	0.58	0.51	0.5	0.47	0	0.67
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/14/97	04/10/97	05/20/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/14/97	04/08/97	05/19/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY LOG # 751351

STATE PLANE COORDINATES:		X 2,426,233.39			Y 735,733.97	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	WL-381	WL-381	WL-381	WL-381	WL-381	WL-381
2.	Lab Identification Number	9701259	9702213	9703130	9704137	9705239	9706221
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325	1325	1325	1325
5.	Depth of Well below Land Surface (msl)	112'	112'	112'	112'	112'	112'
6.	Static Water Level of Well below Land Surface (msl)	42	40	40	42	43	44
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/12/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.2	7.3	7.1	7.2	7.1
11.	Total Acidity (mg/l CAC03)	10	8.1	65	19	9.6	28
12.	Total Alkalinity (mg/l CAC03)	240	240	250	230	150	250
13.	Specific Conductivity (µmhos/cm at 25°C)	530	560	630	500	360	620
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	110	93	51	69	50	110
17.	Total Iron (mg/l)	0	0	0	0.09	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	15	0
19.	Total Hardness (mg/l CAC03)	300	310	340	300	300	360
20.	Nitrates (mg/l)	1.1	0.72	1.2	1.2	1.2	0.72
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/12/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/09/97	04/08/97	05/25/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,507.50			Y 736,867.40	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-382	W-382	W-382	W-382	W-382	W-382
2.	Lab Identification Number	9701260	9702221	9703242	9704128	9705248	9706212
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1350	1350	1350	1350	1350	1350
5.	Depth of Well below Land Surface (msl)	155	155	155	155	155	155
6.	Static Water Level of Well below Land Surface (msl)	82	78	77	82	84	85
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/27/97	02/20/97	03/19/97	04/10/97	05/20/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7	7.3	7	7.3	7.7
11.	Total Acidity (mg/l CAC03)	14	20	19	23	14	22
12.	Total Alkalinity (mg/l CAC03)	240	260	270	270	240	280
13.	Specific Conductivity (µmhos/cm at 25°C)	480	540	590	540	560	620
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	44	45	54	57	50	47
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	300	300	320	300	320	280
20.	Nitrates (mg/l)	3.8	3.6	5.3	2.9	1.2	4
21.	Date Sampled for Analysis	01/27/97	02/20/97	03/19/97	04/10/97	05/20/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/27/97	02/19/97	03/18/97	04/08/97	05/19/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,573.93			Y 735,152.30	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-383	W-383	W-383	W-383	W-383	W-383
2.	Lab Identification Number	9701279	9702257	9703187	9704142	9705223	9706295
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1362	1362	1362	1362	1362	1362
5.	Depth of Well below Land Surface (msl)	125	125	125	125	125	125
6.	Static Water Level of Well below Land Surface (msl)	57	57	56	57	57	59
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.2	7	7.2	7.1	7.2	7.2
11.	Total Acidity (mg/l CAC03)	14	23	15	21	20	14
12.	Total Alkalinity (mg/l CAC03)	220	200	220	230	220	210
13.	Specific Conductivity (µmhos/cm at 25°C)	580	530	590	600	600	610
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	77	34	72	88	76	65
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	330	240	330	320	300	280
20.	Nitrates (mg/l)	4.6	7.5	7	7.9	6	5.4
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/25/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,978.49			Y 735,577.66	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-384	W-384	W-384	W-384	W-384	W-384
2.	Lab Identification Number	9701280	9702256	9703185	9704141	9705222	9706297
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1335	1335	1335	1335	1335	1335
5.	Depth of Well below Land Surface (msl)	80	80	80	80	80	80
6.	Static Water Level of Well below Land Surface (msl)	32	33	33	32	33	34
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.2	7	7.1	7.3	7.3	7.3
11.	Total Acidity (mg/l CAC03)	11	18	15	14	13	8.3
12.	Total Alkalinity (mg/l CAC03)	190	180	230	190	180	190
13.	Specific Conductivity (µmhos/cm at 25°C)	450	450	610	450	430	500
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	54	45	69	52	48	49
17.	Total Iron (mg/l)	1.2	0.08	0	0.09	0	0.1
18.	Total Suspended Solids (mg/l)	17	3	0	0	0	0
19.	Total Hardness (mg/l CAC03)	260	210	360	220	240	250
20.	Nitrates (mg/l)	8.4	5.9	9.4	5.6	7	4.2
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/25/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,736.73			Y 735,222.29	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-385	W-385	W-385	W-385	W-385	W-385
2.	Lab Identification Number	9701281	9702259	9703186	9704143	9705224	9706296
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1363	1363	1363	1363	1363	1363
5.	Depth of Well below Land Surface (msl)	REPORTED 100'	REPORTED 100'	REPORTED 100'	REPORTED 100'	REPORTED 100'	REPORTED 100'
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7	6.7	7.1	6.7	6.9	6.9
11.	Total Acidity (mg/l CAC03)	20	32	16	21	28	16
12.	Total Alkalinity (mg/l CAC03)	170	160	160	150	154	180
13.	Specific Conductivity (µmhos/cm at 25°C)	450	470	420	450	460	540
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.04	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	67	67	61	69	68	64
17.	Total Iron (mg/l)	0.25	0	0.89	0	0	0.08
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	230	220	270	200	250	270
20.	Nitrates (mg/l)	5.4	6.8	7.7	8.2	6.3	3.8
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97	04/10/97	05/27/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/25/97	06/26/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,064.07			Y 737,117.16	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	W-386	W-386	W-386	W-386	W-386	W-386
2.	Lab Identification Number	9701283	9702253	9703228	9704289	9705255	9707001
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1350	1350	1350	1350	1350	1350
5.	Depth of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/24/97	03/18/97	04/23/97	05/22/97	06/28/97
9.	Aquifer/Zone Identification for Well/Spring	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
10.	pH (Standard Units)	7.3	7	7.2	7.2	7.4	7.4
11.	Total Acidity (mg/l CAC03)	13	34	27	12	9.9	15
12.	Total Alkalinity (mg/l CAC03)	230	230	220	220	220	220
13.	Specific Conductivity (µmhos/cm at 25°C)	470	530	610	500	500	460
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	48	55	48	48	49	41
17.	Total Iron (mg/l)	0.05	0.11	0.05	0	0.07	0.06
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	250	310	270	270	250	270
20.	Nitrates (mg/l)	5.4	7.2	2.8	5.3	3.8	2
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/18/97	04/23/97	05/22/97	06/28/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/18/97	04/23/97	05/19/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,250.08			Y 738,446.98	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DW-387	DW-387	DW-387	DW-387	DW-387	DW-387
2.	Lab Identification Number	9701284	9702233	9703146	9704345	9705238	9707002
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1260	1260	1260	1260	1260	1260
5.	Depth of Well below Land Surface (msl)	REPORTED 24'	REPORTED 24'	REPORTED 24'	REPORTED 24'	REPORTED 24'	REPORTED 24'
6.	Static Water Level of Well below Land Surface (msl)	OWNER REFUSED TO ALLOW MONITORING			19	19	19
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/20/97	03/13/97	04/25/97	05/27/97	06/28/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.3	7.4	7.3	7.3	7.3	7.3
11.	Total Acidity (mg/l CAC03)	6.8	9.8	22	10	12	14
12.	Total Alkalinity (mg/l CAC03)	160	160	200	160	170	170
13.	Specific Conductivity (µmhos/cm at 25°C)	430	480	500	480	480	500
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00	0.00	0.00	0.02
16.	Total Sulfates (mg/l)	94	90	94	97	78	88
17.	Total Iron (mg/l)	0.18	0.16	0.13	0.13	0.34	1.1
18.	Total Suspended Solids (mg/l)	0	2	0	0	0	0
19.	Total Hardness (mg/l CAC03)	230	250	260	250	230	260
20.	Nitrates (mg/l)	4.1	3.8	4.8	4.1	0.22	1.9
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/13/97	04/25/97	05/27/97	06/28/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/13/97	04/25/97	05/25/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,958.81		Y 739,274.74		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-388	W-388	W-388	W-388	W-388	W-388
2.	Lab Identification Number	9701285	9702230	9703140	9704117	9705138	9706205
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1160	1160	1160	1160	1160	1160
5.	Depth of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/20/97	03/13/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
10.	pH (Standard Units)	7.2	7.3	7.4	7.3	7.3	7.5
11.	Total Acidity (mg/l CAC03)	12	12	27	24	10	26
12.	Total Alkalinity (mg/l CAC03)	220	190	210	240	270	250
13.	Specific Conductivity (µmhos/cm at 25°C)	470	430	420	480	540	550
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0	0.00	0.06	0.00	0.04
16.	Total Sulfates (mg/l)	63	57	60	64	70	63
17.	Total Iron (mg/l)	0.13	0.16	0.28	0.2	0.2	0.28
18.	Total Suspended Solids (mg/l)	0	2.0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	250	230	260	280	300	300
20.	Nitrates (mg/l)	2.6	2.2	6.2	1.2	0	1.2
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/13/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/13/97	04/08/97	05/13/97	06/18/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,026.09			Y 739,508.63	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-389	W-389	W-389	W-389	W-389	W-389
2.	Lab Identification Number	9701287	9702231	9703139	9704346	9705148	9706206
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1145	1145	1145	1145	1145	1145
5.	Depth of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/20/97	03/13/97	04/25/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
10.	pH (Standard Units)	8	7.6	7.6	7.6	8	8.2
11.	Total Acidity (mg/l CAC03)	4.5	3.3	15	2.1	0	9.6
12.	Total Alkalinity (mg/l CAC03)	330	330	330	340	340	330
13.	Specific Conductivity (µmhos/cm at 25°C)	570	590	590	630	610	660
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.03
16.	Total Sulfates (mg/l)	44	43	49	49	50	42
17.	Total Iron (mg/l)	0	0	0.1	0.06	0.06	0.06
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	60	80	180	70	67	70
20.	Nitrates (mg/l)	0	0.11	0.16	0	0	0
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/13/97	04/25/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/13/97	04/25/97	05/13/97	06/18/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,427.69			Y 740,328.29	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-390	W-390	W-390	W-390	W-390	W-390
2.	Lab Identification Number	9701288	9702232	9703174	9704121	9705237	9706209
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1030	1030	1030	1030	1030	1030
5.	Depth of Well below Land Surface (msl)	66	66	66	66	66	66
6.	Static Water Level of Well below Land Surface (msl)	40	40	39	35	39	36
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/20/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	7.7	7.6	7.5	7.8	7.2	7.8
11.	Total Acidity (mg/l CAC03)	5.9	7.9	27	15	8	16
12.	Total Alkalinity (mg/l CAC03)	330	330	310	360	330	350
13.	Specific Conductivity (µmhos/cm at 25°C)	600	650	560	670	650	680
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.02	0.00
16.	Total Sulfates (mg/l)	28	26	36	22	25	29
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	1.3	0	0	0	0
19.	Total Hardness (mg/l CAC03)	160	150	200	100	160	120
20.	Nitrates (mg/l)	0.29	0.2	0.4	0.14	2.6	0
21.	Date Sampled for Analysis	01/20/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/17/97	02/19/97	03/14/97	04/08/97	05/25/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,947.39			Y 739,077.42	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DW-391	DW-391	DW-391	DW-391	DW-391	DW-391
2.	Lab Identification Number	9701291	9702228	9703142	9704115	9705140	9706203
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1120	1120	1120	1120	1120	1120
5.	Depth of Well below Land Surface (msl)	30	30	30	30	30	30
6.	Static Water Level of Well below Land Surface (msl)	22	22	22	23	22	23
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/20/97	03/13/97	04/10/97	05/15/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.3	7.1	7.1	6.9	6.9	7.1
11.	Total Acidity (mg/l CAC03)	5.2	5.1	14	13	8.2	12
12.	Total Alkalinity (mg/l CAC03)	99	45	69	85	56	57
13.	Specific Conductivity (µmhos/cm at 25°C)	220	200	190	260	210	220
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.02	0.06	0.00	0.02
16.	Total Sulfates (mg/l)	46	36	40	49	44	33
17.	Total Iron (mg/l)	0.13	0.23	0.44	3.8	0.15	0.15
18.	Total Suspended Solids (mg/l)	0	6	0	29	0	0
19.	Total Hardness (mg/l CAC03)	150	60	110	150	100	110
20.	Nitrates (mg/l)	1.8	1.6	2.1	1.6	1.6	3.3
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/13/97	04/10/97	05/15/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/13/97	04/08/97	05/13/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY LOG # 611632 74' deep 24' SWL

STATE PLANE COORDINATES: X 2,422,235.24 Y 735,803.17 LOCATION PAN

1.	Identification No. of Sampling Station from Hydrology Map	WL-392	WL-392	WL-392	WL-392	WL-392	WL-392
2.	Lab Identification Number	9701292	9702255	9703184	9704140	9705254	9707004
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325	1325	1325	1325
5.	Depth of Well below Land Surface (msl)	74'	74'	74'	74'	74'	74'
6.	Static Water Level of Well below Land Surface (msl)	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97	04/10/97	05/21/97	06/28/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.1	7.1	7	6.9	7	7.2
11.	Total Acidity (mg/l CAC03)	25	23	19	24	23	22
12.	Total Alkalinity (mg/l CAC03)	260	260	250	260	260	260
13.	Specific Conductivity (µmhos/cm at 25°C)	520	550	520	540	550	630
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	58	63	57	66	59	63
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	270	300	320	300	320	320
20.	Nitrates (mg/l)	1.8	2	6.7	1.4	1.7	1
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97	04/10/97	05/21/97	06/28/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/19/97	06/26/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,422,250.50			Y 735,915.44	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DW-393	DW-393	DW-393	DW-393	DW-393	DW-393
2.	Lab Identification Number	9701293	9702254	9703183	9704136	9705253	9707003
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1330	1330	1330	1330	1330	1330
5.	Depth of Well below Land Surface (msl)	30	30	30	30	30	30
6.	Static Water Level of Well below Land Surface (msl)	18	12	14	16	17	13
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/24/97	03/14/97	04/10/97	05/21/97	06/28/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.3	7.3	7.5	7.1	7.2	7.2
11.	Total Acidity (mg/l CAC03)	5.5	15	7.6	15	11	19
12.	Total Alkalinity (mg/l CAC03)	210	200	140	210	220	220
13.	Specific Conductivity (µmhos/cm at 25°C)	450	450	340	450	450	510
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	46	48	41	47	44	43
17.	Total Iron (mg/l)	0	0	0.23	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	260	280	220	220	250	230
20.	Nitrates (mg/l)	2.8	2.1	2.3	1.4	1.8	1.3
21.	Date Sampled for Analysis	01/28/97	02/24/97	03/14/97	04/10/97	05/21/97	06/28/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/08/97	05/19/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,408.07			Y 736,696.92	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-394	W-394	W-394	W-394	W-394	W-394
2.	Lab Identification Number	9701294	9702217	9703177	9704132	9705219	9706215
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1259	1259	1259	1259	1259	1259
5.	Depth of Well below Land Surface (msl)	80	80	80	80	80	80
6.	Static Water Level of Well below Land Surface (msl)	28	28	26	27	28	29
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.4	7.4	7.3	7.1	7.2	7.3
11.	Total Acidity (mg/l CAC03)	8.8	14	14	17	15	22
12.	Total Alkalinity (mg/l CAC03)	250	240	240	250	240	250
13.	Specific Conductivity (µmhos/cm at 25°C)	560	560	520	540	530	560
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	61	64	64	68	64	57
17.	Total Iron (mg/l)	0.11	0	0.06	0.05	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	290	290	300	290	310	300
20.	Nitrates (mg/l)	3.2	1.3	4.4	1.6	3.7	3.1
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/14/97	04/08/97	05/25/97	06/18/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,425,210.18			Y 736,705.15	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-395	W-395	W-395	W-395	W-395	W-395
2.	Lab Identification Number	9701296	9702219	9703181	9704133	9705240	9706218
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1258	1258	1258	1258	1258	1258
5.	Depth of Well below Land Surface (msl)	50	50	50	50	50	50
6.	Static Water Level of Well below Land Surface (msl)	15	15	14	15	15	17
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	7.3	7.5	7.5	7	7	7.7
11.	Total Acidity (mg/l CAC03)	3.9	3.2	7	10	6.2	8.4
12.	Total Alkalinity (mg/l CAC03)	72	110	120	160	120	160
13.	Specific Conductivity (µmhos/cm at 25°C)	160	270	250	410	240	390
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.06	0.06	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	22	26	29	50	19	34
17.	Total Iron (mg/l)	2.2	4.5	1.9	0.86	0.76	0.49
18.	Total Suspended Solids (mg/l)	10	12	60	29	0	0
19.	Total Hardness (mg/l CAC03)	110	130	170	200	130	160
20.	Nitrates (mg/l)	1.4	0.73	1.5	1.5	0	1.5
21.	Date Sampled for Analysis	01/28/97	02/20/97	03/14/97	04/10/97	05/27/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/19/97	03/14/97	04/08/97	05/25/97	06/18/97

Laboratory Name Tradet, Inc.
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SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,417.13			Y 730,260.52	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-396	W-396	W-396	W-396	W-396	W-396
2.	Lab Identification Number	9701306	9702311	9703259	9704337	9705259	9706282
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1305	1305	1305	1305	1305	1305
5.	Depth of Well below Land Surface (msl)	70	70	70	70	70	70
6.	Static Water Level of Well below Land Surface (msl)	37	37	36	37	38	39
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/30/97	02/27/97	03/22/97	04/25/97	05/22/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.2	7.3	7.3	7.5
11.	Total Acidity (mg/l CAC03)	34	9	17	12	9.4	9.1
12.	Total Alkalinity (mg/l CAC03)	180	170	170	200	200	190
13.	Specific Conductivity (µmhos/cm at 25°C)	380	430	440	480	460	510
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	54	58	57	54	44	52
17.	Total Iron (mg/l)	0	0	0	0.07	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	240	240	190	250	240	250
20.	Nitrates (mg/l)	2.4	2.6	2	11	1.6	2.4
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/22/97	04/25/97	05/22/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/18/97	04/25/97	05/19/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,242.60			Y 730,006.55	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	WL-397	WL-397	WL-397	WL-397	WL-397	WL-397
2.	Lab Identification Number	9701307	9702289	9703274	9704338	9705258	9706281
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1310	1310	1310	1310	1310	1310
5.	Depth of Well below Land Surface (msl)	51	51	51	51	51	51
6.	Static Water Level of Well below Land Surface (msl)	36	36	39	39	40	43
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/30/97	02/27/97	03/22/97	04/25/97	05/22/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.1	7.4	7.3	7.3	7.3	7.5
11.	Total Acidity (mg/l CAC03)	22	16	10	12	7	9.5
12.	Total Alkalinity (mg/l CAC03)	170	190	190	220	220	200
13.	Specific Conductivity (µmhos/cm at 25°C)	360	410	450	450	520	470
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.03	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	51	44	45	53	52	50
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	6	0	0
19.	Total Hardness (mg/l CAC03)	210	230	230	280	250	230
20.	Nitrates (mg/l)	0.87	2.7	2	0.47	0.33	0.23
21.	Date Sampled for Analysis	01/30/97	02/27/97	03/22/97	04/25/97	05/22/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/18/97	04/25/97	05/19/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,817.23			Y 732,166.19	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-401	W-401	W-401	W-401	W-401	W-401
2.	Lab Identification Number	9701315	9702265	9703235	9704287	9705269	9707008
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1318	1318	1318	1318	1318	1318
5.	Depth of Well below Land Surface (msl)	113	113	113	113	113	113
6.	Static Water Level of Well below Land Surface (msl)	39	38	38	42	42	42
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/30/97	02/24/97	03/19/97	04/23/97	05/22/97	06/28/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.3	7.3	7.6	7.2
11.	Total Acidity (mg/l CAC03)	12	16	12	10	14	17
12.	Total Alkalinity (mg/l CAC03)	210	220	210	220	230	230
13.	Specific Conductivity (µmhos/cm at 25°C)	720	660	670	640	610	670
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.04	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	120	100	130	110	85	76
17.	Total Iron (mg/l)	0	0	0	0	0	0
18.	Total Suspended Solids (mg/l)	0	0	0	0	0	0
19.	Total Hardness (mg/l CAC03)	380	370	350	340	330	310
20.	Nitrates (mg/l)	2.5	3.4	2.2	4.3	3.3	3.9
21.	Date Sampled for Analysis	01/30/97	02/24/97	03/19/97	04/23/97	05/22/97	06/28/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/18/97	04/23/97	05/19/97	06/26/97

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SPRING FLOW = GPM
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,417,701.83			Y 735,301.88	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-402	W-402	W-402	W-402	W-402	W-402
2.	Lab Identification Number	9701316	9702264	9703192	9704332	9705260	9706284
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1325	1325	1325	1325	1325	1325
5.	Depth of Well below Land Surface (msl)	119	119	119	119	119	119
6.	Static Water Level of Well below Land Surface (msl)	73	72	65	70	73	81
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/30/97	02/24/97	03/14/97	04/25/97	05/22/97	06/27/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.4	7.3	7.3	7.3	7.3	7.5
11.	Total Acidity (mg/l CAC03)	2.9	9.2	7.6	5.5	6.6	8.3
12.	Total Alkalinity (mg/l CAC03)	150	150	150	150	150	150
13.	Specific Conductivity (µmhos/cm at 25°C)	590	590	500	540	660	610
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.02	0.00	0.06	0.05
16.	Total Sulfates (mg/l)	22	26	22	26	26	27
17.	Total Iron (mg/l)	0	0.09	0.39	0	1.1	0.43
18.	Total Suspended Solids (mg/l)	0	0	5.3	0	1.3	5.3
19.	Total Hardness (mg/l CAC03)	290	270	270	300	260	270
20.	Nitrates (mg/l)	3.6	4.2	8.7	2.7	2.8	3.5
21.	Date Sampled for Analysis	01/30/97	02/24/97	03/14/97	04/25/97	05/22/97	06/27/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/21/97	03/14/97	04/25/97	05/19/97	06/26/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,828.96			Y 736,640.28	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-404	W-404	W-404	W-404	W-404	W-404
2.	Lab Identification Number	9702005	9702260	9703191	9704333	9705266	9706228
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1130	1130	1130	1130	1130	1130
5.	Depth of Well below Land Surface (msl)	52	52	52	52	52	52
6.	Static Water Level of Well below Land Surface (msl)	18	18	18	15	17	19
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	01/31/97	02/27/97	03/14/97	04/25/97	05/22/97	06/21/97
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	6.8	6.8	6.9	7	7.1	6.8
11.	Total Acidity (mg/l CAC03)	3.5	20	8.8	14	14	24
12.	Total Alkalinity (mg/l CAC03)	81	90	88	130	140	140
13.	Specific Conductivity (µmhos/cm at 25°C)	180	220	190	320	300	320
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	26	28	31	27	27	26
17.	Total Iron (mg/l)	0.07	0	0.27	0.07	0	0.08
18.	Total Suspended Solids (mg/l)	0	0	4	0	0	0
19.	Total Hardness (mg/l CAC03)	120	120	110	190	170	180
20.	Nitrates (mg/l)	0.65	0.81	6.2	0.38	0.58	0.55
21.	Date Sampled for Analysis	01/31/97	02/27/97	03/14/97	04/25/97	05/22/97	06/21/97
22.	Date Last Precipitaiton Event Occurred	01/28/97	02/26/97	03/14/97	04/25/97	05/19/97	06/18/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,513.59			Y 730,938.19	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-405	W-405	W-405	W-405	W-405	W-405
2.	Lab Identification Number	9702136	9703236	9704290	9705228	9707014	9707257
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1322	1322	1322	1322	1322	1322
5.	Depth of Well below Land Surface (msl)	103	103	103	103	103	103
6.	Static Water Level of Well below Land Surface (msl)	76	74	78	77	78	78
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7	7.3	7.3	7.3	7.7	7.7
11.	Total Acidity (mg/l CAC03)	14	8.6	8.6	11	6.3	5.8
12.	Total Alkalinity (mg/l CAC03)	180	270	190	170	180	180
13.	Specific Conductivity (µmhos/cm at 25°C)	460	440	440	430	480	410
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.08	0.37	0.02	0.00	0.03	0.00
16.	Total Sulfates (mg/l)	49	45	49	45	50	49
17.	Total Iron (mg/l)	2	12	1	0.3	0.76	0.23
18.	Total Suspended Solids (mg/l)	26	740	7.3	11	6	0
19.	Total Hardness (mg/l CAC03)	250	330	220	180	250	210
20.	Nitrates (mg/l)	2.6	1.8	4.7	4.4	3.1	5
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,471.67			Y 730,939.61	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	DW-406	DW-406	DW-406	DW-406	DW-406	DW-406
2.	Lab Identification Number	9702120	9703237	9704291	9705229	9707015	9707258
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1322	1322	1322	1322	1322	1322
5.	Depth of Well below Land Surface (msl)	24	24	24	24	24	24
6.	Static Water Level of Well below Land Surface (msl)	22	20	22	21	22	23
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	6.9	7	7.3	7.3	7.2	7.3
11.	Total Acidity (mg/l CAC03)	25	7.4	4.7	19	11	8.5
12.	Total Alkalinity (mg/l CAC03)	100	94	94	76	120	120
13.	Specific Conductivity (µmhos/cm at 25°C)	350	360	350	420	430	390
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.00	0.00	0.00	0.05	0.04
16.	Total Sulfates (mg/l)	46	47	42	53	45	45
17.	Total Iron (mg/l)	0.21	0.08	0.5	0.68	1.1	0.47
18.	Total Suspended Solids (mg/l)	4	0	13	0	0	0
19.	Total Hardness (mg/l CAC03)	170	140	140	150	290	160
20.	Nitrates (mg/l)	5	4.8	4.6	6.5	7	5
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name: Tradet, Inc.
Address: P.O. Box 2019
State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,885.87		· Y 730,869.55		LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-407	W-407	W-407	W-407	W-407	W-407
2.	Lab Identification Number	9702127	9703239	9704292	9705230	9707016	9707260
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1306	1306	1306	1306	1306	1306
5.	Depth of Well below Land Surface (msl)	83	83	83	83	83	83
6.	Static Water Level of Well below Land Surface (msl)	56	58	56	56	58	59
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.2	7.2	7.1	7.3
11.	Total Acidity (mg/l CAC03)	16	12	9.6	28	39	28
12.	Total Alkalinity (mg/l CAC03)	180	190	200	220	230	240
13.	Specific Conductivity (µmhos/cm at 25°C)	970	910	880	1000	1100	930
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.30	0.02	1.30	0.38	0.13	1.90
16.	Total Sulfates (mg/l)	72	77	88	78	8	77
17.	Total Iron (mg/l)	0.55	0.12	1	0.17	0.3	0.91
18.	Total Suspended Solids (mg/l)	5.3	0	0	0	0	10
19.	Total Hardness (mg/l CAC03)	450	450	480	530	460	500
20.	Nitrates (mg/l)	10	15	1.3	13	7.6	4
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
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SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,421,782.11			Y 730,843.49	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	DW-408	DW-408	DW-408	DW-408	DW-408	DW-408
2.	Lab Identification Number	9702122	9703238	9704293	9705226	9707009	9707259
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1305	1305	1305	1305	1305	1305
5.	Depth of Well below Land Surface (msl)	33	33	33	33	33	33
6.	Static Water Level of Well below Land Surface (msl)	26	22	27	27	27	28
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.3	7.1	7.2	6.9	7	7.3
11.	Total Acidity (mg/l CAC03)	12	8	4.9	22	16	9.9
12.	Total Alkalinity (mg/l CAC03)	90	87	98	86	110	130
13.	Specific Conductivity (µmhos/cm at 25°C)	660	610	640	450	720	680
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.03	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	59	58	53	49	41	55
17.	Total Iron (mg/l)	0.12	1.7	0.06	0.29	0	0.23
18.	Total Suspended Solids (mg/l)	0	0	1.3	0	0	0
19.	Total Hardness (mg/l CAC03)	270	230	240	160	250	270
20.	Nitrates (mg/l)	7	7.3	11	7.8	10	11
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name: Tradet, Inc.
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State: Wheeling, West Virginia 26003

SPRING FLOW = GPM
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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,508.04			Y 731,248.48	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-409	W-409	W-409	W-409	W-409	W-409
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1318	1318	1318	1318	1318	1318
5.	Depth of Well below Land Surface (msl)	REPORTED 83'	REPORTED 83'	REPORTED 83'	REPORTED 83'	REPORTED 83'	REPORTED 83'
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)						
11.	Total Acidity (mg/l CAC03)						
12.	Total Alkalinity (mg/l CAC03)						
13.	Specific Conductivity (µmhos/cm at 25°C)						
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)						
16.	Total Sulfates (mg/l)						
17.	Total Iron (mg/l)						
18.	Total Suspended Solids (mg/l)						
19.	Total Hardness (mg/l CAC03)						
20.	Nitrates (mg/l)						
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
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SPRING FLOW = GPM
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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,885.19			Y 733,138.33	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-410	W-410	W-410	W-410	W-410	W-410
2.	Lab Identification Number	9702128	9703233	9704285	9705243	9707006	9707252
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1310	1310	1310	1310	1310	1310
5.	Depth of Well below Land Surface (msl)	85	85	85	85	85	85
6.	Static Water Level of Well below Land Surface (msl)	56	52	56	53	66	72
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7	7.2	7.3	7.4	7.9	7.4
11.	Total Acidity (mg/l CAC03)	13	9.2	11	8.8	5.5	6.4
12.	Total Alkalinity (mg/l CAC03)	180	170	190	190	190	180
13.	Specific Conductivity (µmhos/cm at 25°C)	440	430	440	420	500	450
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.14	0.04	0.02	0.02	0.02	0.00
16.	Total Sulfates (mg/l)	34	38	36	40	34	30
17.	Total Iron (mg/l)	1.1	0.88	0.29	0.14	0.28	0.27
18.	Total Suspended Solids (mg/l)	27	16	6.7	16	0	0
19.	Total Hardness (mg/l CAC03)	240	220	220	230	210	240
20.	Nitrates (mg/l)	4	4.3	4.6	1.4	2.5	2.6
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,783.06			Y 733,245.59	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-411	W-411	W-411	W-411	W-411	W-411
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1310	1310	1310	1310	1310	1310
5.	Depth of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
6.	Static Water Level of Well below Land Surface (msl)	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
10.	pH (Standard Units)						
11.	Total Acidity (mg/l CAC03)						
12.	Total Alkalinity (mg/l CAC03)						
13.	Specific Conductivity (µmhos/cm at 25°C)						
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)						
16.	Total Sulfates (mg/l)						
17.	Total Iron (mg/l)						
18.	Total Suspended Solids (mg/l)						
19.	Total Hardness (mg/l CAC03)						
20.	Nitrates (mg/l)						
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,420,781.02			Y 732,484.14	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-412	W-412	W-412	W-412	W-412	W-412
2.	Lab Identification Number	9702135	9703234	9704286	9705233	9707007	9707253
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1305	1305	1305	1305	1305	1305
5.	Depth of Well below Land Surface (msl)	68	68	68	68	68	68
6.	Static Water Level of Well below Land Surface (msl)	59	58	56	57	59	59
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.3	7.3	7.6	7.5	7.8	7.5
11.	Total Acidity (mg/l CAC03)	18	12	8.2	9.4	9.5	7
12.	Total Alkalinity (mg/l CAC03)	210	220	220	190	180	150
13.	Specific Conductivity (µmhos/cm at 25°C)	950	860	920	920	1100	910
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.00	0.00	0.06	0.00	0.02
16.	Total Sulfates (mg/l)	60	73	58	52	50	47
17.	Total Iron (mg/l)	0.34	0.11	0.19	0.67	0.08	0.22
18.	Total Suspended Solids (mg/l)	12	0	0	17	0	0
19.	Total Hardness (mg/l CAC03)	370	350	390	350	350	330
20.	Nitrates (mg/l)	3	2.4	3.4	5	1.8	2.3
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,162.72			Y 734,971.97	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	W-413	W-413	W-413	W-413	W-413	W-413
2.	Lab Identification Number	9702130	9703231	9704282	9705245	9707005	9707249
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1280	1280	1280	1280	1280	1280
5.	Depth of Well below Land Surface (msl)	47	47	47	47	47	47
6.	Static Water Level of Well below Land Surface (msl)	27	27	32	31	33	36
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	7.2	7.2	7.2	7.3	7.3	7.3
11.	Total Acidity (mg/l CAC03)	16	16	11	14	15	13
12.	Total Alkalinity (mg/l CAC03)	200	170	19	200	200	180
13.	Specific Conductivity (µmhos/cm at 25°C)	1200	890	1200	1300	1400	1200
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.09	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	58	50	24	58	48	41
17.	Total Iron (mg/l)	0.1	2.4	0	0	0.18	0.19
18.	Total Suspended Solids (mg/l)	0	150	0	0	0	0
19.	Total Hardness (mg/l CAC03)	450	360	450	500	540	580
20.	Nitrates (mg/l)	1.4	0.89	1.4	0.96	0.81	0.63
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,366.30			Y 734,855.79	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-414	W-414	W-414	W-414	W-414	W-414
2.	Lab Identification Number	9702129	9703230	9704283	9705246	9707010	9707250
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1280	1280	1280	1280	1280	1280
5.	Depth of Well below Land Surface (msl)	55	55	55	55	55	55
6.	Static Water Level of Well below Land Surface (msl)	14	13	16	15	35	27
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	B	B	B	B	B	B
10.	pH (Standard Units)	6.1	6.5	6.8	6.3	6.7	6.9
11.	Total Acidity (mg/l CAC03)	13	20	21	32	32	18
12.	Total Alkalinity (mg/l CAC03)	48	62	9	24	120	160
13.	Specific Conductivity (µmhos/cm at 25°C)	370	500	540	160	510	550
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.04	0.07	0.03	0.06	0.24	0.08
16.	Total Sulfates (mg/l)	46	48	61	18	57	49
17.	Total Iron (mg/l)	0.62	1.8	1.9	3.3	1	2.4
18.	Total Suspended Solids (mg/l)	31	18	6.7	16	27	17
19.	Total Hardness (mg/l CAC03)	110	100	150	60	210	210
20.	Nitrates (mg/l)	2.1	0.96	2	2	1.6	1.3
21.	Date Sampled for Analysis	02/13/97	03/19/97	04/23/97	05/27/97	06/28/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/18/97	04/23/97	05/25/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,418,928.53			Y 736,022.98	LOCATION	GTE
1.	Identification No. of Sampling Station from Hydrology Map	W-415	W-415	W-415	W-415	W-415	W-415
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1135	1135	1135	1135	1135	1135
5.	Depth of Well below Land Surface (msl)	72'	72'	72'	72'	72'	72'
6.	Static Water Level of Well below Land Surface (msl)	20	20	22	22	21	25
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/13/97	03/14/97	04/23/97	05/22/97	06/27/97	07/20/97
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)						
11.	Total Acidity (mg/l CAC03)						
12.	Total Alkalinity (mg/l CAC03)						
13.	Specific Conductivity (µmhos/cm at 25°C)						
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)						
16.	Total Sulfates (mg/l)						
17.	Total Iron (mg/l)						
18.	Total Suspended Solids (mg/l)						
19.	Total Hardness (mg/l CAC03)						
20.	Nitrates (mg/l)						
21.	Date Sampled for Analysis	02/13/97	03/14/97	04/23/97	05/22/97	06/27/97	07/20/97
22.	Date Last Precipitaiton Event Occurred	02/13/97	03/14/97	04/23/97	05/19/97	06/26/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,559.63			Y 736,716.68	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-417	W-417	W-417	W-417	W-417	W-417
2.	Lab Identification Number	9702262	9703189	9704334	9705264	9706227	9707247
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1165	1165	1165	1165	1165	1165
5.	Depth of Well below Land Surface (msl)	90	90	90	90	90	90
6.	Static Water Level of Well below Land Surface (msl)	59	49	55	59	51	49
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/24/97	03/14/97	04/25/97	05/22/97	06/21/97	07/19/97
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	7.2	7.3	7.1	7.4	7.4	7.4
11.	Total Acidity (mg/l CAC03)	20	13	14	16	18	14
12.	Total Alkalinity (mg/l CAC03)	240	240	240	250	250	220
13.	Specific Conductivity (µmhos/cm at 25°C)	470	460	480	470	510	450
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.02	0.00	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	41	40	40	39	35	36
17.	Total Iron (mg/l)	0	0.14	0.06	0	0.08	0
18.	Total Suspended Solids (mg/l)	0	4	0	0	0	0
19.	Total Hardness (mg/l CAC03)	260	300	260	210	270	260
20.	Nitrates (mg/l)	1.7	2.1	1.5	1.6	1.3	1.2
21.	Date Sampled for Analysis	02/24/97	03/14/97	04/25/97	05/22/97	06/21/97	07/19/97
22.	Date Last Precipitaiton Event Occurred	02/21/97	03/14/97	04/25/97	05/19/97	06/18/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,419,416.34			Y 736,729.84	LOCATION	PAN
1.	Identification No. of Sampling Station from Hydrology Map	W-418	W-418	W-418	W-418	W-418	W-418
2.	Lab Identification Number	9702263	9703190	9704335	9705265	9706226	9707248
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1180	1180	1180	1180	1180	1180
5.	Depth of Well below Land Surface (msl)	41	41	41	41	41	41
6.	Static Water Level of Well below Land Surface (msl)	11	9	11	10	15	17
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	02/24/97	03/14/97	04/25/97	05/22/97	06/21/97	07/19/97
9.	Aquifer/Zone Identification for Well/Spring	C	C	C	C	C	C
10.	pH (Standard Units)	6.9	7.1	7	6.8	6.9	7.1
11.	Total Acidity (mg/l CAC03)	32	15	24	24	35	16
12.	Total Alkalinity (mg/l CAC03)	210	210	210	210	210	210
13.	Specific Conductivity (µmhos/cm at 25°C)	450	420	470	440	490	430
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.07	0.00	0.00	0.00	0.00
16.	Total Sulfates (mg/l)	45	42	44	44	46	41
17.	Total Iron (mg/l)	0	2.1	0.13	0.3	0.06	0.44
18.	Total Suspended Solids (mg/l)	0	15	0	0	0	0
19.	Total Hardness (mg/l CAC03)	250	270	260	250	250	240
20.	Nitrates (mg/l)	2.1	2.1	1.7	2.8	1.5	1.7
21.	Date Sampled for Analysis	02/24/97	03/14/97	04/25/97	05/22/97	06/21/97	07/19/97
22.	Date Last Precipitaiton Event Occurred	02/21/97	03/14/97	04/25/97	05/19/97	06/18/97	07/09/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
State Wheeling, West Virginia 26003

SPRING FLOW = GPM
STREAM FLOW = CFS

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name: THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,451.20		Y 740,469.41		LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	DW-421	DW-421	DW-421	DW-421	DW-421	DW-421
2.	Lab Identification Number	9704348	9705235	9706210	9707229	9708216	9709252
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1020	1020	1020	1020	1020	1020
5.	Depth of Well below Land Surface (msl)	24	24	24	24	24	24
6.	Static Water Level of Well below Land Surface (msl)	18	18	17	18	17	18
7.	Flow for Spring/Stream (gpm or cfs)	0.00	0.00	0.00	0.00	0.00	0.00
8.	Date Above Measurements Made	04/25/97	05/27/97	06/21/97	07/19/97	08/23/97	09/25/97
9.	Aquifer/Zone Identification for Well/Spring	A	A	A	A	A	A
10.	pH (Standard Units)	7.3	7	6.9	6.8	6.9	7
11.	Total Acidity (mg/l CAC03)	25	47	77	74	50	47
12.	Total Alkalinity (mg/l CAC03)	290	270	340	370	350	400
13.	Specific Conductivity (µmhos/cm at 25°C)	710	620	820	910	700	760
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.00	0.02	0.00	0.02	0.00
16.	Total Sulfates (mg/l)	95	45	81	72	70	70
17.	Total Iron (mg/l)	0.00	0.18	0.32	0.00	0.31	0.1
18.	Total Suspended Solids (mg/l)	0.00	3	4	0.00	2	0.00
19.	Total Hardness (mg/l CAC03)	400	380	420	450	400	410
20.	Nitrates (mg/l)	12	1.3	9.4	12	5.2	8.9
21.	Date Sampled for Analysis	04/25/97	05/27/97	06/21/97	07/19/97	08/23/97	09/25/97
22.	Date Last Precipitation Event Occurred	04/25/97	05/27/97	06/21/97	07/19/97	08/23/97	09/25/97

Laboratory Name: ERI LABS
Address: PO BOX 259
State: bROCKWAY, PA 15824

SPRING FLOW = GPM
STREAM FLOW = CFS

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

STATE PLANE COORDINATES:		X 2,423,449.41			Y 740,468.99	LOCATION	ADJ
1.	Identification No. of Sampling Station from Hydrology Map	W-422	W-422	W-422	W-422	W-422	W-422
2.	Lab Identification Number	9704349	9705236	9706211	9707230	9708217	9709251
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1020	1020	1020	1020	1020	1020
5.	Depth of Well below Land Surface (msl)	39	39	39	39	39	39
6.	Static Water Level of Well below Land Surface (msl)	16	16	15	16	19	16
7.	Flow for Spring/Stream (gpm or cfs)						
8.	Date Above Measurements Made	04/25/97	05/27/97	06/21/97	07/19/97	08/23/97	09/25/97
9.	Aquifer/Zone Identification for Well/Spring	D	D	D	D	D	D
10.	pH (Standard Units)	7.8	7.1	7.8	8.6	7	8.4
11.	Total Acidity (mg/l CAC03)	1.2	16	16	0	0	0
12.	Total Alkalinity (mg/l CAC03)	370	240	310	380	200	330
13.	Specific Conductivity (µmhos/cm at 25°C)	690	520	640	750	440	600
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.00	0.02	0.00	0.00	0.08	0.02
16.	Total Sulfates (mg/l)	23	33	30	20	37	32
17.	Total Iron (mg/l)	0.07	0.26	0.11	0.19	0.23	0.52
18.	Total Suspended Solids (mg/l)	6	0	7.3	3.3	0	41
19.	Total Hardness (mg/l CAC03)	20	160	130	70	240	90
20.	Nitrates (mg/l)	0	1.2	1.9	0	3.3	0.24
21.	Date Sampled for Analysis	04/25/97	05/27/97	06/21/97	07/19/97	08/23/97	09/25/97
22.	Date Last Precipitaiton Event Occurred	04/25/97	05/25/97	06/18/97	07/09/97	08/21/97	09/19/97

Laboratory Name Tradet, Inc.
Address P.O. Box 2019
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SPRING FLOW = GPM
STREAM FLOW = CFS

PRECIPITATION RECORD FOR USE WITH YOUR
Taylor 11" CLEAR-VU RAIN GAGE

LOCATION TraDat, Inc.

COUNTY Ohio STATE West Virginia

TIME OF OBSERVATION 8:30 AM YEAR 1990

ADDENDUM TO PAGE 19, PART 2, D(3)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks
1	0.01	0.16	0.00	0.69	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	s - melted snow
2	Trace	0.10	0.00	0.10	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.54	
3	0.10	0.70	0.00	0.07	0.12	0.13	0.00	0.00	0.00	0.00	0.00	0.15	
4	0.16	0.35	0.00	0.05	0.43	0.00	0.00	0.00	0.00	0.37	0.00	Trace	
5	0.00	0.00	0.00	0.12	0.30	0.00	0.19	0.05	0.20	0.00	0.53	0.00	
6	0.00	Trace	0.00	0.25	0.00	0.43	0.00	0.00	0.23	0.00	0.00	0.00	
7	0.00	0.10	0.00	0.06	0.00	0.00	0.00	0.00	1.25	0.00	Trace	0.00	
8	0.00	0.00	0.07	0.00	0.00	0.00	0.15	0.00	0.20	0.00	0.00	0.00	
9	Trace	0.60	0.08	Trace	0.04	0.38	0.47	0.70	0.91	0.05	0.28	0.00	
10	0.00	0.00	0.00	0.90	0.22	0.00	0.27	0.00	0.00	0.00	0.00	0.00	
11	0.04	0.15	0.07	0.16	0.00	0.00	2.33	0.00	0.00	0.32	0.00	0.00	
12	Trace	0.00	0.00	0.00	0.25	0.00	0.22	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.04	0.00	0.17	0.21	0.00	0.77	0.20	0.00	0.01	0.00	0.00	
14	0.01	0.54	0.00	0.30	0.00	0.95	0.17	0.00	0.71	0.00	0.00	0.10	
15	0.09	0.41	0.00	0.00	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.61	
16	0.00	0.06	0.80	0.00	1.12	0.00	0.00	0.00	0.21	0.00	0.40	0.00	
17	0.12	0.00	0.00	0.09	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.79	
18	0.00	0.00	Trace	0.00	0.00	0.00	0.00	Trace	0.02	0.00	0.00	0.93	
19	0.08	0.00	0.25	Trace	0.15	0.00	0.00	1.45	0.40	0.50	0.00	0.00	
20	0.93	0.00	0.00	0.30	0.15	0.00	0.48	0.00	0.00	0.00	0.00	0.00	
21	0.03	0.00	0.00	0.04	0.00	0.02	0.27	0.00	0.14	0.00	0.00	0.00	
22	0.00	0.12	0.00	0.00	0.00	0.18	0.74	0.20	0.00	0.00	0.53	0.15	
23	0.08	0.14s	0.20	0.00	0.00	0.06	0.02	0.40	0.27	0.40	0.00	0.47s	
24	0.01s	0.06s	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.20	0.00	0.02	
25	0.09	0.00	0.00	0.16	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
26	0.01s	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.09	0.00	
27	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.13s	
28	0.40	0.00	0.00	0.00	1.08	0.16	0.00	0.00	0.00	0.00	0.00	0.00	
29	0.74	—	0.02	0.00	0.39	0.00	0.00	0.18	0.53	0.00	0.00	0.09	
30	0.00	—	0.08	0.00	0.00	0.00	0.08	0.00	0.12	0.00	0.00	1.40	
31	0.00	—	0.21	—	0.00	—	0.00	0.00	—	0.00	—	0.00	
Total	2.87	3.63	1.78	3.46	5.84	3.94	6.29	3.18	6.03	1.84	2.45	5.41	

SYBRON | Taylor

Total Annual 46.72

TOVCC 10175

PRECIPITATION RECORD FOR USE WITH YOUR
Taylor 11" CLEAR-VU RAIN GAGE

LOCATION TraDet, Inc.

COUNTY Ohio STATE West Virginia

TIME OF OBSERVATION YEAR 1991

ADDENDUM TO PAGE 19, PART 2, D(3)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks
1	0.00	0.00	0.05[s]	0.00	0.11	0.00	0.40						s - melted snow
2	0.00	0.00	0.02[s]	0.00	0.00	0.00	0.20						
3	0.00	0.00	0.67	0.00	0.00	0.00	0.00						
4	0.02	0.00	0.00	0.00	0.00	0.00	0.84						
5	0.15	0.31	0.00	0.13	0.93	0.00	0.00						
6	0.00	0.30	0.65	0.00	0.08	0.00	0.00						
7	0.18	0.02	0.00	0.00	0.00	0.00	1.18						
8	0.18	0.00	0.00	0.09	0.00	0.00	0.19						
9	0.02	0.00	0.01	0.55	0.00	0.00	0.00						
10	0.49	0.21	Trace[s]	0.00	0.00	0.00							
11	Trace	0.00	0.00	0.00	0.00	1.63							
12	0.00	0.00	0.12	Trace	0.00	0.00							
13	Trace	0.22	0.25	0.86	0.00	0.00							
14	Trace	0.29	0.00	0.24	0.00	0.00							
15	0.36	0.04[s]	0.00	0.00	0.00	0.00							
16	0.19	0.06[s]	0.00	0.00	0.00	0.25							
17	0.01	0.05	0.09	0.10	0.02	0.00							
18	0.00	0.00	0.19	0.00	0.00	0.00							
19	Trace	0.20	0.00	0.05	0.00	0.00							
20	0.21[s]	0.00	0.01	0.00	0.00	0.00							
21	0.02[s]	0.00	0.00	0.02	0.00	0.00							
22	0.00	0.00	0.03	0.12	0.00	0.00							
23	0.00	0.00	0.02	0.00	0.00	0.00							
24	0.01[s]	0.00	0.11	0.02	0.00	0.00							
25	0.00	0.00	0.16	0.00	0.00	0.00							
26	0.01[s]	0.31[s]	0.14	0.00	Trace	0.00							
27	0.30[s]	Trace[s]	0.02	0.00	0.07	0.00							
28	0.00	0.00	0.00	0.07	0.07	0.00							
29	0.40	-	0.00	0.13	0.00	0.00							
30	0.19	-	0.05[s]	0.00	0.65	0.25							
31	0.01[s]	-	0.04	-	0.04	-							
Total	2.74	1.51	2.63	2.18	1.97	2.13							

SYBRON Taylor

Total Annual

TOVCC 10176

ANNUAL RAINFALL REPORT Addendum to Page 19, Part (2), D(3)

Location No. 6 Mine Year 1991

DATE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	↑	↑	↑	↑	↑	0	0.20	0	0.15	0	0	0
2						0	0.50	0	0	0	0	0.40
3						0	0	0	0	0	0	1.90
4						0	0	0.30	0	TRACE	0	TRACE M3
5						0	0.25	0	0.50	0	0	TRACE M3
6						0	0.25	0	0	0	0	0
7						0	0.25	0	0	0	0	0
8					A	0	0	0	0	0	0	0
9					W	0	0	0.38	0	0	0	0.10
10					A	0	0	0.10	0.95	0	0	0.25
11	A	A	A	A	R	0	0	0	0.20	.20	.40	0
12	W	W	W	W	O	0.30	0	0	0	.25	0	0
13	A	A	A	A	S	0	0.10	0	0	.05	.40 M3	0
14	R	R	R	R	W	0	0	0	0	0	TRACE	0
15	O	O	O	O	R	0	0	0	0	.25	0	1.00
16	S	S	S	S		0	0	0	0	0	0.05	0.30 M3
17	W	W	W	W	T	1.00	0	0.50	0	0	0	0
18	R	R	R	R	O	0	0	0	0	0	0	TRACE M3
19					N	0.10	0	0	0.20	0	0	0
20	T	T	T	T	↓	0	0	1.80	0	0	0.22	0
21	O	O	O	O	↓	0	0	0.10	0	0	0.10	0
22	N	N	N	N	O	0	0	0	0	0	0.40	0
23	↓	↓	↓	↓	O	0	0.30	0	0.23	0	1.00	0.40
24					O	0	0.40	0	TRACE	0	0	0
25					O	0	TRACE	0	1.40	0	0	0
26					O	0	0	0	0.10	TRACE	0	0
27					O	0	0	0	0	0	0	TRACE
28					0.10	0	0	0	0	0	0	0
29		↓			0.10	0	0	0	0	0	0	0
30		X		↓	0	0	1.50	0	0	0	0	0.50
31	↓	X	↓	X	0.10	X	0.15	0	X	0	X	0
Total						1.40	3.90	3.18	3.73	0.75	2.57	4.85

TOTAL FOR YEAR

TOVCC 10177

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL RECORD – 1993

MONTH

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.01	T	0.00	0.20	0.00	0.00	1.00	0.42	0.00	0.00	0.00	0.00
2	0.56	0.00	0.00	0.03	T	0.29	0.10	1.03	0.00	0.47	T	0.13
3	0.02	0.00	0.40	0.00	0.00	0.17	0.47	0.00	1.99	0.00	0.10	0.00
4	0.63	0.00	1.45	0.00	0.16	0.50	0.46	0.01	0.00	0.00	0.05	0.79
5	0.01	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	T	0.01
7	T	0.00	0.04	0.00	0.00	0.86	0.00	0.00	0.00	0.00	T	0.00
8	T	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.02	0.00	0.08	0.05	0.00	0.12	0.00	0.00	0.85	0.30	0.00	0.10
10	0.15	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
11	0.19	0.39	0.00	0.06	0.00	0.00	0.31	0.00	0.00	T	0.00	T
12	0.00	0.00	0.00	0.06	0.49	0.00	T	0.00	0.00	0.00	0.00	0.00
13	0.39	0.20	0.40	0.00	T	0.00	0.00	0.00	0.00	0.00	0.90	0.00
14	T	0.01	0.00	0.07	0.00	0.00	0.16	0.00	0.00	0.00	0.40	0.00
15	0.00	0.40	0.00	0.30	0.04	0.00	0.00	0.00	0.21	0.00	T	0.01
16	0.00	0.50	0.20	0.00	0.06	0.00	0.00	1.61	0.00	0.90	T	0.00
17	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	T	0.01	0.80	0.00
18	0.00	0.00	0.00	0.00	0.10	0.30	0.18	0.00	0.00	0.00	0.00	0.16
19	0.00	0.00	0.01	0.01	T	0.00	0.66	0.00	0.00	0.55	0.00	0.00
20	T	0.00	0.38	0.01	T	0.14	0.00	0.00	T	0.39	0.00	0.41
21	0.70	0.73	0.00	0.03	T	0.78	0.00	0.00	0.50	0.00	0.00	0.03
22	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.10
23	0.00	0.02	0.49	0.00	0.08	0.00	0.00	0.00	0.06	0.00	0.00	0.00
24	0.50	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.10
25	0.00	0.15	0.00	2.20	0.00	0.72	0.00	0.00	0.25	0.00	0.00	0.10
26	0.00	T	0.00	0.10	0.00	0.10	0.31	0.00	0.75	0.00	0.16	0.00
27	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.62	0.00
28	0.00	0.00	T	0.00	0.13	0.39	0.35	0.00	0.10	0.00	T	0.00
29	0.00		0.00	0.00	0.00	0.00	0.00	0.00	T	T	0.00	0.00
30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.04
31	0.00		0.38		0.65		0.00	T		1.50		0.06
TOT.	3.23	2.46	4.96	3.12	1.85	4.37	4.00	3.07	4.83	4.21	3.03	2.19

T = TRACE

ANNUAL TOTAL: 41.32

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL RECORD – 1994

DATE	MONTH JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.10	0.00
2	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
3	0.00	T	T	0.10	0.05	0.00	0.00	T	0.00	0.00	0.00	0.00
4	1.10	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.90
5	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.06
6	0.28	0.00	0.00	0.70	0.20	0.00	0.83	0.00	0.00	0.00	T	0.01
7	0.14	0.00	0.19	0.00	0.83	0.00	0.01	0.00	0.00	0.00	0.00	0.04
8	0.00	0.81	0.00	0.00	T	0.00	0.00	0.00	0.00	T	0.59	0.00
9	0.00	T	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
10	0.00	0.00	T	1.38	0.00	0.00	T	0.00	T	0.00	0.00	0.61
11	0.30	T	0.00	0.11	0.30	0.90	0.00	T	0.00	0.00	0.00	T
12	0.01	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	T	0.01	0.20	T	0.00	0.00	0.04	0.00	0.00	0.04	0.00	0.00
14	0.04	0.00	0.00	0.00	0.00	0.00	1.36	0.61	0.00	0.00	0.00	0.00
15	T	0.00	0.10	0.95	0.60	0.00	0.30	0.00	T	0.00	0.60	0.00
16	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.16	0.00
17	0.86	0.00	0.02	0.00	0.00	0.00	0.00	0.44	2.30	0.00	0.00	0.00
18	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	T	0.00	0.03
19	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
20	0.00	0.00	0.30	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.33	0.00
21	0.00	0.39	0.68	0.00	0.00	0.62	0.17	0.00	0.00	0.00	0.00	0.00
22	0.00	0.63	0.00	0.00	0.00	0.00	0.20	2.69	0.00	0.00	0.00	0.00
23	0.01	0.65	0.19	0.00	0.00	0.09	0.00	0.00	0.00	T	0.00	0.00
24	0.01	0.02	0.00	0.00	T	0.50	0.00	0.00	0.00	0.01	0.00	0.00
25	0.46	0.00	0.00	0.00	0.36	0.00	0.40	0.00	0.82	0.00	0.00	0.00
26	0.00	0.00	0.05	0.00	T	1.19	0.00	0.02	T	0.00	0.00	0.00
27	1.89	0.00	0.90	0.00	0.00	T	0.01	0.00	0.00	0.00	0.00	0.00
28	0.08	T	0.18	T	0.00	0.29	0.00	0.41	0.00	0.00	0.95	0.00
29	0.00		0.00	0.04	0.00	0.25	0.36	T	0.00	0.00	0.00	0.00
30	T		0.00	0.30	0.00	0.00	0.00	0.00	0.00	T	0.00	0.00
31	0.01		0.00		T		0.00	0.46		0.71		0.00
TOT.	5.39	2.51	5.31	4.08	2.34	4.17	3.68	6.28	3.12	1.16	2.73	2.09

T = TRACE

ANNUAL TOTAL: 42.86

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL RECORD – 1995

DATE	MONTH											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.19	0.03	0.00	0.00	0.70	0.36	0.00	0.00	0.00	0.00	0.29	0
2	T	0.00	0.00	0.00	0.39	0.09	0.00	0.00	0.00	0.00	0.08	0.01
3	0.00	0.40	0.00	0.22	0.00	0.75	0.00	0.00	0.00	0.60	0.00	0.09
4	0.00	T	0.00	0.00	0.20	0.00	0.00	0.09	0.00	0.14	0.00	0
5	0.00	T	0.38	0.00	0.07	0.00	0.10	1.05	0.00	1.00	0.00	0.01
6	0.00	0.00	0.00	0.05	0.00	0.00	0.00	T	0.00	0.12	0.00	0
7	T	0.00	0.30	0.00	0.00	0.38	0.01	0.00	0.00	0.00	0.34	0
8	T	0.00	0.22	0.10	0.00	0.00	0.00	0.00	0.08	0.00	0.02	0
9	T	0.00	0.00	0.99	0.00	0.00	0.00	T	0.01	0.00	0.00	T
10	T	0.00	0.00	0.29	0.68	0.50	0.00	0.00	0.00	0.00	0.40	T
11	0.10	0.00	0.00	0.00	T	0.44	0.00	1.09	0.00	0.00	0.40	0.03
12	T	T	0.00	0.07	0.00	0.01	0.00	0.00	0.70	0.00	0.10	0.09
13	T	0.00	0.00	0.01	0.00	0.00	T	0.00	0.20	0.00	0.09	0.13
14	0.00	0.10	0.00	0.00	0.60	T	0.00	0.00	0.00	2.01	0.29	0.06
15	0.62	0.70	0.00	0.00	0.00	0.00	T	0.00	0.00	0.00	0.05	0
16	T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.03	T
17	0.00	0.00	0.00	0.10	0.29	0.00	1.79	0.03	0.09	0.00	0.00	T
18	T	0.00	0.00	0.11	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.14
19	0.60	0.00	0.00	0.00	T	0.00	0.00	0.00	0.00	0.00	0.00	0.69
20	0.00	T	0.00	0.09	0.00	0.00	0.30	0.00	0.00	0.51	0.31	0.2
21	0.10	0.00	0.20	0.05	0.00	0.31	0.08	0.00	0.60	0.00	0.00	0.01
22	0.10	T	0.00	T	0.00	0.00	0.00	0.00	T	0.00	0.00	T
23	T	0.43	0.00	0.08	0.00	0.00	0.10	0.00	0.00	0.00	0.00	T
24	T	0.00	0.00	T	1.05	0.42	T	0.00	0.00	0.00	0.00	T
25	0.00	0.00	0.00	T	T	0.00	0.40	0.00	0.00	0.00	0.00	T
26	0.00	0.05	0.00	0.00	0.00	0.50	0.02	0.00	0.00	0.00	0.00	T
27	0.00	0.43	0.09	0.11	0.00	0.10	0.00	0.00	0.00	T	T	T
28	0.00	0.00	T	0.00	0.05	0.00	0.00	0.00	0.00	0.20	0.05	T
29	0.00		T	0.00	T	0.60	0.00	0.00	0.00	0.08	0.00	T
30	0.00		T	0.21	0.00	0.28	0.00	0.00	0.00	0.00	0.00	T
31	T		0.00		0.00		0.00	0.00		0.00		T
TOT.	1.71	2.14	1.19	2.48	4.81	4.74	2.80	2.26	2.08	4.66	2.45	1.46

T = TRACE

ANNUAL TOTAL: 32.78

TOVCC 10180

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL - 1996

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	T	0.08	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	T	
2	0.20	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.02	0.00	0.00	
3	0.01	0.00	T	0.00	0.00	0.20	T	0.00	0.02	0.00	0.00	T	
4	0.03	0.00	0.00	0.00	0.60	0.21	0.00	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	1.10	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.30	
6	0.00	0.00	0.45	0.00	0.00	0.27	0.00	0.00	1.60	0.00	0.11	0.00	
7	1.20	0.08	0.15	T	0.21	0.07	0.00	0.00	0.10	0.00	1.30	0.00	
8	0.10	T	0.00	T	0.40	0.10	0.00	0.41	0.00	0.00	0.21	0.05	
9	0.14	0.00	0.00	T	0.00	0.10	0.00	0.00	T	0.28	0.20	0.00	
10	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.01	0.07	0.00	
11	0.00	0.10	0.00	0.00	0.69	0.41	0.00	0.00	0.00	0.00	T	0.09	
12	0.10	0.19	0.00	0.00	0.00	T	0.00	0.16	0.05	0.00	0.00	0.29	
13	0.00	T	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	T	0.00	
14	0.00	0.02	0.00	0.00	0.00	T	0.00	0.00	0.00	0.00	T	0.00	
15	0.00	0.00	0.54	0.92	0.90	0.00	0.75	0.40	0.00	0.00	0.00	0.00	
16	0.13	0.00	0.00	0.10	0.50	0.00	0.00	0.00	1.69	0.00	0.00	0.22	
17	0.00	0.00	0.27	0.00	0.00	0.00	0.36	0.00	0.02	0.00	0.10	0.00	
18	0.00	0.02	0.00	0.04	0.00	0.95	1.64	0.00	0.00	0.92	0.20	0.02	
19	0.56	0.45	1.61	0.00	0.00	T	0.00	0.00	0.00	0.22	0.00	T	
20	0.00	0.25	0.29	0.00	0.00	0.00	0.00	0.04	0.00	0.20	0.00	0.00	
21	0.00	T	0.08	0.00	0.30	0.00	0.44	0.00	T	0.15	0.00	0.00	
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	T	T	0.00	0.10	
23	0.00	0.00	0.00	0.72	0.00	0.00	0.01	0.10	0.04	0.00	0.00	0.40	
24	0.09	0.00	0.00	0.00	0.00	0.89	0.10	0.00	T	0.00	0.05	0.00	
25	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	T	0.00	0.50	0.00	
26	0.16	0.35	0.00	T	0.25	0.00	0.00	0.00	T	0.00	0.00	0.00	
27	T	1.30	0.00	0.00	0.19	0.00	0.00	0.00	1.64	0.01	0.00	0.09	
28	0.00	T	0.20	1.00	0.71	0.00	0.00	0.00	T	0.24	0.00	0.20	
29	0.00	0.00	0.00	0.20	0.26	0.00	0.20	0.00	0.00	0.00	0.36	0.20	
30	0.06		0.00	0.46	0.00	0.32	0.02	0.00	0.00	0.00	0.61	0.00	
31	0.00		T		0.00		0.00	0.00		0.00		0.00	
TOTAL	2.78	3.01	4.69	3.44	5.69	3.81	3.52	1.11	5.23	2.05	3.71	1.96	41.00

TOVCC 10181

ADDENDUM TO PAGE 19, PART 2, D(3)

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL - 1997

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	0.00	0.00	1.10	0.00	0.00	0.32	0.29	0.00	0.00	0.00	0.25	0.00	
2	0.01	T	1.20	0.00	0.00	0.90	T	T	0.04	0.00	0.07	0.00	
3	0.03	0.14	0.30	0.00	0.64	0.03	0.00	0.40	0.00	0.00	T	0.21	
4	0.60	0.35	0.00	T	0.00	0.00	0.00	T	0.00	0.00	0.00	T	
5	0.00	0.01	0.35	0.00	0.12	0.00	T	0.00	T	0.00	0.00	0.06	
6	0.00	0.00	T	0.00	0.01	0.00	T	0.00	0.00	0.00	0.09	0.04	
7	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.04	
8	0.00	T	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	
9	0.29	0.00	0.71	0.00	0.90	0.00	0.20	0.00	0.45	0.05	0.00	0.23	
10	T	T	0.00	0.00	T	0.00	0.00	0.00	T	0.00	0.01	0.31	
11	0.00	T	0.00	0.21	T	0.00	0.00	0.00	0.00	0.00	0.05	0.01	
12	T	0.00	0.00	0.48	0.00	0.18	0.00	0.59	0.00	0.00	0.00	T	
13	0.00	0.52	0.29	0.00	T	0.01	0.00	0.10	0.00	0.02	1.30	0.00	
14	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	T	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	
16	0.28	0.05	0.00	T	0.10	0.49	0.00	0.07	0.00	0.00	0.30	0.00	
17	T	0.00	0.00	0.00	T	0.00	0.00	2.53	0.09	0.00	0.00	0.00	
18	0.00	0.00	0.20	0.00	0.05	0.46	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.10	0.00	0.00	0.65	0.00	0.00	0.49	1.26	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	
21	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.39	0.15	
22	0.27	0.00	0.00	0.01	0.00	T	0.50	0.00	0.00	0.00	0.01	0.18	
23	0.00	0.00	0.02	0.04	0.00	0.00	0.06	0.00	T	0.00	0.00	T	
24	0.23	0.00	T	0.79	0.90	0.00	0.00	0.08	0.00	0.00	0.00	0.00	
25	0.01	0.00	1.04	0.60	1.10	0.00	0.00	0.00	0.00	0.20	0.00	0.00	
26	0.00	0.17	T	0.00	0.00	0.05	0.00	0.00	0.00	1.72	0.20	0.00	
27	0.79	0.00	0.00	0.39	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	
28	0.08	0.00	0.05	0.00	0.00	0.00	0.11	0.00	1.20	0.00	0.20	0.10	
29	0.00		0.00	0.00	0.20	T	0.00	0.00	0.00	0.00	0.10	0.30	
30	0.00		0.18	0.03	T	0.33	0.00	0.00	0.18	0.00	0.12	0.00	
31	0.00		T		0.25		0.00	0.00		0.00		0.00	
TOTAL	2.59	1.46	5.46	2.56	4.92	2.77	1.16	5.35	3.22	1.99	3.67	1.63	36.78
H/L	L	L	H	L	H	L	L	H	L	L	H	L	

TOVCC 10182

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14B
(GROUND WATER HYDROLOGY DESCRIPTION)

APPLICANT'S NAME The Ohio Valley Coal Company

Aquifer/Zone Identification	Aquifer/Zone Lithology	Aquifer/Zone Thickness	Aquifer/Zone Elev.(msl)	Aquifer/Zone Horiz. Extent	Aquifer/Zone Known Uses	Approx. Rate of Discharge/Usage of Aquifer/Zone (gpm or cfs)
(A)Unconsolidated Material	Silt, Sand & Gravel Weathered bedrock	Up to 30 feet	990 to 1390 msl	Local - Primarily less than 30 ft. from surface	Domestic Livestock	Variable - Generally <2 to >20 gpm
(B)Washington No. 12 Cyclothem	Shale, Sandstone, Limestone, Coal	Approximately 70 feet	1110 to 1360 msl	Local-Primarily where less than 100 feet deep	Domestic Livestock	Variable - Generally less than 2 gpm
(C)Waynesburg No. 11 Cyclothem	Shale, Sandstone, Limestone, Coal	Approximately 100 feet	1010 to 1210 msl	Local-Primarily where less than 100 feet deep	Domestic Livestock	Variable - Generally less than 2 gpm
(D)Sewickley No. 9 Cyclothem	Shale, Sandstone, Limestone. Coal	Approximately 120 feet	850 to 1110 msl	Local-Primarily where less than 100 feet deep	Domestic	Variable - Generally less than 2 gpm

TOVCC 10183

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
DS-111	RAUCHENBERGER	1120			C	1.75 DOM
DS-223	RICE	1130			C	1.11 UNUSED
DS-226A	RICE	1163			B	0.88 LIV
DS-226B	RICE	1155			B	0.14 UNUSED
DS-231	RUBEL	1230			B	7.82 UNUSED
DS-240	HART	1170			B	2.75 DOM/LIV
DS-241	SAFFELL	1190			C	3.87 DOM/LIV
DS-242	SAFFELL	1103			C	3.75 LIV
DS-244	MAYO	1290			B	0.82 LIV
DS-265	KINDLER	1200			B	1.88 LIV
DS-266	HUGHES	1100			C	0.10 UNUSED

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
DS-267	KINDLER	1225			B	1.29 LIV
DS-268	KINDLER	1180			C	3.05 LIV
DS-269	KINDLER	1220			B	2.55 LIV
DS-270	BLAKE	1260			B	0.39 DOM
DS-271	SEACREST	1323			B	2.08 LIV
DS-272	COYNE	1258			B	3.25 DOM
DS-273	COYNE	1265			B	1.14 UNUSED
DS-274	COYNE	1230			B	2.75 UNUSED
DS-277	MAYO	1264			B	0.30 LIV
DS-278	MAYO	1230			B	0.57 LIV
DS-282	SIMPSON	1268			B	4.35 LIV

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
DS-283	SIMPSON	1263			B	7.63 LIV
DS-285	BIANCO	1190			B	4.23 DOM
DS-286	SIMPSON	1220			B	1.30 UNUSED
DS-287	SIMPSON	1220			B	1.26 UNUSED
DS-288	SIMPSON	1245			B	10.04 UNUSED
DS-289	SIMPSON	1195			B	1.54 UNUSED
W-166	EARLIWINE	1106	108	76	D	UNUSED
W-167	HEBRY	1090	96	54	D	DOM
WL-168	FUNKHOUSER	1112	62	32	C	DOM
DW-169	FUNKHOUSER	1112	25	19	A	DOM
W-170	MAY	1105	75	50	C	UNUSED

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
W-171	MAY	1113	89	21	C	UNUSED
W-172	MAY	1106	116	21	D	UNUSED
DW-173	RICE	1166	25	16	A	DOM
W-174	GRANT	1117	101	80	D	UNUSED
W-175	HAYES	1132	46	15	C	UNUSED
W-176	THOMAS	1142	43	16	C	UNUSED
WL-177	DELANEY	1183	71	UNKNOWN	C	DOM
DW-178	BOROUGH CO.	1225	44	28	A	DOM
DW-268	DELANEY	1190	COVERED	UNKNOWN	A	UNUSED
W-294	WILSON	1125	57	48	C	DOM
W-316	SAFFELL	1203	72	46	C	UNUSED

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
WL-317	HART	1303	90	UNKNOWN	B	DOM
DW-318	MAYO	1304	18	13	A	DOM
W-323	FUNKHOUSER	1138	120	61	D	DOM
W-374	COLE	1290	51	43	B	DOM
W-375	KINDLER	1247	BURIED	UNKNOWN	UNKNOWN	DOM
DW-376	C. BLAKE	1250	30	6	A	DOM
W-377	C. BLAKE	1282	86	43	B	DOM
W-378	KINDLER	1325	68	28	B	DOM
W-379	GROVER	1323	120	79	B	DOM
W-380	HORVATH	1350	80	62	B	DOM
WL-381	PICKENS	1325	112	42	B	DOM

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
W-382	COYNE, T.K.	1350	155	81	B	DOM
W-383	SEACREST	1362	125	58	B	DOM
W-384	SEACREST	1335	80	33	B	DOM
W-385	SEACREST	1363	REPORTED 100	UNKNOWN	B	DOM
W-386	STANFORD	1350	BURIED	UNKNOWN	UNKNOWN	DOM
DW-387	BARRICKLOW	1260	REPORTED 24	19	A	DOM
W-388	JOHNSON	1160	BURIED	UNKNOWN	UNKNOWN	DOM
W-389	SCHERNITZAUER	1145	BURIED	UNKNOWN	UNKNOWN	DOM
W-390	SCHERNITZAUER	1030	66	38	D	DOM
DW-391	MITCHELL	1120	30	23	A	DOM
WL-392	BLAKE, SR	1325	74	UNKNOWN	B	DOM

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
DW-393	BLAKE, JR	1330	30	15	A	DOM
W-394	TA COYNE	1259	80	28	B	DOM
W-395	TA COYNE	1258	50	16	C	UNUSED
W-396	WORKMAN	1305	70	38	B	DOM
W-397	CRAMER	1310	51	40	B	DOM
W-401	S. SIMPSON	1318	113	40	B	DOM
W-402	SWALLIE	1325	119	73	B	DOM
W-404	C. POWELL	1130	52	17	D	DOM
W-405	SIMPSON	1322	103	76	B	UNUSED
DW-406	SIMPSON	1322	24	22	A	UNUSED
W-407	SIMPSON	1306	83	58	B	UNUSED

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
DW-408	SIMPSON	1305	33	25	A	DOM
W-409	SIMPSON	1318	REPORTED 83	UNKNOWN	B	UNUSED
W-410	SIMPSON	1310	85	62	B	UNUSED
W-411	SIMPSON	1310	UNKNOWN	UNKNOWN	UNKNOWN	UNUSED
W-412	SIMPSON	1305	68	58	B	UNUSED
W-413	SIMPSON	1280	47	32	B	UNUSED
W-414	SIMPSON	1280	55	24	B	UNUSED
W-415	SIMPSON	1135	72	23	D	UNUSED
W-417	R. KEMP	1165	90	54	D	DOM
W-418	R. KEMP	1180	41	13	C	UNUSED
DW-421	SCHLERNITZAUER	1020	24	18	A	UNUSED

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

DOM. = DOMESTIC USE
LIV. = LIVESTOCK USE

Applicant's Name: The Ohio Valley Coal Company

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet	Static Water Level of Well (Avg)	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give avg. discharge rate, gpm)
W-422	SCHLERNITZAUER	1020	39	17	D	UNUSED

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14D
SURFACE WATER BODIES/PUBLIC WATER SUPPLIES

Applicant's Name The Ohio Valley Coal Company

Surface Water/ Public Supply Identification #	Type of Surface Water/Public Supply	Name of Owner of Surface Water/ Public Supply	Known Uses of Surface Water/ Public Supply
Williams Creek Tibutaries	Intermittent/Perennial Streams	See Application Map	Livestock/Unused
U34-000	STREAM	FUNKHOUSER	UNUSED
U34-001	STREAM	FUNKHOUSER	UNUSED
U34-002	STREAM	FUNKHOUSER	UNUSED
U34-003	STREAM	RAUCHENBERGER	UNUSED
U34-004	STREAM	RICE	UNUSED
U34-005	STREAM	KINDLER	LIVESTOCK
U34-006	STREAM	FUNKHOUSER	LIVESTOCK
U34-007	STREAM	BOROUGH CO.	UNUSED
U34-008	STREAM	RICE	UNUSED
U34-009	STREAM	RICE	UNUSED
U34-010	STREAM	RICE	UNUSED
U34-015	STREAM	KINDLER	LIVESTOCK
U34-016	STREAM	BOROUGH CO.	UNUSED
U34-017	STREAM	DELANEY	LIVESTOCK
U34-018	STREAM	BOROUGH CO.	UNUSED
U34-019	STREAM	DELANEY	LIVESTOCK
U34-020	STREAM	DELANEY	UNUSED
U34-021	STREAM	RICE	UNUSED
U34-022	STREAM	DELANEY	LIVESTOCK
U34-023	STREAM	DELANEY	LIVESTOCK
U34-024	STREAM	MAY	UNUSED
U34-025	STREAM	GROVES	UNUSED
U34-143	STREAM	RICE	UNUSED
U34-149	STREAM	SIMPSON	LIVESTOCK
U34-150	STREAM	HART	LIVESTOCK
U34-151	STREAM	WINLAND	UNUSED
U34-151A	STREAM	SEACREST	LIVESTOCK
U34-152	STREAM	SIMPSON	LIVESTOCK
U34-153	STREAM	HART	LIVESTOCK
U34-154	STREAM	HART	LIVESTOCK
U34-155	STREAM	HART	LIVESTOCK
U34-156	STREAM	SAFFELL	LIVESTOCK
U34-157	STREAM	WINLAND	UNUSED
U34-158	STREAM	WINLAND	UNUSED
U34-159	STREAM	COYNE	UNUSED
U34-160	STREAM	COYNE	UNUSED
U34-161	STREAM	SAFFELL	LIVESTOCK
U34-162	STREAM	FUNKHOUSER	UNUSED
U34-163	STREAM	SAFFELL	LIVESTOCK
U34-164	STREAM	SAFFELL	LIVESTOCK
U34-165	STREAM	PRICE	LIVESTOCK
U34-166	STREAM	SAFFELL	LIVESTOCK
U34-166A	STREAM	KINDLER	LIVESTOCK
U34-167 (P-2)	POND	KINDLER	LIVESTOCK
U34-168	STREAM	KINDLER	LIVESTOCK
U34-170 (P-15)	POND	KINDLER	LIVESTOCK
U34-171 (P-16)	POND	KINDLER	LIVESTOCK
U34-172 (P-18)	POND	KINDLER	LIVESTOCK
U34-173 (P-19)	POND	COYNE	UNUSED
U34-174 (P-17)	POND	KINDLER	LIVESTOCK

TOVCC 10193

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 14D
SURFACE WATER BODIES/PUBLIC WATER SUPPLIES

Applicant's Name The Ohio Valley Coal Company

Surface Water/ Public Supply Identification #	Type of Surface Water/Public Supply	Name of Owner of Surface Water/ Public Supply	Known Uses of Surface Water/ Public Supply
Hutchinson Run Tributaries	Intermittent Streams	See Application Map	Unused
U35-001	STREAM	R&F COAL CO.	UNUSED
U35-002 (P-29)	POND	R&F COAL CO.	UNUSED
U35-003	STREAM	R&F COAL CO.	UNUSED
U35-035 (P-30)	POND	JOHNSON	UNUSED
U35-036	STREAM	R&F COAL CO.	UNUSED
U35-037 (P-20, 21, 22, 23)	PONDS	R&F COAL CO.	UNUSED
U35-038	STREAM	KEMP	UNUSED
U35-039	STREAM	KEMP	UNUSED
U35-040 (P-26)	POND	SCHERNITZAUER	UNUSED
U35-041 (P-24)	POND	MITCHELL	UNUSED
U35-042	STREAM	NIXON	UNUSED
U35-043	STREAM	SEAWAY COAL	UNUSED
U35-044	STREAM	MILHOAN	UNUSED
U35-045 (P-25)	POND	MITCHELL	UNUSED
U35-046	STREAM	KINDLER	LIVESTOCK
U35-03	STREAM	CIMINI	
Joy Fork Tributaries	Intermittent Streams	See Application Map	Livestock/Unused
U37-000	STREAM	KEMP	UNUSED
U37-001 (P-28)	POND	HENNEBERT	UNUSED
U37-003 (P-27)	POND	SIMPSON	UNUSED
U37-005	STREAM	SIMPSON	UNUSED
U37-006	STREAM	KEMP	UNUSED
D34-001	STREAM	FUNKHOUSER	UNUSED
D37-000	STREAM	DUNFEE	LIVESTOCK

TOVCC 10194

2/89

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
Planned Subsidence Areas - Underground Mining Operations

ATTACHMENT 27A
(HISTORIC AND PREHISTORIC PROPERTIES)

1. Applicant's Name The Ohio Valley Coal Company Permit # D-0360

   Address 56854 Pleasant Ridge Road

   City Alledonia State OH Zip 43902

2. Contact Person David L. Bartsch Phone 614-926-1351

3. Location and Acreage Information

   County Belmont Township Smith

   Section(s)/Lots 22, 23, 24, 28 29, 30, 34, 35, 36 T-6N, R- 4W

   USGS Quadrangle Armstrongs Mills, St. Clairsville Hunter, Bethesda Acreage 2650

4. Full Coal Recovery Area Map Attached: (USGS Quadrangle with full coal recovery area delineated)

5. Historic and Prehistoric Structures:

   Definitions

   A historic or prehistoric structure is a work made up on interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

   Types

   Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

   Prehistoric structures include, but are not limited to, earthworks and mounds.

List all known historic and prehistoric structures below and locate each one o the map to be sent to the SHPO including corresponding labeled black and white front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo# Front	Photo# Rear
See Addendum to Attachment 27A				

6. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the planned subsidence areas)

None

7. SHPO please send this form to:

Dr. Jeffrey C. Reichwein
Division of Reclamation
Fountain Square, Building B-3
Columbus, Ohio 43224

FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY

(check appropriate spaces)

A. _____ This is a recommendation for an archeological survey of the proposed full coal recovery area based on the following reasons (attached addendum, if necessary):

A SHPO review of the area shown on the map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the permit and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 5. and 6. above.

Listed and Eligible National Register Sites

Site Name	(#)	Type	Proposed Area	Adjacent Area

Known Historic and Prehistoric Sites

Site Name	(#)	Type	Proposed Area	Adjacent Area

B. _____ A SHPO review of the area shown on the application map and information contained in this attachment finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the proposed application area changes.

State Historic Preservation Officer _____

SHPO # _____

Date _____

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360, APPLICATION D-0360-7
ADDENDUM TO ATTACHMENT 27A

HISTORIC INVENTORY REFERENCE LIST

REF NO.	OWNER	APPROX. CONST. DATE	APPROX. MOD. DATE	TYPE
98	DELANEY	PRE 1900	1979	FARMSTEAD
99	KINDLER	1867		FARMSTEAD
100	C BLAKE	1900'S		FARMSTEAD
101	KINDLER	1897		FARMSTEAD
102	COYNE	1890'S	1970's	FARMSTEAD
103	MITCHELL	1840'S		SCHOOLHOUSE
104	MITCHELL	1850'S		FARMSTEAD
105	BARRICKLOW	1870'S		FARMSTEAD
106	J BLAKE	PRE 1940	1980's	FARMSTEAD
107	SECREST	EARLY 1800's	1970's & 1980's	FARMSTEAD
108	SIMPSON	TODD FARM PRE 1900		FARMSTEAD
109	SIMPSON	PRYOR FARM 1930'S		FARMSTEAD
110	WINLAND	1890'S		FARMSTEAD
111	SIMPSON	WHEELER FARM 1890'S		FARMSTEAD
112	SIMPSON	COUNTRY MILE FARM 1863		FARMSTEAD
113	HART	1890'S	1970's	FARMSTEAD
114	SAFFELL	PRE 1900	PRE1947 & 1988	FARMSTEAD

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2431717.9
730220.56
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1.	Identification No. of Sampling Station from Hydrology Map	U34-24	U34-24	U34-24	U34-24	U34-24	U34-24
2.	Lab Identification Number	S-12	S-12	S-12	S-12	S-12	S-12
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1075	1075	1075	1075	1075	1075
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	2.075 cfs	2.09 cfs	4.42 cfs	2.71 cfs	4.51 cfs	1.898 cfs
8.	Date Above Measurements Made	11/05/90	12/27/90	01/15/91	02/04/91	03/08/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8.0	7.7	7.7	7.7	7.8	7.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	4.94	10.07	6.65
12.	Total Alkalinity (mg/l CAC03)	174.00	120.00	100.00	138.51	119.32	146.30
13.	Specific Conductivity (μmhos/cm at 25°C)	425	380	305	357	347	368
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.08	0.10	0.02	0.07	0.00
16.	Total Sulfates (mg/l)	32.0	34.0	38.0	31.0	30.0	27.0
17.	Total Iron (mg/l)	0.01	0.11	0.47	0.15	0.46	0.05
18.	Total Suspended Solids (mg/l)	2.0	0.3	21.0	3.0	10.0	5.0
19.	Total Hardness (mg/l CAC03)	161.0	78.4	94.1	173.0	148.0	178.0
20.	Nitrates (mg/l)	4.84	7.48	4.84	1.48	2.37	3.36
21.	Date Sampled for Analysis	11/05/90	12/27/90	01/15/91	02/04/91	03/08/91	04/24/91
22.	Date Last Precipitaiton Event Occurred	10/24/90	12/04/90	01/14/91	01/31/91	03/06/91	04/22/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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2431657.7
729967.33
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-25	U34-25	U34-25	U34-25	U34-25	U34-25
2.	Lab Identification Number	S-J2	S-J2	S-J2	S-J2	S-J2	S-J2
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1055	1055	1055	1055	1055	1055
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	3.535 cfs	7.49 cfs	4.722 cfs	3.56 cfs	3.12 cfs	3.837 cfs
8.	Date Above Measurements Made	11/05/90	12/19/90	01/14/91	02/04/91	03/19/91	04/16/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	8.0	7.5	8.0	7.8	7.9	7.9
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	11.97	9.31	26.22
2.	Total Alkalinity (mg/l CAC03)	178.00	104.00	124.00	148.96	147.06	177.27
13.	Specific Conductivity (μmhos/cm at 25°C)	450	300	350	367	347	300
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.01	0.12	0.06	0.02	0.00	0.00
16.	Total Sulfates (mg/l)	36.0	34.0	38.0	33.0	28.0	28.0
17.	Total Iron (mg/l)	0.01	0.28	0.13	0.00	0.04	0.26
18.	Total Suspended Solids (mg/l)	0.3	1.0	11.6	10.0	2.0	10.0
19.	Total Hardness (mg/l CAC03)	153.0	55.4	117.4	176.0	168.0	143.0
20.	Nitrates (mg/l)	4.31	6.16	10.10	1.54	2.90	6.11
21.	Date Sampled for Analysis	11/05/90	12/19/90	01/14/91	02/04/91	03/19/91	04/16/91
22.	Date Last Precipitaiton Event Occurred	10/24/91	12/18/90	01/14/91	01/31/91	03/18/91	04/14/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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730854.8
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

	Identification No. of Sampling Station from Hydrology Map	U34-143	U34-143	U34-143	U34-143	U34-143	U34-143
2.	Lab Identification Number						
3.	High (H)/Low (L) Designation (if applicable)						
4.	Surface Elevation for Sampling Station (msl)	1110	1110	1110	1110	1110	1110
5.	Depth of Well below Land Surface (feet)						
6.	Static Water Level of Well below Land Surface (feet)						
7.	Flow for Spring/Stream (gpm or cfs)	0.006 cfs	0.033 cfs	0.066 cfs	0.044 cfs	0.033 cfs	0.022 cfs
8.	Date Above Measurements Made	11/30/90	12/26/90	01/15/91	02/04/91	03/08/91	04/24/91
9.	Aquifer/Zone Identification for Well/Spring						
10.	pH (Standard Units)	7.7	7.9	7.9	7.8	8.0	8.1
11.	Total Acidity (mg/l CAC03)	0.00	0.00	0.00	13.11	7.03	18.43
	Total Alkalinity (mg/l CAC03)	236.00	200.00	170.00	196.46	198.55	215.65
13.	Specific Conductivity (μmhos/cm at 25°C)	400	440	420	472	441	441
14.	Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15.	Total Manganese (mg/l)	0.65	0.22	0.14	0.26	0.07	0.51
16.	Total Sulfates (mg/l)	34.0	40.0	37.0	26.0	27.0	17.0
17.	Total Iron (mg/l)	2.50	0.94	0.94	2.66	0.37	5.60
18.	Total Suspended Solids (mg/l)	10.0	0.3	24.3	22.0	10.0	37.0
19.	Total Hardness (mg/l CAC03)	188.0	119.6	157.1	230.0	204.0	228.0
20.	Nitrates (mg/l)	4.05	7.04	3.78	1.40	2.42	3.26
21.	Date Sampled for Analysis	11/30/90	12/26/90	01/15/91	02/04/91	03/08/91	04/24/91
22.	Date Last Precipitaiton Event Occurred	11/27/90	12/24/90	01/14/91	01/31/91	03/06/91	04/22/91

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

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731452.57
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-149	U34-149	U34-149	U34-149	U34-149	U34-149
2. Lab Identification Number	93-11-954	93-12-802	94-01-746	94-02-672	94-03-972	94-04-933
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1190	1190	1190	1190	1190	1190
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.05	0.10	3.04	.73	1.2	.19
8. Date Above Measurements Made	11/26/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.8	7.5	7.3	7.7	7.8
11. Total Acidity (mg/l CAC03)	4.60	4.00	4.80	3.40	3.00	7.60
12. Total Alkalinity (mg/l CAC03)	101.20	126.40	65.80	73.20	78.60	123.20
13. Specific Conductivity (μmhos/cm at 25°C)	416	391	270	280	330	320
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.06	<0.02	0.27	0.03	0.02	0.03
16. Total Sulfates (mg/l)	24.0	28.0	23.0	<10.0	34.0	25.0
17. Total Iron (mg/l)	0.40	0.04	1.52	0.35	0.19	0.21
18. Total Suspended Solids (mg/l)	24.0	15.0	166.0	9.0	8.0	12.0
19. Total Hardness (mg/l CAC03)	162.0	184.0	136.0	116.0	150.00	160.0
20. Nitrates (mg/l)	1.02	0.93	1.38	1.60	1.00	1.14
21. Date Sampled for Analysis	11/26/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/26/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

TOVCC 10202

9/88
U34-150
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-150	U34-150	U34-150	U34-150	U34-150	U34-150
2. Lab Identification Number	93-11-955	93-12-783	94-01-747	94-02-673	94-03-973	94-04-934
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1152	1152	1152	1152	1152	1152
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.10	0.17	4.15	1.18	1.2	.28
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.8	7.5	7.4	7.7	7.8
11. Total Acidity (mg/l CAC03)	4.60	3.80	4.40	4.80	3.80	6.40
12. Total Alkalinity (mg/l CAC03)	113.00	132.40	64.0	72.40	83.20	127.80
13. Specific Conductivity (μmhos/cm at 25°C)	395	433	320	250	330	310
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.08	<0.02	0.25	<0.02	0.02	0.04
16. Total Sulfates (mg/l)	25.0	31.0	27.0	24.0	33.0	24.0
17. Total Iron (mg/l)	0.38	0.04	2.15	0.18	0.18	0.20
18. Total Suspended Solids (mg/l)	20.0	4.0	150.0	11.0	9.0	14.0
19. Total Hardness (mg/l CAC03)	163.0	172.0	135.0	111.0	144.0	160.0
20. Nitrates (mg/l)	0.68	0.56	1.26	1.35	0.98	1.39
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

TOVCC 10203

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U34-151
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-151	U34-151	U34-151	U34-151	U34-151	U34-151
2. Lab Identification Number	93-11-956	93-12-784	94-01-748	94-02-674	94-03-974	94-04-935
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1160	1160	1160	1160	1160	1160
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	-	-	-	-	-	-
7. Flow for Spring/Stream (gpm or cfs)	0.02	0.045	0.54	.4	.2	.1
8. Date Above Measurements Made	11/26/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.5	7.5	7.2	7.0	7.4	7.6
11. Total Acidity (mg/l CAC03)	5.40	5.60	3.80	6.20	2.80	6.60
12. Total Alkalinity (mg/l CAC03)	111.00	102.00	52.60	50.80	70.40	93.60
13. Specific Conductivity (μmhos/cm at 25°C)	320	280	140	150	240	220
14. Total Dissolved Solids (mg/l)	-	-	-	-	-	-
15. Total Manganese (mg/l)	0.02	<0.02	0.11	0.02	0.02	0.02
16. Total Sulfates (mg/l)	27.0	24.0	18.0	23.0	31.0	21.0
17. Total Iron (mg/l)	0.19	0.05	2.41	0.32	0.25	0.17
18. Total Suspended Solids (mg/l)	3.0	8.0	72.0	9.0	10.0	8.0
19. Total Hardness (mg/l CAC03)	142.0	142.0	70.0	72.0	101.0	128.0
20. Nitrates (mg/l)	0.64	<0.50	<0.50	0.74	<0.50	<0.50
21. Date Sampled for Analysis	11/26/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/26/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

~~Spring~~ flow = GPM
~~Stream~~ flow = CFS

TOVCC 10204

9/88
U34-151A
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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-151A	U34-151A	U34-151A	U34-151A	U34-151A	U34-151A
2. Lab Identification Number	93-11-946	93-12-781	94-01-731	94-02-689	94-03-990	94-04-952
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1214	1214	1214	1214	1214	1214
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.5	0.68	8.33	3.95	2.7	2.7
8. Date Above Measurements Made	11/26/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring						
10. pH (Standard Units)	7.6	7.5	6.9	6.7	6.8	7.2
11. Total Acidity (mg/l CAC03)	5.00	4.60	6.00	6.00	6.20	5.80
12. Total Alkalinity (mg/l CAC03)	154.40	143.40	49.20	70.20	86.40	16.380
13. Specific Conductivity (μmhos/cm at 25°C)	416	391	130	200	250	290
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.10	0.12	0.04	0.04	0.06	0.12
16. Total Sulfates (mg/l)	24.0	29.0	16.0	27.0	34.0	27.0
17. Total Iron (mg/l)	0.32	0.30	0.09	0.50	0.14	0.28
18. Total Suspended Solids (mg/l)	11.0	3.0	12.0	8.0	11.0	14.0
19. Total Hardness (mg/l CAC03)	181.0	175.0	62.0	92.0	112.0	144.0
20. Nitrates (mg/l)	0.78	<0.50	<0.50	0.62	<0.50	<0.50
21. Date Sampled for Analysis	11/26/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/26/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-152
2422370.7
733020.23
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-152	U34-152	U34-152	U34-152	U34-152	U34-152
2. Lab Identification Number	93-11-957	93-17-785	94-01-749	94-02-675	94-03-975	94-04-936
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1155	1155	1155	1155	1155	1155
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.29	0.16	1.28	.67	.6	.3
8. Date Above Measurements Made	11/26/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.6	7.7	7.3	7.1	7.6	7.8
11. Total Acidity (mg/l CAC03)	5.40	5.40	7.60	5.20	4.00	7.80
12. Total Alkalinity (mg/l CAC03)	94.20	116.40	69.00	66.60	79.00	103.80
13. Specific Conductivity (μmhos/cm at 25°C)	320	371	280	220	270	320
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.12	0.05	0.23	0.03	0.03	0.05
16. Total Sulfates (mg/l)	32.0	29.0	18.0	26.0	36.0	30.0
17. Total Iron (mg/l)	<0.04	0.09	2.67	0.26	0.26	0.27
18. Total Suspended Solids (mg/l)	30.0	6.0	183.0	12.0	18.0	12.0
19. Total Hardness (mg/l CAC03)	136.0	178.0	130.0	103.0	124.0	152.0
20. Nitrates (mg/l)	0.90	1.07	2.30	0.92	1.27	1.33
21. Date Sampled for Analysis	11/26/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/26/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-153
2423586.8
732694.13
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-153	U34-153	U34-153	U34-153	U34-153	U34-153
2. Lab Identification Number	93-11-958	93-12-786	94-01-750	94-02-676	94-03-976	94-04-937
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1139	1139	1139	1139	1139	1139
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–		–	–
7. Flow for Spring/Stream (gpm or cfs)	0.52	0.16	2.78	2.23	.9	.35
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	8.0	7.4	7.2	7.7	7.8
11. Total Acidity (mg/l CAC03)	4.20	3.60	4.80	4.40	4.00	6.40
12. Total Alkalinity (mg/l CAC03)	96.60	117.80	71.00	63.20	81.00	121.20
13. Specific Conductivity (μmhos/cm at 25°C)	320	320	240	180	260	310
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.10	<0.02	0.35	0.02	0.02	0.03
16. Total Sulfates (mg/l)	29.0	28.0	29.0	23.0	34.0	30.0
17. Total Iron (mg/l)	0.88	0.09	3.10	0.36	0.25	0.24
18. Total Suspended Solids (mg/l)	38.0	5.0	203.0	16.0	20.0	10.0
19. Total Hardness (mg/l CAC03)	137.0	172.0	108.0	84.0	136.0	148.0
20. Nitrates (mg/l)	0.77	0.73	1.25	0.38	1.07	0.96
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

TOVCC 10207

9/88
U34-154
2424035.9
732931.8
GTE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-154	U34-154	U34-154	U34-154	U34-154	U34-154
2. Lab Identification Number	93-11-959	93-12-787	94-01-751	94-02-677	94-03-977	94-04-938
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1147	1147	1147	1147	1147	1147
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.001	0.003	0.14	.26	.09	.04
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.1	7.3	7.2	7.4	7.7
11. Total Acidity (mg/l CAC03)	5.40	6.80	6.80	4.00	5.60	7.60
12. Total Alkalinity (mg/l CAC03)	167.80	128.80	98.80	78.40	85.20	115.20
13. Specific Conductivity (μmhos/cm at 25°C)	426	350	260	220	250	270
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.03	<0.02	0.10	0.02	0.03	0.05
16. Total Sulfates (mg/l)	33.0	33.0	32.0	30.0	44.0	37.0
17. Total Iron (mg/l)	0.39	<0.04	1.02	0.27	0.18	0.20
18. Total Suspended Solids (mg/l)	42.0	2.0	18.0	9.0	6.0	15.0
19. Total Hardness (mg/l CAC03)	210.0	179.0	135.0	107.0	134.0	156.0
20. Nitrates (mg/l)	2.80	0.77	1.43	1.45	0.90	0.58
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

TOVCC 10208

9/88
U34-155
2424942.4
731897.5
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-155	U34-155	U34-155	U34-155	U34-155	U34-155
2. Lab Identification Number	93-11-960	93-12-788	94-01-752	94-02-678	94-03-978	94-04-939
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1101	1101	1101	1101	1101	1101
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	1.0	0.44	7.9	3.9	2.8	1.3
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.8	7.4	7.2	7.7	7.9
11. Total Acidity (mg/l CAC03)	5.60	3.40	6.40	5.60	3.00	7.40
12. Total Alkalinity (mg/l CAC03)	110.20	136.40	86.40	65.60	104.80	146.20
13. Specific Conductivity (μmhos/cm at 25°C)	354	371	245	200	280	320
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.12	0.02	0.23	0.04	0.03	0.02
16. Total Sulfates (mg/l)	33.0	28.0	19.0	27.0	35.0	30.0
17. Total Iron (mg/l)	1.52	0.07	2.55	0.58	0.29	0.20
18. Total Suspended Solids (mg/l)	47.0	4.0	37.0	11.0	9.0	17.0
19. Total Hardness (mg/l CAC03)	148.0	173.0	118.0	104.0	156.0	168.0
20. Nitrates (mg/l)	0.72	<0.50	1.06	1.20	0.96	0.69
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-156
2425441.4
731855.29
GTE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-156	U34-156	U34-156	U34-156	U34-156	U34-156
2. Lab Identification Number	93-11-961	93-12-789	94-01-753	94-02-679	94-03-979	94-04-940
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1100	1100	1100	1100	1100	1100
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	1.30	0.61	8.1	5.38	3.0	1.8
8. Date Above Measurements Made	11/29/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.8	7.4	7.3	7.7	7.9
11. Total Acidity (mg/l CAC03)	5.00	0.80	7.40	3.80	4.40	6.00
12. Total Alkalinity (mg/l CAC03)	109.60	133.60	70.0	87.80	104.40	139.20
13. Specific Conductivity (μmhos/cm at 25°C)	320	320	220	200	290	320
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.13	0.02	0.35	0.04	0.02	0.05
16. Total Sulfates (mg/l)	35.0	34.0	24.0	21.0	33.0	29.0
17. Total Iron (mg/l)	3.00	0.06	0.31	0.53	0.22	0.33
18. Total Suspended Solids (mg/l)	39.0	3.0	190.0	13.0	9.0	19.0
19. Total Hardness (mg/l CAC03)	156.0	172.0	110.0	92.0	147.0	168.0
20. Nitrates (mg/l)	0.63	<0.50	1.34	0.94	0.75	0.70
21. Date Sampled for Analysis	11/29/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/28/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-157
2425398.9
733753.28
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-157	U34-157	U34-157	U34-157	U34-157	U34-157
2. Lab Identification Number	93-11-962	93-12-790	94-01-754	94-02-680	94-03-980	94-04-941
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1120	1120	1120	1120	1120	1120
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.54	0.25	9.07	3.1	1.4	.68
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.9	7.3	7.0	7.5	7.8
11. Total Acidity (mg/l CAC03)	5.00	3.00	7.60	6.80	4.00	6.40
12. Total Alkalinity (mg/l CAC03)	113.20	136.80	55.00	68.40	94.80	133.40
13. Specific Conductivity (μmhos/cm at 25°C)	310	320	180	190	250	270
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.09	0.03	1.85	0.04	0.02	<0.02
16. Total Sulfates (mg/l)	34.0	36.0	32.0	27.0	36.0	33.0
17. Total Iron (mg/l)	0.67	0.08	14.50	0.65	0.22	0.17
18. Total Suspended Solids (mg/l)	12.0	7.0	984.0	12.0	8.0	6.0
19. Total Hardness (mg/l CAC03)	156.0	181.0	86.0	99.0	128.0	150.0
20. Nitrates (mg/l)	0.97	<0.50	1.48	1.32	0.60	<0.50
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-158
2425616.4
732898.34
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-158	U34-158	U34-158	U34-158	U34-158	U34-158
2. Lab Identification Number	93-11-963	93-12-791	94-01-735	94-02-681	94-03-981	94-04-942
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1106	1106	1106	1106	1106	1106
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.9	0.36	9.6	4.0	31.5	.74
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.7	7.8	7.3	7.0	7.5	7.8
11. Total Acidity (mg/l CAC03)	5.20	2.80	6.60	3.60	5.60	5.40
12. Total Alkalinity (mg/l CAC03)	111.40	131.00	64.60	71.00	92.80	118.80
13. Specific Conductivity (μmhos/cm at 25°C)	320	300	190	190	250	280
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.05	<0.02	1.84	0.03	0.02	<0.02
16. Total Sulfates (mg/l)	34.0	32.0	24.0	26.0	34.0	31.0
17. Total Iron (mg/l)	0.44	<0.04	15.50	0.56	0.21	0.10
18. Total Suspended Solids (mg/l)	9.0	2.0	1122.0	15.0	6.0	8.0
19. Total Hardness (mg/l CAC03)	153.0	164.0	112	94.0	142.0	144.0
20. Nitrates (mg/l)	1.02	<0.50	2.94	1.17	<0.50	<0.50
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-159
2425701.1
732676.47
PAN

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-159	U34-159	U34-159	U34-159	U34-159	U34-159
2. Lab Identification Number	93-11-964	93-12-792	94-01-736	94-02-682	94-03-982	94-04-943
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1105	1105	1105	1105	1105	1105
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	1.00	0.36	11.2	4.32	1.6	.97
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.5	7.7	7.3	7.0	7.4	7.7
11. Total Acidity (mg/l CAC03)	5.00	4.60	6.00	4.60	3.80	6.80
12. Total Alkalinity (mg/l CAC03)	112.20	128.80	58.20	64.60	91.80	128.60
13. Specific Conductivity (μmhos/cm at 25°C)	330	310	180	200	250	280
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.04	<0.02	1.54	0.03	0.03	0.03
16. Total Sulfates (mg/l)	40.0	34.0	21.0	28.0	38.0	34.0
17. Total Iron (mg/l)	0.35	<0.04	10.60	0.65	0.25	0.17
18. Total Suspended Solids (mg/l)	18.0	9.0	365.0	17.0	12.0	14.0
19. Total Hardness (mg/l CAC03)	155.0	161.0	96.0	90.0	146.0	143.0
20. Nitrates (mg/l)	0.54	<0.50	1.41	1.32	<0.50	<0.50
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-160
2426276.5
732885.75
GTE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-160	U34-160	U34-160	U34-160	U34-160	U34-160
2. Lab Identification Number	93-11-965	93-12-793	94-01-737	94-02-683	94-03-983	94-04-944
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1128	1128	1128	1128	1128	1128
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.07	0.02	1.3	.32	.1	.06
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.2	7.4	7.0	6.9	7.3	7.7
11. Total Acidity (mg/l CAC03)	4.80	4.40	6.60	5.40	5.20	6.00
12. Total Alkalinity (mg/l CAC03)	57.40	84.40	41.20	57.60	86.60	103.80
13. Specific Conductivity (μmhos/cm at 25°C)	200	250	120	170	250	230
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.06	<0.02	0.50	0.03	0.04	0.04
16. Total Sulfates (mg/l)	32.0	24.0	20.0	25.0	36.0	24.0
17. Total Iron (mg/l)	0.80	0.06	5.10	0.48	0.27	0.16
18. Total Suspended Solids (mg/l)	16.0	8.0	259.0	4.0	7.0	6.0
19. Total Hardness (mg/l CAC03)	89.0	114.0	73.0	42.0	144.0	94.0
20. Nitrates (mg/l)	0.52	<0.50	<0.50	0.61	0.67	<0.50
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-161
2425965.3
731817.37
GTE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-161	U34-161	U34-161	U34-161	U34-161	U34-161
2. Lab Identification Number	93-11-966	93-12-794	94-01-738	94-02-684	94-03-984	94-04-945
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1095	1095	1095	1095	1095	1095
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	1.10	0.38	11.4	5.77	1.9	1
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.4	7.6	7.4	7.0	7.3	7.8
11. Total Acidity (mg/l CAC03)	5.40	6.40	5.40	4.60	4.20	8.80
12. Total Alkalinity (mg/l CAC03)	106.20	123.20	78.40	57.40	73.20	123.20
13. Specific Conductivity (μmhos/cm at 25°C)	330	320	220	180	200	270
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.09	0.05	0.50	0.06	0.02	0.06
16. Total Sulfates (mg/l)	36.0	33.0	24.0	24.0	29.0	34.0
17. Total Iron (mg/l)	0.57	0.06	4.20	0.96	0.23	0.18
18. Total Suspended Solids (mg/l)	20.0	3.0	283.0	12.0	14.0	9.0
19. Total Hardness (mg/l CAC03)	132.0	165.0	123.0	92.0	91.0	144.0
20. Nitrates (mg/l)	0.64	<0.50	1.07	1.44	<0.50	<0.50
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

9/88
U34-162
2427044.7
732791.1
GTE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

Applicant's Name THE OHIO VALLEY COAL COMPANY

1. Identification No. of Sampling Station from Hydrology Map	U34-162	U34-162	U34-162	U34-162	U34-162	U34-162
2. Lab Identification Number	39-11-967	93-12-795	94-01-739	94-02-685	94-03-985	94-04-946
3. High (H)/Low (L) Designation (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A
4. Surface Elevation for Sampling Station (msl)	1195	1195	1195	1195	1195	1195
5. Depth of Well below Land Surface (feet)	N/A	N/A	N/A	N/A	N/A	N/A
6. Static Water Level of Well below Land Surface (feet)	–	–	–	–	–	–
7. Flow for Spring/Stream (gpm or cfs)	0.001	0.004	0.18	.01	.01	.02
8. Date Above Measurements Made	11/27/93	12/17/93	01/27/94	02/21/94	03/24/94	04/26/94
9. Aquifer/Zone Identification for Well/Spring	N/A	N/A	N/A	N/A	N/A	N/A
10. pH (Standard Units)	7.3	7.6	7.1	7.6	7.7	7.7
11. Total Acidity (mg/l CAC03)	6.00	4.40	4.60	1.80	4.60	8.00
12. Total Alkalinity (mg/l CAC03)	97.80	181.80	30.60	142.20	154.80	180.80
13. Specific Conductivity (μmhos/cm at 25°C)	280	381	125	360	382	385
14. Total Dissolved Solids (mg/l)	–	–	–	–	–	–
15. Total Manganese (mg/l)	0.20	0.02	0.09	<0.02	0.02	0.06
16. Total Sulfates (mg/l)	33.0	32.0	22.0	26.0	36.0	31.0
17. Total Iron (mg/l)	1.99	<0.04	1.14	0.19	0.31	0.69
18. Total Suspended Solids (mg/l)	58.0	10.0	15.0	9.0	10.0	32.0
19. Total Hardness (mg/l CAC03)	138.0	222.0	62.0	169.0	180.0	208.0
20. Nitrates (mg/l)	1.42	0.58	1.48	2.17	2.37	2.08
21. Date Sampled for Analysis	11/27/93	12/17/93	01/27/94	02/21/94	03/25/94	04/26/94
22. Date Last Precipitaiton Event Occurred	11/27/93	12/15/93	01/27/94	02/21/94	03/23/94	04/15/94

Laboratory Name INDUSTRIAL LAB ANALYSIS
Address 2240 WILLIAMSBURG FARM, P. O. BOX 81, GLEN DALE
State WEST VIRGINIA Zip 26038

Spring flow = GPM
Stream flow = CFS

TOVCC 10216

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
R&F COAL CO.	BELMONT	SMITH/24	WOODLAND		7-1
			CROPLAND		
			PASTURE LAND		
			STREAM		U35-001
NIXON, A.T.	BELMONT	SMITH/24	WOODLAND		7-2
REESE, J.I. JR. A.T.A.	BELMONT	SMITH/23	PASTURELAND		7-3
			WOODLAND		
			SPRING		DS-265
			STREAM		U34-171
KINDLER, D. M.	BELMONT	SMITH/23	PASTURELAND		7-4
			WOODLAND		
			SPRING		DS-265
			STREAM		U34-171

TOVCC 10217

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
KINDLER, D.M.	BELMONT	SMITH/23	PASTURELAND		7-5
			WOODLAND		
			STREAMS		U34-166A,U34-167
					U34-168,U34-170
BOUROUGH CO.	BELMONT	SMITH/23	WOODLAND		7-6
			STREAM		U34-015
BOUROUGH CO.	BELMONT	SMITH/23	WOODLAND		7-7
THOMAS, JEFF	BELMONT	SMITH/22		TRAILER	7-8
			WELL	OUTBUILDINGS	W-176
				POOL	

TOVCC 10218

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
HAYES, RANDY	BELMONT	SMITH/22		HOUSE	7-9
			WELL		W-175
				OUTBUILDING	
				POOL	
DELANEY, RALPH	BELMONT	SMITH/22, 16	WOODLAND	HOUSE	7-10
			CROPLAND	FARMBUILDINGS	
			PASTURELAND	TRAILER	
			WELLS	OUTBUILDINGS	W-177, W-268
			UNDEVELOPED SPRINGS (5)		
			STEAMS		U34-016, U34-017
BOROUGH CO. ETAL.	BELMONT	SMITH/22	WOODLAND		7-11
			STEAM		U34-007

TOVCC 10219

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
RICE,RICHARD	BELMONT	SMITH/22	WOODLAND	HOUSE	7-12
			PASTURELAND	QUONSET HUT	
			WELL		W-173
			UNDEVELOPED SPRINGS		
			SPRINGS		DS-226A, DS-226B,
					DS-223
			STREAMS		U34-7, U34-143
				BARN	
				OUTBUILDING	
FUNKHOUSER, F.P. & A.	BELMONT	SMITH/22	WOODLAND		7-13
			PASTURELAND		
			CROPLAND		
			STREAM		U34-7

TOVCC 10220

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
FUNKHOUSER, C. E. & I.	BELMONT	SMITH/28	WOODLAND		7-14
			PATSURELAND		
FUNKHOUSER, C. E. JR. & C.	BELMONT	SMITH/28	WOODLAND		7-15
			PASTURE		
			POND		434-001
FUNKHOUSER, C. E. JR. &C.	BELMONT	SMITH/28	WOODLAND		7-16
FUNKHOUSER, ANNA	BELMONT	SMITH/28	WOODLAND		7-17
			PASTURELAND		
			CROPLAND		
			STREAM		U34-6, U34-162

TOVCC 10221

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
SAFFELL, R. SR. & J.	BELMONT	SMITH/28	WOODLAND	HOUSE	7-18
			CROPLAND	BARN	
			PASTURELAND	OUTBUILDINGS	
			WELL		W-316
			SPRINGS		DS-241, DS-242
			STREAMS		U34-155, U34-156,
					U34-161, U34-163
HART, STANLEY A.	BELMONT	SMITH/28	CROPLAND		7-19A
			SPRING		DS-240

TOVCC 10222

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
HART, FRANCIS T.	BELMONT	SMITH/28	PASTURELAND	HOUSE	7-19
			CROPLAND	BARN	
			WOODLAND	OUTBUILDINGS	
				SUMMER KITCHEN	
			WELL		W-317
			SPRING		DS-240
			STREAMS		U34-150, U34-151,
					U34-153, U34-154,
					U34-155, U34-159,
					U34-161
COYNE, T.A. & M.	BELMONT	SMITH/28	WOODLAND		7-20
			STREAMS		U34-158, U34-159,
					U34-160

TOVCC 10223

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
WINLAND, R.W. ETAL.	BELMONT	SMITH/29	WOODLAND	HOUSE (RUINS)	7-21
			STREAMS	ABAN. GAS WELL	U34-157
COYNE, T.A. & M.B.	BELMONT	SMITH/29	WOODLAND		7-22
			PASTURELAND		
KINDLER, D.M.	BELMONT	SMITH/29	PASTURELAND		7-23
			WOODLAND		
			STREAMS		U34-005, U34-006
KINDLER, D.M.	BELMONT	SMITH/29	WOODLAND	HOUSE	7-24
			PASTURELAND	GARAGE	
			WELL	BARN	W-375
			SPRINGS	SHED(S)	DS-268, DS-269
CARNAHAN, FN & TM	BELMONT	SMITH 29	PASTURELAND		7-25

TOVCC 10224

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
COYNE, T.A. & M.B.	BELMONT	SMITH/29	WOODLAND		7-26
WINLAND, R.W. ETAL.	BELMONT	SMITH/29	WOODLAND		7-27
COYNE, T.K. & J.C.	BELMONT	SMITH/29		HOUSE	7-28
			WELL	SHED	W-382
				POOL	
COYNE, TA & MB	BELMONT	SMITH/29	PASTURELAND	HOUSE	7-29
			CROPLAND	BARN	
			WOODLAND	GARAGE (2)	
			WELLS	SHEDS (3)	W-394, W-395
			SPRINGS	2 SILOS	DS-272,DS-273,DS-274
			POND		U34-173

TOVCC 10225

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
GROVER, R.L. & M.J.	BELMONT	SMITH/29		HOUSE	7-30
			WELL	OUTBUILDING	W-379
PICKENS, C.A. & M.A.	BELMONT	SMITH/29		TRAILER	7-31
			WELL	OUTBUILDINGS	W-381
BLAKE, CHAD & CARMEN	BELMONT	SMITH/29		HOUSE	7-32
			WELLS	TRAILER	W-376, W-377
			SPRING	GARAGE	DS-270
				OUTBUILDINGS	
KINDLER, D.M.	BELMONT	SMITH/29	WOODLAND	HOUSE	7-33
			PASTURELAND	BARNS	
			WELL	OUTBUILDING	W-378
			PONDS		U34-172, U34-174

TOVCC 10226

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
KINDLER, D.M.	BELMONT	SMITH/29	WOODLAND		7-34
			PASTURELAND		
			SPRING		DS-267
R&F COAL CO.	BELMONT	SMITH/30	WOODLAND		7-35
			PASTURELAND		
R&F COAL CO.	BELMONT	SMITH/30	WOODLAND		7-36
			PONDS		U35-037, U35-037A
			PASTURELAND		
R&F COAL CO.	BELMONT	SMITH/30	WOODLAND		7-37
			PASTURELAND		
			PONDS		U35-037B, U35-037C

TOVCC 10227

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
THORNBURG, D. ETAL.	BELMONT	SMITH/30	PASTURELAND		7-38
			POND		U35-037C
THORNBURG, D. ETAL.	BELMONT	SMITH/29	WOODLAND	SCHOOLHOUSE	7-39
			PASTURELAND		
MITCHELL, J.	BELMONT	SMITH/30	WOODLAND	HOUSE	7-40
			PASTURELAND	BARN	
			POND	OUTBUILDING	U35-041,U35-045
			WELL	PRIVY	W-391
HUGHES, M.L.	BELMONT	SMITH/30	WOODLAND		7-41
HORVATH, F. & W.L.	BELMONT	SMITH/29	WOODLAND		7-42
			WELL		W-380

TOVCC 10228

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
JOHNSON, E.M. & T.	BELMONT	SMITH/36	WOODLAND, WELL		7-43, W-388
			POND, CISTERN		U35-035
BARRICKLOW, R.	BELMONT	SMITH/36	WOODLAND		7-44
SIMPSON, O. JR. & B.	BELMONT	SMITH/36	WOODLAND, PASTURELAND		7-45
			CROPLAND		
MILHOAN, W. & R.	BELMONT	SMITH/36	PASTURELAND		7-46
BARRICKLOW, R.	BELMONT	SMITH/35	WOODLAND	HOUSE	7-47
			WELL	GARAGE, RUINS	W-387
BELMONT ELECTRIC CO.	BELMONT	SMITH/35		SUB-STATION	7-48
MILHOAN, W. & R.	BELMONT	SMITH/35	WOODLAND		7-49
			PASTURELAND		

TOVCC 10229

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
SIMPSON, F. & S.	BELMONT	SMITH/35	WOODLAND	BARN	7-50
			PASTURELAND	OUTBUILDINGS	
			WELL		W-415
			WETLAND, CROPLAND		
KEMP R.E. & B.J.	BELMONT	SMITH/35	WOODLAND		7-51
			PASTURELAND		
			CROPLAND		
			STREAM		U35-039
KEMP, JEFFERY E.	BELMONT	SMITH/35		TRAILERS	7-52
			WELLS	OUTBUILDING	W-417, W-418
POWELL, C.E. & S.	BELMONT	SMITH/35		MODULAR	7-53
			WELL	GARAGE	W-404

TOVCC 10230

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
SIMPSON, F. & S.	BELMONT	SMITH/35	CROPLAND		7-54
			STREAM		U35-038
SMITH, A.A.	BELMONT	SMITH/35	WOODLAND		7-55
STANFORD, J.D. ETAL.	BELMONT	SMITH/35		TRAILERS (5)	7-56
			WELL	OUTBUILDING	W-386
HORVATH, F. & W.L.	BELMONT	SMITH/35	WOODLAND	HOUSE	7-57
			WELL		W-380
BLAKE, JACK L. JR.	BELMONT	SMITH/35	WOODLAND	ABANDONED GAS WELL	7-58
BLAKE, CHAD A.	BELMONT	SMITH/35	WOODLAND		7-59

TOVCC 10231

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
BLAKE, JACK	BELMONT	SMITH/35	WOODLAND	HOUSE	7-60
			WELLS	TRAILERS (2)	W-392, W-393
			UNDEVELOPED SPRINGS	SUMMER KITCHEN	
			ABAN. GAS WELL	OUTBUILDINGS	
SEACREST, M.E. & T.	BELMONT	SMITH/35	WOODLAND	HOUSE	7-61
			CROPLAND	TRAILER	
			PASTURELAND	BARN	
			WELLS	OUTBUILDINGS	W-383, W-384, W-385
			SPRINGS	POOL	DS-271
			UNDEVELOPED SPRINGS		U34-151A
SIMPSON, F.	BELMONT	SMITH/35	WOODLAND	HOUSE	7-62
			WELLS	BARN	W-410, W-411
			STREAM		U34-152
			UNDEVELOPED SPRINGS		

TOVCC 10232

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
THE BOARD OF TRUSTEES	BELMONT	SMITH/35	CEMETERY		7-63
SIMPSON, F. & S.	BELMONT	SMITH/35	WOODLAND	BARN	7-64
			WELLS	MILKHOUSE	W-413, W-414
			POND	OUTBUILDINGS	U37-003
			CROPLAND		
			PASTURELAND		
			UNDEVELOPED SPRING		
SIMPSON, SHIRLEY	BELMONT	SMITH/34		HOUSE	7-65
			WELLS		W-401, W-412

TOVCC 10233

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 31
(Subsidence Control Survey)

SURFACE OWNER	COUNTY	TOWNSHIP/SECTION	RENEWABLE RESOURCES	STRUCTURES - USE	MAP LOC. KEY (STRUCTURES)
SIMPSON, F.	BELMONT	SMITH/34	WOODLAND, MATURE WOODS	HOUSE	7-66
			PASTURELAND	SUMMER KITCHEN	
			CROPLAND	BARN	
			WELLS	OUTBUILDINGS (5)	W-405, W-406, W-407,
				CISTERN	W-408, W-409
			SPRINGS	RUINS	DS-283,DS-286,DS-287
			UNDEVELOPED SPRINGS		
			STREAMS		U34-149, U34-150
SIMPSON, F.	BELMONT	SMITH/34	WOODLAND		7-67
			SPRING		DS-288

TOVCC 10234

ADDENDUM TO PAGE 8, PART 1, C(2)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

Other leasehold interests:

Consolidated Land Company
Box 505
34208 Aurora Road
Solon, Ohio 44139
Coal

Consolidation Coal Company
1800 Washington Road
Pittsburgh, PA 15241
Coal

South Central Power Company
c/o R. Dane Swinehart
2780 Coon Path Road
Lancaster, Ohio 43130
SURFACE

ADDENDUM TO PAGE 10, PART 1, C(8)(b)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

The following items describe the deed rights claimed by The Ohio Valley Coal Company for the Pittsburgh (No. 8) Coal Seam:

Item 1 - Deed Rights to Tract 1-18-94

TOGETHER with the free, uninterrupted use and enjoyment of right of way, into, upon and under said lands at such points and in such manner as may be considered proper and necessary for the advantageous and economical operation thereof, and in the digging and mining of said coal and draining and ventilating of the mines and without liability therefor, and hereby waiving any and all damages that might or could arise therefrom by reason of such digging, mining, draining and ventilating and carrying away all of said coal or the manufacture of the said coal or other coal into coke or other by-products, together with the privilege of carrying or transferring and removing through the described premises this and other coal and mine supplies now owned or hereafter acquired by said grantee, its successors and assigns, generally freed, clear and discharged of any servitude whatever to the overlying land or anything therein or thereon

Item 2 - Deed Rights to Tract 1-19-34

Together with the free and uninterrupted right of way into, upon and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating, and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said Grantee, his heirs and assigns, or which may hereafter be acquired.

Item 3 - Deed Rights to Tract 1-19-58

Party of the Second Part are to have the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal, (hereby waiving all surface damages, or damages of any sort arising therefrom or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, his heirs and assigns, or which may hereafter be acquired.

Item 4 - Deed Rights to Tract 1-22-7

Party of second part to have the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the

privilege of mining and removing through said described premises other coal belonging to said party of the second part, its successors, heirs and assigns, or which may hereafter be acquired.

Item 5 - Deed Rights to Tract 1-22-8

Party of second part to have the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to said party of the second part, its successors, heirs and assigns, or which may hereafter be acquired.

Item 6 - Deed Rights to Tract 1-22-9

Party of second part to have the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 7 - Deed Rights to Tract 1-22-10

Together with the free and uninterrupted right of way into, on and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating by air shafts and otherwise and of carrying away the coal, together with the privilege of mining and removing through the above described premises other coal belonging to the Grantee, its successors or assigns, or which may hereafter be acquired; together with any other mining rights, options and privileges now owned by the Grantors in connection with the above described coal.

Item 8 - Deed Rights to Tract 1-22-11

Party of second part to have the free and uninterrupted right of way into and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating and carrying away said coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 9 - Deed Rights to Tract 1-22-12

Party of second part to have the free and uninterrupted right of way into, and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining,

draining and ventilating, and carrying away said coal, (or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, heirs and assigns, or which may hereafter be acquired.

Item 10 - Deed Rights to Tract 1-22-15

Party of second part to have the free and uninterrupted right of way into and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 11 - Deed Rights to Tract 1-22-17

Party of second part to have the free and uninterrupted right of way into and under said land at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages, or damages of any sort, arising therefrom or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors, heirs, and assigns or which may hereafter be acquired.

Item 12 - Deed Rights to Tract 1-22-18

Party of second part to have the free and uninterrupted right of way into, and under said lands at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 13 - Deed Rights to Tract 1-22-19

Party of second part to have the free and uninterrupted right of way into, and under said lands at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 14 - Deed Rights to Tract 1-22-21

Together with the right to mine and remove all the minable coal in said number eight seam and the

right to make, maintain and use entries and air courses through said number eight seam, to have and transport through said entries and air courses coal mined from said number eight seam under lands lying north, east, south or west of the above described premises.

Item 15 - Deed Rights to Tract 1-22-22

Party of second part to have the free and uninterrupted right of way into, and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal, (or from the removal of all of said coal) together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 16 - Deed Rights to Tract 1-22-23

Party of second part to have the free and uninterrupted right of way into, upon and under said land at such points and in such manner, as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal (hereby waiving all surface damages or damages of any sort, arising herefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 17 - Deed Rights to Tract 1-22-24

Party of second part to have the free and uninterrupted right of way into, upon, and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 18 - Deed Rights to Tract 1-22-29

Party of second part to have the free and uninterrupted right of way into, and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 19 - Deed Rights to Tract 1-22-30

Together with the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining,

ventilating and carrying away said coal; hereby waiving all surface damages or damages of any sort arising therefrom or through the removal of all of said coal; together with the privilege of mining and removing through said described premises other coal belonging to said Grantee, its successors and assigns, or which may hereafter be acquired by said Grantee, its successors and assigns.

Item 20 - Deed Rights to Tract 1-22-52

Party of second part to have the free and uninterrupted right of way into, upon and under said land at such points and in such manner, as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal (hereby waiving all surface damages or damages of any sort, arising herefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 21 - Deed Rights to Tract 1-22-53

Party of second part to have the free and uninterrupted right of way into upon and under said land at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating and carrying away said coal, (hereby waiving all surface damages or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 22 - Deed Rights to Tract 1-22-57

Party of second part to have the free and uninterrupted right of way into and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages or damages of any sort arising therefrom or from the removal of all of said coal) together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 23 - Deed Rights to Tract 1-22-59

Party of second part to have the free and uninterrupted right of way into and under said land at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages of damages of any sort, arising therefrom, or from the removal of all of said coal) together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 24 - Deed Rights to Tract 1-24-1, -2, -3, and -4

Together with the right in perpetuity of mining, taking out and removing such coal; also the further right in perpetuity to remove coal to and from any other land or lands through entries, shafts, air-ways and mine openings of any and every kind whatever, with the same rights, in removing coal to or from such other lands, to use the surface, entries, shafts, air-ways, mine openings and other appliances for mining upon, in, through, or under the lands herein described, as are herein granted for the mining and removal of the coal hereby conveyed; mining of said coal by the stripping method is prohibited.

The said Grantors, for themselves and for their heirs, executors, administrators and assigns, hereby waive and release any and all claims and demands which we may now or hereafter have, or claim to have, against said Grantee, its successors and assigns, by reason of or in any way resulting from the removal of coal from under and over said premises, or any part thereof.

Item 25 - Deed Rights to Tract 1-25-1

Together with the free and uninterrupted right-of-way into, upon and under the lands hereinbefore described in which said vein of coal is located at such points and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining, ventilating and carrying away said coal, and the right and privilege of mining and removing through said described premises other coal belonging to or which may hereafter be acquired by the said Grantee, its successors and assigns; together with all other rights and waiver of damage and rights of action acquired from Frances Barrett by her deed to them executed on the 1st day of April, 1959 which said rights are set out in said deed as follows:

Together with the certain mining and surface rights to be exercised in common with the owners of the undivided two-thirds interest of said Pittsburgh or Number Eight Vein of coal underlying the Northeast quarter of Section 23, Township 6, Range 4, Smith Township, Belmont County, Ohio, which said rights so granted consist of the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be necessary and proper for the purpose of digging, mining, coking, draining, ventilating and carrying away certain coal, together with the right and privilege of mining and removing through said described premises other coal belonging to, or which may hereafter be acquired by the said Grantees herein, their heirs and assigns, hereby waiving for herself, her heirs and assigns, any claim for damage or right of action against the Grantees, their heirs and assigns, that may be caused said lands by said mining operations and agreeing as the owner of the surface overlying said Number Eight Vein of coal for herself, her heirs and assigns, that neither she nor they shall at any time make any claim for damages or bring suit for or on account of the Grantees, their heirs or assigns, removing said coal or in exercising any of the mining rights hereby conveyed.

Item 26 - Deed Rights to Tract 1-26-1

Together with the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be necessary and proper for the purpose of digging, mining, coking, draining, ventilating and carrying away certain coal, together with the right and privilege of mining and removing through said described premises other coal belonging to, or which may hereafter be acquired by the said Grantee, its successors and assigns, hereby waiving for themselves, their heirs and assigns, any claim for damage or right of action against the Grantee, its successors and assigns, that may be caused said lands by said mining operations and agreeing that they shall never make any claim for damages or bring suit for or on account of the Grantee, its successors or assigns, removing said coal or in exercising any of the mining rights hereby conveyed.

Item 27 - Deed Rights to Tract 1-27-1

TOGETHER with the free and uninterrupted rights of way into and under the surface of the above granted three tracts of land at such points and in such manner as may be useful for the purpose of digging, draining, ventilating, mining and removing said coal, together with the right to mine and remove through said described premises said coal and other coal from neighboring lands which are now owned by said Grantee, or may be hereafter acquired by it, its successors or assigns. The said Grantee, its successors or assigns, shall in no wise be liable for damages for failure to support the overlying surface or for destroying any spring, or well of water, by reason of the removal of said coal, or the exercise of any of the above mining privileges.

Item 28 - Deed Rights to Tract 1-28-1 and 2

TOGETHER with the right and privilege of mining and removing all of said coal, and the right of way into and under said lands at such points, and in such manner as is convenient for the advantageous and economical operation of said coal, together with the right and privilege of mining and removing through the openings made in said coal, other coal underlying other lands, together with the right and privilege of ventilating and draining the workings in said coal, hereby waiving any and all damages that arise from the mining, removal, ventilating and drainage of said coal to the overlying strata or anything therein or thereon; together with the right to purchase any or all of said premises, (except the ground upon which buildings now on said premises stand and the premises within the immediate inclosures surrounding said buildings) at any time that may be necessary or useful for mining, removing, transporting or marketing said coal at the agreed price of $300.00 per acre, upon payment of which sum to the owner of the surface, said Grantee, its successors or assigns, shall be entitled to a conveyance of the fee simple title to said premises by deed of general warranty, free and clear of all liens, encumbrances and dower rights.

Item 29 - Deed Rights to Tract 1-19-29

Party of Second Part to have the free and uninterrupted right of way, into, upon, and under said land

at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages or damages of any sort, arising therefrom of froth the removal of all of said coal), together with the privelege of mining and removing through said described premises, other coal belonging to said party of the second part, his heirs and assigns, or which may hereafter be acquired.

Item 30 - Deed Rights to Tract 76

Together with the free and uninterrupted right of way into, on and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating by air shafts and otherwise and of carrying away the coal, together with the privilege of mining and removing through the above described premises other coal belonging to the Grantee, its successors or assigns, or which may hereafter be acquired: together with any other mining rights, options and privileges now owned by the Grantors in connection with the above described coal.

Item 31 - Deed Rights to Tract 77

Party of the Second part are to have the free and uninterrupted right of way, into, upon and under said land at such points, and in such manner as may be proper an necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages or damages of any sort, arising therefrom or from the removal of all of said coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors, heirs, and assigns, or which may hereafter be acquired.

Item 32 - Deed Rights to Tract 78

Together with proper openings and the free and uninterrupted right of way into, on and under the land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating by air shafts or otherwise and of carrying the coal (hereby waiving all surface damages or damages of any sort arising from the working of the mines or from the removal of all of the coal), together with the privilege of mining and removing through the above described premises other coal belonging to the Grantee, its successors or assigns, or which may hereafter be acquired.

Item 33 - Deed Rights to Tract 104

Party of Second part to have the free and uninterrupted right of way -- and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 34 - Deed Rights to Tract 105

Party of Second part to have the free and uninterrupted right of way, into, upon, and under said land at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors, heirs, and assigns, or which may hereafter be acquired.

Item 35 - Deed Rights to Tract 106

Party of Second part to have the free and uninterrupted right of way into and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages, or damages of any sort, arising therefrom or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 36 - Deed Rights to Tract 107

Party of Second part to have the free and uninterrupted way into and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal, (hereby waiving all surface damages or damages of any sort, arising therefrom or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 37 - Deed Rights to Tract 108

Party of Second Part to have the free and uninterrupted right of way into, and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating, and carrying away said coal, the party of the second part shall pay all surface damages for mining and carrying away the described coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 38 - Deed Rights to Tract 109

Party of Second part to have the free and uninterrupted right of way into and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining draining, and ventilating and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom or from the removal of all of said coal), together with the

privilege of mining and removing through said described premises, other coal belonging to said party of the Second part, its successors and assigns, or which may hereafter be acquired.

Item 39 - Deed Rights to Tract T2 and T3

Together with the full right to explore for, test, work, mine, produce, develop, clean, process, sell and remove any or all of the coal and coal seam gas incidental thereto in, on and underlying the Premises and other coal now or hereafter owned, leased or otherwise controlled by Lessee, by any underground mining method or machinery, whether now or hereafter known, including but not limited to the continuous mining process and longwall mining process; and the right of ingress, egress and regress to, from, over and across said Premises for the purpose of removing and transporting coal from within or without said Premises without additional charge; and the right to bring upon said Premises men, machinery, materials and equipment necessary, convenient or useful for the exploring, testing, mining and marketing of said coal by the methods hereunder authorized; and the right to construct, erect, use, maintain, repair, replace, move, remove, and relocate in or under the Premises roads, conveyor systems, machinery, railroad tracks, shops, power and communications lines and other equipment and facilities; and the right to transport personnel, supplies, equipment, coal and other materials into, through and under said Premises; and the right to mine said coal without any requirement to provide any lateral or subjacent support to the Premises, or any liability to Lessor for any damage which may result either to the surface of, or any strata in, on and under said Premises or to any surface or underground water supplies or sources located thereon or therein or to any structures now on or hereafter constructed on said Premises; and all such other rights, powers and privileges as may be necessary, useful or incidental thereto, including without limitation the right to make and use openings and underground passages for any purposes, including but not limited to ventilation and drainage, and to disturb so much of the surface and subsurface of the Premises as may be useful or incidental in accordance with the mining methods adopted by Lessee.

Item 40 - Deed Rights to Tract 1-22-60

Party of second part to have the free and uninterrupted right of way into and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of second part, its successors and assigns, or which may hereafter be acquired.

Item 41 - Deed Rights to Tract 1-22-20

Party of second part to have the free and uninterrupted right of way into, upon and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of

mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 42 - Deed Rights to Tract 1-22-16

Party of second part to have the free and uninterrupted right of way into, upon and under said land, at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating, and carrying away said coal, (hereby waiving all surface damages, or damages of any sort, arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to said party of the second described premises other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 43 - Deed Rights to Tract 1-22-13 and -14

Party of second part to have the free and uninterrupted right of way into, and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating, and carrying away said coal. The party of the second part shall pay all surface damages for mining and carrying away the above described coal, together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 44 - Deed Rights to Tract 1-19-82

Party of the Second Part are to have the free and uninterrpted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, draining and ventilating and carrying away said coal, (hereby waiving all surface damages, or damages of any sort arising therefrom or from the removal of all of said coal), together with the privilege of mining and removing through said described premises, other coal belonging to said party of the second part, his heirs and assigns, or which may hereafter be acquired.

Item 45 - Deed Rights to Tract C-1

Parties of second part are to hav the free and uninterrupted right of way into, upon, and under said land at such points and in such manner as may be proper and necessary for the purpose of digigng, mining, draining and ventilating and carrying away said coal (hereby waiving all surface damages or damages of any sort arising therefrom of from the removal of all of said coal) together with the privelege of mining and removing through said described premises other coal belonging to said parties of the second part their heirs and assigns or which may hereafter be acquired.

ADDENDUM TO PART 1, PAGE 10 C.(8)(b)
PAGE 12

Item 46 - Deed Rights to Tract 1-22-62

Party of second part to have the free and uninterrupted right of way into, and under said land at such points, and in such manner as may be proper and necessary for the purposes of digging, mining, draining and ventilating and carrying away said coal, together with the privileges of mining and removing through said described premises, other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

Item 47 - Deed Rights to Tract 103

Party of Second part to have the free and uninterrupted right of way into, and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, draining, and ventilating ant carrying away said coal (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to said party of the second part, its successors and assigns, or which may hereafter be acquired.

ADDENDUM TO PAGE 15, PART 1, G(2)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

Public Notice

The Ohio Valley Coal Company, 56854 Pleasant Ridge Road, Alledonia, Ohio 43902, has submitted an underground coal mining application designated as D-0360-7 to the Ohio Department of Natural Resources, Division of Mines and Reclamation. The proposed additional underground acreage for Permit D-0360 is located in Belmont County, Smith Township, Sections 22, 23, 24, 28, 29, 30, 34, 35, and 36. The area is located on the Bethesda, Hunter, Armstrong Mills and St. Clairsville 7 ½ minute USGS quadrangle maps, approximately 1.2 miles north of Centerville, Ohio. The proposed underground workings encompass 2650 acres. Coal in this underground area will be removed using full recovery methods.

This application is on file at the Belmont County Recorder's Office, located at the County Court House on Main Street in St. Clairsville for public viewing. Written comments or requests for an informal conference may be sent to the Division of Mines and Reclamation, 1855 Fountain Square Court, Columbus, Ohio 43224 within thirty days of the last date of publication of this notice.

PROOF OF PUBLICATION

The State of Ohio
County of Belmont, ss:

The undersigned, being sworn, says that he or she is an employee of Eastern Ohio Newspapers, Inc., A Corporation, publisher of the Times Leader a newspaper published in Martins Ferry, Belmont County, Ohio, each day of the week except Saturday and of general circulation in said city and county; that it is a newspaper meeting the requirements of sections 7.12 and 5721.01 Ohio Revised Code as amended effective September 14, 1957; that affiant has custody of the records and files of said newspaper; and that the advertisement of which the annexed is a true copy, was published in said newspaper on each of the days in the month and year stated, as follows:

May 21, 23, 28
June 4, 9 19 97
Carol Thornton

Subscribed by Affiant and sworn to before me, this 9 day of June A.D. 19 97

Rebecca L Anderson
Notary Public

REBECCA L. ANDERSON
Notary Public, State of Ohio
My Commission Expires Nov. 25, 2001

Printer's Fees $ 150.75
Notary's Fees $ _____

THE TIMES LEADER
Martins Ferry, Ohio
Bellaire, Ohio

PUBLIC NOTICE

The Ohio Valley Coal Company, 56854 Pleasant Ridge Road, Alledonia, Ohio 43902, has submitted an underground coal mining application designated as D-0360-7 to the Ohio Department of Natural Resources, Division of Mines and Reclamation. The proposed additional underground acreage for Permit D-0360 is located in Belmont County, Smith Township, Sections 22, 23, 24, 28, 29, 30, 34, 35, and 36. The area is located on the Bethesda, Hunter, Armstrong Mills and St. Clairsville 7 1/2 minute USGS quadrangle maps, approximately 1.2 miles north of Centerville, Ohio. The proposed underground workings encompass 2650 acres. Coal in this underground area will be removed using full recovery methods.

This application is on file at the Belmont County Recorder's Office located at the County Court House on Main Street in St. Clairsville for public viewing. Written comments or requests for an informal conference may be sent to the Division of Mines and Reclamation, 1855 Fountain Square Court, Columbus, Ohio 43224 within thirty days of the last date of publication of this notice.
T-Adv. May 21, 28,
June 4, 9

ADDENDUM TO PAGE 16, PART 2, A(4)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

METHOD USED TO IDENTIFY HISTORIC PROPERTIES AS MINING PROGRESSES

Potential historic properties have been identified in Attachment 27A submitted with this application. Properties that are deemed eligible for listing on the National Register for Historic Places will be identified by the SHPO and will be noted as such by OVCC. As mining progresses, OVCC will identify properties to be undermined and proper mitigative efforts will be implemented.

ADDENDUM TO PART 2, PAGE 16, B(1)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

GEOLOGY DESCRIPTION

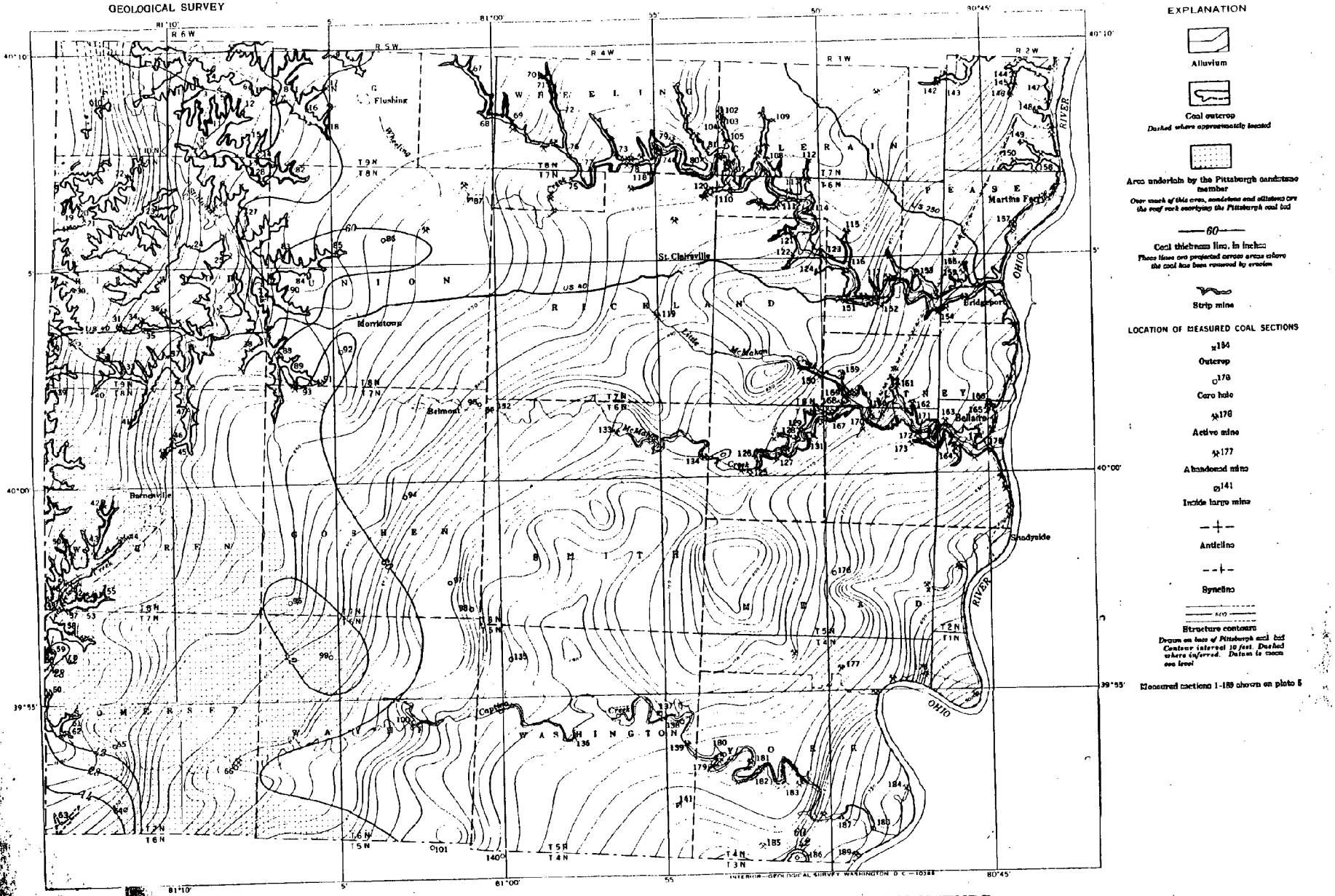
Stratigraphy of the proposed permit area is formed by the Monongahela formation of the Pennsylvania period, and the Dunkard group of Permian time. The primary strata of both sections consists of an alternating sequence of limestone, sandstone, siltstone, shale, claystone, and coal.

The Monongahela formation is approximately 245 feet thick. In ascending order, it occupies the interval from the Pittsburgh No. 8 to the Waynesburg No. 11 coal bed. The primary rock units are limestone, shale, and claystone. Limestone forms 44 to 68 percent of this stratigraphic interval. As a result of longwall mining, the immediate strata overlying the Pittsburgh No. 8 coal bed will cave to a height of 3 to 6 times the mining height, depending on the bulking factor of roof strata. The beds above this caved zone are provided some support by the caved rock but may sag and give rise to bed separation and may be subject to fracturing, to heights 24 to 54 times the mining height (120 to 270 feet above the mine).

The Dunkard group is 250 to 300 feet thick, occupying the interval from the Waynesburg No. 11 coal bed to the ground surface. The primary rock units here are shale and claystone. These soft units form about 85 percent of this stratigraphic interval. This strata is primarily located within the constrained zone of disturbance resulting from longwall mining. The constrained zone is defined as that interval above 24 to 54 times the mining height and below 50 feet from the ground surface. This strata is expected to be sufficiently confined to prevent development of any fractures. Rock beds here will tend to absorb most of the strain energy without fracturing.

Strata close to the surface, however, are not sufficiently confined and may move in any direction. Surface cracks may be produced from tensile strains resulting from longwall mining. The depth of these cracks is generally estimated to be less than 50 feet.

The main safety against inflow of groundwater into the Powhatan No. 6 Mine is afforded by the constrained zone. The nature and thickness of the individual beds found here are of particular importance. Through extensive core drilling, multiple beds of claystone, with total thicknesses of 79 to 108 feet, have been identified. These claystone beds are relatively impermeable and generally capable of absorbing large amounts of strain energy before fracture. In the application area, it is our opinion that sufficient claystones are in-place to provide an adequate barrier against inflow from surface water and shallow groundwater disruptions caused by longwall mining. Where stream valleys are encountered, longwall operations is generally not planned under less than about 200 feet of cover to further protect the mine and overlying groundwater resources. The rock strata of Belmont County typically form a gentle monocline that dips southeasterly at grades less than one percent (Figure 2)



MAP OF THE PITTSBURGH (NO. 8) COAL BED SHOWING DISTRIBUTION AND THE STRUCTURE AND THICKNESS OF THE LOWER BENCH OF THE BED IN BELMONT COUNTY, OHIO

FIGURE 2

TOVCC 10252

and in the application area is southward to southeasterly. The base elevation of the No. 8 seam ranges from approximately 765 ft. in the south of the application area to approximately 840 ft. in the northwest corner.

The orientation of the major joints in rock and face cleat in coal is approximately N 75° W. The minor joints and butt cleats are generally perpendicular to these (N 15° E).

Geology and Coal Resources of Belmont County, Ohio, Geological Survey Professional Paper 380, reports that a small dome-shaped anticline lies in eastern Belmont County, primarily in Mead Township. This structure is located over three miles east of the Powhatan No. 6 Mine application area and, therefore, is not expected to have an impact on ground water flow in the application area.

In addition, there is a graben structure that passes through the Powhatan No. 6 Mine Reserve. This graben has been tracked through the adjacent Powhatan No. 3 Mine and enters the No. 6 reserve on the eastern boundary. It proceeds in a southwesterly direction, turns approximately 90 degrees, proceeds in a northwesterly direction, then turns again and proceeds in a general westerly direction off the mine property. The graben is located to the south of the application area and is not expected to have an impact on the ground water flow in the area.

The structural contours of the No. 8 Seam indicate that the graben is made up of a series of slumps in the deposit, indicated by a thickening of the seam at the bottom of the structure. This structure apparently affected the structural contours to the north of the graben, but these effects do not extend into the application area. Locally, these effects may be seen as areas where incidental water pools in the mine. This water is generally only a nuisance and does not require pumping. Most of the water found underground at the No. 6 mine is man-made during the mining cycle from water sprays (used for dust supression) and cooling water for motors.

ADDENDUM TO PAGE 16, B(2)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

Geological Impact of Coal Removal Upon Ground Water

The geological impact of coal removal, according to the PHC, is expected to vary from short term to long term. The Pittsburgh (No. 8) coal seam will be mined, and in this area has dip of approximately 40 ft per mile to the southeast, with the strike to the northeast. Ground water occurs in this area in several disconnected saturated zones associated with the occurence of the coal seams and underlying clay stone units that prevent downward migration of the ground water. Ground water is generally limited to within the first 100 ft of the surface. Since primary porosity in the rock units is poor, nearly all of the ground water in this area of Ohio occurs as secondary porosity in the joints, cleats, fractures, and bedding planes of the rocks.

As longwall mining progresses, a caved area occurs immediately over the coal seam mined. Above this area, fractures occur in hard rocks and extend upward to about 200 ft above the coal seam. In the area above these fractures, a zone known as the continuous deformation zone developes where the rocks bend down and form the classic subsidence basin. In the center of the basin, rocks are put into compression, while there are areas of tension from the gate entries inward for a short distance and outside the basin for a short distance. As the mining occurs, the rocks may be fractured and bedding planes may open as a result of this deformation. This process provides new openings to contain additional ground water, with a lowering of the phreatic surface of the water in the area. After mining, the acquifers are more connected and provide a larger source of water for well recharge. Ground water in wells usually drops, and may be found lower in the well or even beneath the bottom of the well. Wells that are drilled deeper can be restored to their full potential usefullness.

The Powhatan No. 6 Mine is virtually a dry mine, with no pumping of water to the outside except for water from behind shaft linings. The deformation and not cracking of the soft rocks accounts for the dry conditions in the mine. Generally speaking, ground or surface water does not enter the No. 6 Mine.

In summary, the coal removal is expected to have some impact ground water in the application area. The impacts are described in the PHC and in the Addendum to Page 18 F(1).

ADDENDUM TO PAGE 25, PART 3, D(12)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

PLAN FOR MINIMIZING TO THE EXTENT POSSIBLE AND USING THE BEST TECHNOLOGY CURRENTLY AVAILABLE DISTURBANCES AND ADVERSE IMPACTS OF THE CURRENT OPERATION ON FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES AND ACHIEVING ENHANCEMENT OF SUCH RESOURCES WHERE PRACTICAL

The proposed operation, longwall mining, minimizes to the extent possible and is the best technology currently available, impacts on fish, wildlife, and environmental values because it occurs in a planned, predictable and controlled manner. There are no impacts anticipated to fish, wildlife, and environmental values. Areas where longwall mining have occurred do not show any impacts on such resources. Areas of room and pillar mining will have no impacts to these resources due to its design to prevent subsidence.

ADDENDUM TO PART 3, PAGE 25, D(12)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

RECLAMATION PLAN - FISH, WILDLIFE, ENVIRONMENTAL VALUES

The proposed longwall mining operation is not expected to impact fish, wildlife, and other related environmental values. The longwall will not undermine any streams where fish live. Minnows have been found in some of the larger stream segments within the application area. However, the normal annual cycle shows that during the summer and fall months, when the stream flow is minimal, the minnows swim downstream, only to return again. Observations show that stream segments that go dry following subsidence have returned to near their normal flow, and will again support minnows. The larger streams will return to normal flow faster than smaller streams because more sediment is carried in larger streams and help fill any residual cracks that may be found. There are several ponds overlying the application area, and larger fish live in them. Our experience at the Powhatan No. 6 Mine is that ponds are not greatly influenced by subsidence due to the amount of cover. Wildlife has never been shown to be affected by longwall mining. If surface slips are caused by mining activities, over the mining area, The Ohio Valley Coal Company will restore the land to a condition equal to its original value and reasonably foreseeable use. Undeveloped springs that are found above the application area may be dewatered and usually reposition themselves downstream. Ohio Valley will replace undeveloped springs if they are legitimately used according to our water replacement plan.

ADDENDUM TO PAGE 26, PART 3, E(1-3)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

RECLAMATION PLAN - PROTECTION OF HYDROLOGIC BALANCE

The hydrologic balance is expected to change minimally as a result of the proposed longwall mining operation in the long term. Temporarily, the depth below the surface of ground water will increase as a result of increasing the number of cracks in the local rock units. The static level of the ground water should re-establish itself, usually at a lower elevation, within 18 months to 2 years after mining. At that time, ground water will be available in quantity at least as great as before mining. Because of increased porosity due to the cracking caused by longwall mining, the quantity of ground water that is available to users will probably increase. Minor surface cracking over longwall areas will eventually heal or be repaired, causing the ground to capture approximately the same percentage of rainfall as before. It is anticipated that stream flow in selected secions of first order streams where overburden thickness exceeds 200 ft may be temporarily reduced over relatively short stream segments. This impact is anticipated due to the fact that the headwaters of streams occasionally relocate to lower elevations following subsidence that results in the dewatering of hillside/hilltop springs. The monitoring data obtained for the ground and surface water sources over the longwall areas at the Powhatan No. 6 Mine indicate there will be no lasting deleterious effects of the longwall mining on water quality. Therefore, the hydrologic balance outside the permit area will be protected.

The rights of present users of surface and ground water will be maintained through the water replacement plan found in the Addendum to Page 18, Part 2, F(2). It is anticipated that within two years, ground water will re-establish itself so that wells and springs can be replaced. Surface water drainage is not expected to be impacted seriously by longwall mining.

Acid or toxic drainage are not expected to be a problem at the Powhatan No. 6 Mine. The No. 8 seam is entirely below drainage, and the openings to the surface are located high enough above the seam that they will not experience hydraulic pressure from the seam. The major watersheds of this area, Captina and McMahon Creeks, are at the elevation of the mining for the application area at a distance of over 5 miles from the mine. Acid or toxic drainage is not expected to enter the waters of the State.

ADDENDUM TO PAGE 26, F(3)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT 0360

GROUND AND SURFACE WATER MONITORING

Ground water and surface water monitoring as previously proposed for Powhatan No. 6 Mine will continue with respect to the surface operations. Ground water and surface water monitoring over longwall areas of the underground operations is proposed to determine the impacts of underground mining on these areas. The proposed plan presented below is to be used in lieu of all previously proposed and existing plans for such areas.

Intermittent and perennial streams originating within the mining area will be monitored where the stream leaves the area; and the streams crossing through the mining area will be monitored both upstream and downstream of the area currently being mined.

Ground water monitoring will consist of sampling all developed water sources, with the permission of the landowner, in the following manner:

1. Monthly monitoring will be done for quantity (static water level/flow) for a one year period before and after mining for developed springs, wells, and stream monitoring points. This information will be reported quarterly but is available at the OVCC office.

2. Quarterly monitoring will be conducted for quality for a one year period before and after mining for developed springs, wells, and stream monitoring points. This information will be reported quarterly.

3. Daily precipitation data from the mining area will be submitted to evaluate its impact on spring and stream flow. This information will be submitted quarterly but will be available at the OVCC office.

An attempt will be made to sample as outlined above, however, some sources may not be accessible should a landowner deny permission to sample, a well may be buried, etc.. These locations, if encountered, will be documented in the quarterly reports.

All samples will be taken as outlined to the extent that existing well construction allows. Any samples that are unobtainable will be documented as such in the quarterly report. Sampling will include analyses for nitrates.

OVCC will monitor all developed supplies in accordance with the monitoring plan outlined above regardless of the aquifers and/or saturated zones that they access. All developed supplies have

been identified and have been indicated on the Application Map. All wells, both drilled and dug have been identified. Developed springs, consisting of a french drain and catchment basin, have been shown. A map will be included in the quarterly monitoring report showing the location of the wells, streams, and springs monitored and their position relative to the active mining areas of OVCC.

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-78 SURF ELEV 1261 STATE PLANE COORDINATES X 721708.49

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 8/12/94 LOCATION(*) ADJ Y 2438959.4

COAL ELEV. 733 WELL DEPTH (ELEV) 1242

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/25/94	03/24/94	04/14/94	05/26/94	06/16/94	07/19/94	08/18/94	09/15/94	10/18/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	1232	1234	1236	1236	1229	1228	1229	1228	1228	1227	1227	1230
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.3			7.2			7.7			7.3		
TOTAL ACIDITY (mg/l CaCO3)	16.40			22.60			15.80			11.60		
TOTAL ALKALINITY(mg/l CaCO3)	220.40			176.60			208.00			211.00		
TOTAL IRON (mg/l)	0.61			0.08			0.25			0.27		
TOTAL MANGANESE (mg/l)	0.16			0.02			0.04			0.07		
TOTAL SUSPENDED SOLIDS (mg/l)	26.0			8.0			10.0			5.0		
TOTAL HARDNESS (mg/l CaCO3)	329.0			280.0			312.0			312.0		
TOTAL SULFATES (mg/l)	46.0			102.0			97.0			87.0		
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	636			594			695			681		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	1.16			7.55			19.20			6.12		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DU DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10260

DRILL LOGS, DRILLING INFORMATION, AND ATTACHMENT 13'S
PROPOSED APPLICATION AREA

RECEIVED
MAR 25 1997
DIVISION OF MINES
AND RECLAMATION

Department of Natural Resources

George V. Voinovich ◦ *Governor*
Donald C. Anderson ◦ *Director*

April 10, 1997

Mr. David L. Bartsch, P.E.
Environmental Coordinator and
Permit Administrator
The Ohio Valley Coal Company
56854 Pleasnat Ridge Road
Alledonia, Ohio 43902

RE: D-0360-7 Test Hole Variance Request dated March 17, 1997
2650 acres in Smith Township, Belmont County

Dear Mr. Bartsch:

The above-captioned variance request, which was revised on April 7, 1997, has been determined to be acceptable. Enclosed please find a copy of this request which is to be submitted as part of the permit application packet.

Sincerely,

Lisa J. Morris /by B. Stark

Lisa Morris, Chief
Division of Mines and Reclamation

cc: George Mychkovsky, Geologist, Permitting Section, ODNR-Division of Mines & Reclamation

THE OHIO VALLEY COAL COMPANY

RECEIVED
APR 10 1997
DIVISION OF MINES
AND RECLAMATION

April 7, 1997

Mr. George Mychkovsky, Geologist
Division of Mines and Reclamation
Ohio Department of Natural Resources
1855 Fountain Square Court
Columbus, Ohio 43224

RECEIVED
APR 10 1997
DIVISION OF MINES
AND RECLAMATION

Dear Mr. Mychkovsky:

We are in receipt of your letter of April 2, 1997 addressing the test hole variance request dated March 17, 1997. The following is submitted for your review:

1. A revised structure contour map has been submitted.
2. The letter has been revised to indicate that five cross sections were submitted.
3. The cover letter has been changed to indicate that the well and spring inventory data, showing the depth of the water wells is not on the map but are in a separate listing entitled Listing of Well and Spring Information. This inventory will become the Attachment 14C for the application to be submitted.
4. Since the new test holes have now been drilled and located, their locations have been shown on the maps.
5. The structure contours have been redrawn in the area of test holes N94-1 and N96-01.
6. Please be advised that test holes not on the enclosed maps should be disregarded when considering this application. The test holes that are in the application area will be depicted on three cross-sections and submitted with the application. We apologize for any confusion this may have caused.
7. A separate map has been submitted showing the relative locations of the D-0360-3 and D-0360-6 application areas. The location map is not large enough to show the entire locations of these areas.
8. The geologic setting portion of the document by Mr. Burt A. Waite, PG has been revised to be more representative of the proposed application area.
9. The requested cross-sections are contained in the D-0360-3 approved application on file at the Division of Mines and Reclamation. This application is available to the Chief for your review. Since this information is available to you, we respectfully decline to re-submit it.
10. The PHC from D-0360-3 cannot be changed since it is part of an approved application. The document by Mr. Waite has been revised as needed. The PHC for the proposed application area will reflect these new comments.

56854 PLEASANT RIDGE ROAD ◦ ALLEDONIA OHIO 43902
(614) 926-1351 ◦ FAX (614) 926-1615

11. Nearly all of the ground water in this region is limited to the first 100 ft. of the surface. This information is confirmed by our drilling and from the locally developed wells and springs. Since there is very little downward migration of water, and the confining pressures beneath the ridge tops prevents water from flowing horizontally into the hillside, if water flows horizontally, is flows down-dip or comes out as hillside springs and the result is hydrologically localized flow systems. The water on a ridge top is continuous along the ridge top, but not from ridge top to ridge top, which in part explains why wells have different static water levels on different ridge tops and why springs appear at different elevations on different hillsides. The "Near-Surface Saturated Zone" does result in highly localized flow systems.

12. As explained in item 9 above, the PHC from application area D-0360-3 is available to the Chief and to yourself as the reviewer of this test hole variance request. Tables 2 and 3 describe the probable hydrologic consequences to developed sources located in the D-0360-3 application area and is not applicable for this proposed application area. The Listing of Well and Spring Information enclosed in this request is applicable to this proposed application area. As explained in the cover letter, the PHC from D-0360-3 was submitted to describe the geology of the area only, not as a second review of the potential hydrologic impacts from longwall mining in the D-0360-3 area or as a review of the potential hydrologic impacts for this proposed area. The Listing of Well and Spring Information was submitted to describe the near-surface saturated zone as additional information regarding the location of ground water that you may need for your review.

13. The regional hydrology narrative has been revised as needed.

If you have any questions, please contact me.

Sincerely,
THE OHIO VALLEY COAL COMPANY

David L. Bartsch

David L. Bartsch, P.E.
Environmental Coordinator and
Permit Administrator

cc B. A. Waite
File

March 17, 1997

Ms. Lisa Morris, Chief
Division of Mines and Reclamation
Ohio Department of Natural Resources
1855 Fountain Square Court
Columbus, Ohio 43224

Dear Ms. Morris:

The Ohio Valley Coal Company is preparing an application to add 2650 acres of underground (Pittsburgh No. 8 Seam) full-recovery reserves adjacent to our currently approved underground mining area. A total of 17 test holes would be required by OAC 1501:13-4-13. There are currently four test holes within the proposed application area and an additional six holes located nearby. Drilling logs, drilling data, and Attachment 13's for these test holes are included with this letter. We have just installed three additional test holes within the proposed application area. Preliminary driller logs and geologist logs (shown as Attachment 13's) are included herein. We respectfully request a test hole variance request in accordance with OAC 1501:13-4-13(C)(3). The following information is submitted in support of this request:

1. A map showing the existing test holes, their surface elevations, their coal elevations and the structural contours based on these holes and the surrounding test holes. The proposed mining area boundary and hydrologic boundary are also shown on the map.

2. Logs of the test holes and modified attachment 13's for each hole.

3. A total of five (5) cross sections of the holes within and near the application area.

4. Logs and Attachment 13's for test holes in the D-0360-3 adjacent area found immediately to the east of the proposed area. We contend that the geology in this proposed area is identical to the geology in the D-0360-3 area, and the other approved adjacent areas. The D-0360-3 and other adjacent area applications are on file with the Division of Mines and Reclamation and are available for your review. A map is enclosed that shows the relative location of the D-0360-3, D-360-6 and D-0360-7 areas.

5. A map showing the known the location of sources of water in the area, and a listing of each spring and the depth of each well, with static water levels and flows and showing the vertical extent of the regional, near-surface saturated zone that is the source of the domestic and agricultural wells and springs. This information shows

56854 PLEASANT RIDGE ROAD ◦ ALLEDONIA OHIO 43902
(614) 926-1351 ◦ FAX (614) 926-1615

that the near-surface saturated zone lies within the first hundred feet of the surface as indicated by the test holes.

6. A statement from our hydrologist, Mr. Burt A. Waite, P.G., who will prepare the probable Hydrologic Consequences for this area, addressing the location of the water bearing zone, the regional hydrology, and the regional geology.

This information will be submitted with the application.

Based on the information available, we are confident that this test hole variance request should be approved. Since we are planning to submit the application very soon (within one month), we would appreciate your prompt attention to this matter. Should you have any questions, please contact me as soon as possible.

Sincerely,
THE OHIO VALLEY COAL COMPANY

David L. Bartsch

David L. Bartsch, P.E.
Environmental Coordinator and
Permit Administrator

cc: J. R. Forrelli
B. A. Waite
B. Binon
File

Description of Regional Hydrology, Geology, and Water Bearing Zone
D-0360-7 Application Area

By
Burt A. Waite, P.G.

Topographic Setting

The Powhatan No. 6 Mine (DMR Permit No. D-0360) is located in Belmont County, which is situated in southeastern Ohio. The topography of the entire application area is typical of the Appalachian Plateau Province and is characterized by narrow, rounded ridges and deep, V-shaped valleys dissecting the terrain. Topographic relief within the application area is approximately 380 ft. The elevation varies between 1397 ft in the north central portion of the application area to 1020 ft. in the southeastern portion, near Williams Creek.

Williams Creek, located to the south of the application area, a tributary of McMahon Creek, and McMahon Creek are the dominant surface water features in this area. Both streams flow in an easterly direction, and headwaters from both streams occur within this area. McMahon Creek flows to the Ohio River, approximately 12 miles away.

Geologic Setting

The bedrock units that outcrop in the application area belong to the Dunkard Group, which is Upper Pennsylvanian to Permian in age. The rocks consist of the interbedded sandstone, siltstone, shale, mudstone, claystone, fresh- to brackish-water limestone, and coal. The Monongahela Formation (Pennsylvanian) underlies the Dunkard Group and consists of similar rock types. The Pittsburgh (No. 8) Coal seam which is the seam to be mined, marks the bottom of the Monongahela Formation. According to the Ohio Department of Natural Resources, water below 250 ft. beneath the stream bottoms is brackish.

Based on test hole data previously presented in applications to the DMR, plus those to be presented in this proposed application, soft rocks constitute approximately 50 to 80 percent of the rock column. Soft rocks are defined as shale, mudstone, claystone, sandy shale, limey shale, and claystone. The relatively high percentage of soft rocks is significant as these units have very limited primary permeability, tend to deform in a more plastic manner and are more prone to "self-healing" after fracturing. Aquifers in these units normally have low yields, are less susceptible to subsidence fracturing due to mining and, when fractured, tend to close in response to lithostatic pressures or plug with fine-grained sediment and may contain clays that swell when wetted.

In addition, there is considerable horizontal and vertical variability of the rock units. Rapid facies and hydrologic property changes tend to limit the horizontal continuity of the individual rock units. With the exception of the major coal seams, very few lithologic units are continuous across the proposed application area. Horizontal facies changes and corresponding changes in hydrologic properties of the rocks tend to enhance the importance of localized flow systems In addition, most available ground water in this region is limited to the first 100 ft of the surface (the near-surface

saturated zone) where enhanced secondary permeability associated with rock fracturing is present. This information is supported by the OVCC drilling records and from locally developed wells and springs. Ground water recharge in the upland or ridge top areas results in downward migration primarily within this shallow saturated zone. Because the topographic relief between ridge tops often exceeds 100 ft, there are localized flow systems under the hill tops that are not in hydrologic communication with adjacent hill tops. While the ground water under any given ridge top can be viewed as being continuous, the continuity generally does not extend to adjacent hill tops. Thus, the near surface saturated zone results in localized flow systems.

Additionally, laboratory studies of core samples from similar rocks indicate that vertical permeability is several orders of magnitude lower than horizontal permeability (Brown, et al., 1971). This condition again results in hydrologically localized flow systems that are not continuous across the application area.

The rocks in the proposed application area are nearly horizontal with a dip of less than one degree to the southeast. The coal elevation ranges from approximately 765 ft to almost 850 ft. Overburden thickness above the No. 8 Coal seam ranges from a low of about 200 ft. at the northern portion of the proposed application area to nearly 520 ft in the north-central portion of the area.

General Hydrologic Setting

The source of all ground and surface water in the application area is precipitation. Upon reaching the land surface, water that is not part of direct surface runoff or evapotranspiration infiltrates into the subsurface to become part of the ground water flow system or soil moisture. While shallow subsurface water is important to soil moisture and plant growth, there are no identified shallow unconsolidated aquifers in the area.

Within the bedrock system, ground water occurs in primary and secondary openings. Primary openings are pore spaces between sand, silt and clay grains formed at the time of sediment depositions. Primary permeability is the ability of water to move between pore spaces. In this area, primary permeability is very low and limited ground water movement occurs in hard or soft rocks as a result of primary openings (Stoner, 1983; Siplivy, 1992).

Secondary porosity and permeability is formed by fractures or partings in the rock mass. Most usable ground water in the application area occurs in secondary openings and the success of a water well in terms of yield potential is dependent upon the well penetrating a water-filled fracture zone that transmits enough water to the well bore to meet its intended use (Schmitt, et al.,1983; Waite, 1987).

Fractures are not ubiquitous in the area, however, and are not interconnected over large areas. For these reasons, it is very difficult to identify "aquifers" over large areas and the ground water flow system tends to be made up of small, localized fracture controlled entities. While fractures in hard rocks tend to stay open better than fractures in soft rock, the horizontal and vertical variability of even the hard rock units tend to produce hydraulically isolated areas.

In addition, fractures tend to close at increasing depths due to overlying lithostatic pressures, thereby limiting the effective depth of the ground water flow system (Stoner, 1983). This condition is evident throughout the Powhatan No. 6 Mine. The mine, in general, is very dry with even minor amounts of water inflow limited to the low cover areas (generally less than 200 ft.). As discussed above, the overburden thickness in the application area ranges from about 200 ft. to nearly 520 ft. In this area, mining is expected to be limited to bleeder entries only. Therefore, very little water inflow into the mine is expected. No pumping to remove water from the application area is expected.

Conclusions

The topography, geology, and the hydrology of the application area is essentially identical to the areas previously permitted at the Powhatan No. 6 Mine. The existing test holes in the proposed application area show the same rock types as in test holes drilled in previously permitted areas, and the water bearing zone in the proposed application area are expected to remain consistent with other areas of the mine. Two or three additional test holes that were recently drilled confirm this belief, and should be adequate to further define the conditions within the application area

References

Brown, R.L., Parizek, R.R., 1971, "Shallow Ground Water Flow Systems Beneath Strip and Deep Coal Mines at Two Sites," Clearfield, PA, The Pennsylvania State University, Special Report SR-84, 208 p.

Schmidt, R.D. and G.A. Hnell, 1983, "A Fracture De-watering Approach to Controlling Ground Water Infiltration in Underground Coal Mines," Interim Report of U. S. Bureau of Mines, 55 p.

Siplivy, W.J., 1992, Probable Hydrologic Consequences, The Ohio Valley Coal Company Powhatan No. 6 Mine, Permit Application D-0360-2.

Stoner, T.D., 1983, "Probable Hydrologic Effects of Subsurface Mining," Ground Water Monitoring Review, Vol. 3, No. 1, pp. 128-137.

Waite, B.A., 1987, Probable Hydrologic Consequences, The Ohio Valley Coal Company Powhatan No. 6 Mine, Permit Application R-0360-1.

ATTACHMENT 13

DIAMOND DRILL HOLE: N97-01

ENGINEER: W. J. SIPLIVY, PE, CPG
ELEVATION: 1043.34
STATE PLANE COORDINATES: E 2,426,583 N 740,071

DRILLER: L. J. Hughes & Sons Inc., Dale Jarvis

TOWNSHIP: Smith
SECTION: 30, S 1/2
COUNTY: Belmont

SURFACE OWNER: R & F Coal Co.
DATE STARTED: 6 March 1997
DATE COMPLETED: 7 March 1997

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
20.00	20.00	Non-coring		
2.90	22.90	Sandstone, l. gray w/Fe-stains	yes	CS, ES
1.30	24.20	Shale, m. gray		CM, EM
1.35	25.55	Claystone, m. gray		CV, EV
2.60	28.15	Limestone, l. gray, nodular		AK, CS, ES
1.70	29.85	Claystone, m. gray		CV, EV
1.85	31.70	Claystone, m. gray w/Ls nods.		AK,CV, EV
4.20	35.90	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
1.30	37.20	Claystone, m. gray		CV, EV
1.00	38.20	Limestone, l. gray		AK, CS, ES
0.90	39.10	Claystone, m. gray		CV, EV
0.90	40.00	Limestone, l. gray		AK, CS, ES
3.85	43.85	Claystone, green-gray		CV, EV
0.70	44.55	Limestone, l. gray, nodular		AK, CS, ES
0.80	45.35	Claystone, m. gray		CV, EV
0.50	45.85	Limestone, l. gray		AK, CS, ES
1.45	47.30	Claystone, m. gray		CV, EV
0.80	48.10	Limestone, l. gray		AK, CS, ES
1.55	49.65	Claystone, green-gray		CV, EV
1.55	51.20	Limestone, l. gray		AK, CS, ES
2.50	53.70	Claystone, m. gray w/Ls nods.		AK,CV, EV
0.30	54.00	Claystone, green		CV, EV
0.50	54.50	Limestone, l. gray, nodular		AK, CS, ES
1.40	55.90	Shale, m-dk. gray		CM, EM
0.35	56.25	Claystone, green-gray		CV, EV
6.95	63.20	Shale, m. gray		CM, EM
1.50	64.70	Limestone, l. gray, grades silty		AK, CS, ES
1.70	66.40	Claystone, m. gray w/Ls nods.		AK,CV, EV
1.80	68.20	Limestone, l. gray		AK, CS, ES
0.90	69.10	Claystone, m. gray		CV, EV
1.70	70.80	Limestone, l. gray		AK, CS, ES
5.35	76.15	Shale, m. gray, calc.		AK,CM,EM
0.85	77.00	Limestone, l. gray		AK, CS, ES
0.50	77.50	Claystone, m. gray, w/Ls nodules		AK,CV, EV
1.10	78.60	Limestone, l. gray		AK, CS, ES
1.25	79.85	Claystone, green-gray		CV, EV
0.60	80.45	Limestone, l. gray		AK, CS, ES
1.65	82.10	Shale, green-dk. gray		CM, EM
2.35	84.45	Limestone, l. gray		AK, CS, ES
0.80	85.25	Shale, m. gray		CM, EM
3.70	88.95	Limestone, l. gray, nodular		AK, CS, ES
2.40	91.35	Shale, m. gray		CM, EM
0.50	91.85	Shale, black		AC, CM, EM
2.35	94.20	Shale, m-dk gray		CM, EM
3.40	97.60	Limestone, m. gray, silty		AK, CS, ES
4.00	101.60	Claystone, m. gray		CV, EV
3.60	105.20	Limestone, l. gray, nodular		AK, CS, ES
1.10	106.30	Claystone, m. gray		CV, EV
0.90	107.20	Limestone, l. gray, nodular		AK, CS, ES
1.20	108.40	Claystone, dk. gray-black		CV, EV
0.15	108.55	Limestone, l. gray		AK, CS, ES
1.85	110.40	Claystone, dk. gray-black		CV, EV

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
0.25	110.65	Shale, black, carbonaceous		AC, CM, EM
3.66	114.31	**Coal, SEWECKLEY No. 9**		AC, CM, EM
		0.06 bone coal		
		1.95 coal w/occ. pyrite lenses		
		0.34 bone coal w/pyrite lenses		
		0.73 coal		
		0.58 bone coal		
		3.66 total seam thickness		
5.69	120.00	Claystone, m-dk. gray, silty		CV, EV
1.65	121.65	Limestone, l. gray		AK, CS, ES
14.00	135.65	Claystone, m. gray w/Ls nodules		AK,CV, EV
1.35	137.00	Claystone, dk. gray		CV, EV
0.20	137.20	Shale, black		CM, EM
0.80	138.00	Shale, m. gray		CM, EM
0.50	138.50	Limestone, l. gray		AK, CS, ES
1.30	139.80	Shale, m. gray		CM, EM
5.05	144.85	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
1.00	145.85	Claystone, m. gray w/Ls nodules		AK,CV, EV
2.55	148.40	Limestone, l. gray, nodular		AK, CS, ES
1.25	149.65	Flintclay, gray-tan, hard		CM, EM
0.65	150.30	Shale, m. gray		CM, EM
1.85	152.15	Limestone, l. gray		AK, CS, ES
1.85	154.00	Shale, m. gray-green		CM, EM
1.65	155.65	Limestone, l. gray		AK, CS, ES
0.20	155.85	Shale, m. gray		CM, EM
1.75	157.60	Limestone, l. gray		AK, CS, ES
0.75	158.35	Claystone, dk. gray-green		CV, EV
4.25	162.60	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
2.05	164.65	Claystone, dk. gray-green		CV, EV
0.95	165.60	Limestone, l. gray		AK, CS, ES
0.30	165.90	Shale, m. gray		CM, EM
0.75	166.65	Limestone, l. gray		AK, CS, ES
1.00	167.65	Claystone, dk. gray-green		CV, EV
0.30	167.95	Shale, black, carbonaceous		AC, CM, EM
3.35	171.30	Claystone, m. gray		CV, EV
1.80	173.10	Limestone, l. gray		AK, CS, ES
0.60	173.70	Claystone, m. gray		CV, EV
1.20	174.90	Limestone, l. gray		AK, CS, ES
2.50	177.40	Claystone, m. gray w/Ls nodules		AK,CV, EV
2.70	180.10	Limestone, l. gray, nodular		AK, CS, ES
2.20	182.30	Claystone, m. gray-green w/Ls nodules		AK,CV, EV
5.10	187.40	Limestone, l. gray, nodular		AK, CS, ES
7.40	194.80	Claystone, m. gray w/Ls nodules		AK,CV, EV
0.35	195.15	Shale, black		AC, CM, EM
0.34	195.49	Claystone, m. gray		CV, EV
0.89	196.38	**Coal, ROOF COAL**		AC, CM, EM
0.17	196.55	Shale, black, carbonaceous		AC, CM, EM
0.80	197.35	Claystone, m. gray		CV, EV
4.77	202.12	**Coal, PITTSBURGH No. 8**		AC, CM, EM
		0.08 bone		
		1.90 coal		
		0.11 bone coal		
		1.56 coal		
		0.11 bone		
		0.86 coal		
		0.15 bone w/coal & pyrite		
		4.77 total seam thickness		
0.10	202.22	Shale, black, carbonaceous		AC, CM, EM
1.18	203.40	Claystone, m. gray		CV, EV
0.95	204.35	Limestone, l. gray		AK, CS, ES
5.65	210.00	Claystone, m. gray w/Ls nodules		AK,CV, EV

Amount of hard and soft rock overlying Pittsburgh No. 8 coalbed:
1. Hard rock: 70.65 feet or 35.8%
2. Soft rock: 126.7 feet or 64.2%

ACID/BASE ACCOUNTING for Mining Pittsburgh No. 8 coalbed

Stratum	Neutralization Potential (/1000 tons)	Total Sulphur %	Pyritic Sulphur %	Potential Acidity Mg/l as CaCO3	CaCO3 Deficiency (/1000 tons)
Roof	39.70	2.96	2.35	92.50	52.70
Coal	2.65	4.32	2.12	135.00	132.00
Bottom	332.00	2.85	2.47	89.00	-243.00

Physical Properties Legend
AC - Acid Producing
AK - Alkaline Producing
C - Compactible (V - very, M - moderate, S - slight)
E - Erodible (V - very, M - moderate, S- slight)

ATTACHMENT 13

DIAMOND DRILL HOLE: N97-02

ENGINEER: W. J. SIPLIVY, PE, CPG
ELEVATION: 1304.86
STATE PLANE COORDINATES: E 2,420,421 N 731,278

DRILLER: L. J. Hughes & Sons, Inc., Dale Jarvis

TOWNSHIP: Smith
SECTION: 34, NW 1/4
COUNTY: Belmont

SURFACE OWNER: Simpson
DATE STARTED: 13 March 1997
DATE COMPLETED: 14 March 1997

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
20.00	20.00	Non-coring		
3.00	23.00	Shale, brown, sandy w/ Fe-stained joints	yes	CM, EM
0.30	23.30	Sandstone, l. gray w/Fe-stained joint	yes	CS, ES
4.40	27.70	Shale, brown, sandy w/ Fe-stained joints	yes	CM, EM
1.35	29.05	Sandstone, l. gray w/Fe-stained joints	yes	CS, ES
2.55	31.60	Shale, m-dk. gray w/Fe-stains	yes	CM, EM
0.60	32.20	Limestone, l. gray w/Fe-stains	yes	AK, CS, ES
2.75	34.95	Claystone, m. gray, w/Ls nodules, Fe-stained	yes	AK, CV, EV
1.55	36.50	Claystone, red, Fe-stained	yes	CV, EV
9.50	46.00	Claystone, red-gray		CV, EV
5.80	51.80	Shale, m-dk. gray-brown w/Fe-stains	yes	CM, EM
3.20	55.00	Sandstone, l. gray, silty		CS, ES
2.70	57.70	Shale, m-dk. gray w/Fe-stains	yes	CM, EM
1.50	59.20	Sandstone, l. gray-brown w/Fe-stained joints	yes	CS, ES
6.40	65.60	Shale, m. gray		CM, EM
0.20	65.80	Shale, black, carbonaceous		AC, CM, EM
2.70	68.50	Claystone, m. gray, w/Ls nodules		CV, EV
1.50	70.00	Limestone, l. gray		AK, CS, ES
2.90	72.90	Claystone, m. gray, w/Ls nodules		AK, CV, EV
1.60	74.50	Limestone, l. gray		AK, CS, ES
4.30	78.80	Claystone, m. gray-green		CV, EV
4.20	83.00	Shale, m. gray & red		CM, EM
0.75	83.75	Limestone, l. gray		AK, CS, ES
0.60	84.35	Shale, m. gray		CM, EM
1.25	85.60	Limestone, l. gray		AK, CS, ES
4.20	89.80	Claystone, m. gray		CV, EV
1.50	91.30	Limestone, l. gray		AK, CS, ES
25.25	116.55	Claystone, m. gray, w/Ls nodules		AK, CV, EV
0.50	117.05	Limestone, l. gray		AK, CS, ES
3.35	120.40	Claystone, m. gray, w/Ls nodules		AK, CV, EV
1.70	122.10	Limestone, l. gray		AK, CS, ES
1.60	123.70	Claystone, m. gray		CV, EV
1.40	125.10	Limestone, l. gray		AK, CS, ES
6.10	131.20	Claystone, m. gray, w/Ls nodules		AK, CV, EV
0.60	131.80	Sandstone, l. gray, silty		CS, ES
12.00	143.80	Shale, m. gray		CM, EM
1.60	145.40	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
1.60	147.00	Claystone, m. gray		CV, EV
0.35	147.35	Limestone, l. gray		AK, CS, ES
1.10	148.45	Claystone, m. gray, w/Ls nodules		AK, CV, EV
3.05	151.50	Limestone, l. gray		AK, CS, ES
7.60	159.10	Claystone, m-dk gray		CV, EV
0.65	159.75	Shale, black w/thin coal ptgs.		AC, CM, EM
6.25	166.00	Shale, dk. gray-black		CM, EM
1.40	167.40	Sandstone, l. gray w/Sh ptgs.		CS, ES
1.80	169.20	Shale, dk. gray-black		CM, EM
0.08	169.28	**Coal**		AC, CM, EM
0.72	170.00	Claystone, m. gray		CV, EV
4.60	174.60	Shale, m. gray, silty		CM, EM
3.00	177.60	Claystone, m. gray		CV, EV
2.45	180.05	Shale, m. gray		CM, EM
0.83	180.88	Shale, black w/thin coal ptgs.		AC, CM, EM
19.32	200.20	Claystone, m. gray, w/Ls nodules		AK, CV, EV
0.85	201.05	Shale, m. gray, silty		CM, EM
2.95	204.00	Sandstone, l. gray w/thin Sh ptgs.		CS, ES
3.40	207.40	Shale, m. gray, silty		CM, EM

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
6.60	214.00	Claystone, m. gray, w/Ls nodules		AK, CV, EV
2.05	216.05	Shale, m. gray, silty		CM, EM
2.45	218.50	Sandstone, l. gray		CS, ES
1.50	220.00	Claystone, m. gray		CV, EV
0.55	220.55	Shale, m. gray		CM, EM
15.75	236.30	Claystone, m. gray, w/Ls nodules		AK, CV, EV
10.10	246.40	Shale, m. gray		CM, EM
0.45	246.85	Limestone, l. gray		AK, CS, ES
3.15	250.00	Claystone, m. gray		CV, EV
4.50	254.50	0.07 bone		0
2.05	256.55	Sandstone, l. gray, silty		CS, ES
4.45	261.00	Shale, m. gray w/occ. Ss ptgs.		CM, EM
1.90	262.90	Sandstone, l. gray		CS, ES
3.15	266.05	Shale, m-dk. gray		CM, EM
0.50	266.55	Shale, black, carbonaceous		AC, CM, EM
2.61	269.16	**Coal, WAYNESBURG No. 11**		AC, CM, EM
		0.35 coal		
		0.07 bone		
		1.17 coal		
		0.06 bone		
		0.73 coal		
		0.05 bone		
		0.18 coal		
		2.61 total seam thickness		
1.44	270.60	Claystone, dk. gray		CV, EV
0.07	270.67	**Coal**		AC, CM, EM
10.53	281.20	Claystone, m. gray, w/Ls nodules		AK, CV, EV
5.90	287.10	Shale, m. gray		CM, EM
6.40	293.50	Shale, m. gray w/occ. Ss ptgs.		CM, EM
5.70	299.20	Shale, m. gray		CM, EM
2.80	302.00	Sandstone, l. gray w/thin Sh ptgs.		CS, ES
2.80	304.80	Shale, m. gray w/occ. thin Ss ptgs.		CM, EM
0.80	305.60	Sandstone, l. gray		CS, ES
6.25	311.85	Shale, m. gray w/occ. thin Ss ptgs.		CM, EM
2.00	313.85	**Coal, UNIONTOWN No. 10**		AC, CM, EM
		0.19 bone coal		
		0.63 coal w/bone ptgs.		
		0.09 bone		
		0.24 coal w/pyrite lense		
		0.10 shale		
		0.07 bone		
		0.58 coal		
		0.10 coal w/sh ptgs.		
		2.00 total seam thickness		
2.65	316.50	Claystone, dk. gray		CV, EV
0.80	317.30	Sandstone, l. gray, silty		CS, ES
10.20	327.50	Claystone, m. gray, w/Ls nodules		AK, CV, EV
4.30	331.80	Sandstone, l. gray		CS, ES
7.60	339.40	Claystone, m. gray, w/Ls nodules		AK, CV, EV
0.60	340.00	Limestone, l. gray		AK, CS, ES
3.10	343.10	Claystone, m. gray, w/Ls nodules		AK, CV, EV
3.90	347.00	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
2.10	349.10	Claystone, m. gray-green		CV, EV
1.90	351.00	Limestone, l. gray		AK, CS, ES
7.15	358.15	Claystone, m. gray, w/Ls nodules		AK, CV, EV
0.70	358.85	Limestone, l. gray		AK, CS, ES
1.85	360.70	Shale, m. gray, calc.		AK, CM, EM
2.45	363.15	Limestone, l. gray		AK, CS, ES
0.85	364.00	Claystone, m. gray, w/Ls nodules		AK, CV, EV
1.45	365.45	Limestone, l. gray, nodular		AK, CS, ES
14.75	380.20	Shale, m. gray-green, calc.		AK, CM, EM
0.70	380.90	Limestone, l. gray		AK, CS, ES
8.10	389.00	Shale, m. gray-green, calc.		AK, CM, EM
1.50	390.50	Limestone, l. gray		AK, CS, ES

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
0.90	391.40	Shale, m. gray-green, calc.		AK, CM, EM
0.85	392.25	Limestone, l. gray		AK, CS, ES
0.75	393.00	Shale, m. gray-green, calc.		AK, CM, EM
1.00	394.00	Limestone, l. gray		AK, CS, ES
3.85	397.85	Shale, m. gray-green wLs ptgs.		AK, CM, EM
2.15	400.00	Limestone, l. gray		AK, CS, ES
10.40	410.40	Shale, m. gray-green, calc.		AK, CM, EM
7.00	417.40	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
3.75	421.15	Claystone, m. gray		CV, EV
3.58	424.73	**Coal, SEWICKLEY No. 9**		AC, CM, EM
		0.13 bone		
		1.90 coal w/bone ptgs.		
		0.84 bone		
		0.63 coal		
		0.08 bone w/coal		
		3.58 total seam thickness		
1.07	425.80	Claystone, dk. gray		CV, EV
3.55	429.35	Shale, m. gray		CM, EM
0.50	429.85	Limestone, l. gray		AK, CS, ES
2.55	432.40	Shale, m. gray, calc.		AK, CM, EM
1.00	433.40	Limestone, l. gray		AK, CS, ES
1.00	434.40	Shale, m. gray, calc.		AK, CM, EM
9.10	443.50	Shale, m. gray w/occ. thin Ss ptg		CM, EM
0.70	444.20	Limestone, l. gray		AK, CS, ES
0.70	444.90	Claystone, m. gray		CV, EV
0.60	445.50	Limestone, l. gray		AK, CS, ES
1.30	446.80	Claystone, dk. gray		CV, EV
0.50	447.30	Shale, black, carbonaceous		AC, CM, EM
0.85	448.15	Shale, m. gray, calc.		AK, CM, EM
8.55	456.70	Limestone, m. gray, silty, hard		AK, CS, ES
3.30	460.00	Flintclay, gray-tan, hard		CM,EM
3.20	463.20	Shale, m. gray-green		CM, EM
3.60	466.80	Limestone, l. gray		AK, CS, ES
1.10	467.90	Claystone, green		CV, EV
4.70	472.60	Limestone, l. gray		AK, CS, ES
4.40	477.00	Claystone, green		CV, EV
1.90	478.90	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
2.80	481.70	Claystone, m. gray, w/Ls nodules		AK, CV, EV
0.55	482.25	Shale, black, carbonaceous		AC, CM, EM
1.75	484.00	Claystone, m. gray		CV, EV
3.00	487.00	Limestone, l. gray		AK, CS, ES
1.10	488.10	Shale, m. gray		CM, EM
1.90	490.00	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
3.10	493.10	Claystone, m. gray, w/Ls nodules		AK, CV, EV
1.70	494.80	Limestone, l. gray		AK, CS, ES
9.50	504.30	Claystone, m. gray		CV, EV
0.16	504.46	Claystone, dk. gray, carbonaceous		AC, CV, EV
1.49	505.95	**Coal, ROOF COAL**		AC, CM, EM
	505.95	0.19 coal		
	505.95	0.17 shale		
	505.95	0.95 coal		
		0.11 shale w/coal		
		0.07 coal		
		1.49 total seam thickness		
0.85	506.80	Claystone, m. gray		CV, EV
5.06	511.86	**Coal, PITTSBURGH No. 8**		AC, CM, EM
		0.15 bone		
		2.16 coal		
		0.04 bone		
		2.46 coal		
		0.25 coal w/bone ptgs.		
		5.06 total seam thickness		
0.39	512.25	Shale, dk. gray		CM, EM
0.45	512.70	Limestone, m. gray		AK, CS, ES

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
0.60	513.30	Claystone, m. gray		CV, EV
0.30	513.60	Limestone, m. gray		AK, CS, ES
0.15	513.75	Claystone, m. gray		CV, EV
0.55	514.30	Limestone, m. gray		AK, CS, ES
0.75	515.05	Claystone, m. gray		CV, EV
1.00	516.05	Limestone, m. gray		AK, CS, ES
0.55	516.60	Claystone, m. gray		CV, EV
1.50	518.10	Limestone, m. gray		AK, CS, ES
1.90	520.00	Claystone, m. gray, w/Ls nodules		AK, CV, EV

Amount of hard and soft rock overlying Pittsburgh No. 8 coalbed:

1. Hard rock: 95.7 feet or 18.97%
2. Soft rock: 408.76 feet or 81.02%

ACID/BASE ACCOUNTING for Mining Pittsburgh No. 8 coalbed

Stratum	Neutralization Potential (/1000 tons)	Total Sulphur %	Pyritic Sulphur %	Potential Acidity Mg/l as CaCO3	CaCO3 Deficiency (/1000 tons)
Roof	86.00	3.16	1.15	98.70	12.68
Coal	6.30	4.40	2.07	137.00	131.00
Bottom	551.00	3.00	2.12	93.70	-458.00

Physical Properties Legend

AC - Acid Producing
AK - Alkaline Producing
C - Compactible (V - very, M - moderate, S - slight)
E - Erodible (V - very, M - moderate, S- slight)

ATTACHMENT 13

DIAMOND DRILL HOLE: N97-03

ENGINEER: W. J. SIPLIVY, PE, CPG
ELEVATION: 1163.12
STATE PLANE COORDINATES: E 2,418,796 N 736,099

DRILLER: L. J. Hughes & Sons, Inc., Dale Jarvis

TOWNSHIP: Smith
SECTION: 35, NW 1/4
COUNTY: Belmont

SURFACE OWNER: Simpson
DATE STARTED: 10 March 1997
DATE COMPLETED: 12 March 1997

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
20.40	20.40	Non-coring		
1.60	22.00	Shale, red-gray, Fe-stained	yes	CM, EM
1.20	23.20	Shale, m. gray, silty		CM, EM
6.80	30.00	Shale, m. gray-green		CM, EM
2.50	32.50	Claystone, m. gray		CV, EV
0.60	33.10	Shale, dk. gray-black		CM, EM
0.30	33.40	Limestone, lm. gray, silty		AK, CS, ES
16.05	49.45	Claystone, m. gray, w/Ls nodules		CV, EV
0.55	50.00	Shale, m. gray, silty		CM, EM
0.35	50.35	Sandstone, l. gray		CS, ES
1.10	51.45	Shale, m. gray, calc., hard		AK, CS, ES
0.90	52.35	Sandstone, l. gray		CS, ES
0.65	53.00	Shale, m. gray, silty		CM, EM
1.35	54.35	Sandstone, l. gray		CS, ES
0.30	54.65	Shale, m. gray		CM, EM
2.50	57.15	Sandstone, l. gray		CS, ES
4.35	61.50	Shale, m. gray		CM, EM
6.50	68.00	Claystone, m. gray, w/Ls nodules		CV, EV
1.65	69.65	Shale, m. gray, silty		CM, EM
0.35	70.00	Sandstone, l. gray		CS, ES
0.65	70.65	Shale, m. gray, silty		CM, EM
0.45	71.10	Sandstone, l. gray		CS, ES
1.55	72.65	Shale, m. gray w/Ls nodules		AK,CM, EM
0.45	73.10	Sandstone, l. gray		CS, ES
0.80	73.90	Shale, m. gray w/Ss ptgs.		CM, EM
1.10	75.00	Sandstone, l. gray w/Sh ptgs.		CS, ES
2.90	77.90	Shale, m. gray w/Ss ptgs.		CM, EM
3.20	81.10	Sandstone, l. gray		CS, ES
7.20	88.30	Shale, m. gray w/ occ. Ss ptgs.		CM, EM
0.65	88.95	Shale, dk. gray-black		CM, EM
1.15	90.10	**Coal, WAYNESBURG No. 11**		AC, CM, EM
18.40	108.50	Claystone, m. gray, w/Ls nodules		AK,CV, EV
3.15	111.65	Shale, m. gray w/Ss ptgs.		CM, EM
1.40	113.05	Sandstone, l. gray w/Sh ptgs.		CS, ES
1.65	114.70	Shale, m. gray w/Ss ptgs.		CM, EM
3.95	118.65	Sandstone, l. gray w/thin Sh ptgs.		CS, ES
0.25	118.90	Shale, m. gray		CM, EM
1.50	120.40	Sandstone, l. gray		CS, ES
5.30	125.70	Shale, m. gray w/Ss ptgs.		CM, EM
6.80	132.50	Sandstone, l. gray		CS, ES
2.50	135.00	**Coal, UNIONTOWN No. 10** 0.32 coal 0.08 bone 1.21 coal 0.10 bone w/pyrite 0.72 coal 0.04 shale 0.03 coal **2.50 total seam thickness**		AC, CM, EM
1.20	136.20	Shale, m. gray, silty		CM, EM
11.40	147.60	Claystone, m. gray, w/Ls nodules		AK,CV, EV
1.40	149.00	Limestone, m. gray, silty		AK, CS, ES
0.50	149.50	Claystone, m. gray		CV, EV
6.80	156.30	Shale, m. gray		CM, ,EM
5.80	162.10	Claystone, m. gray, w/Ls nodules		AK,CV, EV

TOVCC 10277

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
3.60	165.70	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
2.70	168.40	Claystone, m. gray, w/Ls nodules		AK,CV, EV
0.85	169.25	Limestone, l. gray		AK, CS, ES
0.90	170.15	Shale, m. gray, calc.		AK,CM,EM
0.55	170.70	Claystone, m. gray		CV, EV
0.65	171.35	Limestone, l. gray		AK, CS, ES
9.45	180.80	Claystone, m. gray, w/Ls nodules		AK,CV, EV
1.70	182.50	Limestone, l. gray		AK, CS, ES
3.10	185.60	Claystone, m. gray, w/Ls nodules		AK,CV, EV
7.30	192.90	Shale, m. gray		CM, EM
6.80	199.70	Shale, m. gray, calc.		AK,CM,EM
1.00	200.70	Limestone, l. gray		AK, CS, ES
8.20	208.90	Shale, m. gray, calc.		AK,CM,EM
2.05	210.95	Limestone, l. gray		AK, CS, ES
1.45	212.40	Shale, m. gray		CM, EM
0.40	212.80	Limestone, l. gray		AK, CS, ES
1.20	214.00	Shale, m. gray		CM, EM
1.40	215.40	Limestone, l. gray		AK, CS, ES
2.30	217.70	Shale, m. gray, calc.		AK,CM,EM
3.70	221.40	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
11.80	233.20	Shale, m. gray, calc., flinty		AK,CM,EM
3.50	236.70	Limestone, m. gray, silty		AK, CS, ES
2.80	239.50	Claystone, m. gray, w/Ls nodules		AK,CV, EV
2.55	242.05	Claystone, m. gray		CV, EV
4.55	246.60	**Coal, SEWECKLEY No. 9** 0.05 bone 1.32 coal 0.02 bone 0.64 coal 0.23 bone coal 0.64 claystone 0.06 bone w/pyrite 1.40 coal w/bone 0.19 bone w/pyrite **4.55 total seam thickness**		AC, CM, EM
1.55	248.15	Claystone, m. gray		CV, EV
5.85	254.00	Shale, m. gray w/Ls nodules		AK,CM,EM
2.00	256.00	Flintclay, brown, hard		CM, EM
6.60	262.60	Shale, dk. gray w/occ. thin Ss ptgs.		CM, EM
3.55	266.15	Claystone, m. gray w/Ls nodules		AK,CV, EV
1.20	267.35	Limestone, l. gray		AK, CS, ES
0.95	268.30	Claystone, dk. gray		CV, EV
0.50	268.80	Shale, black, carbonaceous		AC, CM, EM
0.60	269.40	Claystone, dk. gray		CV, EV
2.40	271.80	Shale, m. gray, calc., flinty		AK,CM,EM
5.40	277.20	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
4.30	281.50	Flintclay, brown, hard		CM, EM
2.20	283.70	Limestone, l. gray		AK, CS, ES
1.30	285.00	Shale, m. gray, calc.		AK,CM,EM
3.50	288.50	Limestone, l. gray		AK, CS, ES
0.75	289.25	Shale, m. gray, calc.		AK,CM,EM
4.15	293.40	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
3.50	296.90	Shale, m. gray		CM, EM
2.30	299.20	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
2.80	302.00	Claystone, m. gray		CV, EV
0.50	302.50	Shale, dk. gray-black		CM, EM
3.10	305.60	Claystone, m. gray w/Ls nodules		AK,CV, EV
1.85	307.45	Limestone, m. gray, silty		AK, CS, ES
0.40	307.85	Shale, m. gray		CM, EM
0.65	308.50	Limestone, m. gray, silty		AK, CS, ES
6.40	314.90	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
0.80	315.70	Shale, m. gray		CM, EM
1.40	317.10	Limestone, l. gray		AK, CS, ES
2.60	319.70	Claystone, m. gray w/Ls nodules		AK,CV, EV
0.20	319.90	Limestone, l. gray		AK, CS, ES
0.95	320.85	Claystone, m. gray		CV, EV
0.25	321.10	Limestone, l. gray		AK, CS, ES
2.90	324.00	Limestone, l. gray w/ Cs ptgs.		AK, CS, ES
0.18	324.18	Shale, black		CM, EM
1.50	325.68	Claystone, m. gray		CV, EV
0.32	326.00	**Bone coal**		AC, CM, EM
0.49	326.49	Claystone, m. gray		CV, EV
1.04	327.53	**Coal, ROOF COAL**		AC, CM, EM
0.87	328.40	Claystone, m. gray		CV, EV

Thickness (ft)	Depth (ft)	Strata	Water Bearing	Physical Properties
4.87	333.27	**Coal, PITTSBURGH No. 8** 0.19 bone coal 0.72 coal 0.11 bone coal 0.49 coal 0.10 bone coal 0.04 shale 2.02 coal 0.03 bone 1.00 coal 0.17 bone coal w/pyrite **4.87 total seam thickness**		AC, CM, EM
0.43	333.70	Shale, black		AC, CM, EM
1.20	334.90	Limestone, m. gray, silty, hard		AK, CS, ES
0.70	335.60	Claystone, m. gray		CV, EV
1.75	337.35	Limestone, m. gray, silty, v. hard		AK, CS, ES
2.65	340.00	Claystone, m. gray w/Ls nodules		AK,CV, EV

Amount of hard and soft rock overlying Pittsburgh No. 8 coalbed:
1. Hard rock: 67.55 feet or 20.57%
2. Soft rock: 260.85 feet or 79.43%

ACID/BASE ACCOUNTING for Mining Pittsburgh No. 8 coalbed

Stratum	Neutralization Potential (/1000 tons)	Total Sulphur %	Pyritic Sulphur %	Potential Acidity Mg/l as CaCO3	CaCO3 Deficiency (/1000 tons)
Roof	3.47	2.64	2.24	82.50	79.00
Coal	2.22	5.13	2.70	160.00	158.00
Bottom	566.00	2.36	1.95	73.70	-492.00

Physical Properties Legend
AC - Acid Producing
AK - Alkaline Producing
C - Compactible (V - very, M - moderate, S - slight)
E - Erodible (V - very, M - moderate, S- slight)

ADDENDUM TO PAGE 19, PAGE 2, F(1) and B
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PROBABLE HYDROLOGIC CONSEQUENCES
PERMIT D-0360 - 3

Prepared By:
William J. Siplivy, PE, CPG
The Ohio Valley Coal Company

November, 1992

TABLE OF CONTENTS

TOPOGRAPHIC SETTING 1

GEOLOGIC SETTING 1

HYDROLOGIC SETTING 2

PROBABLE GROUND WATER IMPACTS 3

WATER QUANTITY 3

WATER QUALITY 5

PROBABLE SURFACE WATER IMPACTS 5

TABLE 1 - Percentage of Soft and Hard Rock in Application Area 6

TABLE 2 - Projected Hydrologic Impact Summary - Wells 7

TABLE 3 - Projected Hydrologic Impact Summary - Springs 11

CROSS-SECTIONS, A - A' AND B - B' . . . . . IN POCKET

APPENDIX 1 - ANALOG WELL AND SPRING DATA . . . . . ATTACHED

REFERENCES . . . . . ATTACHED

TOVCC 10281

THE OHIO VALLEY COAL COMPANY

POWHATAN NO. 6 MINE

PROBABLE HYDROLOGIC CONSEQUENCES

TOPOGRAPHIC SETTING:

The Powhatan No. 6 Mine, located in Belmont County, Ohio is in the Appalachian Plateau physiographic province. The topography of the county is typically hilly with narrow rounded ridges and deep v-shaped valleys dissecting the terrain. Topographic relief within the application area ranges from 250 to 350 feet. The elevation varies between 1,340 feet above sea level along the northwest boundary to approximately 860 feet in the northeast corner along Williams Creek.

Most of the application area drains east into Williams Creek, a tributary of McMahon Creek, which discharges into the Ohio River. In the southwest corner, drainage is through Anderson Run. Anderson Run is a tributary of Captina Creek, which drains eastward into the Ohio River. A minor portion of the northwest corner drains into an unnamed tributary of McMahon Creek.

GEOLOGIC SETTING:

A detailed discussion of the stratigraphic and structural setting of the longwall area is provided in the Geology section of this permit application. Properties of the geologic setting essential to ground water occurrence and movement are described below.

Geologic structures in the area are not major controlling factors of ground water flow. The rocks underlying the application area are nearly horizontal with an average dip of 18 feet per mile to the south and southwest. There is a small anticlinal dome approximately one mile southeast of the application area (Berryhill, 1963) and a graben-type structure immediately to the south. These structural features, however, do not control or significantly influence subsurface water movement.

The lithologic characteristics of the rocks are important to ground water occurrence. Based on drill hole and corehole logs available for the area, approximately 70 to 84 percent of the rock column consists of "soft rocks" (Table 1). Soft rocks are defined here as shale and claystone. Hard rocks, which represent approximately 16 to 30 percent of the rock column include sandstone, shaley sandstone, and limestone. These rocks which tend to be somewhat more brittle, have hydraulic properties significantly different from the soft rocks.

Cross-sections A - A' and B - B' were prepared to illustrate the horizontal and vertical distribution of the soft and hard rocks and were utilized extensively in predicting the hydrologic impacts of mining. The lines of cross-section are shown on the attached structure contour map.

The cross-sections also illustrate the horizontal and vertical variability of the rock units. Rapid facies changes greatly limit the horizontal continuity of rock units. With the exception of the major coal seams, very few individual rock units are continuous across the longwall panel areas and most lithologic units cannot be correlated between adjacent drill holes. Horizontal facies changes and corresponding changes in hydrologic properties of the rocks tends to produce localized subsurface flow systems. In addition, laboratory studies of core samples from similar rocks indicate vertical permeability is several orders of magnitude lower than horizontal permeability (Brown R. L., et al. 1971). This again results in hydrologically localized flow systems that are not continuous across the application area.

HYDROLOGIC SETTING:

The source of all ground and surface water in the application area is precipitation. Upon reaching the land surface, water that is not part of direct surface runoff or evapotranspiration infiltrates into the subsurface to become part of the ground water flow system and for use by plants. While soil moisture is important to agriculture, there are no identified unconsolidated aquifers in the area.

Within the bedrock system, ground water occurs in primary and secondary openings. Primary openings are pore spaces between sand, silt and clay grains formed at the time of deposition. Primary permeability is the ability of water to move between pore spaces. In the application area, primary permeability is very low and very little ground water movement occurs in hard or soft rocks as a result of primary openings.

Secondary porosity and permeability is formed by fractures or partings in the rock mass. Most usable ground water in the application area occurs in secondary openings. The success of a water well is dependent upon the well penetrating a water filled fracture zone that transmits enough water to the well bore to meet it's intended use.

Fractures are not ubiquitous in the area and are not interconnected over large areas. For these reasons, it is very difficult to identify aquifers over large areas. Ground water flow systems tend to be made up of small localized fracture controlled entities. While fractures in hard rocks tend to stay open better than fractures in soft rock, the horizontal and vertical variability of even the hard rock units tend to produce hydraulically isolated areas.

In addition, fractures tend to close at increasing depths due to overlying lithostatic pressures, thereby limiting the effective depth of the ground water flow system (Stoner, 1983). This condition is evident throughout the Powhatan No. 6 Mine. The mine, in general, is very dry with even minor amounts of water inflow under low cover areas less than (200 feet).

During full recovery mining, where the roof is allowed to collapse, existing natural fractures are often re-opened and new fractures are created. Typically, a rubble zone

TOVCC 10283

develops above the extracted coal seam with a gradually reduced fracture density pattern above the rubble zone. However, fractures developed by subsidence are normally a poorly interconnected network of cracks and are rarely continuous openings to the mine void (Rauch, 1987). This condition is evidenced by the fact that recent longwall mining has not resulted in water in-flow in the longwall or adjacent areas in the Powhatan No. 6 Mine. In fact, no pumping of water from these areas is occurring.

Soft rocks tend to deform in a more plastic manner with limited fracturing. Many of the fractures that form in soft rocks tend to "heal" by fracture clogging or clay swelling. This process limits the amount of water migrating downward. Conditions experienced in the eight longwall panels mined to date substantiate this interpretation. On two separate occasions, in-mine inspections were made to observe water conditions in the analog area. It was noted that no water was accumulating in the longwall panel areas and no water was being pumped from the section. An inspection of the chain pillar areas, including close inspection of the accessible areas of the gob in the completed panels, did not reveal any ground water in-flow. Interviews with several mine foremen, who directed mining operations of the longwall panel areas, verified dry conditions prevailed throughout the mining and post-mining phases of the analog areas.

A re-adjustment of the subsurface flow system is expected with some changes in ground water levels and re-positioning of some hillside springs. The net hydrologic balance, however, is nearly unchanged. Water that infiltrates from the land surface remains in the flow system and does not, to a large degree, enter the mine. The re-positioning of the static water levels, however, often results in inconvenience, usually temporary, to the ground water users in the area.

Due to the laterally discontinuous nature of the strata, there are no recognized large regional aquifers in the application area. However, for identification purposes, the water producing horizons currently being utilized have been identified as saturated zones, with the designation L-1 through L-8 and L-A through L-H, in the permit application. These zones are represented on the Cross-Sections. The saturated zones are located above the regional base water level, occasionally outcrop along the hillsides, and are cut into discontinuous lateral zones by the stream valleys. The saturated zones in the application area and the analog area to the west are comparable, although their elevations may vary somewhat.

PROBABLE GROUND WATER IMPACTS:

WATER QUANTITY

The Ohio Valley Coal Company has established in-house guidelines to minimize the possible adverse hydrologic impact of longwall mining. Variables, such as overburden thickness and surface water features, are evaluated and permits are prepared only for these areas that are expected to have minimum impacts.

TOVCC 10284

The specific impacts expected by longwall mining in this section of the Powhatan No. 6 Mine are predicted primarily by use of data generated during longwall mining currently being conducted at the Powhatan No. 6 Mine immediately west of the application area.

There are a total of sixteen wells and nine springs overlying the area currently being longwall mined west of the application area. Seven of the wells and two of the springs have been undermined. Two of these wells were not negatively affected by the mining. One of these two wells currently has a static water level higher than the pre-mining level. Three of the seven wells showed a drop in static water level, but have since recovered to approximately pre-mining levels. One of these wells has begun to recover, but has yet to reach pre-mining levels.

Of the two springs undermined, one of them went dry and the other had a slight reduction in flow, but has begun to recover. The nine wells and seven springs that were not undermined were unaffected by the mine.

Areas currently being mined produce little or no water. This indicates that the water lost from the wells and springs is draining to new fractures opened up above the mine, but not to the mine. Once the flow system re-establishes equilibrium conditions, the water levels are expected to recover to near pre-mining levels.

The primary hydrologic variables that appear to directly impact ground water supplies in the analog area are overburden thickness, percentage of soft rocks, and topographic setting. Within the analog area, the only well that exhibited a high degree of water loss with little or no recovery within six or seven months after mining was a shallow dug well. It appears the local water table at this location was temporarily or permanently lowered. An adjacent drilled well, which was completed to a greater depth, experienced a very significant water loss with subsequent partial recovery (approximately 21 feet of recovery after seven months).

Other drilled wells in the analog area that were completed to greater depths exhibited no effect or had rapid water level recovery shortly after mining. It was concluded that these wells were not significantly or permanently impacted primarily because they were completed at a depth closer to the regional hydrologic base level and were less susceptible to the water table fluctuations that occurred at the higher elevations. In addition, the relatively high percentage of soft rocks in the area and the overburden thickness prevented direct fracturing, and thus flow paths into the mine.

Based on a review of the current literature and data in the analog area, it is expected that springs high on hillsides, well above the regional base water elevation, may have significantly reduced flows or go dry. Springs closer to the regional base water elevation may show a slight flow reduction, but are predicted to recover to pre-mining flow rates. Some of these springs may show an increase in flow rates. New springs may develop closer to the regional base water elevation to replace those lost at higher elevations. Water sources that are less than 50 feet above the regional base water elevation are not expected to be significantly affected by longwall mining. (Tieman and Rauch, 1987).

TOVCC 10285

TABLES 2 and 3 summarize the well and spring water supplies identified in the application area. This table presents data on the potential hydrologic impacts from longwall mining and lists the projected hydrologic consequences.

WATER QUALITY

A review of the water quality for the wells and springs undermined in the analog area indicates water quality fluctuated slightly from month to month prior to mining. None of the wells and springs show changes in water quality after being undermined outside of the normal pre-mining range.

Temporary increases in iron, sulfate and total dissolved solids may occur following mine subsidence. These increases are attributed to accelerated weathering along the subsidence fractures. However, water quality is expected to return to normal as the weathering rate decreases. Ground water data from the analog area is presented in APPENDIX 1.

PROBABLE SURFACE WATER IMPACTS:

The application area is primarily drained by Williams Creek, which flows into McMahon Creek. After a review of the current literature and the geologic data for the application area, it is expected that flows in some stream segments, particularly in the headwaters section, may be temporarily reduced, or possibly go dry. However, due to the high percentage of soft rocks in the mine overburden, and the resultant dry mining conditions in the analog area, water loss from the streams in the area is not expected to drain into the mine. The water will drain into new fracture systems created by mine subsidence. As these fractures fill and the flow system approaches a new equilibrium, the streams will begin to recover.

The effects on William's Creek, Anderson Run, and McMahon Creek will be minimal since only a small portion of their headwaters will be undermined. Impacts are predicted to closely resemble those observed on an unnamed tributary to Bend Fork which was undermined in the analog area. Surface cracks appeared in the stream bed causing a temporary reduction of flow. However, within several months, stream flows returned to what appears to be pre-mining or near pre-mining levels.

TOVCC 10286

TABLE 1

PERCENTAGE OF SOFT AND HARD ROCK

FROM N92 SERIES CORE LOGS

	ROCK TYPE %	
DDH	SOFT	HARD
N92-4	80.56	19.44
N92-5	77.50	22.50
N92-6	69.50	30.50
N92-7	74.10	25.90
N92-8	77.40	22.60
N92-9	84.00	16.00

TOVCC 10287

LISTING OF WELL AND SPRING INFORMATION
PROPOSED APPLICATION AREA

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360, APPLICATION AREA D-0360-7
WELL AND SPRING INVENTORY

ID NO	ID CODE	OWNER	ELEV	DEPTH	SWL/FLOW	LITHOLOGY	USES
SP-223	3223.000000	RICE	1104	0	.22-2.0	NSSZ	UNUSED
SP-226A	3226.001000	RICE	1170		.75-.3	NSSZ	LIVESTOCK
SP-226B	3226.002000	RICE	1155		.16-.12	NSSZ	UNUSED
SP-230	3230.000000	RUBEL	1181		1.6-4.1	NSSZ	LIVESTOCK
SP-231	3231.000000	RUBEL	1246		.64-11.5	NSSZ	LIVESTOCK
SP-240	3240.000000	HART	1170		1.5-5.5	NSSZ	DOMESTIC / LIVESTOCK
SP-241	3241.000000	SAFFELL	1190		1.0-6.6	NSSZ	DOMESTIC / LIVESTOCK
SP-244	3244.000000	MAYO	1290		.24-1.4	NSSZ	LIVESTOCK
SP-265	3265.000000	KINDLER	1200		.75-3.0	NSSZ	LIVESTOCK
SP-266	3266.000000	HUGHES	1100		1.5-1.5	NSSZ	UNUSED
SP-267	3267.000000	KINDLER	1225		1.5-2.0	NSSZ	LIVESTOCK
SP-268	3268.000000	KINDLER	1180		3.3-6.0	NSSZ	LIVESTOCK
SP-269	3269.000000	KINDLER	1220		5.0-5.0	NSSZ	LIVESTOCK
SP-270	3270.000000	BLAKE	1260		.71-.75	NSSZ	DOMESTIC
SP-271	3271.000000	SEACREST	1323		1.3-3.0	NSSZ	LIVESTOCK
SP-272	3272.000000	COYNE	1258		4.2-4.0	NSSZ	DOMESTIC
SP-273	3273.000000	COYNE	1265		1.0-1.5	NSSZ	UNUSED
SP-274	3274.000000	COYNE	1230		.5-3.0	NSSZ	UNUSED
SP-277	3277.000000	MAYO	1264		.25 -.5	NSSZ	LIVESTOCK
SP-278	3278.000000	MAYO	1230		.5-.75	NSSZ	LIVESTOCK
SP-282	3282.000000	SIMPSON	1268		2.14	NSSZ	LIVESTOCK
SP-283	3283.000000	SIMPSON	1263		2.73	NSSZ	LIVESTOCK
SP-285	3285.000000	BIANCO	1190		8	NSSZ	DOMESTIC
W-166	4166.000000	EARLIWINE	1106	108	68-83	NSSZ	UNUSED
W-167	4167.000000	HEBRY	1090	96	48-60	NSSZ	DOMESTIC
W-168	4168.000000	FUNKHOUSER	1112	62	18-45	NSSZ	DOMESTIC
W-169	4169.000000	FUNKHOUSER	1112	25	18-19	NSSZ	DOMESTIC
W-170	4170.000000	MAY	1105	75	47-53	NSSZ	UNUSED
W-172	4172.000000	COLVIN	1113	89	19-33	NSSZ	UNUSED
W-173	4173.000000	RICE	1116	25	13-18	NSSZ	DOMESTIC
W-174	4174.000000	GRANT	1117	101	82-97	NSSZ	UNUSED
W-175	4175.000000	HAYES	1132	46	14-15	NSSZ	UNUSED
W-176	4176.000000	THOMAS	1142	43	15-17	NSSZ	UNUSED
W-177	4177.000000	DELANEY	1183		SEALED	NSSZ	DOMESTIC
W-268	4268.000000	DELANEY	1165		BURIED	NSSZ	UNUSED
W-315	4315.000000	HART	1288	88	34-41	NSSZ	DOMESTIC
W-316	4316.000000	SAFFELL	1213	72	39-52	NSSZ	UNUSED
W-317	4317.000000	HART	1303		BURIED	NSSZ	DOMESTIC
W-318	4318.000000	MAYO	1304	18	7-11	NSSZ	DOMESTIC
W-323	4323.000000	FUNKHOUSER	1138	120	59-62	NSSZ	DOMESTIC
W-344	4344.000000	CIMINI	1185	54	19-22	NSSZ	DOMESTIC
W-374	4374.000000	COLE	1290	51	41	NSSZ	DOMESTIC
W-375	4375.000000	KINDLER	1247		SEALED	NSSZ	DOMESTIC
W-376	4376.000000	C. BLAKE	1250	30	4	NSSZ	DOMESTIC
W-377	4377.000000	C. BLAKE	1282	86	46	NSSZ	DOMESTIC
W-378	4378.000000	KINDLER	1325	68	27	NSSZ	DOMESTIC
W-379	4379.000000	GROVER	1323	120	78	NSSZ	DOMESTIC
W-380	4380.000000	HORVATH	1350	80	61	NSSZ	DOMESTIC
W-381	4381.000000	PICKENS	1325	100	42	NSSZ	DOMESTIC
W-382	4382.000000	COYNE, T.K.	1350	155	82	NSSZ	DOMESTIC
W-383	4383.000000	SEACREST	1362	125	57	NSSZ	DOMESTIC
W-384	4384.000000	SEACREST	1335	80	32	NSSZ	DOMESTIC
W-385	4385.000000	SEACREST	1363	100	SEALED	NSSZ	DOMESTIC
W-386	4386.000000	STANFORD	1350		REFUSED MONIT.	NSSZ	DOMESTIC
W-387	4387.000000	BARRICKLOW	1260		REFUSED MONIT.	NSSZ	DOMESTIC
W-388	4388.000000	JOHNSON	1160		SEALED	NSSZ	DOMESTIC
W-389	4389.000000	SCHERNITZAUER	1145	78	SEALED	NSSZ	DOMESTIC
W-390	4390.000000	CLARK	1030	66	40	NSSZ	DOMESTIC
W-391	4391.000000	MITCHEL	1120	30	22	NSSZ	DOMESTIC
W-392	4392.000000	BLAKE, SR	1325	68	SEALED	NSSZ	DOMESTIC

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360, APPLICATION AREA D-0360-7
WELL AND SPRING INVENTORY

ID NO	ID CODE	OWNER	ELEV	DEPTH	SWL/FLOW	LITHOLOGY	USES
W-393	4393.000000	BLAKE, JR.	1330	30	18	NSSZ	DOMESTIC
W-394	4394.000000	T.A. COYNE	1259	80	28	NSSZ	DOMESTIC
W-395	4395.000000	T.A. COYNE	1258	50	15	NSSZ	UNUSED
W-396	4396.000000	WORKMAN	1305	70	37	NSSZ	DOMESTIC
W-397	4397.000000	CRAMER	1310	51	36	NSSZ	DOMESTIC
W-398	4398.000000	HABIG	1303	60	40	NSSZ	DOMESTIC
W-401	4401.000000	S. SIMPSON	1318	113	39	NSSZ	DOMESTIC
W-404	4404.000000	C. POWELL	1155	52	18	NSSZ	DOMESTIC
W-405	4405.000000	SIMPSON	1322	103	76	NSSZ	UNUSED
W-406	4406.000000	SIMPSON	1322	24	22	NSSZ	UNUSED
W-407	4407.000000	SIMPSON	1306	63	56	NSSZ	UNUSED
W-408	4408.000000	SIMPSON	1305	33	26	NSSZ	DOMESTIC
W-409	4409.000000	SIMPSON	1318		PLUGGED	NSSZ	UNUSED
W-410	4410.000000	SIMPSON	1310	85	56	NSSZ	UNUSED
W-411	4411.000000	SIMPSON	1310		PLUGGED	NSSZ	UNUSED
W-412	4412.000000	SIMPSON	1305	68	59	NSSZ	UNUSED
W-413	4413.000000	SIMPSON	1280	47	27	NSSZ	UNUSED
W-414	4414.000000	SIMPSON	1280	55	14	NSSZ	UNUSED
W-415	4415.000000	SIMPSON	1135	72	20	NSSZ	UNUSED
W-417	4417.000000	R. KEMP	1142	90	59	NSSZ	DOMESTIC
W-418	4418.000000	R. KEMP	1150	41	11	NSSZ	UNUSED

*NSSZ = NEAR SURFACE SATURATED ZONE

TOVCC 10290

GEOLOGY, HYDROLOGY, WATER BEARING ZONE
REPORT BY
BURT A. WAITE, P.G.

Description of Regional Hydrology, Geology, and Water Bearing Zone
D-0360-6 Application Area

By

Burt A. Waite, P.G.

Topographic Setting

The Powhatan No. 6 Mine (DMR Permit No. D-0360) is located in Belmont County, which is situated in southeastern Ohio. The topography of the entire application area is typical of the Appalachian Plateau Province and is characterized by narrow, rounded ridges and deep, V-shaped valleys dissecting the terrain. Topographic relief within the application area is approximately 460 ft. The elevation varies between 1349 ft in the western portion of the application area to 890 ft. in the northeastern portion, near McMahon Creek.

Williams Creek, located to the south of the application area, a tributary of McMahon Creek, and McMahon Creek are the dominant surface water features in this area. Both streams flow in an easterly direction, and headwaters from both streams occur within this area. McMahon Creek flows to the Ohio River, approximately 12 miles away.

Geologic Setting

The bedrock units that outcrop in the application area belong to the Dunkard Group, which is Upper Pennsylvanian to Permian in age. The rocks consist of the interbedded sandstone, siltstone, shale, mudstone, claystone, fresh- to brackish-water limestone, and coal. The Monongahela Formation (Pennsylvanian) underlies the Dunkard Group and consists of similar rock types. The Pittsburgh (No. 8) Coal seam which is the seam to be mined, marks the bottom of the Monongahela Formation. According to the Ohio Department of Natural Resources, water below 250 ft. beneath the stream bottoms is brackish.

Based on test hole date previously presented in applications to the DMR, plus those to be presented in this application, soft rocks constitute approximately 50 to 80 percent of the rock column. Soft rocks are defined as shale, mudstone, claystone, sandy shale, limey shale, and claystone. The relatively high percentage of soft rocks is significant as these units have very limited primary permeability, tend to deform in a more plastic manner and are more prone to "self-healing" after fracturing. Aquifers in these units normally have low yields, are less susceptible to subsidence fracturing due to mining and, when fractured, tend to close in response to lithostatic pressures or plug with fine-grained sediment and may contain clays that swell when wetted.

In addition, there is great horizontal and vertical variability of the rock units. Rapid facies changes limit the horizontal continuity of the rock units. With the exception of the major coal seams, very few lithologic units are continuous across the panel areas and correlation between test holes is difficult. Horizontal facies changes and corresponding changes in hydrologic properties of the rocks tend to produce localized subsurface flow systems. In addition, laboratory studies of

core samples from similar rocks indicate that vertical permeability is several orders of magnitude lower than horizontal permeability (Brown, et al., 1971). This condition again results in hydrologically localized flow systems that are not continuous across the application area.

The rocks in the application area are nearly horizontal with a dip of less than one degree to the southeast. Overburden thickness above the No. 8 Coal seam ranges from a low of about 90 ft. at the point where McMahon Creek exits the northeast corner of the application area to nearly 550 ft in the southwestern quadrant of the area.

General Hydrologic Setting

The source of all ground and surface water in the application area is precipitation. Upon reaching the land surface, water that is not part of direct surface runoff or evapotranspiration infiltrates into the subsurface to become part of the ground water flow system or soil moisture. While shallow subsurface water is important to soil moisture and plant growth, there are no identified shallow unconsolidated aquifers in the area.

Within the bedrock system, ground water occurs in primary and secondary openings. Primary openings are pore spaces between sand, silt and clay grains formed at the time of sediment depositions. Primary permeability is the ability of water to move between pore spaces. In this area, primary permeability is very low and limited ground water movement occurs in hard or soft rocks as a result of primary openings (Stoner, 1983; Siplivy, 1992).

Secondary porosity and permeability is formed by fractures or partings in the rock mass. Most usable ground water in the application area occurs in secondary openings and the success of a water well in terms of yield potential is dependent upon the well penetrating a water-filled fracture zone that transmits enough water to the well bore to meet its intended use (Schmitt, et al.,1983; Waite, 1987).

Fractures are not ubiquitous in the area, however, and are not interconnected over large areas. For these reasons, it is very difficult to identify "aquifers" over large areas and the ground water flow system tends to be made up of small, localized fracture controlled entities. While fractures in hard rocks tend to stay open better than fractures in soft rock, the horizontal and vertical variability of even the hard rock units tend to produce hydraulically isolated areas.

In addition, fractures tend to close at increasing depths due to overlying lithostatic pressures, thereby limiting the effective depth of the ground water flow system (Stoner, 1983). This condition is evident throughout the Powhatan No. 6 Mine. The mine, in general, is very dry with even minor amounts of water inflow limited to the low cover areas (generally less than 200 ft.). As discussed above, the overburden thickness in the application area ranges from about 90 ft. to nearly 550 ft., with the 90 ft. being located in the extreme northeastern portion of the area. In this area, mining is expected to be limited to bleeder entries only. Therefore, very little water inflow into the mine is expected. No pumping to remove water from the application area is expected.

Conclusions

The topography, geology, and the hydrology of the application area is essentially identical to the areas previously permitted at the Powhatan No. 6 Mine. The existing test holes in the application area show the same rock types as in test holes drilled in previously permitted areas, and the water bearing zones in the application area are expected to remain consistent with other areas of the mine. Two or three additional test holes are expected to confirm this belief, and should be adequate to further define the conditions within the application area.

References

Brown, R.L., Parizek, R.R., 1971, "Shallow Ground Water Flow Systems Beneath Strip and Deep Coal Mines at Two Sites," Clearfield, PA, The Pennsylvania State University, Special Report SR-84, 208 p.

Schmidt, R.D. and G.A. Hnell, 1983, "A Fracture Dewatering Approach to Controlling Ground Water Infiltration in Underground Coal Mines," Interim Report of U.S. Bureau of Mines, 55 p.

Siplivy, W.J., 1992, Probable Hydrologic Consequences, The Ohio Valley Coal Company Powhatan No. 6 Mine, Permit Application D-0360-2.

Stoner, T.D., 1983, "Probable Hydrologic Effects of Subsurface Mining," Ground Water Monitoring Review, Vol. 3, No. 1, pp. 128-137.

Waite, B.A., 1987, Probable Hydrologic Consequences, The Ohio Valley Coal Company Powhatan No. 6 Mine, Permit Application R-0360-1.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-2

State Plane Coords: X2430539.19 Y731089.68 Surface Elevation 1085

LITHOLOGY	H20*	THICKNESS	PHYSICAL PROPERTIES
CASING		20.00	
SHALE		0.95	COMP
SANDSTONE		0.80	ALK, HARD
SHALE		1.80	COMP
LIMESTONE		1.75	ALK
SHALE		3.92	COMP
SHALE		0.31	COMP, EROD
SHALE		1.92	ALK, COMP, EROD
SHALE		1.78	COMP, EROD
(CORE LOST)		3.30	
SILTSTONE		0.65	COMP, EROD
SHALE		1.35	COMP, EROD
SANDSTONE		1.12	HARD
SHALE		0.35	COMP, EROD
SHALE		1.45	COMP
SANDSTONE		0.20	HARD
SHALE		1.88	COMP, HARD
SANDSTONE		1.20	HARD
SHALE		2.20	COMP, HARD
SANDSTONE		1.20	HARD
SHALE		2.89	COMP, HARD
SANDSTONE		0.12	HARD
SHALE		0.88	COMP, HARD
SHALE		1.10	COMP
SHALE		0.82	COMP, HARD
SHALE		0.30	COMP
COAL (NO. 11)		**3.04**	AC, EROD
SANDSTONE		0.05	HARD
SHALE		0.30	COMP, EROD
SHALE		2.37	COMP, EROD
SHALE		6.39	ALK, COMP
SANDSTONE		2.40	ALK, HARD
LIMESTONE		11.41	ALK
SHALE		15.07	COMP
COAL (NO. 10)		**2.76**	AC, EROD
SHALE		0.17	COMP
LIMESTONE		1.80	ALK
SHALE		1.70	COMP
CLAYSTONE	*	2.65	COMP, EROD
SHALE		4.62	ALK, COMP

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-2

State Plane Coords: X2430539.19 Y731089.68 Surface Elevation 1085

LITHOLOGY	H20*	THICKNESS	PHYSICAL PROPERTIES
CLAYSTONE	*	1.50	COMP, EROD
SILTSTONE		1.30	COMP, EROD
SHALE		0.60	COMP
SANDSTONE		1.20	HARD
SHALE		6.43	COMP
CLAYSTONE		1.35	ALK, COMP, EROD
LIMESTONE		10.12	ALK
CLAYSTONE	*	0.25	ALK, COMP, EROD
LIMESTONE		6.75	ALK
CLAYSTONE		7.23	ALK, COMP, EROD
LIMESTONE		4.00	ALK
CLAYTONE	*	0.55	ALK, COMP, EROD
CLAYSTONE		3.70	ALK, COMP, EROD
LIMESTONE		4.85	ALK
CLAYSTONE		1.20	COMP, EROD
LIMESTONE		20.40	ALK
LIMESTONE		6.20	ALK
LIMESTONE		3.60	ALK
CLAYSTONE		1.05	ALK, COMP, EROD
LIMESTONE		8.75	ALK
LIMESTONE		3.35	ALK
LIMESTONE		0.95	ALK, COMP
LIMESTONE		0.17	ALK
SHALE		4.52	COMP, EROD
COAL (N0. 9)		3.90	AC, EROD
SHALE		1.44	COMP, EROD
LIMESTONE		1.80	ALK, COMP
LIMESTONE		3.87	ALK
LIMESTONE		1.90	ALK
SHALE		10.60	ALK, COMP, EROD
LIMESTONE		0.30	ALK
SHALE		0.67	COMP, EROD
LIMESTONE		0.95	ALK
SHALE		0.45	COMP, EROD
SHALE		0.80	AC, COMP, EROD
SHALE		0.70	ALK, COMP, EROD
LIMESTONE		14.73	ALK
CLAYSTONE		1.25	ALK, COMP, EROD
LIMESTONE		4.38	ALK
CLAYSTONE		0.62	ALK, COMP, EROD

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-2

State Plane Coords: X2430539.19 Y731089.68 Surface Elevation 1085

LITHOLOGY	H20*	THICKNESS	PHYSICAL PROPERTIES
LIMESTONE		2.65	ALK
LIMESTONE		2.95	ALK
CLAYSTONE		2.35	ALK, COMP, EROD
LIMESTONE		1.70	ALK
CLAYSTONE		1.10	ALK, COMP, EROD
CLAYSTONE		1.50	ALK, COMP, EROD
SHALE		2.40	COMP, EROD
LIMESTONE		8.00	ALK
LIMESTONE		3.15	ALK
SHALE		0.63	ALK, COMP, EROD
LIMESTONE		1.40	ALK
SHALE		0.75	ALK, COMP, EROD
LIMESTONE		0.17	ALK
CLAYSTONE		2.10	ALK, COMP, EROD
SHALE		1.80	ALK, COMP, EROD
CLAYSTONE		3.10	COMP, EROD
CLAYSTONE		0.80	COMP, EROD
COAL (NO. 8)		7.12	AC, EROD
CLAYSTONE		4.78	ALK, COMP, EROD
SHALE		2.20	ALK, COMP, EROD
CLAYSTONE		2.00	COMP, EROD

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam

Stratum	Total Sulfur %	Pyrite Sulfur %	Potential Acidity Mg/l as CaCO3	Neutralization Potential (/1000 Tons)	CaCO3 Deficiency (/1000 Tons)
Roof	1.26	0.87	39.4	351	-312
Coal	4.73	2.30	148	10.78	137.22
Bottom	1.86	1.56	58.1	451	-393

Legend:
AC = ACID PRODUCING
ALK = ALKALINE PRODUCING
COMP = COMPACTIBLE
EROD = ERODIBLE

* – Indicates water bearing stratum under column labelled H2O

Stratum thickness is measured in feet.

DIAMOND DRILL HOLE N94-1

GEOLOGIST: HOMER McEVERS

ELEVATION: 1195.00 (ALTIMETER)

COORDINATES:N -9450.67, E -62828.48 (NOT SURVEYED)

TOWNSHIP: SMITH

SECTION: 22, NW 1/4

COUNTY: BELMONT

SURF. OWNER: R. RICE

DATE STARTED: 6/21/94

DATE FINISHED: 6/23/94

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
20.00	CASING	20.00	1175.00
5.35	SILTSTONE, LT. BROWN, CALC, SOFT, WEATHERED	25.35	1169.65
4.65	SHALE, GRAY, CALCAREOUS, SOFT	30.00	1165.00
4.75	LIMESTONE, WITH IRON STAINS, GRAY, MEDIUM	34.75	1160.25
5.25	LIMESTONE, GRAY, MEDIUM	40.00	1155.00
5.40	SHALE, GRAY, MEDIUM	45.40	1149.60
2.64	SHALE, W/IRON STAINS, MEDIUM	48.04	1146.96
1.50	SHALE, GRAY, MEDIUM	49.54	1145.46
1.30	SHALE, GRAY, MEDIUM/HARD	50.84	1144.16
1.25	SHALE, GRAY, BROKEN W/IRON STAINS, MEDIUM	52.09	1142.91
2.30	SHALE, GRAY, MEDIUM	54.39	1140.61
1.65	LIMESTONE, GRAY, HARD	56.04	1138.96
1.52	SHALE, GRAY, MEDIUM	57.56	1137.44
0.32	LIMESTONE, GRAY, HARD	57.88	1137.12
1.42	SHALE, GRAY, LAMINATED, MEDIUM	59.30	1135.70
0.70	SHALE, GRAY, MEDIUM	60.00	1135.00
2.10	LIMESTONE, GRAY, HARD	62.10	1132.90
8.20	SHALE, GRAY, MEDIUM	70.30	1124.70
1.10	SHALE, GRAY, BROKEN, MEDIUM	71.40	1123.60
3.40	**0.50 BONE COAL (NO. 12)**	74.80	1120.20
	2.80 COAL		
	0.10 BONE COAL		
5.20	SHALE, GRAY. LAMINATED, SOFT	80.00	1115.00
2.85	SHALE, LAMINATED, SOFT	82.85	1112.15
0.82	COAL	83.67	1111.33
0.25	SHALE, BLACK, LAMINATED, SOFT	83.92	1111.08
6.85	SHALE, CALCAREOUS, MEDIUM, GRAY	90.77	1104.23
5.30	SANDSTONE, GRAY W/LS NODULES, HARD	96.07	1098.93
3.93	SANDSTONE, GRAY, HARD	100.00	1095.00
14.42	SANDSTONE, GRAY, MEDIUM, CALCAREOUS, LAMINATED	114.42	1080.58
2.85	LIMESTONE, GRAY, HARD	117.27	1077.73
0.46	LIMESTONE, LIGHT BROWN, HARD	117.73	1077.27
2.01	CLAYSTONE, CALCAREOUS, GRAY, BROKEN, SOFT	119.74	1075.26
5.19	CLAYSTONE, GRAY, SOFT	124.93	1070.07
2.38	SHALE, CALCAREOUS, MEDIUM, GRAY	127.31	1067.69
3.90	LIMESTONE, GRAY, MEDIUM	131.21	1063.79
4.29	SHALE, GRAY, MEDIUM, W/LIMESTONE NODULES	135.50	1059.50
0.90	SANDSTONE, GRAY, HARD, LAMINATED	136.40	1058.60
1.16	SHALE, SANDY, GRAY, LAMINATED, MEDIUM	137.56	1057.44
2.70	SANDSTONE, CALCAREOUS, HARD, GRAY	140.26	1054.74
5.44	SANDSTONE, HARD, GRAY, LAMINATED	145.70	1049.30

TOVCC 10298

(Continued)

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
0.92	SHALE, GRAY, SOFT	146.62	1048.38
0.77	CLAYSTONE, GRAY, LAMINATED, SOFT	147.39	1047.61
0.59	SHALE, GRAY, LAMINATED, SOFT	147.98	1047.02
0.50	SHALE, BLACK, SOFT	148.48	1046.52
0.20	SHALE, GRAY, MEDIUM	148.68	1046.32
4.26	LIMESTONE, GRAY, W/SANDSTONE STREAKS, HARD	152.94	1042.06
3.62	SANDSTONE, LS NODULES, LAM. W/SHALE, GRAY, HARD	156.56	1038.44
1.71	SHALE, GRAY, LAMINATED, SOFT	158.27	1036.73
0.14	CLAYSTONE, DARK GRAY, SOFT	158.41	1036.59
0.32	LIMESTONE, LIGHT GRAY, HARD	158.73	1036.27
3.45	CLAYSTONE, GRAY, SOFT, CALCAREOUS	162.18	1032.82
0.58	SHALE, W/SANDSTONE STREAKS, CALCAREOUS, GRAY, MEDIUM	162.76	1032.24
6.28	SANDSTONE, GRAY, LAMINATED, CALCAREOUS	169.04	1025.96
0.75	CLAYSTONE, GRAY, CALCAREOUS, SOFT	169.79	1025.21
10.98	SHALE, GRAY, SOFT	180.77	1014.23
3.41	**0.18 BONE COAL (NO. 11)**	**184.18**	**1010.82**
	3.23 COAL, W/PYRITE STREAKS		
11.69	CLYSTN, GRAY, SOFT, W/COAL STREAKS, CALC, BROKEN	195.87	999.13
4.10	LIMESTONE, GREEN, HARD	199.97	995.03
7.10	SHALE, GREEN, SANDY, W/LIMESTONE NODULES, SOFT	207.07	987.93
4.37	SANDSTONE, GRAY, LAMINATED, HARD	211.44	983.56
0.98	SHALE, GRAY, LAMINATED, SOFT	212.42	982.58
1.57	SANDSTONE, GRAY, LAMINATED, HARD	213.99	981.01
5.81	SHALE, SANDY, LAMINATED	219.80	975.20
2.59	SHALE, GRAY	222.39	972.61
2.86	**2.00 COAL (NO. 10)**	**225.25**	**969.75**
	0.15 CLAYSTONE, GRAY		
	0.71 COAL		
2.26	CLAYSTONE, GRAY, CALCAREOUS, SOFT	227.51	967.49
0.32	SANDSTONE, GRAY, CALCAREOUS, HARD	227.83	967.17
3.28	CLAYSTONE, GRAY, BROKEN, SOFT	231.11	963.89
8.26	CLAYSTONE, CALCAREOUS, GRAY, SOFT	239.37	955.63
0.34	SHALE, GRAY, MEDIUM	239.71	955.29
2.55	SHALE, GREEN, MEDIUM, CALCAREOUS, LAMINATED	242.26	952.74
1.48	SAND STONE, GRAY, HARD, CALCAREOUS, LAMINATED	243.74	951.26
2.33	SHALE, GRAY, SOFT, CALCAREOUS	246.07	948.93
0.62	CLAYSTONE, GRAY, SOFT, CALCAREOUS	246.69	948.31
5.40	SHALE, GRAY, MEDIUM, CALCAREOUS	252.09	942.91
6.20	LIMESTONE, GRAY, HARD	258.29	936.71
0.64	CLAYSTONE, GRAY, SOFT, CALCAREOUS	258.93	936.07
0.33	SHALE, GRAY, LAMINATED, CALCAREOUS, SOFT	259.26	935.74
0.74	SHALE, GRAY, LAMINATED, CALCAREOUS, SOFT	260.00	935.00
0.60	LIMESTONE, GRAY, HARD	260.60	934.40
1.98	SHALE, GRAY, SOFT, LAMINATED, CALCAREOUS	262.58	932.42
1.83	LIMESTONE, GRAY, HARD	264.41	930.59
2.35	CLAYSTONE, GRAY, CALCAREOUS, SOFT	266.76	928.24

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
0.36	LIMESTONE, GRAY, HARD	267.12	927.88
3.08	CLAYSTONE, GRAY, CALCAREOUS, SOFT	270.20	924.80
1.62	SHALE, CALCAREOUS, GRAY, MEDIUM	271.82	923.18
3.11	LIMESTONE, GRAY, JOINTED, HARD	274.93	920.07
0.33	CLAYSTONE, GRAY, SOFT	275.26	919.74
1.57	LIMESTONE, GRAY, HARD	276.83	918.17
0.44	CLAYSTONE, GREEN, SOFT	277.27	917.73
0.90	LIMESTONE, GRAY, HARD	278.17	916.83
1.32	SILTSTONE, MEDIUM, GREEN, LAMINATED	279.49	915.51
0.78	SILTSTONE, GREEN, LAMINATED, SOFT	280.27	914.73
4.81	LIMESTONE, GRAY, HARD	285.08	909.92
1.24	SILTSTONE, SOFT, GREEN	286.32	908.68
13.09	LIMESTONE, GRAY, HARD	299.41	895.59
2.99	LIMESTONE, GRAY, MEDIUM	302.40	892.60
0.72	GREEN, CLAYSTONE, SOFT, CALCAREOUS	303.12	891.88
1.17	LIMESTONE, GRAY, MEDIUM	304.29	890.71
0.58	GREEN CLAYSTONE, SOFT	304.87	890.13
1.39	SHALE, CALCAREOUS, SOFT, GRAY	306.26	888.74
6.20	LIMESTONE, GRAY, LAMINATED	312.46	882.54
0.98	SHALE, GRAY, W/ LIMESTONE NODULES	313.44	881.56
4.05	LIMESTONE, MEDIUM, GRAY, LAMINATED	317.49	877.51
0.92	GREEN SHALE, CALCAREOUS, MEDIUM	318.41	876.59
0.19	GRAY SHALE, LAMINATED, CALCAREOUS, HARD	318.60	876.40
14.10	GRAY LIMESTONE, HARD	332.70	862.30
2.69	GRAY CLAYSTONE, SOFT	335.39	859.61
0.24	GRAY SHALE, SOFT	335.63	859.37
3.85	**COAL (NO. 9), SS PARTINGS W/PYRITE**	**339.48**	**855.52**
0.10	GRAY CLAYSTONE, SOFT	339.58	855.42
1.05	SHALE, BLACK, SOFT	340.63	854.37
4.63	LIMESTONE, GRAY, MEDIUM, LAMINATED	345.26	849.74
1.75	LIMESTONE, WHITE, HARD	347.01	847.99
3.84	LIMESTONE, GRAY, MEDIUM, LAMINATED	350.85	844.15
1.50	SHALE, GRAY SOFT	352.35	842.65
2.96	SHALE, GRAY, SOFT, LAMINATED, CALCAREOUS	355.31	839.69
0.13	CLAYSTONE, GRAY, SOFT, CALCAREOUS	355.44	839.56
1.94	SILTSTONE, GRAY, SOFT, LAMINATED, CALCAREOUS	357.38	837.62
0.90	GRAY, SHALE, SOFT	358.28	836.72
0.38	WHITE LIMESTONE, HARD	358.66	836.34
0.80	GRAY CLAYSTONE, SOFT, CALCAREOUS,	359.46	835.54
0.81	LIMESTONE, GRAY, MEDIUM	360.27	834.73
0.95	GRAY CLAYSTONE, SOFT	361.22	833.78
0.23	COAL	361.45	833.55
0.63	SHALE, GRAY, LAMINATED, CALCAREOUS, SOFT	362.08	832.92
3.02	LIMESTONE, GRAY, HARD	365.10	829.90
0.40	SHALE, BLACK, SOFT	365.50	829.50
0.75	LIMESTONE, GRAY, HARD	366.25	828.75

(Continued)

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
0.05	SHALE, BLACK, SOFT	366.30	828.70
7.45	LIMESTONE, GRAY, HARD	373.75	821.25
0.54	SHALE, CALCAREOUS, HARD, GRAY, LAMINATED	374.29	820.71
0.70	CLAYSTONE, GRAY, SOFT	374.99	820.01
2.70	LIMESTONE, LIGHT GRAY, HARD	377.69	817.31
1.03	SHALE, GREY, LAMINATED, SOFT	378.72	816.28
1.42	LIMESTONE, LIGHT GRAY, HARD	380.14	814.86
0.50	LIMESTONE, GRAY, HARD, LAMINATED	380.64	814.36
1.87	LIMESTONE, LIGHT GRAY	382.51	812.49
0.65	CLAYSTONE, GREEN, SOFT	383.16	811.84
4.39	LIMESTONE, GRAY, HARD	387.55	807.45
1.87	CLAYSTONE, GREEN, SOFT, CALCAREOUS	389.42	805.58
0.76	SHALE, CALCAREOUS, GRAY, MEDIUM	390.18	804.82
2.98	LIMESTONE, LIGHT GRAY, HARD	393.16	801.84
2.46	CLAYSTONE, GREEN, SOFT, CALCAREOUS	395.62	799.38
1.17	SHALE, BLACK, SOFT, CARBONACEOUS	396.79	798.21
0.51	CLAYSTONE, GREY, SOFT	397.30	797.70
1.32	SHALE, DARK GREY, SOFT	398.62	796.38
0.49	SHALE, CARBONACEOUS, SOFT	399.11	795.89
11.78	LIMESTONE, LIGHT GRAY, HARD	410.89	784.11
0.72	GREEN CLAYSTONE, SOFT, CALCAREOUS	411.61	783.39
1.16	LIMESTONE, LIGHT GRAY, LAMINATED	412.77	782.23
1.30	CLAYSTONE, GREEN, SOFT	414.07	780.93
0.42	LIGHT GRAY LIMESTONE, HARD	414.49	780.51
0.55	GREEN CLAYSTONE, SOFT	415.04	779.96
0.35	LIMESTONE, LIGHT GRAY, HARD	415.39	779.61
0.05	GREEN CLAYSTONE, SOFT	415.44	779.56
0.35	LIMESTONE, LIGHT GRAY, HARD	415.79	779.21
4.33	CLAYSTONE, GREEN, LAMINATED, SOFT W/SLICKENSIDES	420.12	774.88
0.55	SHALE, DARK GREY, LAMINATED, SOFT	420.67	774.33
7.53	**0.99 ROOF COAL (NO. 8) W/SULFUR STREAKS**	**428.20**	**766.80**
	0.90 CLAYSTONE, GRAY		
	5.64 COAL W/SULFUR STREAKS		
0.38	SHALE, CALCAREOUS, LAMINATED, GRAY, SOFT	428.58	766.42
1.39	SHALE, CALCAREOUS, DARK GRAY, SOFT	429.97	765.03
0.50	LIMESTONE, LIGHT GRAY, HARD	430.47	764.53
0.66	SHALE, DARK GRAY, SOFT	431.13	763.87
0.16	CLAYSTONE, GRAY, SOFT	431.29	763.71
0.74	LIMESTONE, GRAY, HARD	432.03	762.97
0.64	SHALE, GRAY, SOFT	432.67	762.33
1.60	LIMESTONE, GRAY, HARD	434.27	760.73
1.70	SHALE, W/LIMESTONE NODULES, GRAY, MEDIUM	435.97	759.03
3.10	LIMESTONE, GRAY, LAMINATED, HARD	439.07	755.93
1.07	LIMESTONE, GREEN, HARD	440.14	754.86

TOVCC 10301

AMOUNT OF HARD ROCK ABOVE NO. 8 SEAM

HARD ROCK: 205.71 FT (48.9%) OF CORE

SOFT ROCK: 214.96 FT. (51.1%) OF CORE

PROJECTED AQUIFERS:

1. 30.00 TO 34.75 (MINOR)
2. 45.40 TO 52.09 (MINOR)

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-94-1 DRILLER: HOWARD SALISBURY

DRILLING FOR: THE OHIO VALLEY COAL COMPANY
ALLEDONIA OHIO

SURFACE ELEVATION: STARTED: JUNE 21 1994
COMPLETED: JUNE 23 1994

LOCATION: OHIO BELMONT COUNTY

FORMATION	STRATA THICKNESS	DEPTH FROM SURFACE
CASING	20.00	20.00
LIMESTONE AND SHALE	15.00	35.00
GREEN LIMY SHALE	20.00	55.00
LIMESTONE AND SHALE	6.00	61.00
GREENISH LIMY SHALE	9.70	70.70
DARK SHALE	0.70	71.40
COAL	3.40	74.80
GRAY SHALE	4.20	79.00
DARK SHALE WITH SANDSTONE STREAKS	3.80	82.80
LAMINATED COAL	1.10	83.90
GREENISH LIMY SHALE	6.10	90.00
SANDSTONE	28.00	118.00
GREEN LIMY SHALE	10.00	128.00
GREEN LIMY SANDY SHALE	10.00	138.00
SANDSTONE WITH SHALE STREAKS	6.50	144.50
GREENISH LIMY SANDY SHALE	13.50	158.00
LIMESTONE WITH SHALE BANDS	3.00	161.00
SANDSTONE WITH SHALE STREAKS	7.60	168.60
GREENISH SANDY LIMY SHALE	10.60	179.20
DARK SHALE	0.40	179.60
COAL	3.15	182.75
GRAY LIMY SHALE	7.25	190.00
GREEN LIMY SHALE	10.00	200.00
GREEN SANDY SHALE	7.00	207.00

TOVCC 10303

HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-1

FORMATION	STRATA THICKNESS	207.00 DEPTH FROM SURFACE
SANDSTONE WITH SHALE STREAKS	9.00	216.00
GRAY SANDY SHALE	6.60	222.60
COAL	2.00	224.60
GRAY SHALE	0.20	224.80
COAL	0.70	225.50
GRAY LIMY SHALE	13.50	239.00
GREEN SHALE	8.00	247.00
LIMESTONE WITH SHALE BANDS	86.20	333.20
GRAY CLAYSTONE	2.80	336.00
COAL	1.90	337.90
GRAY SHALE	0.45	338.35
COAL	1.50	339.85
GRAY SHALE	1.65	341.50
LIMESTONE WITH SHALE	6.50	348.00
DARK SHALE	11.00	359.00
LIMESTONE WITH SHALE BANDS	34.20	393.20
GREENISH CLAYSTONE	2.40	395.60
BLACK SHALE	0.60	396.20
GRAY SHALE	2.80	399.00
LIMESTONE WITH SHALE BANDS	16.70	415.70
CLAYSTONE	4.85	420.55
COAL	1.00	421.55
CLAYSTONE	0.90	422.45
COAL	5.64	428.09
LIMESTONE WITH SHALE BANDS	7.81	435.90
SANDY SHALE	2.50	438.40
LIMY SHALE	1.60	440.00

TOTAL DEPTH OF HOLE = 440.00 FEET

16 BAGS CEMENT PLACED IN HOLE

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-94-1 DRILLER: HOWARD SALISBURY

DRILLING FOR: THE OHIO VALLEY COAL COMPANY
ALLEDONIA OHIO

SURFACE ELEVATION: STARTED: JUNE 21 1994
COMPLETED: JUNE 23 1994

LOCATION: OHIO BELMONT COUNTY

FORMATION	STRATA THICKNESS	DEPTH FROM SURFACE
CASING	20.00	20.00
LIMESTONE AND SHALE	15.00	35.00
GREEN LIMY SHALE	20.00	55.00
LIMESTONE AND SHALE	6.00	61.00
GREENISH LIMY SHALE	9.70	70.70
DARK SHALE	0.70	71.40
COAL	3.40	74.80
GRAY SHALE	4.20	79.00
DARK SHALE WITH SANDSTONE STREAKS	3.80	82.80
LAMINATED COAL	1.10	83.90
GREENISH LIMY SHALE	6.10	90.00
SANDSTONE	28.00	118.00
GREEN LIMY SHALE	10.00	128.00
GREEN LIMY SANDY SHALE	10.00	138.00
SANDSTONE WITH SHALE STREAKS	6.50	144.50
GREENISH LIMY SANDY SHALE	13.50	158.00
LIMESTONE WITH SHALE BANDS	3.00	161.00
SANDSTONE WITH SHALE STREAKS	7.60	168.60
GREENISH SANDY LIMY SHALE	10.60	179.20
DARK SHALE	0.40	179.60
COAL	3.15	182.75
GRAY LIMY SHALE	7.25	190.00
GREEN LIMY SHALE	10.00	200.00
GREEN SANDY SHALE	7.00	207.00

TOVCC 10305

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-1

FORMATION	STRATA THICKNESS	207.00 DEPTH FROM SURFACE
SANDSTONE WITH SHALE STREAKS	9.00	216.00
GRAY SANDY SHALE	6.60	222.60
COAL	2.00	224.60
GRAY SHALE	0.20	224.80
COAL	0.70	225.50
GRAY LIMY SHALE	13.50	239.00
GREEN SHALE	8.00	247.00
LIMESTONE WITH SHALE BANDS	86.20	333.20
GRAY CLAYSTONE	2.80	336.00
COAL	1.90	337.90
GRAY SHALE	0.45	338.35
COAL	1.50	339.85
GRAY SHALE	1.65	341.50
LIMESTONE WITH SHALE	6.50	348.00
DARK SHALE	11.00	359.00
LIMESTONE WITH SHALE BANDS	34.20	393.20
GREENISH CLAYSTONE	2.40	395.60
BLACK SHALE	0.60	396.20
GRAY SHALE	2.80	399.00
LIMESTONE WITH SHALE BANDS	16.70	415.70
CLAYSTONE	4.85	420.55
COAL	1.00	421.55
CLAYSTONE	0.90	422.45
COAL	5.64	428.09
LIMESTONE WITH SHALE BANDS	7.81	435.90
SANDY SHALE	2.50	438.40
LIMY SHALE	1.60	440.00

TOTAL DEPTH OF HOLE = 440.00 FEET

16 BAGS CEMENT PLACED IN HOLE

TOVCC 10306

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94–1

State Plane Coords: X2426439.59 Y730558.99 Surface Elevation 1195

LITHOLOGY	H2O*	THICKNESS	PHYSICAL PROPERTIES
CASING		20.00	
SILTSTONE		5.35	ALK, COMP, EROD
SHALE		4.65	ALK, COMP, EROD
LIMESTONE	*	4.75	ALK
LIMESTONE		5.25	ALK
SHALE		5.40	COMP, EROD
SHALE	*	2.64	COMP, EROD
SHALE		1.50	COMP
SHALE		1.30	COMP
SHALE	*	1.25	COMP, EROD
SHALE		2.30	COMP
LIMESTONE		1.65	ALK
SHALE		1.52	COMP, EROD
LIMESTONE		0.32	ALK
SHALE		1.42	COMP
SHALE		0.70	COMP
LIMESTONE		2.10	ALK
SHALE		8.20	COMP
SHALE		1.10	COMP
COAL (NO. 12)		3.40	AC, EROD
SHALE		5.20	COMP, EROD
SHALE		2.85	COMP, EROD
COAL		0.82	COMP, EROD
SHALE		0.25	COMP, EROD
SHALE		6.85	ALK, COMP
SANDSTONE		5.30	ALK
SANDSTONE		3.93	HARD
SANDSTONE		14.42	ALK
LIMESTONE		2.85	ALK
LIMESTONE		0.46	ALK
CLAYSTONE		2.01	ALK, COMP, EROD
CLAYSTONE		5.19	COMP, EROD
SHALE		2.38	ALK, COMP, EROD
LIMESTONE		3.90	ALK
SHALE		4.29	ALK, COMP
SANDSTONE		0.90	HARD
SHALE		1.16	COMP
SANDSTONE		2.70	ALK
SANDSTONE		5.44	HARD
SHALE		0.92	COMP, EROD

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94–1

State Plane Coords: X2426439.59 Y730558.99 Surface Elevation 1195

LITHOLOGY	H2O*	THICKNESS	PHYSICAL PROPERTIES
SHALE		0.59	COMP, EROD
SHALE		0.50	COMP, EROD
SHALE		0.20	COMP, EROD
LIMESTONE		4.26	ALK
SANDSTONE		3.62	ALK, EROD
SHALE		1.71	COMP, EROD
CLAYSTONE		0.14	COMP, EROD
LIMESTONE		0.32	ALK
CLAYSTONE		3.45	ALK, COMP, EROD
SHALE		0.58	ALK, COMP
SANDSTONE		6.28	ALK
CLAYSTONE		0.75	ALK, COMP, EROD
SHALE		10.98	COMP, EROD
COAL (NO. 11)		3.41	AC, EROD
CLAYSTONE		11.69	ALK, COMP, EROD
LIMESTONE		4.10	ALK
SHALE		7.10	ALK, COMP, EROD
SANDSTONE		4.37	HARD
SHALE		0.98	COMP, EROD
SANDSTONE		1.57	HARD
SHALE		5.81	COMP, EROD
SHALE		2.59	COMP, EROD
COAL (NO. 10)		2.86	AC, EROD
CLAYSTONE		2.26	ALK, COMP, EROD
SANDSTONE		0.32	ALK
CLAYSTONE		3.28	COMP, EROD
CLAYSTONE		8.26	ALK, COMP, EROD
SHALE		0.34	COMP
SHALE		2.55	ALK, COMP
SANDSTONE		1.48	ALK
SHALE		2.33	ALK, COMP, EROD
CLAYSTONE		0.62	ALK, COMP, EROD
SHALE		5.40	ALK, COMP
LIMESTONE		6.20	ALK
CLAYSTONE		0.64	ALK, COMP, EROD
SHALE		0.33	ALK, COMP, ALK
SHALE		0.74	ALK, COMP, EROD
LIMESTONE		0.60	ALK
SHALE		1.98	ALK, COMP, EROD
LIMESTONE		1.83	ALK

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94–1

State Plane Coords: X2426439.59 Y730558.99 Surface Elevation 1195

LITHOLOGY	H2O*	THICKNESS	PHYSICAL PROPERTIES
CLAYSTONE		2.35	ALK, COMP, EROD
LIMESTONE		0.36	ALK
CLAYSTONE		3.08	ALK, COMP, EROD
SHALE		1.62	ALK, COMP
LIMESTONE		3.11	ALK
CLAYSTONE		0.33	COMP, EROD
LIMESTONE		1.57	ALK
CLAYSTONE		0.44	COMP, EROD
LIMESTONE		0.90	ALK
SILTSTONE		1.32	COMP, EROD
SILTSTONE		0.78	COMP, EROD
LIMESTONE		4.81	ALK
SILTSTONE		1.24	COMP, EROD
LIMESTONE		13.09	ALK
LIMESTONE		2.99	ALK
CLAYSTONE		0.72	ALK, COMP, EROD
LIMESTONE		1.17	ALK
CLAYSTONE		0.58	COMP, EROD
SHALE		1.39	ALK, COMP, EROD
LIMESTONE		6.20	ALK
SHALE		0.98	ALK, COMP, EROD
LIMESTONE		4.05	ALK
SHALE		0.92	ALK, COMP
SHALE		0.19	ALK
LIMESTONE		14.10	ALK
CLAYSTONE		2.69	COMP, EROD
SHALE		0.24	COMP, EROD
COAL (NO. 9)		3.85	AC, EROD
CLAYSTONE		0.10	COMP, EROD
SHALE		1.05	COMP, EROD
LIMESTONE		4.63	ALK
LIMESTONE		1.75	ALK
LIMESTONE		3.84	ALK
SHALE		1.50	COMP, EROD
SHALE		2.96	ALK, COMP, EROD
CLAYSTONE		0.13	ALK, COMP, EROD
SILTSTONE		1.94	ALK, COMP, EROD
SHALE		0.90	COMP, EROD
LIMESTONE		0.38	ALK
CLAYSTONE		0.80	ALK, COMP, EROD

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-1

State Plane Coords: X2426439.59 Y730558.99 Surface Elevation 1195

LITHOLOGY	H2O*	THICKNESS	PHYSICAL PROPERTIES
LIMESTONE		0.81	ALK, COMP
CLAYSTONE		0.95	COMP, EROD
COAL		0.23	AC, EROD
SHALE		0.63	ALK, COMP, EROD
LIMESTONE		3.02	ALK
SHALE		0.40	COMP, EROD
LIMESTONE		0.75	ALK
SHALE		0.05	COMP, EROD
LIMESTONE		7.45	ALK
SHALE		0.54	ALK, COMP
CLAYSTONE		0.70	COMP, EROD
LIMESTONE		2.70	ALK
SHALE		1.03	COMP, EROD
LIMESTONE		1.42	ALK
LIMESTONE		0.50	ALK
LIMESTONE		1.87	ALK
CLAYSTONE		0.65	COMP, EROD
LIMESTONE		4.39	ALK
CLAYSTONE		1.87	ALK, COMP, EROD
SHALE		0.76	ALK, COMP
LIMESTONE		2.98	ALK
CLAYSTONE		2.46	ALK, COMP, EROD
SHALE		1.17	ALK, COMP, EROD
CLAYSTONE		0.51	COMP, EROD
SHALE		1.32	COMP, EROD
SHALE		0.49	AC, COMP, EROD
LIMESTONE		11.78	ALK
CLAYSTONE		0.72	ALK, COMP, EROD
LIMESTONE		1.16	ALK
CLAYSTONE		1.30	COMP, EROD
LIMESTONE		0.42	ALK
CLAYSTONE		0.55	COMP, EROD
LIMESTONE		0.35	ALK
CLAYSTONE		0.05	COMP, EROD
LIMESTONE		0.35	ALK
CLAYSTONE		4.33	COMP, EROD
SHALE		0.55	COMP, EROD
COAL (NO. 8)		7.53	AC, EROD
SHALE		0.38	ALK, COMP, EROD
SHALE		1.39	ALK, COMP, EROD

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-1

State Plane Coords: X2426439.59 Y730558.99 Surface Elevation 1195

LITHOLOGY	H2O*	THICKNESS	PHYSICAL PROPERTIES
LIMESTONE		0.50	ALK
SHALE		0.66	COMP, EROD
CLAYSTONE		0.16	COMP, EROD
LIMESTONE		0.74	ALK
SHALE		0.64	COMP, EROD
LIMESTONE		1.60	ALK
SHALE		1.70	ALK, COMP
LIMESTONE		3.10	ALK
LIMESTONE		1.07	ALK

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam

Stratum	Total Sulfur %	Pyrite Sulfur %	Potential Acidity Mg/l as CaCO3	Neutralization Potential (/1000 Tons)	CaCO3 Deficiency (/1000 Tons)
Roof	1.55	1.08	48.4	318	-270
Coal	5.44	2.64	170	10.43	159
Bottom	1.44	0.99	45.0	647	-602

Legend:
AC = ACID PRODUCING
ALK = ALKALINE PRODUCING
COMP = COMPACTIBLE
EROD = ERODIBLE

* – Indicates water bearing stratum under column labelled H2O

Stratum thickness is measured in feet.

STATE PLANE COORDS.
X 2,433,446.93
Y 735,187.73

THE OHIO VALLEY COAL COMPANY
TEST HOLE N96-01

DRILLED 07/31/96 **BY L. J. HUGHES, DAN HAMRICK**
COORDINATES:-59850W, -5400S **ELEVATION: 1197 (ALTIMETER)**

ELEVATION	THICKNESS	DEPTH	STRATA
1044.67	2.25	152.33	GRAY AND BLACK SHALE - VERY CARBONACEOUS AT BASE
1043.17	1.50	153.83	GRAY SHALE W/LIMESTONE NODULES
1041.92	1.25	155.08	LIGHT GRAY SANDSTONE
1035.58	6.33	161.42	GRAY SHALE W/LIMESTONE NODULES
1025.92	9.67	171.08	GRAY SILTSTONE W/7" OF SANDSTONE AT BASE
1022.00	3.92	175.00	GRAY SHALE W/4" OF BLACK CARBONACEOUS SHALE AT BASE
1018.58	3.42	**178.42**	**COAL - NO. 11 - W/1/8" PYRITE BANDS;1/2" BONEY COAL; 12-1/2" ABOVE BASE**
1017.46	1.13	179.54	SOFT GRAY SHALE
1017.35	0.10	179.65	BONEY COAL
1015.52	1.83	181.48	GRAY LIMEY SHALE
1009.67	5.85	187.33	FINELY BANDED GRAY LIMEY SHALE
996.50	13.17	200.50	GRAY SILTSTONE
994.67	1.83	202.33	GRAY SHALE
993.54	1.13	203.46	GRAY SANDSTONE
987.38	6.17	209.63	GRAY SHALE
982.71	4.67	214.29	DARK GRAY SHALE
980.88	1.83	**216.13**	**COAL - NO. 10 W/ ABUNDANT PYRITE SEAMS**
980.65	0.23	**216.35**	**COAL - NO. 10 W/ PYRITE AND GRAY SHALE**
980.15	0.50	**216.85**	**COAL - NO. 10 W/PYRITE SEAMS**
980.02	0.13	216.98	DARK SHALE
979.98	0.04	217.02	BONEY COAL
977.06	2.92	219.94	GRAY LIMEY SHALE
967.00	10.06	230.00	GRAY SHALE W/LIMESTONE NODULES
963.17	3.83	233.83	GRAY SILTY SHALE
958.17	5.00	238.83	GRAY SHALE
957.17	1.00	239.83	GRAY LIMEY SHALE
955.17	2.00	241.83	HARD GRAY LIMESTONE
952.83	2.33	244.17	GRAY LIMEY SHALE
946.83	6.00	250.17	HARD GRAY LIMESTONE
944.96	1.88	252.04	GRAY SHALE W/LIMESTONE NODULES
944.04	0.92	252.96	HARD GRAY LIMESTONE
932.50	11.54	264.50	GRAY LIMEY SHALE W/LIMESTONE NODULES
930.33	2.17	266.67	HARD GRAY LIMESTONE
928.92	1.42	268.08	GRAY - GREEN SHALE W/LIMESTONE NODULES
928.00	0.92	269.00	HARD GRAY LIMESTONE
927.63	0.38	269.38	GRAY - GREEN LIMEY SHALE
925.63	2.00	271.38	HARD GRAY - GREEN LIMESTONE
924.25	1.38	272.75	GRAY - GREEN LIMEY SHALE
921.88	2.38	275.13	HARD GRAY LIMESTONE
919.29	2.58	277.71	GRAY LIMEY SHALE
917.00	2.29	280.00	DARK GRAY - GREEN LIMEY SHALE
906.58	10.42	290.42	HARD GRAY LIMESTONE W/MINOR SHALE BANDS
901.42	5.17	295.58	HARD GRAY LIMESTONE
900.58	0.83	296.42	DARK GRAY LIMEY SHALE
899.50	1.08	297.50	HARD GRAY LIMESTONE
897.42	2.08	299.58	GRAY AND DARK GREEN LIMEY SHALE
895.50	1.92	301.50	HARD PINKISH LIMESTONE
894.50	1.00	302.50	GREEN LIMEY SHALE
890.58	3.92	306.42	GREEN LIMEY SHALE W/PINKISH LIMESTONE BANDS
888.83	1.75	308.17	HARD GRAY LIMESTONE
887.71	1.13	309.29	DARK GREEN AND BLACK SHALE
886.71	1.00	310.29	HARD GRAY LIMESTONE
885.50	1.21	311.50	GRAY - GREEN LIMEY SHALE
882.00	3.50	315.00	HARD GRAY LIMESTONE

TOVCC 10312

THE OHIO VALLEY COAL COMPANY
TEST HOLE N96-01

DRILLED 07/31/96 BY L. J. HUGHES, DAN HAMRICK
COORDINATES:-59850W, -5400S ELEVATION: 1197 (ALTIMETER)

ELEVATION	THICKNESS	DEPTH	STRATA
1044.67	2.25	152.33	GRAY AND BLACK SHALE - VERY CARBONACEOUS AT BASE
1043.17	1.50	153.83	GRAY SHALE W/LIMESTONE NODULES
1041.92	1.25	155.08	LIGHT GRAY SANDSTONE
1035.58	6.33	161.42	GRAY SHALE W/LIMESTONE NODULES
1025.92	9.67	171.08	GRAY SILTSTONE W/7" OF SANDSTONE AT BASE
1022.00	3.92	175.00	GRAY SHALE W/4" OF BLACK CARBONACEOUS SHALE AT BASE
1018.58	**3.42**	**178.42**	**COAL - NO. 11 - W/1/8" PYRITE BANDS;1/2" BONEY COAL; 12-1/2" ABOVE BASE**
1017.46	1.13	179.54	SOFT GRAY SHALE
1017.35	0.10	179.65	BONEY COAL
1015.52	1.83	181.48	GRAY LIMEY SHALE
1009.67	5.85	187.33	FINELY BANDED GRAY LIMEY SHALE
996.50	13.17	200.50	GRAY SILTSTONE
994.67	1.83	202.33	GRAY SHALE
993.54	1.13	203.46	GRAY SANDSTONE
987.38	6.17	209.63	GRAY SHALE
982.71	4.67	214.29	DARK GRAY SHALE
980.88	**1.83**	**216.13**	**COAL - NO. 10 W/ ABUNDANT PYRITE SEAMS**
980.65	**0.23**	**216.35**	**COAL - NO. 10 W/ PYRITE AND GRAY SHALE**
980.15	**0.50**	**216.85**	**COAL - NO. 10 W/PYRITE SEAMS**
980.02	0.13	216.98	DARK SHALE
979.98	0.04	217.02	BONEY COAL
977.06	2.92	219.94	GRAY LIMEY SHALE
967.00	10.06	230.00	GRAY SHALE W/LIMESTONE NODULES
963.17	3.83	233.83	GRAY SILTY SHALE
958.17	5.00	238.83	GRAY SHALE
957.17	1.00	239.83	GRAY LIMEY SHALE
955.17	2.00	241.83	HARD GRAY LIMESTONE
952.83	2.33	244.17	GRAY LIMEY SHALE
946.83	6.00	250.17	HARD GRAY LIMESTONE
944.96	1.88	252.04	GRAY SHALE W/LIMESTONE NODULES
944.04	0.92	252.96	HARD GRAY LIMESTONE
932.50	11.54	264.50	GRAY LIMEY SHALE W/LIMESTONE NODULES
930.33	2.17	266.67	HARD GRAY LIMESTONE
928.92	1.42	268.08	GRAY - GREEN SHALE W/LIMESTONE NODULES
928.00	0.92	269.00	HARD GRAY LIMESTONE
927.63	0.38	269.38	GRAY - GREEN LIMEY SHALE
925.63	2.00	271.38	HARD GRAY - GREEN LIMESTONE
924.25	1.38	272.75	GRAY - GREEN LIMEY SHALE
921.88	2.38	275.13	HARD GRAY LIMESTONE
919.29	2.58	277.71	GRAY LIMEY SHALE
917.00	2.29	280.00	DARK GRAY - GREEN LIMEY SHALE
906.58	10.42	290.42	HARD GRAY LIMESTONE W/MINOR SHALE BANDS
901.42	5.17	295.58	HARD GRAY LIMESTONE
900.58	0.83	296.42	DARK GRAY LIMEY SHALE
899.50	1.08	297.50	HARD GRAY LIMESTONE
897.42	2.08	299.58	GRAY AND DARK GREEN LIMEY SHALE
895.50	1.92	301.50	HARD PINKISH LIMESTONE
894.50	1.00	302.50	GREEN LIMEY SHALE
890.58	3.92	306.42	GREEN LIMEY SHALE W/PINKISH LIMESTONE BANDS
888.83	1.75	308.17	HARD GRAY LIMESTONE
887.71	1.13	309.29	DARK GREEN AND BLACK SHALE
886.71	1.00	310.29	HARD GRAY LIMESTONE
885.50	1.21	311.50	GRAY - GREEN LIMEY SHALE
882.00	3.50	315.00	HARD GRAY LIMESTONE

TOVCC 10313

THE OHIO VALLEY COAL COMPANY
TEST HOLE N96-01

DRILLED 07/31/96 **BY L. J. HUGHES, DAN HAMRICK**
COORDINATES:-59850W, -5400S **ELEVATION: 1197 (ALTIMETER)**

ELEVATION	THICKNESS	DEPTH	STRATA
878.33	3.67	318.67	GRAY LIMEY SHALE, CHANGING TO DARK BROWN AT BOTTOM
875.33	3.00	321.67	HARD GRAY- PINK LIMESTONE
872.67	2.67	324.33	SOFT GRAY SHALE W/HARD LIMESTONE BANDS
871.67	1.00	325.33	CORE LOSS
870.00	1.67	327.00	SOFT BROKEN GRAY SHALE
867.67	**2.33**	**329.33**	**COAL - NO. 9**
867.48	**0.19**	**329.52**	**BROWN SHALE AND COAL - NO. 9**
867.35	**0.13**	**329.65**	**COAL - NO. 9**
867.31	**0.04**	**329.69**	**BROWN SHALE AND COAL - NO. 9**
866.06	**1.25**	**330.94**	**COAL - NO. 9**
860.75	5.31	336.25	GRAY SHALE W/MINOR LIMEY ZONES
857.42	3.33	339.58	HARD GRAY LIMESTONE
851.79	5.63	345.21	GRAY BANDED SHALE
850.54	1.25	346.46	GRAY SHALE AND BONEY SHALE
848.79	1.75	348.21	DARK GRAY CARBONACEOUS SHALE
847.58	1.21	349.42	GRAY SHALE AND BONEY SHALE
846.83	0.75	350.17	DARK GRAY SHALE
844.46	2.38	352.54	HARD PINKISH LIMESTONE
843.71	0.75	353.29	DARK GRAY SHALE
843.13	0.58	353.88	BONEY COAL
842.63	0.50	354.38	DARK BONEY SHALE
834.29	8.33	362.71	HARD PINKISH LIMESTONE W/FOUR 1/2" BONEY COAL ZONES
832.08	2.21	364.92	GREEN - GRAY LIMEY SHALE
830.46	1.63	366.54	HARD PINKISH LIMESTONE
830.38	0.08	366.63	CARBONACEOUS SHALE
828.54	1.83	368.46	HARD PINKISH LIMESTONE
826.83	1.71	370.17	DARK GRAY - GREEN LIMEY SHALE
817.08	9.75	379.92	HARD PINKISH LIMESTONE W/SIX, 1" TO 4" BANDS OF CARBONACEOUS SHALE
814.42	2.67	382.58	DARK GREEN - GRAY SHALE W/LIMESTONE NODULES
812.17	2.25	384.83	HARD PINKISH LIMESTONE
809.83	2.33	387.17	SOFT BROKEN DARK GREEN SHALE W/PINKISH LIMESTONE NODULES
809.25	0.58	387.75	CORE LOSS
808.67	0.58	388.33	BONEY COAL AND SHALE
806.42	2.25	390.58	DARK GRAY AND BLACK CARBONACEOUS SHALE
804.75	1.67	392.25	HARD GRAY LIMESTONE W/PINKISH NODULES
804.17	0.58	392.83	DARK GRAY CARBONACEOUS SHALE
802.21	1.96	394.79	HARD GRAY LIMESTONE
802.04	0.17	394.96	DARK GRAY - BLACK SHALE
799.46	2.58	397.54	HARD GRAY LIMESTONE
798.54	0.92	398.46	HARD GRAY - GREEN SHALEY LIMESTONE
797.00	1.54	400.00	HARD GRAY LIMESTONE /SHALEY BANDS
792.08	4.92	404.92	HARD PINKISH LIMESTONE W/2" GRAY SHALEY BAND AT 401.1'
791.83	0.25	405.17	SOFT GREEN LIMEY SHALE W/LIMESTONE NODULES
789.92	1.92	407.08	HARD GRAY-PINKISH LIMESTONE
789.67	0.25	407.33	SOFT GREEN LIMEY SHALE
788.25	1.42	408.75	HARD GRAY LIMESTONE
786.50	1.75	410.50	SOFT GRAY LIMEY SHALE W/LIMESTONE NODULES
786.13	0.38	410.88	BONEY COAL W/BROWN SHALE
785.58	0.54	411.42	SOFT GRAY SHALE
785.42	0.17	411.58	BONEY COAL AND BROWN SHALE
785.27	0.15	411.73	SOFT BROWN SHALE
784.77	**0.50**	**412.23**	**COAL W/PYRITE LENSES - NO. 8 ROOF COAL**
784.67	**0.10**	**412.33**	**BONEY COAL - NO. 8 ROOF COAL**
783.81	**0.85**	**413.19**	**DARK GRAY - BLACK SHALE**

TOVCC 10314

THE OHIO VALLEY COAL COMPANY
TEST HOLE N96-01

DRILLED 07/31/96 BY L. J. HUGHES, DAN HAMRICK
COORDINATES:-59850W, -5400S ELEVATION: 1197 (ALTIMETER)

ELEVATION	THICKNESS	DEPTH	STRATA
778.98	4.83	418.02	COAL - NO. 8
778.79	0.19	418.21	COAL - NO. 8
778.71	0.08	418.29	BONEY SHALE
775.54	3.17	421.46	DARK GRAY SHALE W/ LIMESTONE NODULES
774.29	1.25	422.71	HARD GRAY LIMESTONE W/GRAY SHALE BANDS

FRACTURE PLANES ON CORES WERE OXIDIZED (LIMONITE STAINED) TO A DEPTH OF 56.25 FT. INDICATING INTERMITTENT SATURATION. NO RETURN OF DRILLING WATER OCCURRED TO A DEPTH OF 70 FT. FROM 70 FT. TO 73 FT, WATER FLOWED THE HOLE, INDICATING A WATER-BEARING ZONE. THIS HORIZON IS THE SAME AS THE NO. 12 COAL SEAM. DRILLING WATER DID NOT RETURN IN DRILLING FROM 73 FT. TO THE BOTTOM OF THE HOLE AT 423 FT. FRACTURES ON CORES BELOW 56.25 WERE NOT OXIDIZED INDICATING GENERAL OXYGEN DEFICIENCY IN THE ROCKS.

TOVCC 10315

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
PERMIT APPLICATION TEST HOLES

TEST HOLE	THICKNESS	LITHOLOGY	HARD ROCK	SOFT ROCK	ACIDIC	BASIC	ERODIBLE	COMPACTIBLE
N96-01	20.00	CASING						
Water Bearing Zone	0.67	SH		Y			Y	Y
Water Bearing Zone	0.42	LS	Y			Y		
	1.50	SH					Y	Y
	1.25	SH		Y			Y	Y
	4.17	LS	Y			Y		
Water Bearing Zone	2.00	LS	Y			Y		
	1.00	SH		Y			Y	Y
	0.92	LS	Y			Y		
	0.25	SH/LS NODULES		Y		Y	Y	Y
	1.42	CORE LOSS		Y				
	2.67	SH/LS NODULES		Y		Y	Y	Y
Water Bearing Zone	0.58	SH/LS NODULES		Y		Y	Y	Y
Water Bearing Zone	1.00	SH/LS NODULES		Y		Y	Y	Y
	2.17	SH/LS NODULES		Y		Y	Y	Y
Water Bearing Zone	4.00	SL		Y			Y	Y
	2.33	SL		Y			Y	Y
Water Bearing Zone	1.08	CL		Y			Y	Y
	1.17	CL		Y			Y	Y
	3.08	CL		Y			Y	Y
	0.17	CORE LOSS		Y			Y	
	1.50	LS	Y			Y		
	2.42	CL		Y			Y	Y
Water Bearing Zone	0.50	LS	Y			Y		
	0.67	LS	Y			Y		
	11.75	CORE LOSS		Y			Y	
	1.17	CL		Y			Y	Y
	0.17	LS	Y			Y		
	0.17	SH		Y			Y	Y
	2.58	C#12		Y	Y		Y	Y
	0.75	SH		Y			Y	Y
	1.58	SL		Y			Y	Y
	5.04	SH		Y			Y	Y
	2.04	SH		Y			Y	Y
	1.21	C		Y	Y		Y	Y
	0.79	SH		Y			Y	Y
	6.25	SH		Y			Y	Y
	1.38	LS	Y			Y		
	8.21	SH		Y			Y	Y
	0.33	SH		Y			Y	Y
	1.33	SH		Y			Y	Y
	5.25	SH		Y			Y	Y
	7.92	SL		Y			Y	Y
	1.25	SH		Y			Y	Y
	0.42	LS	Y			Y		
	3.50	SH		Y			Y	Y
	0.75	SH		Y			Y	Y
	0.83	SH		Y			Y	Y
	0.25	LS	Y			Y		
	9.25	SH		Y			Y	Y
	9.83	SL		Y			Y	Y
	1.42	SH		Y			Y	Y
	7.17	SH/LS NODULES		Y		Y	Y	Y
	0.58	SH		Y			Y	Y
	2.25	SH		Y			Y	Y
	1.50	SH/LS NODULES		Y		Y	Y	Y
	1.25	SS	Y					
	6.33	SH/LS NODULES		Y		Y	Y	Y
	9.67	SL		Y			Y	Y
	3.92	SH		Y			Y	Y
	3.42	C#11		Y	Y		Y	Y
	1.13	SH		Y			Y	Y
	0.10	C		Y	Y		Y	Y
	1.83	SH		Y			Y	Y
	5.85	SH		Y			Y	Y
	13.17	SL		Y			Y	Y
	1.83	SH		Y			Y	Y
	1.13	SS	Y					
	6.17	SH		Y			Y	Y
	4.67	SH		Y			Y	Y
	1.83	C#10		Y	Y		Y	Y
	0.23	C#10		Y	Y		Y	Y
	0.50	C#10		Y	Y		Y	Y
	0.13	SH		Y			Y	Y

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
PERMIT APPLICATION TEST HOLES

TEST HOLE	THICKNESS	LITHOLOGY	HARD ROCK	SOFT ROCK	ACIDIC	BASIC	ERODIBLE	COMPACTIBLE
N96-01	0.04	C		Y	Y		Y	Y
	2.92	SH		Y			Y	Y
	10.06	SH/LS NODULES		Y		Y	Y	Y
	3.83	SH		Y			Y	Y
	5.00	SH		Y			Y	Y
	1.00	SH		Y			Y	Y
	2.00	LS	Y			Y		
	2.33	SH		Y			Y	Y
	6.00	LS	Y			Y		
	1.88	SH/LS NODULES		Y		Y	Y	Y
	0.92	LS	Y			Y		
	11.54	SH/LS NODULES		Y		Y	Y	Y
	2.17	LS	Y			Y		
	1.42	SH/LS NODULES		Y		Y	Y	Y
	0.92	LS	Y			Y		
	0.38	LS/SH		Y		Y	Y	Y
	2.00	LS	Y			Y		
	1.38	LS/SH		Y		Y	Y	Y
	2.38	LS	Y			Y		
	2.58	LS/SH		Y		Y	Y	Y
	2.29	LS/SH		Y		Y	Y	Y
	10.42	LS/SH	Y			Y		
	5.17	LS	Y			Y		
	0.83	LS/SH		Y		Y	Y	Y
	1.08	LS	Y			Y		
	2.08	LS/SH		Y		Y	Y	Y
	1.92	LS	Y			Y		
	1.00	LS/SH		Y		Y	Y	Y
	3.92	SH/LS NODULES		Y		Y	Y	Y
	1.75	LS	Y			Y		
	1.13	SH		Y			Y	Y
	1.00	LS	Y			Y		
	1.21	LS/SH		Y		Y	Y	Y
	3.50	LS	Y			Y		
	3.67	LS/SH		Y		Y	Y	Y
	3.00	LS	Y			Y		
	2.67	SH/LS BANDS		Y		Y	Y	Y
	1.00	CORE LOSS		Y			Y	
	1.67	SH		Y			Y	Y
	2.33	C#9		Y	Y		Y	Y
	0.19	C#9/SH		Y	Y		Y	Y
	0.13	C#9		Y	Y		Y	Y
	0.04	C#9/SH		Y	Y		Y	Y
	1.25	C#9		Y	Y		Y	Y
	5.31	LS/SH		Y		Y	Y	Y
	3.33	LS	Y			Y		
	5.63	SH		Y			Y	Y
	1.25	B/SH		Y	Y		Y	Y
	1.75	SH		Y			Y	Y
	1.21	B/SH		Y	Y		Y	Y
	0.75	SH		Y			Y	Y
	2.38	LS	Y			Y		
	0.75	SH		Y			Y	Y
	0.58	C		Y	Y		Y	Y
	0.50	B/SH		Y	Y		Y	Y
	8.33	B/LS	Y			Y		
	2.21	LS/SH		Y		Y	Y	Y
	1.63	LS	Y			Y		
	0.08	SH		Y			Y	Y
	1.83	LS	Y			Y		
	1.71	LS/SH		Y		Y	Y	Y
	9.75	SH/LS	Y			Y		
	2.67	SH/LS NODULES		Y		Y	Y	Y
	2.25	LS	Y			Y		
	2.33	SH/NODULES		Y		Y	Y	Y
	0.58	CORE LOSS		Y			Y	
	0.58	SH/C		Y	Y		Y	Y
	2.25	SH		Y			Y	Y
	1.67	LS	Y			Y		
	0.58	SH		Y			Y	Y
	1.96	LS	Y			Y		
	0.17	SH		Y			Y	Y
	2.58	LS	Y			Y		
	0.92	SH/LS	Y			Y		

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
PERMIT APPLICATION TEST HOLES

TEST HOLE	THICKNESS	LITHOLOGY	HARD ROCK	SOFT ROCK	ACIDIC	BASIC	ERODIBLE	COMPACTIBLE
N96-01	1.54	SH/LS	Y			Y		
	4.92	SH/LS	Y			Y		
	0.25	SH/LS NODULES		Y		Y	Y	Y
	1.92	LS	Y			Y		
	0.25	LS/SH		Y		Y	Y	Y
	1.42	LS	Y			Y		
	1.75	SH/LS NODULES		Y		Y	Y	Y
	0.38	SH/C		Y	Y		Y	Y
	0.54	SH		Y			Y	Y
	0.17	SH/C		Y	Y		Y	Y
	0.15	SH		Y			Y	Y
	0.50	C#8		Y	Y		Y	Y
	0.10	BC#8		Y	Y		Y	Y
	0.85	SH		Y	Y		Y	Y
	4.83	C#8		Y	Y		Y	Y
	0.19	C#8		Y	Y		Y	Y
	0.08	SH/B		Y	Y		Y	Y
	3.17	SH/LS NODULES		Y		Y	Y	Y
	1.25	SH/LS	Y			Y		

N96-01					POT. ACID.	POT. ACID	
		NEUT. POT.	TOTAL	PYRITIC	TONS/1000T	TONS/1000T	CACO3
	pH	TONS/1000 T	SULFUR	SULFUR	AS CACO3	AS CACO3	DEFICIENCY
	SU	AS CACO3	%	%	TOT. SULF.	PYR. SULF.	AS CACO3
ROOF ROCK	9.81	41.70	1.93	1.61	60.30	50.30	18.60
COAL	8.34	5.05	5.10	2.41	159.00	75.30	154.00
BOTTOM	10.10	436.00	1.64	1.38	51.20	43.10	-385.00

DIAMOND DRILL HOLE N86-19

GEOLOGIST: WILLIAM SIPLIVY
ELEVATION: 1055.45
COORDINATES: N -11509.50, E -62351.79

DRILLER: L. J. HUGHES & SONS, INC., DANIEL HAMRICK

TOWNSHIP: SMITH
SECTION: 22, SW 1/4
COUNTY: BELMONT

SURF. OWNER: F. EARLIWINE
DATE STARTED: 11/25/86
DATE FINISHED: 12/1/86

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
23.00	CASING	23.00	1032.45
7.00	CHIPPED	30.00	1025.45
13.50	CLAYSTONE, GRAY	43.50	1011.95
2.10	**COAL (NO. 11)**	**45.60**	1009.85
9.40	CLAYSTONE, GRAY	55.00	1000.45
15.00	SHALE, GREEN, SANDY, CALCAREOUS	70.00	985.45
15.00	SANDSTONE, GRAY	85.00	970.45
1.80	SHALE, GRAY	86.80	968.65
1.50	**COAL (NO. 10)**	**88.30**	967.15
7.00	CLAYSTONE, GREEN	95.30	960.15
7.10	CLAYSTONE, GRAY, CALCAREOUS	102.40	953.05
3.00	CLAYSTONE, GREEN	105.40	950.05
5.80	SANDSTONE, GRAY	111.20	944.25
1.20	CLAYSTONE, GREEN	112.40	943.05
1.60	LIMESTONE	114.00	941.45
1.00	CLAYSTONE, GREEN	115.00	940.45
15.00	LIMESTONE, SHALEY	130.00	925.45
6.00	SHALE, GREEN, CALCAREOUS	136.00	919.45
4.00	LIMESTONE, SHALEY	140.00	915.45
5.00	CLAYSTONE, GREEN, CALCAREOUS	145.00	910.45
50.00	LIMESTONE, SHALEY	195.00	860.45
5.00	CLAYSTONE, GRAY	200.00	855.45
2.75	**COAL (NO. 9)**	**202.75**	852.70
9.25	SHALE, GREEN, CALCAREOUS	212.00	843.45
10.00	SHALE, GRAY	222.00	833.45
34.80	LIMESTONE, SHALEY	256.80	798.65
6.50	CLAYSTONE, GREEN	263.30	792.15
1.70	LIMESTONE	265.00	790.45
16.00	LIMESTONE, SHALEY	281.00	774.45
3.30	CLAYSTONE, GRAY	284.30	771.15
0.33	BONE COAL	284.63	770.82
0.23	SHALE, GRAY	284.86	770.59
0.85	ROOF COAL	285.71	769.74
0.86	SHALE, GRAY	286.57	768.88
5.10	**COAL (NO. 8)**	**291.67**	763.78
13.33	SHALE, GRAY, CALCAREOUS	305.00	750.45

AMOUNT OF HARD ROCK ABOVE NO. 8 SEAM
HARD ROCK: 84.00 FT (29.3%) OF CORE
SOFT ROCK: 202.57 FT (70.7%) OF CORE

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N86–19

State Plane Coords: X Y Surface Elevation 1055.45

LITHOLOGY	H20*	THICKNESS	PHYSICAL PROPERTIES
CASING		23.00	
CHIPPED		7.00	
CLAYSTONE		13.50	COMP, EROD
COAL (NO. 11)		**2.10**	AC, EROD
CLAYSTONE		9.40	COMP, EROD
SHALE		15.00	ALK, COMP, EROD
SANDSTONE		15.00	HARD
SHALE		1.80	COMP, EROD
COAL (NO. 10)		**1.50**	AC, EROD
CLAYSTONE		7.00	COMP, EROD
CLAYSTONE		7.10	ALK, COMP, EROD
CLAYSTONE		3.00	COMP, EROD
SANDSTONE		5.80	HARD
CLAYSTONE		1.20	COMP, EROD
LIMESTONE		1.60	ALK
CLAYSTONE		1.00	COMP, EROD
LIMESTONE		15.00	ALK
SHALE		6.00	ALK, COMP, EROD
LIMESTONE		4.00	ALK
CLAYSTONE		5.00	ALK, COMP, EROD
LIMESTONE		50.00	ALK, EROD
CLAYSTONE		5.00	COMP, EROD
COAL (NO. 9)		**2.75**	AC, EROD
SHALE		9.25	ALK, COMP, EROD
SHALE		10.00	COMP, EROD
LIMESTONE		34.80	ALK, EROD
CLAYSTONE		6.50	COMP, EROD
LIMESTONE		1.70	ALK
LIMESTONE		16.00	ALK, EROD
CLAYSTONE		3.30	COMP, EROD
BONE COAL		0.33	AC, EROD
SHALE		0.23	COMP, EROD
ROOF COAL		0.85	AC
SHALE		0.86	COMP, EROD
COAL (NO. 8)		**5.10**	AC, EROD
SHALE		13.33	ALK, COMP, EROD

Legend:
AC = ACID PRODUCING
ALK = ALKALINE PRODUCING
COMP = COMPACTIBLE
EROD = ERODIBLE

NOTE: HOLE WAS DRILLED PRIOR TO REQUIREMENT TO NOTE WATER BEARING ZONES OR OBTAINING SAMPLES FOR CHEMICAL ANALYSES

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N86-19

STATE PLANE COORDS.
X -2,431,056.72
Y - 729,033.72
SURF. ELEV = 1055.45

FORMATION	THICKNESS	DEPTH	COMMENT	STRATA ELEV.
CASING	23.00	23.00	CASING	1032.45
CHIPPED	7.00	30.00	S, C, E	1025.45
GRAY CLAYSTONE	13.50	43.50	S, C, E	1011.95
COAL - NO. 11	**2.70**	**45.60**	**S, C, E, AC**	**1009.85**
GRAY CLAYSTONE	9.40	55.00	S, C, E	1000.45
GREEN SANDY SHALE W/LIMESTONE	15.00	70.00	S, C, E, ALK	985.45
GRAY SANDSTONE	15.00	85.00	H, NC, NE	970.45
GREEN SHALE	1.80	86.80	S, C, E	968.65
COAL - NO. 10	**1.50**	**88.30**	**S, C, E, AC**	**967.15**
GREEN CLAYSTONE	7.00	95.30	S, C, E	960.15
GRAY LIMY CLAYSTONE	7.10	102.40	S, C, E, ALK	953.05
GREEN CLAYSTONE	3.00	105.40	S, C, E	950.05
GRAY SANDSTONE	5.80	111.20	H, NC, NE	944.25
GREEN CLAYSTONE	1.20	112.40	S, C, E	943.05
LIMESTONE	1.60	114.00	H, NC, NE	941.45
GREEN CLAYSTONE	1.00	115.00	S, C, E	940.45
LIMESTONE W/ SHALE	15.00	130.00	H, NC, E, ALK	925.45
GREEN LIMY SHALE	6.00	136.00	S, C, E, ALK	919.45
LIMESTONE W/SHALE	4.00	140.00	H, NC, E, ALK	915.45
GREEN CLAYSTONE W/ LIME	5.00	145.00	S, C, E, ALK	910.45
LIMESTONE W/SHALE	50.00	195.00	H, NC, E, ALK	860.45
GRAY CLAYSTONE	5.00	200.00	S, C, E	855.45
COAL - NO. 9	**2.75**	**202.75**	**S, C, E, AC**	**852.70**
GRAY LIMY SHALE	9.25	212.00	S, C, E, ALK	843.45
GRAY SHALE	10.00	222.00	S. C. E	833.45
LIMESTONE W/SHALE	34.80	256.80	H, NC, E, ALK	798.65
GREEN CLAYSTONE	6.50	263.30	S. C. E	792.15
LIMESTONE	1.70	265.00	H, NC, NE, ALK	790.45
LIMESTONE W/SHALE	16.00	281.00	H, NC, E, ALK	774.45
GRAY CLAYSTONE	3.30	284.30	S, C, E	771.15
BONE COAL	0.33	284.63	S, C, E, AC	770.82
GRAY SHALE	0.23	284.86	S, C, E	770.59
COAL	0.85	285.71	S, C, E, AC	769.74
GRAY SHALE	0.86	286.57	S, C, E	768.88
COAL - NO. 8	**5.10**	**291.67**	**S, C, E, AC**	**763.78**
GRAY LIMY SHALE	13.30	305.00	S, C, E, ALK	750.45

PERCENT SOFT ROCK 50.90 PERCENT
PERCENT HARD ROCK 49.10 PERCENT

S = SOFT ROCK
H = HARD ROCK
C = COMPACTIBLE
NC = NON-COMPACTIBLE
E = ERODIBLE
NE = NON=ERODIBLE
AC = ACIDIC
ALK = ALKALINE

	TOT. S %	PYRITE S %	POT ACIDITY MG/L AS CACO3	NEUT. POT (/1000 TONS)	CACO3 DEF (1000 TONS
ROOF					
COAL					
BOTTOM					

TOVCC 10321

DIAMOND DRILL HOLE N86-21

GEOLOGIST: WILLIAM SIPLIVY

ELEVATION: 1313.34

COORDINATES: N -12,528.11, E -67,045.87

DRILLER: L. J. HUGHES & SONS, INC., DANIEL HAMRICK

TOWNSHIP: SMITH

SECTION: 27, NE 1/4

COUNTY: BELMONT

SURF. OWNER: J. CORBETT

DATE STARTED: 12/3/86

DATE FINISHED: 12/5/86

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
15.00	CASING	15.00	1298.34
15.00	CLAYSTONE, GRAY/BROWN	30.00	1283.34
4.00	SANDSTONE, GRAY/BROWN	34.00	1279.34
1.00	SHALE, GRAY	35.00	1278.34
2.40	SHALE, BLACK	37.40	1275.94
3.60	LIMESTONE	41.00	1272.34
8.00	CLAYSTONE, GRAY	49.00	1264.34
6.00	SANDSTONE, GRAY	55.00	1258.34
10.00	SHALE, GREEN	65.00	1248.34
1.60	LIMESTONE	66.60	1246.74
39.40	CLAYSTONE, RED/GREEN	106.00	1207.34
9.00	CLAYSTONE, GREEN	115.00	1198.34
15.00	CLAYSTONE, GREEN, CALCAREOUS	130.00	1183.34
17.00	CLAYSTONE, GREEN	147.00	1166.34
1.30	LIMESTONE	148.30	1165.04
3.00	CLAYSTONE, GREEN, CALCAREOUS	151.30	1162.04
2.70	LIMESTONE	154.00	1159.34
6.00	SHALE, GREEN, CALCAREOUS	160.00	1153.34
9.00	CLAYSTONE, GREEN	169.00	1144.34
6.00	SHALE, GREEN	175.00	1138.34
1.60	SHALE, GRAY	176.60	1136.74
0.80	SANDSTONE, GRAY	177.40	1135.94
0.90	SHALE, GRAY	178.30	1135.04
0.60	SANDSTONE, GRAY	178.90	1134.44
5.60	SHALE, GRAY	184.50	1128.84
0.30	COAL	184.80	1128.54
2.00	SHALE, GRAY	186.80	1126.54
3.20	LIMESTONE, SHALEY	190.00	1123.34
7.00	CLAYSTONE, GRAY	197.00	1116.34
3.00	SHALE, BLACK, CARBONACEOUS	200.00	1113.34
0.90	SHALE, GRAY	200.90	1112.44
0.60	COAL	201.50	1111.84
7.00	SHALE, GRAY	208.50	1104.84
0.80	**COAL (NO. 12)**	**209.30**	1104.04
10.70	SHALE, GREEN, CALCAREOUS	220.00	1093.34
10.00	LIMESTONE, GRAY, CLAYEY	230.00	1083.34
7.00	SANDSTONE, GRAY	237.00	1076.34
8.00	SHALE, GREEN	245.00	1068.34
5.00	CLAYSTONE, GRAY	250.00	1063.34

TOVCC 10322

(Continued)

THICK. (FT)	DESCRIPTION	DEPTH (FT)	ELEV. (FT)
12.00	SHALE, GREEN, CALCAREOUS	262.00	1051.34
4.40	SANDSTONE, GRAY	266.40	1046.94
8.60	SHALE, GREEN, CALCAREOUS	275.00	1038.34
16.00	SHALE, GREEN	291.00	1022.34
22.20	SANDSTONE, GRAY	313.20	1000.14
0.30	SHALE, BLACK	313.50	999.84
0.50	**COAL, (NO. 11)**	**314.00**	999.34
1.70	SHALE, GRAY	315.70	997.64
0.10	COAL	315.80	997.54
1.70	SHALE, GRAY	317.50	995.84
2.50	CLAYSTONE, GREEN	320.00	993.34
15.00	CLAYSTONE, GREEN, CALCAREOUS	335.00	978.34
15.00	SHALE, GRAY, SANDY	350.00	963.34
3.40	SHALE, GRAY	353.40	959.94
2.70	**COAL, (NO. 10)**	**356.10**	957.24
6.20	SHALE, GRAY	362.30	951.04
4.70	LIMESTONE, SHALEY	367.00	946.34
11.60	CLAYSTONE, GREEN	378.60	934.74
29.00	LIMESTONE, SHALEY	407.60	905.74
3.40	SHALE, GREEN	411.00	902.34
50.80	LIMESTONE, SHALEY	461.80	851.54
3.90	CLAYSTONE, GRAY	465.70	847.64
3.15	**COAL (NO. 9)**	**468.85**	844.49
2.15	SHALE, GRAY, CALCAREOUS	471.00	842.34
8.30	LIMESTONE, SHALEY	479.30	834.04
8.50	SHALE, GRAY	487.80	825.54
35.90	LIMESTONE, SHALEY	523.70	789.64
3.40	CLAYSTONE, GREEN	527.10	786.24
2.00	CLAYSTONE, GRAY	529.10	784.24
12.70	LIMESTONE	541.80	771.54
6.20	CLAYSTONE, GREEN, CALCAREOUS	548.00	765.34
2.70	CLAYSTONE, GRAY	550.70	762.64
7.10	**COAL (NO. 8)**	**557.80**	755.54
7.20	SHALE, GRAY, CALCAREOUS	565.00	748.34

AMOUNT OF HARD ROCK ABOVE NO. 8 SEAM

HARD ROCK: 137.60 FT. (25.0%) OF CORE

SOFT ROCK: 413.10 FT. (75.0%) OF CORE

TOVCC 10323

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-94-07

DRILLER: JOSEPH MILLER

DRILLING FOR: THE OHIO VALLEY COAL COMPANY
ALLEDONIA OHIO

SURFACE ELEVATION:

STARTED: SEPTEMBER 6 1994
COMPLETED: SEPTEMBER 8 1994

LOCATION: OHIO BELMONT COUNTY SMITH TOWNSHIP
NE 1/4 SE 1/4 SEC 29
T6NR4W

FORMATION	STRATA THICKNESS	DEPTH FROM SURFACE
CASING	20.00	20.00
BROWN SANDSTONE	11.20	31.20
GRAY SANDSTONE	13.40	44.60
GRAY LIMESTONE (BROKEN)	1.30	45.90
GRAY LIMY SHALY CLAYSTONE	4.40	50.30
GRAY LIMESTONE	1.10	51.40
RED AND GRAY SHALY CLAYSTONE	6.00	57.40
GRAY LIMY SHALY CLAYSTONE	8.70	66.10
GRAY SANDY SHALE	4.30	70.40
GRAY LIMY SHALY CLAYSTONE	29.70	100.10
GRAY SHALE	1.00	101.10
GRAY SANDSTONE	6.40	107.50
GRAY LIMY SHALY CLAYSTONE	10.00	117.50
GRAY LIMESTONE	5.70	123.20
GRAY LIMY SHALY CLAYSTONE	5.70	128.90
BONE	0.59	129.49
COAL WITH PYRITE STREAKS . . .	0.12	129.61
BLACK SHALE	0.05	129.66
SHALY COAL	0.53	130.19
BONE WITH COAL SPARS	0.40	130.59
COAL WITH PYRITE STREAKS . . .	0.65	131.24
SHALY COAL	0.44	131.68
DARK GRAY SHALY CLAYSTONE	1.20	132.88
GRAY SANDSTONE WITH SHALE (RIPPLED)	2.62	135.50
DARK GRAY SHALY CLAYSTONE	5.00	140.50

TOVCC 10324

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-07

FORMATION	STRATA THICKNESS	140.50 DEPTH FROM SURFACE
BLACK SHALE	2.70	143.20
COAL	0.20	143.40
GRAY LIMY SHALY CLAYSTONE	46.40	189.80
GRAY SANDSTONE	3.60	193.40
GRAY LIMY SHALY CLAYSTONE	8.70	202.10
GRAY LIMESTONE	4.50	206.60
GRAY LIMY SANDSTONE	0.90	207.50
GRAY LIMY SHALY CLAYSTONE	6.30	213.80
GRAY SANDSTONE	3.80	217.60
GRAY SHALY CLAYSTONE	0.80	218.40
GRAY SANDSTONE	0.50	218.90
GRAY SHALY CLAYSTONE	1.10	220.00
GRAY SANDSTONE	3.40	223.40
GRAY SHALE	1.90	225.30
GRAY SHALE WITH SANDSTONE STREAKS	2.20	227.50
GRAY SANDSTONE	2.40	229.90
GRAY SHALE	1.90	231.80
GRAY SHALY CLAYSTONE	2.95	234.75
BLACK SHALE	0.44	235.19
COAL	1.84	237.03
BLACK SHALE	0.08	237.11
COAL	0.76	237.87
BLACK SHALE	0.06	237.93
COAL	0.40	238.33
GRAY SHALY CLAYSTONE	0.57	238.90
COAL	0.06	238.96
GRAY SHALY CLAYSTONE	14.44	253.40
GRAY SHALY SANDSTONE WITH LIME NODULES	12.20	265.60
DARK GRAY SHALY CLAYSTONE	10.30	275.90
COAL	0.10	276.00
DARK GRAY SHALY CLAYSTONE	2.09	278.09
COAL	0.45	278.54
DARK SHALE WITH COAL SPARS	0.07	278.61
COAL	0.96	279.57
DARK SHALE	0.05	279.62
COAL	0.19	279.81
DARK GRAY SHALY CLAYSTONE	0.34	280.15
COAL	0.85	281.00
GRAY LIMY SHALY CLAYSTONE	17.10	298.10
GRAY SANDSTONE	1.30	299.40
GRAY SHALY CLAYSTONE	2.80	302.20
GRAY LIMY SHALY CLAYSTONE	7.00	309.20
GRAY LIMESTONE	4.60	313.80
GRAY LIMY SHALY CLAYSTONE	6.40	320.20
GRAY LIMESTONE	2.20	322.40
GRAY LIMY SHALY CLAYSTONE	3.80	326.20

TOVCC 10325

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-07

FORMATION	STRATA THICKNESS	326.20 DEPTH FROM SURFACE
GRAY SHALY LIMESTONE	4.40	330.60
GREEN LIMY SHALY CLAYSTONE	9.70	340.30
GRAY SHALY LIMESTONE	18.00	358.30
GREEN LIMY SHALY CLAYSTONE	1.70	360.00
GRAY LIMESTONE	2.50	362.50
GRAY GREEN LIMY SHALY CLAYSTONE	17.60	380.10
GRAY LIMESTONE	1.00	381.10
DARK GRAY LIMY SHALY CLAYSTONE	4.90	386.00
DARK GRAY SHALY CLAYSTONE	1.58	387.58
BLACK SHALE WITH GRAY SHALE STREAKS	0.17	387.75
BLACK SHALE	0.02	387.77
COAL WITH PYRITE STREAKS . . .	2.49	390.26
DARK GRAY SHALE	0.08	390.34
COAL	0.03	390.37
DARK SHALE	0.02	390.39
COAL	0.29	390.68
BLACK SHALE	0.05	390.73
COAL	0.10	390.83
GRAY SHALY CLAYSTONE	0.05	390.88
BLACK SHALE WITH COAL SPARS	0.09	390.97
COAL	0.78	391.75
BLACK SHALE WITH COAL SPARS	0.12	391.87
DARK GRAY LIMY SHALY CLAYSTONE	6.30	398.17
GRAY LIMESTONE	1.63	399.80
DARK SHALE WITH LIME STREAKS	7.50	407.30
DARK SHALE	3.20	410.50
GRAY LIMESTONE	2.20	412.70
DARK GRAY SHALY CLAYSTONE WITH SOME COAL SPARS	2.10	414.80
GRAY LIMESTONE	14.10	428.90
GRAY GREEN LIMY SHALY CLAYSTONE	1.70	430.60
GRAY LIMESTONE	9.00	439.60
GRAY LIMY SHALY CLAYSTONE	3.20	442.80
GRAY LIMESTONE	1.60	444.40
GRAY LIMY SHALY CLAYSTONE	2.80	447.20
BLACK SHALY CLAYSTONE WITH COAL SPARS	0.40	447.60
GRAY LIMY SHALY CLAYSTONE	3.00	450.60
GRAY LIMESTONE	1.90	452.50
GRAY LIMY SHALY CLAYSTONE	7.10	459.60
GRAY LIMESTONE	1.60	461.20

TOVCC 10326

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-07

FORMATION	STRATA THICKNESS	461.20 DEPTH FROM SURFACE
GRAY LIMY SHALY CLAYSTONE	8.10	469.30
BLACK SHALE	0.50	469.80
GRAY SHALY CLAYSTONE	0.40	470.20
DARK SHALY CLAYSTONE	0.10	470.30
GRAY SHALY CLAYSTONE	0.13	470.43
BLACK SHALE WITH PYRITE STREAKS	0.18	470.61
PYRITE	0.04	470.65
COAL WITH PYRITE STREAKS	1.10	471.75
GRAY SHALY CLAYSTONE	0.03	471.78
BLACK SHALE	0.01	471.79
COAL	0.07	471.86
BLACK SHALE	0.04	471.90
DARK GRAY SHALY CLAYSTONE	0.83	472.73
COAL WITH PYRITE STREAKS	1.06	473.79
PYRITE WITH COAL STREAKS	0.05	473.84
COAL	4.16	478.00
DARK GRAY LIMY SHALY CLAYSTONE	3.70	481.70
GRAY LIMESTONE	1.20	482.90
GRAY LIMY SHALY CLAYSTONE	17.10	500.00

TOTAL DEPTH OF HOLE = 500.00 FEET

21 BAGS CEMENT PLACED IN HOLE

TOVCC 10327

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-07

STATE PLANE COORDS.
X -2,427,991.89
Y - 735,181.00
SURF. ELEV = 1273.88

FORMATION	THICKNESS	DEPTH	COMMENT	STRATA ELEV.
CASING	20.00	20.00	CASING	1253.88
BROWN SANDSTONE	11.20	31.20	H, NC, NE	1242.68
GRAY SANDSTONE	13.40	44.60	H, NC, NE	1229.28
GRAY LIMESTONE, BROKEN	1.30	45.90	H, C, NE, ALK	1227.98
GRAY LIMY SHALY CLAYSTONE	4.40	50.30	S, C, E, ALK	1223.58
GRAY LIMESTONE	1.10	51.40	H, NC, NE, ALK	1222.48
RED AND GRAY SHALY CLAYSTONE	6.00	57.40	S, C, E	1216.48
GRAY LIMY SHALY CLAYSTONE	8.70	66.10	S, C, E, ALK	1207.78
GRAY SANDY SHALE	4.30	70.40	S, C, E	1203.48
GRAY LIMY SHALY CLAYSTONE	29.70	100.10	S, C, E, ALK	1173.78
GRAY SHALE	1.00	101.10	S, C, E	1172.78
GRAY SANDSTONE	6.40	107.50	H, NC, NE	1166.38
GRAY LIMY SHALY CLAYSTONE	10.00	117.50	S, C, E, ALK	1156.38
GRAY LIMESTONE	5.70	123.20	H, NC, NE, ALK	1150.68
GRAY LIMY SHALY CLAYSTONE	5.70	128.90	S, C, E, ALK	1144.98
BONE COAL	**0.59**	**129.49**	**S, C, E, AC**	**1144.39**
COAL W/PYRITE STREAKS	**0.12**	**129.61**	**S, C, E, AC**	**1144.27**
BLACK SHALE	**0.05**	**129.66**	**S, C, E**	**1144.22**
SHALY COAL	**0.53**	**130.19**	**S, C, E, AC**	**1143.69**
COAL W/PYRITE STREAKS	**0.65**	**131.24**	**S, C, E, AC**	**1142.64**
SHALY COAL - NO. 12	**0.44**	**131.68**	**S, C, E, AC**	**1142.20**
DARK GRAY SHALY CLAYSTONE	1.20	132.88	S, C, E	1141.00
GRAY SANDSTONE W/SHALE (RIPPLED)	2.62	135.50	H, NC, NE	1138.38
DARK GRAY SHALY CLAYSTONE	5.00	140.50	S, C, E	1133.38
BLACK SHALE	2.70	143.20	S, C, E	1130.68
COAL	0.20	143.40	S, C, E, AC	1130.48
GRAY LIMY SHALY CLAYSTONE	46.40	189.80	S, C, E, ALK	1084.08
GRAY SANDSTONE	3.60	193.40	H, NC, NE	1080.48
GRAY LIMY SHALY CLAYSTONE	8.70	202.10	S, C, E, ALK	1071.78
GRAY LIMESTONE	4.50	206.60	H, NC, NE, ALK	1067.28
GRAY LIMY SANDSTONE	0.90	207.50	H, NC, NE, ALK	1066.38
GRAY LIMY SHALY CLAYSTONE	6.30	213.80	S, C, E, ALK	1060.08
GRAY SANDSTONE	3.80	217.60	H, NC, NE	1056.28
GRAY SHALY CLAYSTONE	0.80	218.40	S, C, E	1055.48
GRAY SANDSTONE	0.50	218.90	H, NC, NE	1054.98
GRAY SHALY CLAYSTONE	1.10	220.00	S, C, E	1053.88
GRAY SANDSTONE	3.40	223.40	H, NC, NE	1050.48
GRAY SHALE	1.90	225.30	S, C, E	1048.58
GRAY SHALE W/SANDSTONE STREAKS	2.20	227.50	S, C, E	1046.38
GRAY SANDSTONE	2.40	229.90	H, NC, NE	1043.98
GRAY SHALE	1.90	231.80	S, C, E	1042.08
GRAY SHALY CLAYSTONE	2.95	234.75	S, C, E	1039.13
BLACK SHALE	0.44	235.19	S, C, E	1038.69
COAL - NO. 11	**1.84**	**237.03**	**S, C, E, AC**	**1036.85**
BLACK SHALE	**0.08**	**237.11**	**S, C, E**	**1036.77**
COAL - NO. 11	**0.76**	**237.87**	**S, C, E, AC**	**1036.01**
BLACK SHALE	**0.06**	**237.93**	**S, C, E**	**1035.95**
COAL - NO. 11	**0.40**	**238.33**	**S, C, E, AC**	**1035.55**
GRAY SHALY CLAYSTONE	**0.57**	**238.90**	**S, C, E**	**1034.98**
COAL - NO. 11	**0.06**	**238.96**	**S, C, E, AC**	**1034.92**
GRAY SHALY CLAYSTONE	14.44	253.40	S, C, E	1020.48
GRAY SHALY SANDSTONE W/ LS NODULES	12.20	265.60	H, NC, NE, ALK	1008.28
DARK GRAY SHALY CLAYSTONE	10.30	275.90	S, C, E	997.98
COAL	**0.10**	**276.00**	**S, C, E, AC**	**997.88**
DARK GRAY SHALY CLAYSTONE	**2.09**	**278.09**	**S, C, E**	**995.79**
COAL	**0.45**	**278.54**	**S, C, E, AC**	**995.34**
DARK SHALE W/COAL SPARS	**0.07**	**278.61**	**S, C, E, AC**	**995.27**

TOVCC 10328

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-07

STATE PLANE COORDS.
X -2,427,991.89
Y - 735,181.00
SURF. ELEV = 1273.88

COAL	**0.96**	**279.57**	**S, C, E, AC**	**994.31**
DARK SHALE	**0.05**	**279.62**	**S, C, E**	**994.26**
COAL	**0.19**	**279.81**	**S, C, E, AC**	**994.07**
DARK GRAY SHALY CLAYSTONE	**0.34**	**280.15**	**S, C, E**	**993.73**
COAL - NO. 10	**0.85**	**281.00**	**S, C, E, AC**	**992.88**
GRAY LIMY SHALY CLAYSTONE	17.10	298.10	S, C, E, ALK	975.78
GRAY SANDSTONE	1.30	299.40	H, NC, NE	974.48
GRAY SHALY CLAYSTONE	2.80	302.20	S, C, E	971.68
GRAY LIMY SHALY CLAYSTONE	7.00	309.20	S, C, E, ALK	964.68
GRAY LIMESTONE	4.60	313.80	H, NC, NE, ALK	960.08
GRAY LIMY SHALY CLAYSTONE	6.40	320.60	S, C, E, ALK	953.28
GRAY LIMESTONE	2.20	322.40	H, NC, NE, ALK	951.48
GRAY LIMY SHALY CLAYSTONE	3.80	326.20	S, C, E, ALK	947.68
GRAY SHALY LIMESTONE	4.40	330.60	H, NC, E, ALK	943.28
GREEN LIMY SHALY CLAYSTONE	9.70	340.30	S, C, E, ALK	933.58
GRAY SHALY LIMESTONE	18.00	358.30	H, NC, NE, ALK	915.58
GREEN LIMY SHALY CLAYSTONE	1.70	360.00	S, C, E, ALK	913.88
GRAY LIMESTONE	2.50	362.50	H, NC, NE, ALK	911.38
GRAY GREEN LIMY SHALY CLAYSTONE	17.60	380.10	S, C, E, ALK	893.78
GRAY LIMESTONE	1.00	381.10	H, NC, NE, ALK	892.78
DARK GRAY LIMY SHALY CLAYSTONE	4.90	386.00	S, C, E, ALK	887.88
DARK GRAY SHALY CLAYSTONE	1.58	387.58	S, C, E	886.30
BLACK SHALE WGRAY SHALE STREAKS	0.17	387.75	S, C, E	886.13
BLACK SHALE	0.02	387.77	S, C, E	886.11
COAL W/PYRITE STREAKS	**2.49**	**390.26**	**S, C, E, AC**	**883.62**
DARK GRAY SHALE	**0.08**	**390.34**	**S, C, E**	**883.54**
COAL	**0.03**	**390.37**	**S, C, E, AC**	**883.51**
DARK SHALE	**0.02**	**390.39**	**S, C, E**	**883.49**
COAL - NO. 9	**0.29**	**390.68**	**S, C, E, AC**	**883.20**
BLACK SHALE	**0.05**	**390.73**	**S, C, E**	**883.15**
COAL - NO. 9	**0.10**	**390.83**	**S, C, E, AC**	**883.05**
GRAY SHALY CLAYSTONE	**0.05**	**390.88**	**S, C, E**	**883.00**
BLACK SHALE W/ COAL SPARS	**0.09**	**390.97**	**S, C, E, AC**	**882.91**
COAL - NO. 9	**0.78**	**391.75**	**S, C, E, AC**	**882.13**
BLACK SHALE W/COAL SPARS	0.12	391.87	S, C, E, AC	882.01
DARK GRAY LIMY SHALY CLAYSTONE	6.30	398.17	S, C, E, ALK	875.71
GRAY LIMESTONE	1.63	399.80	H, NC, NE, ALK	874.08
DARK SHALE W/LIMESTONE STREAKS	7.50	407.30	S, C, E, ALK	866.58
DARK SHALE	3.20	410.50	S, C, E	863.38
GRAY LIMESTONE	2.20	412.70	H, NC, NE, ALK	861.18
D. GRAY SHALY CLAYSTONE W/ COAL SPARS	2.10	414.80	S, C, E, AC	859.08
GRAY LIMESTONE	14.10	428.90	H, NC, NE, ALK	844.98
GRAY GREEN LIMY SHALY CLAYSTONE	1.70	430.60	S, C, E, ALK	843.28
GRAY LIMESTONE	9.00	439.60	H, NC, NE, ALK	834.28
GRAY LIMY SHALY CLAYSTONE	3.20	442.80	S, C, E, ALK	831.08
GRAY LIMESTONE	1.60	444.40	H, C, E, ALK	829.48
GRAY LIMY SHALY CLAYSTONE	2.80	447.20	S, C, E, ALK	826.68
BLACK SHALY CLAYSTONE W/COAL SPARS	0.40	447.60	S, C, E, AC	826.28
GRAY LIMY SHALY CLAYSTONE	3.00	450.60	S, C, E, ALK	823.28
GRAY LIMESTONE	1.90	452.50	H, NC, NE, ALK	821.38
GRAY LIMY SHALY CLAYSTONE	7.10	459.60	S, C, E, ALK	814.28
GRAY LIMESTONE	1.60	461.20	H, NC, NE, ALK	812.68
GRAY LIMY SHALY CLAYSTONE	8.10	469.30	S, C, E, ALK	804.58
BLACK SHALE	0.50	469.80	S, C, E	804.08
GRAY SHALY CLAYSTONE	0.40	470.20	S, C, E	803.68
DARK SHALY CLAYSTONE	0.10	470.30	S, C, E	803.58
GRAY SHALY CLAYSTONE	0.13	470.43	S, C, E	803.45
BLACK SHALE W/PYRITE STREAKS	0.18	470.61	S, C, E, AC	803.27

TOVCC 10329

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-07

STATE PLANE COORDS.
X -2,427,991.89
Y - 735,181.00
SURF. ELEV = 1273.88

PYRITE	0.04	470.65	H, NC, NE, AC	803.23
COAL W/ PYRITE STREAKS	1.10	471.75	S, C, E, AC	802.13
GRAY SHALY CLAYSTONE	0.03	471.78	S, C, E	802.10
BLACK SHALE	0.01	471.79	S, C, E	802.09
COAL	**0.07**	**471.86**	**S, C, E, AC**	**802.02**
BLACK SHALE	**0.04**	**471.90**	**S, C, E**	**801.98**
DARK GRAY SHALY CLAYSTONE	**0.83**	**472.73**	**S, C, E**	**801.15**
COAL W/PYRITE STREAKS	**1.06**	**473.79**	**S, C, E,AC**	**800.09**
PYRITE W/COAL STREAKS	**0.05**	**473.84**	**H, NC, NE, AC**	**800.04**
COAL - NO. 8	**4.16**	**478.00**	**S, C, E, AC**	**795.88**
DARK GRAY LIMY SHALY CLAYSTONE	3.70	481.70	S, C, E, ALK	792.18
GRAY LIMESTONE	1.20	482.90	H, NC, NE, ALK	790.98
GRAY LIMY SHALY CLAYSTONE	17.10	500.00	S, C, E, ALK	773.88

PERCENT SOFT ROCK 70.90 PERCENT
PERCENT HARD ROCK 29.10 PERCENT

S = SOFT ROCK
H = HARD ROCK
C = COMPACTIBLE
NC = NON-COMPACTIBLE
E = ERODIBLE
NE = NON=ERODIBLE
AC = ACIDIC
ALK = ALKALINE

	TOT. S %	PYRITE S %	POT ACIDITY MG/L AS CACO3	NEUT. POT (/1000 TONS)	CACO3 DEF (1000 TONS
ROOF	1.22	1.01	38.1	344.00	-306
COAL	6.38	4.13	199	9.44	190
BOTTOM	2.44	1.09	76.2	9.08	67.12

TOVCC 10330

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-94-13 DRILLER: JOSEPH MILLER

DRILLING FOR: THE OHIO VALLEY COAL COMPANY
ALLEDONIA OHIO

SURFACE ELEVATION: STARTED: SEPTEMBER 27 1994
COMPLETED: SEPTEMBER 28 1994

LOCATION: OHIO BELMONT COUNTY

FORMATION	STRATA THICKNESS	DEPTH FROM SURFACE
CASING	20.00	20.00
GRAY SHALY CLAYSTONE	31.10	51.10
GRAY LIMY SHALY CLAYSTONE	9.00	60.10
DARK GRAY SHALY CLAYSTONE	20.00	80.10
GRAY LIMESTONE	1.50	81.60
GRAY SHALY CLAYSTONE	8.30	89.90
BONY COAL	0.17	90.07
COAL	1.25	91.32
GRAY SANDSTONE	0.03	91.35
BLACK SHALE WITH COAL SPARS	0.20	91.55
GRAY SANDSTONE WITH COAL SPARS	0.30	91.85
DARK SHALE	0.15	92.00
GRAY SHALE	0.10	92.10
DARK SHALE	2.45	94.55
COAL	0.10	94.65
GRAY SANDSTONE WITH DARK SANDY SHALE BANDS	0.32	94.97
DARK SHALE	0.72	95.69
BONE	0.19	95.88
COAL	0.58	96.46
DARK SHALE WITH SANDSTONE STREAKS AND COAL SPARS	0.73	97.19
SOFT GRAY CLAYSTONE	0.12	97.31
COAL	0.36	97.67
SOFT GRAY CLAYSTONE	0.61	98.28

TOVCC 10331

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-13

FORMATION	STRATA THICKNESS	98.28 DEPTH FROM SURFACE
COAL	0.29	98.57
SOFT GRAY CLAYSTONE	0.21	98.78
DARK SHALE	0.09	98.87
COAL	0.05	98.92
GRAY SANDSTONE	0.15	99.07
DARK SHALE WITH SANDSTONE STREAKS	0.14	99.21
COAL	0.13	99.34
DARK GRAY SHALY CLAYSTONE	0.63	99.97
GRAY SHALY CLAYSTONE	20.03	120.00
GRAY SHALY CLAYSTONE WITH LIMESTONE NODULES	13.80	133.80
DARK SHALY CLAYSTONE	0.70	134.50
GRAY GREEN SHALY CLAYSTONE WITH LIMESTONE NODULES	17.00	151.50
GRAY SANDSTONE	1.50	153.00
GRAY LIMY SHALY CLAYSTONE	12.00	165.00
DARK SHALY CLAYSTONE	5.40	170.40
GRAY SANDY SHALE	1.20	171.60
GRAY SHALE	10.80	182.40
GRAY SANDY SHALE	1.40	183.80
GRAY SHALY CLAYSTONE	1.95	185.75
BLACK SHALE WITH GRAY CLAYSTONE STREAKS	1.06	186.81
COAL	2.20	189.01
GRAY SHALY CLAYSTONE	0.39	189.40
COAL	0.14	189.54
GRAY SHALY CLAYSTONE	17.90	207.44
GRAY SANDY SHALE WITH LIMESTONE NODULES	10.06	217.50
GRAY SANDSTONE	22.70	240.20
GRAY SHALY CLAYSTONE WITH COAL SPARS	0.70	240.90
COAL	0.30	241.20
GRAY SHALY CLAYSTONE	0.20	241.40
BLACK SHALE	0.10	241.50
GRAY SHALY CLAYSTONE WITH LIME NODULES	11.40	252.90
GRAY SHALY CLAYSTONE WITH SANDSTONE STREAKS	2.90	255.80
GRAY SANDSTONE	7.70	263.50
GREEN LIMY SHALY CLAYSTONE	1.40	264.90
GRAY SHALY LIMESTONE	5.10	270.00
GRAY LIMESTONE	4.40	274.40
DARK GRAY LIMY SHALY CLAYSTONE	13.90	288.30
GRAY LIMESTONE	2.10	290.40

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-13

FORMATION	STRATA THICKNESS	290.40 DEPTH FROM SURFACE
GRAY GREEN LIMY SHALY CLAYSTONE	2.10	292.50
GREEN LIMY SHALE	1.50	294.00
GRAY GREEN LIMY SHALY CLAYSTONE	13.20	307.20
GRAY LIMESTONE	4.40	311.60
GRAY LIMY SHALE	4.50	316.10
GRAY LIMESTONE	2.50	318.60
GRAY LIMY SHALY CLAYSTONE	3.40	322.00
GRAY LIMESTONE	6.20	328.20
GRAY LIMY SHALE	12.30	340.50
GRAY LIMESTONE	1.80	342.30
GRAY LIMY SHALY CLAYSTONE	3.80	346.10
DARK GRAY SHALY CLAYSTONE	3.70	349.80
COAL	2.78	352.58
DARK SHALE	0.08	352.66
COAL	0.87	353.53
DARK SHALE	0.24	353.77
BONE	0.10	353.87
DARK GRAY SHALY CLAYSTONE	0.93	354.80
DARK SHALE	0.90	355.70
DARK GRAY LIMY SHALY CLAYSTONE	4.00	359.70
GRAY LIMESTONE	2.30	362.00
DARK SHALE WITH SANDSTONE STREAKS	4.50	366.50
DARK SHALY CLAYSTONE	3.00	369.50
BLACK SHALE	2.20	371.70
GRAY LIMESTONE	2.20	373.90
DARK SHALY CLAYSTONE	1.40	375.30
BONY COAL	0.30	375.60
DARK SHALY CLAYSTONE	0.40	376.00
GRAY SHALY LIMESTONE	24.00	400.00
GRAY GREEN LIMY SHALY CLAYSTONE	3.20	403.20
GRAY LIMESTONE	1.30	404.50
GRAY SHALY CLAYSTONE	2.70	407.20
DARK GRAY SHALY CLAYSTONE WITH SHALY COAL BANDS	0.60	407.80
GRAY SHALY CLAYSTONE	4.20	412.00
GRAY LIMESTONE	11.10	423.10
GRAY SHALY CLAYSTONE WITH LIME NODULES	7.20	430.30
GRAY SHALY CLAYSTONE WITH COAL AND SHALE STREAKS	1.15	431.45
BONE	0.23	431.68
DARK SHALY CLAYSTONE	0.15	431.83

TOVCC 10333

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-13

FORMATION	STRATA THICKNESS	431.83 DEPTH FROM SURFACE
COAL	0.85	432.68
COAL WITH GRAY CLAY STREAKS	0.07	432.75
COAL	0.10	432.85
DARK GRAY SHALY CLAYSTONE	0.87	433.72
COAL	5.12	438.84
DARK GRAY SHALY CLAYSTONE	2.70	441.54
DARK LIMESTONE	0.70	442.24
GRAY LIMY SHALY CLAYSTONE	3.76	446.00
GRAY SANDY SHALE	4.20	450.20
GRAY LIMY SHALY CLAYSTONE	3.00	453.20
GRAY LIMY SANDY SHALE	6.80	460.00

TOTAL DEPTH OF HOLE = 460.00 FEET

20 BAGS CEMENT PLACED IN HOLE

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-13

STATE PLANE COORDS.
X -2,423,504.02
Y - 736,306.43
SURF. ELEV = 1255.51

FORMATION	THICKNESS	DEPTH	COMMENT	STRATA ELEV.
CASING	20.00	20.00	CASING	1235.51
GRAY SHALY CLAYSTONE	31.10	51.10	S. C. E	1204.41
GRAY LIMY SHALY CLAYSTONE	9.00	60.10	S, C, E, ALK	1195.41
DARK GRAY SHALY CLAYSTONE	20.00	80.10	S, C, E	1175.41
GRAY LIMESTONE	1.50	81.60	H, NC, NE, ALK	1173.91
GRAY SHALY CLAYSTONE	8.30	89.90	S, C, E	1165.61
BONY COAL	**0.17**	**90.07**	**S, C, E, AC**	**1165.44**
COAL - NO. 12	**1.25**	**91.32**	**S, C, E, AC**	**1164.19**
GRAY SANDSTONE	0.03	91.35	H, NC, NE	1164.16
BLACK SHALE W/COAL SPARS	0.20	91.55	S, C, E, AC	1163.96
GRAY SANDSTONE W/COAL SPARS	0.30	91.85	H, NC, NE, AC	1163.66
DARK SHALE	0.15	92.00	S, C, E	1163.51
GRAY SHALE	0.10	92.10	S, C, E	1163.41
DARK SHALE	2.45	94.55	S, C, E	1160.96
COAL	0.10	94.65	S, C, E, AC	1160.86
GRAY SANDSTONE W/DARK SHNDY SHALE BA	0.32	94.97	H, NC, NE	1160.54
DARK SHALE	0.72	95.69	S, C, E	1159.82
BONE COAL	0.19	95.88	S, C, E, AC	1159.63
COAL	0.58	95.46	S, C, E, AC	1160.05
DARK SHALE W/SANDSTONE AND COAL	0.73	97.19	S, C, E, AC	1158.32
SOFT GRAY CLAYSTONE	0.12	97.31	S, C, E	1158.20
COAL	0.36	97.67	S, C, E, AC	1157.84
SOFT GRAY CLAYSTONE	0.61	98.28	S, C, E	1157.23
COAL	0.29	98.57	S, C, E, AC	1156.94
SOFT GRAY CLAYSTONE	0.21	98.78	S, C, E	1156.73
DARK SHALE	0.09	98.87	S, C, E	1156.64
COAL	0.05	98.92	S, C, E, AC	1156.59
GRAY SANDSTONE	0.15	99.07	H, NC, NE	1156.44
DARK SHALE W/SANDSTONE STREAKS	0.14	99.21	S, C, E	1156.30
COAL	0.13	99.34	S, C, E, AC	1156.17
DARK GRAY SHALY CLAYSTONE	0.63	99.97	S, C, E	1155.54
GRAY SHALY CLAYSTONE	20.03	120.00	S, C, E	1135.51
GRAY SHALY CLAYSTONE W/LIMESTONE NOD	13.80	133.80	S, C, E, ALK	1121.71
DARK SHALY CLAYSTONE	0.07	134.50	S, C, E	1121.01
GRAY GREEN SHALY CLAYSTONE W/ LS NODU	17.00	151.50	S, C, E, ALK	1104.01
GRAY SANDSTONE	1.50	153.00	H, NC, NE	1102.51
GRAY LIMY SHALY CLAYSTONE	12.00	165.00	S, C, E, ALK	1090.51
DARK SHALY CLAYSTONE	5.40	170.40	S, C, E	1085.11
GRAY SANDY SHALE	1.20	171.60	S, C, E	1083.91
GRAY SHALE	10.80	182.40	S, C, E	1073.11
GRAY SANDY SHALE	1.40	183.80	S. C. E	1071.71
GRAY SHALY CLAYSTONE	1.95	185.75	S, C, E	1069.76
BLACK SHALE W/ GRAY CLAYSTONE STREAKS	1.06	186.81	S, C, E	1068.70
COAL	**2.20**	**189.01**	**S, C, E, AC**	**1066.50**
GRAY SHALY CLAYSTONE	**0.39**	**189.40**	**S, C, E**	**1066.11**
COAL - NO. 11	**0.14**	**189.54**	**S, C, E, AC**	**1065.97**
GRAY SHALY CLAYSTONE	17.90	207.44	S, C, E	1048.07
GRAY SANDY SHALE W/LS NODULES	10.06	217.50	S, C, E, ALK	1038.01
GRAY SANDSTONE	22.70	240.20	H, NC, NE	1015.31
GRAY SHALY CLAYSTONE W/COAL SPARS	**0.70**	**240.90**	**S, C, E, AC**	**1014.61**
COAL - NO. 10	**0.30**	**241.20**	**S, C, E, AC**	**1014.31**
GRAY SHALY CLAYSTONE	0.20	241.40	S, C, E	1014.11
BLACK SHALE	0.10	241.50	S, C, E	1014.01
GRAY SHALY CLAYSTONE W/ LS NODULES	11.40	252.90	S, C, E, ALK	1002.61
GRAY SHALY CLAYSTONE W/SS STREAKS	2.90	255.80	S, C, E	999.71
GRAY SANDSTONE	7.70	263.50	H, NC, NE	992.01
GREEN LIMY SHALY CLAYSTONE	1.40	264.90	S, C, E, ALK	990.61

TOVCC 10335

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-13

STATE PLANE COORDS.
X -2,423,504.02
Y - 736,306.43
SURF. ELEV = 1255.51

FORMATION	THICKNESS	DEPTH	COMMENT	STRATA ELEV.
GRAY SHALY LIMESTONE	5.10	270.00	H, NC, E, ALK	985.51
GRAY LIMESTONE	4.40	274.40	H, NC, NE, ALK	981.11
DARK GRAY LIMY SHALY CLAYSTONE	13.90	288.30	S, C, E, ALK	967.21
GRAY LIMESTONE	2.10	290.40	H, NC, NE, ALK	965.11
GRAY GREEN LIMY SHALY CLAYSTONE	2.10	292.50	S, C, E, ALK	963.01
GREEN LIMY SHALE	1.50	294.00	S, C, E, ALK	961.51
GRAY GREEN LIMY SHALY CLAYSTONE	13.20	307.20	S, C, E, ALK	948.31
GRAY LIMESTONE	4.40	311.60	H, NC, NE, ALK	943.91
GRAY LIMY SHALE	4.50	316.10	S, C, E, ALK	939.41
GRAY LIMESTONE	2.50	318.60	H, NC, NE, ALK	936.91
GRAY LIMY SHALY CLAYSTONE	3.40	322.00	S, C, E, ALK	933.51
GRAY LIMESTONE	6.20	328.20	H, NC, NE, ALK	927.31
GRAY LIMY SHALE	12.30	340.50	S, C, E, ALK	915.01
GRAY LIMESTONE	1.80	342.30	H, NC, NE, ALK	913.21
GRAY LIMY SHALY CLAYSTONE	3.80	346.10	S, C, E, ALK	909.41
DARK GRAY SHALY CLAYSTONE	3.70	349.80	S, C, E	905.71
COAL	**2.78**	**352.58**	**S, C, E, AC**	**902.93**
DARK SHALE	**0.08**	**352.66**	**S, C, E**	**902.85**
COAL NO. 9	**0.87**	**353.53**	**S, C, E, AC**	**901.98**
DARK SHALE	0.24	353.77	S, C, E	901.74
BONE COAL	0.10	353.87	S, C, E, AC	901.64
DARK GRAY SHALY CLAYSTONE	0.93	354.80	S, C, E	900.71
DARK SHALE	0.90	355.70	S, C, E	899.81
DARK GRAY LIMY SHALY CLAYSTONE	4.00	359.70	S, C, E, ALK	895.81
GRAY LIMESTONE	2.30	362.00	H, NC, NE, ALK	893.51
DARK SHALE W/SANDSTONE STREAKS	4.50	366.50	S, C, E	889.01
DARK SHALY CLAYSTONE	3.00	369.50	S, C, E	886.01
BLACK SHALE	2.20	371.70	S, C, E	883.81
GRAY LIMESTONE	2.20	373.90	H, NC, NE, ALK	881.61
DARK SHALY CLAYSTONE	1.40	375.30	S, C, E	880.21
BONY COAL	0.30	375.60	S, C, E, AC	879.91
DARK SHALY CLAYSTONE	0.40	376.00	S, C, E	879.51
GRAY SHALY LIMESTONE	24.00	400.00	H, NC, E, ALK	855.51
GRAY GREEN LIMY SHALY CLAYSTONE	3.20	403.20	S, C, E, ALK	852.31
GRAY LIMESTONE	1.30	404.50	H, NC, NE, ALK	851.01
GRAY SHALY CLAYSTONE	2.70	407.20	S, C, E	848.31
DARK GRAY SHALY CLAYSTONE W/SHALY CO	0.60	407.80	S, C, E, AC	847.71
GRAY SHALY CLAYSTONE	4.20	412.00	S, C, E	843.51
GRAY LIMESTONE	11.10	423.10	H, NC, NE, ALK	832.41
GRAY SHALY CLAYSTONE W/LS NODULES	7.20	430.30	S, C, E, ALK	825.21
GRAY SHALY CLAYSTONE W/ COAL AND SHAL	1.15	431.45	S, C, E, AC	824.06
BONE COAL	0.23	431.68	S, C, E, AC	823.83
DARK SHALY CLAYSTONE	0.15	431.83	S, C, E	823.68
COAL	**0.85**	**432.68**	**S, C, E, AC**	**822.83**
COAL W/GRAY CLAY STREAKS	**0.07**	**432.75**	**S, C, E, AC**	**822.76**
COAL	**0.10**	**432.85**	**S, C, E, AC**	**822.66**
DARK GRAY SHALY CLAYSTONE	**0.87**	**433.72**	**S, C, E**	**821.79**
COAL NO. 8	**5.12**	**438.84**	**S, C, E, AC**	**816.67**
DARK GRAY SHALY CLAYSTONE	2.70	441.54	S, C, E	813.97
DARK LIMESTONE	0.70	442.24	H, NC, NE, ALK	813.27
GRAY LIMY SHALY CLAYSTONE	3.76	446.00	S, C, E, ALK	809.51
GRAY SANDY SHALE	4.20	450.20	S, C, E	805.31
GRAY LIMY SHALY CLAYSTONE	3.00	453.20	S, C, E, ALK	802.31
GRAY LIMY SANDY SHALE	6.80	460.00	S, C, E, ALK	795.51

TOVCC 10336

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-13

STATE PLANE COORDS.
X -2,423,504.02
Y - 736,306.43
SURF. ELEV = 1255.51

PERCENT SOFT ROCK 76.70 PERCENT
PERCENT HARD ROCK 23.30 PERCENT

S = SOFT ROCK
H = HARD ROCK
C = COMPACTIBLE
NC = NON-COMPACTIBLE
E = ERODIBLE
NE = NON=ERODIBLE
AC = ACIDIC
ALK = ALKALINE

	TOT. S %	PYRITE S %	POT ACIDITY MG/L AS CACO3	NEUT. POT (/1000 TONS)	CACO3 DEF (1000 TONS
ROOF	5.37	4.48	168	-4.62	172
COAL	4.41	2.55	138	4.40	133
BOTTOM	2.95		92.2	49.00	43.2

TOVCC 10337

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-94-31 DRILLER: DANIEL HAMRICK

DRILLING FOR: THE OHIO VALLEY COAL COMPANY
ALLEDONIA OHIO

SURFACE ELEVATION:

STARTED: DECEMBER 7 1994
COMPLETED: DECEMBER 8 1994

LOCATION: OHIO BELMONT COUNTY

FORMATION	STRATA THICKNESS	DEPTH FROM SURFACE
CASING	20.00	20.00
GREEN LIMY SHALE	18.00	38.00
LIMESTONE	10.00	48.00
GREEN CLAYSTONE WITH LIMESTONE NODULES	9.00	57.00
GRAY SANDSTONE	11.00	68.00
GRAY LIMY SHALE	12.00	80.00
LIMESTONE WITH CLAYSTONE PARTINGS	20.00	100.00
LIMESTONE WITH SHALE STREAKS	25.00	125.00
GRAY CLAYSTONE	3.75	128.75
COAL	3.00	131.75
GRAY LIMY SHALE	5.10	136.85
LIMESTONE WITH SHALE	3.15	140.00
GRAY LIMY SHALE	10.00	150.00
LIMESTONE WITH SHALE	10.00	160.00
LIMESTONE WITH CLAYSTONE STREAKS	24.00	184.00
GREEN CLAYSTONE	2.35	186.35
BLACK SHALE	0.20	186.55
GRAY SHALE	1.00	187.55
LIMESTONE	13.55	201.10
GREEN CLAYSTONE WITH LIMESTONE NODULES	5.50	206.60
GRAY CLAYSTONE	0.90	207.50
BLACK SHALE	0.45	207.95

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-31

FORMATION	STRATA THICKNESS	207.95 DEPTH FROM SURFACE
GRAY SHALE	0.40	208.35
BONY COAL	0.55	208.90
BLACK SHALE WITH COAL	0.40	209.30
GRAY CLAYSTONE	0.60	209.90
COAL	4.82	214.72
GRAY SHALY CLAYSTONE	5.28	220.00
GREEN CLAYSTONE	7.00	227.00
GRAY SANDSTONE	21.00	248.00
GREEN CLAYSTONE	5.00	253.00
RED AND GREEN CLAYSTONE	7.00	260.00

TOTAL DEPTH OF HOLE = 260.00 FEET

10 BAGS CEMENT PLACED IN HOLE

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-31

STATE PLANE COORDS.
X -2,432,350.16
Y - 739,059.67
SURF. ELEV = 1038.4

FORMATION	THICKNESS	DEPTH	COMMENT	STRATA ELEV.
CASING	20.00	20.00	CASING	1018.40
GREEN LIMY SHALE	18.00	38.00	S, E, C, ALK	1000.40
LIMESTONE	10.00	48.00	H, NC, NE, ALK	990.40
GREEN CLAYSTONE W/LIMESTONE NODULES	9.00	57.00	S, C, E, ALK	981.40
GRAY SANDSTONE	11.00	68.00	H, NC, NE	970.40
GRAY LIMY SHALE	12.00	80.00	S, C, E, ALK	958.40
LIMESTONE W/CLAYSTONE PARTINGS	20.00	100.00	H, NC, E, ALK	938.40
LIMESTONE W/ SHALE STREAKS	25.00	125.00	H, NC, E, ALK	913.40
GRAY CLAYSTONE	3.75	128.75	S, C, E	909.65
COAL NO. 9	**3.00**	**131.75**	**S, C, E, AC**	**906.65**
GRAY LIMY SHALE	5.10	136.85	S, C, E, ALK	901.55
LIMESTONE W/ SHALE	3.15	140.00	H, NC, E, ALK	898.40
GRAY LIMY SHALE	10.00	150.00	S, C, E, ALK	888.40
LIMESTONE W/ SHALE	10.00	160.00	H, NC, E, ALK	878.40
LIMESTONE W/CLAYSTONE STREAKS	24.00	184.00	H, NC, NE, ALK	854.40
GREEN CLAYSTONE	2.35	186.35	S, C, E	852.05
BLACK SHALE	0.20	186.55	S, C, E	851.85
GRAY SHALE	1.00	187.55	S, C, E	850.85
LIMESTONE	13.55	201.10	H, NC, NE, ALK	837.30
GREEN CLAYSTONE W/LIMESTONE NODULES	5.50	206.60	S, C, E, ALK	831.80
GRAY CLAYSTONE	0.90	207.50	S, C, E	830.90
BLACK SHALE	0.45	207.95	S, C, E	830.45
GRAY SHALE	0.40	208.35	S, C, E	830.05
BONY COAL	**0.55**	**208.90**	**S, C, E, AC**	**829.50**
BLACK SHALE W/ COAL	**0.40**	**209.30**	**S, C, E, AC**	**829.10**
GRAY CLAYSTONE	**0.60**	**209.90**	**S, C, E**	**828.50**
COAL NO. 8	**4.82**	**214.72**	**S, C, E, AC**	**823.68**
GRAY SHALY CLAYSTONE	5.28	220.00	S, C, E	818.40
GREEN CLAYSTONE	7.00	227.00	S, C, E	811.40
GRAY SANDSTONE	21.00	248.00	H, NC, NE	790.40
GREEN CLAYSTONE	5.00	253.00	S, C, E	785.40
RED AND GREEN CLAYSTONE	7.00	260.00	S, C, E	778.40

PERCENT SOFT ROCK 45.70 PERCENT
PERCENT HARD ROCK 54.30 PERCENT

S = SOFT ROCK
H = HARD ROCK
C = COMPACTIBLE
NC = NON-COMPACTIBLE
E = ERODIBLE
NE = NON=ERODIBLE
AC = ACIDIC
ALK = ALKALINE

	TOT. S %	PYRITE S %	POT ACIDITY MG/L AS CACO3	NEUT. POT (/1000 TONS)	CACO3 DEF. (1000 TONS)
ROOF	1.36		42.5	4.20	38.3
COAL					
BOTTOM	4.88		152	145.00	7.07

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-94-30 DRILLER: DANIEL HAMRICK

DRILLING FOR: THE OHIO VALLEY COAL COMPANY
ALLEDONIA OHIO

SURFACE ELEVATION: STARTED: DECEMBER 5 1994
COMPLETED: DECEMBER 7 1994

LOCATION: OHIO BELMONT COUNTY

FORMATION	STRATA THICKNESS	DEPTH FROM SURFACE
CASING	20.00	20.00
GRAY SANDSTONE	16.00	36.00
GRAY SHALE	11.00	47.00
GRAY SANDSTONE	4.80	51.80
GRAY SHALE	3.00	54.80
COAL	1.30	56.10
GRAY SHALE	3.90	60.00
GRAY LIMY SHALE	10.00	70.00
GRAY SANDY SHALE	20.00	90.00
GRAY SHALE	6.85	96.85
COAL	1.65	98.50
GRAY SHALE	0.25	98.75
COAL	0.75	99.50
GRAY SHALE	0.80	100.30
GREEN CLAYSTONE	3.30	103.60
GRAY LIMY SHALE	5.30	108.90
GREEN SHALE	4.70	113.60
GRAY SANDSTONE	4.40	118.00
GREEN SHALE	1.40	119.40
LIMESTONE	10.60	130.00
LIMESTONE WITH SHALE STREAKS	69.30	199.30
GRAY CLAYSTONE	6.45	205.75
COAL	1.60	207.35
GRAY SHALE	0.45	207.80
COAL WITH SHALE	1.90	209.70
GRAY SHALE	2.30	212.00

TOVCC 10341

LJ HUGHES & SONS, INC.

THE OHIO VALLEY COAL COMPANY
CONTINUATION OF DRILL HOLE NO. N-94-30

FORMATION	STRATA THICKNESS	212.00 DEPTH FROM SURFACE
LIMESTONE WITH SHALE	6.70	218.70
GRAY SHALE	7.30	226.00
DARK GRAY SHALE	2.10	228.10
LIMESTONE WITH SHALE	1.90	230.00
DARK GRAY SHALE	2.00	232.00
LIMESTONE	14.00	246.00
GREEN CLAYSTONE	1.50	247.50
LIMESTONE	6.80	254.30
GREEN CLAYSTONE	2.20	256.50
LIMESTONE	2.85	259.35
GREEN CLAYSTONE	6.20	265.55
LIMESTONE	14.10	279.65
GREEN LIMY CLAYSTONE	5.80	285.45
GRAY CLAYSTONE	1.75	287.20
DARK GRAY SHALE	0.35	287.55
COAL	1.05	288.60
GRAY SHALE	0.80	289.40
COAL	3.75	293.15
PYRITE	0.05	293.20
COAL	1.20	294.40
GRAY SHALE	1.00	295.40
GREEN LIMY CLAYSTONE	6.90	302.30
GREEN SHALE	3.30	305.60
GRAY SANDY SHALE WITH LIME	15.40	321.00
GRAY SANDSTONE	18.60	339.60
RED AND GREEN CLAYSTONE	6.70	346.30
GRAY LIMY CLAYSTONE	3.70	350.00
GREEN SANDY SHALE	18.00	368.00
GRAY SHALE	2.80	370.80
LIMESTONE	0.80	371.60
RED AND GREEN SHALE WITH LIMESTONE NODULES	25.40	397.00
LIMESTONE	3.00	400.00

TOTAL DEPTH OF HOLE = 400.00 FEET

15 BAGS CEMENT PLACED IN HOLE

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
ATTACHMENT 13 FOR TEST HOLE N94-30

STATE PLANE COORDS.
X -2,423,237.21
Y - 739,028.09
SURF. ELEV = 1134.30

FORMATION	THICKNESS	DEPTH	COMMENT	STRATA ELEV.
CASING	20.00	20.00	CASING	1114.30
GRAY SANDSTONE	16.00	36.00	H, NC, NE	1098.30
GRAY SHALE	11.00	47.00	S, E, C	1087.30
GRAY SANDSTONE	4.80	51.80	H, NC, NE	1082.50
GRAY SHALE	3.00	54.80	S, C, E	1079.50
COAL NO. 11	1.30	56.10	S, C, E, AC	1078.20
GRAY SHALE	3.90	60.00	S, C, E	1074.30
GRAY LIMY SHALE	10.00	70.00	S, C, E, ALK	1064.30
GRAY SANDY SHALE	20.00	90.00	S, C, E	1044.30
GRAY SHALE	6.85	96.85	S, C, E	1037.45
COAL NO. 10.	1.65	98.50	S, C, E, AC	1035.80
GRAY SHALE	0.25	98.75	S, C, E	1035.55
COAL	0.75	99.50	S, C, E, AC	1034.80
GRAY SHALE	0.80	100.30	S, C, E	1034.00
GREEN CLAYSTONE	3.30	103.60	S, C, E	1030.70
GRAY LIMY SHALE	5.30	108.90	S, C, E, ALK	1025.40
GREEN SHALE	4.70	113.60	S, C, E	1020.70
GRAY SANDSTONE	4.40	118.00	H, NC, NE	1016.30
GREEN SHALE	1.40	119.40	S, C, E	1014.90
LIMESTONE	10.60	130.00	H, NC, NE, ALK	1004.30
LIMESTONE W/SHALE STREAKS	69.30	199.30	H, NC, NE	935.00
GRAY CLAYSTONE	6.45	205.75	S, C, E	928.55
COAL NO. 9	1.60	207.35	S, C, E, AC	926.95
GRAY SHALE	0.45	207.80	S, C, E	926.50
COAL W/SHALE	1.90	209.70	C, E, AC	924.60
GRAY SHALE	2.30	212.00	C, E	922.30
LIMESTONE W/SHALE	6.70	218.70	H, NC, NE, ALK	915.60
GRAY SHALE	7.30	226.00	S, C, E	908.30
DARK GRAY SHALE	2.10	228.10	C, E	906.20
LIMESTONE W/SHALE	1.90	230.00	H, NC, NE, ALK	904.30
DARK GRAY SHALE	2.00	232.00	S, C, E	902.30
LIMESTONE	14.00	246.00	H, NC, NE, ALK	888.30
GREEN CLAYSTONE	1.50	247.50	S, C, E	886.80
LIMESTONE	6.80	254.30	H, NC, NE, ALK	880.00
GREEN CLAYSTONE	2.20	256.50	S, C, E	877.80
LIMESTONE	2.85	259.35	H, NC, NE, ALK	874.95
GREEN CLAYSTONE	6.20	265.55	S, C, E	868.75
LIMESTONE	14.10	279.65	H, NC, NE, ALK	854.65
GREEN LIMY CLAYSTONE	5.80	285.45	S, C, E, ALK	848.85
GRAY CLAYSTONE	1.75	287.20	S, C, E	847.10
DARK GRAY SHALE	0.35	287.55	S, C, E	846.75
COAL NO. 8	1.05	288.60	S, C, E, AC	845.70
GRAY SHALE	0.80	289.40	S, C, E	844.90
COAL NO. 8	3.75	293.15	S, C, E, AC	841.15
PYRITE	0.05	293.20	H, NC, NE, AC	841.10
COAL NO. 8	1.20	294.40	S, C, E, AC	839.90
GRAY SHALE	1.00	295.40	S, C, E	838.90
GREEN LIMY CLAYSTONE	6.90	302.30	S, C, E, ALK	832.00
GREEN SHALE	3.30	305.60	S, C, E	828.70
GRAY SANDY SHALE W/LIME	15.40	321.00	S, C, E, ALK	813.30
GRAY SANDSTONE	18.60	339.60	H, NC, NE	794.70
RED AND GREEN CLAYSTONE	6.70	346.30	S, C, E	788.00
GRAY LIMY CLAYSTONE	3.70	350.00	S, C, E	784.30
GREEN SANDY SHALE	18.00	368.00	S, C, E	766.30
GRAY SHALE	2.80	370.80	S, C, E	763.50
LIMESTONE	0.80	371.60	H, NC, NE, ALK	762.70
RED AND GREEN SHALE W/LS NODULES	25.40	397.00	S, C, E, ALK	737.30
LIMESTONE	3.00	400.00	H, NC, NE, ALK	734.30

PERCENT SOFT ROCK 48.54 PERCENT
PERCENT HARD ROCK 51.46 PERCENT

S = SOFT ROCK
H = HARD ROCK
C = COMPACTIBLE
NC = NON-COMPACTIBLE
E = ERODIBLE
NE = NON=ERODIBLE
AC = ACIDIC
ALK = ALKALINE

	TOT. S %	PYRITE S %	POT ACIDITY MG/L AS CACO3	NEUT. POT (/1000 TONS)	CACO3 DEF (1000 TONS
ROOF	2.36		73.7	1.88	71.8
COAL					
BOTTOM	2.55		79.7	176.00	-96.3

DIAMOND DRILL HOLE N94-6

GEOLOGIST: HOMER McEVERS

ELEVATION: 1303 FT. (ALTIMETER)

COORDINATES: -9872.53 S, -70047.97 E (NOT SURVEYED)

TOWNSHIP: SMITH

SECTION: 28, W 1/4

COUNTY: BELMONT

SURF. OWNER: HART

DATE STARTED: 9/1/94

DATE FINISHED: 9/8/94

THICK (FT.)	DESCRIPTION	DEPTH (FT.)	ELEV. (FT.)
29.00	CASING	29.00	1274.00
4.40	SANDSTONE, GRAY, BROKEN, IRON STAINS	33.40	1269.60
1.00	SHALE, BROKEN, IRON STAINS	34.40	1268.60
0.65	SHALE, BROKEN, IRON STAINS	35.05	1267.95
1.22	SHALE, GRAY, SANDY	36.27	1266.73
0.47	SHALE, GRAY, CALCAREOUS, SANDY	36.74	1266.26
2.26	SHALE, SANDY, BROKEN, IRON STAINS	39.00	1264.00
3.10	SHALE, GRAY	42.10	1260.90
1.55	SHALE, GRAY, CALCAREOUS	43.65	1259.35
2.20	CLAY STONE, GRAY	45.85	1257.15
1.15	SHALE, GRAY, BROKEN, IRON STAINS	47.00	1256.00
3.90	SHALE, GRAY, CALCAREOUS	50.90	1252.10
4.10	SHALE, RED/BROWN, CALCAREOUS	55.00	1248.00
3.60	SHALE, RED/GRAY	58.60	1244.40
1.00	CLAYSTONE, GRAY	59.60	1243.40
2.10	SHALE, RED	61.70	1241.30
1.15	CLAYSTONE, GRAY	62.85	1240.15
1.50	SHALE, SANDY, GRAY	64.35	1238.65
0.50	SHALE, RED, IRON STAINS	64.85	1238.15
1.85	SHALE, GRAY	66.70	1236.30
1.01	CLAYSTONE, RED/GRAY	67.71	1235.29
1.20	SHALE, GRAY	68.91	1234.09
1.40	SHALE, RED/GRAY	70.31	1232.69
1.69	SHALE, RED/BROWN, SOFT	72.00	1231.00
0.95	SHALE, RED	72.95	1230.05
1.91	SHALE, GRAY	74.86	1228.14
0.65	SHALE, CALCAREOUS, GRAY	75.51	1227.49
0.60	CLAYSTONE, GRAY	76.11	1226.89
4.20	SHALE, SANDY, CALCAREOUS, GRAY	80.31	1222.69
0.95	SHALE, SANDY, GRAY	81.26	1221.74
2.00	SHALE, SANDY, CALCAREOUS, GRAY	83.26	1219.74
1.74	SANDSTONE, SHALEY, GRAY	85.00	1218.00
4.25	SHALE, GRAY, SOFT	89.25	1213.75
0.61	SHALE, GRAY/RED	89.86	1213.14
3.00	LIMESTONE, GRAY	92.86	1210.14
4.15	SHALE, CALCAREOUS, GRAY	97.01	1205.99
0.95	SHALE, IRON STAINS, BROKEN	97.96	1205.04
0.90	LIMESTONE, GRAY	98.86	1204.14
6.14	SHALE, SANDY, CALCAREOUS, GRAY	105.00	1198.00
7.30	SHALE, W/LIMESTONE STREAKS, GRAY	112.30	1190.70
1.10	SHALE, GRAY	113.40	1189.60

(Continued)

THICK (FT.)	DESCRIPTION	DEPTH (FT.)	ELEV. (FT.)
5.40	SHALE, W/LIMESTONE STREAKS, GRAY	118.80	1184.20
5.00	SHALE, RED/GRAY/RED	123.80	1179.20
1.20	SHALE, CALCAREOUS, GRAY	125.00	1178.00
0.90	SHALE, CALCAREOUS, BLACK/GRAY	125.90	1177.10
1.00	SHALE, W/LIMESTONE STREAKS, GRAY	126.90	1176.10
1.25	SHALE, GRAY	128.15	1174.85
3.60	SHALE, W/LIMESTONE STREAKS, GRAY	131.75	1171.25
2.20	LIMESTONE, W/SHALE STREAKS, GRAY	133.95	1169.05
4.50	SHALE, W/LIMESTONE STREAKS, GRAY	138.45	1164.55
6.75	SHALE, W/LIMESTONE NODULES, GRAY	145.20	1157.80
3.10	SHALE, SANDY, GRAY	148.30	1154.70
6.70	SHALE, W/LIMESTONE NODULES, GRAY	155.00	1148.00
3.53	CLAYSTONE, GRAY	158.53	1144.47
0.63	SHALE, CARBONACEOUS, BLACK	159.16	1143.84
0.56	SHALE, GRAY	159.72	1143.28
0.33	SHALE, CARBONACEOUS, BLACK	160.05	1142.95
5.00	LIMESTONE, GRAY	165.05	1137.95
5.05	CLAYSTONE, GRAY	170.10	1132.90
4.90	**SHALE, BLACK W/COAL STREAKS – NO. 12 COAL**	**175.00**	**1128.00**
	1.10 BONE COAL		
	1.85 SHALE, BLACK		
	0.35 COAL		
	1.17 SHALE, BLACK		
	0.37 BONE COAL		
	0.06 SHALE, BLACK		
2.60	SHALE, GRAY	177.60	1125.40
2.30	SANDSTONE, W/SHALE STREAKS, GRAY	179.90	1123.10
3.80	SHALE, GRAY	183.70	1119.30
0.35	BONE COAL W/PYRITE	184.05	1118.95
1.30	SHALE GRAY	185.35	1117.65
0.20	COAL	185.55	1117.45
0.68	SHALE, GRAY	186.23	1116.77
5.37	SHALE, CALCAREOUS, GRAY	191.60	1111.40
3.40	SHALE, SANDY, CALCAREOUS, GRAY	195.00	1108.00
6.05	SHALE, W/LIMESTONE NODULES, GRAY, W/SS STREAKS	201.05	1101.95
10.45	SHALE, GRAY	211.50	1091.50
0.57	SHALE, RED	212.07	1090.93
0.22	SHALE, GRAY	212.29	1090.71
0.32	SHALE, RED	212.61	1090.39
0.45	SHALE, GRAY	213.06	1089.94
1.94	SHALE, RED	215.00	1088.00
0.20	SHALE, RED, SOFT	215.20	1087.80
1.40	SHALE, GRAY	216.60	1086.40
0.50	SHALE, RED	217.10	1085.90
5.55	SHALE, GRAY	222.65	1080.35
3.00	CLAYSTONE, GRAY, SOFT	225.65	1077.35

TOVCC 10345

(Continued)

THICK (FT.)	DESCRIPTION	DEPTH (FT.)	ELEV. (FT.)
0.80	SHALE, CARBONACEOUS, BLACK	226.45	1076.55
3.12	SHALE, CALCAREOUS, GRAY	229.57	1073.43
1.70	SHALE, RED, CALCAREOUS	231.27	1071.73
2.45	SHALE, GREEN W/RED STREAKS, CALCAREOUS	233.72	1069.28
1.28	SHALE, GRAY/GREEN	235.00	1068.00
7.85	SHALE, SANDY, GRAY	242.85	1060.15
1.00	SHALE, SANDY, CALCAREOUS, GRAY	243.85	1059.15
5.65	SHALE, SANDY, GRAY	249.50	1053.50
1.35	SHALE, GRAY, BROKEN, SOFT	250.85	1052.15
4.15	SHALE, SANDY, CALCAREOUS, GRAY	255.00	1048.00
0.40	SHALE, SANDY, GRAY	255.40	1047.60
0.82	SHALE, W/LIMESTONE NODULES, GRAY	256.22	1046.78
0.73	SHALE, RED	256.95	1046.05
2.23	SHALE, GRAY/BLACK/GRAY	259.18	1043.82
3.50	SHALE, SANDY, GRAY	262.68	1040.32
1.62	SANDSTONE, W/SHALE STREAKS, GRAY	264.30	1038.70
10.70	SHALE, SANDY, GRAY	275.00	1028.00
2.13	SHALE, GRAY	277.13	1025.87
0.53	SHALE, BLACK	277.66	1025.34
2.85	**COAL (NO. 11)**	**280.51**	**1022.49**
1.35	SHALE, GRAY	281.86	1021.14
13.14	SHALE, CALCAREOUS, GRAY	295.00	1008.00
10.50	SHALE, SANDY, W/LIMESTONE NODULES, GRAY	305.50	997.50
1.70	SANDSTONE, W/SHALE, GRAY	307.20	995.80
8.50	SHALE, GRAY	315.70	987.30
5.70	SHALE, DARK GRAY	321.40	981.60
0.10	SHALE, CARBONACEOUS, BLACK	321.50	981.50
0.10	SHALE, GRAY	321.60	981.40
1.85	**COAL (NO. 10)**	**323.45**	**979.55**
	1.15 COAL		
	0.20 SHALE, GRAY		
	0.50 COAL		
6.40	SHALE, CALCAREOUS, GRAY	329.85	973.15
1.25	CLAYSTONE, GRAY	331.10	971.90
3.90	SHALE, SANDY, CALCAREOUS, GRAY	335.00	968.00
1.40	SHALE, CALCAREOUS, GRAY	336.40	966.60
0.65	CLAYSTONE, GRAY	337.05	965.95
9.55	SHALE, SANDY, GRAY	346.60	956.40
1.90	SANDSTONE, GRAY	348.50	954.50
1.13	SHALE, SANDY, CALCAREOUS, GRAY	349.63	953.37
2.07	LIMESTONE, GRAY	351.70	951.30
3.30	SHALE, SANDY, CALCAREOUS, GRAY	355.00	948.00
4.30	LIMESTONE, GRAY	359.30	943.70
0.31	CLAYSTONE, GREEN	359.61	943.39
1.60	SHALE, CALCAREOUS, GRAY	361.21	941.79
0.22	CLAYSTONE, GREEN	361.43	941.57

TOVCC 10346

(Continued)

THICK (FT.)	DESCRIPTION	DEPTH (FT.)	ELEV. (FT.)
0.70	LIMESTONE, GRAY	362.13	940.87
12.05	SHALE, CALCAREOUS, W/LIMESTONE NODULES, GRAY	374.18	928.82
0.82	SHALE, CALCAREOUS, GRAY	375.00	928.00
1.25	SHALE, CALCAREOUS, GRAY	376.25	926.75
0.22	LIMESTONE, GRAY	376.47	926.53
0.60	SHALE, CALCAREOUS, GRAY	377.07	925.93
1.78	LIMESTONE, GRAY	378.85	924.15
3.25	SHALE, GREEN/GRAY	382.10	920.90
11.40	LIMESTONE, SHALEY, GRAY	393.50	909.50
1.50	LIMESTONE, GRAY	395.00	908.00
11.30	LIMESTONE, GRAY, HARD	406.30	896.70
1.30	SHALE, CALCAREOUS, GRAY	407.60	895.40
7.73	LIMESTONE, GRAY	415.33	887.67
3.20	SHALE, CALCAREOUS, SANDY, GRAY	418.53	884.47
1.25	SHALE, CALCAREOUS, GREEN	419.78	883.22
5.22	SHALE, CALCAREOUS, SANDY, GRAY	425.00	878.00
1.30	SHALE, CALCAREOUS, SANDY, GRAY/GREEN	426.30	876.70
2.10	LIMESTONE, SHALEY, GRAY	428.40	874.60
4.75	SHALE, SANDY, CALCAREOUS, GRAY	433.15	869.85
2.40	CLAYSTONE, GRAY	435.55	867.45
0.22	SHALE, BLACK	435.77	867.23
4.24	**COAL (NO. 9)**	**440.01**	**862.99**
	2.50 COAL		
	0.40 SHALE, GRAY		
	1.30 BONE COAL		
0.25	SHALE, BLACK	440.26	862.74
1.40	SHALE, DARK GRAY	441.66	861.34
3.34	SHALE, SANDY, CALCAREOUS, GRAY	445.00	858.00
1.50	SHALE, CALCAREOUS, GRAY	446.50	856.50
2.60	LIMESTONE, GRAY	449.10	853.90
6.90	SHALE, SANDY, CALCAREOUS, GRAY	456.00	847.00
1.90	SHALE, DARK GRAY	457.90	845.10
3.00	SHALE, CALCAREOUS, GRAY	460.90	842.10
1.50	SHALE, BLACK	462.40	840.60
2.60	SHALE, SANDY, CALCAREOUS, GRAY	465.00	838.00
11.95	LIMESTONE, GRAY	476.95	826.05
1.20	SHALE, CALCAREOUS, GRAY	478.15	824.85
3.62	LIMESTONE, GRAY	481.77	821.23
0.30	SHALE, CALCAREOUS, GRAY	482.07	820.93
2.93	LIMESTONE, GRAY	485.00	818.00
0.85	LIMESTONE, GRAY/GREEN	485.85	817.15
0.30	SHALE, BLACK, CALCAREOUS	486.15	816.85
1.35	LIMESTONE, GRAY	487.50	815.50
0.50	SHALE, GREEN	488.00	815.00
1.20	CLAYSTONE, GRAY/GREEN	489.20	813.80
1.35	SHALE, CALCAREOUS, GRAY	490.55	812.45

TOVCC 10347

(Continued)

THICK (FT.)	DESCRIPTION	DEPTH (FT.)	ELEV. (FT.)
2.52	LIMESTONE, GRAY	493.07	809.93
2.15	CLAYSTONE, GRAY	495.22	807.78
2.43	SHALE, BLACK	497.65	805.35
12.65	LIMESTONE, GRAY	510.30	792.70
1.83	CLAYSTONE, W/LIMESTONE NODULES, GRAY	512.13	790.87
0.82	SHALE, SANDY, CALCAREOUS, GRAY	512.95	790.05
2.05	CLAYSTONE, W/LIMESTONE NODULES, GRAY	515.00	788.00
1.46	CLAYSTONE, GRAY	516.46	786.54
1.50	SHALE, BLACK	517.96	785.04
0.23	BONE COAL	518.19	784.81
0.38	SHALE, GRAY	518.57	784.43
7.08	**COAL (NO. 8)**	**525.65**	**777.35**
	0.99 COAL		
	0.88 SHALE, GRAY		
	1.89 COAL		
	0.12 SHALE W/PYRITE		
	3.20 COAL		
1.67	SHALE, GRAY	527.32	775.68
0.54	LIMESTONE, GRAY	527.86	775.14
1.00	CLAYSTONE, GRAY	528.86	774.14
1.70	SHALE, CALCAREOUS, GRAY	530.56	772.44
0.80	CLAYSTONE, GRAY	531.36	771.64
0.70	LIMESTONE, GRAY	532.06	770.94

AMOUNT OF HARD ROCK ABOVE NO. 8 SEAM

HARD ROCK: 135.33 FT. (25.75%) OF CORE

SOFT ROCK: 390.32 FT. (74.25%) OF CORE

PROJECTED AQUIFERS

1. 0.00 TO 35.05
2. 36.74 TO 39.00 (MINOR)
3. 45.85 TO 47.00 (MINOR)
4. 64.35 TO 64.85 (MINOR)

W. J. MOTT CONTRACTOR. INC.

817 EIGHTH AVENUE
HUNTINGTON. W. VA.

DIAMOND CORE DRILL HOLE RECORD

FOR The Ohio Valley Coal Co. ADDRESS 56854 Pleasant Ridge Road Alledonia, Ohio 43902 DATE September 12, 1994

ON SW 1/4, NW 1/4, Section 28 T6N, Range 4W, off Hart RD NEAR Centerville, Smith TWP COUNTY Belmont STATE Ohio

HOLE NO. N-94-06 EL. 1300.0 DRILLER Walter Horton DRILL NO. Joy 22

CLASSIFICATION	THICKNESS OF STRATA FEET	THICKNESS OF STRATA INS. THS.	DEPTH FROM SURFACE FEET	DEPTH FROM SURFACE INS. THS.
Surface Casing	5	00	5	00
Brown & Grey Shale W/ clay seams	24	00	29	00
Grey Sandstone Broken & Split	4	20	33	20
Grey & Brown Shale Broken & Split	8	90	42	10
Grey Limey Shale	1	50	43	60
Grey Shale W/lime nodules	3	80	47	40
Red & Grey Clay & Shale	15	90	63	30
Grey sandy shale	1	20	64	50
Grey Shale	1	70	66	20
Grey Sandy Shale	0	70	66	90
Grey Shale	3	60	70	50
Red Shale & Clay	2	80	73	30
Grey Limey Shale	7	70	81	00
Grey Sandy Shale	2	00	83	00
Grey Sandstone	2	10	85	10
Grey Shale	4	20	89	30
Red Shale	0	80	90	10
Grey Limestone	3	10	93	20
Grey Limey Shale	4	10	97	30
Grey Limestone	1	10	98	40
Grey Limey Shale	11	20	109	60
Grey Shale W/ lime bands	15	40	125	00
Grey Limey Shale	1	80	126	80
Grey Shale	1	30	128	10
Grey Limey Shale	7	40	135	50
Grey Shale W/ lime nodules	23	00	158	50
Dark Grey to Black Shale	1	60	160	10
Grey Sandstone W/ shale seams	4	90	165	00
Grey Shale	0	50	165	50
Grey Clay Shale	5	10	170	60
Black Shale W/ coal seams	3	90	174	50
COAL	0	50	175	00
Dark Grey Shale	1	80	176	80
Grey Sandy Shale	3	00	179	80
Dark Grey Shale	3	90	183	70
COAL	0	40	184	10
Dark Grey Shale	1	30	185	40
COAL	0	20	185	60
Grey Lime Shale	5	90	191	50
Grey Limey Sandy Shale	9	50	201	00
Grey Shale	11	60	212	60
Red Shale	2	70	215	30

STARTED September 1, 19 94

COMPLETED September 8, 19 94

FORM 1

W. J. MOTT CONTRACTOR, INC.
817 EIGHTH AVENUE
HUNTINGTON, W. VA.

DIAMOND CORE DRILL HOLE RECORD

FOR The Ohio Valley Coal Company ADDRESS 56854 Pleasant Ridge Road Alledonia, Ohio 43902 DATE September 12 19 94

ON SW 1/4, NW 1/4, Sec 28, T6N, R4W off Hart Road, Smith TWP NEAR Centerville COUNTY Belmont STATE Ohio

HOLE NO. N-94-06 EL. 1300.0 DRILLER Walter Horton DRILL NO. Joy 22

CLASSIFICATION	THICKNESS OF STRATA FEET	THICKNESS OF STRATA INS. THS.	DEPTH FROM SURFACE FEET	DEPTH FROM SURFACE INS. THS.
Grey Shale	8	10	223	40
Grey Clay	3	20	226	60
Dark Grey Shale	1	10	227	70
Red & Grey Limey Shale	5	00	232	70
Grey Shale	10	10	242	80
Grey Limey Sandstone	1	00	243	80
Grey Shale	7	20	251	00
Grey Limey Shale	4	50	255	50
Red Shale W/ lime nodules	4	40	259	90
Grey Sandy Shale W/ sandstone seams	15	10	275	00
Grey Shale	2	10	277	10
Black Shale	0	50	277	60
COAL ----------	3	80	281	40
Grey Shale	1	30	282	70
Grey Lime Shale	12	30	295	00
Grey Shale W/ lime nodules	10	50	305	50
Grey Sandy Shale	1	70	307	20
Grey Shale	14	00	321	20
COAL ----------	1	40	322	60
Dark Grey Clay Shale	0	20	322	80
COAL ----------	0	50	323	30
Grey Shale	6	40	329	70
Dark Grey to Black Shale	1	30	331	00
Grey Shale	3	80	334	80
Grey Limestone	0	50	335	30
Grey Limey Shale	0	90	336	20
Grey Shale	3	70	339	90
Grey Sandy Shale	2	60	342	50
Grey Sandstone	6	50	349	00
Grey Limey Shale	1	20	350	20
Grey Limestone	2	50	352	70
Grey Limey Shale	6	60	359	30
Grey Shale	2	30	361	60
Grey Limey Shale	13	10	374	70
Grey Limestone	0	30	375	00
Grey Shale	3	50	378	50
Grey Shaley Limestone	15	00	393	50
Grey Limestone W/ shaley limestone seams	36	90	430	40
Dark grey Limey Shale	2	80	433	20
Grey Shale	2	38	435	58
Black Shale	0	22	435	80
COAL ----------	2	50	438	30

STARTED September 1 19 94

COMPLETED September 8, 19 94

FORM 1

TOVCC 10350

W. J. MOTT CONTRACTOR. INC.
817 EIGHTH AVENUE
HUNTINGTON, W. VA.

DIAMOND CORE DRILL HOLE RECORD

FOR The Ohio Valley Coal Company ADDRESS 56854 Pleasant Ridge Road Alledonia, Ohio 43902 DATE September 12 19 94
SW 1/4, NW 1/4, Sec 28, T6N, R4W
ON off Hart RD. Smith TWP NEAR Centerville COUNTY Belmont STATE Ohio

HOLE NO. N-94-06 EL. 1300.0 DRILLER Walter Horton DRILL NO. Joy 22

CLASSIFICATION	THICKNESS OF STRATA FEET	THICKNESS OF STRATA INS. THS.	DEPTH FROM SURFACE FEET	DEPTH FROM SURFACE INS. THS.
Bone & Shale	0	40	438	70
COAL & BONE	1	34	440	04
Dark grey Shale	0	25	440	29
Grey Lime Shale	1	40	441	69
Grey Lime Shale	4	81	446	50
Grey Limestone	2	60	449	10
Grey Lime Shale	6	90	456	00
Dark Grey to Black Shale	1	90	457	90
Grey Lime Shale	3	00	460	90
Black Shale	1	50	462	40
Grey Limey Shale	2	60	465	00
Grey Limestone W/ grey limey shale seams	23	20	488	20
Grey Lime Shale	2	80	491	00
Grey Limestone	2	10	493	10
Grey Shaley Clay	2	40	495	50
Black Shale	0	90	496	40
Grey Limey Shale	1	30	497	70
Grey Limestone	12	80	510	50
Grey Shale W/ lime nodules	5	50	516	00
Grey Clay Shale	2	00	518	00
Coal & Shale	0	23	518	23
Grey Shale	0	38	518	61
COAL	0	99	519	60
Grey Shale & Clay	0	88	520	48
COAL	5	21	525	69
Grey Lime Shale	1	80	527	49
Grey Limestone	0	54	528	03
Grey Lime Shale	0	40	528	43
Grey Clay Shale	0	57	529	00
Grey Limestone	1	70	530	70
Grey Clay	0	80	531	50
Grey Limestone	0	50	532	00

Total Depth 532.0 feet

STARTED September 1, 19 94
COMPLETED September 8, 19 94

FORM 1

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94–6

State Plane Coords: X2423328.60 Y730536.33 Surface Elevation 1303

Lithology	H20*	Thickness	Physical Properties
CASING		29.00	
SANDSTONE	*	4.40	HARD
SHALE	*	1.00	COMP, EROD
SHALE	*	0.65	COMP, EROD
SHALE		1.22	COMP, EROD
SHALE		0.47	COMP, EROD, ALK
SHALE	*	2.26	COMP, EROD
SHALE		3.10	COMP, EROD
SHALE		1.55	COMP, EROD, ALK
CLAYSTONE		2.20	COMP, EROD
SHALE	*	1.15	COMP, EROD
SHALE		3.90	COMP, EROD, ALK
SHALE		4.10	COMP, EROD, ALK
SHALE		3.60	COMP, EROD
CLAYSTONE		1.00	COMP, EROD
SHALE		2.10	COMP, EROD
CLAYSTONE		1.15	COMP, EROD
SHALE		1.50	COMP, EROD
SHALE	*	0.50	COMP, EROD
SHALE		1.85	COMP, EROD
CLAYSTONE		1.01	COMP, EROD
SHALE		1.20	COMP, EROD
SHALE		1.40	COMP, EROD
SHALE		1.69	COMP, EROD
SHALE		0.95	COMP, EROD
SHALE		1.91	COMP, EROD
SHALE		0.65	COMP, EROD, ALK
CLAYSTONE		0.60	COMP, EROD
SHALE		4.20	COMP, EROD, ALK
SHALE		0.95	COMP, EROD
SHALE		2.00	COMP, EROD, ALK
SANDSTONE		1.74	HARD
SHALE		4.25	COMP, EROD
SHALE		0.61	COMP, EROD
LIMESTONE		3.00	HARD, ALK
SHALE		4.15	COMP, EROD, ALK
SHALE		0.95	COMP, EROD
LIMESTONE		0.90	HARD, ALK
SHALE		6.14	COMP, EROD, ALK
SHALE		7.30	COMP, EROD, ALK

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-6

State Plane Coords: X2423328.60 Y730536.33 Surface Elevation 1303

Lithology	H20*	Thickness	Physical Properties
SHALE		1.10	COMP, EROD
SHALE		5.40	COMP, EROD, ALK
SHALE		5.00	COMP, EROD
SHALE		1.20	COMP, EROD, ALK
SHALE		0.90	COMP, EROD, ALK
SHALE		1.00	COMP, EROD, ALK
SHALE		1.25	COMP, EROD
SHALE		3.60	COMP, EROD, ALK
LIMESTONE		2.20	HARD, ALK
SHALE		4.50	COMP, EROD, ALK
SHALE		6.75	COMP, EROD, ALK
SHALE		3.10	COMP, EROD
SHALE		6.70	COMP, EROD, ALK
CLAYSTONE		3.53	COMP, EROD, ALK
SHALE		0.63	COMP, EROD, AC
SHALE		0.56	COMP, EROD
SHALE		0.33	COMP, EROD, AC
LIMESTONE		5.00	HARD, ALK
CLAYSTONE		5.05	COMP, EROD
COAL (NO. 12)		4.90	EROD, AC
SHALE		2.60	COMP, EROD
SANDSTONE		2.30	HARD
SHALE		3.80	COMP, EROD
BONE COAL		0.35	AC, EROD
SHALE		1.30	COMP, EROD
COAL		0.20	ALK, COMP, EROD
SHALE		0.68	COMP, EROD
SHALE		5.37	COMP, EROD, ALK
SHALE		3.40	COMP, EROD, ALK
SHALE		6.05	COMP, EROD, ALK
SHALE		10.45	COMP, EROD
SHALE		0.57	COMP, EROD
SHALE		0.22	COMP, EROD
SHALE		0.32	COMP, EROD
SHALE		0.45	COMP, EROD
SHALE		1.94	COMP, EROD
SHALE		0.20	COMP, EROD
SHALE		1.40	COMP, EROD
SHALE		0.50	COMP, EROD
SHALE		5.55	COMP, EROD

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94–6

State Plane Coords: X2423328.60 Y730536.33 Surface Elevation 1303

Lithology	H20*	Thickness	Physical Properties
CLAYSTONE		3.00	COMP, EROD
SHALE		0.80	COMP, EROD, AC
SHALE		3.12	COMP, EROD, ALK
SHALE		1.70	COMP, EROD, ALK
SHALE		2.45	COMP, EROD, ALK
SHALE		1.28	COMP, EROD
SHALE		7.85	COMP, EROD
SHALE		1.00	COMP, EROD, ALK
SHALE		5.65	COMP, EROD
SHALE		1.35	COMP, EROD
SHALE		4.15	COMP, EROD, ALK
SHALE		0.40	COMP, EROD
SHALE		0.82	COMP, EROD, ALK
SHALE		0.73	COMP, EROD
SHALE		2.23	COMP, EROD
SHALE		3.50	COMP, EROD
SANDSTONE		1.62	HARD
SHALE		10.70	COMP, EROD
SHALE		2.13	COMP, EROD
SHALE		0.53	COMP, EROD
COAL (NO. 11)		2.85	COMP, EROD, AC
SHALE		1.35	COMP, EROD
SHALE		13.14	COMP, EROD, ALK
SHALE		10.50	COMP, EROD, ALK
SANDSTONE		1.70	HARD
SHALE		8.50	COMP, EROD
SHALE		5.70	COMP, EROD
SHALE		0.10	COMP, EROD, AC
SHALE		0.10	COMP, EROD
COAL (NO. 10)		1.85	COMP, EROD, AC
SHALE		6.40	COMP, EROD, ALK
CLAYSTONE		1.25	COMP, EROD
SHALE		3.90	COMP, EROD, ALK
SHALE		1.40	COMP, EROD, ALK
CLAYSTONE		0.65	COMP, EROD
SHALE		9.55	COMP, EROD
SANDSTONE		1.90	HARD
SHALE		1.13	COMP, EROD, ALK
LIMESTONE		2.07	HARD, ALK
SHALE		3.30	COMP, EROD, ALK

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-6

State Plane Coords: X2423328.60 Y730536.33 Surface Elevation 1303

Lithology	H20*	Thickness	Physical Properties
LIMESTONE		4.30	HARD, ALK
CLAYSTONE		0.31	COMP, EROD
SHALE		1.60	COMP, EROD, ALK
CLAYSTONE		0.22	COMP, EROD
LIMESTONE		0.70	HARD, ALK
SHALE		12.05	COMP, EROD, ALK
SHALE		0.82	COMP, EROD, ALK
SHALE		1.25	COMP, EROD, ALK
LIMESTONE		0.22	HARD, ALK
SHALE		0.60	COMP, EROD, ALK
LIMESTONE		1.78	HARD, ALK
SHALE		3.25	COMP, EROD
LIMESTONE		11.40	HARD, ALK
LIMESTONE		1.50	HARD, ALK
LIMESTONE		11.30	HARD, ALK
SHALE		1.30	COMP, EROD, ALK
LIMESTONE		7.73	HARD, ALK
SHALE		3.20	COMP, EROD, ALK
SHALE		1.25	COMP, EROD, ALK
SHALE		5.22	COMP, EROD, ALK
SHALE		1.30	COMP, EROD, ALK
LIMESTONE		2.10	HARD, ALK
SHALE		4.75	COMP, EROD, ALK
CLAYSTONE		2.40	COMP, EROD
SHALE		0.22	COMP, EROD
COAL (NO. 9)		4.24	COMP, EROD, AC
SHALE		0.25	COMP, EROD
SHALE		1.40	COMP, EROD
SHALE		3.34	COMP, EROD, ALK
SHALE		1.50	COMP, EROD, ALK
LIMESTONE		2.60	HARD, ALK
SHALE		6.90	COMP, EROD, ALK
SHALE		1.90	COMP, EROD
SHALE		3.00	COMP, EROD, ALK
SHALE		1.50	COMP, EROD
SHALE		2.60	COMP, EROD, ALK
LIMESTONE		11.95	HARD, ALK
SHALE		1.20	COMP, EROD, ALK
LIMESTONE		3.62	HARD, ALK
SHALE		0.30	COMP, EROD, ALK

ATTACHMENT 13
(GEOLOGY REPORT – Underground Workings)

Applicant Ohio Valley Coal Company Drill Hole # N94-6

State Plane Coords: X2423328.60 Y730536.33 Surface Elevation 1303

Lithology	H20*	Thickness	Physical Properties
LIMESTONE		2.93	HARD, ALK
LIMESTONE		0.85	HARD, ALK
SHALE		0.30	COMP, EROD, ALK
LIMESTONE		1.35	HARD, ALK
SHALE		0.50	COMP, EROD
CLAYSTONE		1.20	COMP, EROD
SHALE		1.35	COMP, EROD, ALK
LIMESTONE		2.52	HARD, ALK
CLAYSTONE		2.15	COMP, EROD
SHALE		2.43	COMP, EROD
LIMESTONE		12.65	HARD, ALK
CLAYSTONE		1.83	COMP, EROD, ALK
SHALE		0.82	COMP, EROD, ALK
CLAYSTONE		2.05	COMP, EROD, ALK
CLAYSTONE		1.46	COMP, EROD
SHALE		1.50	COMP, EROD
BONE COAL		0.23	COMP, EROD, AC
SHALE		0.38	COMP, EROD
COAL (NO. 8)		7.08	COMP, EROD, AC
SHALE		1.67	COMP, EROD
LIMESTONE		0.54	HARD, ALK
CLAYSTONE		1.00	COMP, EROD
SHALE		1.70	COMP, EROD, ALK
CLAYSTONE		0.80	COMP, EROD
LIMESTONE		0.70	HARD, ALK

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam

Stratum	Total Sulfur %	Pyrite Sulfur %	Potential Acidity Mg/l as CaCO3	Neutralization Potential (/1000 Tons)	CaCO3 Deficiency (/1000 Tons)
Roof	3.44	2.64	107	7.71	99.3
Coal	6.41	3.27	200	7.83	192
Bottom	2.44	1.09	76.2	254	-178

Legend:
AC = ACID PRODUCING
ALK = ALKALINE PRODUCING
COMP = COMPACTIBLE
EROD = ERODIBLE

* – Indicates water bearing stratum under column labelled H2O

Stratum thickness is measured in feet.

DRILL LOGS, INFORMATION, AND ATTACHMENT 13'S
APPLICATION AREA D-0360-3

ADDENDUM TO PART 2, PAGE 17, B
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

GEOLOGY DESCRIPTION

Stratigraphy of the proposed permit area is formed by the Monongahela formation of the Pennsylvania period, and the Dunkard group of Permian time. The primary strata of both sections consists of an alternating sequence of limestone, sandstone, siltstone, shale, claystone, and coal.

The Monongahela formation is approximately 245 feet thick. In ascending order, it occupies the interval from the Pittsburgh No. 8 to the Waynesburg No. 11 coal bed. The primary rock units are limestone, shale, and claystone. Limestone forms 44 to 68 percent of this stratigraphic interval. As a result of longwall mining, the immediate strata overlying the Pittsburgh No. 8 coal bed will cave to a height of 3 to 6 times the mining height, depending on the bulking factor of roof strata. The beds above this caved zone are provided some support by the caved rock but may sag and give rise to bed separation and may be subject to fracturing, to heights 24 to 54 times the mining height (120 to 270 feet above the mine).

The Dunkard group is 250 to 300 feet thick, occupying the interval from the Waynesburg No. 11 coal bed to the ground surface. The primary rock units here are shale and claystone. These soft units form about 85 percent of this stratigraphic interval. This strata is primarily located within the constrained zone of disturbance resulting from longwall mining. The constrained zone is defined as that interval above 24 to 54 times the mining height and below 50 feet from the ground surface. This strata is expected to be sufficiently confined to prevent development of any fractures. Rock beds here will tend to absorb most of the strain energy without fracturing.

Strata close to the surface, however, are not sufficiently confined and may move in any direction. Surface cracks may be produced from tensile strains resulting from longwall mining. The depth of these cracks is generally estimated to be less than 50 feet.

The main safety against inflow of groundwater into the Powhatan No. 6 Mine is afforded by the constrained zone. The nature and thickness of the individual beds found here are of particular importance. Through extensive core drilling, multiple beds of claystone, with total thicknesses of 79 to 108 feet, have been identified. These claystone beds are relatively impermeable and generally capable of absorbing large amounts of strain energy

before fracture. In the application area, it is our opinion that sufficient claystones are in-place to provide an adequate barrier against inflow from surface water and shallow groundwater disruptions caused by longwall mining. Where stream valleys are encountered, longwall operations will not be conducted under less than 240 feet of cover to further protect the mine and overlying groundwater resources.

The rock strata of Belmont County typically form a gentle monocline that dip southeasterly at grades less than one percent (Figure 2), but in the application area is locally more southward to southwesterly. The base elevation of the No. 8 seam ranges from 783 ft. in the northeast corner to 720 ft. in the southwest corner, near the village of Centerville.

The orientation of the major joints in rock and face cleat in coal is approximately N 75° W. The minor joints and butt cleats are generally perpendicular to these - N 15° E.

Geology and Coal Resources of Belmont County, Ohio, Geological Survey Professional Paper 380, reports that a small dome-shaped anticline lies in eastern Belmont County, primarily in Mead Township. This structure is located over three miles east of the Powhatan No. 6 Mine application area and, therefore, is not expected to have an impact on ground water flow in the application area.

Department of Natural Resources

George V. Voinovich • *Governor*
Frances S. Buchholzer • *Director*

December 8, 1992

Mr. David L. Bartsch, P.E.
Project Engineer
The Ohio Valley Coal Company
56854 Pleasant Ridge Road
Alledonia, Ohio 43902

RE: Test Hole Variance Request, Permit D-0360, Powhatan No. 6 Mine, Smith Township, Belmont County

Dear Mr. Bartsch:

In response to the above captioned variance request, dated June 30, 1992, approval is granted under the provisions of rule 1501:13-4-13 (C)(3). Submit a copy of this packet and letter as part of the permit application when you submit the packet for pre-initial review.

Sincerely,

Glen G. Kizer
Chief
Division of Reclamation

GGK/gm/ds

cc: George Mychkovsky
Vanessa Tolliver
Harry Payne

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-4

*Coordinates: S. 18,988.20 W. 62,484.14 Surface Elevation 1282.62

Lithology	H_2O**	Thickness	Physical Properties
Topsoil	—	1.0	CM, EM
Subsoil	—	4.0	CM, EM
Weathered Rock	—	15.0	CM, EM
Sandstone	Yes	2.0	CS, ES
Claystone	Yes	14.0	CV, EV
Shale	—	6.5	CM, EM
Shale, Black	—	2.9	AC, CM, EM
Shale, Calc.	Yes	2.8	AK, CM, EM
Claystone-Limestone	—	14.7	AK, CM, EM
Sandstone	—	2.0	CS, ES
Shale	Yes	10.7	CM, EM
Claystone w/Limestone	—	13.9	AK, CV, EV
Shale, Black	—	0.4	AC, CM, EM
Claystone	—	1.1	CV, EV
Shale, Black	—	0.2	AC, CM, EM
Claystone w/Limestone	—	16.8	AK, CV, EV
Shale w/Sandstone	—	4.4	CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-4

*Coordinates: S. 18,988.20 W. 62,484.14 Surface Elevation 1282.62

Lithology	H_20**	Thickness	Physical Properties
Claystone w/Limestone		50.0	AK, CV, EV
Shale w/Sandstone		13.9	CM, EM
Claystone w/Limestone		14.3	CV, EV
Shale, Black		0.3	AC, CM, EM
Claystone		3.9	CV, EV
Shale, Black w/coal		4.5	AC, CM, EM
Shale & Claystone		4.1	CM, EM
Shale, Black		3.3	AC, CM, EM
Shale w/Sandstone		7.4	CM, EM
Limestone		1.0	AK, CS, ES
Shale, Black		0.35	AC, CM, EM
Claystone w/Limestone		13.6	AK, CV, EV
Shale, w/Claystone		27.4	AK, CM, EM
Shale, Black		0.7	AC, CM, EM
Claystone w/Limestone		8.4	AK, CV, EV
Shale w/Claystone		15.4	CM, EM
Limestone		1.8	AK, CS, ES

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10362

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-4

*Coordinates: S. 18,988.20 W. 62,484.14 Surface Elevation 1282.62

Lithology	H_20**	Thickness	Physical Properties
Sandstone w/Shale		8.0	CS, ES
Shale w/CS &LS		17.0	CM, EM
Shale, Black w/coal		1.2	AC, CM, EM
Shale		5.7	CM, EM
Coal		0.2	AC, CM, EM
Shale, w/Claystone		44.6	CM, EM
Sandstone w/Shale		2.3	CS, ES
Claystone w/Limestone		14.6	AK, CV, EV
Sandstone		3.8	CS, ES
Shale/Claystone w/LS		88.7	AK, CM, EM
Coal w/Black Shale		3.9	AC, CM, EM
Claystone w/Limestone		23.3	AK, CV, EV
Shale, Dk. Gray-Black		0.6	AC, CM, EM
Limestone w/Shale		24.8	AK, CS, ES
Claystone w/Limestone		9.1	AK, CV, EV
Shale, Black		0.4	AC, CM, EM
Limestone w/Claystone		14.8	AK, CS, ES

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10363

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-4

*Coordinates: S. 18,988.20 W. 62,484.14 Surface Elevation 1282.62

Lithology	H_20**	Thickness	Physical Properties
Claystone w/Limestone		8.7	AK, CV, EV
Coal w/Black Shale		0.7	AC, CM, EM
Claystone		0.9	CV, EV
Coal (Pgh. No. 8)		5.4	AC, CM, EM
Shale & Claystone		3.1	CM, EM,

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	(not analyzed)				
No. 8 Coal	(not analyzed)				
Bottom	(not analyzed)				

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10364

DIAMOND DRILL HOLE: N92 - 4

ENGINEER: W. J. SIPLIVY
ELEVATION: 1282.62
COORDINATES: S 18,988.30 W 62,484.14

DRILLER: L. J. HUGHES & SONS, INC., GEORGE RITCHIE

TOWNSHIP: SMITH
SECTION: 20, N 1/2
COUNTY: BELMONT

SURFACE OWNER: BETTY DUNFEE
DATE STARTED: APRIL 15, 1992
DATE FINISHED: APRIL 20, 1992

DESCRIPTION

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
20.00	20.00	Non-coring
2.00	22.00	Sandstone, brown, fe-stained
13.95	35.95	Claystone, brown, fe-stained
2.90	38.85	Shale, gray,sandy, jointed w/fe-stains
0.35	39.20	Sandstone, l. gray
2.60	41.80	Shale, m. gray, sandy
2.90	44.70	Shale, black, carbonaceous
2.80	47.50	Shale, m. gray, calc.w/fe-stains
1.50	49.00	Claystone, m. gray
2.00	51.00	Limestone, l. gray, hard
1.10	52.10	Claystone, m. gray
1.00	53.10	Limestone, l. gray, hard
4.40	57.50	Claystone, gray-olive, fe-stained
0.40	57.90	Limestone, l. gray, hard
3.45	61.35	Claystone, m. gray
0.80	62.15	Shale, tan, sandy
2.05	64.20	Sandstone, l.gray-tan, silty
10.20	74.40	Shale, gray-tan, jointed w/fe-stains 69-70'
0.50	74.90	Shale, red
1.50	76.40	Claystone, gray-green
2.20	78.60	Limestone, l. gray w/ Cs ptgs.
2.40	81.00	Claystone, m. gray w/ Ls ptgs.
5.15	86.15	Claystone, m. gray
0.75	86.90	Claystone, m. gray w/ Ls ptgs.
1.90	88.80	Claystone, dk. gray
0.40	89.20	Shale, black, carbonaceous
1.10	90.30	Claystone, m. gray
0.15	90.45	Shale, black, carbonaceous
16.75	107.20	Claystone, m.gray w/Ls nods.
1.30	108.50	Sandstone, l. gray w/occ. Sh. stks.
3.10	111.60	Shale, m. gray w/Ss stks.
4.30	115.90	Claystone, m. gray
3.30	119.20	Limestone, l. gray w/ Cs ptgs.
26.60	145.80	Claystone, m.gray w/Ls nods.

DIAMOND DRILL HOLE: N92 – 4
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.50	147.30	Limestone, m. gray, silty
5.10	152.40	Claystone, m. gray
0.40	152.80	Limestone, l. gray, hard
1.40	154.20	Claystone, m. gray
0.90	155.10	Limestone, l. gray, hard
6.45	161.55	Claystone, m. gray
5.10	166.65	Shale, m. gray, sandy
2.20	168.85	Sandstone, l. gray
2.15	171.00	Shale, m. gray, sandy
0.70	171.70	Sandstone, l. gray
3.70	175.40	Shale, m. gray
0.15	175.55	Limestone, l. gray, hard
6.70	182.25	Claystone, m. gray
5.35	187.60	Shale, m. gray w/Ls nods.
2.05	189.65	Claystone, m. gray
0.30	189.95	Shale, black, carbonaceous
3.90	193.85	Claystone, dk. gray
1.55	195.40	Shale, black, carbonaceous
1.29	196.69	Coal, (WASHINGTON No. 12) bony w/thin Ss ptgs.
1.23	197.92	Shale, black, carbonaceous
0.38	198.30	Coal, bony
1.18	199.48	Claystone, m. gray
2.90	202.38	Shale, m. gray
3.27	205.65	Shale, black, carbonaceous
7.75	213.40	Shale, m. gray
0.65	214.05	Sandstone, l. gray
1.00	215.05	Limestone, l. gray, hard
0.35	215.40	Shale, black, carbonaceous
13.60	229.00	Claystone, m. gray w/ Ls ptgs.
14.40	243.40	Shale, m. gray w/Ss stks.
2.00	245.40	Shale, red-gray
4.70	250.10	Claystone, m.gray w/Ls nods.
5.60	255.70	Shale, m. gray
0.65	256.35	Claystone, m. gray
0.70	257.05	Shale, black, carbonaceous
0.35	257.40	Limestone, m. gray, silty
8.00	265.40	Claystone, m.gray w/Ls nods.
5.00	270.40	Shale, m. gray
1.10	271.50	Claystone, m. gray
9.25	280.75	Shale, m. gray, sandy
1.75	282.50	Limestone, l. gray, sandy
4.40	286.90	Sandstone, l. gray
3.60	290.50	Shale, m. gray w/Ss stks.
1.10	291.60	Claystone, m. gray
2.20	293.80	Shale, m. gray
0.60	294.40	Limestone, m. gray, silty
5.50	299.90	Claystone, m.gray w/Ls nods.
2.25	302.15	Shale, m. gray

DIAMOND DRILL HOLE: N92 - 4
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.30	302.45	Sandstone, l. gray
5.05	307.50	Shale, m. gray, sandy
0.15	307.65	Shale, black, carbonaceous w/pyrite nod.
1.03	308.68	Coal (WAYNESBURG No. 11) w/bony ptgs.
5.72	314.40	Shale, m. gray
0.15	314.55	Coal
4.05	318.60	Claystone, m. gray
27.30	345.90	Shale, m. gray
13.20	359.10	Shale, m. gray w/Ss stks.
1.20	360.30	Sandstone, l. gray
0.80	361.10	Shale, m. gray, sandy
0.25	361.35	Sandstone, l. gray
1.00	362.35	Claystone, m. gray
3.35	365.70	Shale, m. gray
6.70	372.40	Claystone, m.gray w/Ls nods.
2.90	375.30	Limestone, l. gray, hard
0.65	375.95	Claystone, gray-green
3.75	379.70	Sandstone, l. gray
2.25	381.95	Shale, m. gray
2.20	384.15	Limestone, m. gray, silty
3.25	387.40	Shale, m. gray, calcareous
3.65	391.05	Limestone, l. gray, hard
1.55	392.60	Claystone, m. gray
1.20	393.80	Limestone, m. gray, silty
6.10	399.90	Shale, m. gray, calcareous
5.20	405.10	Claystone, m.gray w/Ls nods.
2.00	407.10	Limestone, l. gray, hard
1.90	409.00	Claystone, m. gray
1.70	410.70	Limestone, m. gray, silty
0.45	411.15	Claystone, green
1.45	412.60	Limestone, m. gray, silty
4.80	417.40	Shale, m. gray, calcareous
2.60	420.00	Claystone, gray-green
9.60	429.60	Shale, m. gray, calcareous
3.95	433.55	Limestone, m. gray, silty
0.40	433.95	Shale, dk. gray
2.15	436.10	Limestone, l. gray, hard
0.65	436.75	Shale, m. gray
0.40	437.15	Shale, green
0.70	437.85	Limestone, l. gray, hard
2.35	440.20	Shale, gray-green
1.65	441.85	Limestone, l. gray, hard
0.65	442.50	Shale, m. gray
5.90	448.40	Limestone, l. gray w/ Cs ptgs.
1.20	449.60	Shale, m. gray
1.15	450.75	Flintclay, brown
8.65	459.40	Shale, gray-green, calcareous
4.50	463.90	Limestone, l. gray w/ Cs ptgs.

DIAMOND DRILL HOLE: N92 - 4
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA	
4.47	468.37	Claystone, dk. gray	
0.23	468.60	Shale, black, carbonaceous	
3.54	472.14	Coal (SEWICKLEY No. 9)	
		0.26 coal	
		0.08 bone	
		0.52 coal	
		0.02 shale	
		0.80 coal	
		0.09 bone	
		0.10 shale	
		0.08 bone	
		1.43 coal	
		0.16 bone w/coal	
		3.54 total seam	
0.10	472.24	Shale, black, carbonaceous	
1.46	473.70	Claystone, m. gray	
5.25	478.95	Shale, m. gray	
1.45	480.40	Limestone, l. gray, hard	
10.55	490.95	Shale, m. gray w/Ss stks.	
1.75	492.70	Claystone, m.gray w/Ls nods.	
1.35	494.05	Limestone, l. gray w/ Cs ptgs.	
1.50	495.55	Claystone, dk. gray-green	
0.15	495.70	Shale, black, carbonaceous	(FISHPOT HORIZON)
0.45	496.15	Shale, dk. gray	
5.00	501.15	Limestone, l. gray w/ Cs ptgs.	
1.60	502.75	Limestone, l. gray, hard	
0.70	503.45	Limestone, l. gray w/ Cs ptgs.	
3.95	507.40	Limestone, l. gray, hard	
0.10	507.50	Shale, m. gray	
1.90	509.40	Limestone, l. gray, hard	
1.40	510.80	Shale, gray-green	
2.00	512.80	Limestone, l. gray, hard	
0.35	513.15	Shale, dk. gray	
1.65	514.80	Limestone, l. gray, hard	
0.70	515.50	Shale, gray-green	
5.40	520.90	Limestone, l. gray w/ Cs ptgs.	
2.40	523.30	Claystone, gray-green	
2.10	525.40	Limestone, l. gray, hard	
1.20	526.60	Shale, m. gray	
0.90	527.50	Limestone, l. gray, hard	
0.90	528.40	Shale, m. gray w/Ls nods.	
1.55	529.95	Claystone, m. gray	
0.35	530.30	Shale, black, carbonaceous	
2.00	532.30	Shale, m. gray	
1.60	533.90	Limestone, l. gray, hard	
0.55	534.45	Claystone, gray-green	
5.30	539.75	Limestone, l. gray w/ Cs ptgs.	

DIAMOND DRILL HOLE: N92 - 4
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.50	540.25	Claystone, m.gray w/Ls nods.
1.85	542.10	Limestone, m. gray, silty
0.75	542.85	Shale, m. gray
2.25	545.10	Limestone, l. gray, hard
0.90	546.00	Claystone, green w/Ls nods.
1.15	547.15	Claystone, green
0.50	547.65	Limestone, l. gray, hard
1.50	549.15	Claystone, green
0.70	549.85	Limestone, l. gray, hard
2.70	552.55	Claystone, gray-green
0.15	552.70	Shale, dk. gray
1.12	553.82	Claystone, m. gray
0.18	554.00	Shale, black, carbonaceous
0.52	554.52	Coal (ROOF COAL)
		0.37 bony coal
		0.10 shale
		0.05 coal
		0.52 total seam
0.94	555.46	Claystone, m. gray
5.44	560.90	Coal (PITTSBURGH No. 8)
		2.44 coal
		0.16 bone
		0.18 coal
		0.05 bone
		1.41 coal
		0.09 bone
		1.11 coal w/bone
		5.44 total seam
0.31	561.21	Shale, dk. gray
0.20	561.41	Claystone, m. gray
1.60	563.01	Shale, m. gray, calcareous
0.10	563.11	Claystone, m. gray
0.89	564.00	Shale, m. gray, calcareous

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-5

*Coordinates: S. 9,530.00 W. 47,390.00 Surface Elevation 1165±

Lithology	H_2O**	Thickness	Physical Properties
Topsoil		1.0	CV, EM
Subsoil		4.0	CV, EM
Weathered Rock		25.0	CM, EM
Shale Dk. w/Coal		12.3	AC, CM, EM
Claystone w/Limestone		17.7	AK, CV, EV
Shale w/Limestone		17.0	AK, CM, EM
Claystone		10.2	AK, CV, EV
Shale w/Sandstone	Yes	7.6	CM, EM,
Sandstone	Yes	8.5	CS, ES
Shale, Sandy		20.7	CM, EM
Shale, Black		5.1	CM, EM
Shale w/LS & SS		11.4	AK, CM, EM
Coal w/Black Shale		2.5	AC, CM, EM
Claystone w/LS & Shale		16.7	AK, CV, EV
Sandstone w/Shale	Yes	20.0	CS, ES
Coal		1.7	AC, CM, EM
Claystone w/Limestone		16.8	AK, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-5

*Coordinates: S. 9,530.00 W. 47,390.00 Surface Elevation 1165±

Lithology	H_20**	Thickness	Physical Properties
Shale w/Sandstone		8.2	CM, EM
Claystone w/Limestone		28.9	AK, CV, EV
Shale w/Limestone		52.9	AK, CM, EM
Claystone		7.4	CV, EV
Coal w/Black Shale		4.3	AC, CM, EM
Claystone w/Limestone		22.3	AK, CV, EV
Shale, Black		0.7	AC, CM, EM
Limestone		7.3	AK, CS, ES
Shale w/Limestone		8.1	AK, CM, EM
Claystone w/Limestone		5.3	AK, CV, EV
Shale		5.5	CM, EM
Limestone w/Claystone		5.1	AK, CS, ES
Shale & Claystone, Dk. Gray		2.7	AC, CV, EV
Limestone w/Shale		11.1	AK, CS, ES
Claystone w/Limestone		5.5	AK, CV, EV
Coal & Dk. Shale		3.0	AC, CM, EM
Claystone		1.0	CV, EV

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10371

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-5

*Coordinates: S. 9,530.00 W. 47,390.00 Surface Elevation 1165±

Lithology	H_20**	Thickness	Physical Properties
Coal (No. 8)	—	5.3	AC, CM, EM
Shale, Dk.	—	0.2	AC, CM, EM
Claystone w/Limestone	—	3.1	AK, CV, EV

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	2.63%	2.39%	74.69	20.99	+53.70
No. 8 Coal	8.58%	6.99%	218.40	9.63	+208.80
Bottom	3.40%	3.11%	97.20	131.00	-33.80

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10372

DIAMOND DRILL HOLE: N92 - 5

ENGINEER: W. J. SIPLIVY
ELEVATION: 1165±
COORDINATES: S 9,530.00 W 47,390.00

DRILLER: L. J. HUGHES & SONS, INC., LOWELL RITCHIE

TOWNSHIP: SMITH
SECTION: 4, NW 1/4
COUNTY: BELMONT

SURFACE OWNER: JOHN YODER
DATE STARTED: AUGUST 18, 1992
DATE FINISHED: AUGUST 20, 1992

DESCRIPTION

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
30.00	30.00	Non-coring
1.00	31.00	Shale, m. gray
0.85	31.85	Coal WASHINGTON (No. 12)
10.10	41.95	Shale, dk. gray, argillaceous
0.40	42.35	Coal
9.45	51.80	Claystone, m. gray
0.50	52.30	Limestone, l. gray
7.70	60.00	Claystone, m.gray w/Ls nods.
5.10	65.10	Shale, m. gray
2.20	67.30	Shale, red
9.45	76.75	Shale, m. gray w/Ls nods.
0.25	77.00	Limestone, l. gray
2.80	79.80	Claystone, m. gray
7.40	87.20	Claystone, m.gray-red w/Ls nods.
3.70	90.90	Shale, m. gray, sandy
0.35	91.25	Sandstone, l. gray
0.90	92.15	Shale, m. gray w/Fe-stained joints
1.90	94.05	Sandstone, tan w/ Fe-stained joints
0.75	94.80	Shale, m. gray w/Fe-stained joints
8.50	103.30	Sandstone, l. gray-tan w/ Fe-stained joints
5.70	109.00	Shale, m. gray, sandy
3.30	112.30	Shale, m. gray
4.50	116.80	Claystone, m.gray w/Ls nods.
2.45	119.25	Shale, m. gray, silty
1.10	120.35	Sandstone, l. gray w/0.15' Sh ptg.
3.65	124.00	Shale, m. gray, sandy
5.10	129.10	Shale, black
0.80	129.90	Claystone, m. gray
1.05	130.95	Limestone, l. gray
4.10	135.05	Shale, m. gray w/Ls nods.
1.55	136.60	Shale, m. gray, sandy
0.55	137.15	Sandstone, l. gray
2.70	139.85	Shale, m. gray
0.60	140.45	Claystone, dk. gray, calcareous

DIAMOND DRILL HOLE: N92 - 5
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.15	140.60	Shale, black, carbonaceous
2.32	142.92	Coal w/occ thin bone ptgs. WAYNESBURG (No. 11)
3.58	146.50	Claystone, m. gray
10.60	157.10	Claystone, m.gray w/Ls nods.
2.50	159.60	Shale, m. gray
1.40	161.00	Sandstone, tan w/ Fe-stained joints
9.85	170.85	Sandstone, l. gray w/occ. Sh. stks.
0.40	171.25	Shale, m. gray
1.80	173.05	Sandstone, l. gray w/occ. Sh. stks.
6.50	179.55	Shale, m. gray
1.76	181.31	Coal UNIONTOWN (No. 10) 0.50 coal 0.19 bone 0.19 shale 0.07 coal 0.31 shale 0.08 bone w/coal 0.42 coal ---- 1.76 total seam
10.69	192.00	Claystone, m. gray
1.30	193.30	Limestone, l. gray, nodular
1.50	194.80	Claystone, m.gray w/Ls nods.
1.10	195.90	Limestone, l. gray, no
2.20	198.10	Claystone, m.gray w/Ls nods.
1.20	199.30	Sandstone, l. gray w/occ. Sh. stks.
1.20	200.50	Shale, m. gray, sandy
2.60	203.10	Sandstone, l. gray
3.20	206.30	Shale, m. gray, sandy
2.20	208.50	Claystone, m.gray w/Ls nods.
2.80	211.30	Limestone, l. gray w/ Cs ptgs.
2.20	213.50	Claystone, m. gray
4.10	217.60	Limestone, l. gray w/ Cs ptgs.
1.90	219.50	Claystone, m. gray
1.70	221.20	Limestone, l. gray w/ Cs ptgs.
1.20	222.40	Claystone, m. gray
0.90	223.30	Limestone, l. gray
7.50	230.80	Claystone, m. gray-green
3.30	234.10	Limestone, l. gray
0.45	234.55	Claystone, green
0.65	235.20	Limestone, l. gray
5.20	240.40	Shale, m. gray-green
10.80	251.20	Shale, m. gray w/Ls nods.
0.40	251.60	Limestone, l. gray
8.65	260.25	Shale, m. gray, calcareous
1.80	262.05	Limestone, l. gray
0.75	262.80	Shale, m. gray, calcareous
0.65	263.45	Limestone, l. gray

DIAMOND DRILL HOLE: N92 - 5
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.70	264.15	Shale, m. gray
0.65	264.80	Limestone, l. gray
3.85	268.65	Shale, m. gray-green
1.60	270.25	Limestone, l. gray
0.85	271.10	Shale, m. gray
0.50	271.60	Limestone, l. gray
0.80	272.40	Shale, m. gray, calcareous
1.20	273.60	Limestone, l. gray
0.65	274.25	Shale, m. gray, calcareous
2.10	276.35	Limestone, l. gray w/ Cs ptgs.
1.10	277.45	Shale, m. gray
0.90	278.35	Flintclay, m. gray-brown
8.85	287.20	Shale, m. gray, calcareous
0.90	288.10	Limestone, l. gray w/ Cs ptgs.
4.25	292.35	Claystone, dk. gray
0.15	292.50	Shale, m. gray
2.95	295.45	Claystone, dk. gray
4.15	299.60	Coal SEWICKLEY (No. 9) 2.18 coal 0.03 pyrite 0.17 coal 0.04 bony coal 0.15 shale 0.03 coal 0.04 bony coal 0.58 coal 0.04 bone 0.26 coal 0.12 bony coal 0.28 coal 0.23 bony coal 4.15 total seam
0.10	299.70	Shale, black, carbonaceous
4.60	304.30	Claystone, m. gray
1.10	305.40	Limestone, l. gray, nodular
5.30	310.70	Claystone, m. gray
7.00	317.70	Shale, dk. gray w/Ls nods.
3.20	320.90	Limestone, l. gray w/ Cs ptgs.
1.10	322.00	Claystone, dk. gray
0.25	322.25	Shale, black, carbonaceous (FISHPOT horizon)
0.45	322.70	Shale, dk. gray
7.30	330.00	Limestone, l. gray
2.80	332.80	Shale, m. gray, calcareous
2.40	335.20	Limestone, l. gray
1.50	336.70	Shale, dk. gray
1.40	338.10	Limestone, l. gray
1.60	339.70	Claystone, m. gray

DIAMOND DRILL HOLE: N92 - 5
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.90	341.60	Limestone, l. gray w/ Cs ptgs.
1.80	343.40	Claystone, dk. gray-green
5.50	348.90	Shale, m. gray
2.90	351.80	Limestone, l. gray w/ Cs ptgs.
2.20	354.00	Claystone, dk. gray-green
0.45	354.45	Shale, dk. gray
1.65	356.10	Claystone, dk. gray
0.20	356.30	Limestone, m. gray, silty
0.40	356.70	Shale, black
1.30	358.00	Limestone, l. gray
0.50	358.50	Shale, m. gray
1.00	359.50	Limestone, m. gray, silty
2.80	362.30	Claystone, m. gray
5.50	367.80	Limestone, l. gray
1.30	369.10	Claystone, m.gray w/Ls nods.
4.20	373.30	Claystone, m. gray
0.30	373.60	Shale, dk. gray
1.60	375.20	Claystone, m. gray
1.04	376.24	ROOF COAL
0.03	376.27	Shale, dk. gray w/pyrite
0.93	377.20	Claystone, m. gray
5.28	382.48	Coal PITTSBURGH (No. 8)
		0.11 bony coal
		1.90 coal
		0.05 fusain
		0.09 coal
		0.12 pyrite
		0.29 coal
		0.05 bone
		1.53 coal
		0.07 bone w/pyrite
		0.89 coal
		0.18 bony coal

		5.28 total seam
0.22	382.70	Shale, dk. gray
1.25	383.95	Claystone, m. gray
1.85	385.80	Claystone, m.gray w/Ls nods.

AMOUNT OF SOFT/HARD ROCK ABOVE PITTSBURGH COAL SEAM

1. SOFT ROCK: 292.3' or 77.50% of core.
2. HARD ROCK: 84.9' or 22.50% of core.

PROJECTED AQUIFERS

1. 91.25' to 103.3'
2. 159.6' to 161'

STATE PLANE COORDS.
X 2,439,791.02
Y 732,272.68

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-6

*Coordinates: S. 8,430.00 W. 53,560.00 Surface Elevation 1261±

Lithology	H_2O**	Thickness	Physical Properties
Topsoil		1.0	CV, EV
Subsoil		4.0	CM, EM
Weathered Rock		15.0	CM, EM
Shale	Yes	7.0	CM, EM
Claystone		14.2	CV, EV
Shale	Yes	6.4	CM, EM
Claystone w/Limestone	Yes	19.4	AK, CV, EV
Shale		6.1	CM, EM
Sandstone	Yes	4.8	CS, ES
Shale		4.0	CM, EM
Claystone w/Limestone		24.6	AK, CV, EV
Shale		2.4	CM, EM
Sandstone w/Shale		11.9	CS, ES
Shale, Dk. w/Coal		4.1	AC, CM, EM
Limestone w/Claystone		9.0	AK, CS, ES
Coal w/Black Shale		4.1	AC, CM, EM
Shale		7.2	CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-6

*Coordinates: S. 8,430.00 W. 53,560.00 Surface Elevation 1261±

Lithology	H_2O**	Thickness	Physical Properties
Coal w/Black Shale		2.5	AC, CM, EM
Claystone w/Limestone		32.7	AK, CV, EV
Claystone, Black		0.4	AC, CV, EV
Limestone w/Claystone		5.9	AK, CS, ES
Sandstone		6.2	CS, ES
Shale w/Sandstone		15.5	CS, ES
Claystone w/Limestone		5.5	AK, CV, EV
Sandstone		6.0	CS, ES
Shale		2.3	CM, EM
Shale, Black		0.1	AC, CM, EM
Claystone w/Limestone		4.0	AK, CV, EV
Shale		3.2	CM, EM
Shale, w/SS & CS		7.9	CM, EM
Coal w/Black Shale		4.2	AC, CM, EM
Claystone w/Limestone		11.8	AK, CV, EV
Shale w/Sandstone		11.5	CM, EM
Sandstone		25.6	CS, ES

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10378

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-6

*Coordinates: S. 8,430.00 W. 53,560.00 Surface Elevation 1261±

Lithology	H_2O**	Thickness	Physical Properties
Black Shale w/Coal		2.1	AC, CM, EM
Claystone w/LS & Shale		13.5	AK, CV, EV
Sandstone		4.4	CS, ES
Shale		5.1	CM, EM
Claystone w/Limestone		30.0	AK, CV, EV
Shale, w/Limestone		58.0	AK, CM, EM
Coal (No. 9)		3.2	AC, CM, EM
Claystone w/Limestone		22.3	AK, CV, EV
Shale, Black		0.5	AC, CM, EM
Limestone w/Claystone		17.9	AK, CS, ES
Claystone w/Shale		6.0	CV, EV
Limestone w/Claystone		18.4	AK, CS, ES
Claystone		3.7	CV, EV
Black Shale w/Claystone		1.0	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10379

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-6

*Coordinates: S. 8,430.00 W. 53,560.00 Surface Elevation 1261±

Lithology	H_2O**	Thickness	Physical Properties
Claystone	—	1.0	CV, EV
Coal (No. 8)	—	4.6	AC, CM, EM
Claystone w/Shale	—	5.0	AK, CM, EM

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	1.60%	1.47%	49.98	24.83	+25.15
No. 8 Coal	5.19%	3.27%	162.14	8.86	+153.28
Bottom	0.97%	0.79%	30.30	535.00	-504.70

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10380

DIAMOND DRILL HOLE: N92 - 6

ENGINEER: W. J. SIPLIVY
ELEVATION: 1261±
COORDINATES: S 8,430.00 W 53,560.00

DRILLER: L. J. HUGHES & SONS, INC., LOWELL RITCHIE

TOWNSHIP: SMITH
SECTION: 10, NW 1/4
COUNTY: BELMONT

SURFACE OWNER: ANTONIA WIERZBICKI
DATE STARTED: JULY 28, 1992
DATE FINISHED: JULY 31, 1992

DESCRIPTION

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
20.00	20.00	Non-coring
7.00	27.00	Shale, brown w/ Fe-stained joints
14.20	41.20	Claystone, m. gray-red (7' lost)
6.35	47.55	Shale, m. gray w/Fe-stains upper 3'
0.90	48.45	Limestone, l. gray
2.90	51.35	Claystone, m. gray-red
1.00	52.35	Limestone, l. gray
3.60	55.95	Claystone, m. gray w/Fe-stains
4.60	60.55	Claystone, red (2.6' lost)
5.85	66.40	Claystone, m.gray w/Ls nods, Fe-stained
0.50	66.90	Limestone, l. gray
4.45	71.35	Shale, m. gray
1.60	72.95	Shale, m. gray, sandy, Fe-stained upper 0.25'
4.75	77.70	Sandstone, l. gray w/occ. Sh. stks, Fe-stained joints
4.00	81.70	Shale, m. gray
1.60	83.30	Claystone, m. gray-green
1.10	84.40	Limestone, l. gray, Fe-stained
5.00	89.40	Claystone, m. gray-green
0.55	89.95	Limestone, l. gray
1.70	91.65	Claystone, m. gray
1.75	93.40	Limestone, l. gray, Fe-stained
1.50	94.90	Claystone, dk. gray
9.70	104.60	Claystone, m.gray w/Ls nods.
1.70	106.30	Limestone, l. gray, nodular, Fe-stained
2.40	108.70	Shale, m. gray
2.65	111.35	Sandstone, l. gray, Fe-stained
3.50	114.85	Sandstone, l. gray
1.35	116.20	Shale, m. gray, sandy, Fe-stained
1.10	117.30	Sandstone, tan, Fe-stained
0.70	118.00	Shale, m. gray, sandy
0.80	118.80	Sandstone, tan, Fe-stained
1.80	120.60	Shale, m. gray, sandy
3.35	123.95	Shale, dk. gray
0.30	124.25	Bony coal

DIAMOND DRILL HOLE: N92 - 6
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.40	124.65	Shale, black, carbonaceous
0.75	125.40	Limestone, l. gray
1.20	126.60	Claystone, m. gray, carb bott 0.2'
1.15	127.75	Limestone, l. gray, Fe-stained
1.10	128.85	Shale, dk. gray, Fe-stained upper 0.2'
0.20	129.05	Limestone, l. gray
2.00	131.05	Claystone, dk. gray
1.25	132.30	Limestone, m. gray, silty
1.60	133.90	Claystone, m.gray w/Ls nods.
1.00	134.90	Shale, black
0.49	135.39	Shale, black w/coal stks.
2.61	138.00	Coal (WASHINGTON No. 12) upper split 1.12 bony coal 0.07 shale 1.42 coal ---- 2.61 total seam
1.40	139.40	Shale, m. gray
0.55	139.95	Shale, m. gray, sandy
5.25	145.20	Shale, m. gray w/Ss stks.
0.61	145.81	Shale, black, carbonaceous
0.99	146.80	Coal, WASHINGTON (No. 12) lower split 0.60 coal 0.13 bone 0.26 coal --- 0.99 total seam
0.90	147.70	Shale, black
6.15	153.85	Claystone, m. gray
1.15	155.00	Limestone, l. gray, hard
14.20	169.20	Claystone, m.gray w/Ls nods.
8.30	177.50	Shale, m. gray
0.20	177.70	Limestone, l. gray
2.70	180.40	Claystone, m. gray
0.35	180.75	Claystone, black, carbonaceous
2.55	183.30	Claystone, m. gray
3.30	186.60	Limestone, l. gray w/ Cs ptgs.
6.20	192.80	Sandstone, l. gray w/occ. Sh. stks.
2.90	195.70	Shale, m. gray, sandy
2.30	198.00	Sandstone, l. gray
0.45	198.45	Shale, m. gray
1.25	199.70	Sandstone, l. gray w/occ. Sh. stks.
4.15	203.85	Shale, m. gray, sandy
0.40	204.25	Sandstone, l. gray
4.00	208.25	Shale, m. gray, sandy

DIAMOND DRILL HOLE: N92 - 6
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.45	208.70	Claystone, dk. gray
5.00	213.70	Claystone, m. gray w/ occ. limestone nodules
6.00	219.70	Sandstone, l. gray
2.30	222.00	Shale, m. gray
0.10	222.10	Shale, black, carbonaceous
1.80	223.90	Claystone, m. gray
0.35	224.25	Limestone, l. gray
1.80	226.05	Claystone, m. gray
3.20	229.25	Shale, m. gray, sandy
1.70	230.95	Claystone, m. gray
0.90	231.85	Shale, m. gray
0.20	232.05	Sandstone, l. gray
1.90	233.95	Shale, m. gray
0.35	234.30	Shale, black, carbonaceous
2.50	236.80	Coal WAYNESBURG (No. 11)
1.22	238.02	Shale, black, carbonaceous
0.08	238.10	Bony coal
11.80	249.90	Claystone, m.gray w/Ls nods.
2.90	252.80	Shale, m. gray, sandy
4.50	257.30	Sandstone, l. gray w/occ. Sh. stks.
4.10	261.40	Shale, m. gray, sandy
25.60	287.00	Sandstone, l. gray, massive texture
1.57	288.57	Shale, black, carbonaceous
0.53	289.10	Coal UNIONTOWN (No. 10)
4.90	294.00	Claystone, m. gray
1.70	295.70	Limestone, l. gray
6.90	302.60	Shale, m. gray, calcareous
4.35	306.95	Sandstone, l. gray
5.10	312.05	Shale, m. gray, sandy
1.75	313.80	Limestone, l. gray
4.25	318.05	Claystone, m.gray w/Ls nods.
3.90	321.95	Limestone, l. gray w/ Cs ptgs.
14.35	336.30	Claystone, m.gray-greeen w/Ls nods.
3.40	339.70	Shale, m. gray, calcareous
1.25	340.95	Limestone, l. gray
0.70	341.65	Claystone, green
0.40	342.05	Limestone, l. gray
9.10	351.15	Shale, m. gray, calcareous
3.10	354.25	Limestone, l. gray, nodular
1.80	356.05	Shale, m. gray
1.20	357.25	Limestone, l. gray
3.00	360.25	Shale, m. gray, calcareous
2.30	362.55	Limestone, l. gray
3.75	366.30	Shale, m. gray, calcareous
2.50	368.80	Limestone, l. gray
0.90	369.70	Shale, m. gray-green
0.70	370.40	Limestone, l. gray
2.75	373.15	Shale, green

DIAMOND DRILL HOLE: N92 - 6
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.60	374.75	Limestone, l. gray
0.90	375.65	Shale, m. gray
3.50	379.15	Limestone, l. gray w/ Cs ptgs.
2.90	382.05	Shale, m. gray, calcareous
1.20	383.25	Flintclay, brown
8.10	391.35	Shale, m. gray
2.65	394.00	Limestone, l. gray w/ Cs ptgs.
1.80	395.80	Shale, m. gray
4.20	400.00	Claystone, dk. gray
3.24	403.24	Coal, SEWICKLEY (No. 9) 1.17 coal 0.06 bone coal 0.28 coal 0.10 bone 0.15 shale 1.48 coal ---- 3.24 total seam
1.56	404.80	Claystone, m. gray, firm
1.15	405.95	Limestone, l. gray
3.00	408.95	Shale, m. gray
1.50	410.45	Limestone, l. gray
3.65	414.10	Shale, m. gray
7.30	421.40	Shale, m. gray, calcareous w/occ. SS stks.
1.40	422.80	Limestone, m. gray, silty
0.30	423.10	Claystone, m. gray, calcareous
1.15	424.25	Limestone, l. gray
1.25	425.50	Claystone, dk. gray
0.45	425.95	Shale, black, carbonaceous (FISHPOT HORIZON)
7.85	433.80	Limestone, l. gray w/ Cs ptgs.
3.00	436.80	Shale, m. gray, calcareous
2.95	439.75	Limestone, l. gray
1.70	441.45	Claystone, dk. gray-green
3.20	444.65	Limestone, l. gray w/ Cs ptgs.
0.60	445.25	Claystone, green
3.40	448.65	Limestone, l. gray
2.55	451.20	Claystone, dk. gray-green, calcareous
3.50	454.70	Limestone, l. gray
1.95	456.65	Claystone, dk. gray-green
0.65	457.30	Shale, dk. gray
3.40	460.70	Claystone, m. gray
9.15	469.85	Limestone, l. gray
0.40	470.25	Claystone, m. gray
2.90	473.15	Limestone, l. gray
0.40	473.55	Claystone, m. gray
2.50	476.05	Limestone, l. gray
0.55	476.60	Claystone, m. gray
1.80	478.40	Limestone, l. gray, nodular

DIAMOND DRILL HOLE: N92 - 6
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.25	478.65	Claystone, m. gray
0.40	479.05	Limestone, m. gray, silty
1.90	480.95	Claystone, m.gray w/Ls nods.
1.80	482.75	Claystone, m. gray
0.25	483.00	Shale, black
0.44	483.44	Claystone, m. gray
0.29	483.73	Shale, black
1.00	484.73	Claystone, m. gray
4.61	489.34	Coal (PITTSBURGH No. 8)
		0.04 bone
		1.56 coal
		0.01 shale
		2.92 coal
		0.08 bone

		4.61 total seam
0.35	489.69	Shale, dk. gray, calcareous, hard
4.65	494.34	Claystone, dk. gray w/Ls nodules

AMOUNT OF SOFT/HARD ROCK ABOVE PITTSBURGH COAL SEAM

1. SOFT ROCK: 336.73' or 69.5% of core.
2. HARD ROCK: 148' or 30.5% of core.

PROJECTED AQUIFERS

1. 20' to 27'.
2. 41.2' to 44.2'.
3. 52.35' to 55.95' (minor).
4. 60.55' to 66.4' (minor).
5. 71.35 to 77.7'.
6. 83.3' to 84.4' (minor).
7. 91.65' to 93.4' (minor).
8. 104.6' to 118.8' (major).
9. 126.6' to 128.85'.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-7

*Coordinates: S. 13,306.79 W. 53,382.97 Surface Elevation 1220.10

Lithology	H_2O**	Thickness	Physical Properties
Topsoil	—	1.0	CV, EV
Subsoil	—	4.0	CM, EM
Weathered Rock	—	15.0	CM, EM
Claystone	Yes	7.8	CV, EV
Sandstone	Yes	6.0	CS, ES
Shale	Yes	4.7	CM, EM
Claystone w/Shale & LS	—	3.8	CV, EV
Claystone	Yes	10.1	CV, EV
Sandstone w/Shale	—	4.8	CS, ES
Shale	Yes	2.7	CM, EM
Sandstone w/Shale	Yes	9.0	CS, ES
Shale	—	7.3	CM, EM
Shale w/Limestone	—	23.5	AK, CM, EM
Shale	Yes	19.2	CM, EM
Sandstone	—	3.6	CS, ES
Coal w/Dk. Shale	—	2.4	AC, CM, EM
Claystone w/Limestone	—	2.0	AK, CV, EV

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-7

*Coordinates: S. 13,306.79 W. 53,382.97 Surface Elevation 1220.10

Lithology	H_20**	Thickness	Physical Properties
Coal		0.1	AC, CM, EM
Claystone W/Limestone		8.6	AK, CV, EV
Coal w/Black Shale		13.3	AC, CM, EM
Claystone w/Limestone		16.9	AK, CV, EV
Shale w/SS & LS		17.6	CM, EM
Claystone, Dk.-Bl.		3.9	AC, CV, EV
Sandstone		2.3	CS, ES
Claystone w/Limestone		4.6	AK, CV, EV
Shale		5.1	CM, EM
Sandstone w/Shale		17.5	CS, ES
Claystone w/Limestone		15.8	AK, CV, EV
Shale w/Sandstone		13.1	CM, EM
Coal w/Black Shale		5.4	AC, CM, EM
Claystone		5.2	CV, EV
Shale		16.5	CM, EM
Dk. Shale w/Coal		17.0	AC, CM, EM
Claystone w/Shale		3.5	CV, EV

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10387

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-7

*Coordinates: S. 13,306.79 W. 53,382.97 Surface Elevation 1220.10

Lithology	H_2O**	Thickness	Physical Properties
Shale, Dk.		3.0	AC, CM, EM
Claystone w/Limestone		7.0	AK, CV, EV
Sandstone w/Shale		9.0	CS, ES
Claystone w/Limestone		32.6	AK, CV, EV
Shale		7.6	CM, EM
Claystone w/Limestone		7.1	AK, CV, EV
Shale w/Limestone		5.8	AK, CM, EM
Limestone w/Shale		16.3	AK, CS, ES
Shale		12.7	CM, EM
Limestone w/Shale		4.6	AK, CS, ES
Claystone		4.4	CV, EV
Coal (No. 9)		3.9	AC, CM, EM
Claystone & Shale w/LS		24.0	AK, CM, EM
Coal & Dk. Shale		1.0	AC, CM, EM
Limestone w/Claystone		20.0	AK, CS, ES

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10388

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-7

*Coordinates: S. 13,306.79 W. 53,382.97 Surface Elevation 1220.10

Lithology	H_20**	Thickness	Physical Properties
Black Shale		0.1	AC, CM, EM
Limestone w/Claystone		12.1	AK, CS, ES
Black Shale		0.2	AC, CM, EM
Claystone w/Limestone		1.7	AK, CV, EV
Black Shale		0.5	AC, CM, EM
Limestone w/Shale & CS		10.3	AK, CS, ES
Claystone w/Limestone		8.0	AK, CV, EV
Shale, Dk, w/Claystone		1.4	AC, CM, EM
Coal w/Bl. Shale		1.8	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10389

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-7

*Coordinates: S. 13,306.79 W. 53,382.97 Surface Elevation 1220.10

Lithology	H_20**	Thickness	Physical Properties
Claystone		0.5	CV, EV
Coal (No.8)		5.3	AC, CM, EM
Shale w/CS & LS		5.4	AK, CM, EM

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	2.66%	2.51%	83.10	115.00	-31.90
No. 8 Coal	4.55%	2.14%	142.14	4.76	+137.38
Bottom	2.68%	2.51%	83.72	463.00	-379.28

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10390

DIAMOND DRILL HOLE: N92 - 7

ENGINEER: W. J. SIPLIVY
ELEVATION: 1220.10
COORDINATES: S 13306.79 W 53382.97

DRILLER: L. J. HUGHES & SONS, INC., LOWELL RITCHIE

TOWNSHIP: SMITH
SECTION: 10, SW 1/4
COUNTY: BELMONT

SURFACE OWNER: KENNETH F. RAMAGE
DATE STARTED: JULY 21, 1992
DATE FINISHED: JULY 24, 1992

DESCRIPTION

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
20.00	20.00	Non-coring
4.90	24.90	Claystone, olive w/fe-stains
2.00	26.90	Claystone, brown, fe-stained
0.85	27.75	Claystone, m. gray w/fe-stains @ base
1.70	29.45	Sandstone, l. gray
1.10	30.55	Sandstone, brown w/fe-stains
3.15	33.70	Sandstone, l. gray
4.65	38.35	Shale, m. gray w/fe-stains
1.65	40.00	Claystone, m. gray-red
0.45	40.45	Limestone, l. gray, hard
0.25	40.70	Shale, dk. gray, calcareous
1.40	42.10	Claystone, gray-green
7.70	49.80	Claystone, red, fe-stained bottom 1.2'
2.35	52.15	Claystone, m. gray w/fe stains
0.45	52.60	Shale, m. gray w/ls nods, grades sandy
2.95	55.55	Sandstone, l. gray
0.20	55.75	Claystone, m. gray
0.40	56.15	Sandstone, l. gray
0.65	56.80	Claystone, m. gray, silty
0.55	57.35	Sandstone, l. gray
1.60	58.95	Shale, gray-green, w/fe stains
1.05	60.00	Shale, m. gray
2.45	62.45	Sandstone, l. gray, x-bedded
1.05	63.50	Shale, m. gray, silty
3.05	66.55	Sandstone, l. gray
0.20	66.75	Shale, m. gray
1.15	67.90	Sandstone, gray-tan, w/fe stains
1.05	68.95	Shale, tan, w/fe stains
7.25	76.20	Shale, m. gray, silty
1.95	78.15	Claystone, m. gray
1.45	79.60	Limestone, m. gray, silty
0.40	80.00	Shale, m. gray
0.50	80.50	Limestone, l. gray
2.55	83.05	Claystone, dk. gray, calcareous
2.45	85.50	Limestone, l. gray, silty upper 1.6'

DIAMOND DRILL HOLE: N92 - 7
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.55	86.05	Shale, m. gray
1.15	87.20	Claystone, m. gray
5.20	92.40	Shale, m. gray, sandy, w/limestone nodules
5.85	98.25	Shale, m. gray, w/fe stained joint @ 96.8' & 97.4'
0.95	99.20	Shale, red
12.35	111.55	Shale, m. gray w/occ. thin sandstone ptgs., fe-stained bottom 1.1'
3.55	115.10	Sandstone, l. gray
2.05	117.15	Shale, dk. gray
0.35	117.50	Coal
0.35	117.85	Limestone, l. gray
0.25	118.10	Claystone, dk. gray
0.50	118.60	Limestone, l. gray
0.85	119.45	Claystone, m. gray
0.10	119.55	Boney Coal
0.75	120.30	Limestone, l. gray
5.00	125.30	Claystone, m. gray
0.90	126.20	Limestone, m. gray, silty
1.90	128.10	Claystone, m. gray
1.00	129.10	Claystone, black carbonaceous
0.20	129.30	Shale, black
3.00	132.30	Coal, WASHINGTON (No. 12) 0.14 coal 0.23 bone 0.27 coal 1.12 bony coal 0.06 shale 1.18 bony coal 3.00 total seam
0.70	133.00	Shale, black
2.55	135.55	Shale, dk. gray w/ occ thin sandstone ptgs.
0.15	135.70	Sandstone, l. gray
3.76	139.46	Shale, black
0.24	139.70	Coal
0.92	140.62	Shale, black, carbonaceous
0.66	141.28	Coal
0.13	141.41	Shale, black
0.55	141.96	Limestone, l. gray
0.62	142.58	Claystone, black
15.75	158.33	Claystone, m. gray w/ occ. limestone nodules
7.80	166.13	Shale, m. gray
0.25	166.38	Sandstone, l. gray
0.90	167.28	Shale, m. gray, sandy
8.25	175.53	Shale, m. gray
0.40	175.93	Limestone, l. gray
3.25	179.18	Claystone, dk. gray
0.60	179.78	Claystone, black, carbonaceous
2.30	182.08	Sandstone, l. gray
4.60	186.68	Claystone, m. gray w/ occ. limestone nodules

DIAMOND DRILL HOLE: N92 - 7
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
5.10	191.78	Shale, m. gray
1.25	193.03	Sandstone, l. gray
0.25	193.28	Shale, m. gray
13.45	206.73	Sandstone, l. gray
2.55	209.28	Shale, m. gray, sandy
1.20	210.48	Limestone, l. gray
4.10	214.58	Claystone, m. gray, w/occ. limestone nods, silty
1.70	216.28	Sandstone, l. gray
3.81	220.09	Claystone, m. gray
2.46	222.55	Claystone, m. gray, calcareous
1.20	223.75	Shale, m. gray, sandy
1.15	224.90	Shale, m. gray
0.95	225.85	Shale, m. gray, sandy
0.45	226.30	Shale, m. gray
0.15	226.45	Sandstone, l. gray
9.16	235.61	Shale, m. gray w/occ. sandstone ptgs.
0.23	235.84	Shale, black, carbonaceous
3.76	239.60	Coal, WAYNESBURG (No. 11) 0.45 coal w/bone ptgs. 2.64 coal w/occ thin pyrite lenses 0.06 bone 0.38 coal 0.05 bone 0.18 coal 3.76 total seam
1.25	240.85	Shale, black, carbonaceous
0.13	240.98	Bony coal
5.17	246.15	Claystone, m. gray
2.30	248.45	Shale, m. gray, sandy
14.15	262.60	Shale, m. gray
13.79	276.39	Shale, dk. gray w/siderite nods bottom 5'
1.80	278.19	Coal, UNIONTOWN (No. 10) 0.57 coal 0.05 shale 1.18 coal 1.80 total seam
0.80	278.99	Shale, m. gray w/coal ptgs.
0.61	279.60	Coal
2.80	282.40	Claystone, m. gray
0.70	283.10	Shale, m. gray, sandy
2.95	286.05	Shale, dk. gray
5.70	291.75	Claystone, m.gray w/Ls nods.
1.30	293.05	Claystone, m. gray
0.45	293.50	Shale, m. gray, sandy
5.85	299.35	Sandstone, l. gray
1.60	300.95	Shale, m. gray, sandy
1.10	302.05	Shale, m. gray

DIAMOND DRILL HOLE: N92 - 7
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.50	303.55	Claystone, m.gray, calcareous
2.65	306.20	Limestone, l. gray
3.40	309.60	Claystone, m.gray, calcareous
3.65	313.25	Limestone, l. gray w/ Cs ptgs.
1.25	314.50	Claystone, m. gray-green
1.60	316.10	Limestone, l. gray
4.30	320.40	Shale, m. gray, calcareous
0.30	320.70	Limestone, l. gray, hard
0.60	321.30	Claystone, m. gray
1.20	322.50	Limestone, m. gray, silty
2.10	324.60	Claystone, m. gray-green, calcareous
0.55	325.15	Shale, m. gray, sandy
1.20	326.35	Shale, m. gray
1.05	327.40	Claystone, green
3.60	331.00	Limestone, m. gray-tan, silty
2.70	333.70	Claystone, m. gray w/Ls nods.
0.50	334.20	Limestone, l. gray
0.40	334.60	Claystone, green
2.90	337.50	Shale, green, calcareous
4.70	342.20	Shale, m. gray, calcareous
1.60	343.80	Claystone, m. gray
2.00	345.80	Limestone, m. gray, silty
2.40	348.20	Claystone, m. gray, calcareous
1.10	349.30	Limestone, l. gray, hard
0.85	350.15	Shale, m. gray, calcareous
0.65	350.80	Limestone, l. gray, hard
4.25	355.05	Shale, m. gray, calcareous
2.60	357.65	Limestone, l. gray, hard
0.80	358.45	Shale, m. gray, calcareous
2.25	360.70	Limestone, l. gray, hard
0.85	361.55	Shale, m. gray-green
1.05	362.60	Limestone, l. gray, hard
0.75	363.35	Claystone, green
1.50	364.85	Shale, m. gray-green
2.20	367.05	Limestone, l. gray, hard
0.70	367.75	Shale, m. gray
3.60	371.35	Limestone, l. gray, hard
1.90	373.25	Flintclay, brown
1.10	374.35	Shale, m. gray-green
1.10	375.45	Flintclay, brown
0.80	376.25	Shale, m. gray-green
4.15	380.40	Shale, m. gray, calcareous
0.60	381.00	Shale, dk. gray
3.00	384.00	Shale, m. gray, calcareous
2.95	386.95	Limestone, l. gray w/ Cs ptgs.
1.35	388.30	Shale, m. gray, calcareous
0.25	388.55	Limestone, m. gray, silty
4.40	392.95	Claystone, dk. gray

DIAMOND DRILL HOLE: N92 - 7
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
3.85	396.80	Coal, SEWICKLEY (No. 9) 1.90 coal 0.07 bone 0.12 shale 0.13 bone w/coal 0.63 coal 0.11 bone 0.23 coal 0.66 coal w/bone ---- 3.85 total seam
1.65	398.45	Claystone, dk. gray
3.80	402.25	Shale, m. gray
1.90	404.15	Limestone, l. gray
7.80	411.95	Shale, m. gray
0.50	412.45	Shale, dk. gray
0.25	412.70	Limestone, l. gray
0.80	413.50	Shale, dk. gray
2.10	415.60	Shale, m. gray w/Ss stks.
0.60	416.20	Claystone, dk. gray
3.20	419.40	Limestone, l. gray w/ Cs ptgs.
1.40	420.80	Claystone, dk. gray
0.15	420.95	Bony coal (FISHPOT)
0.85	421.80	Shale, dk. gray
1.00	422.80	Limestone, l. gray
1.30	424.10	Claystone, m. gray, calcareous
10.75	434.85	Limestone, l. gray w/ Cs ptgs.
1.40	436.25	Shale, m. gray-green
3.05	439.30	Limestone, l. gray w/ Cs ptgs.
1.00	440.30	Claystone, m. gray-green
1.50	441.80	Limestone, m. gray, silty
0.10	441.90	Shale, black, carbonaceous
3.85	445.75	Limestone, l. gray w/ Cs ptgs.
2.70	448.45	Shale, m. gray-green
0.50	448.95	Limestone, l. gray
0.45	449.40	Claystone, dk. gray
2.25	451.65	Limestone, l. gray w/ Cs ptgs.
2.30	453.95	Claystone, m. gray-green
0.20	454.15	Shale, black, carbonaceous
1.45	455.60	Claystone, dk. gray
0.25	455.85	Limestone, m. gray, silty
0.50	456.35	Shale, black, carbonaceous (REDSTONE 8A HORIZON)
1.20	457.55	Limestone, l. gray
0.40	457.95	Shale, m. gray
0.85	458.80	Limestone, m. gray, silty
2.50	461.30	Claystone, m. gray
1.30	462.60	Limestone, m. gray, nodular
4.05	466.65	Limestone, l. gray

DIAMOND DRILL HOLE: N92 - 7
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.40	468.05	Claystone, m.gray w/Ls nods.
0.80	468.85	Claystone, m. gray
0.65	469.50	Limestone, l. gray
0.20	469.70	Claystone, m. gray
0.50	470.20	Limestone, l. gray
0.25	470.45	Claystone, m. gray
0.75	471.20	Limestone, l. gray
3.37	474.57	Claystone, m. gray
0.60	475.17	Shale, dk. gray
0.50	475.67	Claystone, m. gray
0.33	476.00	Shale, dk. gray
1.55	477.55	ROOF COAL 0.52 coal 0.12 bone 0.91 coal ---- 1.55 total seam
0.25	477.80	Shale, black, carbonaceous
0.52	478.32	Claystone, m. gray
5.33	483.65	Coal (PITTSBURGH No. 8) 0.25 bony coal 1.81 coal 0.02 bone 0.36 coal 0.05 bone 2.61 coal 0.23 coal w/bone ---- 5.33 total seam
0.25	483.90	Shale, dk. gray, calcareous
0.15	484.05	Claystone, m. gray, firm
1.57	485.62	Shale, m. gray, calcareous
0.40	486.02	Claystone, m. gray, firm
1.00	487.02	Shale, m. gray, calcareous
0.70	487.72	Shale, m. gray
0.50	488.22	Limestone, m. gray, silty
0.78	489.00	Claystone, m. gray, firm

AMOUNT OF SOFT/HARD ROCK ABOVE PITTSBURGH COAL SEAM

1. SOFT ROCK: 354.32' or 74.1% of core.
2. HARD ROCK: 124' or 25.9% of core.

PROJECTED AQUIFERS

1. 20' to 38.35'.
2. 48.6' to 52.15' (minor).
3. 57.35' to 58.95' (minor).
4. 66.75' to 68.95'.
5. 92.4' to 98.25' (minor).
6. 110.45' to 111.55' (minor).

State Plane Coordinates

X 2,436,119.68
Y 729,198.75

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-8

*Coordinates: S. 11,436.62 W. 57,286.66 Surface Elevation 1311.67

Lithology	H_2O**	Thickness	Physical Properties
Topsoil	—	1.0	CV, EV
Subsoil	—	4.0	CM, EM
Weathered Rock	—	15.0	CM, EM
Shale	Yes	7.5	CM, EM
Claystone, Black	Yes	2.0	AC, CV, EV
Claystone w/Limestone	—	10.5	AK, CV, EV
Limestone	Yes	1.1	AK, CS, ES
Claystone w/Limestone	—	3.7	AK, CV, EV
Limestone	Yes	2.5	AK, CS, ES
Claystone	—	5.0	CV, EV
Shale	Yes	0.7	CM, EM
Claystone	—	6.2	CV, EV
Shale	Yes	4.7	CM, EM
Claystone	—	16.3	CV, EV
Shale	Yes	15.7	CM, EM
Claystone w/Limestone	—	23.6	AK, CV, EV
Claystone, Black	—	0.4	AC, CV, EV

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

STATE PLANE COORD.
2436119.68,729198.75

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-8

*Coordinates: S. 11,436.62 W. 57,286.66 Surface Elevation 1311.67

Lithology	H_2O**	Thickness	Physical Properties
Limestone		1.2	AK, CS, ES
Claystone w/Limestone		14.4	AK, CV, EV
Shale w/Limestone		11.0	CM, EM
Claystone w/Limestone		24.9	AK, CV, EV
Shale w/Sandstone		8.9	CM, EM
Claystone w/Limestone		9.8	AK, CV, EV
Shale, Black		0.3	AC, CM, EM
Limestone w/Shale		2.7	AK, CS, ES
Claystone		7.3	CV, EV
Black Shale w/Coal		13.5	AC, CM, EM
Shale w/Limestone		0.9	CM, EM
Claystone w/Limestone		7.8	AK, CV, EV
Shale w/Limestone		22.8	AK, CM, EM
Claystone		3.9	CV, EV
Claystone, Black		0.6	AC, CV, EV
Claystone w/Limestone		7.1	AK, CV, EV

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10398

STATE PLANE COORD.
2436119.68,729198.75

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-8

*Coordinates: S. 11,436.62 W. 57,286.66 Surface Elevation 1311.67

Lithology	H_20**	Thickness	Physical Properties
Sandstone & Shale		23.3	CS, ES
Claystone, Black		0.6	AC, CV, EV
Shale w/Sandstone		5.7	CM, EM
Claystone w/Limestone		5.4	AK, CV, EV
Shale w/Sandstone		11.4	CM, EM
Coal w/ Dk. Shale		5.0	AC, CM, EM
Claystone		6.3	CV, EV
Sandstone w/Shale		33.9	CS, ES
Coal (No. 10)		2.3	AC, CM, EM
Shale		7.7	CM, EM
Shale, Black		0.2	AC, CM, EM
Claystone w/Limestone		6.3	AK, CV, EV
Shale		9.9	CM, EM
Shale w/Limestone		24.5	AK, CM, EM
Sandstone		3.4	CS, ES
Limestone w/Claystone		6.7	AK, CS, ES

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10399

STATE PLANE COORD.
2436119.68,729198.75

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-8

*Coordinates: S. 11,436.62 W. 57,286.66 Surface Elevation 1311.67

Lithology	H_2O**	Thickness	Physical Properties
Shale w/Limestone		58.2	AK, CM, EM
Coal (No. 9)		3.9	AC, CM, EM
Shale w/Limestone		22.7	AK, CM, EM
Black Shale w/Coal		0.2	AC, CM, EM
Shale w/Limestone		5.0	AK, CM, EM
Limestone w/Shale		22.7	AK, CS, ES
Shale w/Limestone		16.4	AK, CM, EM
Limestone w/Claystone		14.1	AK, CS, ES
Coal w/Black Shale		1.8	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10400

STATE PLANE COORD.
2436119.68,729198.75

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-8

*Coordinates: S. 11,436.62 W. 57,286.66 Surface Elevation 1311.67

Lithology	H_20**	Thickness	Physical Properties
Coal (No. 8)		5.6	AC, CM, EM
Shale w/LS &CS		4.7	AK, CM, EM

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	2.72%	2.46%	76.88	9.21	+67.67
No. 8 Coal	4.32%	1.76%	55.00	3.76	+51.24
Bottom	2.03%	1.81%	56.60	519.00	-462.40

*If other than State Plane, indicate coordinate system.**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10401

DIAMOND DRILL HOLE: N92 - 8

ENGINEER: W. J. SIPLIVY
ELEVATION: 1311.67
COORDINATES: S 11436.62 W 57286.66

DRILLER: L. J. HUGHES & SONS, INC., LOWELL RITCHIE

TOWNSHIP: SMITH
SECTION: 16, SW 1/4
COUNTY: BELMONT

SURFACE OWNER: CHARLES H. PELKEY
DATE STARTED: AUGUST 4, 1992
DATE FINISHED: AUGUST 7, 1992

DESCRIPTION

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
20.00	20.00	Non-coring
3.70	23.70	Shale, m. gray, sandy w/Fe-stained joints
3.80	27.50	Shale, tan w/Fe-stained joints
2.00	29.50	Claystone, black w/fe-stains
0.40	29.90	Claystone, m. gray
0.35	30.25	Limestone, tan
1.15	31.40	Claystone, m. gray
0.15	31.55	Sandstone, l. gray
8.45	40.00	Claystone, m. gray (7.45' lost)
1.10	41.10	Limestone, l. gray w/Fe-stains
2.40	43.50	Claystone, m. gray
1.10	44.60	Limestone, l. gray
0.20	44.80	Claystone, m. gray
2.45	47.25	Limestone, l. gray w/Fe-stains
2.55	49.80	Claystone, m. gray
2.40	52.20	Claystone, tan
0.65	52.85	Shale, tan w/Fe-stained joints
6.15	59.00	Claystone, m. gray (4.65' lost)
4.70	63.70	Shale, olive-tan w/Fe-stained joints
0.80	64.50	Claystone, m. gray
15.50	80.00	Claystone, red (4.65' lost)
9.80	89.80	Shale, olive-red w/Fe-stained joints
3.20	93.00	Shale, red w/Fe-stained joints
2.70	95.70	Shale, m. gray
3.70	99.40	Claystone, m. gray
0.70	100.10	Limestone, l. gray w/ Cs ptgs., nodular
5.30	105.40	Claystone, m. gray w/red stks.
0.50	105.90	Shale, m. gray, sandy
4.50	110.40	Claystone, m. gray
3.60	114.00	Shale, m. gray
2.00	116.00	Claystone, m. gray-red
0.75	116.75	Limestone, m. gray, nodular
1.00	117.75	Claystone, m. gray
0.50	118.25	Limestone, l. gray
1.05	119.30	Claystone, m.gray w/Ls nods.
0.40	119.70	Claystone, black

DIAMOND DRILL HOLE: N92 - 8
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.20	120.90	Limestone, l. gray
14.35	135.25	Claystone, m.gray w/Ls nods.
0.65	135.90	Sandstone, l. gray w/occ. Sh. stks.
10.35	146.25	Shale, m. gray, sandy
4.40	150.65	Claystone, m. gray-green
1.15	151.80	Limestone, l. gray
3.20	155.00	Claystone, m. gray
0.25	155.25	Limestone, l. gray
2.40	157.65	Claystone, m. gray
1.55	159.20	Limestone, l. gray, nodular
0.95	160.15	Claystone, m.gray w/Ls nods.
1.60	161.75	Shale, m. gray, calcareous
1.00	162.75	Limestone, l. gray
2.40	165.15	Claystone, m.gray w/Ls nods.
1.40	166.55	Limestone, l. gray
4.60	171.15	Claystone, m. gray
0.25	171.40	Sandstone, l. gray
0.60	172.00	Shale, m. gray, sandy
1.95	173.95	Sandstone, l. gray
6.05	180.00	Shale, m. gray
3.00	183.00	Claystone, m. gray
0.95	183.95	Limestone, l. gray
2.00	185.95	Claystone, m. gray
3.50	189.45	Shale, m. gray
0.35	189.80	Limestone, l. gray
0.25	190.05	Shale, black
0.20	190.25	Limestone, l. gray
0.80	191.05	Shale, dk. gray
1.70	192.75	Limestone, l. gray
7.30	200.05	Claystone, m. gray
0.70	200.75	Shale, black, carbonaceous
0.05	200.80	Sandstone, l. gray
0.80	201.60	Shale, black, grades sandy
0.30	201.90	Sandstone, l. gray w/coal stks.
0.10	202.00	Shale, black, carbonaceous
2.10	204.10	Coal (WASHINGTON No. 12) upper split
0.65	204.75	Claystone, dk. gray
2.40	207.15	Shale, dk. gray, sandy
5.25	212.40	Shale, black, carbonaceous
1.10	213.50	Coal (WASHINGTON No. 12) lower split 0.37 coal 0.26 shale w/coal stks. 0.47 coal ---- 1.10 total seam
0.12	213.62	Shale, dk. gray, calcareous
0.15	213.77	Limestone, l. gray
0.60	214.37	Shale, dk. gray-black
7.73	222.10	Claystone, m.gray w/Ls nods.
12.50	234.60	Shale, m. gray w/Ls nods.

DIAMOND DRILL HOLE: N92 - 8
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
9.90	244.50	Shale, m. gray, sandy
0.40	244.90	Limestone, l. gray
3.90	248.80	Claystone, m. gray
0.60	249.40	Claystone, dk. gray-black
2.65	252.05	Claystone, m. gray-green
1.50	253.55	Claystone, red-green
2.90	256.45	Claystone, m.gray w/Ls nods.
3.60	260.05	Sandstone, l. gray
5.35	265.40	Shale, m. gray, sandy
1.80	267.20	Sandstone, l. gray
0.10	267.30	Shale, m. gray
1.40	268.70	Sandstone, l. gray w/occ. Sh. stks.
2.30	271.00	Shale, m. gray, sandy
6.60	277.60	Sandstone, l. gray
2.10	279.70	Shale, m. gray
0.60	280.30	Claystone, dk. gray-black
5.20	285.50	Shale, m. gray w/Ls nods.
0.50	286.00	Sandstone, l. gray
5.35	291.35	Claystone, m.gray w/Ls nods.
5.00	296.35	Shale, m. gray, sandy
0.30	296.65	Sandstone, l. gray
2.45	299.10	Shale, m. gray, sandy
3.67	302.77	Shale, m. gray
0.25	303.02	Shale, black
3.28	306.30	Coal, WAYNESBURG (No. 11) 1.88 coal 0.16 bone w/coal stks. 0.10 coal 0.06 bone 0.74 coal 0.10 bone 0.08 coal 0.10 shale 0.06 coal 3.28 total seam
0.20	306.50	Claystone, dk. gray
1.05	307.55	Shale, dk. gray
0.15	307.70	Coal
6.25	313.95	Claystone, m. gray
1.00	314.95	Shale, dk. gray
3.60	318.55	Sandstone, l. gray w/occ. Sh. stks.
0.30	318.85	Shale, m. gray
0.85	319.70	Sandstone, l. gray
0.20	319.90	Shale, m. gray
8.80	328.70	Sandstone, l. gray w/occ. Sh. stks.
0.30	329.00	Shale, m. gray, sandy
15.70	344.70	Sandstone, l. gray w/45 deg. fracture @ 337.4'
3.10	347.80	Shale, m. gray, sandy

DIAMOND DRILL HOLE: N92 - 8
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
2.29	350.09	Coal (UNIONTOWN No. 10) 0.50 bony coal 0.59 coal 0.50 bony coal 0.29 shale w/pyrite 0.41 coal ---- 2.29 total seam
7.66	357.75	Shale, m. gray
0.15	357.90	Shale, black, carbonaceous
1.00	358.90	Claystone, m. gray w/Ls nods.
0.40	359.30	Limestone, l. gray
4.90	364.20	Claystone, m. gray
9.90	374.10	Shale, m. gray, sandy
0.50	374.60	Claystone, m. gray
0.80	375.40	Limestone, l. gray
1.50	376.90	Shale, m. gray, calcareous
0.60	377.50	Limestone, l. gray, nodular
4.90	382.40	Shale, m. gray
4.20	386.60	Limestone, m. gray, silty
1.75	388.35	Shale, m. gray
0.85	389.20	Limestone, l. gray
4.70	393.90	Shale, m. gray, calcareous
0.90	394.80	Limestone, l. gray, nodular
3.80	398.60	Shale, m. gray, sandy
3.40	402.00	Sandstone, l. gray
0.85	402.85	Claystone, gray-green
2.75	405.60	Limestone, l. gray
0.40	406.00	Claystone, gray-green
1.80	407.80	Limestone, l. gray, nodular
0.25	408.05	Claystone, green
0.60	408.65	Limestone, l. gray
2.65	411.30	Shale, m. gray-green
0.70	412.00	Limestone, l. gray
6.10	418.10	Shale, m. gray-green, calcareous
1.70	419.80	Limestone, l. gray, nodular
13.70	433.50	Shale, m. gray w/Ls nods.
1.30	434.80	Limestone, l. gray
0.90	435.70	Shale, m. gray-green
0.70	436.40	Limestone, l. gray
1.25	437.65	Claystone, green
1.85	439.50	Shale, m. gray, calcareous
1.60	441.10	Limestone, l. gray
0.80	441.90	Shale, m. gray, calcareous
0.40	442.30	Limestone, m. gray, silty
1.00	443.30	Shale, m. gray
2.30	445.60	Limestone, l. gray, nodular
1.00	446.60	Shale, m. gray
1.10	447.70	Flintclay, brown
1.05	448.75	Shale, m. gray

DIAMOND DRILL HOLE: N92 - 8
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.05	449.80	Flintclay, brown
1.40	451.20	Shale, m. gray-green
6.80	458.00	Shale, m. gray, calcareous
2.60	460.60	Limestone, l. gray w/ Cs ptgs.
2.20	462.80	Shale, m. gray
4.00	466.80	Claystone, dk. gray
3.90	470.70	Coal, SEWICKLEY (No. 9)
		1.92 coal
		0.02 bone
		0.54 coal
		0.03 shale
		1.07 coal
		0.17 bony coal
		0.15 coal

		3.90 total seam
5.00	475.70	Shale, dk. gray
1.50	477.20	Limestone, l. gray
11.90	489.10	Shale, m. gray
2.90	492.00	Limestone, l. gray w/ Cs ptgs.
1.40	493.40	Claystone, dk. gray-green
0.17	493.57	Shale, black
0.06	493.63	Coal (FISHPOT)
1.17	494.80	Shale, m. gray-green
0.35	495.15	Limestone, l. gray
0.35	495.50	Shale, m. gray w/Ls nods.
0.90	496.40	Limestone, m. gray, silty
1.20	497.60	Shale, m. gray
0.75	498.35	Limestone, m. gray, silty
0.30	498.65	Shale, m. gray-green
3.65	502.30	Limestone, l. gray w/ Cs ptgs.
2.40	504.70	Shale, m. gray, calcareous
0.95	505.65	Flintclay, brown
0.90	506.55	Claystone, dk. gray
1.15	507.70	Limestone, l. gray
1.45	509.15	Shale, dk. gray
2.80	511.95	Limestone, l. gray
0.85	512.80	Shale, dk. gray-green
4.20	517.00	Limestone, l. gray w/ Cs ptgs.
2.20	519.20	Shale, m. gray
2.10	521.30	Limestone, m. gray, silty
2.60	523.90	Shale, m. gray, calcareous
6.10	530.00	Shale, m. gray
2.35	532.35	Limestone, l. gray
0.40	532.75	Shale, m. gray
1.05	533.80	Limestone, l. gray
0.80	534.60	Shale, m. gray
1.10	535.70	Limestone, l. gray
0.60	536.30	Shale, m. gray, calcareous
1.40	537.70	Limestone, l. gray

DIAMOND DRILL HOLE: N92 - 8
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.35	538.05	Claystone, dk. gray-green
2.60	540.65	Limestone, l. gray, nodular
0.45	541.10	Claystone, m. gray
2.35	543.45	Limestone, l. gray, nodular
0.30	543.75	Claystone, dk. gray-green
2.35	546.10	Limestone, l. gray w/ Cs ptgs.
1.10	547.20	Claystone, m. gray
0.95	548.15	Limestone, l. gray
2.49	550.64	Claystone, m. gray
0.20	550.84	Shale, dk. gray
1.00	551.84	Claystone, m. gray
0.21	552.05	Shale, black, carbonaceous
0.65	552.70	Coal (ROOF COAL)
0.09	552.79	Shale, dk. gray
0.04	552.83	Coal
0.85	553.68	Claystone, dk. gray
5.62	559.30	Coal (PITTSBURGH No. 8) 0.06 bony coal 2.19 coal 0.05 bone 1.92 coal 0.10 bone w/pyrite nod. 1.07 coal 0.23 coal w/bone ---- 5.62 total seam
0.22	559.52	Shale, dk. gray, calcareous
0.14	559.66	Claystone, m. gray, firm
1.80	561.46	Shale, m. gray, calcareous
0.26	561.72	Claystone, m. gray, firm
0.20	561.92	Limestone, l. gray
0.48	562.40	Shale, dk. gray, calcareous
0.65	563.05	Claystone, m. gray
0.95	564.00	Limestone, l. gray

AMOUNT OF SOFT/HARD ROCK ABOVE PITTSBURGH COAL SEAM

1. SOFT ROCK: 428.68' or 77.4% of core.
2. HARD ROCK: 125' or 22.6% of core.

PROJECTED AQUIFERS

1. 20' to 29.5'.
2. 40' to 41.1' (minor).
3. 44.8' to 47.25' (minor).
4. 52.2' to 52.85' (minor).
5. 59' to 63.7'.
6. 80' to 93'.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-9

*Coordinates: S. 17,981.75 W. 49,478.10 Surface Elevation 1271.82

Lithology	H_20**	Thickness	Physical Properties
Topsoil	—	1.0	CV, EV
Subsoil	—	4.0	CM, EM
Weathered Rock	—	15.0	CM, EM
Shale, w/Sandstone	Yes	10.3	CM, EM
Claystone w/Limestone	—	4.2	CV, EV
Limestone	Yes	0.6	AK, CS, ES
Claystone	—	15.2	CV, EV
Shale	Yes	4.8	CM, EM
Claystone	—	10.7	CV, EV
Sandstone	Yes	4.6	CS, ES
Shale	Yes	5.7	CM, EM
Claystone w/Limestone	—	24.3	AK, CV, EV
Shale w/Sandstone	Yes	13.3	CM, EM
Claystone	—	5.0	CV, EV
Limestone	Yes	1.2	AK, CS, ES
Shale	Yes	2.5	CM, EM
Shale, Black	—	0.7	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-9

*Coordinates: S. 17,981.75 W. 49,478.10 Surface Elevation 1271.82

Lithology	H_2O**	Thickness	Physical Properties
Shale w/Limestone		9.7	AK, CM, EM
Claystone w/Shale		14.4	CV, EV
Coal w/Dk. Shale		1.1	AC, CM, EM
Shale w/Limestone		4.6	AK, CM, EM
Claystone w/Limestone		8.4	AK, CV, EV
Coal w/Black Shale		9.3	AC, CM, EM
Shale		11.4	CM, EM
Shale, Black		0.5	AC, CM, EM
Claystone w/Limestone		14.9	AK, CV, EV
Shale w/Sandstone		4.4	CM, EM
Claystone w/Limestone		8.9	AK, CV, EV
Shale & Claystone		14.0	CM, EM
Shale, Black		0.6	AC, CM, EM
Shale w/CS & LS		29.4	AK, CM, EM
Shale w/Sandstone		9.4	CM, EM
Claystone		3.1	CV, EV
Shale		12.9	CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10409

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-9

*Coordinates: S. 17,981.75 W. 49,478.10 Surface Elevation 1271.82

Lithology	H_20**	Thickness	Physical Properties
Coal w/Black Shale		5.1	AC, CM, EM
Claystone w/Limestone		12.7	AK, CV, EV
Shale		16.3	CM, EM
Coal w/Black Shale		3.3	AC, CM, EM
Claystone w/LS & SS		17.3	AK, CV, EV
Shale		14.7	CM, EM
Claystone w/Limestone		25.1	AK, CV, EV
Shale w/Limestone		54.3	AK, CM, EM
Claystone w/Limestone		6.4	AK, CV, EV
Coal (No. 9)		3.8	AC, CM, EM
Claystone w/LS & Shale		22.4	AK, CV, EV
Coal		0.06	AC, CM, EM
Limestone w/Shale		32.7	AK, CS, ES
Shale, Black		0.4	AC, CM, EM
Claystone w/Limestone		21.0	AK, CV, EV
Coal w/Dk. Shale		2.9	AC, CM, EM
Coal (No. 8)		5.1	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10410

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N92-9

*Coordinates: S. 17,981.75 W. 49,478.10 Surface Elevation 1271.82

Lithology	H_2O**	Thickness	Physical Properties
Shale w/Claystone		2.3	AK, CM, EM
Claystone w/Limestone		2.7	AK, CM, EM

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	5.23%	4.70%	146.90	73.12	+73.78
No. 8 Coal	4.39%	1.91%	59.69	4.92	+54.77
Bottom	2.95%	2.82%	88.13	402.00	-313.87

*If other than State Plane, indicate coordinate system.**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10411

DIAMOND DRILL HOLE: N92 - 9

ENGINEER: W. J. SIPLIVY
ELEVATION: 1271.82
COORDINATES: S 17981.75 W 49478.10

DRILLER: L. J. HUGHES & SONS, INC., LOWELL RITCHIE

TOWNSHIP: SMITH
SECTION: 3, SW 1/4
COUNTY: BELMONT

SURFACE OWNER: ROBERT E. HACKENBURG
DATE STARTED: AUGUST 11, 1992
DATE FINISHED: AUGUST 14, 1992

DESCRIPTION

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
20.00	20.00	Non-coring
0.90	20.90	Sandstone, l. gray-tan
8.40	29.30	Shale, tan, sandy w/Fe-stained joints
1.00	30.30	Shale, red
1.90	32.20	Claystone, tan (1.5' lost)
1.40	33.60	Limestone, l. gray
0.60	34.20	Claystone, tan
0.60	34.80	Limestone, l. gray w/Fe-stained joints
5.10	39.90	Claystone, m. gray-tan (3.7' lost)
1.70	41.60	Claystone, red
8.40	50.00	Claystone, m. gray (6.8' lost)
3.80	53.80	Shale, m. gray w/Fe-stained joints
1.00	54.80	Shale, olive-tan w/Fe-stained joints
2.45	57.25	Claystone, red
8.25	65.50	Claystone, m. gray
4.60	70.10	Sandstone, l. gray w/Fe-stained joints
5.70	75.80	Shale, m. gray w/Fe-stained joints
1.60	77.40	Claystone, m. gray-green
0.65	78.05	Limestone, l. gray
7.35	85.40	Claystone, m. gray
1.40	86.80	Claystone, red
1.20	88.00	Claystone, m. gray
1.35	89.35	Claystone, red
2.35	91.70	Claystone, m. gray
0.85	92.55	Limestone, l. gray-tan w/Fe-stained joints
7.55	100.10	Claystone, m.gray w/Ls nods.
1.15	101.25	Sandstone, l. gray, x-bedded
5.00	106.25	Shale, m. gray w/Ls nods.
0.30	106.55	Sandstone, l. gray w/occ. Sh. stks.
4.30	110.85	Shale, m. gray w/Fe-stained joints @ 108' & 109'
0.35	111.20	Sandstone, l. gray w/occ. Sh. stks.
2.20	113.40	Shale, m. gray, sandy
5.00	118.40	Claystone, m. gray
1.20	119.60	Limestone, l. gray w/Fe-stained joints
2.50	122.10	Shale, m. gray w/Fe-stained joints
0.65	122.75	Shale, black

DIAMOND DRILL HOLE: N92 - 89
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
0.45	123.20	Limestone, l. gray
9.20	132.40	Shale, dk. gray
9.05	141.45	Claystone, m.gray w/Ls nods.
1.10	142.55	Shale, m. gray, sandy
4.20	146.75	Claystone, m. gray
0.30	147.05	Coal
0.75	147.80	Shale, dk. gray
0.35	148.15	Limestone, l. gray
0.50	148.65	Shale, dk. gray
1.00	149.65	Limestone, l. gray, nodular w/Sh ptgs.
2.25	151.90	Shale, m. gray w/Ls nods.
0.45	152.35	Limestone, l. gray
3.45	155.80	Claystone, m.gray w/Ls nods.
0.90	156.70	Limestone, l. gray w/ Cs ptgs.
4.05	160.75	Claystone, m.gray w/Ls nods.
1.70	162.45	Claystone, dk. gray-black
2.83	165.28	Coal WASHINGTON (No. 12)
3.97	169.25	Shale, dk. gray-black
0.45	169.70	Limestone, l. gray
0.30	170.00	Shale, black, carbonaceous
11.35	181.35	Shale, m. gray
0.50	181.85	Shale, black, carbonaceous w/pyrite
1.90	183.75	Claystone, m.gray w/Ls nods.
1.60	185.35	Limestone, l. gray
11.35	196.70	Claystone, m. gray
1.40	198.10	Shale, m. gray
1.60	199.70	Sandstone, l. gray w/occ. Sh. stks.
1.40	201.10	Shale, m. gray, sandy
0.70	201.80	Limestone, l. gray
8.20	210.00	Claystone, m.gray w/Ls nods.
3.50	213.50	Shale, m. gray
1.25	214.75	Shale, red
2.65	217.40	Shale, m. gray
6.55	223.95	Claystone, m. gray
0.60	224.55	Shale, black, carbonaceous
5.30	229.85	Claystone, m.gray w/Ls nods.
5.60	235.45	Shale, m. gray, calcareous
0.25	235.70	Sandstone, l. gray
1.00	236.70	Shale, m. gray, calcareous
7.65	244.35	Shale, m. gray, sandy
8.55	252.90	Shale, m. gray, calcareous
1.00	253.90	Limestone, m. gray, silty
1.10	255.00	Sandstone, l. gray
0.85	255.85	Shale, m. gray, sandy
2.95	258.80	Sandstone, l. gray w/occ. Sh. stks.
4.45	263.25	Shale, m. gray, sandy
1.60	264.85	Claystone, m. gray
0.80	265.65	Claystone, dk. gray
0.70	266.35	Claystone, m.gray
12.85	279.20	Shale, m. gray, sandy

DIAMOND DRILL HOLE: N92 - 9
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
4.40	283.60	Coal w/occ. thin bone ptgs. (WAYNESBURG (No. 11)
0.15	283.75	Shale, black, carbonaceous
0.35	284.10	Claystone, m. gray
0.23	284.33	Coal
12.67	297.00	Claystone, m.gray w/Ls nods.
16.30	313.30	Shale, m. gray
1.80	315.10	Coal w/occ. thin bone ptgs. (UNIONTOWN (No. 10)
0.32	315.42	Shale, black, carbonaceous
0.08	315.50	Coal
0.51	316.01	Shale, black, carbonaceous
0.58	316.59	Coal
2.66	319.25	Claystone, m. gray
0.75	320.00	Sandstone, l. gray
3.30	323.30	Shale, m. gray
1.15	324.45	Claystone, m. gray
1.65	326.10	Limestone, l. gray w/ Cs ptgs.
5.80	331.90	Claystone, m.gray-green w/Ls nods.
2.00	333.90	Limestone, l. gray, hard
6.10	340.00	Shale, m. gray
8.60	348.60	Shale, m. gray, calcareous
6.50	355.10	Claystone, m.gray-green w/Ls nods.
0.65	355.75	Limestone, l. gray, hard
7.05	362.80	Claystone, m.gray w/Ls nods.
0.50	363.30	Limestone, l. gray
3.10	366.40	Claystone, m.gray-green w/Ls nods.
1.00	367.40	Limestone, m. gray, silty
3.60	371.00	Shale, m. gray, calcareous
1.10	372.10	Limestone, l. gray
0.50	372.60	Claystone, green
9.90	382.50	Shale, m. gray, calcareous
1.50	384.00	Limestone, l. gray
12.25	396.25	Shale, m. gray, calcareous
2.60	398.85	Limestone, l. gray
0.60	399.45	Shale, m. gray
0.75	400.20	Limestone, l. gray
3.05	403.25	Shale, m. gray-green
0.90	404.15	Limestone, l. gray
0.60	404.75	Shale, m. gray, calcareous
0.80	405.55	Limestone, l. gray
1.05	406.60	Shale, m. gray, calcareous
5.50	412.10	Limestone, l. gray w/ Cs ptgs.
0.95	413.05	Shale, m. gray, calcareous
1.50	414.55	Flintclay, l. brown
0.85	415.40	Shale, green
4.60	420.00	Shale, m. gray, calcareous
3.50	423.50	Shale, dk. gray-green
3.30	426.80	Limestone, l. gray w/ Cs ptgs.
2.80	429.60	Claystone, dk. gray w/Ls nods.
3.60	433.20	Claystone, dk. gray

DIAMOND DRILL HOLE: N92 - 89
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
3.80	437.00	Coal SEWICKLEY (No. 9) 0.67 coal 0.07 bone w/coal stks. 0.22 coal 0.01 shale 0.73 coal 0.25 bone 0.77 coal 0.04 bony coal 0.78 coal 0.09 bone w/pyrite 0.17 bony coal ---- 3.80 total seam
2.15	439.15	Claystone, dk. gray
0.30	439.45	Limestone, l. gray, nodular
2.15	441.60	Shale, m. gray
0.90	442.50	Limestone, l. gray
4.70	447.20	Claystone, m. gray
7.10	454.30	Shale, dk. gray
3.80	458.10	Limestone, l. gray w/ Cs ptgs.
1.29	459.39	Claystone, dk. gray
0.06	459.45	Coal (FISHPOT)
0.80	460.25	Shale, m. gray w/Ls nods.
5.70	465.95	Limestone, l. gray
0.20	466.15	Shale, dk. gray
0.35	466.50	Limestone, l. gray
0.10	466.60	Shale, dk. gray
6.60	473.20	Limestone, l. gray w/ Sh ptgs.
1.20	474.40	Shale, dk. gray-green
1.95	476.35	Limestone, l. gray
0.20	476.55	Shale, dk. gray
1.90	478.45	Limestone, l. gray
0.65	479.10	Shale, m. gray-green
1.30	480.40	Limestone, l. gray
0.15	480.55	Shale, dk. gray
3.40	483.95	Limestone, l. gray
0.15	484.10	Shale, dk. gray
0.40	484.50	Limestone, l. gray
3.15	487.65	Claystone, m. gray
0.90	488.55	Limestone, l. gray, nodular
3.60	492.15	Claystone, m. gray-green
0.35	492.50	Shale, black, carbonaceous
1.60	494.10	Claystone, m. gray
1.00	495.10	Limestone, l. gray
3.50	498.60	Shale, m. gray, calcareous
2.50	501.10	Limestone, l. gray, nodular
2.10	503.20	Claystone, m.gray w/Ls nods.
2.20	505.40	Limestone, l. gray, nodular
0.40	505.80	Claystone, m.gray w/Ls nods.

DIAMOND DRILL HOLE: N92 - 9
(Continued)

THICKNESS (Ft.)	DEPTH (Ft.)	STRATA
1.00	506.80	Limestone, l. gray, nodular
1.55	508.35	Claystone, m.gray w/Ls nods.
0.70	509.05	Shale, dk. gray
0.95	510.00	Limestone, l. gray, nodular
1.85	511.85	Claystone, m.gray w/Ls nods.
1.65	513.50	Claystone, m. gray
0.08	513.58	Shale, black, carbonaceous
1.42	515.00	Claystone, m. gray
0.65	515.65	Coal, ROOF COAL
0.75	516.40	Claystone, m. gray
5.05	521.45	Coal, PITTSBURGH (No. 8) 0.05 bone 2.02 coal 0.05 bone w/pyrite 0.36 coal 0.03 bone 2.42 coal 0.12 bony coal ---- 5.05 total seam
1.30	522.75	Shale, dk. gray, calcareous
0.45	523.20	Claystone, dk. gray
0.50	523.70	Shale, dk. gray, calcareous
2.70	526.40	Claystone, m.gray w/Ls nods.

AMOUNT OF SOFT/HARD ROCK ABOVE PITTSBURGH COAL SEAM

1. SOFT ROCK: 433.5' or 84% of core.
2. HARD ROCK: 82.9' or 16% of core.

PROJECTED AQUIFERS

1. 20' to 29.3'.
2. 50' to 54.8'.
3. 65.5' to 75.8' (major).
4. 91.7' to 92.55' (minor).
5. 106.55' to 110.85' (major).
6. 118.4' to 122.1'.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-18

*Coordinates: S. 15,249.64 W. 61,084.35 Surface Elevation 1123.82

Lithology	H_2O**	Thickness	Physical Properties
Topsoil	—	1.0	CV, EV
Subsoil	—	4.0	CM, EM
Weathered Rock	—	20.0	CM, EM
Shale	—	10.0	CM, EM
Sandstone	—	7.0	CS, ES
Shale w/Limestone	—	27.0	AK, CM, EM
Sandstone	—	4.0	CS, ES
Shale w/Limestone	—	19.0	AK, CM, EM
Claystone	—	8.0	CV, EV
Shale w/Limestone	—	5.0	AK, CM, EM
Sandstone w/Shale	—	12.9	CS, ES
Coal (No. 11)	—	2.0	AC, CM, EM
Claystone	—	10.1	CV, EV
Shale w/Limestone	—	18.0	AK, CM, EM
Sandstone	—	24.0	CS, ES
Claystone	—	3.0	CV, EV
Shale w/Limestone	—	15.0	AK, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-18

*Coordinates: S. 15,249.64 W. 61,084.35 Surface Elevation 1123.82

Lithology	H_2O**	Thickness	Physical Properties
Sandstone		7.6	CS, ES
Limestone w/Shale		10.4	AK, CS, ES
Claystone w/Limestone		12.0	AK, CV, EV
Limestone w/Shale		8.0	AK, CS, ES
Shale		4.0	CM, EM,
Limestone w/Shale		51.4	AK, CS, ES
Claystone		2.4	CV, EV
Coal w/Shale		3.6	AC, CM, EM
Limestone w/Shale		9.2	AK, CS, ES
Shale		10.0	CM, EM
Limestone w/Shale		51.4	AK, CS, ES
Claystone w/Limestone		7.7	AK, CV, EV

*If other than State Plane, indicate coordinate system.**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10418

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-18

*Coordinates: S. 57,249.64 W. 61,084.35 Surface Elevation 1123.82

Lithology	H_2O**	Thickness	Physical Properties
Coal w/Black Shale		2.0	AC, CM, EM
Coal (No. 8)		5.2	AC, CM, EM
Shale, Calc.		15.2	AK, CS, ES

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	(not analyzed)				
No. 8 Coal	(not analyzed)				
Bottom	(not analyzed)				

*If other than State Plane, indicate coordinate system.**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10419

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-86-18 DRILLER: DANIEL HAMRICK

DRILLING FOR: THE NACCO MINING COMPANY, POWHATAN POINT, OHIO

SURFACE ELEVATION: 1123.82 STARTED: DECEMBER 9, 1986
COMPLETED: DECEMBER 10, 1986

coord: S 57,249.64 W 61,084.35

LOCATION: OHIO, BELMONT COUNTY
SMITH TOWNSHIP
SECTION 21
NORTHEAST 1/4.

FORMATION	STRATA THICKNESS		DEPTH FROM SURFACE
CASING	25.00		25.00
GREEN LIMY SHALE	10.00		35.00
GRAY SANDSTONE	7.00		42.00
GREEN SHALE	18.00		60.00
GRAY LIMY SHALE	4.00		64.00
GREEN LIMY SHALE	5.00		69.00
GRAY SANDSTONE	4.00		73.00
GREEN SHALE	12.00		85.00
LIMESTONE	1.00		86.00
GREEN SANDY SHALE	6.00		92.00
GREEN CLAYSTONE	8.00		100.00
GREEN LIMY SHALE	5.00		105.00
GRAY SANDSTONE	12.70		117.70
GRAY SHALE	0.20		117.90
COAL	2.00	WAYNESBURG (No.11)	119.90
GRAY CLAYSTONE	10.10		130.00
GREEN LIMY SHALE	18.00		148.00
GRAY SANDSTONE	24.00		172.00
GRAY CLAYSTONE	3.00		175.00
GREEN SHALE	6.00		181.00
GREEN LIMY SHALE	4.00		185.00
LIMESTONE	2.00		187.00
GREEN LIMY SHALE	3.00		190.00
GRAY SANDSTONE	7.60		197.60
LIMESTONE WITH SHALE	10.40		208.00
GREEN LIMY CLAYSTONE	12.00		220.00
LIMESTONE WITH SHALE	8.00		228.00
GREEN SHALE	4.00		232.00

TOVCC 10420

LJ HUGHES & SONS, INC.

THE NACCO MINING COMPANY

CONTINUATION OF DRILL HOLE NO. N-86-18

FORMATION	STRATA THICKNESS		232.00 DEPTH FROM SURFACE
LIMESTONE WITH SHALE	51.40		283.40
GRAY CLAYSTONE	2.40		285.80
COAL	2.00	SEWICKLEY (No.8)	287.80
GRAY SHALE	0.15		287.95
COAL	1.45		289.40
GRAY LIMY SHALE	1.60		291.00
LIMESTONE WITH SHALE	7.60		298.60
GRAY SHALE	10.00		308.60
LIMESTONE WITH SHALE	51.40		360.00
GREEN CLAYSTONE WITH LIME	5.00		365.00
GRAY CLAYSTONE	2.65		367.65
BLACK SHALE	0.20		367.85
COAL	1.00	ROOF COAL	368.85
GRAY CLAYSTONE	0.80		369.65
COAL	5.20	PITTSBURGH (No.8)	374.85
GRAY LIMY SHALE	15.15		390.00

TOTAL DEPTH: 390 FEET

15 BAGS CEMENT PLACED IN HOLE

TOVCC 10421

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-20

*Coordinates: S. 16,204.76 W. 55,804.03 Surface Elevation 987.89

Lithology	H_2O**	Thickness	Physical Properties
Topsoil		1.0	CV, EV
Subsoil		4.0	CM, EM
Weathered Rock		10.0	CM, EM
Shale		22.2	CM, EM
Coal w/Shale		2.4	AC, CM, EM
Claystone		4.5	CV, EV
Shale		4.8	CM, EM
Limestone w/Shale		5.7	AK, CS, ES
Claystone		2.6	CV, EV
Limestone		1.9	AK, CS, ES
Shale		6.8	CM, EM
Limestone w/Shale		12.7	AK, CS, ES
Claystone		10.5	CV, EV
Limestone w/Shale		65.4	AK, CS, ES
Claystone		2.5	CV, EV
Coal w/Black Shale		3.7	AC, CM, EM
Shale, Calc.		18.4	AK, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-20

*Coordinates: S. 16,204.76 W. 55,804.03 Surface Elevation 987.89

Lithology	H_20**	Thickness	Physical Properties
Limestone w/Shale	—	3.4	AK, CS, ES
Claystone	—	1.5	CV, EV
Black Shale w/Coal	—	0.3	AC, CM, EM
Limestone w/Shale	—	30.2	AK, CS, ES
Claystone	—	5.8	CV, EV
Limestone w/Shale	—	13.9	AK, CS, ES
Claystone w/Limestone	—	6.9	AK, CV, EV
Coal w/Claystone	—	2.5	AC, CM, EM
Coal	—	5.4	AC, CM, EM
Limestone w/Claystone	—	7.3	AK, CS, ES
Claystone	—	13.0	CV, EV

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	(not analyzed)				
No. 8 Coal	(not analyzed)				
Bottom	(not analyzed)				

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.
Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10423

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-86-20 DRILLER: DANIEL HAMRICK

DRILLING FOR: THE NACCO MINING COMPANY, POWHATAN POINT, OHIO

SURFACE ELEVATION: 987.89 STARTED: NOVEMBER 18, 1986
COMPLETED: NOVEMBER 19, 1986

Coord: S 16,204.76 W 55,804.03

LOCATION: OHIO, BELMONT COUNTY
SMITH TOWNSHIP
SECTION 15
SOUTHEAST 1/4

FORMATION	STRATA THICKNESS		DEPTH FROM SURFACE
CASING	15.00		15.00
GRAY SHALE	22.20		37.20
COAL	2.50	UNIONTOWN (No.10)	39.70
GRAY SHALE	0.13		39.83
COAL	0.72		40.55
GRAY CLAYSTONE	4.45		45.00
GREEN SHALE	4.80		49.80
LIMESTONE WITH SHALE	5.70		55.50
GREEN CLAYSTONE	2.60		58.10
LIMESTONE	1.90		60.00
GREEN SHALE	6.80		66.80
LIMESTONE WITH SHALE	12.70		79.50
GREEN CLAYSTONE	10.50		90.00
LIMESTONE WITH SHALE	8.00		98.00
GREEN LIMY SHALE	4.00		102.00
LIMESTONE WITH SHALE	53.40		155.40
GRAY CLAYSTONE	2.50		157.90
COAL	1.73		159.63
BLACK SHALE WITH COAL STREAKS	0.42	SEWICKLEY (No.9)	160.05
COAL	1.55		161.60
GRAY LIMY SHALE	8.40		170.00
GRAY SHALE	10.00		180.00
LIMESTONE WITH SHALE	3.40		183.40
GREEN CLAYSTONE	1.45		184.85
BLACK SHALE WITH COAL STREAKS	0.30		185.15
LIMESTONE WITH SHALE	30.15		215.30
GREEN CLAYSTONE	5.80		221.10
LIMESTONE WITH SHALE	13.90		235.00

TOVCC 10424

LJ HUGHES & SONS, INC.

THE NACCO MINING COMPANY

CONTINUATION OF DRILL HOLE NO. N-86-20

FORMATION	STRATA THICKNESS		DEPTH FROM SURFACE
			235.00
GREEN CLAYSTONE WITH LIME	5.00		240.00
GRAY CLAYSTONE	1.90		241.90
COAL	1.60	ROOF COAL	243.50
GRAY CLAYSTONE	0.85		244.35
COAL	5.40	PITTSBURGH (No.8)	249.75
LIMESTONE WITH CLAYSTONE PARTING	7.25		257.00
GRAY CLAYSTONE	13.00		270.00

TOTAL DEPTH: 270 FEET

12 BAGS CEMENT PLACED IN HOLE

TOVCC 10425

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-22

*Coordinates: S. 10,293.09 W. 56,694.87 Surface Elevation 1175.46

Lithology	H_2O**	Thickness	Physical Properties
Topsoil		1.0	CV, EV
Subsoil		4.0	CM, EM
Weathered Rock		10.0	CM, EM
Claystone		16.6	CV, EV
Sandstone		5.4	CS, ES
Shale		6.5	CM, EM
Coal w/Shale		0.7	AC, CM, EM
Shale		1.6	CM, EM
Limestone		2.0	CS, ES
Claystone		8.0	CV, EV
Coal (No. 12)		2.1	AC, CM, EM
Shale		9.1	CM, EM
Coal		0.2	AC, CM, EM
Claystone		6.8	CV, EV
Shale		25.5	CM, EM
Claystone w/Limestone		12.5	AK, CV, EV
Sandstone w/Shale		17.0	CS, ES
Shale		5.0	CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-22

*Coordinates: S. 10,293.09 W. 56,694.87 Surface Elevation 1175.46

Lithology	H_2O**	Thickness	Physical Properties
Claystone		7.0	CV, EV
Shale		18.5	CM, EM
Coal w/Shale		3.5	AC, CM, EM
Shale, Calc.		9.1	AK, CM, EM
Sandstone		16.0	CS, ES
Shale		10.0	CM, EM
Claystone		1.4	CV, EV
Coal w/Shale		3.2	AC, CM, EM
Claystone		10.4	CV, EV
Limestone		1.2	AK, CS, ES
Shale, Calc.		15.6	AK, CM, EM
Limestone w/Shale		10.3	AK, CS, ES
Shale, Calc.		6.0	AK, CM, EM
Sandstone		26.0	CS, ES
Limestone w/Shale		45.8	AK, CS, ES
Claystone		4.3	CV, EV
Coal w/Shale (No. 9)		4.2	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10427

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N86-22

*Coordinates: S. 10,293.09 W. 56,694.87 Surface Elevation 1175.46

Lithology	H_20**	Thickness	Physical Properties
Shale w/Limestone		21.5	AK, CM, EM
Claystone		1.1	CV, EV
Black Shale w/Coal		0.3	AC, CM, EM
Limestone w/Shale		24.9	AK, CS, ES
Claystone w/Limestone		11.5	AK, CV, EV
Limestone w/Shale		12.6	AK, CS, ES
Claystone w/Limestone		9.6	AK, CV, EV
Coal w/Claystone		2.0	AC, CM, EM
Coal (No. 8)		5.3	AC, CM, EM
Shale, Calc.		9.1	AK, CS, ES
Claystone		6.0	CV, EV

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	(not analyzed)				
No. 8 Coal	(not analyzed)				
Bottom	(not analyzed)				

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10428

LJ HUGHES & SONS, INC.
DIAMOND CORE DRILLING
Pressure Grouting, Foundation & Soil Borings
320 Turnpike Road, Summersville, West Virginia 26651 (304) 872-1111

DRILL HOLE NO. N-86-22 DRILLER: DANIEL HAMRICK

DRILLING FOR: THE NACCO MINING COMPANY, POWHATAN POINT, OHIO

SURFACE ELEVATION: 1175.46 STARTED: NOVEMBER 20, 1986
Coord: S 10,293.09 W 56,694.87 COMPLETED: NOVEMBER 25, 1986

LOCATION: OHIO, BELMONT COUNTY
SMITH TOWNSHIP
SECTION 16
NORTHEAST 1/4

FORMATION	STRATA THICKNESS		DEPTH FROM SURFACE
CASING	15.00		15.00
GREEN CLAYSTONE	16.60		31.60
GRAY SANDSTONE	5.35		36.95
GRAY SHALE	6.45		43.40
COAL	0.20		43.60
GRAY SHALE	0.10		43.70
COAL	0.40		44.10
GRAY SHALE	1.60		45.70
LIMESTONE	2.00		47.70
GRAY CLAYSTONE	8.00		55.70
BLACK SHALE WITH COAL STREAKS	1.10		56.80
COAL	2.10	WASHINGTON (No. 12)	58.90
GRAY SHALE	9.10		68.00
COAL	0.20		68.20
GRAY CLAYSTONE	6.80		75.00
GREEN SHALE	25.50		100.50
LIMESTONE	0.50		101.00
GRAY CLAYSTONE	4.00		105.00
GREEN CLAYSTONE	8.00		113.00
GRAY SANDSTONE WITH SHALE PARTINGS	17.00		130.00
GREEN SHALE	5.00		135.00
GREEN CLAYSTONE	7.00		142.00
LIMESTONE	0.50		142.50
GREEN SHALE	7.50		150.00
GRAY SANDY SHALE	5.60		155.60
GRAY SHALE	4.85		160.45
COAL	0.80	WAYNESBURG (No. 11)	161.25
		(cont.)	

TOVCC 10429

LJ HUGHES & SONS, INC.

THE NACCO MINING COMPANY

CONTINUATION OF DRILL HOLE NO. N-86-22

FORMATION	STRATA THICKNESS		DEPTH FROM SURFACE
			161.25
GRAY SHALE	0.50		161.75
COAL	0.20	(cont.)	161.95
BLACK SHALE	0.25		162.20
COAL	0.30	WAYNESBURG (No. 11)	162.50
GRAY SHALE	1.20		163.70
COAL	0.20		163.90
GRAY SHALE	5.10		169.00
GREEN LIMY SHALE	4.00		173.00
GRAY SANDSTONE	16.00		189.00
GREEN SANDY SHALE	10.00		199.00
GRAY CLAYSTONE	1.40		200.40
COAL	2.20		202.60
GRAY SHALE	0.15	UNIONTOWN (No. 10)	202.75
COAL	0.80		203.55
GRAY CLAYSTONE	10.35		213.90
LIMESTONE	1.20		214.10
GRAY SANDY SHALE WITH LIME	15.60		229.70
LIMESTONE WITH SHALE	10.30		240.00
GREEN LIMY SHALE	6.00		246.00
GRAY SANDSTONE	26.00		272.00
LIMESTONE WITH SHALE	45.75		317.75
GRAY CLAYSTONE	4.25		322.00
BLACK SHALE	0.20		322.20
COAL	4.00	SEWICKLEY (No. 9)	326.20
GRAY LIMY SHALE	5.40		331.60
LIMESTONE	1.90		333.50
GRAY SHALE	11.50		345.00
LIMESTONE	2.70		347.70
GRAY CLAYSTONE	1.10		348.80
BLACK SHALE WITH COAL	0.25		349.05
LIMESTONE WITH SHALE	24.85		373.90
GREEN CLAYSTONE	2.20		376.10
LIMESTONE	4.50		380.60
GREEN CLAYSTONE	4.80		385.40
LIMESTONE WITH SHALE	12.60		398.00
GRAY CLAYSTONE WITH LIME	7.00		405.00
GRAY CLAYSTONE	2.60		407.60
COAL	1.00	ROOF COAL	408.60
GRAY CLAYSTONE	1.00		409.60
COAL	2.00		411.60
GRAY SHALE	0.10	PITTSBURGH (No. 8)	411.70
COAL	3.18		414.88
GRAY LIMY SHALE	9.12		424.00
GREEN CLAYSTONE	6.00		430.00

TOTAL DEPTH: 430 FEET

16 BAGS CEMENT PLACED IN HOLE

TOVCC 10430

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N-34

*Coordinates: S. 11,899.95 W. 52,644.96 Surface Elevation 1199.07

Lithology	H_20**	Thickness	Physical Properties
Topsoil		1.0	CV, EV
Subsoil		4.0	CM, EM
Weathered Rock		5.0	CM, EM
Shale w/Limestone		25.0	AK, CM, EM
Sandstone		8.0	CS, ES
Shale		5.0	CM, EM
Shale, Black		4.0	AC, CM, EM
Limestone & Shale		3.0	AK, CS
Shale, Black		1.2	AC, CM, EM
Limestone		3.8	AK, CS, ES
Shale, Calc.		8.1	AK, CM, EM
Sandstone		16.9	CS, ES
Shale		5.5	CM, EM
Coal		0.5	AC, CM, EM
Shale & Limestone		1.1	AK, CM, EM
Black Shale w/Coal		0.6	AC, CM, EM
Shale w/Limestone		9.9	AK, CM, EM
Coal w/Black Shale		12.5	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N-34

*Coordinates: S. 11,899.95 W. 52,644.96 Surface Elevation 1199.07

Lithology	H_2O**	Thickness	Physical Properties
Limestone		10.0	AK, CS, ES
Shale w/Limestone		65.0	AK, CS, ES
Sandstone		5.6	CS, ES
Shale w/Limestone		29.5	AK, CM, EM
Coal w/Black Shale		4.5	AC, CM, EM
Shale, Calc.		31.9	AK, CM, EM
Black Shale w/Coal		10.0	AC, CM, EM
Shale w/Limestone		13.1	AK, CM, EM
Sandstone		7.4	CS, ES
Shale w/Limestone		33.0	AK, CM, EM
Limestone		6.1	AK, CS, ES
Shale w/Limestone		9.5	AK, CM, EM
Limestone w/Shale		19.9	AK, CS, ES
Black Shale		1.9	AC, CM, EM
Limestone		8.2	AK, CS, ES
Shale, Calc.		19.0	AK, CM, EM
Coal w/Bl. Shale		4.1	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10432

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N-34

*Coordinates: S. 11,899.95 W. 52,644.96 Surface Elevation 1199.07

Lithology	H_20**	Thickness	Physical Properties
Shale w/Limestone		23.3	AK, CM, EM
Coal w/Bl. Shale		0.6	AC, CM, EM
Limestone		12.4	AK, CS, ES
Limestone w/Shale		19.9	AK, CS, ES
Black Shale		0.3	AC, CM, EM
Shale w/Limestone		5.3	AK, CM, EM
Limestone w/Shale		13.4	AK, CS, ES
Shale w/Limestone		7.4	AK, CM, EM
Coal w/Bl. Shale		1.8	AC, CM, EM
Coal (No. 8)		5.4	AC, CM, EM
Shale, Calc.		10.2	AK, CM, EM
Sandstone		6.6	CS, ES
Shale		3.6	CM, EM

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	(not analyzed)				
No. 8 Coal	(not analyzed)				
Bottom	(not analyzed)				

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_20.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10433

N-34

NO. 3 LONGWALL DRILLING PROGRAM

Hole is located on ridge above Williams Creek, Smith Township, Belmont County, in the center of the SW ¼ of Section 10, T6N - R4W, Armstrong Mills, 7½' Quadrangle.

Elevation	1210± 1199.07
Depth	477'
Date Started	November 8, 1978
Date Finished	November 24, 1978

Pittsburgh No. 8 Coal lost in orginal hole. Whipstock Wedge at 410' - Cored to 477'.

Coord.
S 11,899.95 W 52,644.96

Bottom of No. 8 Coal
1199.07 Surf
456.66 Depth
742.41 Bottom El.

NO. 3 LONGWALL DRILLING PROGRAM

Hole No. 1

LITHOLOGY		THICKNESS	DEPTH
Overburden		10 - 0	10 - 0
Shale, Med. Br. Olive Fractures at Top		4 - 6	14 - 6
Limestone, Argillaceous, Light Grey		1 - 0	15 - 6
Shale, Med. Grey--Green, Jumbled Bedding		3 - 0	18 - 6
Shale, Red--Maroon		2 - 9	21 - 3
Shale, Med. Grey		13 - 9	35 - 0
Siltstones and sandstones, Fine Grained, Light Grey -- White		8 - 0	43 - 0
Shale, Silty, Light--Med. Grey		5 - 0	48 - 0
Shale, Dk. Grey to Black, Soft occ. Soft zones		4 - 0	52 - 0
Limestone, Silty, Med. Grey		1 - 8	53 - 8
Shale, Med. Grey		1 - 4	55 - 0
Shale, Dk. Grey to Black		1 - 3	56 - 3
Limestone, Sandy Bottom, Light Br. Grey		3 - 0	59 - 3
Limestone, Light Br. Grey		0 - 9	60 - 0
Shale, Med. Grey - Med. Green, Firm, Limey		5 - 0	65 - 0
Mudstone - Shale, Silty, Med. Grey - Green, Limey		1 - 6	66 - 6
Clay Med. Grey		0 - 2	66 - 8
Mudstone - Shale, Silty, Med. Grey--Green, Limey		1 - 6	68 - 2
Siltstones + Sandstones, Flazered, Light -- Med. Grey		8 - 10	77 - 0
Sandstone, Light--Med. Grey, Fine Grained		8 - 0	85 - 0
Shale, Med.--Dk. Grey Firm		5 - 6	90 - 6
Coal Dirty		0 - 6	91 - 0
Shale & Limestone, Med. Grey, Hard		1 - 2	92 - 2
Shale, Black, Coal & Carby Zones		0 - 7	92 - 9
Limestone + Shale, Med. Grey		2 - 3	95 - 0
Shale + Mudstone + Limestone, Blk. → Dk. Brown near bottom		7 - 6	102 - 6
Coal, Bone Dirty	0 - 5½		
Shale, Black	0 - 2½		
Shale, Black, Boney	0 - 4	2 - 10	105 - 4
Bone, Dirty	1 - 2		
Coal, Clean	0 - 4		
Coal, Dirty	0 - 4		

No. 12 Washington

TOVCC 10435

LITHOLOGY		THICKNESS	DEPTH
Shale, Black - Dk. Grey		2 - 3	107 - 7
Shale, Black		5 - 2	112 - 9
Coal + Shale	0 - 2		
Shale, Black, w/coal beds	0 - 5		
Bone + Shale	0 - 4		
Pyrite	0 - ½	1 - 2	113 -11
Coal, Bone	0 - 2		
Coal Clean	0 - ½		
Little Washington			
Shale, Mudstone Med. Grey, Silty		0 - 6	114 - 5
Shale, Black		0 - 7	115 - 0
Limestone, Med. Br. Grey, Hard		10 - 0	125 - 0
Shale, Med. Grey, Green Cast, Limey		20 - 0	145 - 0
Shale, Limey, Dk. Grey, Uniform		2 - 8	147 - 8
Limestone, Light Br. Grey		0 - 6	148 - 2
Shale, Dk. Grey, Porous, Red Cast, Jumbled Bedding		4 - 10	153 - 0
Limestone, Dk. Greenish Grey		2 - 0	155 - 0
Limestone + Shale, Gradationaly Interbedded Dk. Greenish Grey		10 - 0	165 - 0
Siltstones + Shales, Med. Grey, Slightly calcareous		15 - 0	180 - 0
Sandstone, Med. -- Coarse grained, calcareous		5 - 8	185 - 8
Clay, Dk. Grey		0 - 2	185 - 10
Shale, Silty, Med. Grey		5 - 10	191 - 8
Sands + Siltstones, L. Grey		6 - 4	198 - 0
Shale, Med. Grey top ½, Dk. Grey bottom ½, Firm		3 - 2	201 - 2
Limestone, Light Br. Grey		1 - 8	202 - 10
Shale + Mudstone, Med. - Dk. Grey, Calcareous		2 - 2	205 - 0
Siltstones, + Sandstones Light - Med. Grey		4 - 6	209 - 6
Shale, Dk. Grey to Blk.		0 - 11	210 - 5

TOVCC 10436

LITHOLOGY		THICKNESS	DEPTH
NS Shale, Black + Bone, Coaly	0 - 4		
Coal Clean	2 - 4		
Coal Bone	0 - 1½		
Coal Clean	0 - 1½	3 - 6½	213 - 1½
Coal Bone	0 - 1		
NS Shale, Black	0 - 5		
NS Coal No. 11 Waynesburg	0 - 1½		
Mudstone, Silty, Med. Grey		1 - 0½	215 - 0
Shale, Med. Grey, Occasionally V. Calcareous		6 - 6	221 - 6
Siltstone, Med. Grey, Calcareous		4 - 3	225 - 9
Shale, Med. Grey, Calcareous, Jumbled Bedding		5 - 6	231 - 3
Siltstone, Med. Grey, Shaley		15 - 9	245 - 0
Shale, Blk. Occ. Silty		7 - 0	252 - 4
NS Coal Bone	0 - 0½		
Coal Clean	2 - 1½	3 - 0½	255 - 0
NS Shale, Black	0 - 2½		
Coal No. 10 Uniontown	0 - 8		
Shale, Dk. Grey, Calcareous		6 - 0	261
Limestone, Jumbled, Med. Grey		4 - 0	265
Limestone, Med. Grey		0 - 6	265 - 6
Shale + Limestone, Med. Green Grey		2 - 8	268 - 2
Sandstone, Med. - Light Grey Fine Grain		7 - 5	275 - 7
Shale, Dk. Grey		2 - 0	277 - 7
Shale + Limestone, Med. Grey		17 - 11	295 - 6
Limestone, Light Grey, Occ. Dk. Grey shale partings		1 - 0	296 - 6
Shale, Calcareous, Med.Greenish Grey		4 - 8	301 - 2
Limestone, Med. Br. Grey, Shaley		2 - 10	304 - 0
Limestone, Med. Br. Grey		3 - 4	307 - 4
Shale, Dk. Grnish - Grey, Calcareous, Limestone Bed near top		3 - 10	311 - 2
Limestone, Shaley, Med. Grey		5 - 0	316 - 2
Shale, Dk. Green		0 - 8	316 - 10

TOVCC 10437

	LITHOLOGY		THICKNESS	DEPTH
	Limestone, Med. Grey, Occ. Calcareous Shale partings		19 - 2	336 - 0
	Shale, Dk. Green		0 - 8	336 - 8
	Shale, Dk. Grey - Blk.		1 - 10	338 - 6
	Limestone, Light Br. Grey with Shale Partings Occasional Sandstone Beds		8 - 3	346 - 9
	Shale ⟶ Mudstone, V. Calcareous Occ. Lst zones, Fracture traces		8 - 3	355 - 0
	Shale, Dk. Grey - Black, V. Calcareous, Occ. Lst zones		8 - 0	363 - 0
	Mudstone, Dk. Gry, Fractured		2 - 9	365 - 9
	Shale, Black Coaly		0 - 2	365 - 11
	Coal, Clean	2 - 2		
	Coal, Bone	0 - 1		
NS	Shale, Black Coaly	0 - 1½		
	Coal Clean	0 - 9		
	Coal Bone	0 - 1	3 - 11	369 - 10
	Coal Clean	0 - 2		
	Coal Bone	0 - 1		
	Coal Clean	0 - 5½		
	No. 9 Sewickley			
	Shale, Silty, Med. Gry		1 - 6	371 - 4
	Shale, Med. Grey		3 - 9	375 - 1
	Limestone, L. Grey		1 - 4	376 - 5
	Mudstone, Calcareous, Highly Fractured		5 - 1	381 - 6
	Shale, Dk. Gry to Black, Calcareous		7 - 3	388 - 9
	Limestone, Light Brown - Med. Brownish Grey, Argillaceous		3 - 0	391 - 9
	Mudstone, Med. Gry, Shaley		1 - 6	393 - 3
	Shale, Boney - Coaly Fishpot		0 - 3	393 - 6
	Shale, Black		0 - 5	393 - 11
(Box 395)	Limestone, Light Br. Grey Flazered at 400		12 - 5	406 - 4
	Shale, Dk. Greenish Grey, V. Calcareous		1 - 6	407 - 10

LITHOLOGY	THICKNESS	DEPTH
Limestone, Light Br. Grey	3 - 6	411 - 1
Mudstone, Shaley, Med. Greenish Grey	0 - 4	411 - 5
Shale, Calcareous, Med. Grey	0 - 3	411 - 8
Limestone, Light Br. Grey	3 - 4	415 - 0
Limstone, Light Br. Grey Shaley at 416 418	3 - 6	418 - 6
Mudstone, Shaley, Med. Greenish Grey, Fractured	1 - 8	420 - 2
Shale, Dk. Br. Grey, Hrd,	0 - 8	420 - 10
Limestone, Light Br. Grey, Argillaceous, Fractured in upper 1/3	3 - 8	424 - 6
Mudstone, Shaley, Med. Green	0 - 6	425 - 0
Mudstone, Light Br. Grey, Calcareous	1 - 3	426 - 3
Shale, Black	0 - 4	426 - 7
Shale, Dk. Grey, Calcareous	0 - 10	427 - 5
Limestone, Light - Med. Grey	0 - 4	427 - 9
Mudstone, Shaley, Med. Br. Grey, Broken	0 - 10	428 - 7
Limestone, Light Grey	0 - 9	429 - 4
Shale, Dk. Grey	0 - 4	429 - 8
Limestone, Light Grey	1 - 11	431 - 7
Shale, Dk. Grey	0 - 4	431 - 11
Limestone, Med. Grey	4 - 5	436 - 4
Mudstone + Shale, Calcareous, Fracture Fillings Med. - Dk. Grey	2 - 8	439 - 0
Limestone, Light Grey, Hrd.	3 - 3	442 - 3
Shale -- Limestone, Med. - Dk. Grey	0 - 10	443 - 1
Mudstone, Shaley, Med. Grey Broken in Middle	2 - 0	445 - 1
Limestone, Argillaceous L. Grey	0 - 5	445 - 5
Mudstone, Med. Grey, Shaley	0 - 6	445 - 11
Mudstone, Med. Grey, Calcareous at Top	1 - 6	447 - 5
Limestone, Med. Grey, Slickensides	0 - 3	447 - 8
Mudstone + Shale, Med. Br. Grey Dk. Grey, Slickensides, Calcareous	1 - 11	449 - 7
Shale, Black	0 - 5	450 - 0

TOVCC 10439

LITHOLOGY	THICKNESS	DEPTH
(Thickness read from drill measuring rod)		
Shale ?	0 - 4	450 - 4
Coal	0 - 6	450 - 10
Shale ?	0 - 10	451 - 8
Coal	5 - 0 ±	456 - 8
Shale	1 - 4	458 - 0

(Lost tube except for 1" Shale)

TOVCC 10440

LITHOLOGY		THICKNESS	DEPTH
		0 - 0	447 - 0
Mudstone, Light Grey, Fractured		1 - 2	448 - 2
Mudstone, Shaley, Dk. Grey, Fractured		1 - 0	449 - 2
Mudstone, L. Grey, Fractured & Broken		0 - 4	449 - 6
Shale, Dk. Grey - Black		0 - 5½	449 - 11½
Coal Bone	0 - 1½	0 - 8	450 - 7½
Coal Clean	0 - 6½		
Shale - Mudstone, Dk. Grey - Blk.	0 - 8½	0 - 8½	451 - 4
Coal Bone	0 - 1		
Coal, Clean, Pyrite 8" from top	2 - 0	5 - 4	456 - 8
Coal Bone	0 - 1		
Coal Clean	3 - 2		
Shale, Black, Boney		0 - 1	456 - 9
Shale - Mudstone,		0 - 4	457 - 1
Fire Clay, Light Grey		0 - 4	457 - 5
Shale, Dk. Grey		1 - 6	458 - 5
Mudstone, Silty, Med. Grey		1 - 0	459 - 5
Limestone, Light Grey		0 - 6	460 - 5
Mudstone, Med. Grey, Soft Bkn.		0 - 9	461 - 2
Mudstone, Hard, Med. Grey Slightly Calcareous		3 - 0	464 - 2
Shale, Silty, Med. Grey		2 - 8	466 - 10
Sandstone, Light Grey, Find Grnd.		6 - 7	473 - 5
Shale, Dk. Grey		3 - 7	477 - 0
Total Depth			477 - 0

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N-35

*Coordinates: S. 19,672.72 W. 52,492.09 Surface Elevation 1013.74

Lithology	H_2O**	Thickness	Physical Properties
Topsoil	—	1.0	CV, EV
Subsoil	—	4.0	CM, EM
Weathered Rock	—	5.0	CM, EM
Shale w/Sandstone	—	14.3	CM, EM
Black Shale	—	0.1	AC, CM, EM
Shale w/Limestone	—	10.1	AK, CM, EM
Coal	—	2.9	AC, CM, EM
Shale	—	1.8	CM, EM
Coal w/Bl. Shale	—	1.1	AC, CM, EM
Shale	—	29.4	CM, EM
Coal & Black Shale	—	3.6	AC, CM, EM
Shale w/Limestone	—	25.7	AK, CM, EM
Limestone w/Shale	—	11.1	AK, CS, ES
Black Shale	—	0.2	AC, CM, EM
Limestone w/Shale	—	11.1	AK, CS, ES
Black Shale	—	0.2	AC, CM, EM
Limestone	—	6.5	AK, CS, ES
Shale w/Limestone	—	9.2	AK, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N-35

*Coordinates: S. 19,672.72 W. 52,492.09 Surface Elevation 1013.74

Lithology	H_2O**	Thickness	Physical Properties
Limestone w/Shale	—	44.8	AK, CS, ES
Black Shale	—	3.5	AC, CM, EM
Coal (No. 9) w/Bl. Shale	—	3.8	AC, CM, EM
Shale w/Limestone	—	14.6	AK, CM, EM
Black Shale	—	4.2	AC, CM, EM
Limestone & Shale	—	1.8	AK, CM, EM
Black Shale	—	0.5	AC, CM, EM
Limestone w/Shale	—	16.6	AK, CS, ES
Black Shale	—	0.1	AC, CM, EM
Limestone w/Shale	—	7.2	AK, CS, ES
Shale w/Limestone	—	8.3	AK, CM, EM
Black Shale	—	0.8	AC, CM, EM
Shale & Limestone	—	20.8	AK, CM, EM
Dk. Shale	—	1.3	AC, CM, EM
Coal w/Dk. Shale	—	2.1	AC, CM, EM

**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10443

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 13
(GEOLOGY REPORT - Underground Workings)

Applicant: THE OHIO VALLEY COAL COMPANY Drill Hole #N-35

*Coordinates: S. 19,672.72 W. 52,492.09 Surface Elevation 1013.74

Lithology	H_2O**	Thickness	Physical Properties
Coal (No. 8) w/Bl. Shale		6.0	AC, CM, EM
Shale w/Limestone		22.0	AK, CM, EM

Submit the following information for the stratum above the coal seam, the coal seam, and the stratum below the coal seam.

Stratum	Total Sulfur	Pyrite Marcasite Sulfur	Potential Acidity	Neutral-ization Potential	$CaCO_3$ Deficiency
Roof	(not analyzed)				
No. 8 Coal	(not analyzed)				
Bottom	(not analyzed)				

*If other than State Plane, indicate coordinate system.
**Indicate water bearing stratum with an asterisk (*) under column labelled H_2O.

Physical Property Legend
AC = Acid Producing
AK = Alkaline Producing
C = Compactible (V=Very, M=Moderate, S=Slight)
E = Erodible (V=Very, M=Moderate, S=Slight)

TOVCC 10444

N-35

NO. 3 LONGWALL DRILLING PROGRAM

Hole is located in minor drainage of Williams Creek approximately 6800' N70°W of Jacobsburg, Smith Township, Belmont County, Ohio, in the NE corner of the NW¼ of Section 8, +6N - R4W, Armstrong Mills, 7½' Quadrangle.

Elevation:	1010±	1013.74'
Depth:	303'	
Date Start:	November 28, 1978	
Date Finish:	December 1, 1978	

S 19,672.72 W 52,492.09

Bottom of No. 8 Coal

1013.74	Surf
280.58	Depth
733.16	Bot. Ele.

NO. 3 LONGWALL DRILLING PROGRAM

HOLE No. 2

LITHOLOGY		THICKNESS	DEPTH
Overburden		10 - 0	10 - 0
Siltstone, Med. Grey, Shaley		6 - 6	16 - 6
Sandstone, L. Grey, Fine grained		3 - 0	19 - 6
Shale, Silty, Med. - Dk. Grey		4 - 6	24 - 0
Sahle, Dk. Grey, Soft		0 - 4	24 - 4
Shale, Blk.		0 - 2	24 - 6
Shale, Dk. Grey, Silty		0 - 6	25 - 0
Mudstone, Shaley, Silty, Dk. Grey		0 - 11	25 - 11
Limestone + Shale, Interbed, Light - Med. Grey		2 - 8	28 - 7
Siltstone + Sandstone Light - Med. Grey		2 - 3	30 - 10
Shale, Med. Grey, Silty		2 - 6	33 - 4
Mudstone, Med. Br. Grey		0 - 9	34 - 1
Shale, Dk. Grey		0 - 7	34 - 8
Shale, Black, Boney		0 - 1	34 - 9
Coal Clean	2 - 9	2 - 10	37 - 7
NS Coal Bone	0 - 1		
No. 11 Waynesburg			
Siltsone, Dk. Grey		0 - 10	38 - 5
Clay, Med. Grey		0 - 1	38 - 6
Shale, Med. Grey, Soft		0 - 11	39 - 5
NS Coal + Shale	0 - 2½	0 - 4	39 - 9
NS Coal Clean	0 - 1½		
Little Waynesburg			
Shale, Dk. Grey - Blk.		0 - 10	40 - 7
Siltstone, Med. Grey, Shale Occ. Soft Mudstone zones Occ. Fractured zones		7 - 6	48 - 1
Mudstone, Med. Grenish Grey, Shaley		0 - 10	48 - 11
Mudstone - Shale Occ. Calcareous Occ. Limestone Beds Silty		6 - 1	55 - 0

TOVCC 10446

LITHOLOGY		THICKNESS	DEPTH
Sandstone + Siltstone + Shale Light - Med. Grey		12 - 4	67 - 4
Shale, Dk. Grey		2 - 8	70 - 0
Shale, Black		0 - 2	70 - 2
Coal, Clean	0 - 3		
Coal, Bone	0 - 1½		
Sample Coal Clean	0 - 7	2 - 0	72 - 2
Coal + Shale	0 - 2½		
Coal Clean	0 - 10		
No. 10 Uniontown			
Shale + Coal		0 - 1	72 - 3
Shale, Med. Br. Grey		0 - 5	72 - 8
Coal + Shale		0 - 1½	72 - 9½
Mudstone, Dk. Br. Grey, Silty		0 - 4½	73 - 2
Coal, Dirty		0 - 6	73 - 8
Mudstone, M. Grey, Silty		1 - 7	75 - 3
Mudstone, Med. Grey, Occ. Silty, Limey, Shaley, Occ. Soft Clayey zones		8 - 9	84 - 0
Limestone, Med. Br.		1 - 3	85 - 3
Shale, Med. Br. Grey, Soft, Broken		1 - 6	86 - 9
Limestone, Med. Br. Grey		1 - 4	88 - 1
Mudstone, Shaley, Med. Grey, Fractured		1 - 10	89 - 11
Mudstone, L. Green-Grey, Clayey		0 - 10	90 - 9
Limestone, Hard Silty		2 - 6	93 - 3
Mudstone, Soft, Varigated		0 - 4	93 - 7
Shale, Silty, Calcareous, Med. Grey		1 - 5	95 - 0
Shale, Silty at top Calcareous, Dk. Grey, Firm Soft 1' - 6" from Bottom		3 - 9	98 - 9
Limestone, Light Br. Grey, Argillaceous, 2" shale Ptg. 1' - 10" from top		4 - 4	103 - 8
Limestone, Light Grey, Argillaceous		2 - 7	106 - 3
Limestone, Argillaceous + Shale		0 - 9	107 - 9
Limestone - Mudstone, Dk. Grey		0 - 10	108 - 7
Mudstone, Med. Grn. - Grey		1 - 4	109 - 11
Shale, Blk.		0 - 3	110 - 2
Shale, Dk. Grey, Hard, Pyrite Blebs, Calcareous		1 - 1	111 - 3

TOVCC 10447

LITHOLOGY	THICKNESS	DEPTH
Mudstone, Med. Br. Grey, Shaley	0 - 4	111 - 7
Limestone, Light Br. Grey	1 - 0	112 - 7
Shale, Dk. Grey, Calcareous	0 - 5	113 - 0
Shale - Limestone - Dk. Grey	1 - 2	114 - 2
Limestone, Argillaceous, Dk. Grey	2 - 6	116 - 8
Mudstone - Shale, Med. Grn.	5 - 6	122 - 4
Limestone, with shale partings, Dk. Grn. Grey	2 - 8	125 - 0
Shale, Dk. Grn	0 - 10	125 - 10
Limestone, Light Br. Grey 10 " shale Partings 1" - 4" from bottom	6 - 6	132 - 4
Shale, Dk. Grn. - Grey, Very calcareous Occ. Hard, Occ. Clay zones at top & Bottom	2 - 8	135 - 0
Mudstone. Soft. Shaley. Med. Grn	0 - 6	135 - 6
Shale. Dk. Grey. Very Calcareous. Hard	2 - 9	138 - 3
Limestone. Argillaceous. Light Br. Grey	1 - 8	139 - 11
Shale. Dk. Grey. Hard. Calcareous	1 - 7	141 - 6
Limestone. Light Br. Grey - M. Grey 6" Shale Ptgs. at 4' + 9' from top	15 - 10	157 - 4
Shale, Dk. Grey	0 - 6	157 - 10
Limestone, Light Br. Grey Argillaceous	1 - 4	159 - 2
Shale, Med. Grn., Calcareous	1 - 3	160 - 5
Shale + Limestone, Med. Grn. Grey	1 - 6	161 - 11
Limestone, Med. Olive Grey Argillaceous, Occ. Shaley zones	8 - 6	170 - 5
Shale, Med. Grey, Firm, V. Calcareous	4 - 7	175 - 0
Limestone, Argillaceous, Shaley, med. Grey	3 - 1	178 - 1
Shale, Hard. Med. Grey, V. Calcareous	4 - 1	182 - 2
Limestone, Light Br. Grey, Argillaceous	4 - 2	186 - 4
Shale, Black, Abundant pyrite	0 - 7	186 - 11
Mudstone, Dk. Grey - M. Br. Grey	2 - 9	189 - 8
Shale, Black, Bone	0 - 2	189 - 10
Coal, Clean 0 - 10 Coal, Dull, Dirty 0 - 2 ample Coal, Clean 0 - 8½ Coal, Dull, Boney 0 - 4½ Coal, Clean 1 - 6½	3 - 7½	193 - 5½

No. 9 Sewickley

TOVCC 10448

LITHOLOGY	THICKNESS	DEPTH
Shale, Black, V. Coaly w/Pyrite	0 - 2⅓	193 - 8
Mudstone Med. Grey, Shaley, Soft	1 - 4	195 - 0
Shale, Light - Med. Grey, Calcareous	4 - 2	199 - 2
Limestone, Light Grey, Argillaceous	2 - 0	201 - 2
Mudstone - Shale, Light - Med. Grey Occ. Limestone beds or zones	7 - 2	208 - 4
Shale, Dk. Grey - Blk.	4 - 3	212 - 7
Limestone, Med. Br. Grey	2 - 5	215 - 0
Shale - Mudstone, Dk. Grey	1 - 9	216 - 9
Shale, Black	0 - 6	217 - 3
Limestone, Light Br. Grey Shaley and Bkn. at 4' from top, 224 - 0, 229 - 0	13 - 1	230 - 4
Shale Dk. Grn. Grey, Calcareous at top	1 - 8	232 - 0
Limestone, Light Br. Grey	1 - 11	233 - 11
Shale, Black	0 - 2	234 - 1
Limestone, Med. Br. Grey	1 - 8	235 - 9
Shale - Mudstone, Med. Green Grey	0 - 3	236 - 0
Limestone, Light Br. Grey, Argillaceous	5 - 4	241 - 4
Mudstone - Shale, Dk. Grn. Grey	2 - 0	243 - 4
Shale, Med. Grey, Calcareous	1 - 8	245 - 0
Limestone, Med. Grey	2 - 0	247 - 0
Mudstone, Med. Grn. Grey	2 - 0	249 - 0
Shale, Green - Dk. Grey	0 - 7	249 - 7
Shale, Black Occ. V. Coaly	0 - 9	250 - 4
Shale, Med. - Dk. Grey	1 - 5	251 - 9
Limestone Med. Grey	3 - 3	255 - 0
Mudstone + Shale + Last Interbed, Med. Grey,	3 - 5	258 - 5
Limestone, Med. Grey, Argillaceous	2 - 7	261 - 0
Shale, Med. Grey, Calcareous	0 - 7	261 - 7
Limestone, Light - Med. Grey Bkn. 1' from Bottom, V. Argillaceous Firm	3 - 4	264 - 11
Mudstone + Limestone, Med. Grey	1 - 7	266 - 6
Shale - Limestone, Med. Grey	2 - 0	268 - 6
Mudstone, Med. Grey	2 - 8	271 - 2
Shale, Black, Coaly at Bottom	0 - 4	271 - 6

TOVCC 10449

	LITHOLOGY		THICKNESS	DEPTH
	Mudstone, Bkn, Soft Med. - Dk. Grey		0 - 9	272 - 3
	Shale, Med. - Dk. Grey		0 - 3-3/4	27 - 6-3/4
ROOF COAL	Coal, Clean, Dull top ½	1 - 2	1 - 2	273 - 8⅓3/4
	Shale Black	0 - 1		
	Coal	0 - ½		
DRAW SLATE	Shale, Black, with Pyrite	0 - 4	0 - 11⅓	274 - 8⅓
	Mudstone - Shale, Med. Dk. Grey	0 - 6		
	Coal Bone	0 - 1		
	Coal Clean	2 - 1⅓		
MAIN BENCH	Shale, Blk, Boney	0 - ½	5 - 10-3/4	280 - 7
	Coal Clean	0 - 4⅓		
	Coal, Bone, Shaley	0 - 3/4		
280	Coal Clean	3 - 0		280 - 7
	Coal, Dirty, Shaley	0 - 2⅓		
	Shale, Black		0 - 2	280 - 9
	Mudstone, Med. Grey Shaley, Firm		2 - 8	283 - 5
	Mudstone, Slickensided, Med. Grey, Calcareous		2 - 3	285 - 8
	Limestone, with Mudstone Bands, Med. Grey		1 - 2	286 - 10
	Mudstone, Med. Grey, Silty		0 - 8	287 - 6
	Mudstone - Limestone, Med. Dk. Grey Slickensided		0 - 8	288 - 2
	Mudstone, Med. Grey		0 - 9	288 - 11
	Limestone, Nodular, Bkn, Med. Grey		0 - 6	289 - 5
	Mudstone, Silty Calcareous, Light - Med. Grey		0 - 6	289 - 5
	Mudstone, Silty Calcareous, Light - Med. Grey		1 - 6	290 - 11
	Siltstone - Sandstone, Med. Grey		1 - 4	293 - 3
	Shale, Med. Grey, Silty		1 - 9	295 - 0
	Shale, Med. Grey, Calcareous and Bkn at 2' - 8" From top for 10"		5 - 2	300 - 2
	Mudstone, Med. Grey Slickensided		1 - 7	301 - 9
	Shale, Med. Grey,		0 - 10	302 - 7
	Mudstone, Soft, Med. Grey		0 - 1	302 - 8
	Total Depth			

TOVCC 10450

Department of Natural Resources

George V. Voinovich ◦ *Governor*
Donald C. Anderson ◦ *Director*

DATE April 3, 1997

ANALYSIS OF EXISTING GROUND WATER FILE DATA

PREPARED BY: Bill Haiker BH , HYDROGEOLOGIST

OPERATOR: Ohio Valley Coal Company

COUNTY: Belmont

TOWNSHIP: Smith

SECTION (S): 22, 23, 24, 28, 29, 30,34, 35, and 36

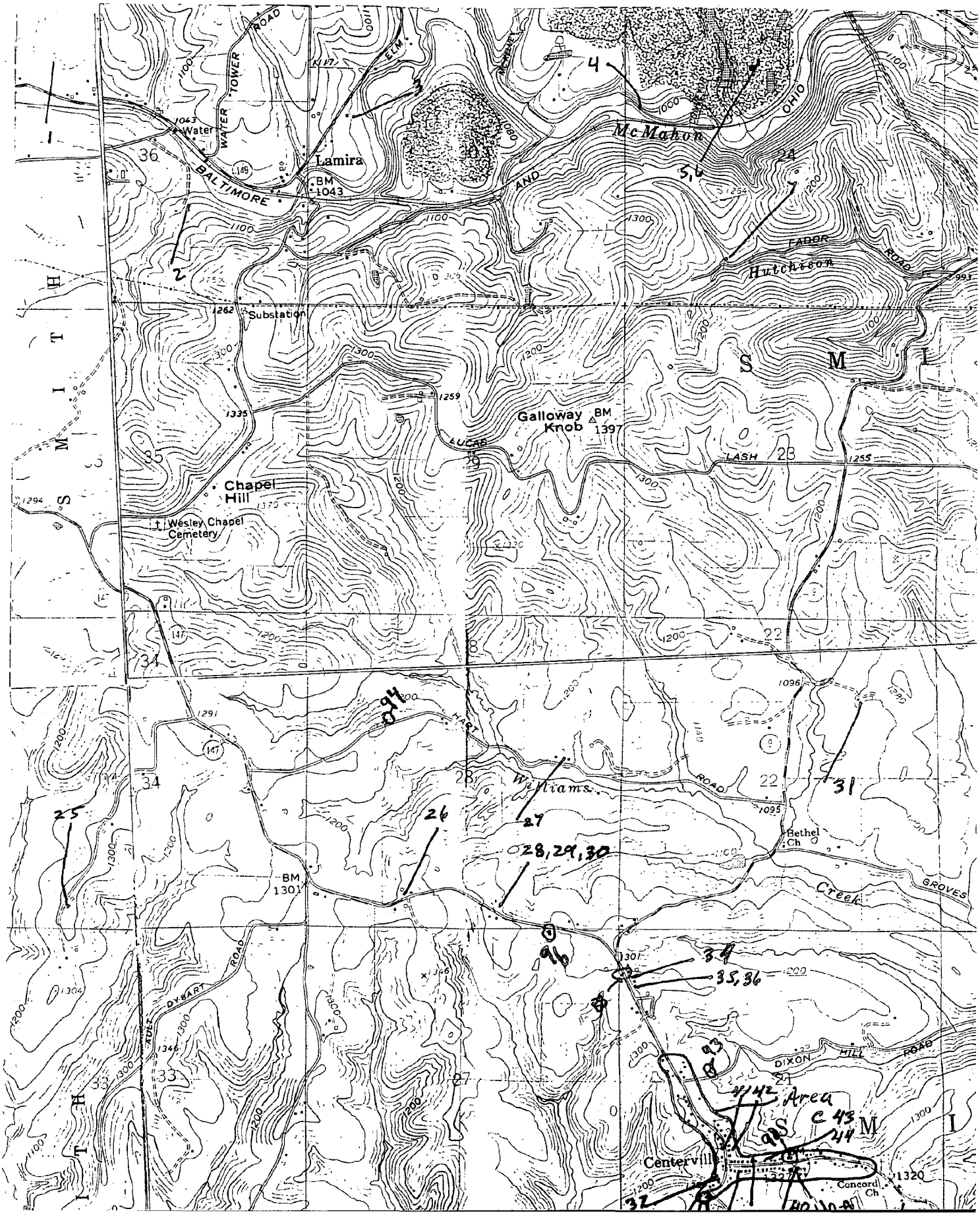
NUMBER OF WATER WELL LOGS WITHIN 1,000 FOOT RADIUS OF SITE (COPIES ATTACHED) 14 : FIELD LOCATED: 5

GENERAL DESCRIPTION OF LOCAL HYDROLOGY:
(USE ADDITIONAL SHEET IF NECESSARY)

Ground water is generally obtained from interbedded sandstone, shale and limestone bedrock. Well depths range from 40 to 175 feet with initial yields of one to fifteen gallons per minute. Sustained yields are generally less than three gallons per minute.

AREAS OF PARTICULAR CONCERN:
(USE ADDITIONAL SHEET IF NECESSARY)

Mining the #8 coal seam at elevations between 767 and 848 feet M.S.L. will most likely adversely affect wells within the permit boundary. All wells should be located and monitored before, during and after mining is completed.



Lamira
BM 1043
Water
WATER TOWER ROAD
BALTIMORE AND OHIO
ELM
McMahon
Hutchison
FADOR ROAD
Substation
Galloway Knob
BM 1397
LUCAS
LASH
Chapel Hill
Wesley Chapel Cemetery
HART ROAD
Williams
Bethel Ch
Creek
GROVES
BM 1301
AULT DYBART ROAD
DIXON HILL ROAD
Area
Centerville
Concord Ch
S M I T H
1
2
3
4
5,6
7
25
26
27
28,29,30
31
32
33
34
35,36
41,42
43
44

TOVCC 10452

WELL LOG AND DRILLING REPORT

723694

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohi epartment of Natural Resources, Divison (Vater
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739
Permit Number 30

COUNTY BELMONT TOWNSHIP SMITH SECTION/LOT No. (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) FRANCIS HART PROPERTY ADDRESS BELMONT-CENTERVILLE RD BELMONT (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY

CONSTRUCTION DETAILS

CASING
Borehole Diameter 10 in.
[1] Diameter 8 in. Length 27 ft. Wall Thickness ____ in.
[2] Diameter ____ in. Length ____ ft. Wall Thickness ____ in.
Type: [1] Steel [1] Galv. [X] PVC [1] [2] Other ____
Joints: [1] Threaded [1] Welded [X] Solvent [1] [2] Other ____
Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN
Type (wire wrapped, louvered, etc.) ____ Material ____
Length ____ ft. Diameter ____ in.
Set between ____ ft. and ____ ft. Slot ____

GROUT
Material CEMENT Volume used 960 lbs.
Method of installation POUR
Depth: placed from 25 ft. to SURFACE ft

GRAVEL PACK (Filter Pack)
Material ____ Volume used ____
Method of installation ____
Depth: placed from ____ ft. to ____

Pitless Device [X] Adapter [ ] Preassembled unit
Use of Well SINGLE FAMILY DWELLING
[ ] Rotary [X] Cable [ ] Augered [ ] Driven [ ] Dug [ ] Other ____
Date of Completion 1-30-92

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
BROWN SANDY SOIL	0	2
BROWN SANDSTONE	2	18
RED LIMESTONE	18	19
GRAY LIMESTONE MED	19	36
HARD GRAY LIMESTONE	36	39
MED GRAY LIMESTONE W/MD BANDS	39	90
WATER ENCOUNTERED 39'-72'		

*If additional space is needed to complete well log, use next consecutively numbered form.

WELL TEST

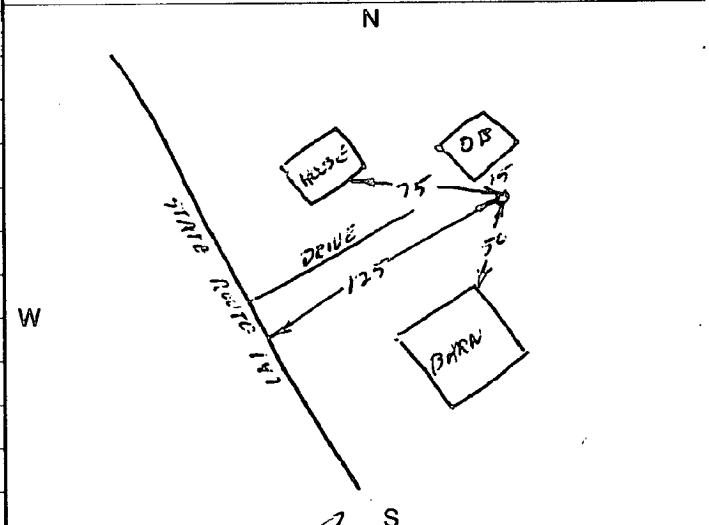
[X] Bailing [ ] Pumping* [ ] Other ____
Test rate 5.5 gpm Duration of test ____ hr
Drawdown 88
Measured from: [ ] top of casing [X] ground level [ ] Other ____
Static Level (depth to water) 39 ft. Date: 1-30-92
Quality (clear, cloudy, taste, odor) CLEAR NO TASTE NO ODOR
*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump SUBMERSIBLE Capacity 10 gp
Pump set at 86
Pump installed by DAVE GREEN - GREEN'S WELL DRILLIN

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



DNR 7802

Drilling Firm GREEN'S WELL DRILLING
Address 429 S. MAIN ST
City, State, Zip BETHESDA OHIO 43719

Signed Dave Green
Date 2-11-92
ODH Registration Number # 1572

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224
Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

94
TR 231

TOVCC 10453

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 185216

County BELMONT Township SMITH Section of Township

Owner JOHN DELANEY Address BELMONT OHIO RT

Location of property 4 MI NORTH OF ST RT 147 ON ST. RT #9

CONSTRUCTION DETAILS

Casing diameter 8 1/4 Length of casing 20

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion SEPT 26 1956

BAILING OR PUMPING TEST

COULD NOT LOWER

Pumping rate G.P.M. Duration of test hrs

Drawdown ft. Date

Developed capacity

Static level—depth to water ft

Pump installed by

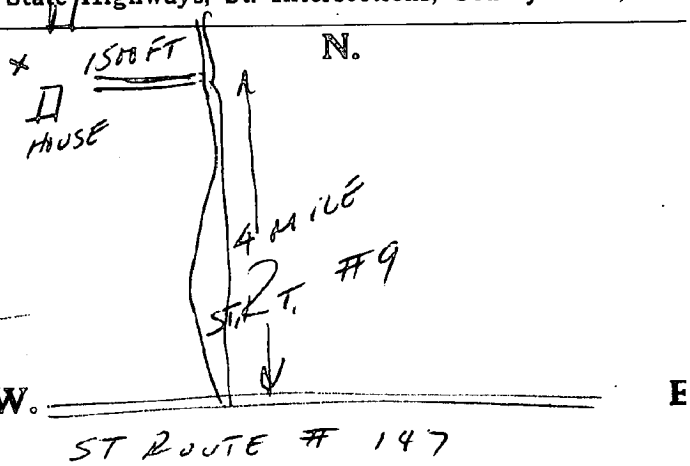
WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	15 Ft.
CLAY		
SANDSTONE	15	18
CLAY	18	20
SHALE	20	28
SANDSTONE	28	37
SLATE	37	43
SANDSTONE	43	46
SLATE	46	51
COAL	51	52
SLATE	52	58
LIME	58	61
SLATE	61	65
SHALE	65	70
SLATE	70	71

RECEIVED

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



S.

See reverse side for instructions

Drilling Firm HUGHES DRILLING CO.

Address JACOBSBURG, O

Date SEPT 28 1956

Signed Robert N Thompson

3

TOVCC 10454

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 221729

County Belmont Township Smith Section of Township 28

Owner Foster Funkhouser Address Warnock, Ohio Rd. 1

Location of property Farm House, on Co. Rd. off Route 9.

CONSTRUCTION DETAILS

Casing diameter 10" Length of casing 20'6"

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate 1 G.P.M. Duration of test hrs.

Drawdown 23 ft. Date

Developed capacity 1 gal per min.

Static level—depth to water 37 ft.

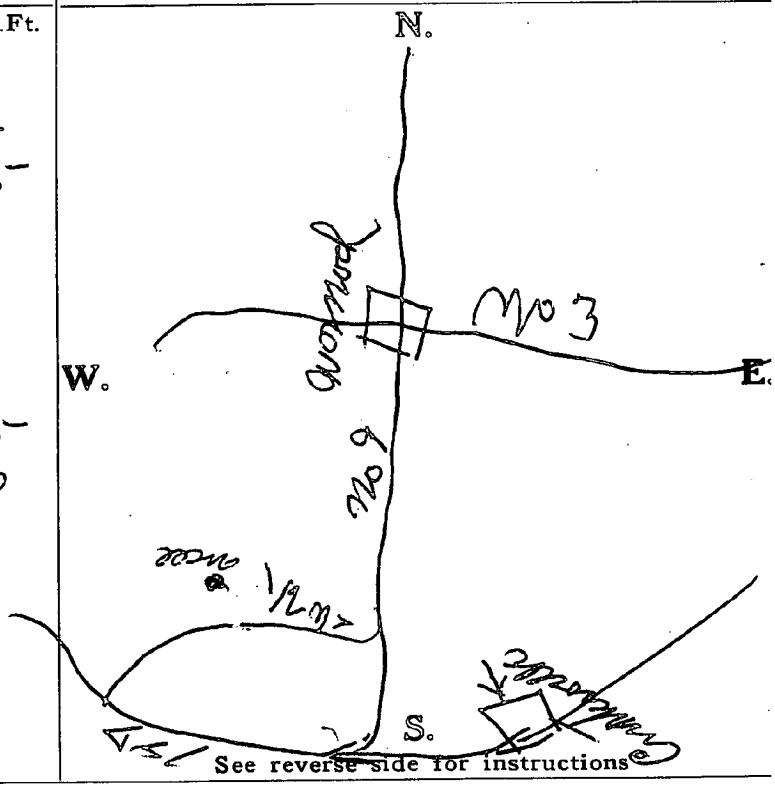
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	3 Ft.
Sand Rock	3	10
quick sand	10	14
Sand Rock	14	18
gray slate	18	25
Coal Blossom	25	27
gray slate	27	37
Rock	37	39
gray slate	39	57
Rock	57	55
Slate Rock	55	60

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm McDougal & Wilhelm

Address 106 Taylor Lane St Clairsville, Ohio

Date 7-23-59

Signed C. W. McDougal

TR 246

27

TOVCC 10455

X= 2,431,000 ±1,000
Y= 131,500

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
OHIO WATER RESOURCES BOARD
Department of Public Works
553 E. Broad St., Columbus 15, Ohio

3

№ 66524

7

County BELMONT Township 9 SMITH Section of Township or Lot Number 24

Owner STanley JUZWIAK Address Box 77 Lamira Ohio

Location of property 1 MILE S.E. OF LAMIRA, OHIO

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 14'

Type of screen ..... Length of screen .....

Type of pump .....

Capacity of pump .....

Depth of pump setting .....

PUMPING TEST

Pumping rate ONE G.P.M. Duration of test ..... hrs.

Drawdown ..... ft. Date .....

Developed capacity .....

Static level of completed well 47 ft.

Pump installed by .....

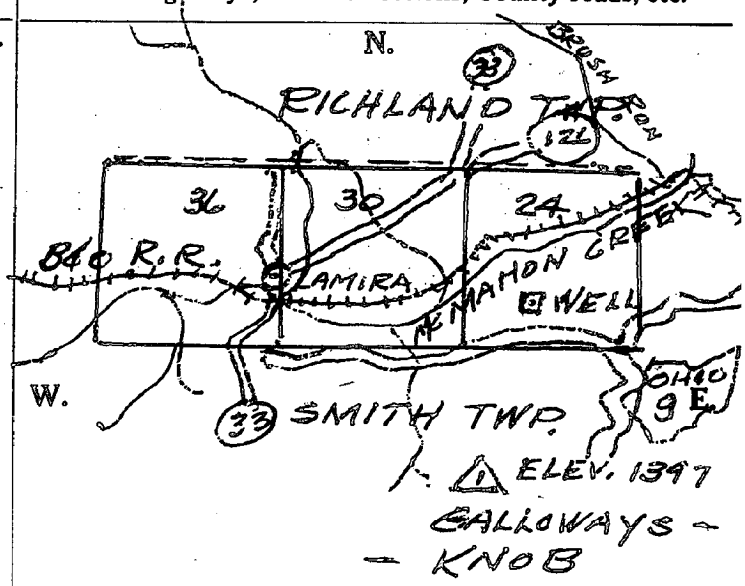
WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
CLAY	0 Feet	10 Ft.
SANDSTONE	10	22
SHALE	22	45
SANDSTONE	45	60
LIMESTONE	60	81
SHALE	81	98
SOAPSTONE	98	110
SHALE	110	117
LIMESTONE	117	124

WATER 50'
" 98'

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm .....

Address .....

Date 9/5/55

Signed Gifford Green
By [illegible] Green
TR 229 M

TOVCC 10456

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

611627

PERMIT # 39

COUNTY ~~Ohio~~ Belmont TOWNSHIP SMITH SECTION OF TOWNSHIP 18

OWNER MARGARET CASE ADDRESS 47722 WARNOCK - WHITNEY RD

LOCATION OF PROPERTY WARNOCK - WHITNEY RD., S. OFF ST RT. 9, 1ST HOUSE ON RIGHT

CONSTRUCTION DETAILS

10" Hole

Casing diameter 8 Length of casing 33

Type of screen — Length of screen —

Type of pump 5S4B JACUZZI SUB

Capacity of pump 6 GPM.

Depth of pump setting 130

Date of completion 10-21-85

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 2 gpm Duration of test 6 h

Drawdown ft Date

Static level (depth to water) 86

Quality (clear, cloudy, taste, odor) SULPHUR CEMENTED OUT

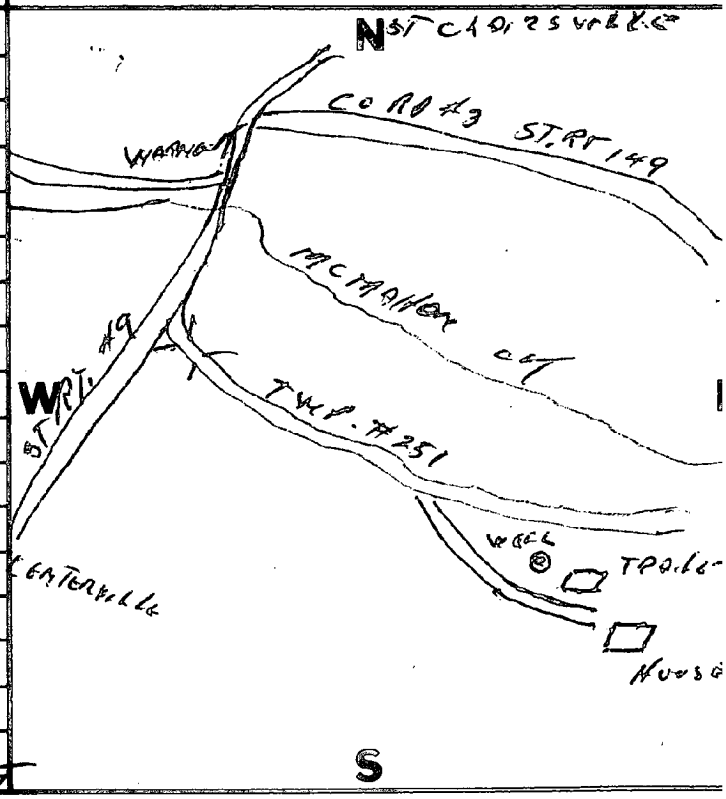
Pump installed by DUNN DRILLING

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
TOPSOIL	0 ft	3 ft
YELLOW CLAY	3	7
BROKEN SANDSTONE	7	12
YELLOW CLAY	12	18
BROKEN SANDSTONE	18	22
YELLOW CLAY	22	26
GRAY CLAY	26	27
LIMESTONE	27	30
GREEN SHALE	30	34
LIMESTONE	34	40
GRAY SHALE	40	42
LIMESTONE	42	47
GRAY SHALE	47	50
LIMESTONE	50	56
GRAY SHALE	56	60
LIMESTONE	60	63
GRAY SHALE	63	65
LIMESTONE	65	70
GRAY SHALE	70	73
LIMESTONE	73	77
GRAY SHALE	77	80
LIMESTONE	80	85
GRAY SHALE	85	88
LIMESTONE	88	91
GRAY SHALE	91	92
COAL (WATER)	92	96
GRAY SHALE	96	98
LIMESTONE	98	100
GRAY SHALE	100	104
LIMESTONE	104	118
GRAY SHALE	118	119
LIMESTONE	119	129
GRAY SHALE	129	134
LIMESTONE	134	135 BOT

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM DUNN DRILLING DATE 1-27-85

ADDRESS P.O Box 6755 WHG. W. VA SIGNED [signature]

*If additional space is needed to complete well log, use next consecutive numbered form.

TR 202

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

TOVCC 10457

WELL LOG AND DRILLING REPORT

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources, Divison of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739

751351
Permit Number 15

COUNTY Belmont TOWNSHIP Smith SECTION/LOT No. (CIRCLE ONE)

OWNER/BUILDER (CIRCLE ONE OR BOTH) Ed Johnson PROPERTY ADDRESS Lucas Lash Rd (ADDRESS OF WELL LOCATION A)

LOCATION OF PROPERTY 45585 Lucas Lash Rd

CONSTRUCTION DETAILS

CASING Borehole Diameter 8 in.

[1] Diameter 5 in. Length 112 ft. Wall Thickness SDR 21 in.
[2] Diameter ____ in. Length ____ ft. Wall Thickness ____ in.

Type: [1] Steel [2] Galv. [1] [2] PVC [1] [2] Other ____

Joints: [1] Threaded [2] Welded [1] [2] Solvent [1] [2] Other ____

Liner: Length ____ Type ____ Wall Thickness ____ in.

SCREEN

Type (wire wrapped, louvered, etc.) ____ Material ____

Length ____ ft. Diameter ____ in.

Set between ____ ft. and ____ ft. Slot ____

GROUT

Material Bentonite Volume used ____

Method of installation poured

Depth: placed from 25 ft. to ground ft.

GRAVEL PACK (Filter Pack)

Material pea gravel Volume used 2½ ton

Method of installation pour

Depth: placed from 110 ft. to 25 ft.

Pitless Device ☐ Adapter ☐ Preassembled unit

Use of Well domestic

☐ Rotary ☑ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other ____

Date of Completion ____

WELL LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.

From	To	
0	2'	brown topsoil
2'	8'	rocky Brown soil
8'	25'	red shale
25	80'	limestone
80	83	grey shale
83	110	limestone

*If additional space is needed to complete well log, use next consecutively numbered form.

WELL TEST

☑ Bailing ☐ Pumping* ☐ Other ____

Test rate 1½ gpm Duration of test 2 hrs.

Drawdown ____ ft.

Measured from: ☐ top of casing ☐ ground level ☐ Other ____

Static Level (depth to water) 40 ft. Date: ____

Quality (clear, cloudy, taste, odor) clear no odor

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

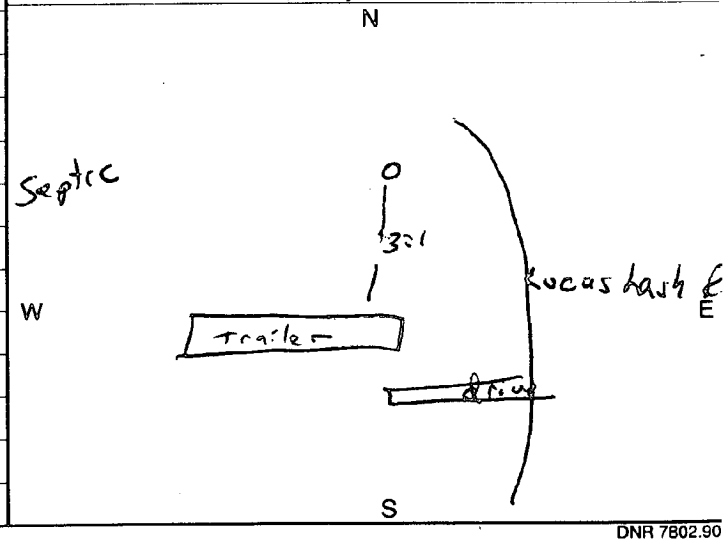
Type of pump ____ Capacity ____ gpm

Pump set at ____ ft.

Pump installed by ____

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



DNR 7802.90

Drilling Firm Roby Drilling

Address 35420 Hendrysburg

City, State, Zip Barnesville Ohio 43713

Signed ____

Date ____

ODH Registration Number 1588

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

TOVCC 10458

WELL LOG AND DRILLING REPORT

690032

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 28

COUNTY Belmont TOWNSHIP Smith SECTION OF TOWNSHIP

OWNER John Stanford PROPERTY ADDRESS 44619 Ike Scales Belmont

LOCATION OF PROPERTY Lamar

CONSTRUCTION DETAILS

CASING
Casing Diameter 10 in. Length of Casing 48 ft.
Type: ☐ Steel ☐ Galv. ☒ PVC ☐ Other
Joints: ☐ Threaded ☐ Welded ☒ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) Material
Length ft. Diameter in.
Set between ft. and ft. Slot

GROUT
Material gravel · Cement Volume used
Method of installation
Depth: placed from grave 48-25 ft. to 25' - ft.
☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

BAILING OR PUMPING TEST
(specify one by circling)

WELL TEST
Test rate 10 gpm Duration of test hrs
Drawdown (water level during pumping) f
Measured from: ☐ top of casing ☐ ground level ☐ Other
Static Level (depth to water) 22 ft. Date:
Quality (clear, cloudy, taste, odor) Clear - odorless

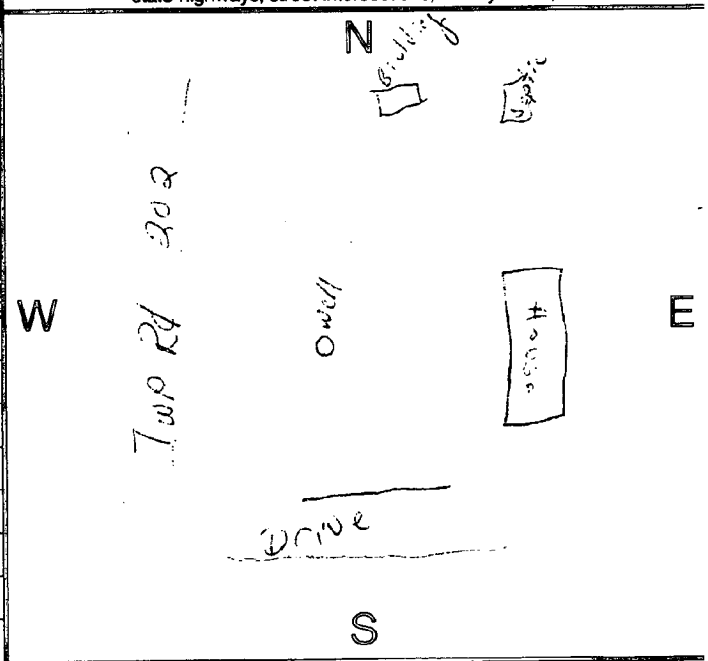
PUMP
Type of pump Franlin · Submp Capacity 7 gpm
Pump set at 45 ft ft
Pump installed by Roby drilling
Pitless Device ☒ Adapter ☐ Preassembled unit
Use of Well domestic

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
Brown Topsoil	0 ft.	1 ft.
Brown Stoney soil	1	3
red clay	3	7
grey limestone	7	18
Black stone	18	23
sandy stone	23	27
grey limestone	27	40
sandy stone	40	42
grey limestone	42	48

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



DNR 7802.

* If additional space is needed to complete well log, use next consecutively numbered form.

DRILLING FIRM Roby Drilling SIGNED Clyde Roby

ADDRESS 35470 Hendrysburg DATE

CITY, STATE, ZIP Barnesville Ohio 43713 ODH REGISTRATION NUMBER 1588

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

TOVCC 10459

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

686558

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number 35

COUNTY BELMONT TOWNSHIP SMITH SECTION OF TOWNSHIP 36

OWNER DANIEL WISE PROPERTY ADDRESS WARNOCK Rd. BELMONT 43718

LOCATION OF PROPERTY 2.5 mi West of Belmont on left side of state route 149

CONSTRUCTION DETAILS

CASING
Casing Diameter 8 in. Length of Casing 27 ft.
Type: ☐ Steel ☐ Galv. ☒ PVC ☐ Other
Joints: ☐ Threaded ☐ Welded ☒ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) NONE Material
Length ft. Diameter in.
Set between ft. and ft. Slot

GROUT
Material CEMENT + DRILL MUD Volume used 350 lbs
Method of installation POUR
Depth: placed from 25 ft. to surface ft.
☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

BAILING OR PUMPING TEST
(specify one by circling)

WELL TEST
Test rate 2 gpm Duration of test 1 hrs.
Drawdown (water level during pumping) 1.5 ft.
Measured from: ☐ top of casing ☒ ground level ☐ Other
Static Level (depth to water) 19 ft. Date: 12/20/88
Quality (clear, cloudy, taste, odor) CLOUDY NO ODOR

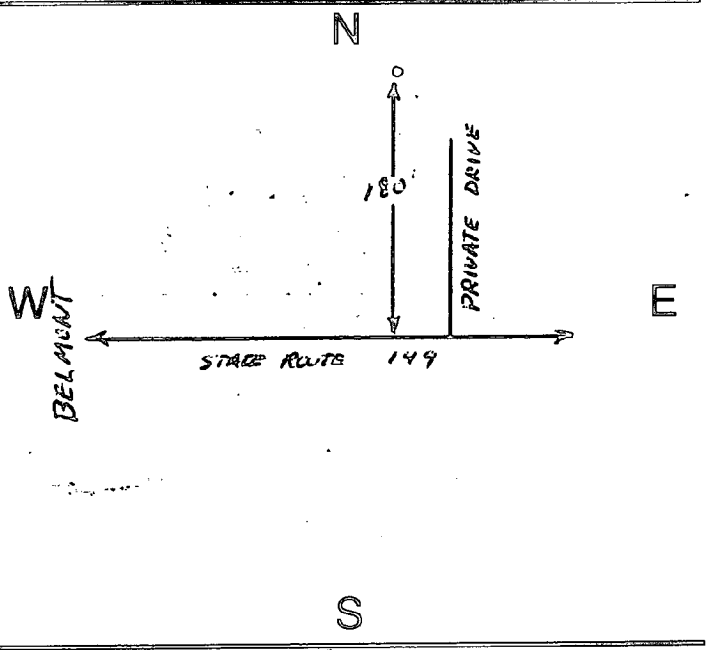
PUMP
Type of pump Capacity gpm
Pump set at ft.
Pump installed by
Pitless Device ☒ Adapter ☐ Preassembled unit
Use of Well Single - family

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
BROWN CLAY	0 ft.	3 ft.
BROWN SHALE	3	18
SAND STONE	18	19
H²O	19	
LIME STONE (DARK)	19	24
H²O	24	
LIME STONE (LIGHT)	24	30
LIME STONE (DARK)	30	31.5
LIME STONE (LIGHT)	31.5	45
LIME STONE (DARK)	45	46

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

ODNR 7802.88

DRILLING FIRM GREEN'S WELL DRILLING SIGNED
ADDRESS 429 S MAIN ST DATE 12/20/88
CITY, STATE, ZIP BETHESDA OHIO 43719 ODH REGISTRATION NUMBER 1572

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224
Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

TOVCC 10460

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

611628

PERMIT # 51

COUNTY Belmont Ohio TOWNSHIP SMITH SECTION OF TOWNSHIP 36

OWNER WAYNE MILHOAN ADDRESS 44310 WATER TOWER RD.

LOCATION OF PROPERTY 1ST FARM ON LEFT ON TWP #202 FROM LAMIRA

CONSTRUCTION DETAILS

12" HOLE 10' CASING

Casing diameter 10 Length of casing 36

Type of screen — Length of screen —

Type of pump OWNERS

Capacity of pump —

Depth of pump setting 165

Date of completion 11-14-85

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 9 gpm Duration of test 4 h

Drawdown 52 ft Date 11-10-85

Static level (depth to water) 113

Quality (clear, cloudy, taste, odor) GOOD

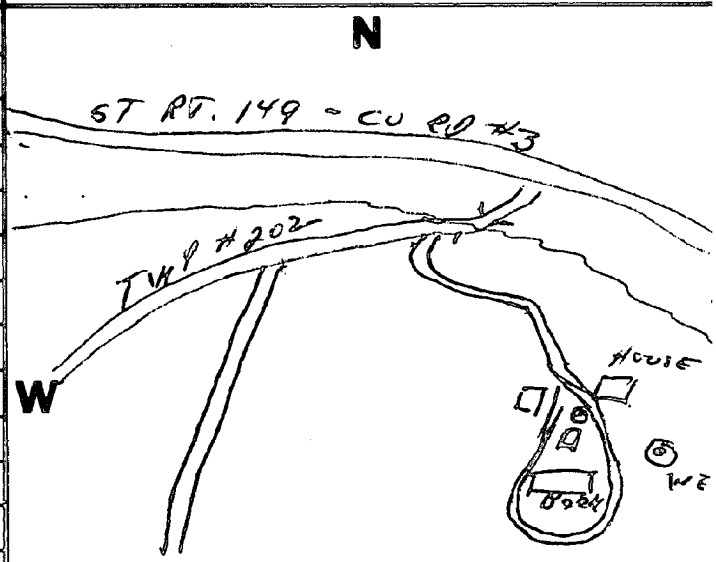
Pump installed by OWNER

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
TOPSOIL	0 ft	4 ft
YELLOW CLAY	4	10
YELLOW SHALE	10	14
BROWN SANDSTONE	14	18
SANDSTONE	18	22
YELLOW CLAY	22	24
SANDSTONE	24	28
YELLOW CLAY	28	30
GRAY SHALE	30	34
SANDSTONE	34	37
YELLOW CLAY	37	39
SANDSTONE	39	43
GRAY SHALE	43	46
COAL BLOSSOM (WATER)	46	47
GRAY SHALE	47	51
COAL	51	53
GRAY SHALE	53	58
LIMESTONE	58	61
GRAY SHALE	61	66
LIMESTONE	66	69
GRAY SHALE	69	74
LIMESTONE	74	80
BLUE CLAY	80	82
GRAY SHALE	82	101
COAL	101	103
LIMESTONE	103	109
GRAY SHALE	109	117
LIMESTONE	117	134
GRAY SHALE (WATER)	134	139
LIMESTONE	139	148
GREEN SHALE	148	150
LIMESTONE	150	154
GRAY SHALE	154	157
LIMESTONE	157	175

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM DUNN DRILLING DATE 1-27-85

ADDRESS P.O BOX 6755 WHEELING, W.VA. SIGNED

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

TOVCC 10461

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

611632

PERMIT #20

COUNTY BELMONT TOWNSHIP SMITH SECTION OF TOWNSHIP #36

OWNER WAYNE MILHOUR ADDRESS 44310 WATER TOWER RD, BELMO

LOCATION OF PROPERTY 240 HOUSE, 1ST FARM ON LEFT TWP. RD #202

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 18'

Type of screen — Length of screen —

Type of pump —

Capacity of pump —

Depth of pump setting —

Date of completion 7-8-86

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 15 gpm Duration of test 2 hr

Drawdown ft Date 7-6-86

Static level (depth to water) 24 ft

Quality (clear, cloudy, taste, odor) GOOD

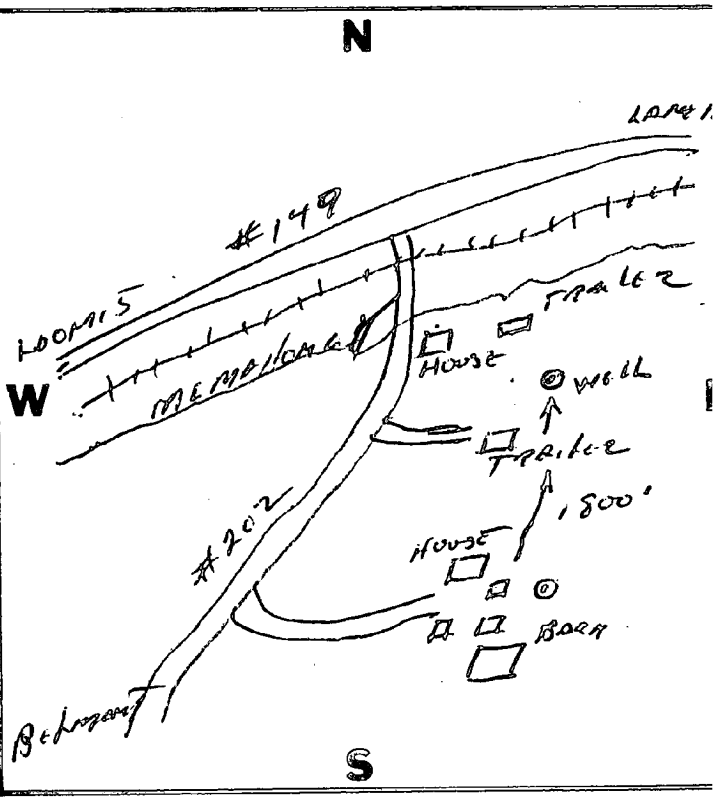
Pump installed by R & F COAL

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
BLACK TOPSOIL	0 ft	2 ft
YELLOW CLAY	2	6
BROKEN SHALE	6	11
SANDSTONE	11	13
GRAY SHALE	13	15
LIMESTONE	15	18
GRAY SHALE (WATER)	18	25
LIMESTONE	25	27
GRAY SHALE	27	34
LIMESTONE	34	38
GRAY SHALE	38	45
LIMESTONE	45	49
GREEN SHALE	49	55
LIMESTONE	55	59
GRAY SHALE	59	65
BROWN SANDSTONE	65	68
BLUE CLAY	68	70
LIMESTONE	70	74

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM DUNN DRILLING DATE 7-8-86

ADDRESS P.O. BOX 6755, WHG., W.VA. SIGNED [signature]

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

TOVCC 10462

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

622293

COUNTY BELMONT TOWNSHIP SMITH. SECTION OF TOWNSHIP 29

OWNER MARION HUGHES ADDRESS 117 HAYDEN AVE, COLUMBUS.

LOCATION OF PROPERTY TR 328 LAMIRA OHIO.

CONSTRUCTION DETAILS

Casing diameter 8" 10" HOLE Length of casing 26'

Type of screen N/A. Length of screen

Type of pump 1/2 HP SUBMERSIBLE

Capacity of pump 7 GPM.

Depth of pump setting 92'

Date of completion 3-22-84

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 2 1/2 gpm Duration of test 2 h

Drawdown 83 ft Date 3-17-84

Static level (depth to water) 52

Quality (clear, cloudy, taste, odor)

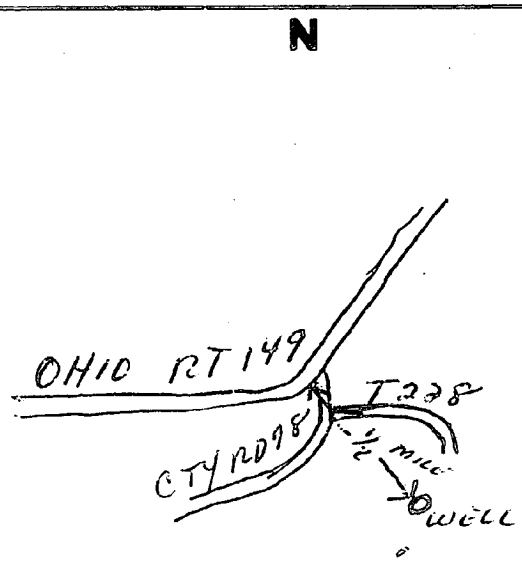
Pump installed by PARKHURST WELL SERVICE

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
CLAY.	0 ft	12 ft
SHALE, GRAY.	12	24
SANDSTONE.	24	38
LIMESTONE	38	47
SHALE, GRAY.	47	56
LIMESTONE	56	73
SANDSTONE	73	97

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM PARKHURST WELL SERVICE DATE 3-22-84

ADDRESS RAVENSWOOD, OHIO. SIGNED [signature]

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

TOVCC 10463

X = 2,428,000 ± 3,000'
Y = 730,500

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

5

No 142977

County Belmont Township 9 South Section of Township or Lot Number 28

Owner Ray Lenhart Address Belmont

Location of property 4 mi South on 147 turn on Warnock

CONSTRUCTION DETAILS

Casing diameter 7 Length of casing 21

Type of screen — Length of screen —

Type of pump —

Capacity of pump —

Depth of pump setting 1 wire

PUMPING TEST

Pumping rate 2½ G.P.M. Duration of test 3 hrs

Drawdown — ft. Date Nov 18, 1955

Developed capacity —

Static level—depth to water 23 ft

Pump installed by owner

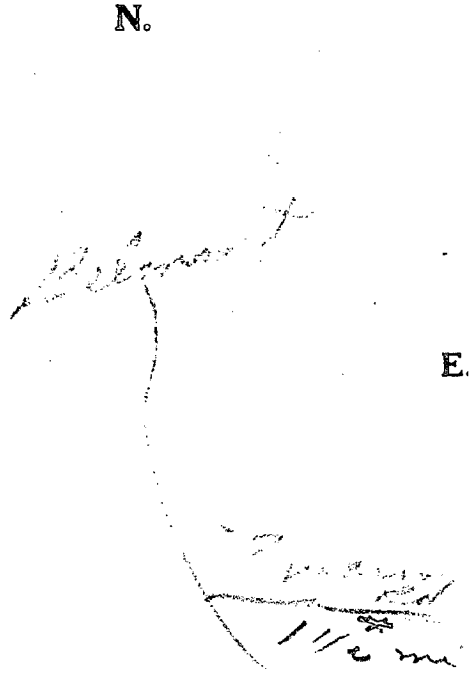
WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top soil	0 Feet	5 Ft.
Blue shale	5	18
Lime shale	18	30
Blue stone	30	60

1

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm E. G. Warnick & Sons Date Nov 18, 1955

Address 769 E. Main St Signed E. G. Warnick

509

TOVCC 10464

X 2423500

Y 134000N

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

1

No 142987

County Belmont Township Smith Section of Township or Lot Number 30

Owner Wallace Ramsey Address Lamira

Location of property in Lamira

CONSTRUCTION DETAILS

Casing diameter 10 Length of casing 18½

Type of screen — Length of screen —

Type of pump —

Capacity of pump —

Depth of pump setting —

PUMPING TEST

Pumping rate ½ G.P.M. Duration of test 3 hrs.

Drawdown — ft. Date Jan 10, 1956

Developed capacity —

Static level—depth to water 22 ft

Pump installed by owner

WELL LOG

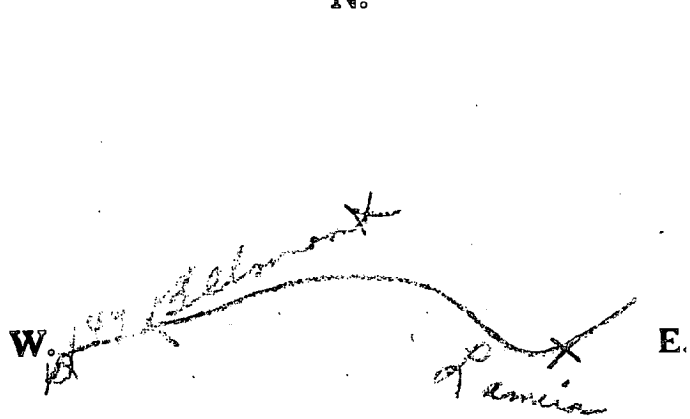
Formations Sandstone, shale, limestone, gravel and clay	From	To
top soil	0 Feet	5 Ft.
lime shale	5	15
limestone	15	18
dark shale	18	30
limestone	30	61

1 water 22 ft

RECEIVED

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm E. J. Warnick & Sons Date Jan 10, 1956

Address Barnesville, O Signed Glenn Warnick

SR 147

TOVCC 10465

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 196507

County Belmont Township Smith Section of Township 35

Owner Bert Crasley Address Belmont, Ohio R.3.D.

Location of property 3 miles South of Belmont on 147

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 20 ft.

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion May 1, 1957

BAILING ~~OR PUMPING~~ TEST

Pumping rate 10 G.P.M. Duration of test 3 hrs

Drawdown ft. Date May 1, 195

Developed capacity

Static level—depth to water 40 ft

Pump installed by

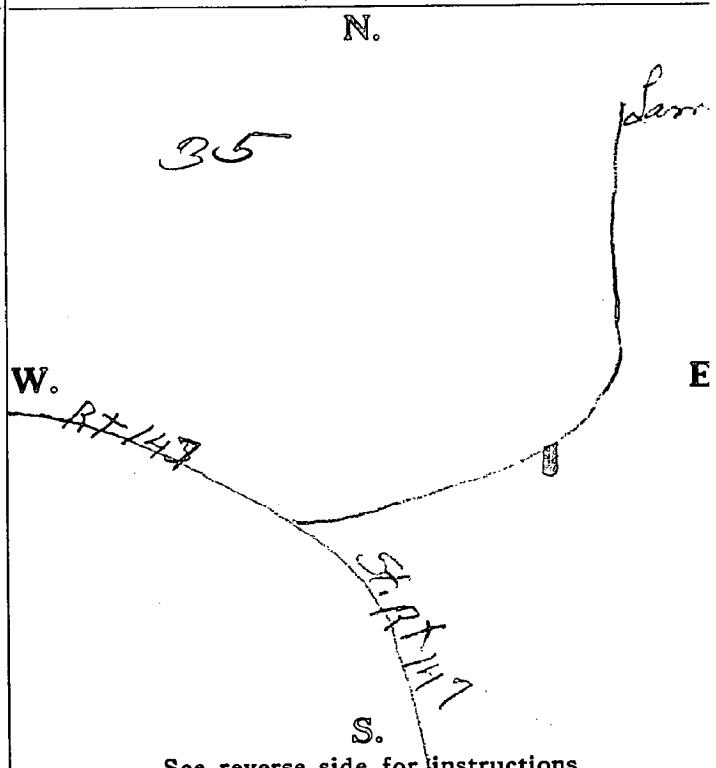
WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Sandrock	0 Feet	17 Ft.
Grayshale	17	30
Sandrock	30	40
Grayshale	40	55
Sandrock	55	70

Hit water 40 ft.

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm E. J. Warwick & Sons Date May 15, 1957

Address Barnesville, Ohio Signed Gerald L. Warwick

TOVCC 10466

ADDENDUM TO PAGE 17, PART 2, D
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

SEASONAL VARIATIONS OF WATER QUALITY AND QUANTITY

Surface and groundwater data contained in the Attachment 14 forms included with this application indicate the seasonal variances of quality and quantity of the water in this area.

The water wells existing in the area give a fairly representative indication of the near surface water bearing zones that can be found in this region. The Probable Hydrologic Consequences of mining gives a detailed description of these characteristics.

Precipitation is one of the principal factors influencing water systems. Infiltration of precipitation increases soil moisture and influences groundwater chemical composition. The time required for infiltrating precipitation to reach lower water bearing zones increases with increasing depth. Depending on the morphological structure, character of surface vegetation, and intensity of precipitation the amounts of infiltration also vary greatly. Amounts of infiltration subsequently influences the dissolved solids contents of groundwater which, in most cases, become more dilute during periods of prolonged precipitation. Rainfall data collected at or near the Powhatan No. 6 Mine has been included in this application.

All the data will show that an increased water quantity and a decrease in chemical constituent levels is realized during times of increased precipitation and snow melt of winter and spring seasons; while a decrease in water quantity and increase in chemical constituent levels is realized in dry summer and early autumn seasons.

ADDENDUM TO PAGE 7, C(1)(b)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

The Ohio Valley Coal Company owns or leases the Pittsburgh (No. 8) coal seam in this application area. The surface owners generally own the other mineral rights, unless otherwise indicated.

ADDENDUM TO PAGE 18, PART 2, E
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

HYDROLOGIC DETERMINATION

Based on the information submitted in this application, the enclosed probable hydrologic consequences may be expected. Although the overall hydrologic regime will not be affected, individual sources of ground and surface water may be temporarily disrupted. That is, individual wells, springs, or streams may experience significant water loss. However, this effect is expected to be temporary in some cases. Supplies that are affected permanently will be replaced by OVCC at its own expense by connecting the water user to another supply. The cost of domestic water will be the responsibility of the water user unless otherwise agreed upon by OVCC and the water user. The quality of the surface and ground water in the application area is not expected to be changed in the long term as a result of the proposed mining activities. Specifically, the levels of pH, iron, manganese, total suspended solids, and total dissolved solids are not expected to vary from their original levels. However, these parameters may be temporarily changed.

Some temporary changes to individual ground water and surface water source availability are anticipated. Wells and springs may go dry, streams may flow less, ponds may de-water. However, the effect on sediment yield, acidity, total suspended and dissolved solids, and flooding are expected to be minimal if any.

The effects are expected to stabilize within about two years as the localized water table reaches equilibrium again. Ponds and streams with visible cracks that are draining water will be repaired. Permanent replacement supply systems will be provided if an individual source is permanently affected.

ADDENDUM TO PAGE 17, C
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

GROUNDWATER INFORMATION

Naturally occurring groundwater in this area resides primarily in consolidated (rock) aquifers that are partially or wholly confined and lie within the geologic interval above the Pittsburgh No. 8 Coal.

The rock aquifers are primarily sandstones, limestones and coals, but may also include shales, claystones, and siltstones. All units transmit water primarily by secondary porosity or hydraulic conductivity (joints and other fractures, bedding partings). In general, primary permeabilities are low to very low for these materials. In fact, there are no "aquifers" in the application area. Rather, the ground water is generally limited to the first 50 to 100 ft. of the strata, designated herein as the "Near Surface Saturated Zone." Larger openings in the rock strata saturated zones may be identified by limonitic (iron) stained or alkaline stained rocks in the test holes. The saturated zone is recharged through infiltration and percolation at outcrop zones and in some cases, by vertical flows through discontinuities and locally permeable overlying strata. The stratigraphy identified in the Geology Description section shows numerous lithologic units that are probably capable of transmitting water. However, confining pressures tend to keep lower strata rock discontinuities closed or "tight" so that useful aquifers tend to lie close to the ground surface. Wells penetrating near surface rock aquifers typically exhibit yields of less than one half gallon per minute. The confining pressure is greater in valleys, and well yield tends to be lower in the valleys than on the ridge tops. However, the saturated zones in valleys may extend deeper due to the presence of the local water table, as evidenced by streams located in the valleys.

Numerous aquicludes comprised of claystones, mudstones, underclays, limestones with clay lenses, and some shales and siltstones are interbedded with the more permeable water bearing units. These less permeable strata strongly influence horizontal and vertical water movements. A portion of the springs flowing from valley walls below the ridgelines probably orininate in the saturated zone and many can probably be identified as adjacent to (usually above) the less permeable strata.

Groundwater quality data obtained from these rock aquifer springs and the wells generally indicate pH ranges from 6.1 to 9.0, alkalinities in excess of acidities, high hardness, and low metals concentrations.

Wells and springs located within the application area are identified on the Attachment 14 forms included with this application. Their locations are shown on the Application Map.

Probable Hydrologic Consequences

Ohio Valley Coal Company
Powhatan No. 6 Mine
Application Area D-0360-7

Prepared For:

The Ohio Valley Coal Company
56854 Pleasant Ridge Road
Alledonia, Ohio 43902

April 25, 1997
Revised January 29, 1998
Revised March 3, 1998

Prepared By:

David M. Anderson, P.G.
Geologist

Burt A. Waite, P.G.
Senior Geologist

Moody and Associates Inc.

11548 COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: 814/724-4970 FAX: 814/724-4973

ENVIRONMENTAL CONSULTANTS AND GROUND WATER RESOURCE SPECIALISTS SINCE 1891

TABLE OF CONTENTS

INTRODUCTION 1
TOPOGRAPHIC SETTING 1
GEOLOGIC SETTING 2
GENERAL HYDROLOGIC SETTING 3
Aquifer A: Unconsolidated Material 5
Aquifer B: Washington No. 12 Cyclothem 5
Aquifer C: Waynesburg No. 11 Cyclothem 6
Aquifer D: Sewickley No. 9 Cyclothem 6
WATER SUPPLIES 6
EVALUATION OF HYDROLOGIC IMPACT IN PREVIOUSLY MINED AREAS 7
Literature Review 7
Quantity Impacts In Previously Mined Areas 8
Quality Impacts In Previously Mined Areas 13
PROBABLE HYDROLOGIC CONSEQUENCES SUMMARY 14
Surface Water 14
Ground Water 15
Post Mining Water Breakouts 16
Abandoned Mine Bt – 100 16
Water Supplies 17
FIGURE 1 - Sketch Showing Relationship of Water Supplies to Longwall Panel .....
TABLE 1 - Water Well Data Summary Application Area D-0360-6 .....
TABLE 2 - Developed Spring Data Summary Application Area D-0360-6 .....
TABLE 3 - Summary of Mining Impacts on Wells - Areas D-0360-2 and D-0360-3 .....
TABLE 4 - Summary of Mining Impacts on Springs - Areas D-0360-2 and D-0360-3 .....
TABLE 5 - Distance from Mine Face to Impacted Wells and Springs
Areas D-0360-2 and D-0360-3 .....
TABLE 6 - Ground Water Quality Summary - Areas D-0360-2 and D-0360-3 .....
TABLE 7 - Comparison of Actual and Predicted Hydrologic Impacts for
Application Area D-0360-2 .....
APPENDIX A - Well Hydrographs - Applications Areas D-0360-2 and D-0360-3 .....End of Text
APPENDIX B - Spring Discharge Graphs-Applications Areas D-0360-2
and D-0360-3 .....End of Text
ANNOTATED BIBLIOGRAPHY .....End of Text

INTRODUCTION

Since 1987, seven longwall application areas of the Powhatan No. 6 Mine have been evaluated relative to the Potential Hydrologic Consequences (PHC) of mining activities. These areas, which are contiguous, are illustrated on the past and future application map of the permit application and include:

Application Area	Year Prepared	Prepared By
R-0360-2	1987	Moody and Associates, Inc.
D-0360-1	1990	Moody and Associates, Inc.
D-0360-2	1991	Moody and Associates, Inc.
D-0360-3	1992	William Siplivy P.E. & C.P.G. (Two additional applications were prepared by OVCC using this PHC for two small areas within the D-0360-3 area. They were identified as D-0360-4 and D-0360-5).
D-0360-6	1996	Moody and Associates, Inc.

This PHC has been prepared for Application Area D-0360-7 on behalf of the Ohio Valley Coal Company by Moody and Associates, Incorporated. Through the efforts of OVCC, an extensive water well and spring monitoring program has been developed and it is now possible to evaluate the impacts of past mining activities on water supplies in detail thereby improving the predictive capabilities of the PHC.

TOPOGRAPHIC SETTING

The Powhatan No. 6 Mine is located in Belmont County in southeastern Ohio. The topography of the entire application area is typical of the Appalachian Plateau Province and is characterized by narrow rounded ridges and deep V shaped valleys dissecting the terrain, which is underlain by essentially horizontal sedimentary rocks. Topographic relief within the D-0360-7 application area is approximately 380 feet. The lowest elevation is approximately 1020 feet, located where Hutchison Run crosses the northeastern application area boundary. The highest elevation is 1397 feet at the benchmark on the top of Galloway Knob in the center of the application area.

The surface drainage within the application area is divided into three drainage areas. Lucas Lash Road, which runs east to west through the center of the application area, marks the approximate

location of the drainage divide. The southern half of the area drains to the south, through unnamed tributaries of Williams Creek. Williams Creek is a tributary of McMahon Creek. The northern half drains to the north and east through Hutchison Run and unnamed tributaries to McMahon Creek. Hutchison Run is also a tributary of McMahon Creek. A small portion of the southwest corner of the application area drains southward to Joy Fork, which is a part of the Captina Creek drainage area.

Most of the developed water supplies (wells and springs) are located along the roads in the application area. There is a concentration of water supplies in the southeast corner of the application area along Hart Road and State Route 9. Another concentration is located along Lucas Lash Road. The remainder of the water supplies are scattered throughout the area along other roads. There are two large sections of the applications area that have few developed water supplies in them. These two sections are the section north of Lucas Lash Road to McMahon Creek and the section south of Lucas Lash Road to Hart Road. A total of 38 used wells and 18 used developed springs were identified and inventoried within the hydrologic boundary of the application area. Fifteen (15) of the used wells and six (6) of the used developed springs are outside the planned mining area but are within the hydrologic boundary. There are 21 unused wells and 10 unused developed springs within the hydrologic boundary. Seventeen ponds were identified and inventoried within the hydrologic boundary.

GEOLOGIC SETTING

A detailed discussion of the stratigraphic and structural setting of the Application Area is provided in the Geologic Section of this application. However, those properties of the geologic setting pertinent to ground water occurrence and movement are described here.

The bedrock units that outcrop in the Application Area belong to the Dunkard Group that is Upper Pennsylvanian to Permian in age. The rocks consist of interbedded sandstone, siltstone, shale, mudstone, clay, fresh to brackish water limestone and coal. The Monongahela Formation (Pennsylvanian) underlies the Dunkard Group and consists of similar rock types. The Pittsburgh (No. 8) Coal Bed, which is the seam to be mined, marks the bottom of the Monongahela Formation. According to Mr. James M. Raab, a hydrogeologist with the Ohio Department of Natural Resources, in correspondence to Dave Bartsch of the Ohio Valley Coal Company dated January 30, 1989, water below 250 feet beneath the stream bottoms is brackish (personal communication).

TOVCC 10474

Based on corehole data presented in other parts of this application, "soft" rocks constitute 46 to 81 percent of the rock column in the D-0360-7 Application Area. Soft rocks are defined here as shale, mudstone, claystone, sandy shale and clay. The relatively high percentage of soft rocks is significant as these units have limited primary permeability, tend to deform in a more plastic manner and are more prone to self-healing after fracturing. Aquifers in these units normally have low yields, are less susceptible to subsidence fracturing due to mining, fractures tend to close in response to lithostatic pressures or plug with fine-grained sediment and may contain clays that swell when wetted.

In addition, there is considerable horizontal and vertical variability of the rock units. Rapid facies and hydrologic property changes tend to limit the horizontal continuity of the individual rock units. With the exception of major coal seams, very few lithologic units are continuous across the proposed application area. Horizontal facies changes and corresponding changes in hydrologic properties of the rocks tend to enhance the importance of localized flow systems. In addition, most available ground water in this region is limited to the first 100 feet of the surface where enhanced secondary permeability associated with rock fracturing is present. This information is supported by the OVCC drilling records and from locally developed wells and springs. Ground water recharge in the upland or ridge top areas results in downward migration primarily within this shallow saturated zone. Because the topographic relief between ridge tops often exceeds 100 feet, there are localized flow systems under the hilltops that are not in hydrologic communication with adjacent hilltops. While the ground water under any given ridge top can be viewed as being continuous, the continuity generally does not extend to adjacent hilltops

The geologic structures in the Application Area consist of gently folded rocks that dip to the southeast at approximately 40 feet per mile. Overburden thickness above the Pittsburgh coal seam ranges from a low of approximately 210 feet in the northeast section of the area to almost 600 feet in the **east-central section** of the area **beneath Galloway Knob**. While geologic structure can influence regional ground water flow patterns, local variations in hydraulic properties of the rocks tend to accentuate localized flow systems.

GENERAL HYDROLOGIC SETTING

The source of all ground and surface water in the mine plan area is precipitation. Upon reaching the land surface, water that is not part of direct surface runoff or evapotranspiration infiltrates into the subsurface and contributes to soil moisture and ground water.

TOVCC 10475

Within the bedrock aquifer system, ground water occurs in primary and secondary openings. Primary openings are pore spaces between sand, silt and clay grains formed at the time of sediment depositions. Primary permeability is the ability of water to move between pore spaces. In this area, primary permeability is very low and limited ground water movement occurs in hard or soft rocks as a result of primary openings (Stoner 1983, Siplivy 1992).

Secondary porosity and permeability is formed by fractures or partings in the rock mass. Most available ground water in the application area occurs within the first 100 feet below the surface within these secondary openings and the success of a water well in terms of yield potential is dependent upon the well encountering water filled fracture zone(s) that transmit enough water to the well bore to meet the well's intended use (Schmitt et al, 1983; Waite, 1987).

Fractures are not ubiquitous in the area, however, and are not interconnected over large areas. For these reasons, it is very difficult to identify aquifers over large areas and the ground water flow system tends to be made up of small localized fracture controlled systems. While fractures in hard rocks tend to stay open better than fractures in soft rock, the horizontal and vertical variability of even the hard rock units tend to produce hydraulically isolated areas.

In addition, fractures tend to close at increasing depths due to overlying lithostatic pressures, thereby limiting the effective depth of the ground water flow system (Stoner, 1983). This condition is evident throughout the Powhatan No. 6 Mine. The mine, in general, is very dry with very minor amounts of water inflow limited to the low cover areas (generally less than 200 feet). The overburden thickness in the application area ranges from about 200 to just over 500 feet. Very little water inflow into the mine is expected in the deeper cover areas.

During full recovery mining, where the roof is allowed to collapse, existing natural fractures are often reopened and new fractures are created. Typically, a rubble zone develops above the extracted coal seam with a gradually reduced fracture density pattern above the rubble zone. However, the fractures developed by subsidence are normally a poorly interconnected network of cracks and are rarely continuous from the land surface to the mine void (Rauch, 1987). This condition is evidenced by the fact that recent longwall mining to the south and southeast has not resulted in large volumes of water in-flow in the longwall or adjacent areas in the Powhatan No. 6 Mine (Bartsch, 1994).

The soft rocks (which account for 46 to 81 percent of the rock column in the Application Area) tend to deform in a more plastic manner with limited fracturing. Many of the fractures that do

TOVCC 10476

form in soft rocks tend to "heal" by fracture compression or clogging. This process limits the amount of water that would tend to migrate downward. The mining conditions experienced in the longwall panels immediately southeast of this Application Area where cover thickness was in excess of 300 feet substantiates this interpretation of the subsidence affected flow systems. On two separate occasions, in-mine inspections were made to observe water conditions. It was noted that no water was accumulating in the completed longwall panel in Application Areas D-0360-2 or -3 and no water was being pumped from the sections. An inspection of the chain pillar areas, including close inspection of the accessible areas of the gob in three completed panels, did not reveal any ground water in-flow. Interviews with several mine foremen, who directed mine operations of the longwall panel areas, verified generally dry conditions prevailed throughout the mining and post-mining phases of the analog areas.

A readjustment of the subsurface flow system does occur in areas of high cover (>200 feet) resulting in some changes in ground water levels and a repositioning of some hillside springs. Changes to the net hydrologic balance in these areas, however, are minimized. The water that infiltrates from the land surface remains in the flow system and does not, to a major degree, enter the mine. The repositioning of the static water levels often results in inconvenience (usually temporary) to the ground water users in the area There are no areas within the D-0360-7 Application Area with less than 200 feet of overburden.

Based on an evaluation of the geologic units presently supplying water to wells or springs in the Application Area, a total of four aquifers have been identified within the D-0360-7 hydrologic boundary. These units, which are also outlined on Form 14B of this application, are summarized below:

Aquifer A: Unconsolidated Material

Includes the layer of weathered bedrock above solid bedrock.

Aquifer B: Washington No. 12 Cyclothem

Includes the rock sequence from the Washington Coal Bed to the surface of the consolidated bedrock. Occurs from approximately 350 feet to 500 feet above the No. 8 Pittsburgh Coal Bed.

TOVCC 10477

Aquifer C: Waynesburg No. 11 Cyclothem

Includes the rock sequence from the Waynesburg No. 11 Coal Bed to the Washington No. 12 Coal Bed. Occurs from approximately 250 feet to 350 feet above the No. 8 Pittsburgh Coal Bed.

Aquifer D: Sewickley No. 9 Cyclothem

Includes the rock sequence from the Sewickley No. 9 Coal Bed to the Waynesburg No. 11 Coal Bed. Occurs from approximately 90 feet to 250 feet above the No. 8 Pittsburgh Coal Bed.

These units are only recognized as aquifers where they occur within 100 feet of the surface where secondary porosity and permeability is greatest.

WATER SUPPLIES

A total of 56 water supplies (38 wells and 18 developed springs) that serve domestic and agricultural needs have been inventoried with in the hydrologic boundary of the Application Area. The Application Map illustrates the location of these supplies. Nineteen of the inventoried wells and eight of the inventoried springs are outside the planned mining area but are within the hydrologic boundary. Nineteen of the water supplies, in the hydrologic boundary, are over 500 feet from the closest planned longwall panel. The water supply inventory also identified all of the unused wells and developed springs with in the hydrologic boundary of the application area. These unused supplies are included on ATTACHMENT 14C. Only the used supplies are discussed in the PHC.

TABLE 1 presents a summary of the pertinent data for used wells in the Application Area D-0360-7. In general, the average well depth in the Application Area is 72 feet. The average overburden thickness is 376 feet and the rock column contains about 68 percent of soft rocks (shale, clay, mudstone, and sandy shale). There are two wells located in the valley bottoms, 9 wells located on hillsides and 27 wells located on hilltops. Twenty of the wells are located over planned longwall panels and three wells are located over gate areas. Fifteen well are outside the panel or gate areas.

TABLE 2 presents a summary of the pertinent data for the used developed springs. Similar overburden, lithologic, and topographic settings are associated with the springs. Most of the inventoried springs occur as hillside seeps. This is a common phenomenon in this hydrogeologic

TOVCC 10478

setting and it reflects the presence of low permeability units that act as aquitards that promotes horizontal flow to the side of the hills.

In addition, five ponds have been recognized as agricultural water supplies.

EVALUATION OF HYDROLOGIC IMPACT IN PREVIOUSLY MINED AREAS

Literature Review

Since 1972, when the Powhatan No. 6 Mine was opened, considerable research has been conducted relative to the impacts on the ground water flow system by longwall mining in the western Pennsylvania, northern West Virginia and southeastern Ohio areas. This literature database was reviewed as a guide to selecting those variables pertinent to predicting the hydrologic consequences of mining in the application area. An annotated bibliography of this literature is provided as the end of this report.

Stoner (1983); Rauch (1984); Cifelli (1986); and Dixon et al (1988 & 1990) explored the relation between overburden thickness and effects on ground water levels. In general, a conclusion was drawn that there is an inverse relation between overburden thickness and detrimental impacts to water levels. Aquifers less than 200 feet above longwall mines are more likely to be partially dewatered than aquifers greater than 200 feet above the mine.

The importance of rock fracturing was investigated by Dixon et al (1990), Parizek (1971), Schubert (1980), and Stoner (1983). The studies conclude that secondary rock fractures have a major influence on ground water occurrence and movement. In addition, Rauch (1984), determined that rock lithology of the overburden material was important in evaluating hydrologic impacts of mining. In general, the presence of a high percentage of soft rocks such as shale, clay, and mudstones minimizes negative impacts.

TOVCC 10479

Walker (1988) and Leavitt et al (1992) indicated the position of the water supply over the longwall panel affected the degree of hydrologic impact. In general, the greatest water level declines occurred directly over the panels and decreased away from the panels. Water wells outside the angle of draw were generally unaffected.

Leavitt et al (1992) found a strong correlation between topographic position and water level declines over longwall mines. In general, where overburden thickness exceeded 300 feet, the greatest impacts occurred in hilltop wells and springs, a lesser impact was noted in hillside wells and springs and the least impacts were noted in valley bottom wells and springs.

Leavitt et al (1992) and Tieman et al (1986) made a correlation between hydrologic base level and water level declines. In general, the closer the bottom of the well (or spring) is to the local hydrologic base level, the less severe and less permanent are the impacts. However, Leavitt noted that base level and topographic position are similar variables and topographic position proved to be a more reliable variable in predicting hydrologic impacts.

These variables, which include overburden thickness, local rock lithology, position over the longwall mining panel, topographic position and local hydrologic base level, are used here to evaluate the potential hydrologic impacts in the application area.

Quantity Impacts In Previously Mined Areas

In November 1992, the Ohio Valley Coal Company submitted a PHC prepared by Mr. William J. Siplivy, P.E., C.P.G., for Application Area No. D-0360-3. This report included a detailed summary of the effects of mining on well and spring water supplies in the R-0360-2 and D-0360-1 Application Areas. At the time the D-0360-3 PHC was prepared, no mining had occurred in the D-0360-2 Application Area. At this time mining has been completed in the D-0360-2 Area

TOVCC 10480

and is nearly complete in the D-0360-3 Area. The data generated by OVCC in these two areas has been reviewed in order to improve the predictive capabilities of the PHC.

Hydrographs of well water levels and spring flows in Areas D-0360-2 and D-0360-3 that have been undermined and have detailed monitoring data, have been prepared and are attached as APPENDIX A-Wells and APPENDIX B-Springs. A total of 46 well hydrographs and 32 spring hydrographs have been evaluated. It has been OVCC's policy to measure water levels and flow rates on a monthly basis for one year prior to undermining until the longwall face is within 3 weeks of undermining the supply, at which point monitoring frequency is increased to a weekly basis. Monitoring is reduced to a monthly basis 3 weeks after undermining and discontinued after one year. The distance to and from the face is represented on the graphical data by positive numbers (distance from water supply to advancing face) and by negative numbers (distance in feet to face after it passes the water supply).

Each of the 46 well hydrographs and 32 spring hydrographs include both static water level measured in feet from the top of casing or spring flow rates and the position of the panel through time. At any point in time as the panel approaches, passes by and moves away from the supply, the flow rate or static water level can be determined. In addition, the variables that may affect the impacts of mining on the water supply are listed on the graph. These include elevation, depth of wells, topographic position (as hilltop, hillside or valley bottom), hydrologic base level elevation, position in relation to mining (as outside mine area, over the gates or chain pillars of the panel, over the quarter panel or over the midpanel), the overburden thickness and the percent of soft rock in the overburden.

Based on the observed changes in water levels or flows, the water supplies were placed in one of three categories. These categories describe the impact that mining

TOVCC 10481

had on the water supplies. The following are the categories and the criteria that define each category.

Minimal Impacts - Water levels for wells or flow rates for springs either did not decline during mining or returned to pre-mining conditions within two months of undermining

Moderate Impacts - Water levels for wells or flow rates for springs decline during mining but return to premining ranges within two to six months after mining.

Severe Impacts - Water levels for wells or flow rates for springs decline during mining and do not return to premining ranges within six months (or the duration of the monitoring period) after undermining.

A total of 46 wells met the criteria for detailed analysis, which included static water level measurements prior to, during and after mining operations. Of these 46 wells, 19 (41%) had minimal impacts as a result of mining; five (11%) were moderately impacted by mining and 22 (48%) were severely impacted as a result of mining.

There is not a discernible correlation between the minimally impacted wells, the moderately impacted wells or the severely impacted wells and the variables of overburden thickness, overburden lithology, position over the panel or well depth. This may be attributed to the relatively narrow range of difference in these variables in the areas previously mined. All of the water wells in areas D-0360-2 and D-0360-3 that have currently been undermined have similar characteristics of overburden, lithology, panel position and well depth. The well data for areas D-0360-2 and D-0360-3, is summarized in TABLE 3. The hydrographs of the individual wells are attached as APPENDIX A.

TOVCC 10482

There is, however, an apparent relation between topographic position and the impacts of longwall mining on water well supplies. In general, at the Powhatan No. 6 Mine, fewer wells in a valley setting experienced significant water level declines than wells located on hillsides or hilltops. This is consistent with the investigations of Mr. Bruce Leavitt, et. al., who reported a similar finding in their 1992 report, "Effects of Longwall Coal Mining on Rural Water Supplies and Stress Relief Fracture Flow Systems"..

The conclusion derived from this data analysis is that of the wells in Application Area D-0360-7 with geologic settings similar to those described above; 41% may be minimally impacted by mining with no changes in water levels or water levels that recover within two months of undermining, 11% may be moderately impacted with water level declines that recover within six months and 48% may be severely affected with water level declines that do not recover within six months.

A similar analysis was performed for the developed springs that were undermined in the D-0360-2 and D-0360-3 areas. A total of 32 springs met the criteria for detailed analysis, which included flow measurements prior to, during and after mining operations. Of these 32 springs, 2 (6%) had minimal decreases in flow rates (no decrease or recovery within two months); 1 (3%) had moderate decreases in flow rates (decreased flow rates with recovery within six months), and 29 (91%) had severe decreases in flow rates (decreased flow rates that do not recover to pre-mining levels within six months). The spring data for Areas D-0360-2 and D-0360-3, is summarized in TABLE 4. The hydrographs of the individual springs are attached as APPENDIX B.

Like the water wells discussed above, there is not a discernible correlation between the minimally impacted springs, the marginally impacted springs and the severely impacted springs and the variables of overburden thickness, overburden

TOVCC 10483

lithology, position over the panel, discharge rates and also topographic position. This again is attributed to the very narrow range in the evaluation variables. All of the springs in the D-0360-2 and D-0360-3 areas that have currently been undermined have similar characteristics of overburden thickness, lithology, topographic position, panel position and depth.

The conclusion based on this data analysis is that, of the springs in the Application Area with hydrogeologic settings similar to those described above; 6% of the springs may be minimally impacted by mining; 3% may be moderately impacted by mining with temporary decreases in flow rates that persist for less than six months and 91% may be severely impacted by mining with decreased flow rates that do not recover within six months

The break down of impacts on the wells and springs in areas D-0360-2 and D-0360-3 were revised from those presented in the D-0360-6 PHC to those presented in this PHC. The hydrographs were updated using data collected since the D-0360-6 PHC was prepared. The impacts to the water supplies were reevaluated using the updated hydrographs. The impacts of mining on six wells and three springs were changed. The impact changes are now listed on the cover sheets to APPENDICES A and B. The discussion in the texts and the information presented in TABLES 3 and 4 has been revised to reflect these changes.

The database was also used to estimate the distance from the advancing longwall face at which measurable impacts on water supplies occurred. This was done by evaluating changes in static water levels in wells and flow rates in springs of water supplies located **within the hydrologic boundary**. Ohio Valley Coal Company monitors water levels and spring flows weekly for three weeks as the longwall face approaches the supply and for three weeks after the face passes the supply. The monitoring data does not show the exact time and distance to face at which an impact may have occurred, although the interval during which the impact occurred can be bracketed. The distance to the longwall

TOVCC 10484

face that coincides with the last water level or flow monitoring event prior to an impact occurring and the distance to the face at which an impact was detected were determined for 22 wells and 9 springs in Application Areas D-0360-2 and D-0360-3. The distance to the advancing longwall face that bracket the interval during which an impact occurred are listed on TABLE 5. The observed impacts included short and long term changes in well water levels and spring flows. In **one** spring, the flow increased as mining approached the supply and returned to the normal flow range after the mining passed the supply. In several supplies there was no detectable impact observed.

Quality Impacts In Previously Mined Areas

The water quality affects of longwall mining on the ground water flow system were also reviewed. A total of 28 wells and 22 springs were evaluated. Each of these 50 water supplies are located over previously mined sections of the D-0360-2 and D-0360-3 areas. In each case, an affect on water quantity in terms of reduced water levels or reduced flow rates was documented and water quality data was available both before and after the impacts occurred. A summary of the water quality data for those supplies is presented in TABLE 6, which presents the range of water quality in both the pre-mining phase and post- mining phase for pH, acidity, alkalinity, iron, manganese, hardness and sulfate. Nitrate concentrations did not appear to vary in response to mining.

This data indicates the water quality changes from the premining to the post mining phase are relatively minor. However, the following trends were noted:

For Wells:

15 of the 28 wells exhibited increasing levels of iron in the post-mining phase

Seven of the 16 wells tested for manganese exhibited increasing levels of manganese in the post-mining phase

For Springs:

10 of the 22 springs exhibited increased iron levels in the post-mining phase

Seven of the 22 springs exhibited increased manganese levels in the post-mining phase

TOVCC 10485

Seven of the 22 springs exhibited increased hardness levels in the post-mining phase

Typically the iron and manganese increases were temporary and not persist for more than a year.

PROBABLE HYDROLOGIC CONSEQUENCES SUMMARY

Surface Water

Based on a review of the existing literature, it is expected water flow in selected sections of first order streams where overburden thickness exceeds 200 feet may be temporarily reduced over relatively short stream segments. Due to the high percentage of soft rocks in the mine overburden, the overburden thickness and the minimal amount of water that enters the mine, any stream water loss that may occur is not expected to drain into the mine.

This generalized theory for areas with 200 feet or more of cover is supported by the data generated by the OVCC in the D-0360-2 and D-0360-3 areas where undermining has occurred and hydrologic changes have been monitored. These areas are in very similar hydrogeologic settings and a temporary lowering of the water table under the hilltops and higher elevations is documented in water wells and spring flows. It is expected that any reduction in stream flows will be limited in the upper elevations primarily in the first order streams. Some impacts to the first order streams north of Lucas Lash Road may occur.

Four stream segments that were monitored in the pre and post mining phases in Application Area D-0360-3 were selected at random for detailed evaluation. Hydrographs of these four data sets are presented on APPENDIX C at the end of this report. These data verify the general predictions listed above are verbalized as follows:

Monitoring Point U34-067

This unnamed tributary to Williams Creek was monitored for flow rates on twelve separate occasions prior to undermining and 14 times post undermining. This first

TOVCC 10486

order stream is shown on the U.S.G.S. Topographic map as an intermittent stream and there was approximately 265 feet of overburden in the area. There was no apparent impact on stream flow as a result of undermining.

Monitoring Point U34-144

This unnamed tributary to Williams Creek was monitored for flow rates on nine separate occasions prior to undermining and 15 times post undermining. This is a first order stream and is shown as intermittent on the U.S.G.S. Topographic map. There is approximately 288 feet of overburden in the area. There was no apparent impact on stream flow as a result of undermining.

Monitoring Point U34-038

This point on Williams Creek was monitored for flow rates on 12 occasions prior to mining and nine times post mining. Williams Creek is a third order stream and has perennial flow. There is approximately 250 feet of cover at this location. There was no apparent impact on stream flow as a result of undermining.

Monitoring Point U29-C

Flow in this first order intermittent stream was monitored on twelve occasions prior to undermining and 13 times after undermining. The overburden thickness is approximately 260 feet. No apparent impacts were noted as a result of undermining.

Ground Water

The data generated in the D-0360-2 and D-0360-3 areas indicate that ground water levels may decline as mining passes under an area. Most developed water supplies will most likely experience a decline in static water level or flow. The amount of this decline appears to be dependent on the topographic position of the water supply. Hilltop water supplies may be impacted more often than water

TOVCC 10487

supplies located in valley bottoms. Springs are generally more significantly impacted than wells. Approximately 90% of the springs undermined may experience significant impacts, while approximately 50% of the wells may be significantly impacted. Some recovery of ground water levels occurs after mining has passed under a water supply.

Post Mining Water Breakouts

The area with the lowest cover is located in the northeast section of Application Area D-0360-7. The lowest surface elevation in the Application Area is approximately 1020 feet msl. The lowest surface opening elevation for the Powhatan No. 6 Mine is 847 feet msl. The maximum coal elevation in Application Area D-0360-7 is approximately 845 feet msl or 2 feet below the lowest surface elevation. The addition of the D-0360-7 area will raise maximum elevation in the Powhatan No. 6 Mine to approximately 845 msl or 2 feet below the lowest surface opening in the Powhatan No. 6 Mine. No post mining water breakouts are predicted to occur due to mining in the D-0360-7 area.

Abandoned Mine Bt – 100

The abandoned Consolidation Coal Company Eleanor Mine (Bt – 100) is located to the northeast of the D-0360-7 Application Area. The Eleanor Mine is 513 feet from the D-0360-7 Application Area. The coal elevation, in the Eleanor Mine, ranges from 785 feet to 826 feet. The lowest surface elevation over the Eleanor Mine is approximately 920 feet. The coal elevation in the D-0360-7 Application Area ranges from approximately 840 feet to 760 feet. The lowest surface elevation over the D-0360-7 Application Area is 1030 feet. The Eleanor Mine was closed in the late 1920's. It is not known if the Eleanor mine is flooded or what the mine pool level may be.

TOVCC 10488

Mining in the D-0360-7 Application Area is not expected to have any impact on the abandoned Eleanor Mine. A 500 foot thick solid coal barrier will be left between the two areas. Due to the slight difference in coal elevation between the Eleanor Mine and the D-0360-7 Application Area, no hydraulic communication between the mines is expected.

Water Supplies

A total of 56 water supplies (38 wells and 18 springs) have been inventoried in Application Area D-0360-7, including the hydrologic boundary area. The potential impacts on these water supplies by mining have been evaluated based on monitoring of springs and wells in mined out sections of the D-0360-2 and D-0360-3 areas and a review of pertinent literature

For areas with high cover (>200 feet overburden) the predicted impact on wells and springs are exactly as they were documented in the mined sections of Application Areas D-0360-2 and D-0360-3. The notable exception is the limited impact observed in wells in valley settings (this may reflect the limited database for wells of this type). When cover thickness exceeds 200 feet in valley bottom settings, an 11% likelihood of severe impacts, an 11% likelihood of moderate impacts and a 78% likelihood of minimal impacts is used to be consistent with the findings of the analog areas. These impacts are summarized on TABLE 3 for wells and TABLE 4 for springs and are expressed as a percent of the wells that experienced significant, moderate or minimal impacts. As outlined above, for the purposes of these predictions:

- Severe indicates water level declines or reduced flow rates that persist for more than six months.
- Moderate indicates water level decline or reduced flow rates that recover within two to six months.
- Minimal indicates a water level decline or reduced flow rates that recover within two months.

TOVCC 10489

Although the analog areas D-0360-2 and D-0360-3 did not include low cover (<200') situations, it is recognized from the literature review that significant water level declines or diminished spring flow rates are likely in those settings. Thus all water wells and springs with less than 200 feet of cover are predicted to have a greater than (>) 75% chance of significant water level declines or dewatering for a period of six months or more. Water wells and springs located 700 or more feet outside the limit of longwall mining (but within the hydrologic boundary) are not expected to be impacted by mining operations.

Previous PHC's

As outlined above, OVCC has prepared five previous PHC's in the past for various areas in the Powhatan No. 6 Mine area. Since 1987, there has been a concerted effort to improve the predicative capabilities of mining impacts on surface water and ground water. This has included an extensive premining and postmining quantity and quality monitoring of wells and springs. This PHC reflects the database now available and represents an improved method of evaluation.

The early PHCs used overburden thickness and percentage of soft rocks as the primary indicators of potential impacts. The data now indicates that the topographic position of the water supply may be the primary indicator of the potential impact.

A comparison between the predicted hydrologic consequences for the D-0360-2 and D-0360-3 Application Areas and the actual hydrologic impact was made. There were 63 water supplies (40 wells and 23 springs) that have been undermined and for which there was sufficient data available to make this comparison. The predicted and actual hydrologic impacts are listed in TABLE 7.

TOVCC 10490

The predicted impact was correct for 30% of the water supplies and incorrect for 37% of the supplies. The predicted impact was close (only off by one category) for 33% of the water supplies. For nine water supplies the actual impact was milder than the predicted impact (i.e., a severe impact was predicted and the actual impact was minimal). As mining progresses and more data is collected, the accuracy of the predictions is expected to improve.

APPENDICES A and B include hydrographs that are not listed on TABLE 7. TABLE 7 only includes water supplies for which an impact prediction was made in the D-0360-2 and D-0360-3 PHCs. APPENDICES A and B contain hydrographs for water supplies for which monitoring data is available regardless of whether or not a previous impact prediction was made. TABLE 7 was used to evaluate the accuracy of the impact predictions. The actual impacts from mining determined from the hydrographs were used in TABLE 7. The hydrographs were used to evaluate to actual impacts of mining on water supplies. Limiting the hydrographs available for these evaluations to water supplies for which an impact prediction was made would affect the accuracy of this evaluation.

TOVCC 10491

TABLE 2

Ohio Valley Coal Company
Application Area D-0360-7

Summary of Spring Data

Used developed springs within the D-0360-7 hydrologic boundary

Total Number of Developed Springs	18
Average Overburden Thickness	423 feet
Range of Overburden Thickness	318-515 feet
Number of Springs on Hilltops	5
Number of Springs on Hillsides	11
Number of Springs in Valley Bottoms	2
Number of Springs Outside Panels	6
Number of Springs Over Gates	3
Number of Springs Over Quarter Panel	7
Number of Springs Over Middle Panel	2
Average Percent Soft Rocks	72%
Range of Percent of Soft Rocks	52% - 81%

TABLE 6

Ohio Valley Coal Company
Application Area D - 0360-7

Ground Water Quality Summary
Pre and Post Mining Water Quality
Application Areas: R-0360-2, D-0360-1, D-0360-2, D-0360-3

	pH		Acid		Alk.		Iron		Manganese		Hardness		Sulfate	
Supply No.	Pre SU	Post SU	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l
SP-21	7.3-8.26	7.2-8	3.5-47.4	7.2-30.4	39.1-90.9	74-186.77	0.03-0.08	<0.04-.28			100-106	101-218	37-41	24-47
SP-22	7.7-7.83	7.1-7.7	5.3-8.1	2-7.03	47-88.7	58.9-94.5	0.04-0.06	0.08-0.76			105-119	95-136	55.2-66	10-78
SP-23	6.3-7.1	6.86-7.9	15.3-40.47	22.6-68.4	98.42-112	150-304.6	0.11-0.97	2.04-6.2			127-357	294-778	70-81	105-220
SP-24	6.4-7.4	6.9-7.3	11.4-27.5	2.2-15.4	82.46-118	44.6-91.8	<0.04-0.18	<0.04-1.15			198-276	144-267	50-84	42-83
SP-30	6.74-7.3	6.9-7.5	3.1-61.4	0-29.83	26.5-100.5	129.6-226.67	0.01-0.18	<0.04-0.34			193-217	166-320	89-97	26-61
SP-31	6.61-7	6.2-7.1	0-81.6	11.4-34.39	70-166	38.4-224.39	<0.02-0.24	<0.04-3.95			114-263	100-319	44-89	41-50
SP-35	7.3-7.7	7.3-7.6	8.4-11.6	10.8-15	139.4-216.2	110-251.4	<0.04-0.52	0.07-0.94			176-276	180-276	24-56	36-41
SP-36	6.9-7.5	7.4	0-24.32	14.6	46.6-176	174.6	0.06-2.12	1.67			22-262	200	33-54	46
SP-38	7.3-7.9	7.5-7.8	0-24.8	2.8-13.4	136-212	142.4-178.6	0.05-0.64	0.09-0.22			100-215	151-229	12-61	20-44
SP-39	7.27-7.6	7.7-8.4	7-15.6	<1.5-8	155.8-169.6	47-190	<0.04-34.7	0.07-0.33			0.06-184	136-230	<10.0-36	17-50
SP-41	6.6-7.3	7.6	9-14	17	60-178	167	.02-.23	0.53	<0.02-.06	.03	80-216	172	20-42	32
SP-44	7.0-7.4	7.3	24-46	0	188-206	173	<0.04-.08	0.18	<0.02-.02	<0.02	235-251	301	36-43	45
SP-45	6.7-7.1	6.7-6.8	15.77-56.24	4.4-11.2	115.8-168.91	53.4-127	<0.04-4	0.09-0.24			160-236	76-120	34-49	16-43
SP-93	7.2-7.8	7.2-7.6	0-52	5.8-9.6	63.65-32.48	122.6-160	0.01-4.5	0.16-0.95			80.4-240	142-190	17-37	33-34
SP-172	7.3-7.7	7.1-7.9	7.6-19.4	7.2-16.8	165-212.4	170-200	0.09-1.27	0.04-0.24			261-280	239-310	23-42	29-42
SP-173	6.8-8.2	7.4-7.8	6-21	6-8	79-132	96-133	<0.04-.25	.04-.13	<0.02-.02	<0.02	124-168	146-182	21-44	31-49
SP-174	7.2-7.9	6.1	16-40	9	20-204	30	<0.04-.15	.26	<0.02	<0.02	186-200	182	10-38	18
SP-175	7.4-7.7	7	17-47	5-8	166-238	31	.1-7	.41	.05-2.0	.03	272-401	66	24-51	12

TOVCC 10493

TABLE 5

Ohio Valley Coal Company
Application Area D - 0360 - 7

Supply Number	Distances To Longwall Face Between Which Impacts To The Supply Occurred	
	Distance To Face At Which An Impact Was Detected (feet)	Distance To Face At Which No Impact Was Detected (feet)
W 50	1	663
W 51	-124	538
W 52	-331	343
W 53	-541	133
W 54	-561	237
W 55	-231	314
W 56	No detectable impact	
W 60	-152	640
W 61	-117	423
W 62	-1620	143
W 73	-120	Well not accessible prior to undermining
W 74	-190	Well not accessible prior to undermining
W 75	-1397	-745
W 77	No detectable impact	
W 78	No detectable impact	
W 82	-214	292
W 83	No detectable impact	
W 84	No detectable impact	
W 85	No detectable impact	
W 282 A	-232	570
W 283	-222	610
W 285	No detectable impact	
SP 38	158	884
SP 41	-37	689
SP 45	400	510
SP 52	No detectable impact	
SP 175	-454	17
SP 176	-865	202
SP 177	-299	172
SP 198*	-594	53
SP 226	-1150	73

* The flows of springs 180 and 198 increased as mining approached these supplies then returned to within the normal flow range after mining past under the supplies.

(Note: The impacts to these supplies are shown on the hydrographs contained in APPENDICES A and B)

TABLE 6

Ohio Valley Coal Company
Application Area D - 0360-7

Ground Water Quality Summary
Pre and Post Mining Water Quality
Application Areas: R-0360-2, D-0360-1, D-0360-2, D-0360-3

	pH		Acid		Alk.		Iron		Manganese		Hardness		Sulfate	
Supply No.	Pre SU	Post SU	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l
SP-176	7.1-7.6	6.9	11-31	4-9	150-201	131-166	<0.04-.18	.07-.15	<0.02-.04	<0.02	216-304	210-252	33-49	25-49
SP-198	7.8-7.7	6.9-7.4	5.8-31.8	7.2-20	159.6-198.6	123.6-280	<0.04-0.15	0.04-0.6			173-252	216-378	24-43	53-70
SP-216	6.8-7.7	6.7-6.8	4-74	5-10	70-119	51-53	.05-.52	.14-.17	<.02-.06	<0.02	90-147	75-81	15-38	23-27
SP-220	6.8-7.7	7.6	5.6-25.4	4.4	20.4-196.8	150	0.08-1.66	5.2			58-264	188	10-54	44
W-24	7.1-7.93	6.9-8.2	9.4-18.3	6.27-27.6	96-148	116.47-169.86	<0.02-0.09	0.08-10.5	0.02-0.04	0.02-0.69	121-163	154-200	37.6-61	39-77
W-25	6.88-7.7	7.4-7.7	4.2-67.3	10.26-38.8	83-112	114.21-166	0.04-.14	<0.04-2.78	<0.02-0.04	<0.02-0.56	139-157	188-215	76-80	30-40
W-26	7.28-7.57	7.3-7.5	16.2-37.5	22.23-51.2	186-214	204.2-229.6	0.04-0.1	0.06-0.74	0.03	<0.02-0.07	217-308	258-280	61-75.2	23-49
W-28	7.2-7.41	7-7.5	18-23.4	7.6-62.8	163-189	25.3-266.8	1.03-1.34	<0.04-7.9	0.18-0.27	<0.02-0.41	238-261	266-304	56-69	14-35
W-30	7.49-7.65	7.3-7.6	8.3-11.6	10-20.71	14-206	108-248.4	0.04-0.09	0.04-1.24	0.01-0.03	<0.02-0.07	259-289-	296-312	56-59	43-59
W-33	6.9-7.61	7.1-7.8	14.52-53.2	20.2-34.8	150.1-196	22.23-186.6	<0.04-0.17	<0.04-0.11	<0.02-0.03	<0.02-0.08	214-242	155-240	34-58	32-115
W-34	6-8.09	6.5-7.1	12.2-24.13	0-33	29.64-160.17	48.6-113	0.11-3.01	<0.02-1.41	<0.02-0.85	<0.02-10.05	136-282	155-190	49-67	52-56
W-38	7.3-7.57	6.9-7.6	9.05-17.3	11.4-43.2	19.4-231	171-223.4	0.09-8.54	0.07-5.62	<0.02-0.26	0.02-0.2	198-233	198-272	37.6-46.4	29-46
W-44	7.1-7.5	7.3-8.9	1.2-71.4	0-40.8	76-343.9	29.8-268	0.04-1.98	<0.04-2.09	<0.02-0.45	<0.02-0.07	219-371	111-264	<10-140	33-100
W-51	7.3-7.8	7.8	0-40	14	158-243	286	0.04-.65	0.77	<0.02-.23	0.05	84-277	97	26-68	44
W-52	7.4-7.8	7.4-8.2	0-28.4	4.2-20.0	141-255.6	192-213	<0.04- 0.22	0.06-0.25			91-280	256-303	31-62	47-63
W-53	7.4-7.8	7.4-7.8	0-16	8-16	96-214	171-213	<0.04-1.3	.16-.75	<0.02-.05	.06-.08	84-256	228-242	11-56	35-49
W-54	7.3-7.7	7.4	0-19.2	8.8-12	94-268	192-240	<0.04-3.06	0.91-2.7			76-232	56-120	11-71	86-109
W-55	7.3-7.6	7.7-8.3	0-54	4-11	184-214	177-221	<0.04-.24	.07-1.4	<.02-.09	<0.02-4.2	71-272	120-232	35-63	24-67

TOVCC 10495

TABLE A

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Data
and
Predicted Hydrologic Impacts Summary

Well	Elevation (feet)	Well Depth (feet)	Bottom Elevation (feet)	Coal Elevation (feet)	Overburden Depth well bottom to coal (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance To Nearest Panel Edge (feet)	Use	Predicted Hydrologic Impact		
												Minimal	Moderate	Severe
W 167	1090	96	994	765	229	D	50	Hillside	Outside	850	Domestic	No impact expected; >700' to mining		
WL 168	1112	62	1050	775	275	C	52	Valley Bottom	Outside	350	Domestic	41%	11%	48%
DW 169	1112	25	1087	775	312	A	52	Valley Bottom	Outside	350	Domestic	41%	11%	48%
DW 173	1166	25	1141	765	376	A	51	Hillside	Quarter	300	Domestic	41%	11%	48%
WL 177	1183	71	1112	780	332	C	51	Hilltop	Quarter	200	Domestic	41%	11%	48%
DW 178	1225	44	1181	785	396	A	75	Hilltop	Outside	600	Domestic	41%	11%	48%
W 294	1125	57	1068	775	293	C	52	Hillside	Outside	200	Domestic	41%	11%	48%
WL 317	1303	90	1213	780	433	B	74	Hilltop	Quarter	200	Domestic	41%	11%	48%
DW 318	1304	18	1286	775	511	A	74	Hilltop	Outside	800	Domestic	No impact expected; >700' to mining		
W 323	1138	120	1018	775	243	D	52	Hillside	Outside	300	Domestic	41%	11%	48%
W 374	1290	51	1239	805	434	B	81	Hilltop	Outside	900	Domestic	No impact expected; >700' to mining		
W 375	1247	Unk	Unk	790	Unk	Unk	77	Hillside	Middle	300	Domestic	41%	11%	48%
DW 376	1250	30	1220	800	420	A	77	Hillside	Middle	400	Domestic	41%	11%	48%
W 377	1282	86	1196	800	396	B	77	Hilltop	Middle	350	Domestic	41%	11%	48%
W 378	1325	68	1257	805	452	B	77	Hilltop	Quarter	200	Domestic	41%	11%	48%
W 379	1323	120	1203	805	398	B	77	Hilltop	Gate	Edge	Domestic	41%	11%	48%
W 380	1350	80	1270	820	450	B	77	Hilltop	Quarter	200	Domestic	41%	11%	48%
WL 381	1325	112	1213	805	408	B	77	Hilltop	Quarter	150	Domestic	41%	11%	48%
W 382	1350	155	1195	820	375	B	77	Hilltop	Quarter	100	Domestic	41%	11%	48%

TOVCC 10496

TABLE A

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Data
and
Predicted Hydrologic Impacts Summary

Well	Elevation (feet)	Well Depth (feet)	Bottom Elevation (feet)	Coal Elevation (feet)	Overburden Depth well bottom to coal (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance To Nearest Panel Edge (feet)	Use	Predicted Hydrologic Impact		
												Minimal	Moderate	Severe
W 383	1362	125	1237	815	422	B	77	Hilltop	Quarter	100	Domestic	41%	11%	48%
W 384	1335	80	1255	815	440	B	77	Hilltop	Quarter	350	Domestic	41%	11%	48%
W 385	1363	100	1263	815	448	B	77	Hilltop	Quarter	175	Domestic	41%	11%	48%
W 386	1350	Unk	Unk	830	Unk	Unk	49	Hilltop	Gate	25	Domestic	41%	11%	48%
DW 387	1260	24	1236	840	396	A	49	Hilltop	Middle	375	Domestic	41%	11%	48%
W 388	1160	Unk	Unk	845	Unk	Unk	49	Hilltop	Outside	300	Domestic	41%	11%	48%
W 389	1145	Unk	Unk	845	Unk	Unk	49	Hilltop	Outside	550	Domestic	41%	11%	48%
W 390	1030	66	964	850	114	D	49	Hillside	Outside	900	Domestic	No impact expected; >700' to mining		
DW 391	1120	30	1090	840	250	A	49	Hilltop	Outside	175	Domestic	41%	11%	48%
WL 392	1325	74	1251	815	436	B	77	Hilltop	Quarter	150	Domestic	41%	11%	48%
DW 393	1330	30	1300	815	485	A	77	Hilltop	Quarter	50	Domestic	41%	11%	48%
W 394	1259	80	1179	820	359	B	77	Hilltop	Middle	250	Domestic	41%	11%	48%
W 396	1305	70	1235	785	450	B	81	Hilltop	Outside	500	Domestic	41%	11%	48%
W 397	1310	51	1259	780	479	B	81	Hilltop	Outside	750	Domestic	No impact expected; >700' to mining		
W 401	1318	113	1205	800	405	B	81	Hilltop	Middle	225	Domestic	41%	11%	48%
W 402	1325	119	1206	830	376	B	79	Hilltop	Outside	600	Domestic	41%	11%	48%
W 404	1130	52	1078	835	243	D	79	Hillside	Middle	400	Domestic	41%	11%	48%
DW 408	1305	33	1272	780	492	A	81	Hilltop	Gate	50	Domestic	41%	11%	48%
W 417	1165	90	1075	835	240	D	79	Hillside	Middle	300	Domestic	41%	11%	48%

TOVCC 10497

TABLE 6

Ohio Valley Coal Company
Application Area D - 0360-7

Ground Water Quality Summary
Pre and Post Mining Water Quality
Application Areas: R-0360-2, D-0360-1, D-0360-2, D-0360-3

	pH		Acid		Alk.		Iron		Manganese		Hardness		Sulfate	
Supply No.	Pre SU	Post SU	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l	Pre mg/l	Post mg/l
W-56	7-7.6	7.5-7.8	0-86.4	10.6-13	156-300	207-250	0.02-1.73	0.10-5.8			24-403	244-313	31-84	35-72
W-57	6.8-7.8	7.3-7.8	0-22	11-17	87-261	179-208	0.04-0.45	.15-.46	<0.02-.02	.02-.06	63-184	200-252	31-46	12-77
W-58	7.2-7.8	7.7	0-15	9	150-335	215	<0.04-.08	0.08	<0.02-0.3	<0.02	72-196	112	41-61	43
W-92	6.9-7.0	7.2-7.4	16-72	32-131	66-127	.83-100	.65-2.2	<0.02-2.9	<0.02-.02	.02-11	162-239	72-250	93-100	70-819
W-214	6.4-6.8	6.6-7.6	0–37.24	7.36	116-172	33-50	0-.30	<0.02-.71			100-276	72-260	44-716	17-110
W-215	7.5-8.3	6.8-7.36	0-20.3	4.2-19	189-380	68-150	1.21-0.12	0.6-3.8			20-200	72-160	14-186	89-41
W-216	7.2-7.6	7.39-8.4	11.4-28.5	8.8-34	236-27	300-380	0.0-0.3	.48-.95			248-360	160-620	130-183	77-520
W-260	6.9-7.3	`7.2-7.3	0-39.71	33-46	3315-380	310-360	0.02-.87	.07-.41			168-446	380-470	40-165	50-95
W-282	7.4-7.9	7.4-8.1	2.4-17	3.2-25	182-250	169-335	0.17-2.3	.11-5.5	<0.02-0.1	.02-.16	199-227	60-253	38-43	40-84
W-282A	7.3-7.7	7.4-8.4	12.54-30.4	9.6-17.1	154.6-225.71	176-279	0.21-0.6	0.02-1.91			189-204	115-262	37-44	30-116
W-283	7.5-7.9	7.4-7.9	2.4-32	3.2-15.4	182-191	218-334	0.17-2.27	0.11-2.38			199-216	60-253	38-43	44-80
W-285	6.8-7.7	7.3-7.8	8.8-16.6	15.8-27	185-196	170-234	0.86-10.90	0.69-21			262-320	12-160	52-120	290-430
W-288	7.2-8.3	7.2-7.57	3.3-32.6	16-17	150-240	150-180	0.15-2.55	0.07-.13			180-423	210-380	36-91	44-55
W72	7.2	7.4-7.5	21-29	11-21	120-138	120	0.17-2.82	0.06-0.22			330-400	290-300	11-92	59-100

TOVCC 10498

TABLE B

Addendum to Page 18, Part 2, F(1)

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring and Pond Data
and
Predicted Hydrologic Impacts Summary

Spring	Surface Elevation (feet)	Coal Elevation (feet)	Overburden Thickness (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel (feet)	Use	Predicted Hydrologic Impact		
										Minimal	Moderate	Severe
DS 111	1120	770	350	C	52	Hillside	Outside	1100	Domestic	No impact expected; >700' to mining		
DS 226 A	1163	770	393	B	51	Hillside	Quarter	200	Livestock	6%	3%	91%
DS 240	1170	780	390	B	74	Hillside	Middle	300	Domestic/ Livestock	6%	3%	91%
DS 241	1190	780	410	C	52	Hillside	Quarter	200	Domestic/ Livestock	6%	3%	91%
DS 242	1103	785	318	C	52	Valley Bottom	Gate	70	Livestock	6%	3%	91%
DS 244	1290	775	515	B	81	Hilltop	Outside	900	Livestock	No impact expected; >700' to mining		
DS 265	1200	800	400	B	75	Valley Bottom	Gate	50	Livestock	6%	3%	91%
DS 267	1225	810	415	B	75	Hillside	Gate	50	Livestock	6%	3%	91%
DS 268	1180	790	390	C	75	Hillside	Quarter	100	Livestock	6%	3%	91%
DS 269	1220	800	420	B	75	Hillside	Quarter	75	Livestock	6%	3%	91%

TOVCC 10499

TABLE B

Addendum to Page 18, Part 2, F(1)

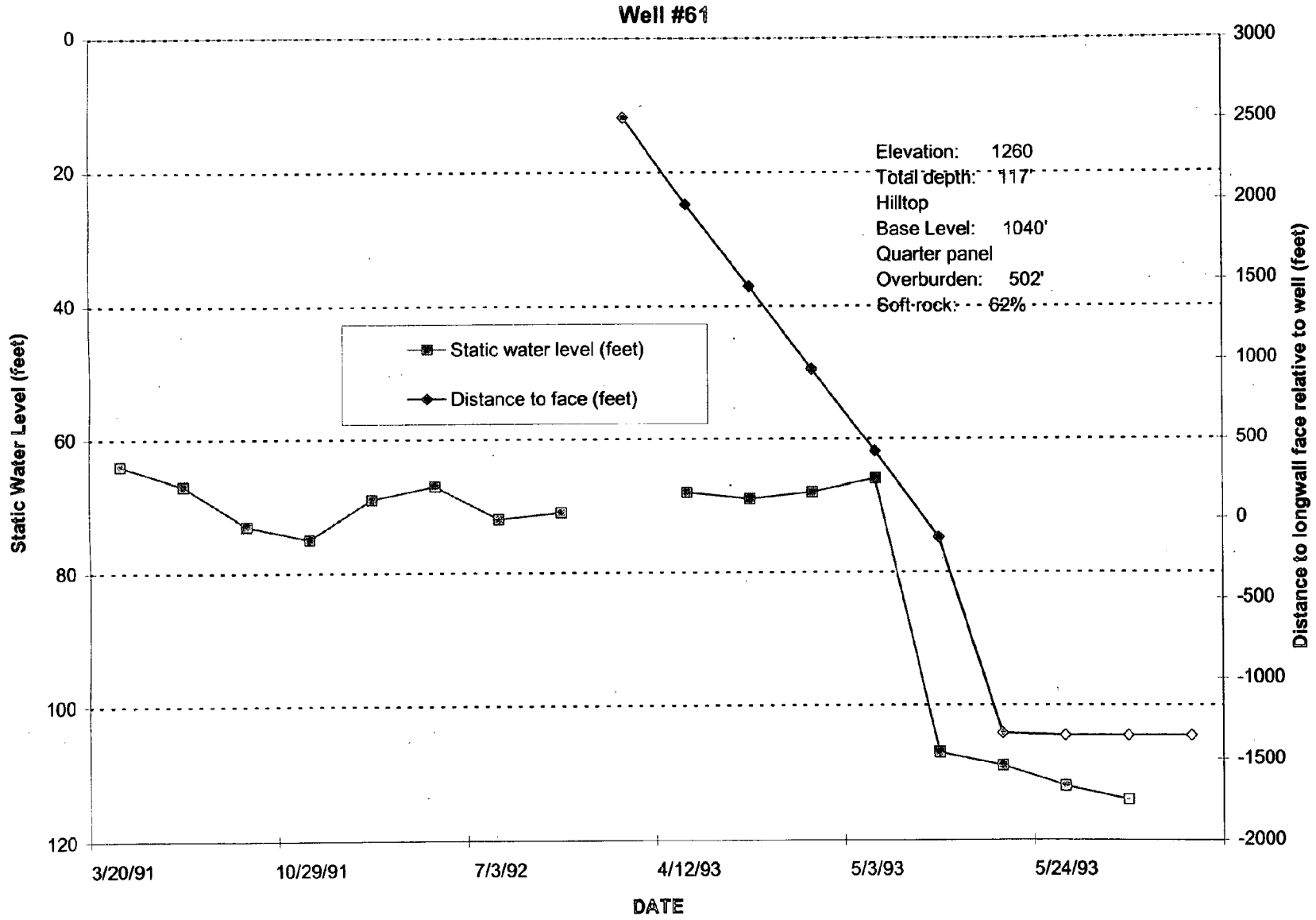
Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring and Pond Data
and
Predicted Hydrologic Impacts Summary

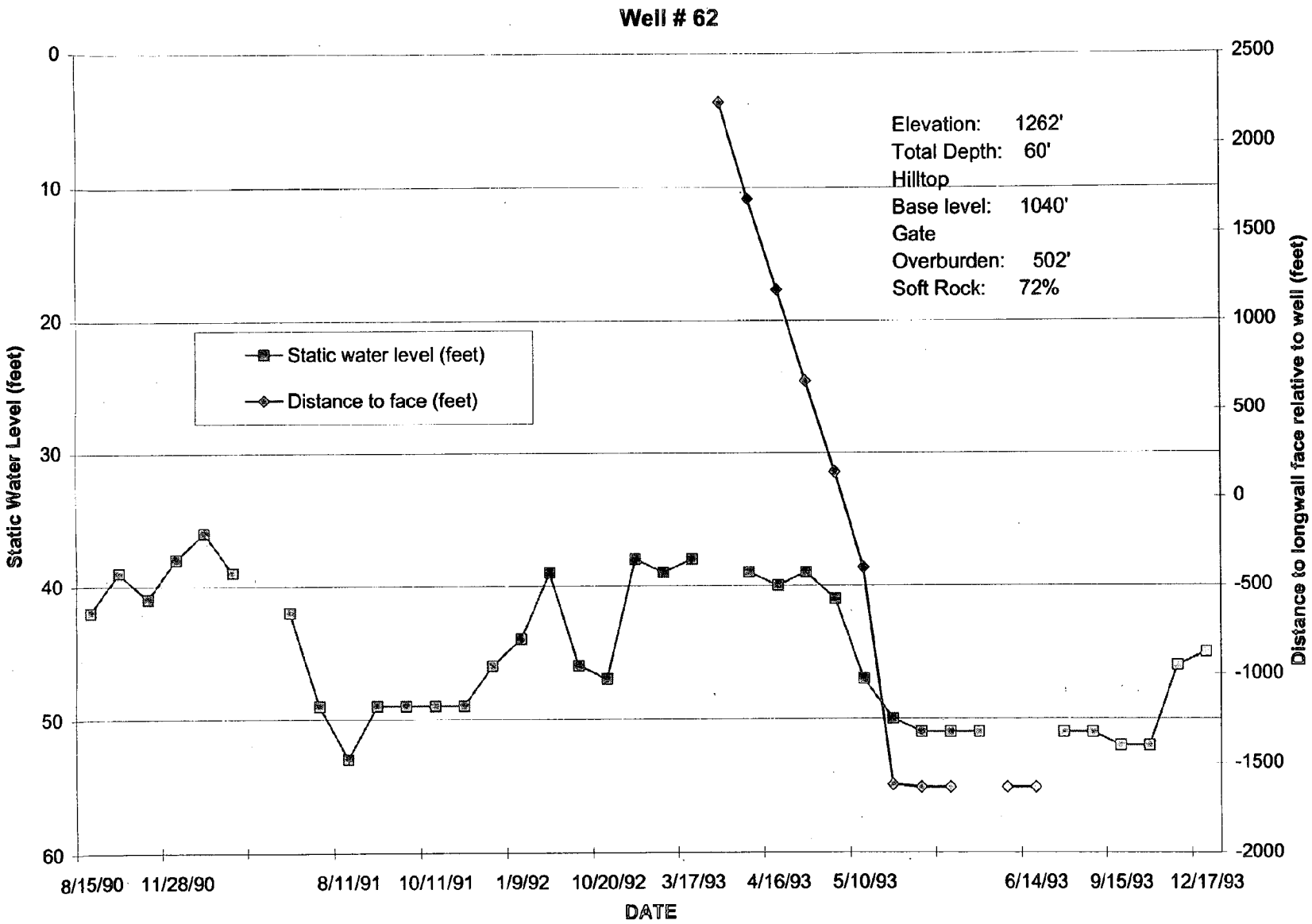
Spring	Surface Elevation (feet)	Coal Elevation (feet)	Overburden Thickness (feet)	Aquifer *See Attachment 14C*	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel (feet)	Use	Predicted Hydrologic Impact		
										Minimal	Moderate	Severe
DS 270	1260	800	460	B	75	Hillside	Middle	350	Domestic	6%	3%	91%
DS 271	1323	815	508	B	77	Hilltop	Quarter	250	Livestock	6%	3%	91%
DS 272	1258	815	443	B	77	Hilltop	Quarter	200	Domestic	6%	3%	91%
DS 277	1264	780	484	B	81	Hilltop	Outside	575	Livestock	6%	3%	91%
DS 278	1230	780	450	B	81	Hillside	Outside	850	Livestock	No impact expected; >700' to mining		
DS 282	1268	780	488	B	81	Hilltop	Outside	200	Livestock	6%	3%	91%
DS 283	1263	790	473	B	81	Hillside	Quarter	200	Livestock	6%	3%	91%
DS 285	1190	800	390	B	81	Hillside	Outside	900	Domestic	No impact expected; >700' to mining		
P 2	1190	795	395	NA	75	Hillside	Quarter	100	Livestock	No impact expected		
P 15	1175	795	380	NA	75	Hillside	Quarter	110	Livestock	No impact expected		
P 16	1250	800	450	NA	78	Hillside	Gate	Edge	Livestock	No impact expected		
P 17	1330	800	530	NA	78	Hilltop	Middle	225	Livestock	No impact expected		
P 18	1250	805	445	NA	78	Valley Bottom	Quarter	100	Livestock	No impact expected		

TOVCC 10500

Severe Impact

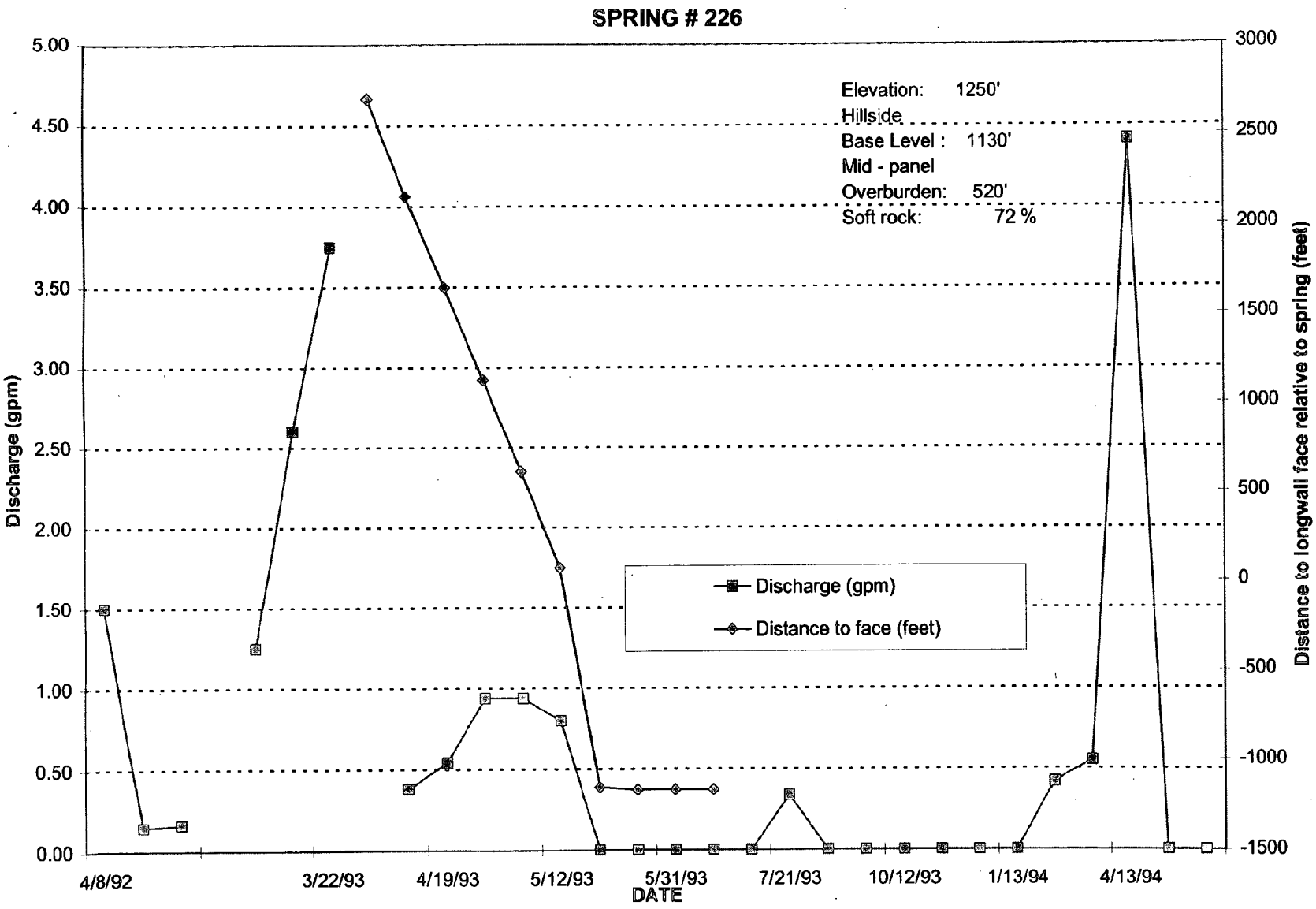


TOVCC 10501


Well # 62
Elevation: 1262'
Total Depth: 60'
Hilltop
Base level: 1040'
Gate
Overburden: 502'
Soft Rock: 72%
Static water level (feet)
Distance to face (feet)
Static Water Level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
2500
2000
1500
1000
500
0
-500
-1000
-1500
-2000
8/15/90
11/28/90
8/11/91
10/11/91
1/9/92
10/20/92
3/17/93
4/16/93
5/10/93
6/14/93
9/15/93
12/17/93
DATE

TOVCC 10502

Severe Impact



TOVCC 10503

TABLE 8

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring Summary Table
and
Predicted Hydrologic Impacts

Spring	Surface Elevation	Coal Elevation	Overburden Thickness	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
								Minimal	Moderate	Significant
SP 111	1120	770	350	52	Hillside	Outside	1100	No impact expected; > 500' to mining		
SP 223	1104	770	334	51	Valley Bottom	Gate		6%	3%	91%
SP 226 A	1170	770	400	51	Hillside	Quarter	200	6%	3%	91%
SP 226 B	1155	775	380	54	Hillside	Middle	450	6%	3%	91%
SP 230	1181	770	411	74	Hillside	Outside	700	No impact expected; > 500' to mining		
SP 231	1246	770	476	74	Hillside	Outside	1100	No impact expected; > 500' to mining		
SP 240	1170	780	390	74	Hillside	Middle	300	6%	3%	91%
SP 241	1190	780	410	52	Hillside	Quarter	200	6%	3%	91%
SP 242	1100	785	315	52	Valley Bottom	Gate		6%	3%	91%
SP 244	1290	775	515	81	Hilltop	Outside	900	No impact expected; > 500' to mining		
SP 265	1200	800	400	75	Valley Bottom	Gate		6%	3%	91%
SP 266	1100	845	255	49	Hillside	Outside	400	6%	3%	91%
SP 267	1225	810	415	75	Hillside	Gate		6%	3%	91%
SP 268	1180	790	390	75	Hillside	Quarter	100	6%	3%	91%
SP 269	1220	800	420	75	Hillside	Quarter	75	6%	3%	91%
SP 270	1260	800	460	75	Hillside	Middle	350	6%	3%	91%

TOVCC 10504

TABLE 8

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring Summary Table
and
Predicted Hydrologic Impacts

Spring	Surface Elevation	Coal Elevation	Overburden Thickness	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
								Minimal	Moderate	Significant
SP 271	1323	815	508	77	Hilltop	Quarter	250	6%	3%	91%
SP 272	1258	815	443	77	Hilltop	Quarter	200	6%	3%	91%
SP 273	1265	815	450	77	Hilltop	Quarter	50	6%	3%	91%
SP 274	1230	815	415	77	Hillside	Middle	450	6%	3%	91%
SP 277	1264	780	484	81	Hilltop	Outside	575	No impact expected; > 500' to mining		
SP 278	1230	780	450	81	Hilltop	Outside	850	No impact expected; > 500' to mining		
SP 282	1268	780	488	81	Hilltop	Outside	200	6%	3%	91%
SP 283	1263	790	473	81	Hillside	Quarter	200	6%	3%	91%
SP 285	1190	800	390	81	Hillside	Outside	900	No impact expected; > 500' to mining		
SP 286	1210	780	430	74	Hillside	Gate		6%	3%	91%
SP 287	1210	780	430	81	Hillside	Gate		6%	3%	91%
SP 289	1200	795	405	81	Hillside	Outside	450	6%	3%	91%

TOVCC 10505

TABLE 9

OHIO VALLEY COAL COMPANY

APPLICATION AREA D-0360-7

Comparison of Predicted and Actual Hydrologic Impacts in Application Area D-0360-2

Supply	Predicted Impact	Actual Impact
SP35	Minimal	Severe
SP36	Severe	Severe
SP38	Minimal	Severe
SP39	Moderate	Severe
SP41	Severe	Severe
SP44	Minimal	Severe
SP45	Severe	Severe
SP52	Minimal	Minimal
SP63	Severe	Severe
SP64	Severe	Severe
SP83	Minimal	Severe
SP84	Minimal	Severe
SP89	Minimal	Severe
SP90	Moderate	Severe
SP91	Moderate	Severe
SP92	Moderate	Severe
SP93	Moderate	Severe
SP94	Severe	Severe
SP162	Minimal	Severe
SP166	Minimal	Severe
SP167	Moderate	Severe
SP172	Moderate	Severe
SP173	Moderate	Severe
W50	Minimal	Severe
W51	Moderate	Severe
W52	Minimal	Severe
W53	Minimal	Severe
W54	Moderate	Severe

TABLE 9
OHIO VALLEY COAL COMPANY
APPLICATION AREA D-0360-7

Comparison of Predicted and Actual Hydrologic Impacts in
Application Area D-0360-2

W55	Minimal	Severe
W57	Moderate	Severe
W58	Moderate	Minimal
W59	Minimal	Minimal
W60	Severe	Severe
W61	Severe	Severe
W62	Moderate	Severe
W72	Moderate	Moderate
W73	Minimal	Moderate
W75	Minimal	Moderate
W77	Minimal	Minimal
W78	Moderate	Minimal
W80	Moderate	Severe
W81	Moderate	Severe
W82	Moderate	Severe
W83	Severe	Minimal
W84	Minimal	Minimal
W85	Minimal	Minimal
W92	Minimal	Severe
W93	Moderate	Severe
W94	Minimal	Moderate
W184	Severe	Moderate
W186	Severe	Minimal
W187	Severe	Severe
W188	Severe	Minimal
W189	Severe	Minimal
W190	Severe	Severe
W208	Severe	Severe
W209	Severe	Severe

TABLE 9

OHIO VALLEY COAL COMPANY

APPLICATION AREA D-0360-7

Comparison of Predicted and Actual Hydrologic Impacts in Application Area D-0360-2

W213	Moderate	Minimal
W214	Severe	Minimal
W215	Severe	Minimal
W216	Severe	Minimal
W217	Severe	Minimal
W260	Severe	Severe

Summary

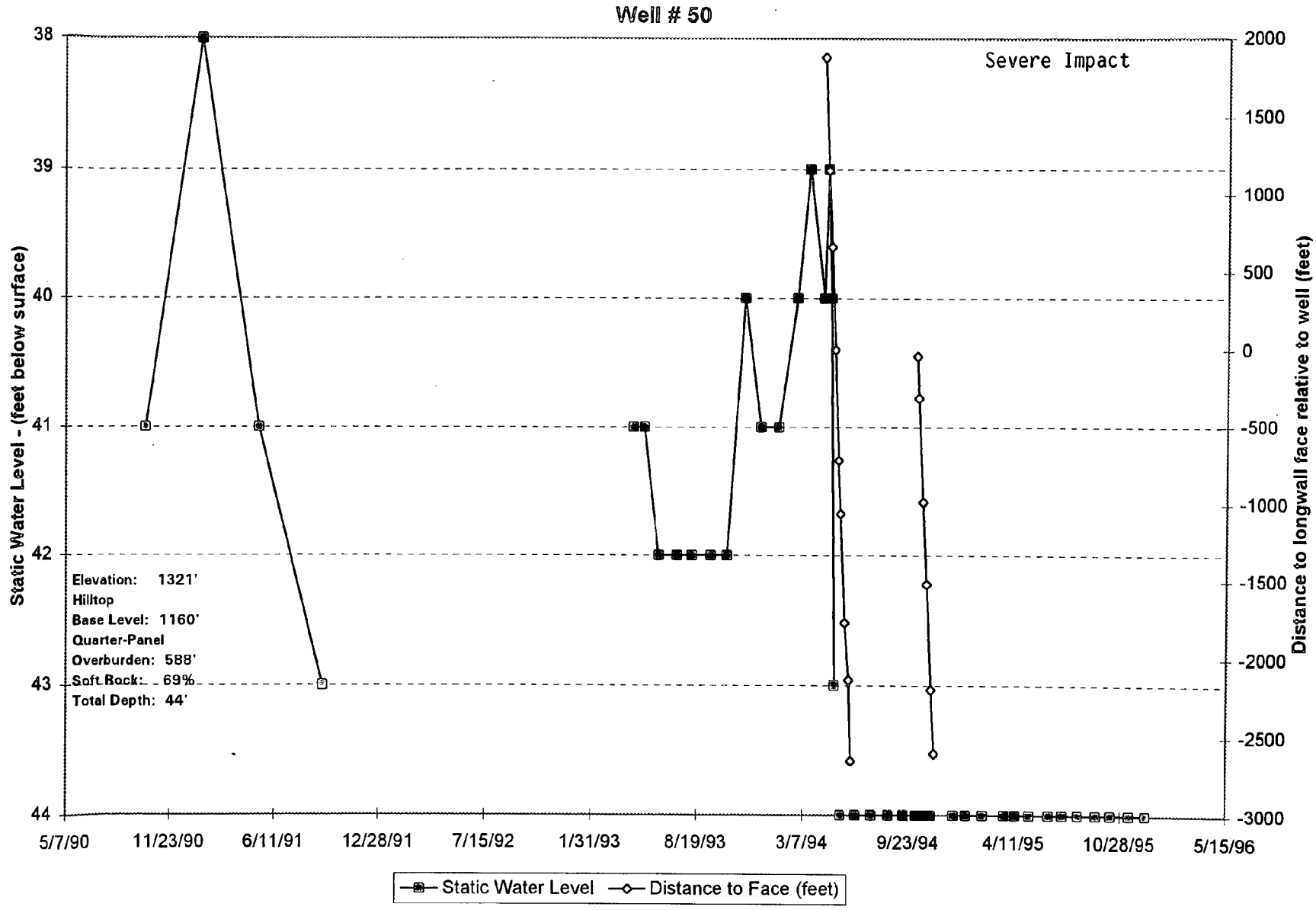
	Correct Prediction	Close Prediction*	Wrong Prediction*
Springs	7	8	8
Wells	12	15	13

*Close: prediction was off by a category from actual impact (ex. Prediction was minimal and actual was moderate)

*Wrong: prediction was off by two categories from the actual impact (ex: prediction was minimal and actual was severe)

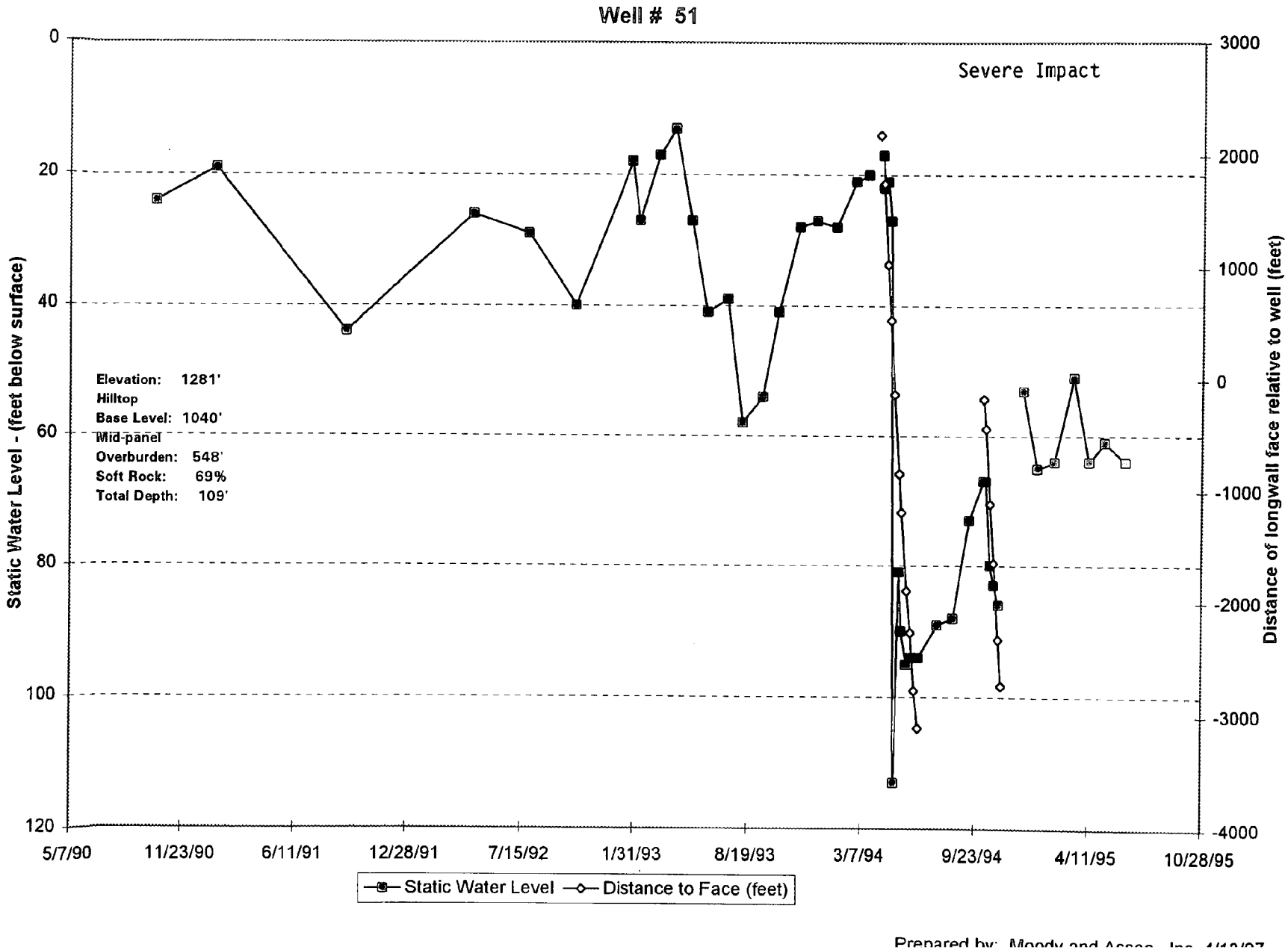
APPENDIX A

Well Hydrographs - Application Areas D-0360-2 and D-0360-3



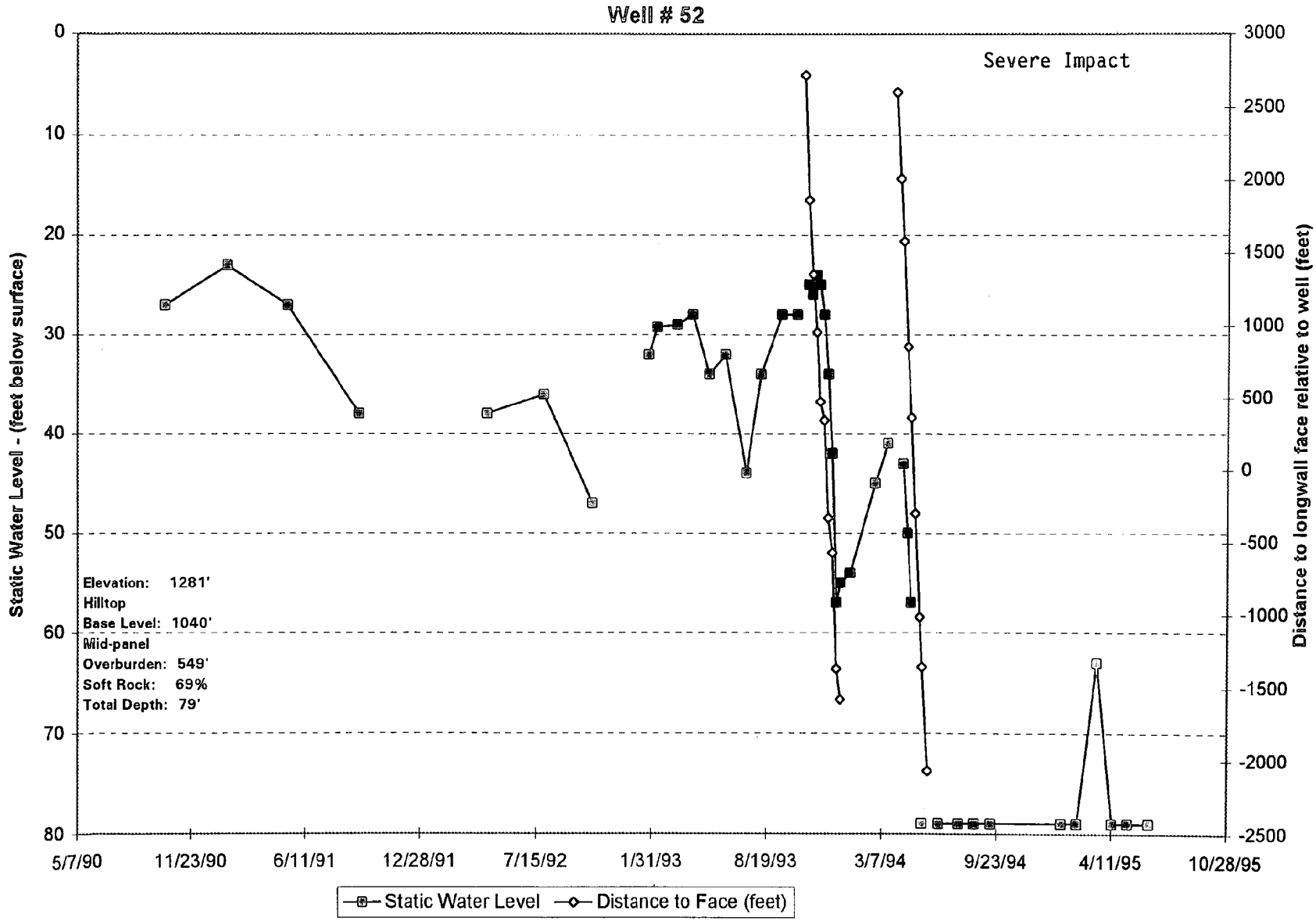
Prepared by: Moody and Assoc Inc 4/13/97

TOVCC 10510



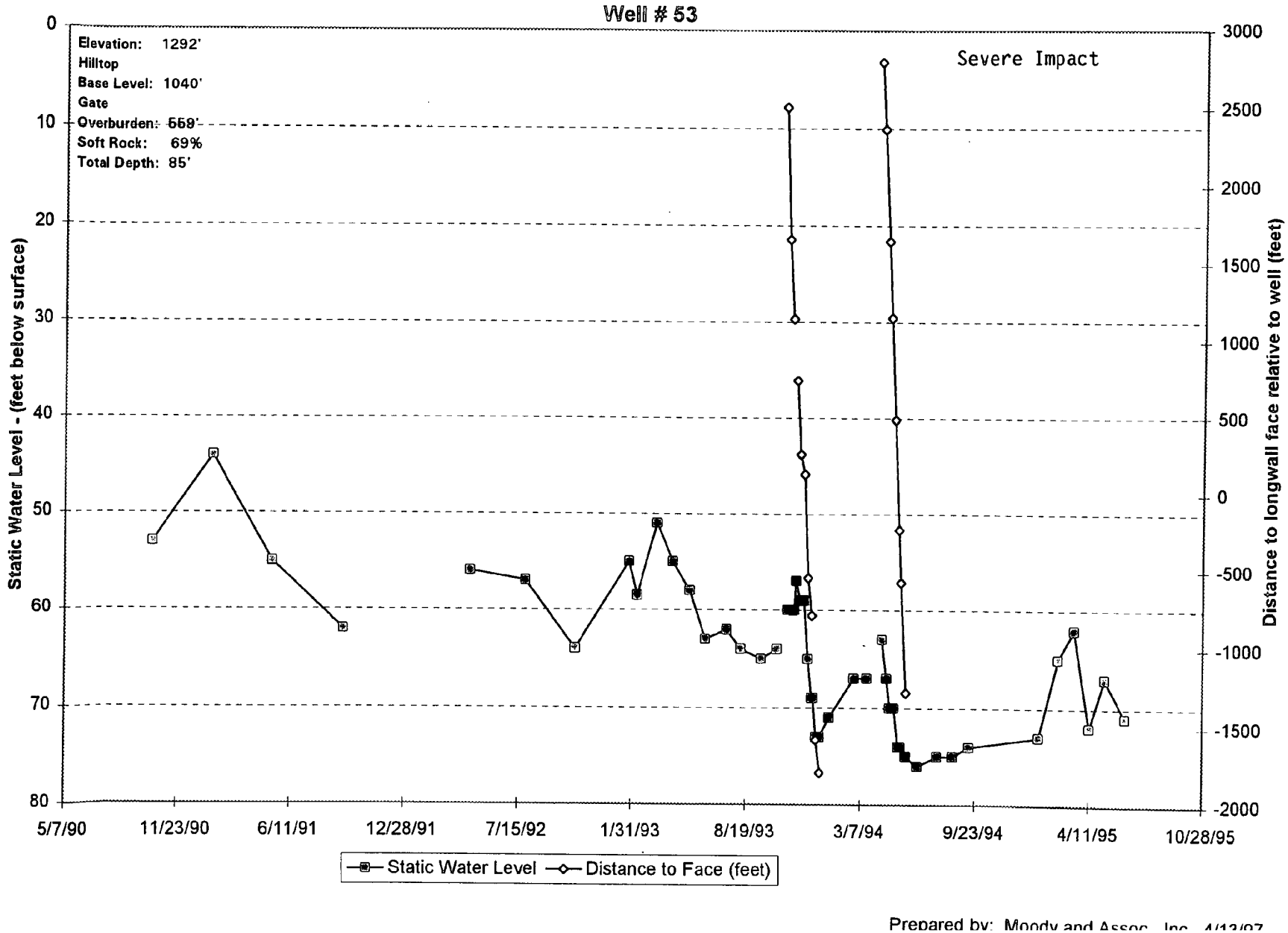
Prepared by: Moody and Assoc., Inc. 4/18/97

TOVCC 10511

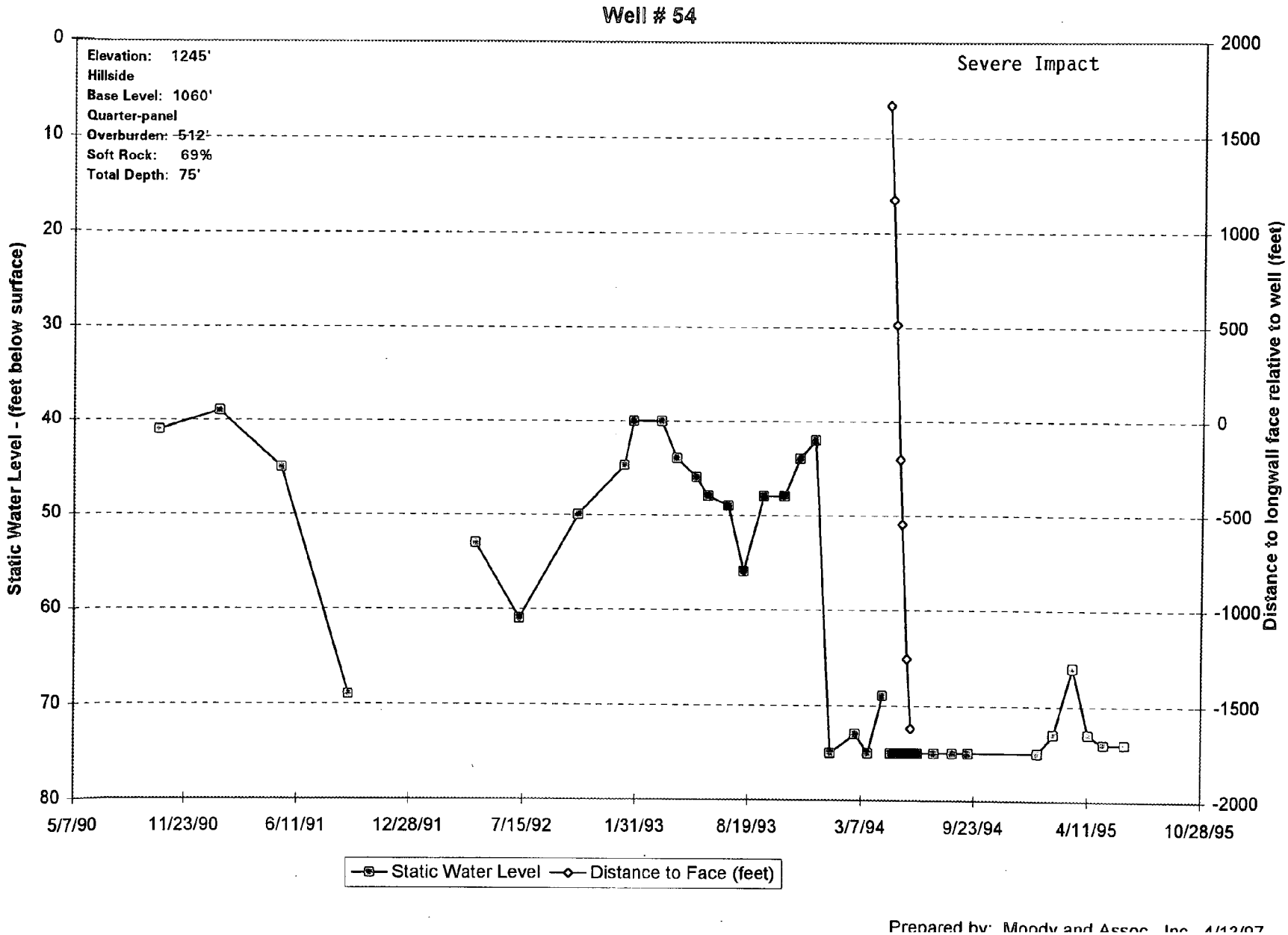


Prepared by: Moody and Assoc., Inc. 4/13/97

TOVCC 10512

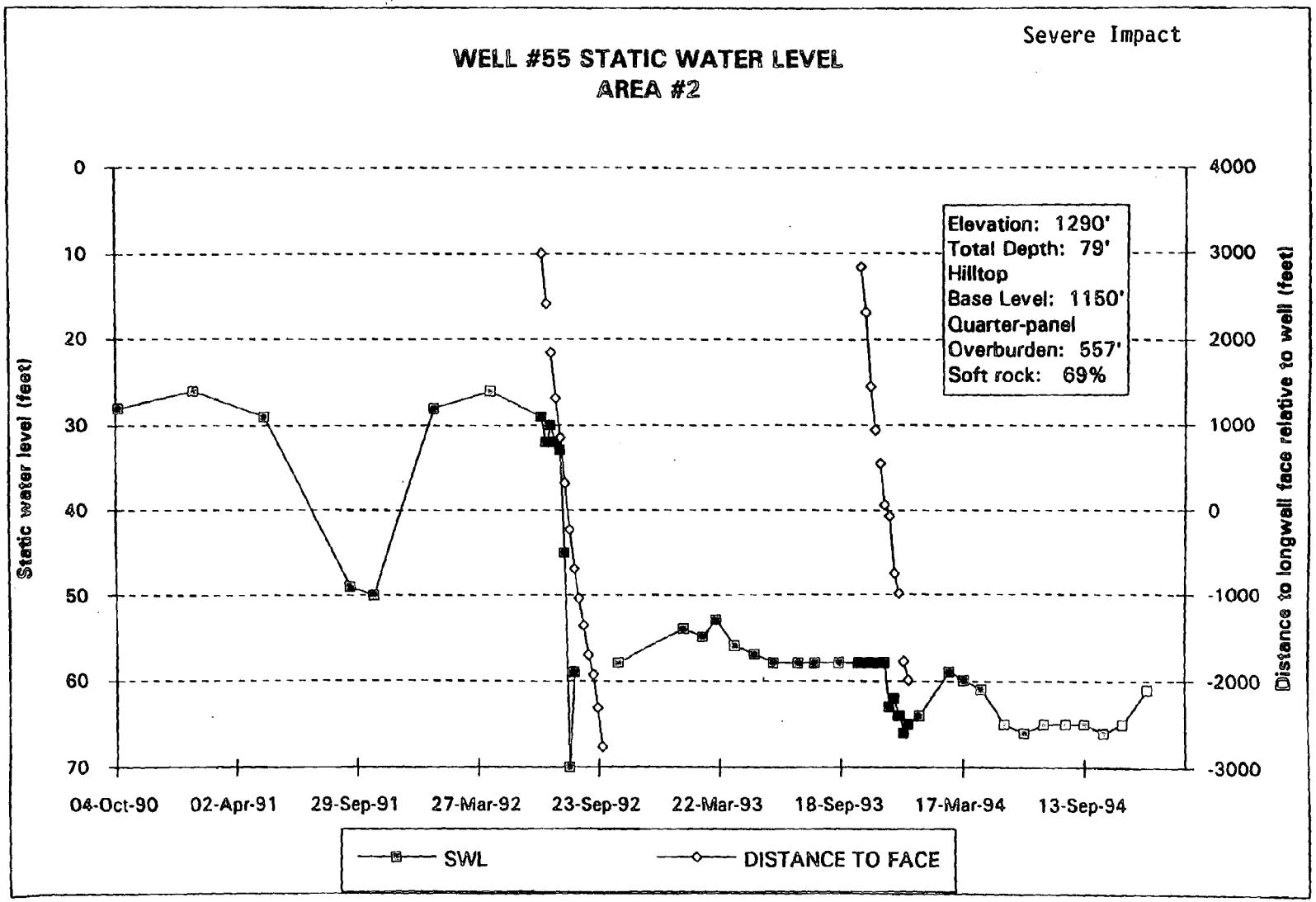

Well # 53
Elevation: 1292'
Hilltop
Base Level: 1040'
Gate
Overburden: 559'
Soft Rock: 69%
Total Depth: 85'
Severe Impact
Static Water Level - (feet below surface)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
70
80
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
-2000
5/7/90
11/23/90
6/11/91
12/28/91
7/15/92
1/31/93
8/19/93
3/7/94
9/23/94
4/11/95
10/28/95
Static Water Level
Distance to Face (feet)
Prepared by: Moody and Assoc Inc 4/13/97

TOVCC 10513

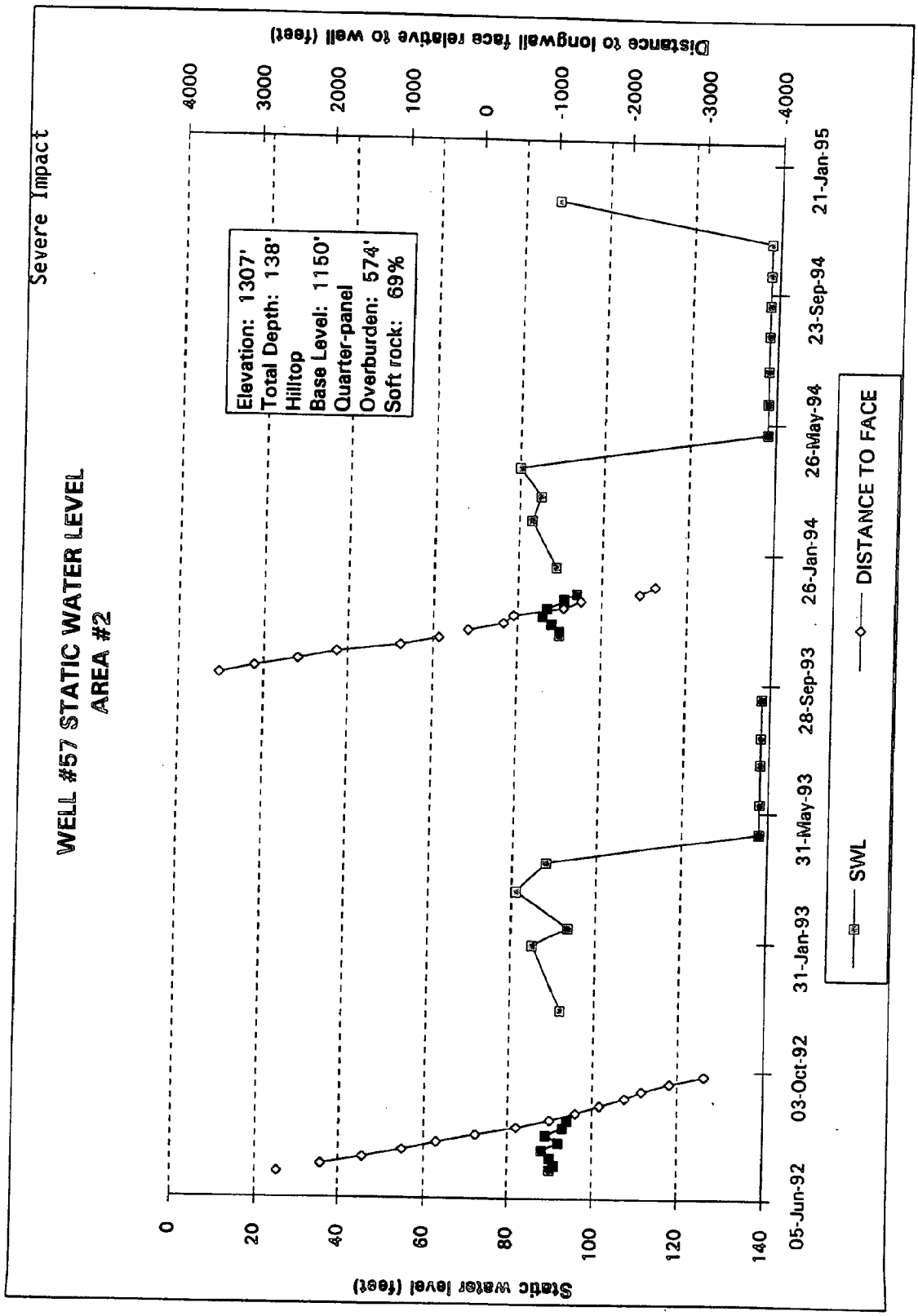


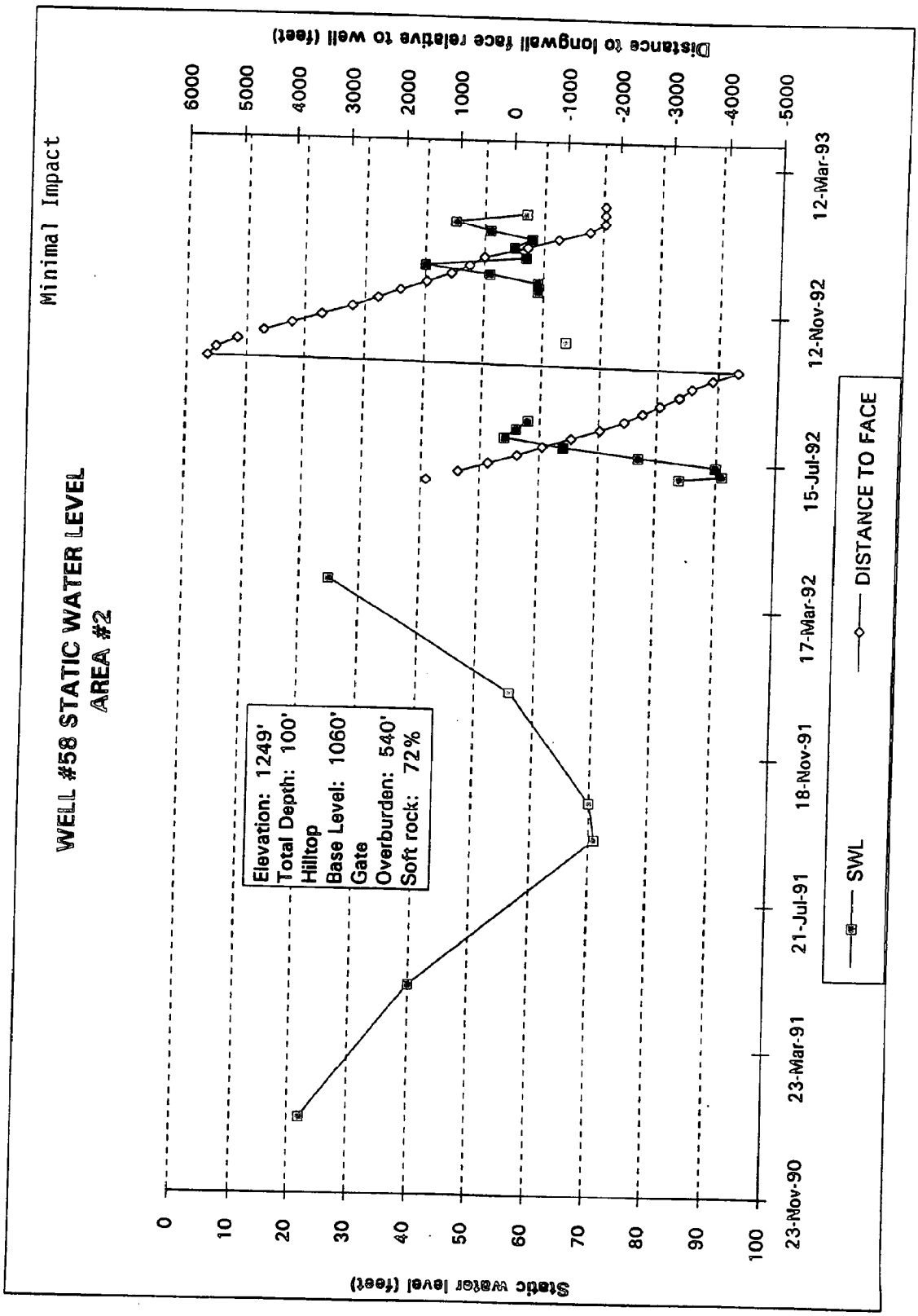
Prepared by: Moody and Assoc. Inc. 4/13/97

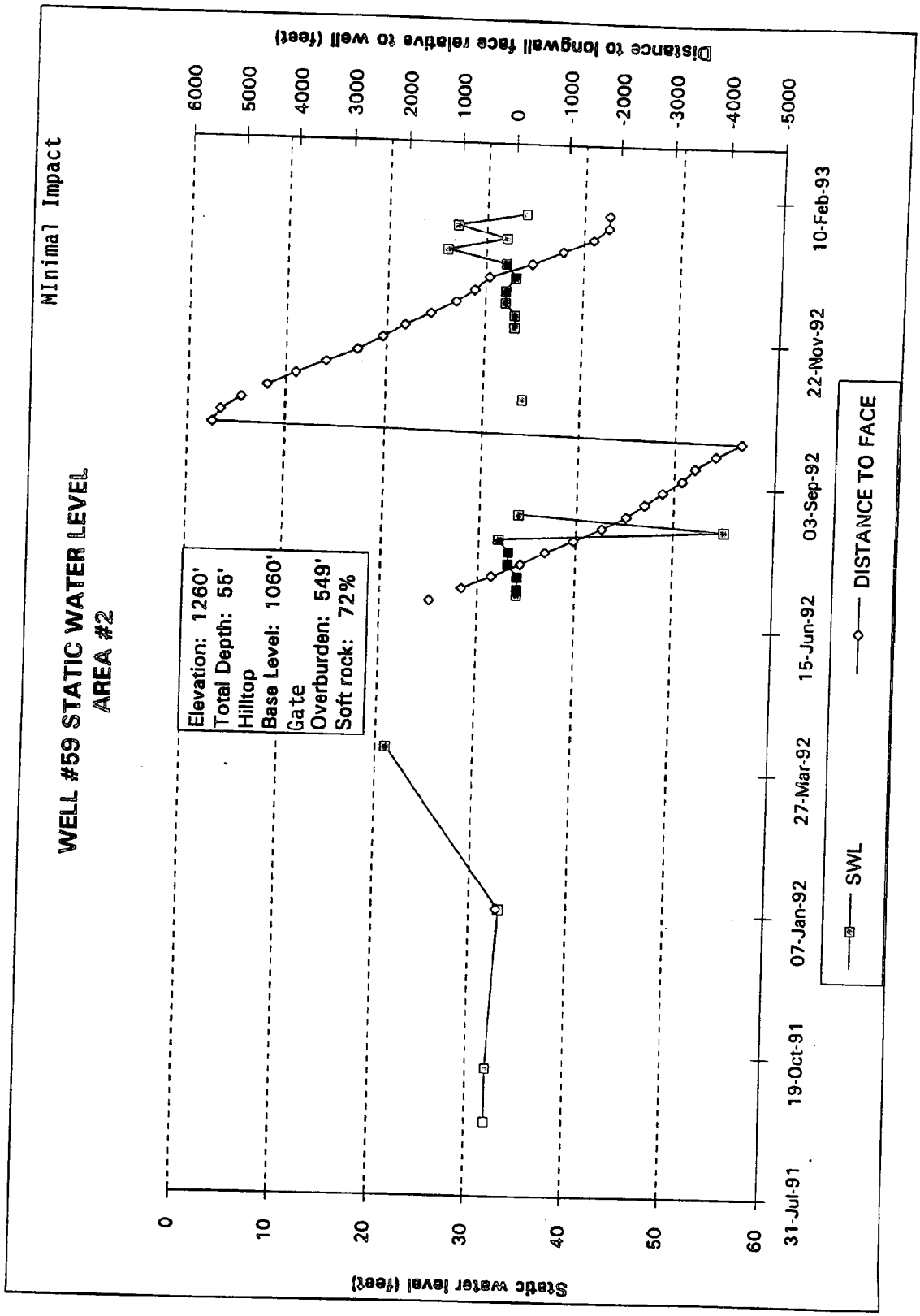
TOVCC 10514

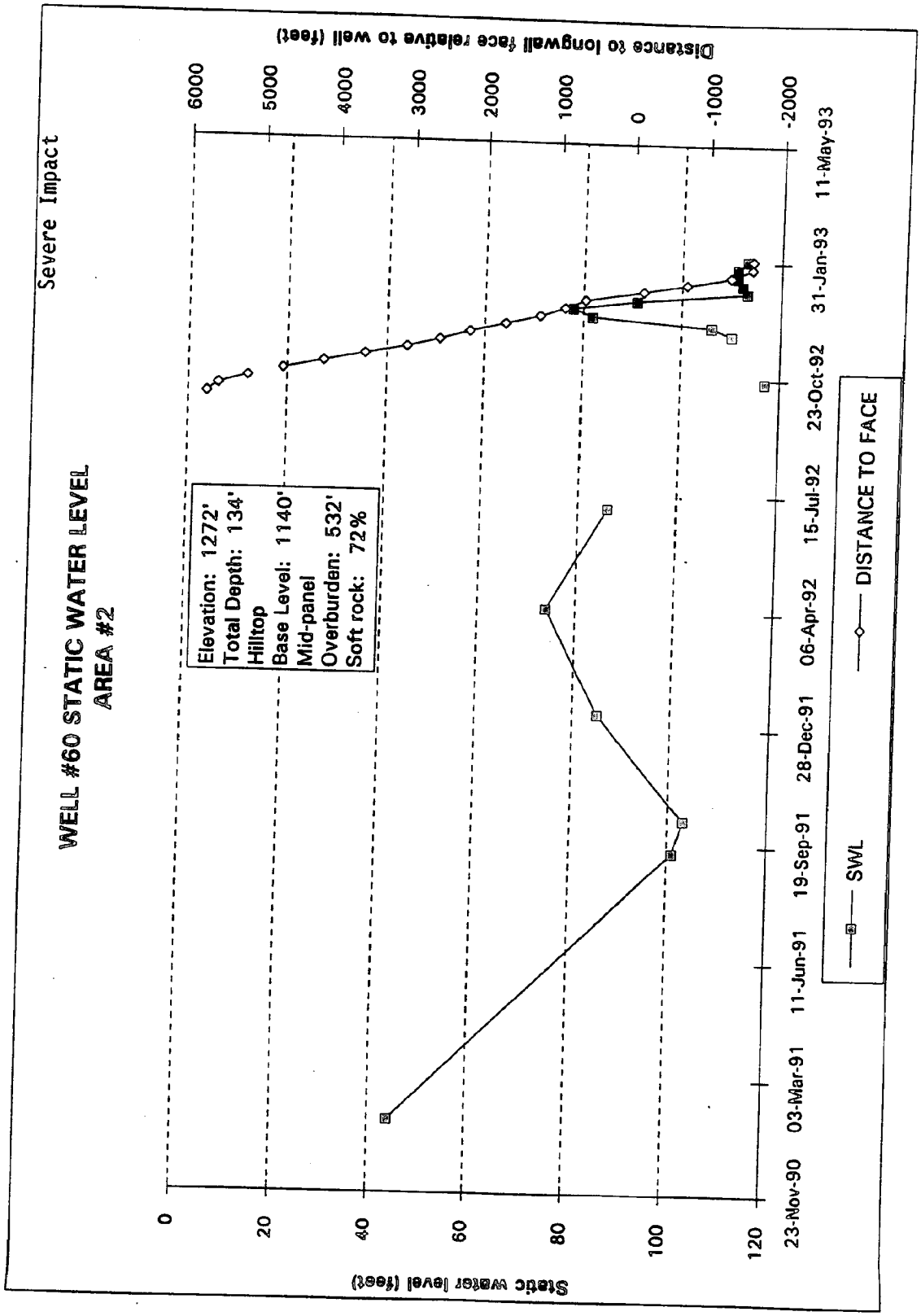

Severe Impact
WELL #55 STATIC WATER LEVEL
AREA #2
Elevation: 1290'
Total Depth: 79'
Hilltop
Base Level: 1150'
Quarter-panel
Overburden: 557'
Soft rock: 69%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
70
4000
3000
2000
1000
0
-1000
-2000
-3000
04-Oct-90
02-Apr-91
29-Sep-91
27-Mar-92
23-Sep-92
22-Mar-93
18-Sep-93
17-Mar-94
13-Sep-94
SWL
DISTANCE TO FACE

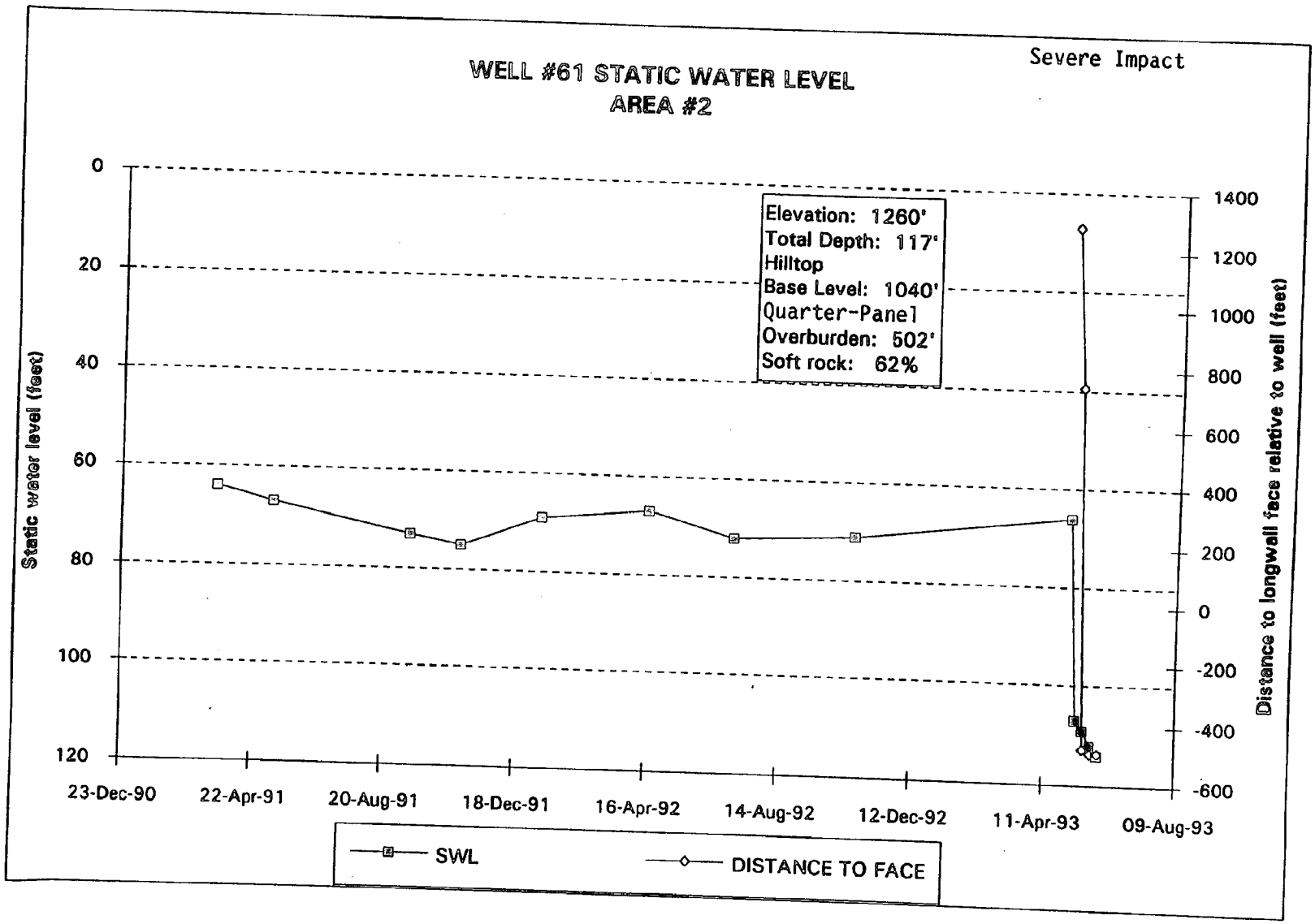
TOVCC 10515


WELL #57 STATIC WATER LEVEL
AREA #2
Severe Impact
Elevation: 1307'
Total Depth: 138'
Hilltop
Base Level: 1150'
Quarter-panel
Overburden: 574'
Soft rock: 69%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
20
40
60
80
100
120
140
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
05-Jun-92
03-Oct-92
31-Jan-93
31-May-93
28-Sep-93
26-Jan-94
26-May-94
23-Sep-94
21-Jan-95
SWL
DISTANCE TO FACE

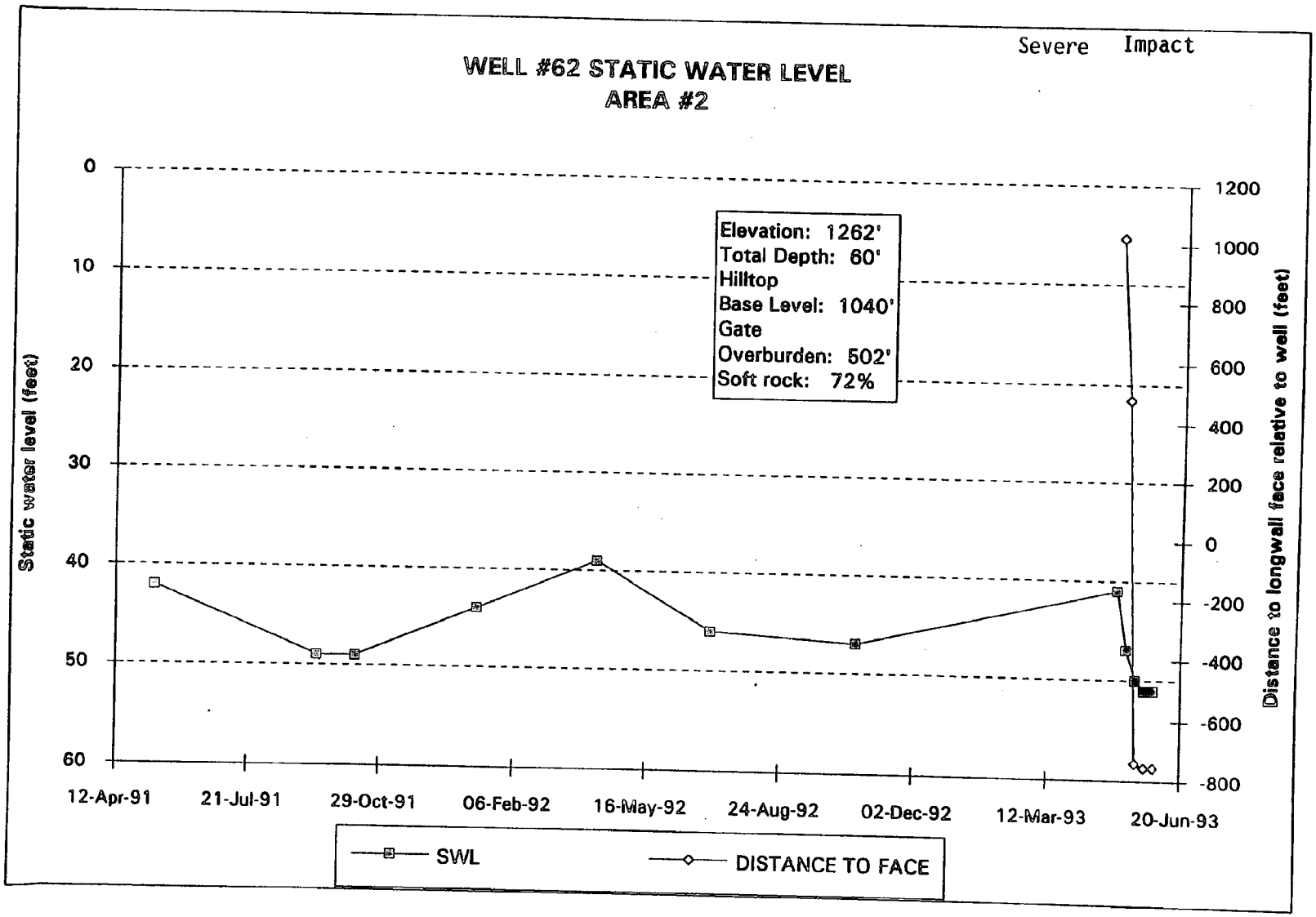

WELL #58 STATIC WATER LEVEL
AREA #2
Minimal Impact
Elevation: 1249'
Total Depth: 100'
Hilltop
Base Level: 1060'
Gate
Overburden: 540'
Soft rock: 72%
Static water level (feet)
Distance to longwall face relative to well (feet)
SWL
DISTANCE TO FACE
23-Nov-90
23-Mar-91
21-Jul-91
18-Nov-91
17-Mar-92
15-Jul-92
12-Nov-92
12-Mar-93


WELL #59 STATIC WATER LEVEL
AREA #2
Minimal Impact
Elevation: 1260'
Total Depth: 55'
Hilltop
Base Level: 1060'
Gate
Overburden: 549'
Soft rock: 72%
Static water level (feet)
Distance to longwall face relative to well (feet)
SWL
DISTANCE TO FACE
0
10
20
30
40
50
60
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
31-Jul-91
19-Oct-91
07-Jan-92
27-Mar-92
15-Jun-92
03-Sep-92
22-Nov-92
10-Feb-93

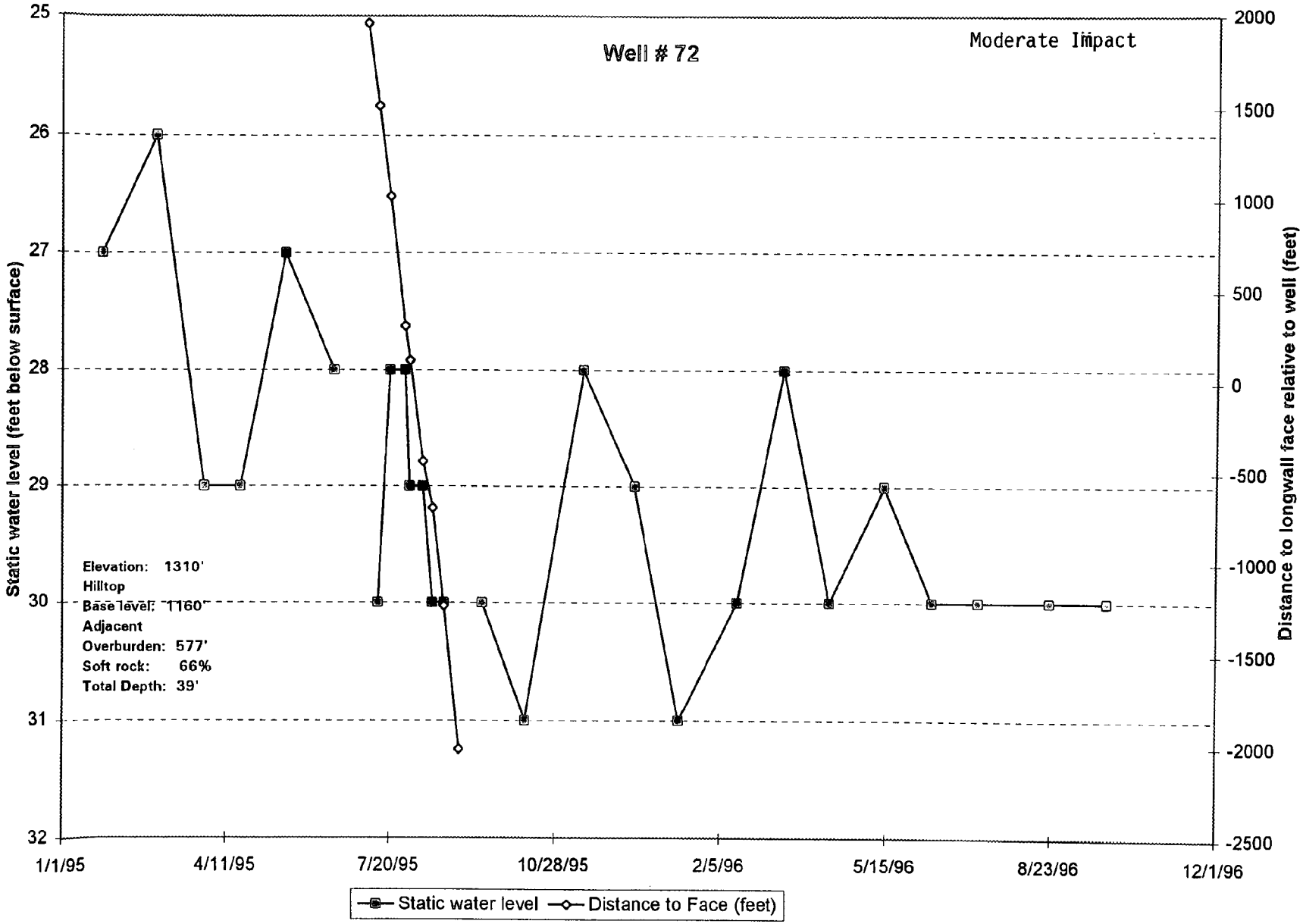

Severe Impact
WELL #60 STATIC WATER LEVEL
AREA #2
Elevation: 1272'
Total Depth: 134'
Hilltop
Base Level: 1140'
Mid-panel
Overburden: 532'
Soft rock: 72%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
20
40
60
80
100
120
6000
5000
4000
3000
2000
1000
0
-1000
-2000
23-Nov-90
03-Mar-91
11-Jun-91
19-Sep-91
28-Dec-91
06-Apr-92
15-Jul-92
23-Oct-92
31-Jan-93
11-May-93
SWL
DISTANCE TO FACE


WELL #61 STATIC WATER LEVEL
AREA #2
Severe Impact
Elevation: 1260'
Total Depth: 117'
Hilltop
Base Level: 1040'
Quarter-Panel
Overburden: 502'
Soft rock: 62%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
20
40
60
80
100
120
1400
1200
1000
800
600
400
200
0
-200
-400
-600
23-Dec-90
22-Apr-91
20-Aug-91
18-Dec-91
16-Apr-92
14-Aug-92
12-Dec-92
11-Apr-93
09-Aug-93
SWL
DISTANCE TO FACE

TOVCC 10520

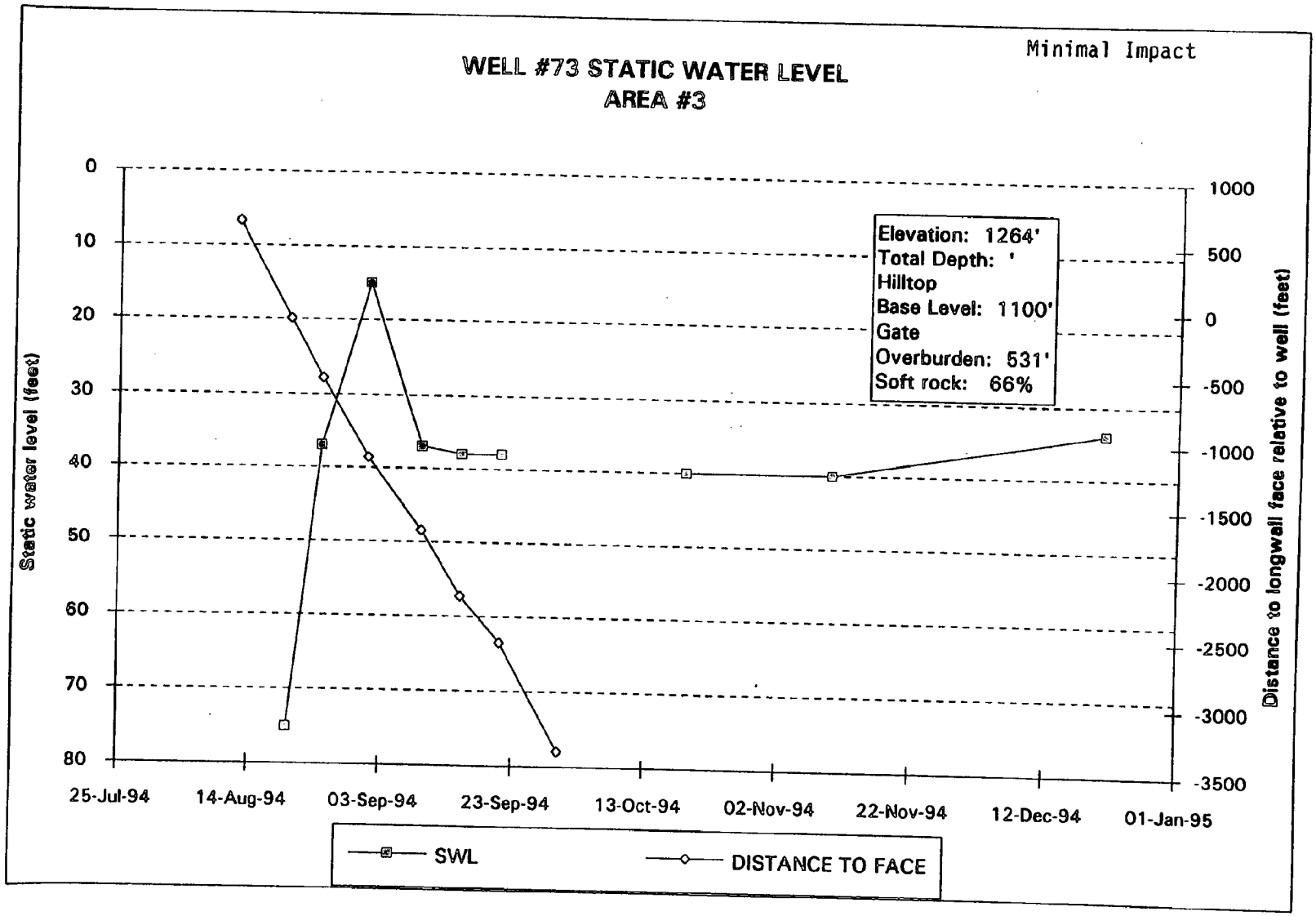

Severe Impact
WELL #62 STATIC WATER LEVEL
AREA #2
Elevation: 1262'
Total Depth: 60'
Hilltop
Base Level: 1040'
Gate
Overburden: 502'
Soft rock: 72%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
1200
1000
800
600
400
200
0
-200
-400
-600
-800
12-Apr-91
21-Jul-91
29-Oct-91
06-Feb-92
16-May-92
24-Aug-92
02-Dec-92
12-Mar-93
20-Jun-93
SWL
DISTANCE TO FACE

TOVCC 10521

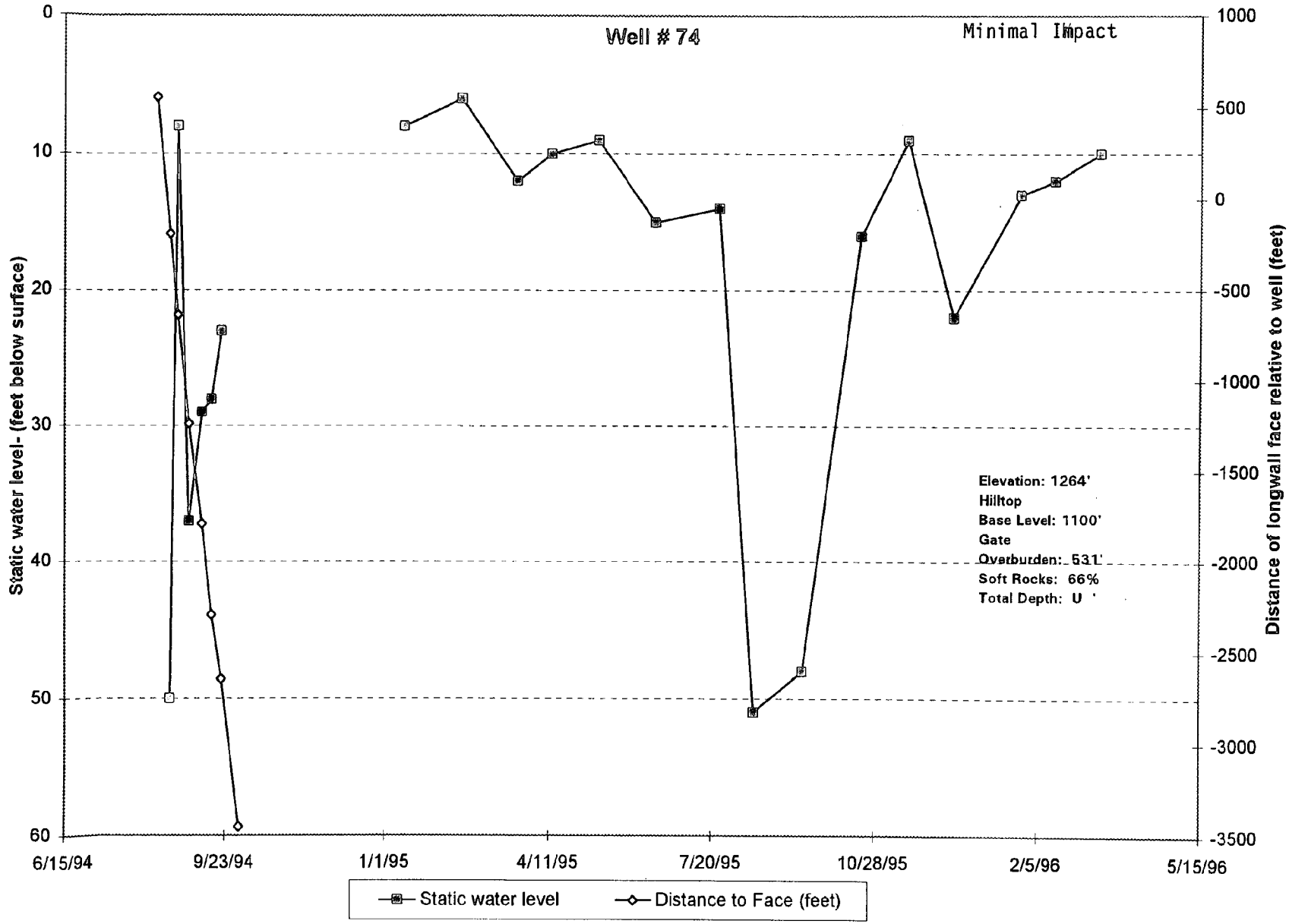


Prepared by: Moody and Assoc. Inc 4/14/97

TOVCC 10522

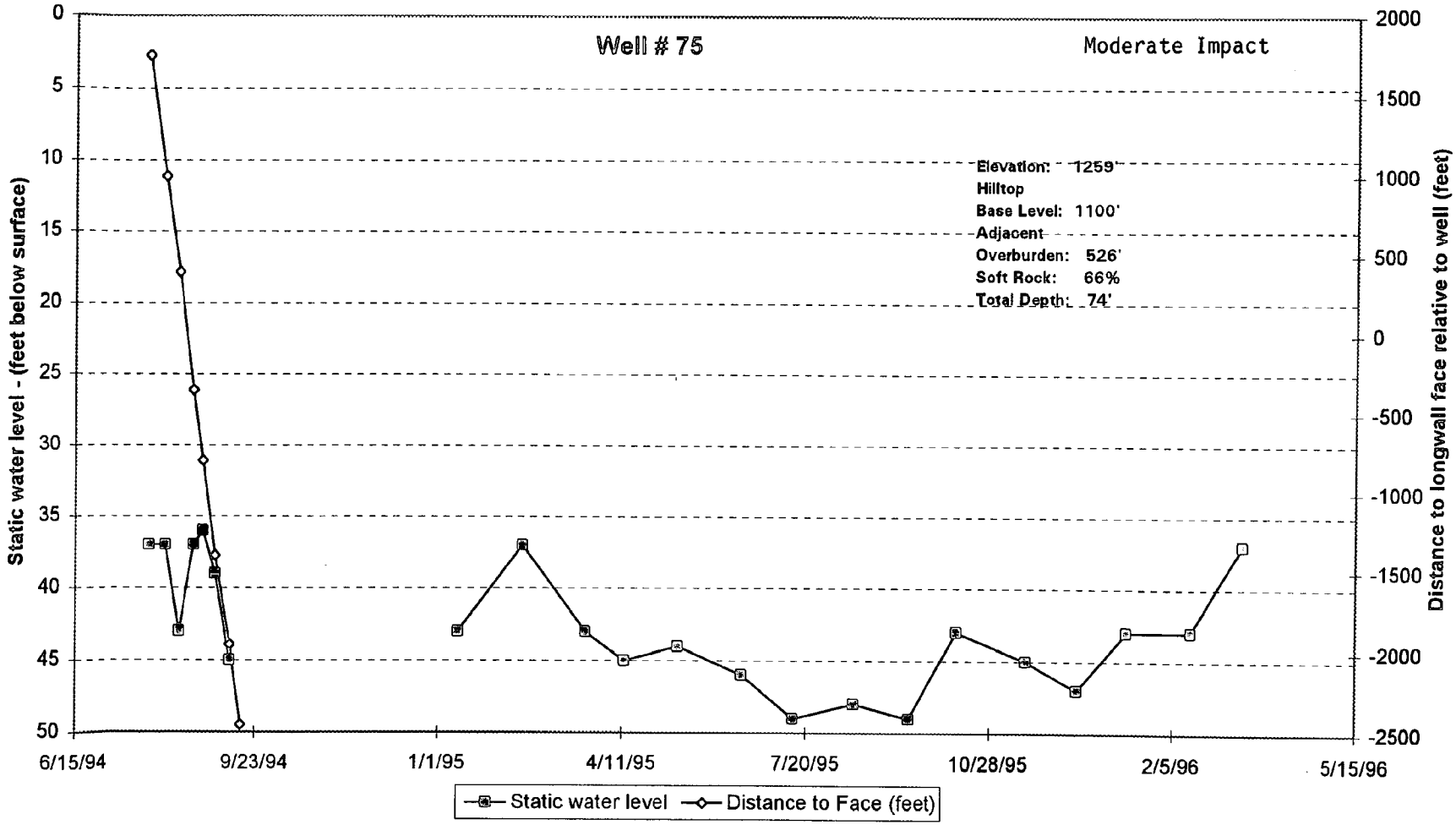

Minimal Impact
WELL #73 STATIC WATER LEVEL
AREA #3
Elevation: 1264'
Total Depth: '
Hilltop
Base Level: 1100'
Gate
Overburden: 531'
Soft rock: 66%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
70
80
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
25-Jul-94
14-Aug-94
03-Sep-94
23-Sep-94
13-Oct-94
02-Nov-94
22-Nov-94
12-Dec-94
01-Jan-95
SWL
DISTANCE TO FACE

TOVCC 10524



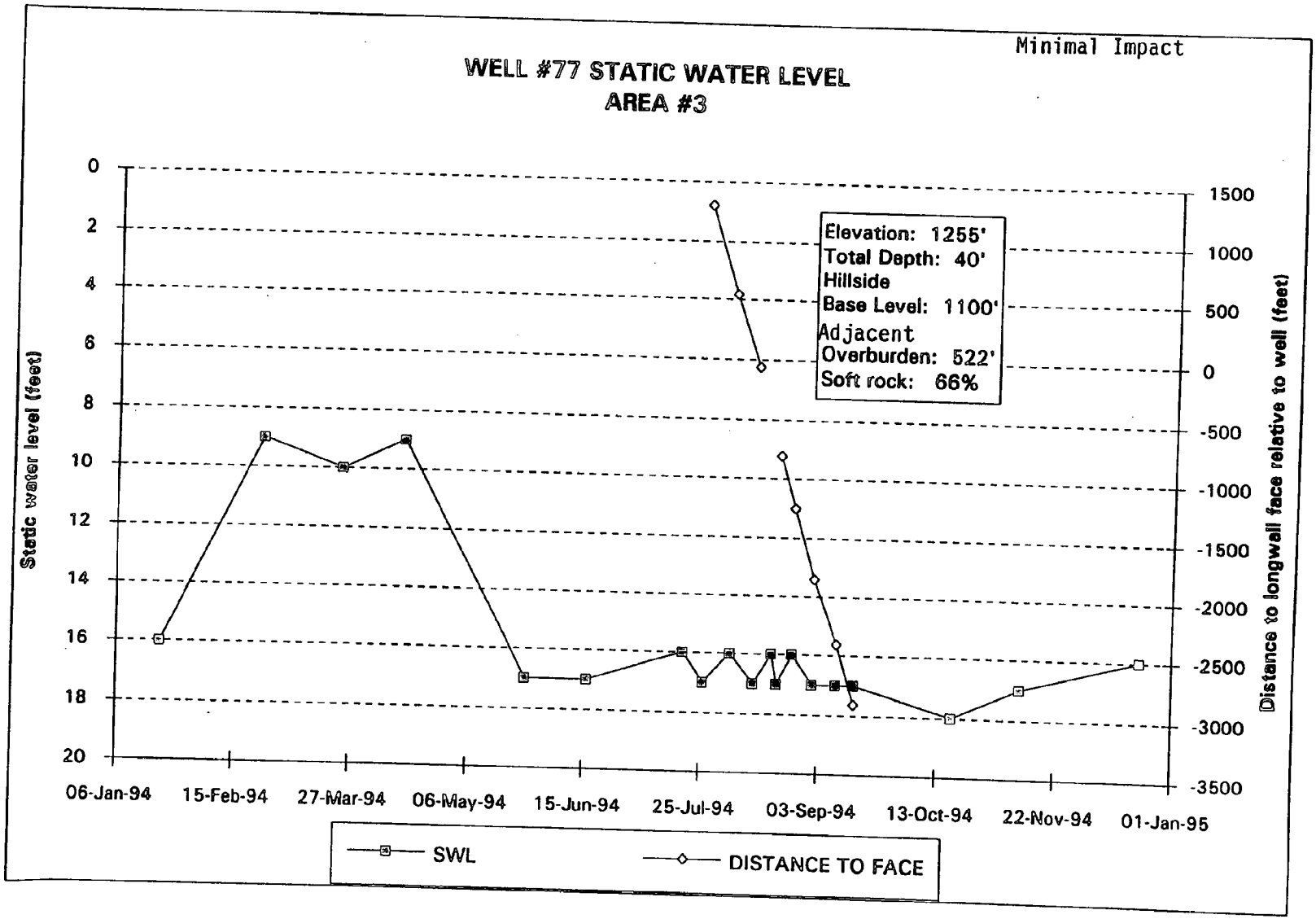
Prepared by: Moody and Assoc., Inc.4/13/97

TOVCC 10525

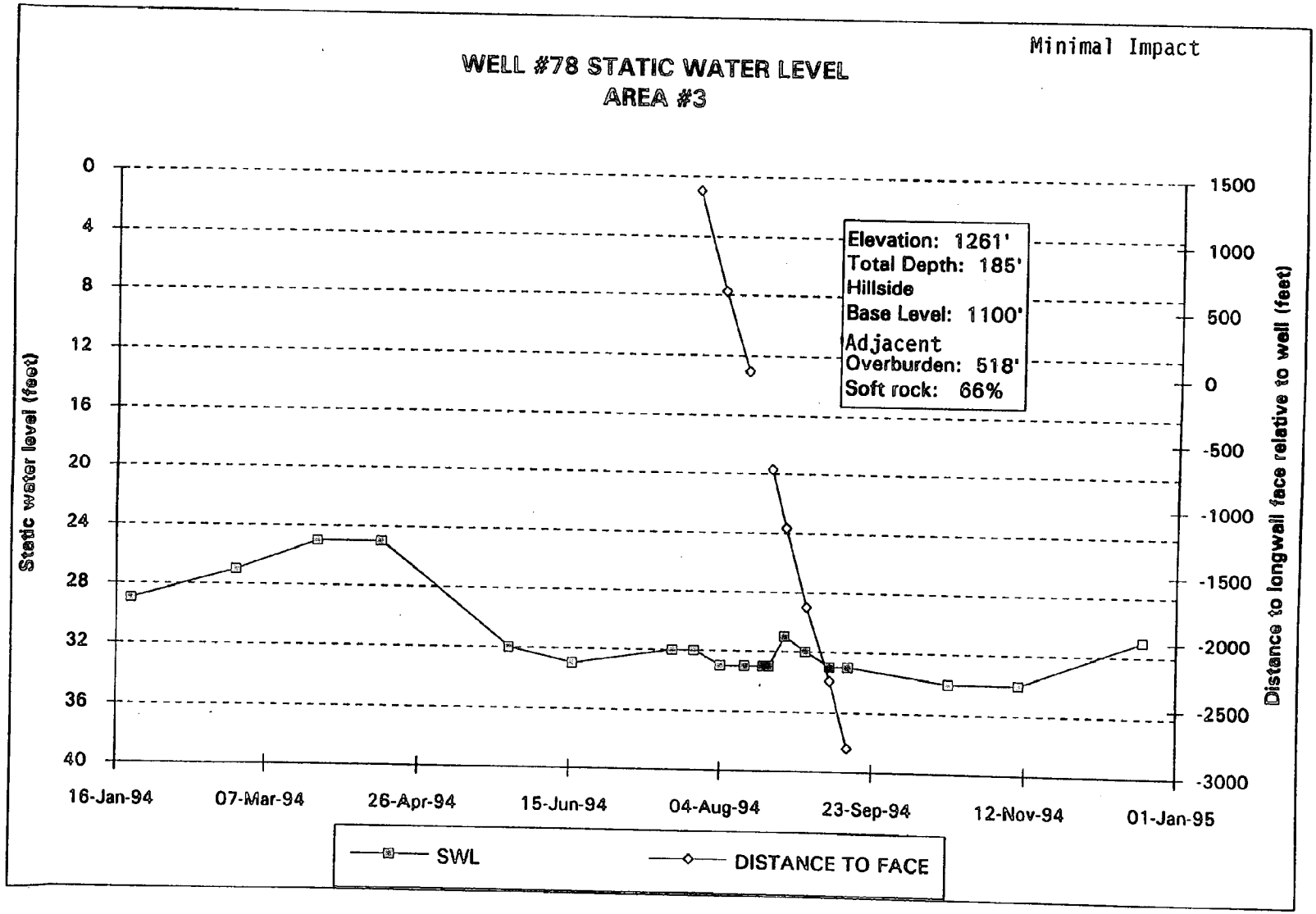


Prepared by: Moody and Assoc., Inc. 4/18/97

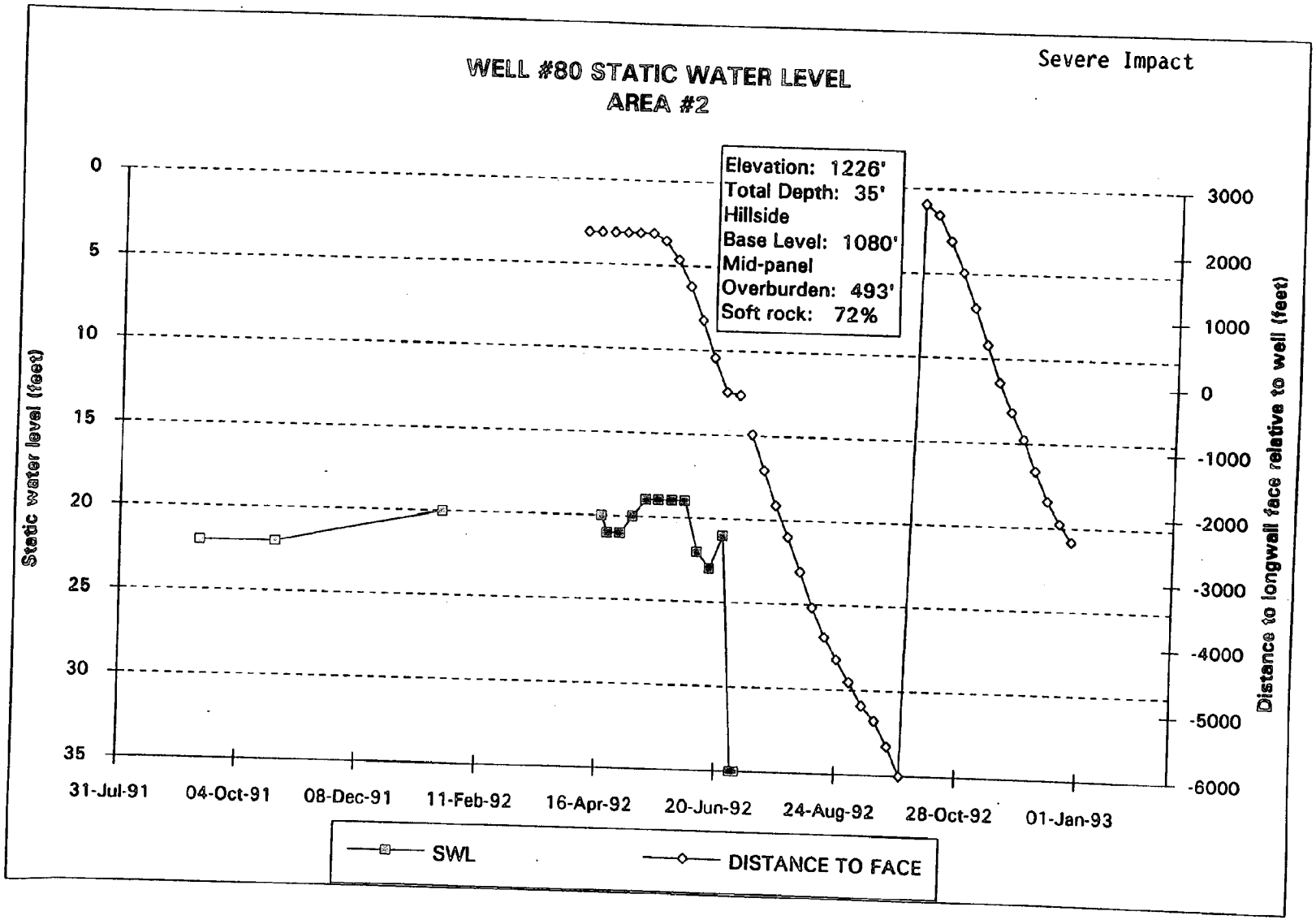
TOVCC 10526


Minimal Impact
WELL #77 STATIC WATER LEVEL
AREA #3
Elevation: 1255'
Total Depth: 40'
Hillside
Base Level: 1100'
Adjacent
Overburden: 522'
Soft rock: 66%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
2
4
6
8
10
12
14
16
18
20
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
06-Jan-94
15-Feb-94
27-Mar-94
06-May-94
15-Jun-94
25-Jul-94
03-Sep-94
13-Oct-94
22-Nov-94
01-Jan-95
SWL
DISTANCE TO FACE

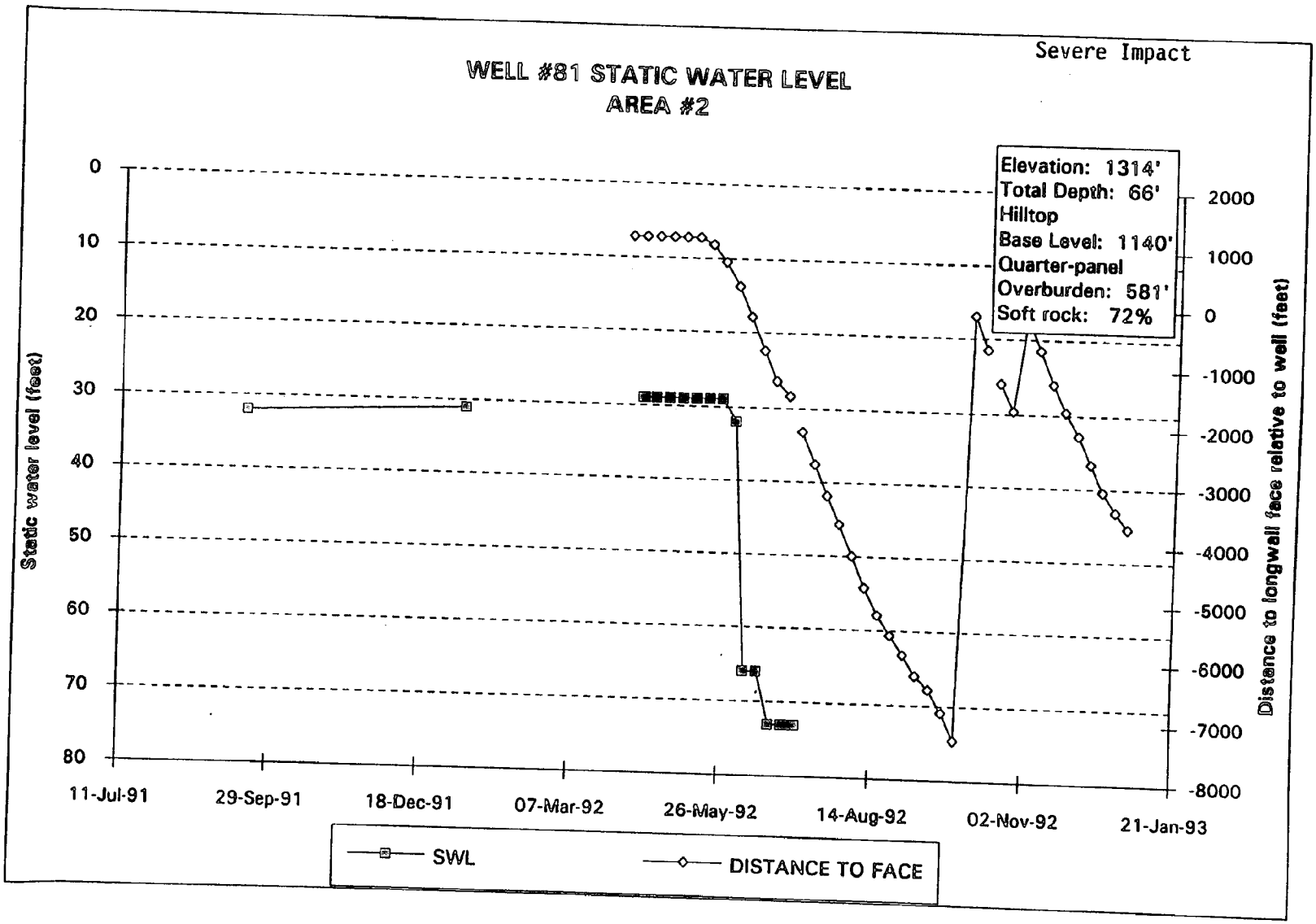
TOVCC 10527


Minimal Impact
WELL #78 STATIC WATER LEVEL
AREA #3
Elevation: 1261'
Total Depth: 185'
Hillside
Base Level: 1100'
Adjacent
Overburden: 518'
Soft rock: 66%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
4
8
12
16
20
24
28
32
36
40
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
16-Jan-94
07-Mar-94
26-Apr-94
15-Jun-94
04-Aug-94
23-Sep-94
12-Nov-94
01-Jan-95
SWL
DISTANCE TO FACE

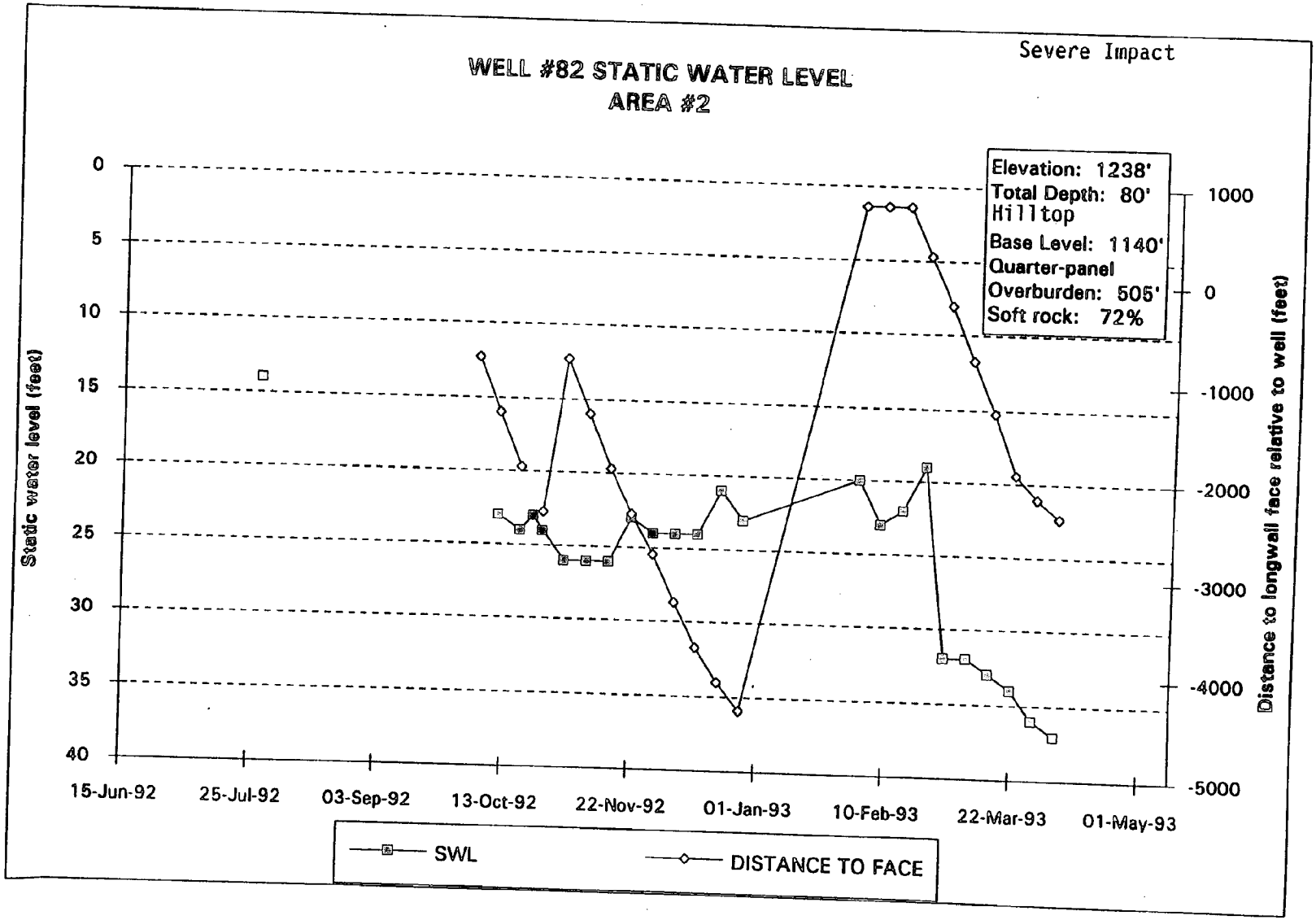
TOVCC 10528


WELL #80 STATIC WATER LEVEL
AREA #2
Severe Impact
Elevation: 1226'
Total Depth: 35'
Hillside
Base Level: 1080'
Mid-panel
Overburden: 493'
Soft rock: 72%
Static water level (feet)
0
5
10
15
20
25
30
35
Distance to longwall face relative to well (feet)
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
31-Jul-91
04-Oct-91
08-Dec-91
11-Feb-92
16-Apr-92
20-Jun-92
24-Aug-92
28-Oct-92
01-Jan-93
SWL
DISTANCE TO FACE

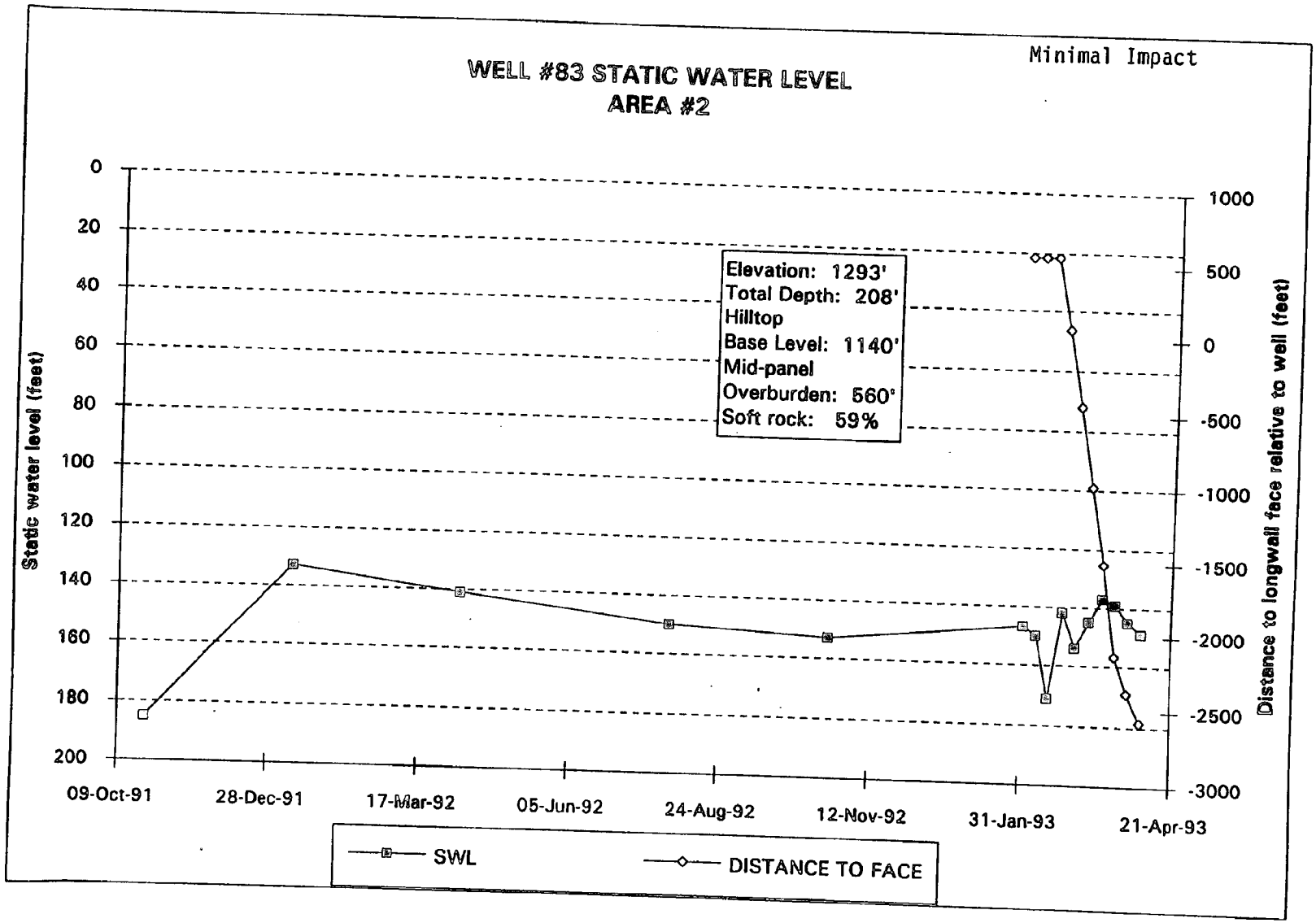
TOVCC 10529


Severe Impact
WELL #81 STATIC WATER LEVEL
AREA #2
Elevation: 1314'
Total Depth: 66'
Hilltop
Base Level: 1140'
Quarter-panel
Overburden: 581'
Soft rock: 72%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
70
80
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
11-Jul-91
29-Sep-91
18-Dec-91
07-Mar-92
26-May-92
14-Aug-92
02-Nov-92
21-Jan-93
SWL
DISTANCE TO FACE

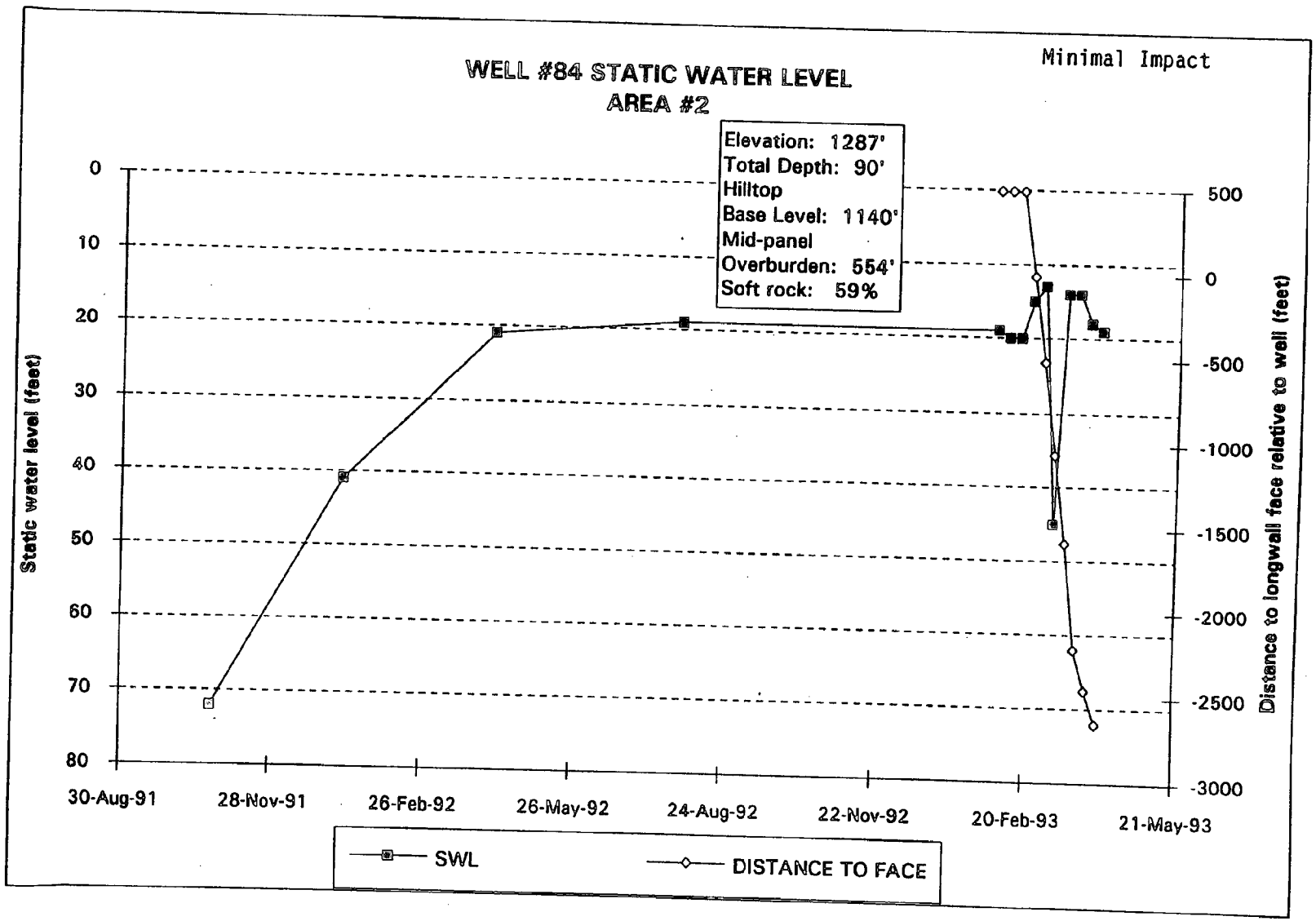
TOVCC 10530


Severe Impact
WELL #82 STATIC WATER LEVEL
AREA #2
Elevation: 1238'
Total Depth: 80'
Hilltop
Base Level: 1140'
Quarter-panel
Overburden: 505'
Soft rock: 72%
Static water level (feet)
0
5
10
15
20
25
30
35
40
Distance to longwall face relative to well (feet)
1000
0
-1000
-2000
-3000
-4000
-5000
15-Jun-92
25-Jul-92
03-Sep-92
13-Oct-92
22-Nov-92
01-Jan-93
10-Feb-93
22-Mar-93
01-May-93
SWL
DISTANCE TO FACE

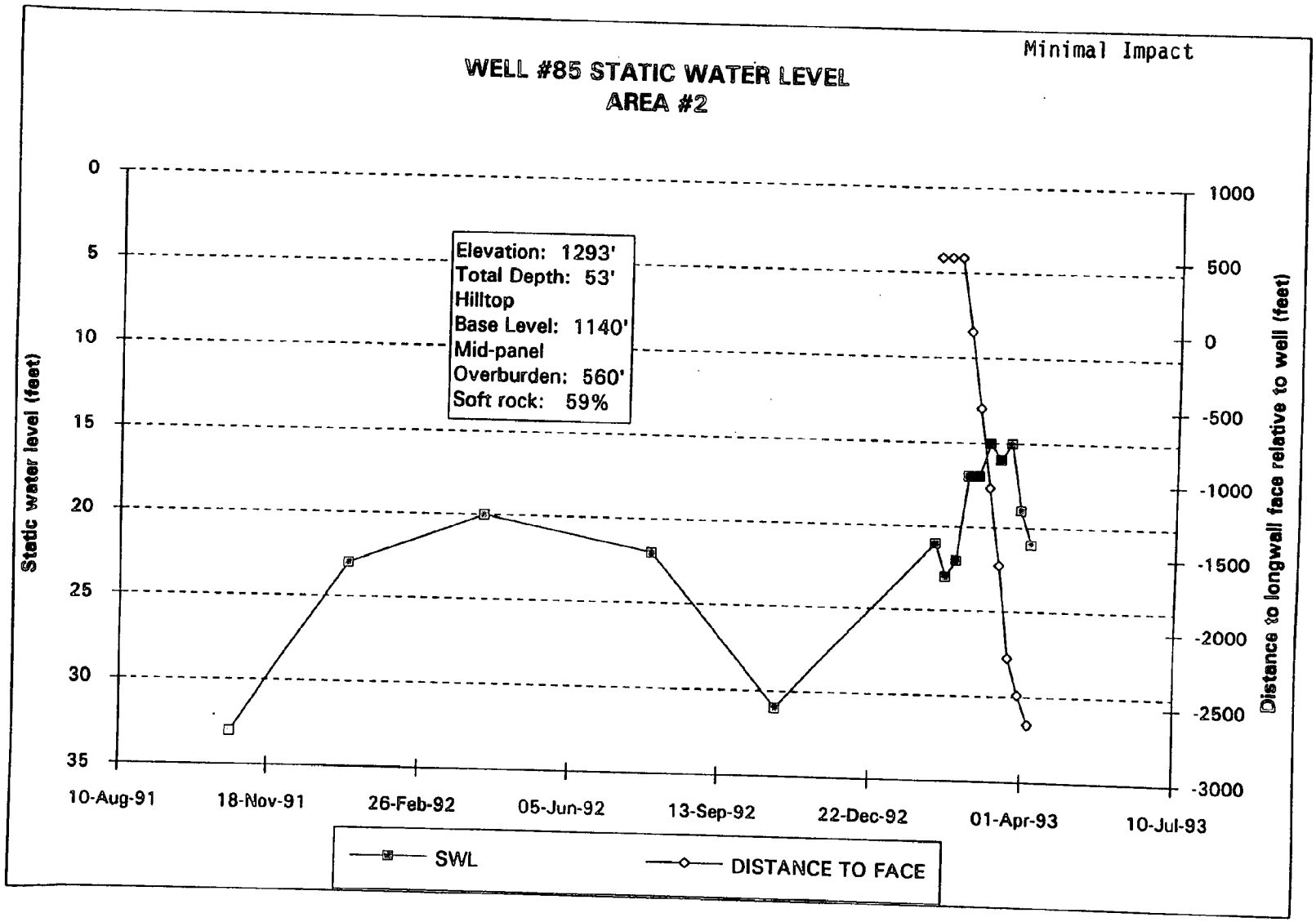
TOVCC 10531


WELL #83 STATIC WATER LEVEL
AREA #2
Minimal Impact
Elevation: 1293'
Total Depth: 208'
Hilltop
Base Level: 1140'
Mid-panel
Overburden: 560'
Soft rock: 59%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
20
40
60
80
100
120
140
160
180
200
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
09-Oct-91
28-Dec-91
17-Mar-92
05-Jun-92
24-Aug-92
12-Nov-92
31-Jan-93
21-Apr-93
SWL
DISTANCE TO FACE

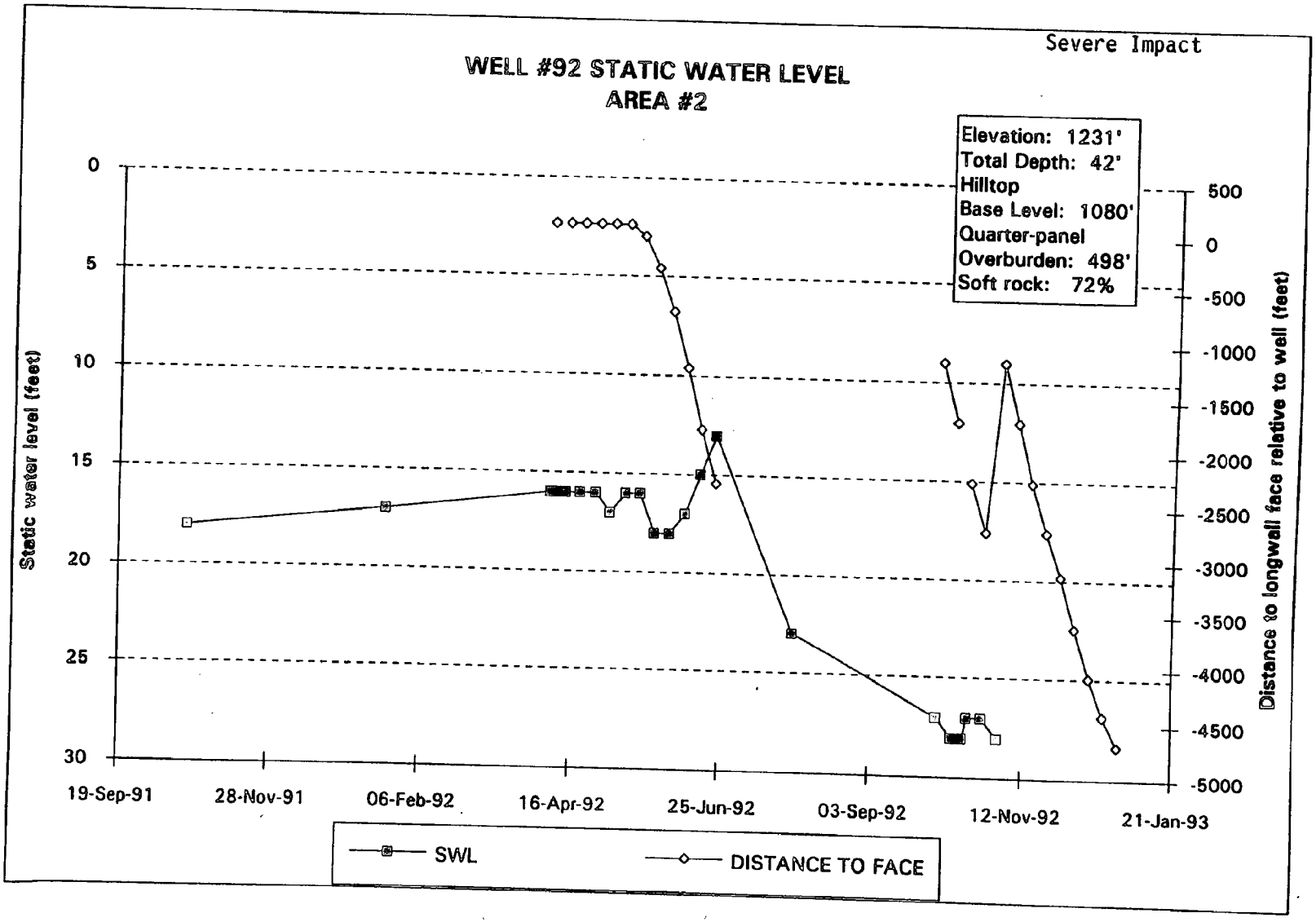
TOVCC 10532


WELL #84 STATIC WATER LEVEL
AREA #2
Minimal Impact
Elevation: 1287'
Total Depth: 90'
Hilltop
Base Level: 1140'
Mid-panel
Overburden: 554'
Soft rock: 59%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
70
80
500
0
-500
-1000
-1500
-2000
-2500
-3000
30-Aug-91
28-Nov-91
26-Feb-92
26-May-92
24-Aug-92
22-Nov-92
20-Feb-93
21-May-93
SWL
DISTANCE TO FACE

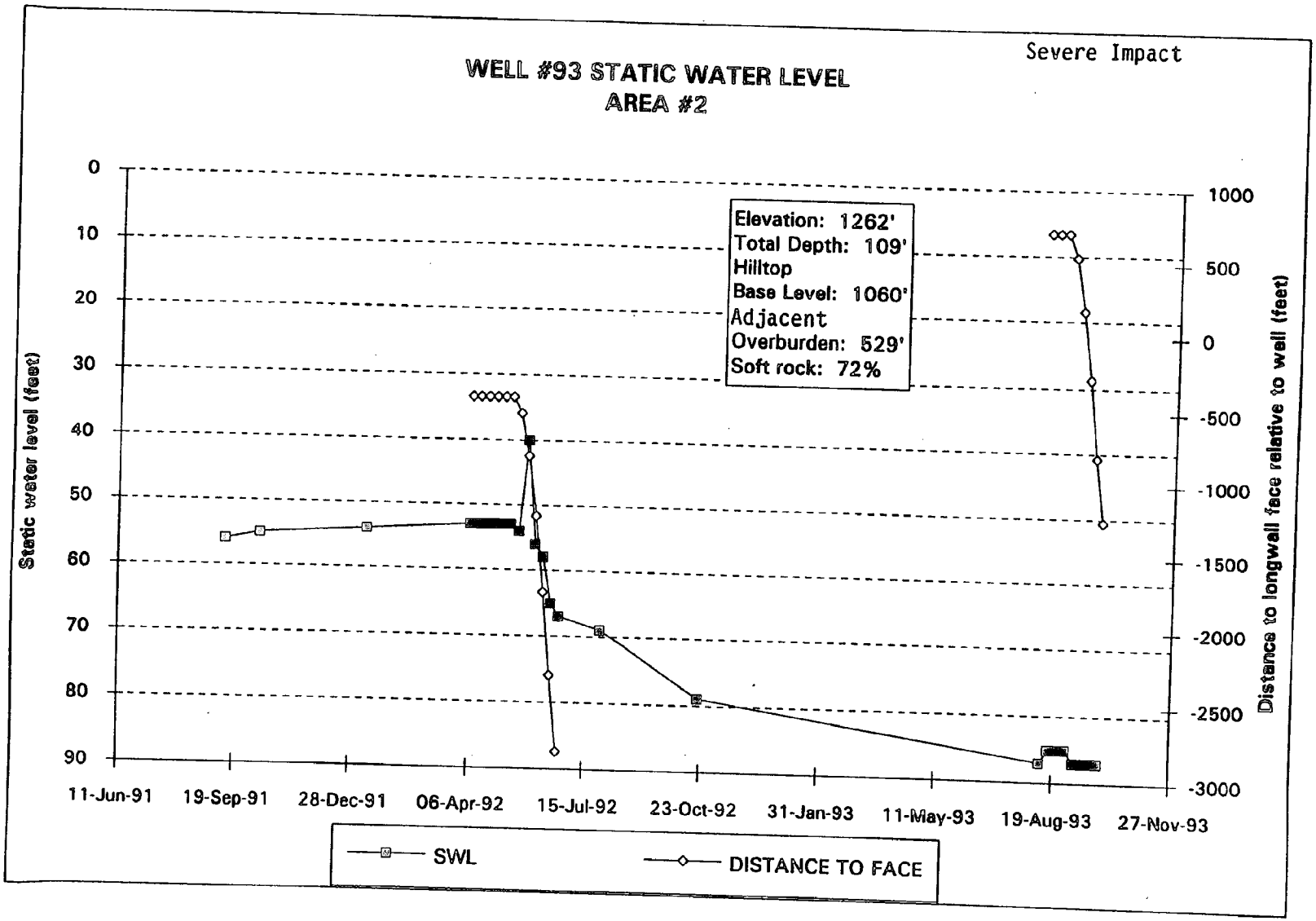
TOVCC 10533


Minimal Impact
WELL #85 STATIC WATER LEVEL
AREA #2
Elevation: 1293'
Total Depth: 53'
Hilltop
Base Level: 1140'
Mid-panel
Overburden: 560'
Soft rock: 59%
Static water level (feet)
0
5
10
15
20
25
30
35
Distance to longwall face relative to well (feet)
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
10-Aug-91
18-Nov-91
26-Feb-92
05-Jun-92
13-Sep-92
22-Dec-92
01-Apr-93
10-Jul-93
SWL
DISTANCE TO FACE

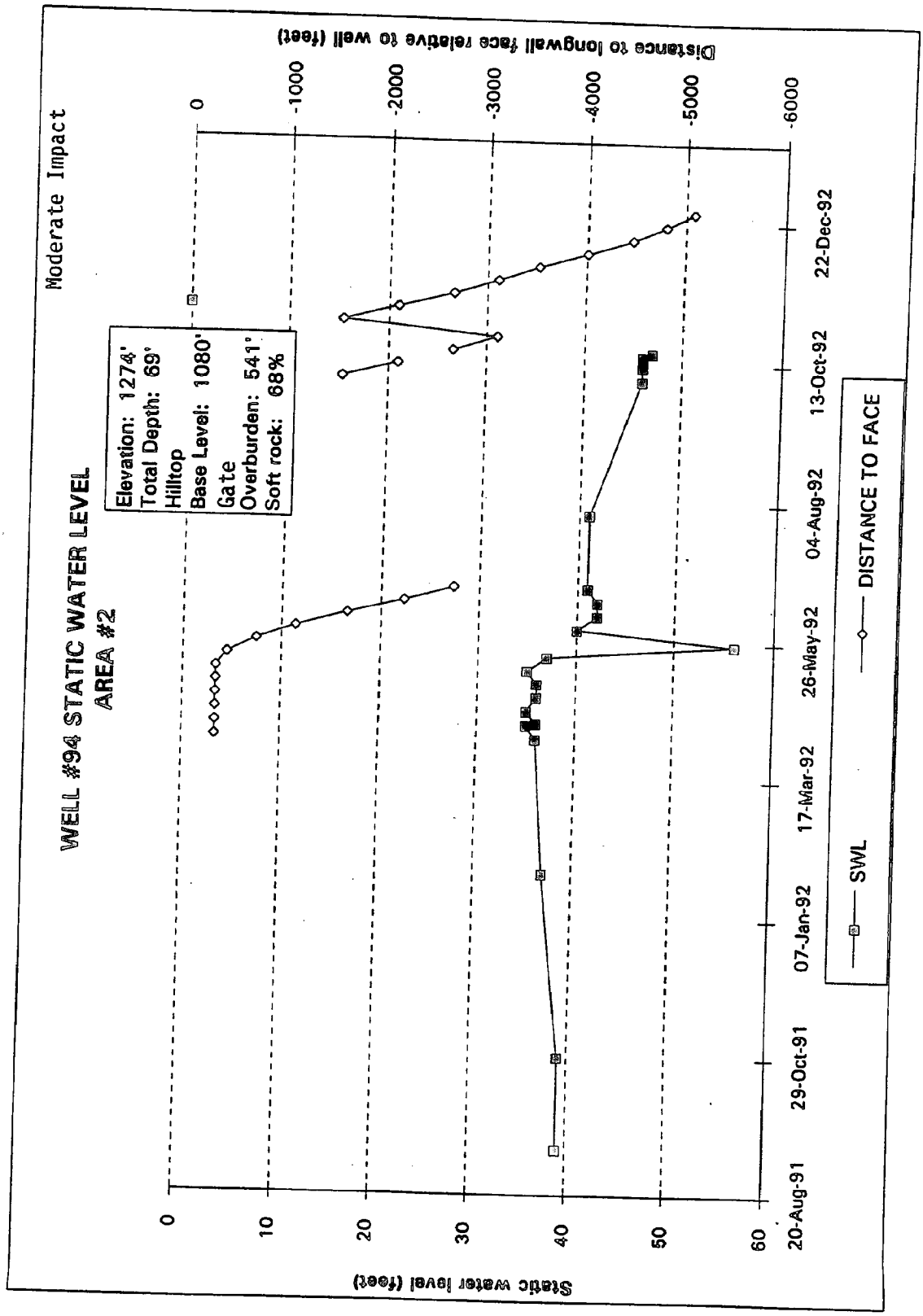
TOVCC 10534

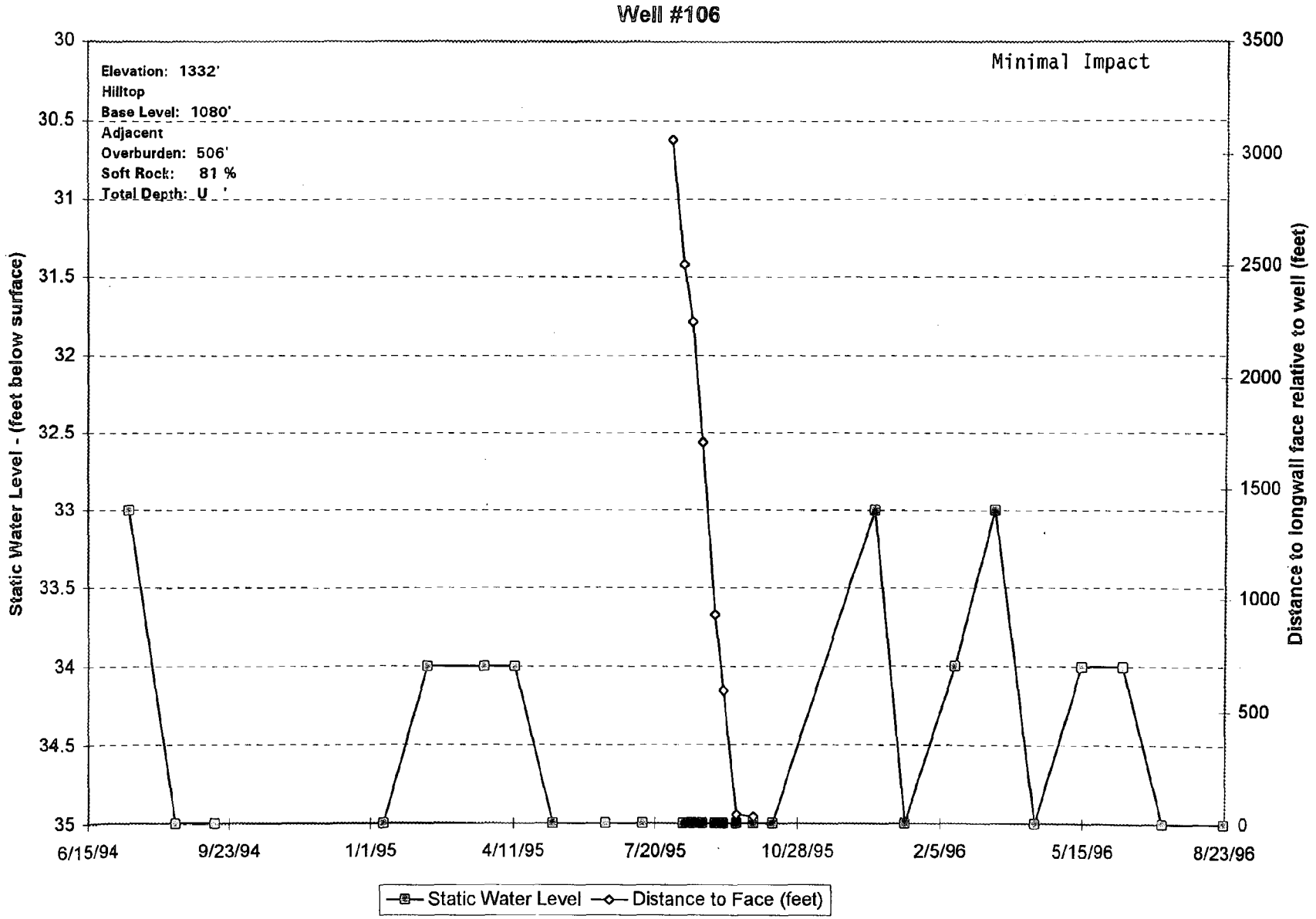

Severe Impact
WELL #92 STATIC WATER LEVEL
AREA #2
Elevation: 1231'
Total Depth: 42'
Hilltop
Base Level: 1080'
Quarter-panel
Overburden: 498'
Soft rock: 72%
Static water level (feet)
0
5
10
15
20
25
30
Distance to longwall face relative to well (feet)
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
-4500
-5000
19-Sep-91
28-Nov-91
06-Feb-92
16-Apr-92
25-Jun-92
03-Sep-92
12-Nov-92
21-Jan-93
SWL
DISTANCE TO FACE

TOVCC 10535

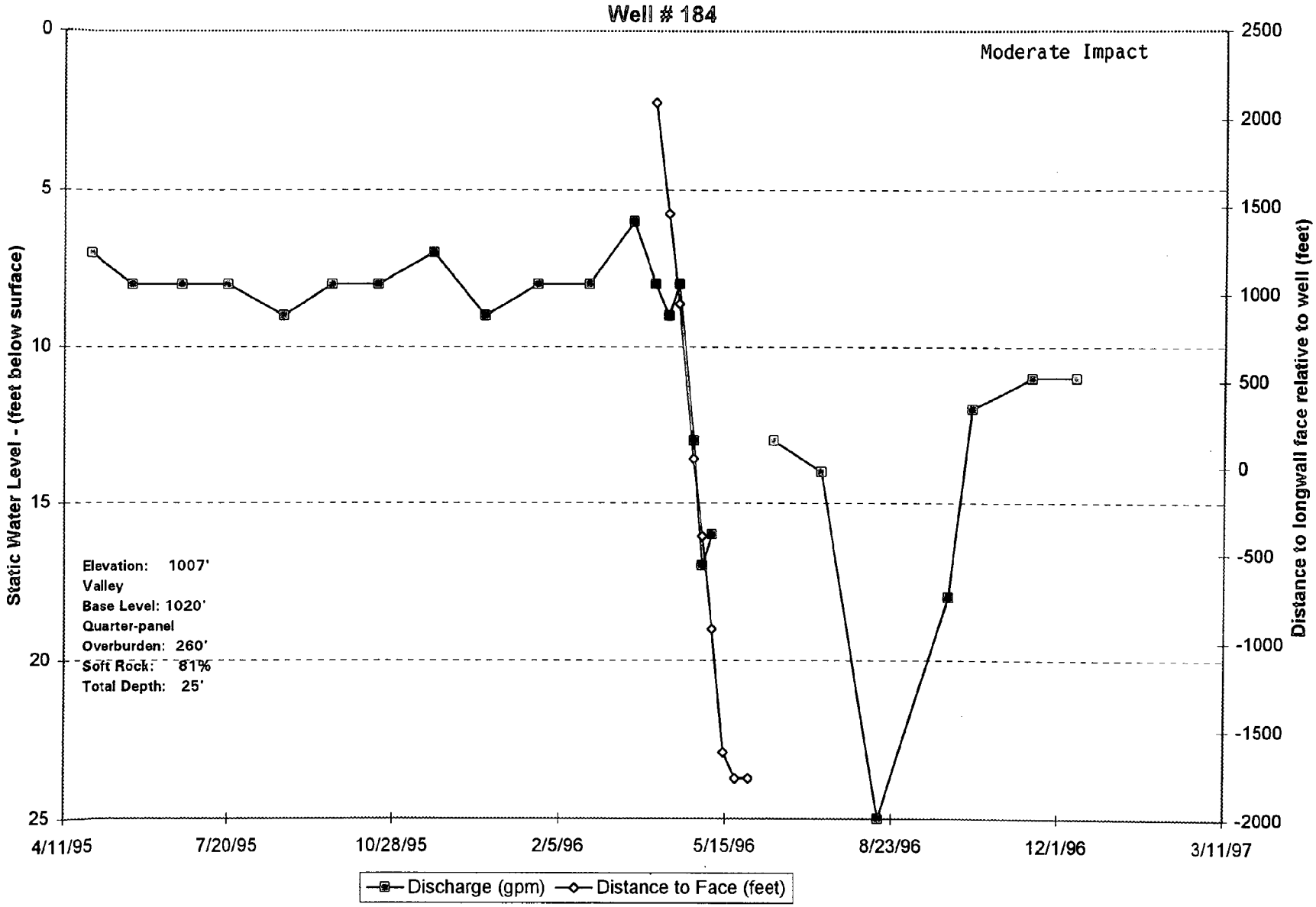

Severe Impact
WELL #93 STATIC WATER LEVEL
AREA #2
Elevation: 1262'
Total Depth: 109'
Hilltop
Base Level: 1060'
Adjacent
Overburden: 529'
Soft rock: 72%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
70
80
90
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
11-Jun-91
19-Sep-91
28-Dec-91
06-Apr-92
15-Jul-92
23-Oct-92
31-Jan-93
11-May-93
19-Aug-93
27-Nov-93
SWL
DISTANCE TO FACE

TOVCC 10536


Moderate Impact
WELL #94 STATIC WATER LEVEL
AREA #2
Elevation: 1274'
Total Depth: 69'
Hilltop
Base Level: 1080'
Gate
Overburden: 541'
Soft rock: 68%
Static water level (feet)
Distance to longwall face relative to well (feet)
0
10
20
30
40
50
60
0
-1000
-2000
-3000
-4000
-5000
-6000
20-Aug-91
29-Oct-91
07-Jan-92
17-Mar-92
26-May-92
04-Aug-92
13-Oct-92
22-Dec-92
SWL
DISTANCE TO FACE

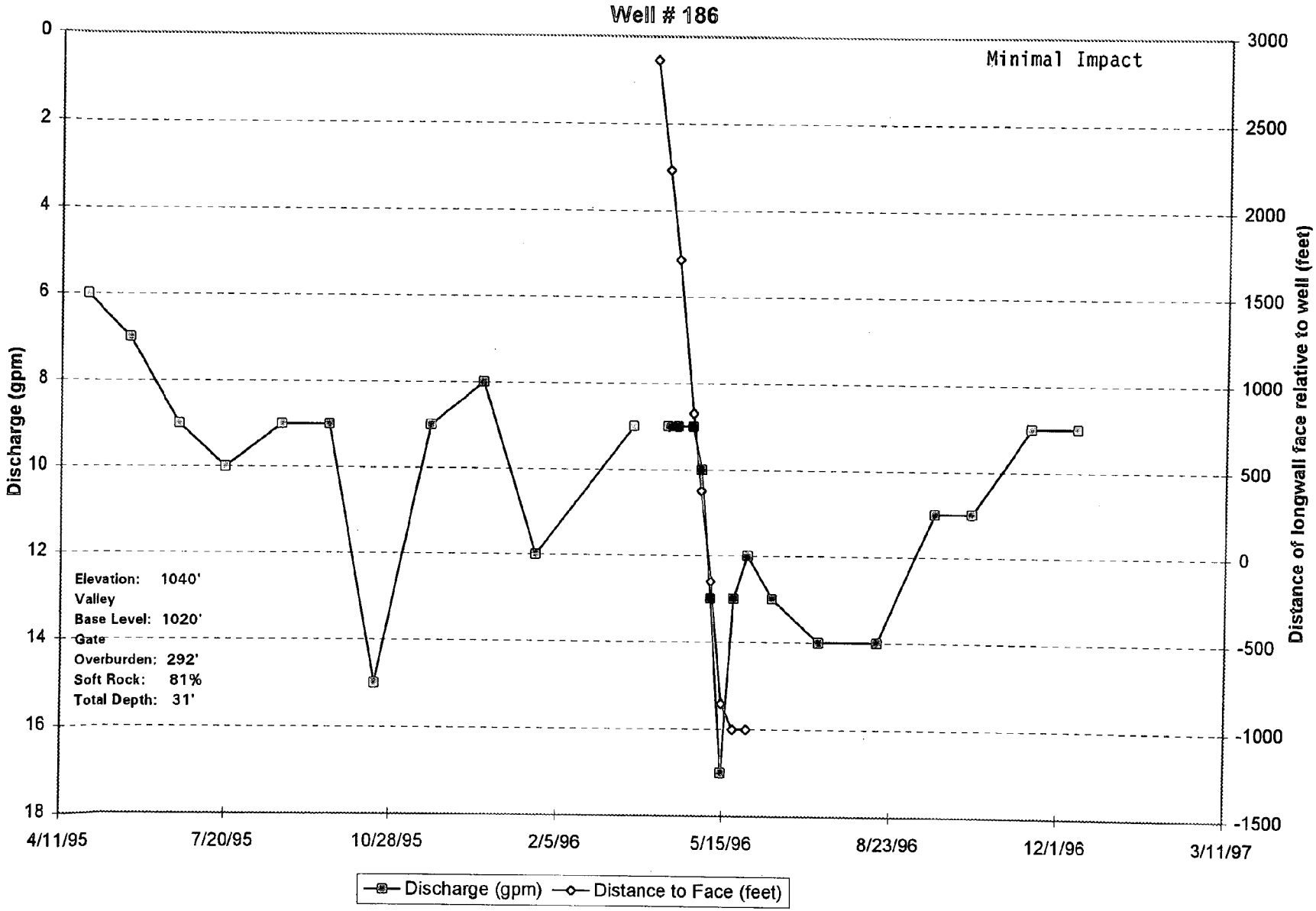

Well #106
Minimal Impact
Elevation: 1332'
Hilltop
Base Level: 1080'
Adjacent
Overburden: 506'
Soft Rock: 81 %
Total Depth: U '
Static Water Level - (feet below surface)
Distance to longwall face relative to well (feet)
30
30.5
31
31.5
32
32.5
33
33.5
34
34.5
35
3500
3000
2500
2000
1500
1000
500
0
6/15/94
9/23/94
1/1/95
4/11/95
7/20/95
10/28/95
2/5/96
5/15/96
8/23/96
Static Water Level
Distance to Face (feet)
Prepared by: Moody and Assoc Inc 4/12/97

TOVCC 10538



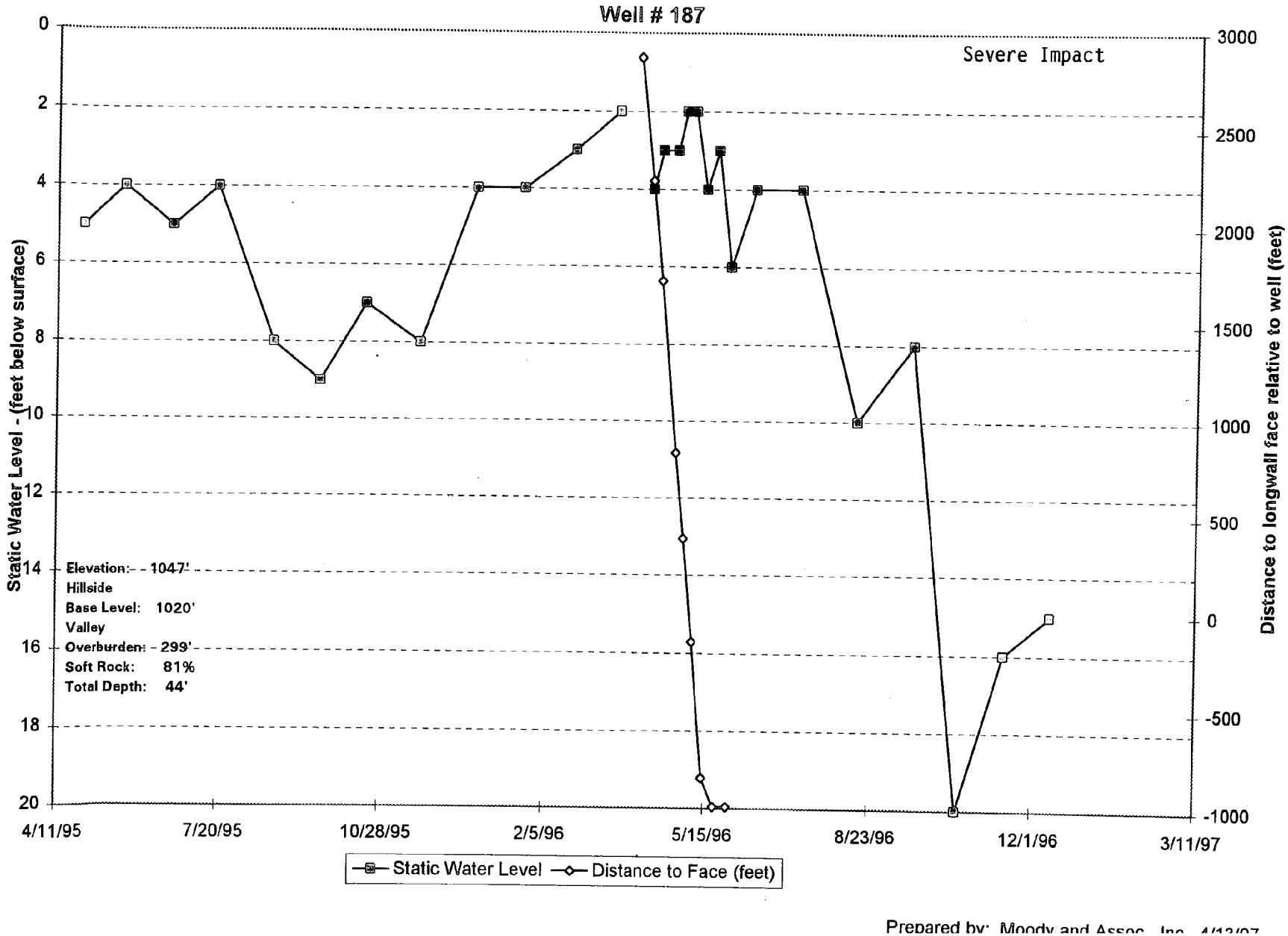
Prepared by: Moody and Assoc., Inc. 4/13/97

TOVCC 10539

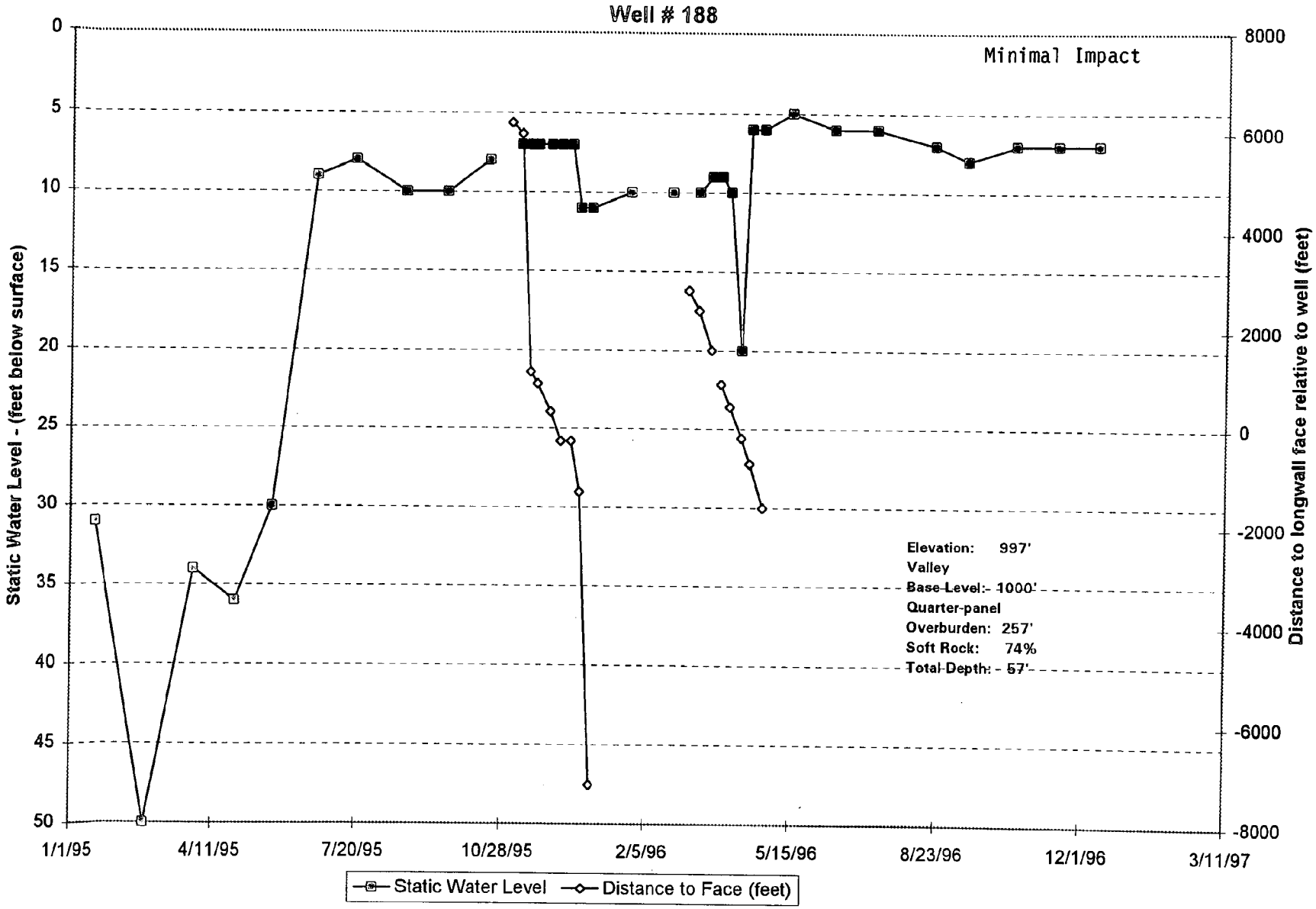


Prepared by: Moody and Assoc., Inc. 4/16/97

TOVCC 10540

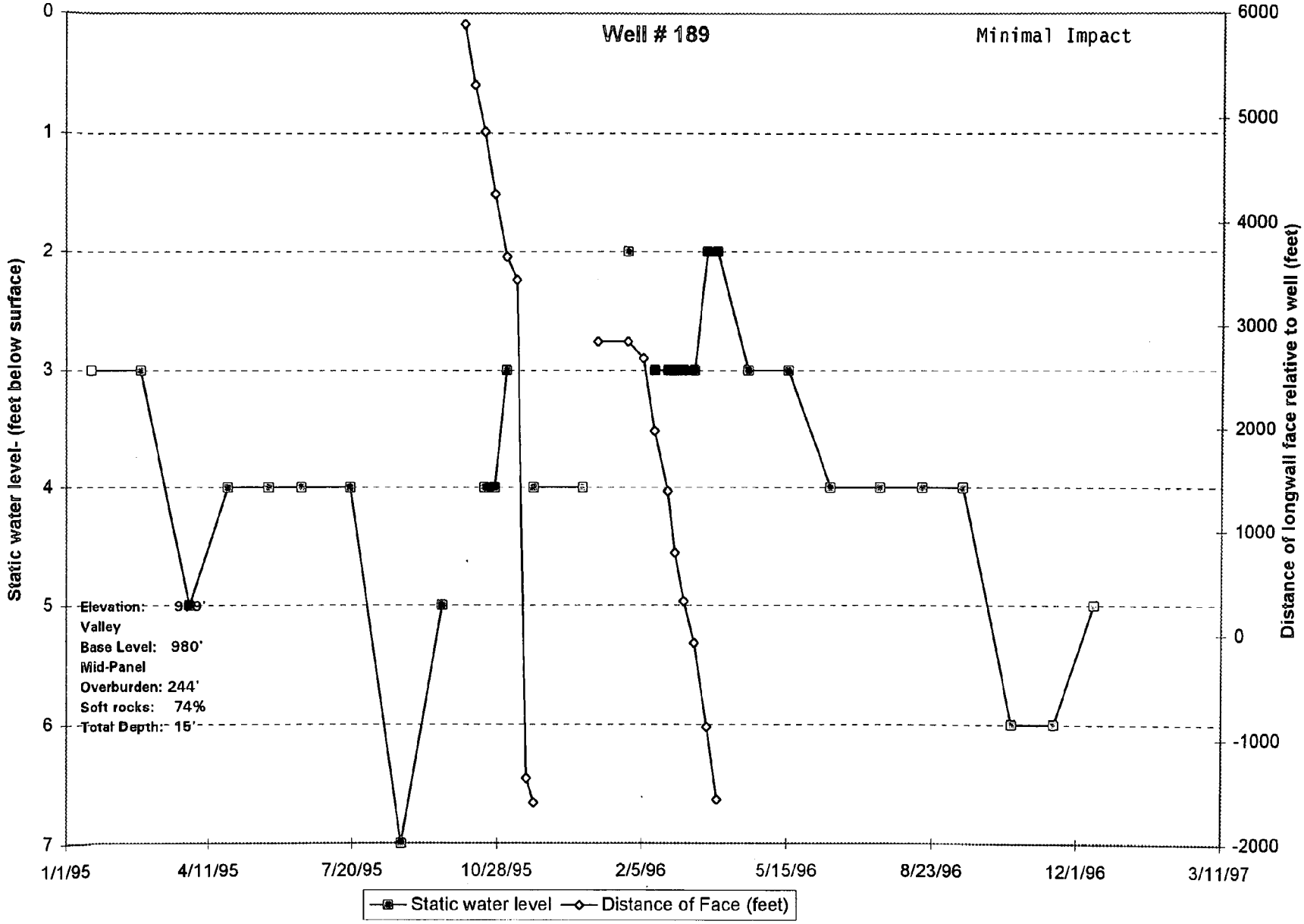

Well # 187
Severe Impact
Static Water Level - (feet below surface)
Distance to longwall face relative to well (feet)
0
2
4
6
8
10
12
14
16
18
20
3000
2500
2000
1500
1000
500
0
-500
-1000
4/11/95
7/20/95
10/28/95
2/5/96
5/15/96
8/23/96
12/1/96
3/11/97
Elevation: 1047'
Hillside
Base Level: 1020'
Valley
Overburden: 299'
Soft Rock: 81%
Total Depth: 44'
Static Water Level
Distance to Face (feet)
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10541



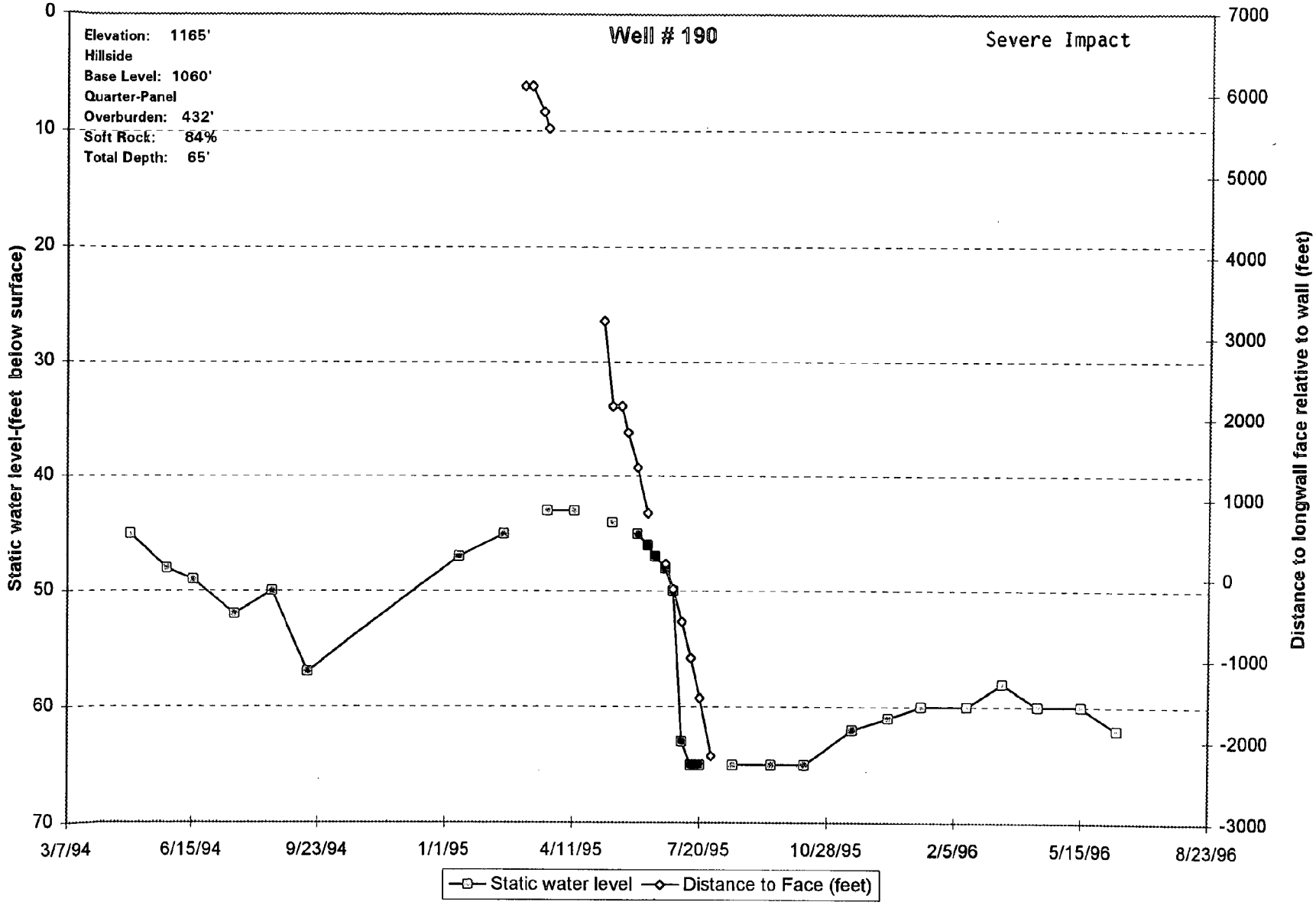
Prepared by: Moody and Assoc. Inc. 4/12/97

TOVCC 10542



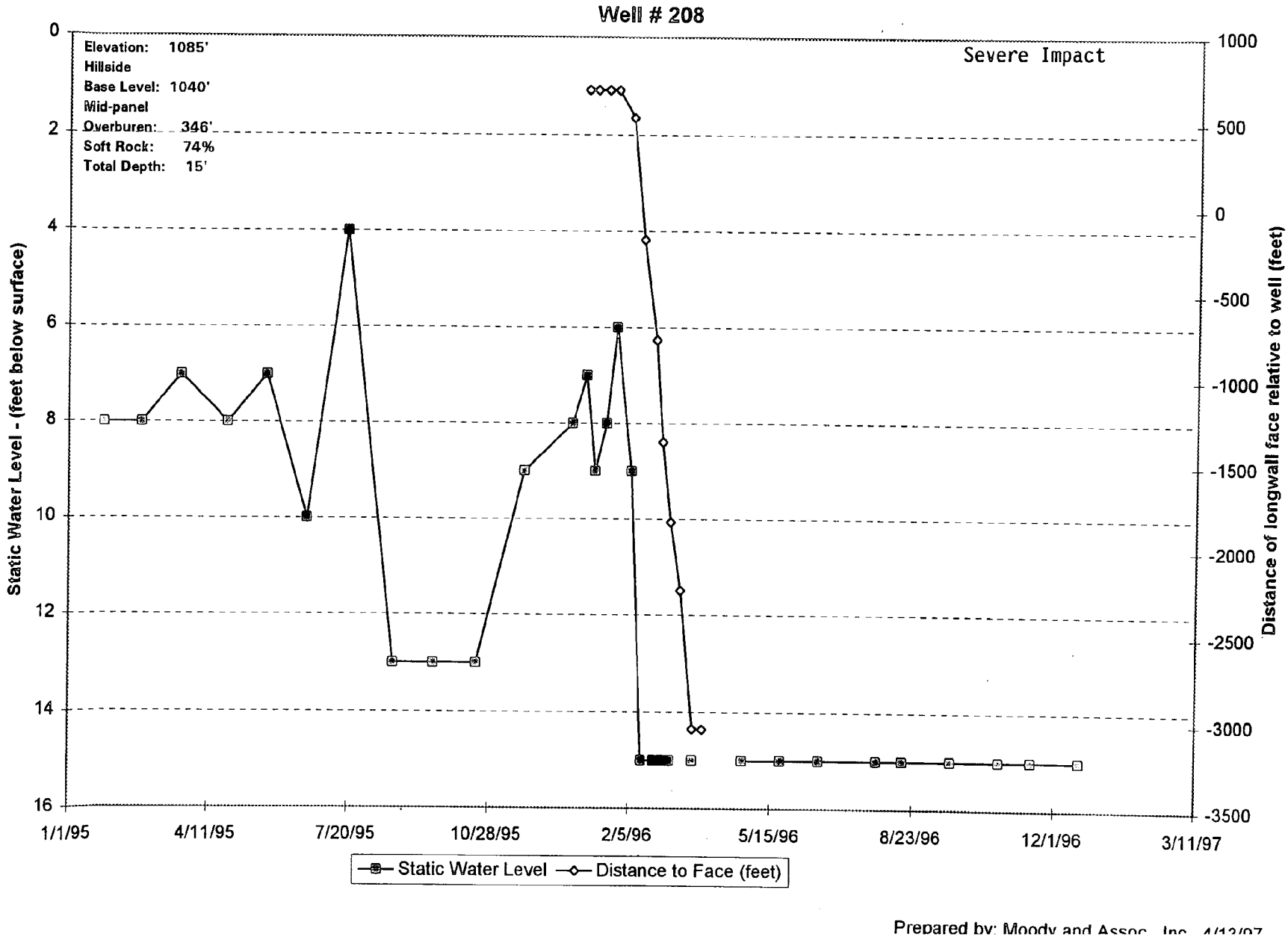
Prepared by: Moody and Assoc., Inc.4/13/97

TOVCC 10543



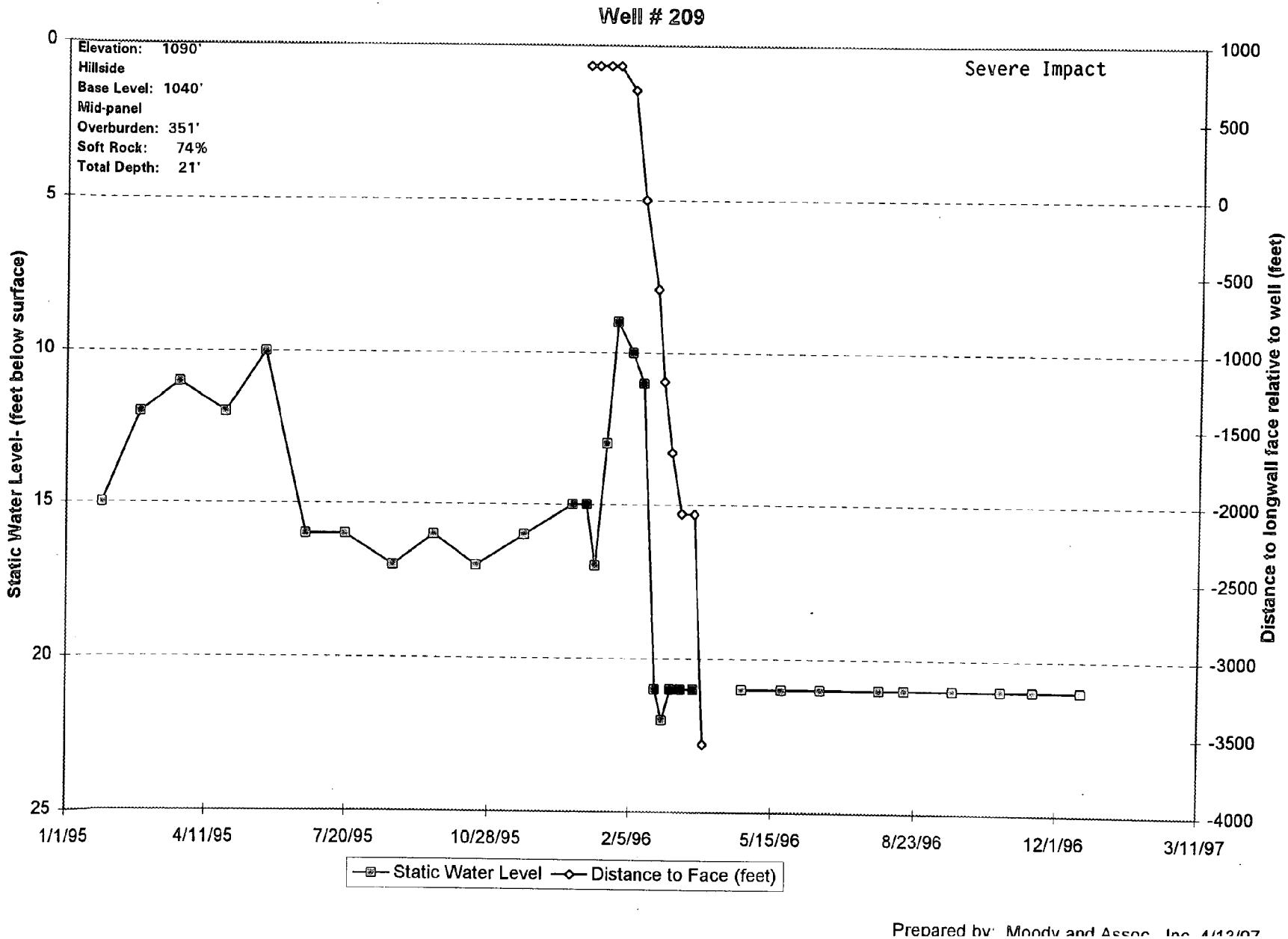
Prepared by: Moody and Assoc., Inc. 4/13/97

TOVCC 10544



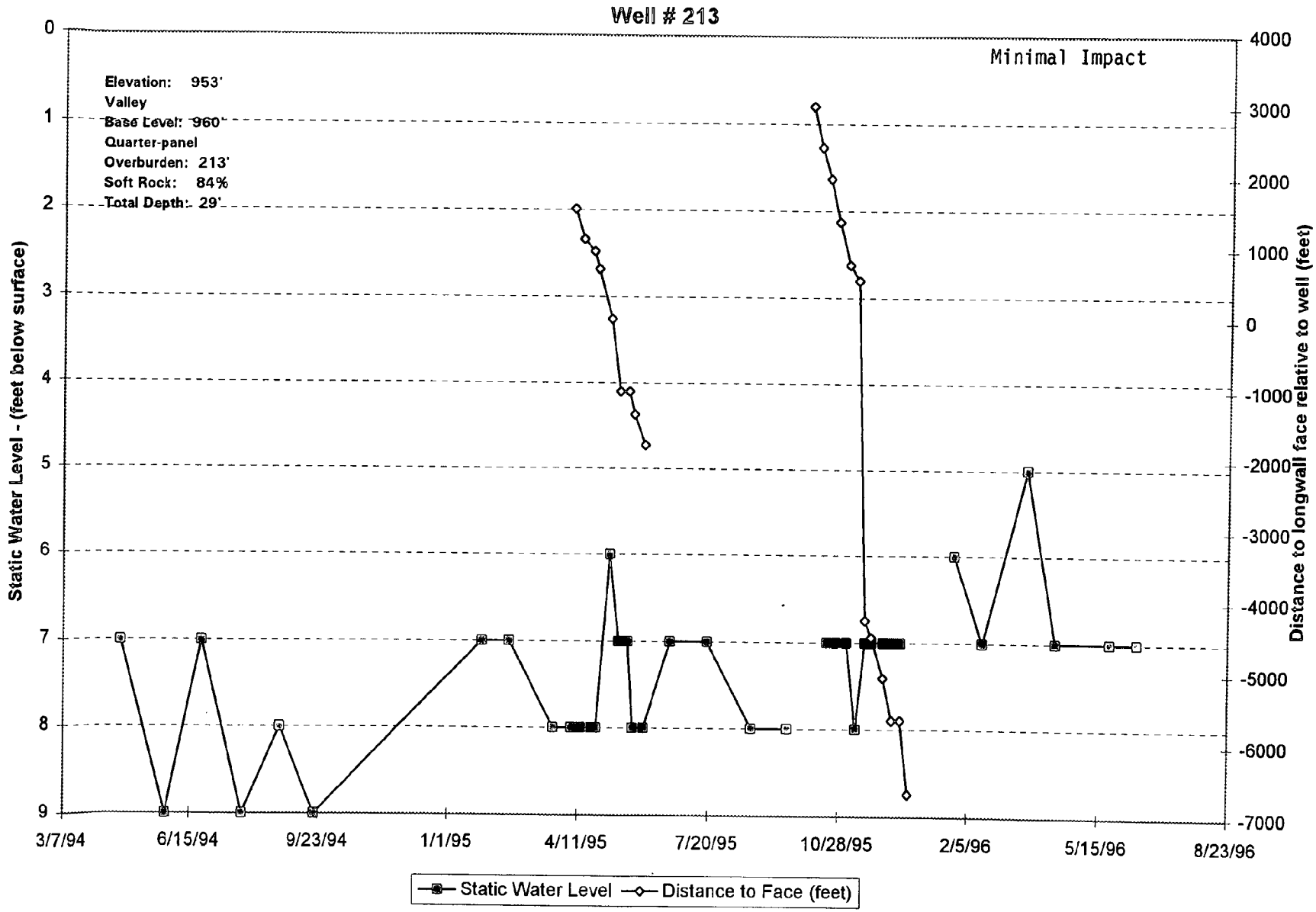
Prepared by: Moody and Assoc. Inc. 4/12/97

TOVCC 10545



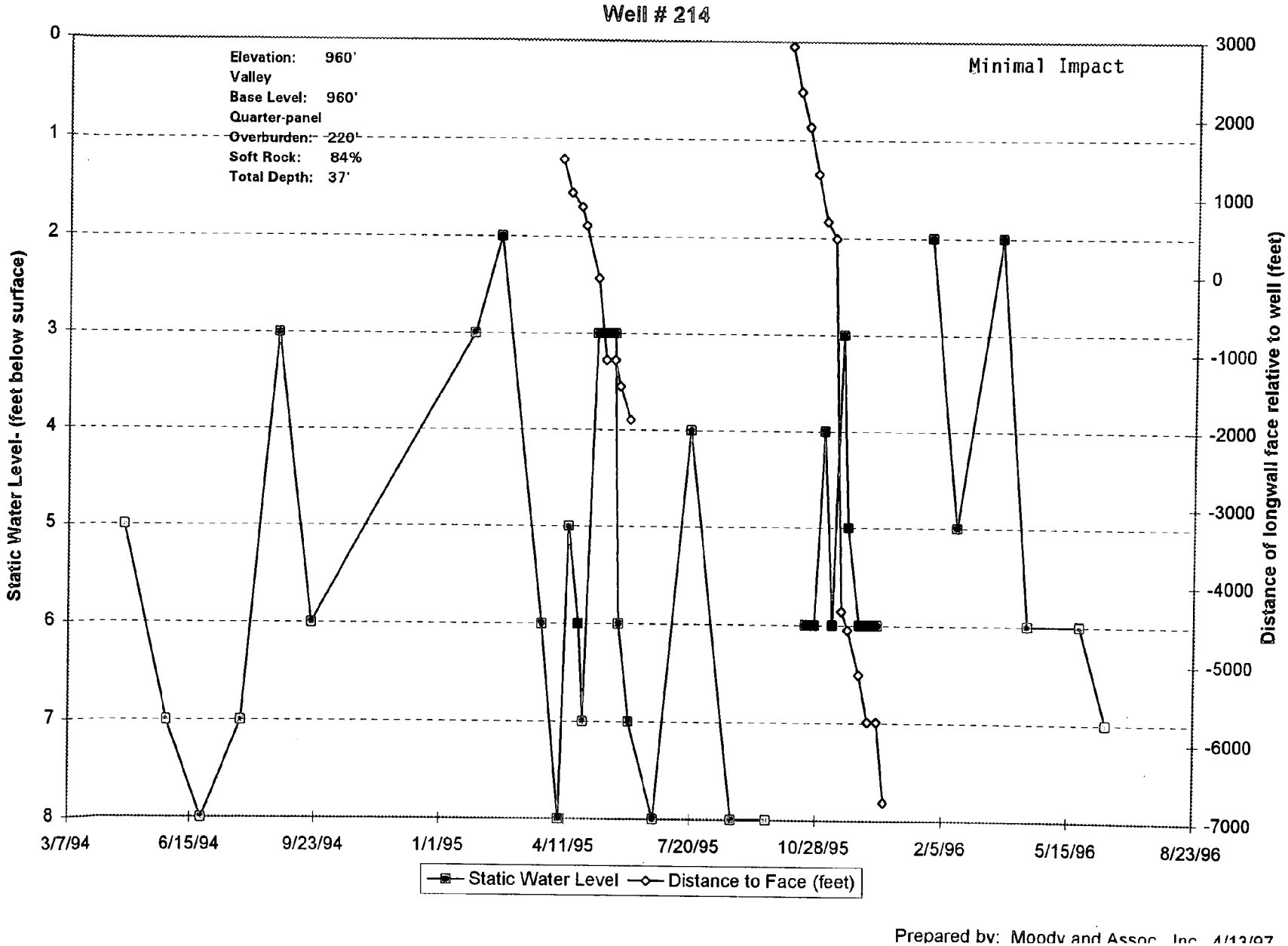
Prepared by: Moody and Assoc. Inc. 4/12/97

TOVCC 10546



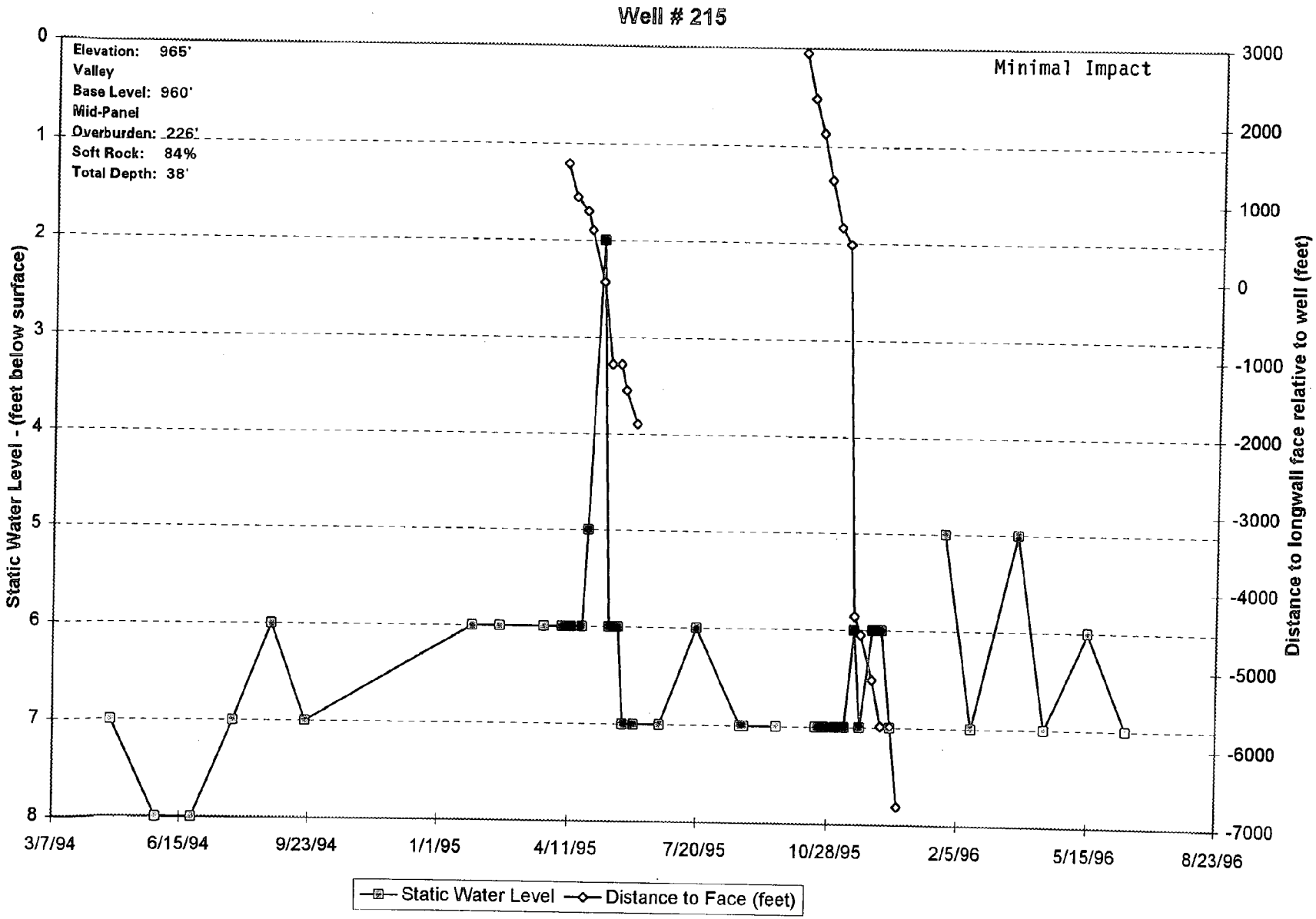
Prepared by: Moody and Assoc. Inc. 4/12/97

TOVCC 10547



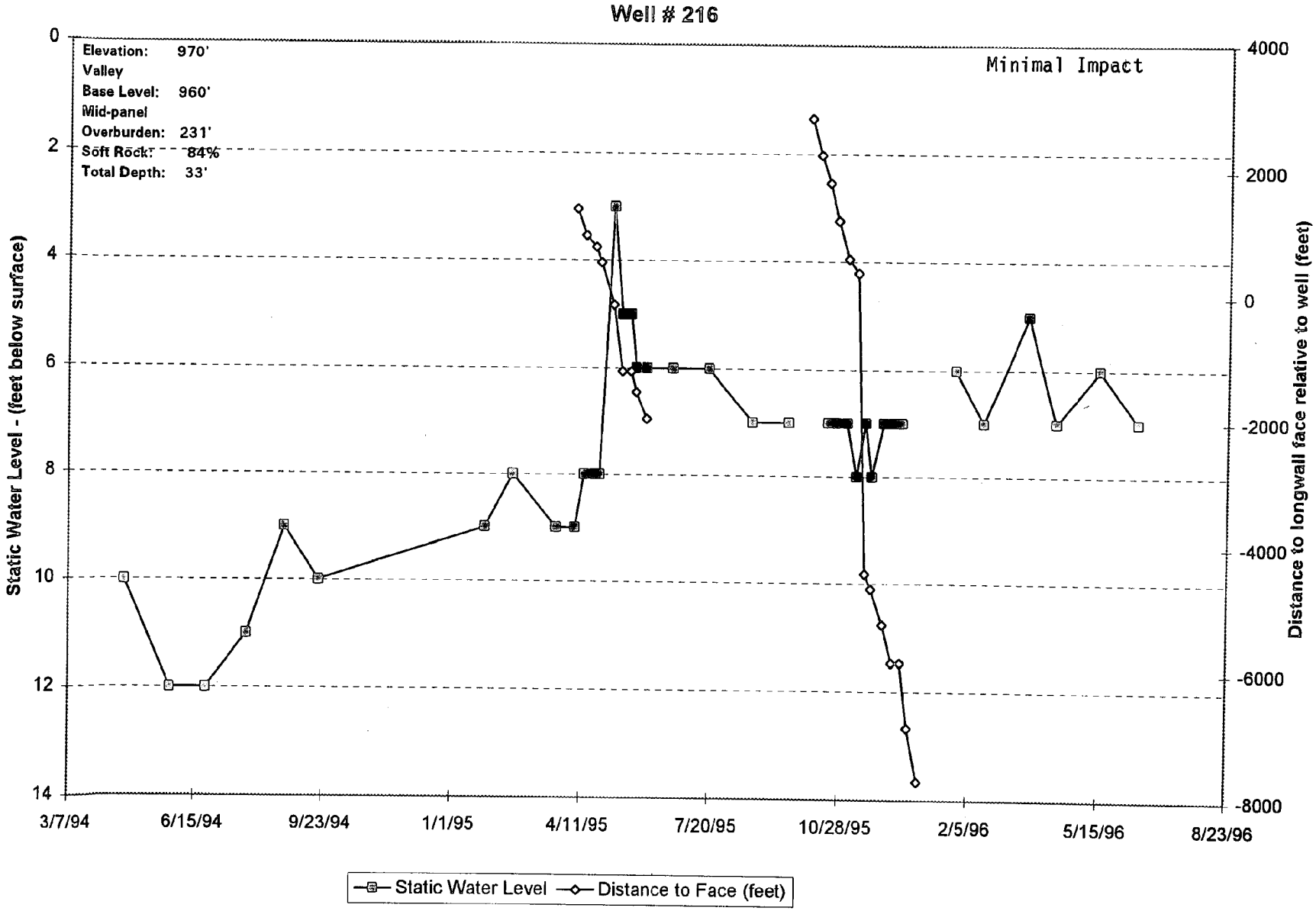
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10548



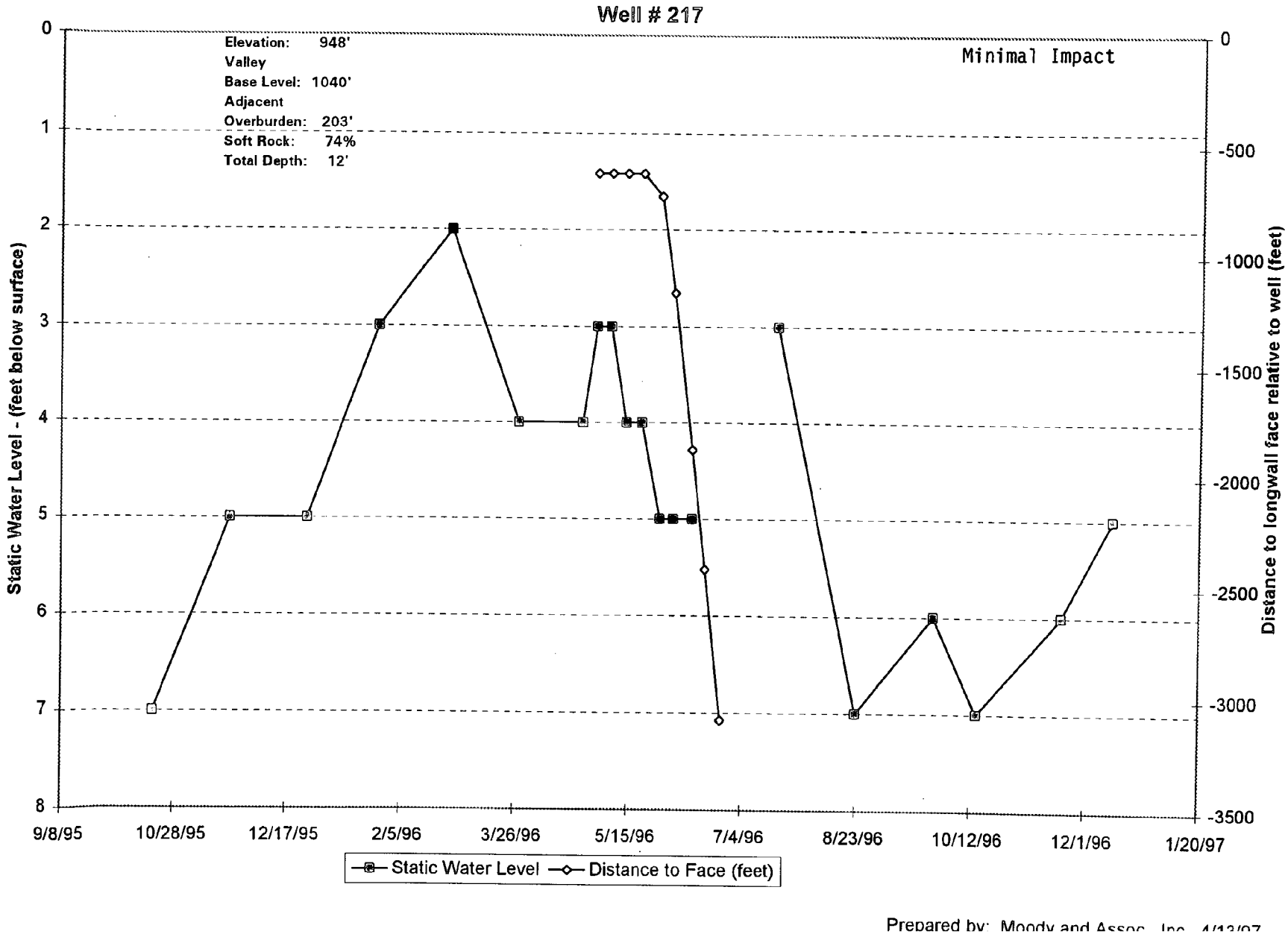
Prepared by: Moody and Assoc...

TOVCC 10549



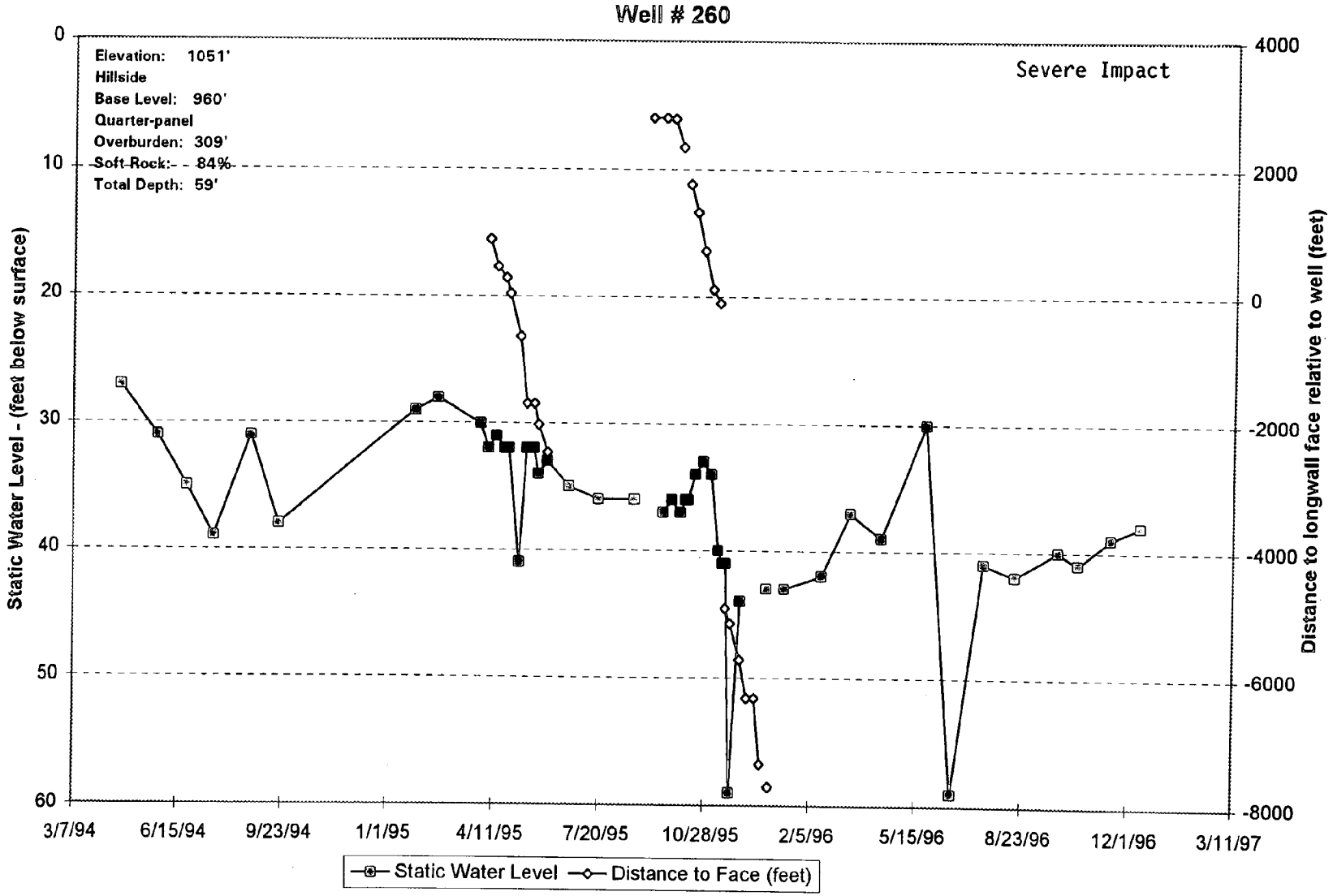
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10550



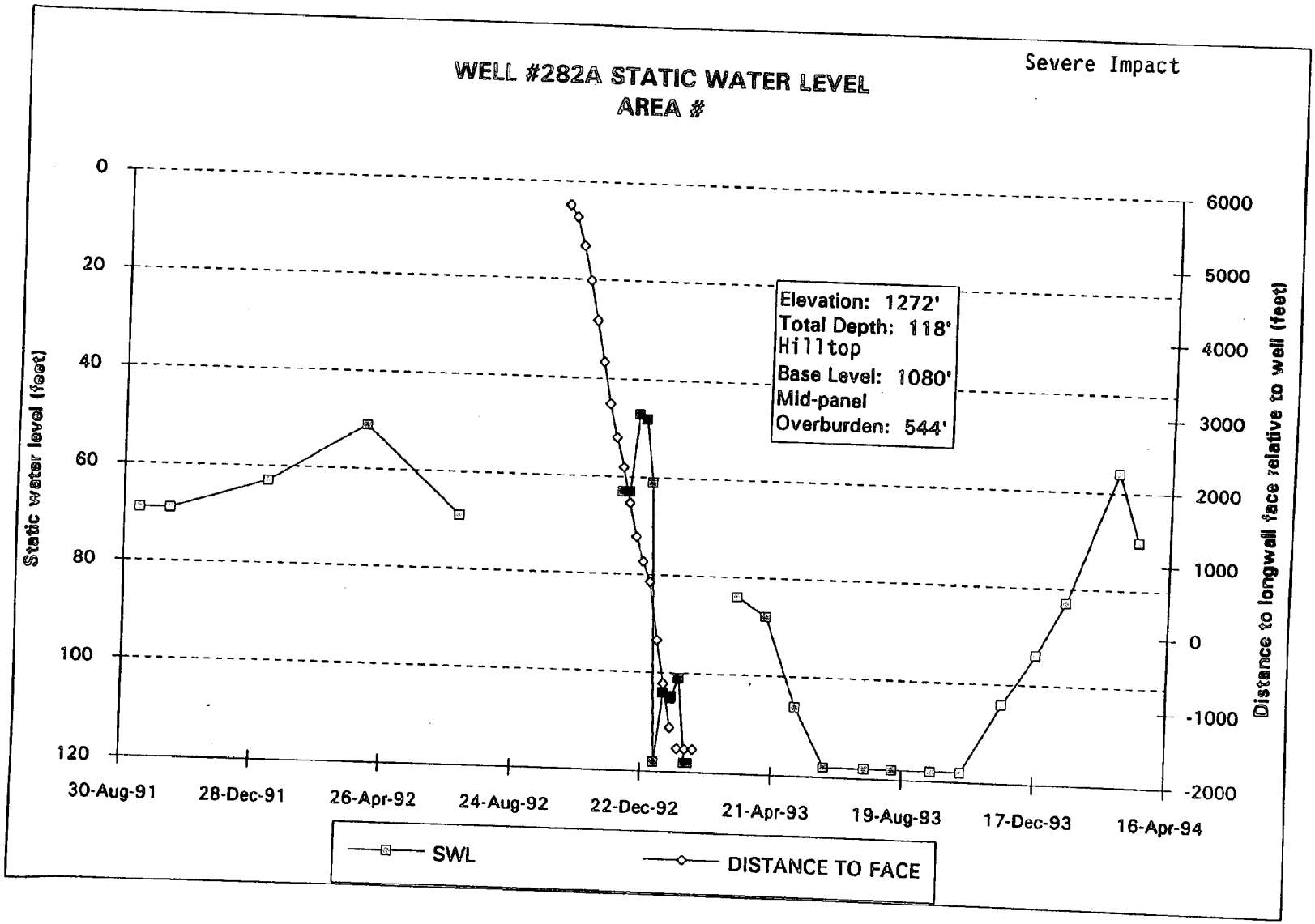
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10551

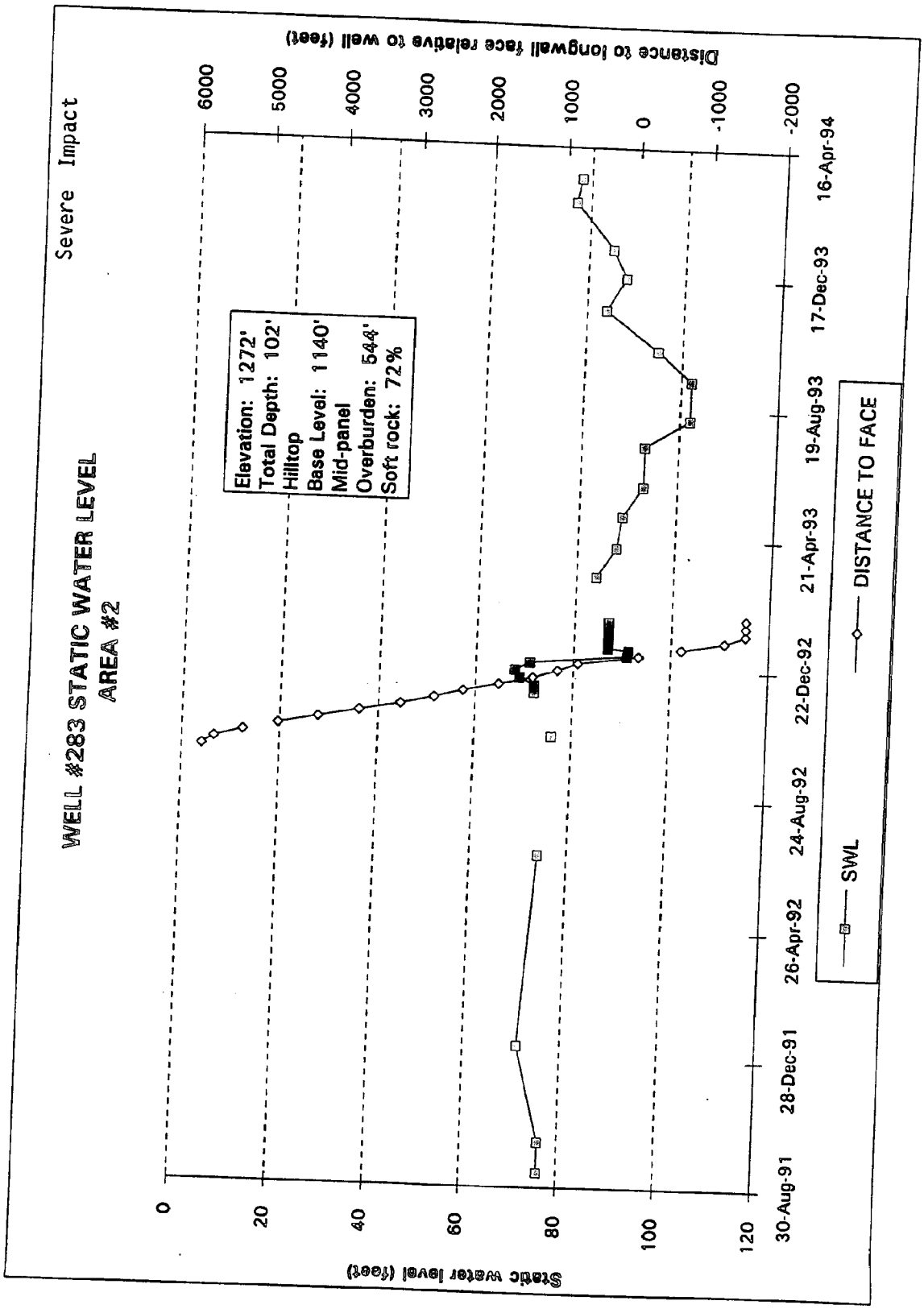


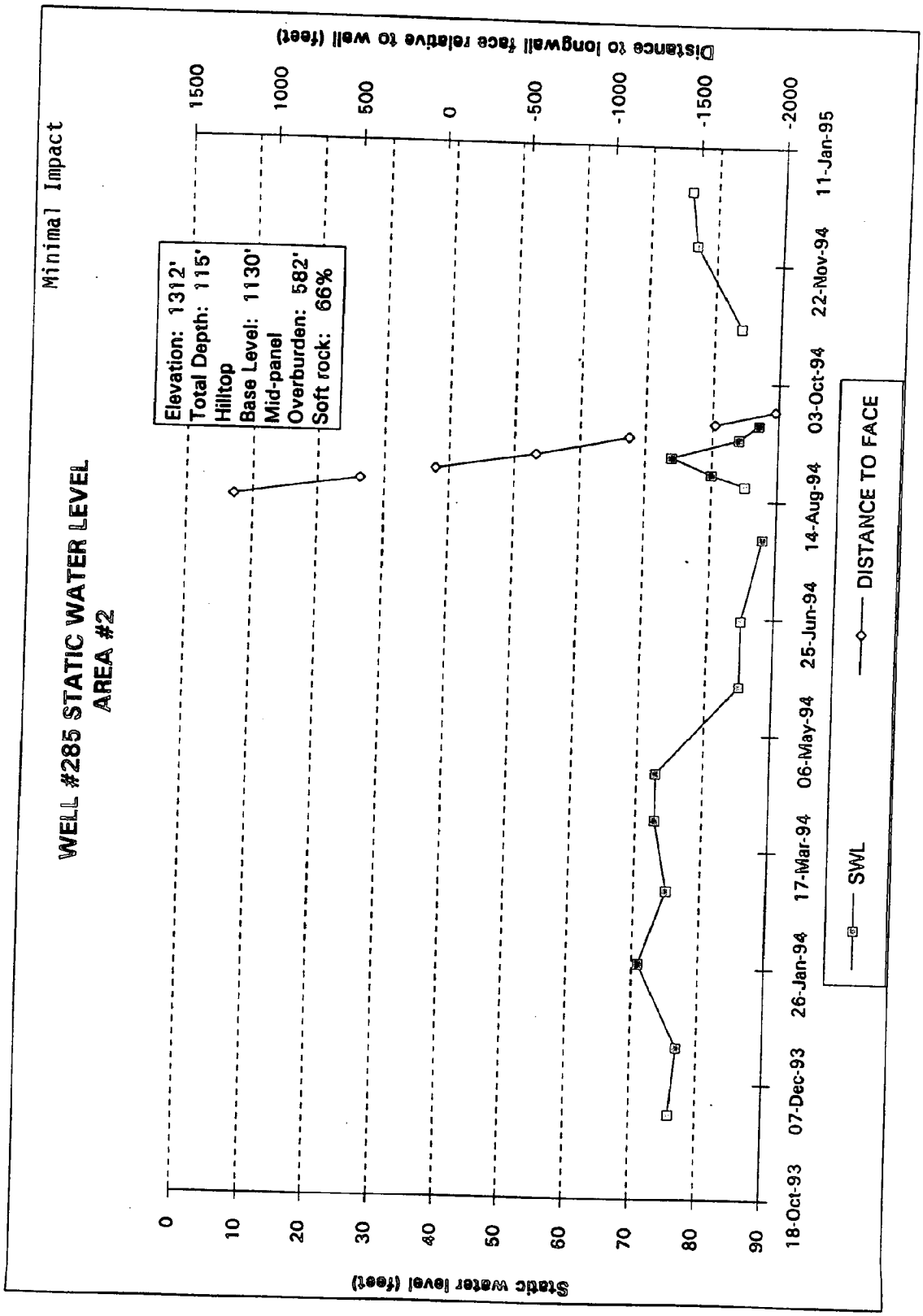
Prepared by: Moody and Assoc., Inc. 4/13/97

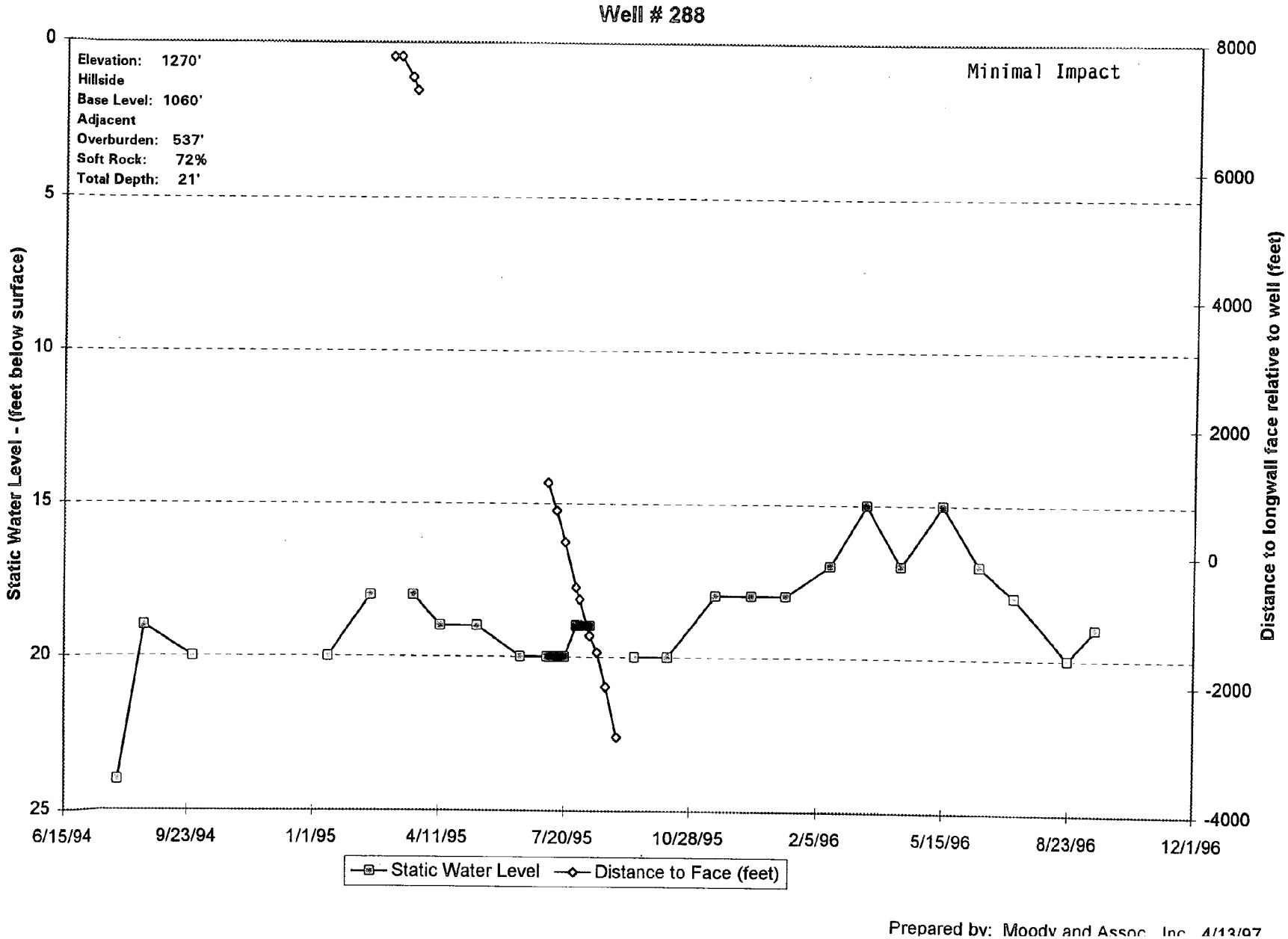
TOVCC 10552


WELL #282A STATIC WATER LEVEL
AREA #
Severe Impact
Elevation: 1272'
Total Depth: 118'
Hilltop
Base Level: 1080'
Mid-panel
Overburden: 544'
Static water level (feet)
Distance to longwall face relative to well (feet)
0
20
40
60
80
100
120
6000
5000
4000
3000
2000
1000
0
-1000
-2000
30-Aug-91
28-Dec-91
26-Apr-92
24-Aug-92
22-Dec-92
21-Apr-93
19-Aug-93
17-Dec-93
16-Apr-94
SWL
DISTANCE TO FACE

TOVCC 10553


WELL #283 STATIC WATER LEVEL
AREA #2
Severe Impact
Elevation: 1272'
Total Depth: 102'
Hilltop
Base Level: 1140'
Mid-panel
Overburden: 544'
Soft rock: 72%
Static water level (feet)
0
20
40
60
80
100
120
Distance to longwall face relative to well (feet)
6000
5000
4000
3000
2000
1000
0
-1000
-2000
30-Aug-91
28-Dec-91
26-Apr-92
24-Aug-92
22-Dec-92
21-Apr-93
19-Aug-93
17-Dec-93
16-Apr-94
SWL
DISTANCE TO FACE

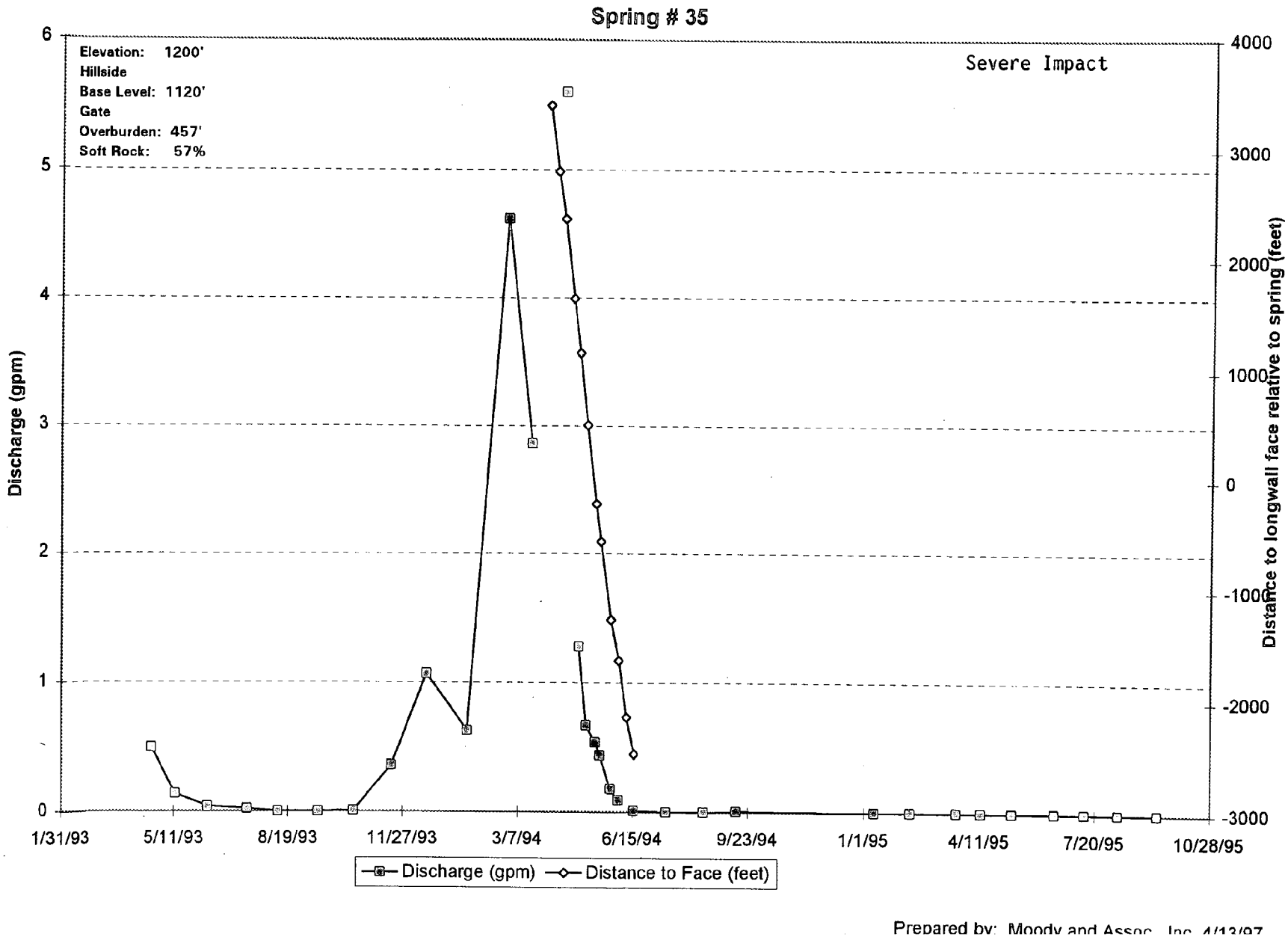

WELL #285 STATIC WATER LEVEL
AREA #2
Minimal Impact
Elevation: 1312'
Total Depth: 115'
Hilltop
Base Level: 1130'
Mid-panel
Overburden: 582'
Soft rock: 66%
Static water level (feet)
Distance to longwall face relative to well (feet)
SWL
DISTANCE TO FACE
18-Oct-93
07-Dec-93
26-Jan-94
17-Mar-94
06-May-94
25-Jun-94
14-Aug-94
03-Oct-94
22-Nov-94
11-Jan-95


Well # 288
Elevation: 1270'
Hillside
Base Level: 1060'
Adjacent
Overburden: 537'
Soft Rock: 72%
Total Depth: 21'
Minimal Impact
Static Water Level - (feet below surface)
Distance to longwall face relative to well (feet)
0
5
10
15
20
25
8000
6000
4000
2000
0
-2000
-4000
6/15/94
9/23/94
1/1/95
4/11/95
7/20/95
10/28/95
2/5/96
5/15/96
8/23/96
12/1/96
Static Water Level
Distance to Face (feet)
Prepared by: Moody and Assoc Inc 4/13/97

TOVCC 10556

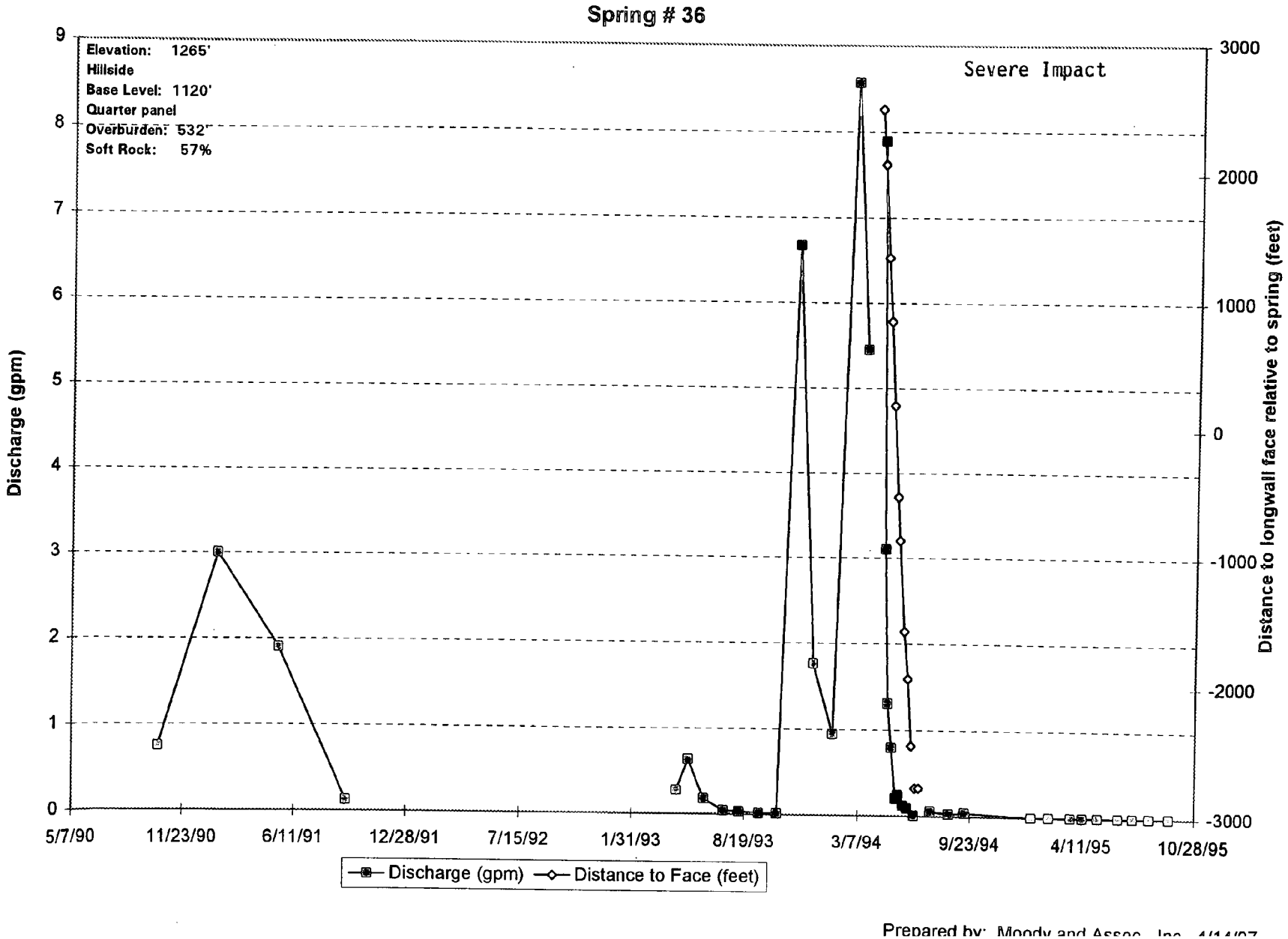
APPENDIX B

Spring Discharge Graphs - Application Areas D-0360-2 and D-0360-3



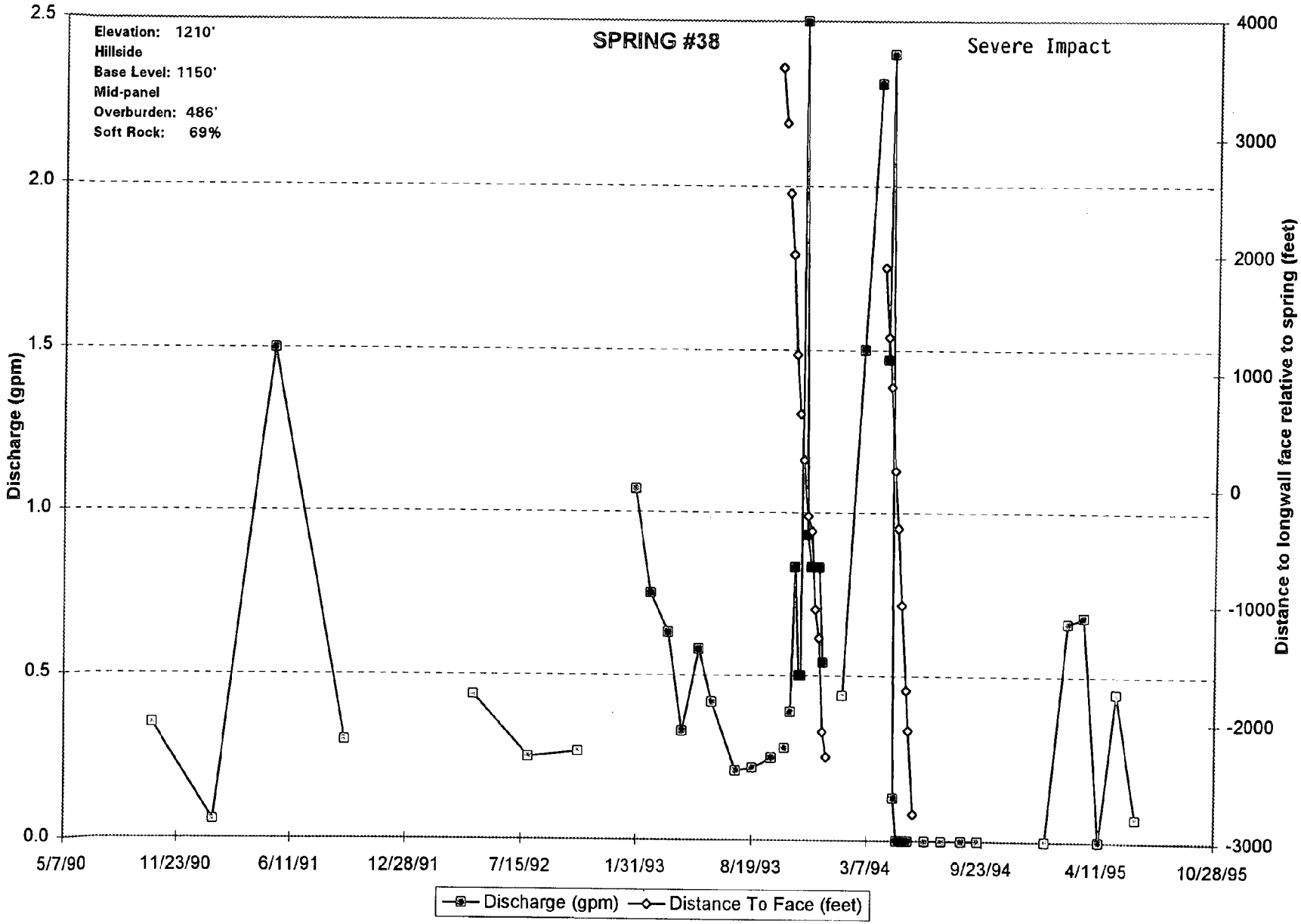
Prepared by: Moody and Assoc Inc 4/13/97

TOVCC 10558



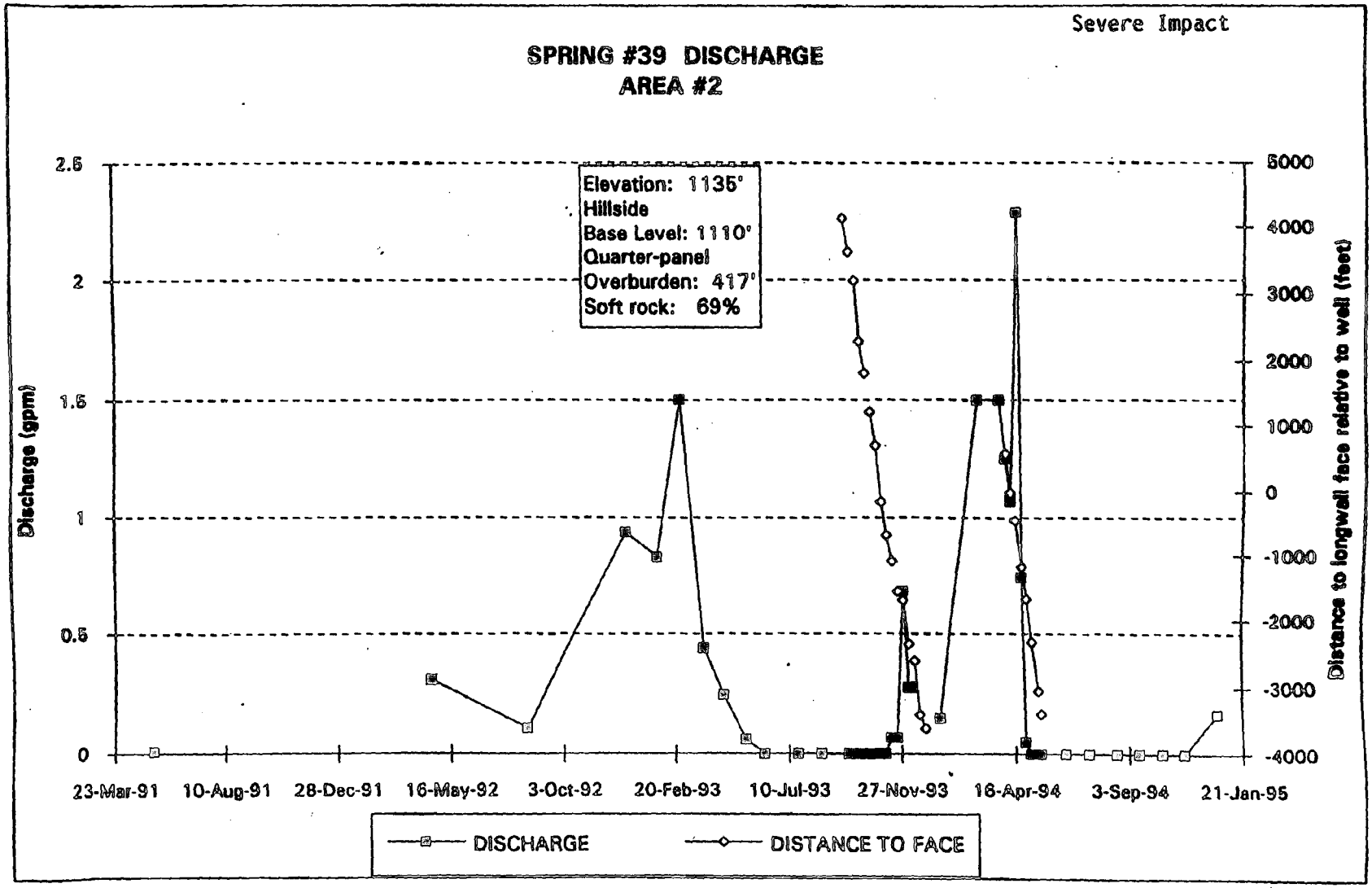
Prepared by: Moody and Assoc. Inc. 4/14/97

TOVCC 10559

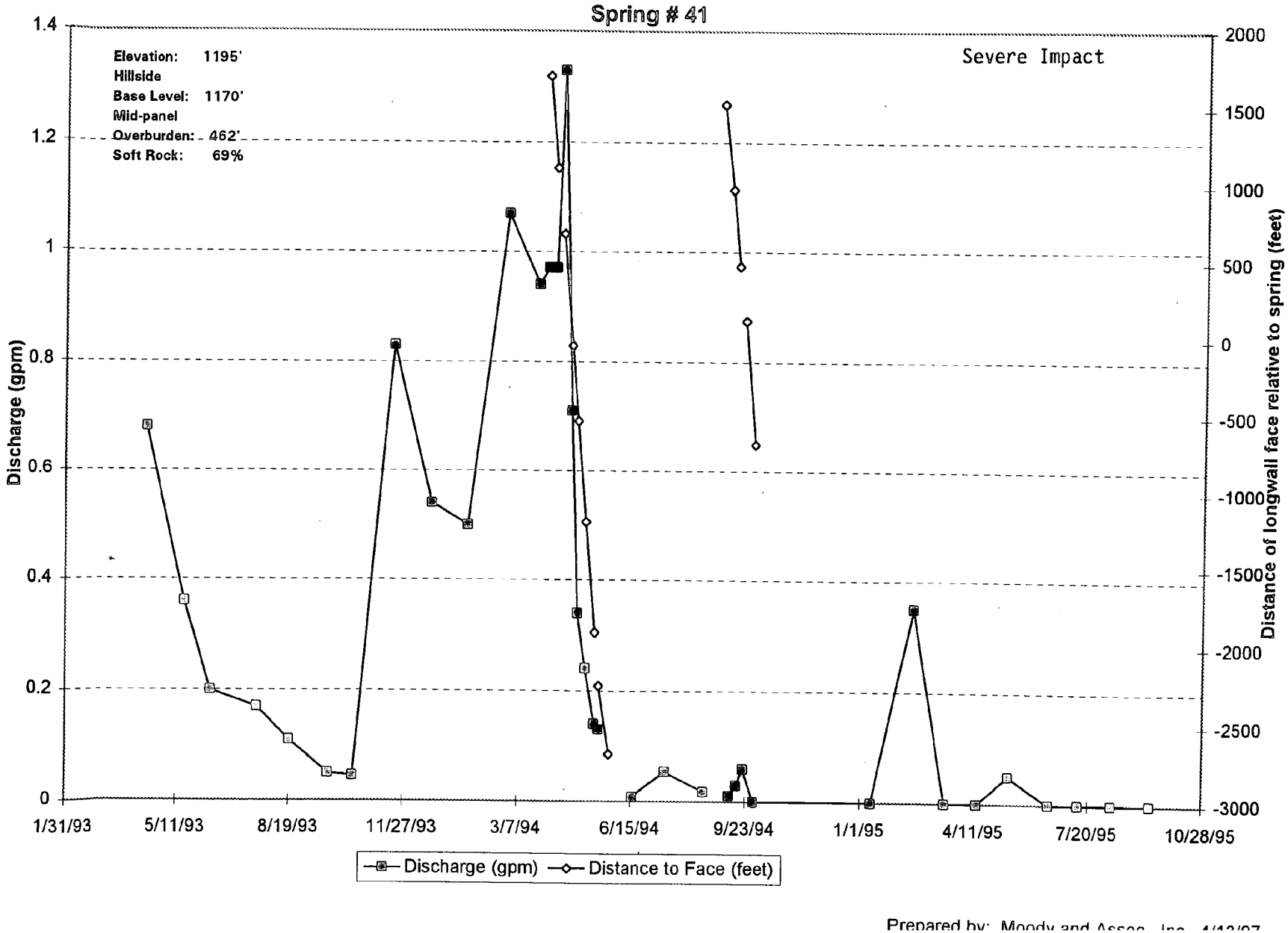


Prepared by: Moody and Assoc Inc 4/13/97

TOVCC 10560

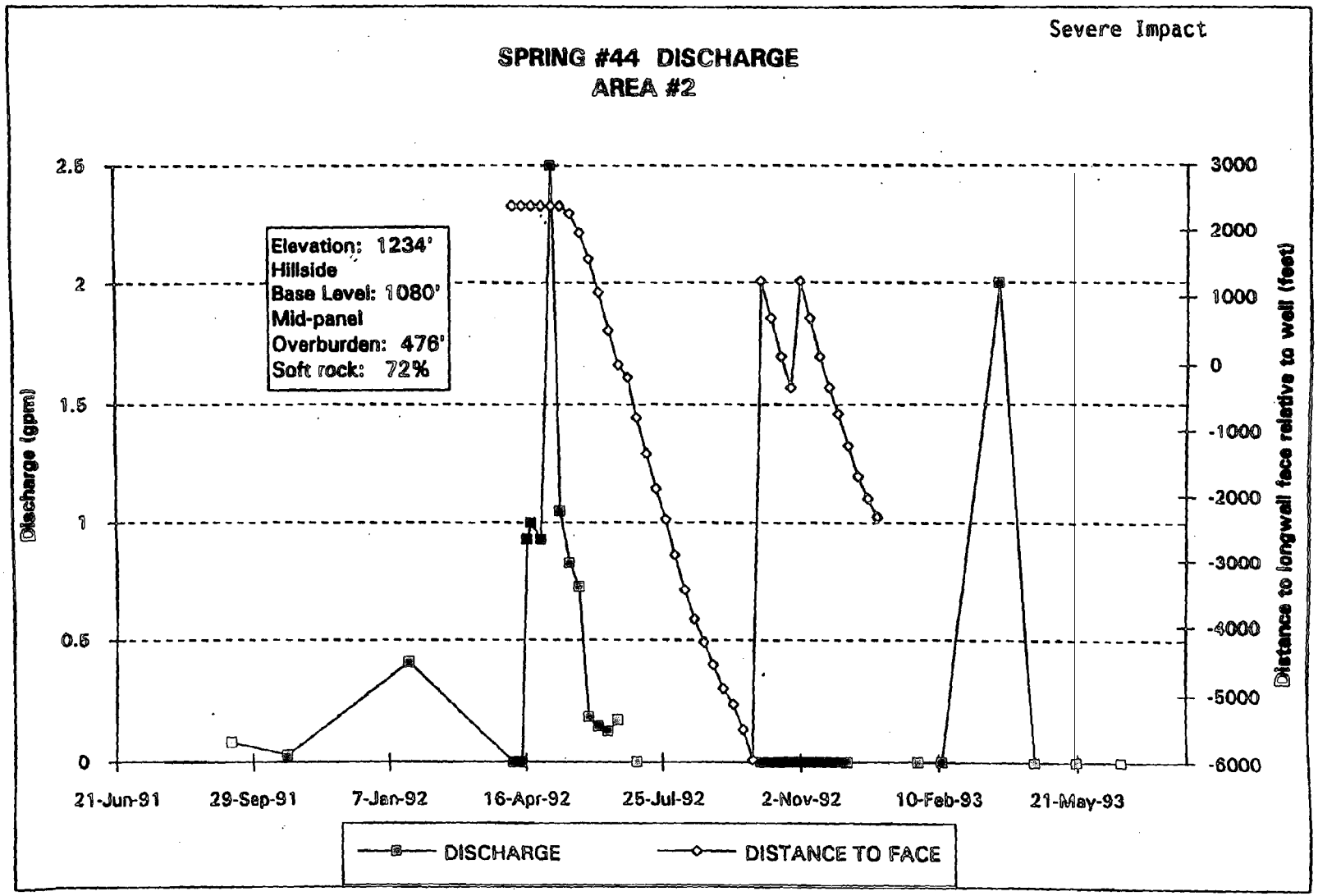

Severe Impact
SPRING #39 DISCHARGE
AREA #2
Elevation: 1135'
Hillside
Base Level: 1110'
Quarter-panel
Overburden: 417'
Soft rock: 69%
Discharge (gpm)
Distance to longwall face relative to well (feet)
2.5
2
1.5
1
0.5
0
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
23-Mar-91
10-Aug-91
28-Dec-91
16-May-92
3-Oct-92
20-Feb-93
10-Jul-93
27-Nov-93
16-Apr-94
3-Sep-94
21-Jan-95
DISCHARGE
DISTANCE TO FACE

TOVCC 10561

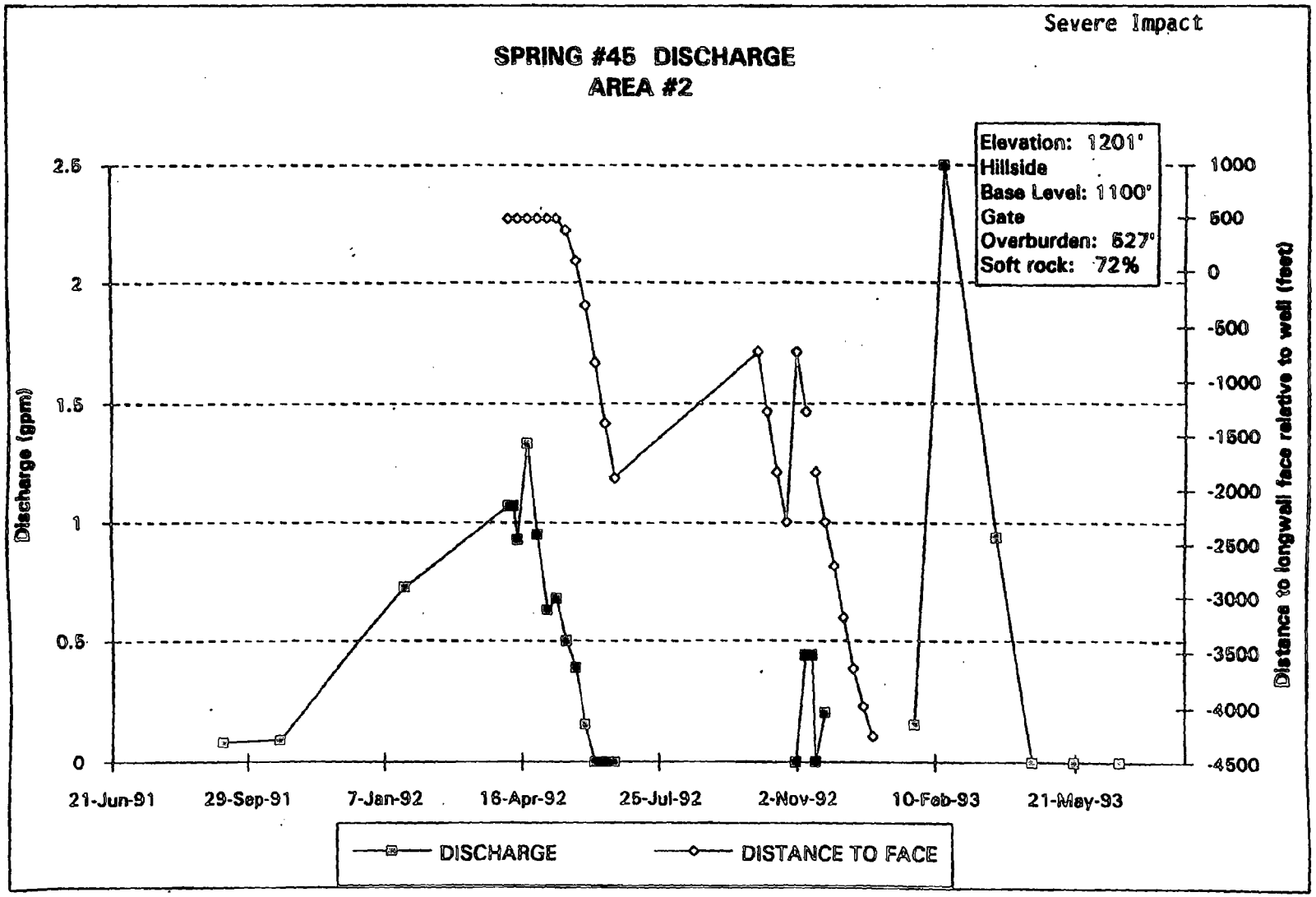


Prepared by: Moody and Assoc. Inc. 4/13/07

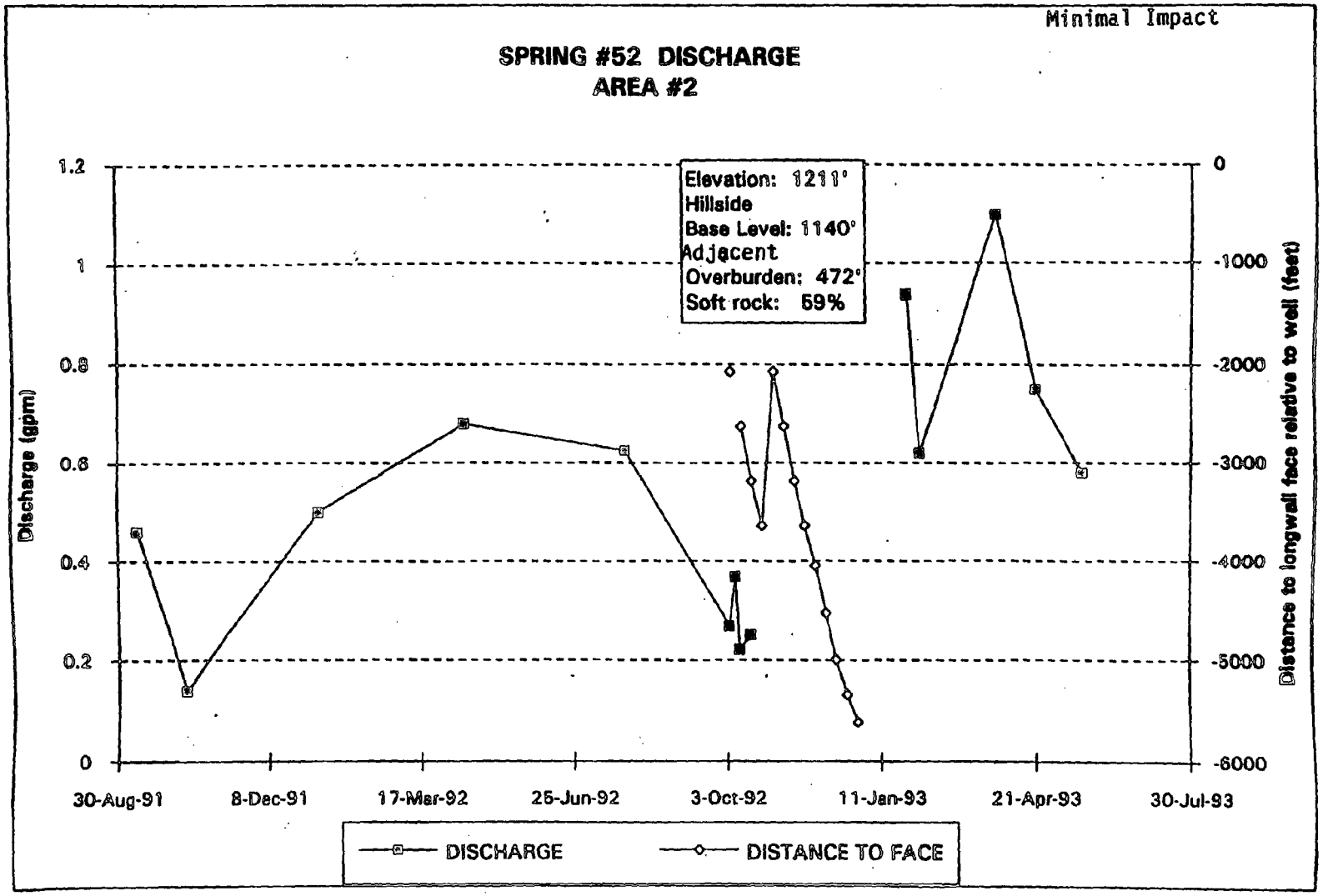
TOVCC 10562


Severe Impact
SPRING #44 DISCHARGE
AREA #2
Elevation: 1234'
Hillside
Base Level: 1080'
Mid-panel
Overburden: 476'
Soft rock: 72%
Discharge (gpm)
Distance to longwall face relative to well (feet)
2.5
2
1.5
1
0.5
0
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
21-Jun-91
29-Sep-91
7-Jan-92
16-Apr-92
25-Jul-92
2-Nov-92
10-Feb-93
21-May-93
DISCHARGE
DISTANCE TO FACE

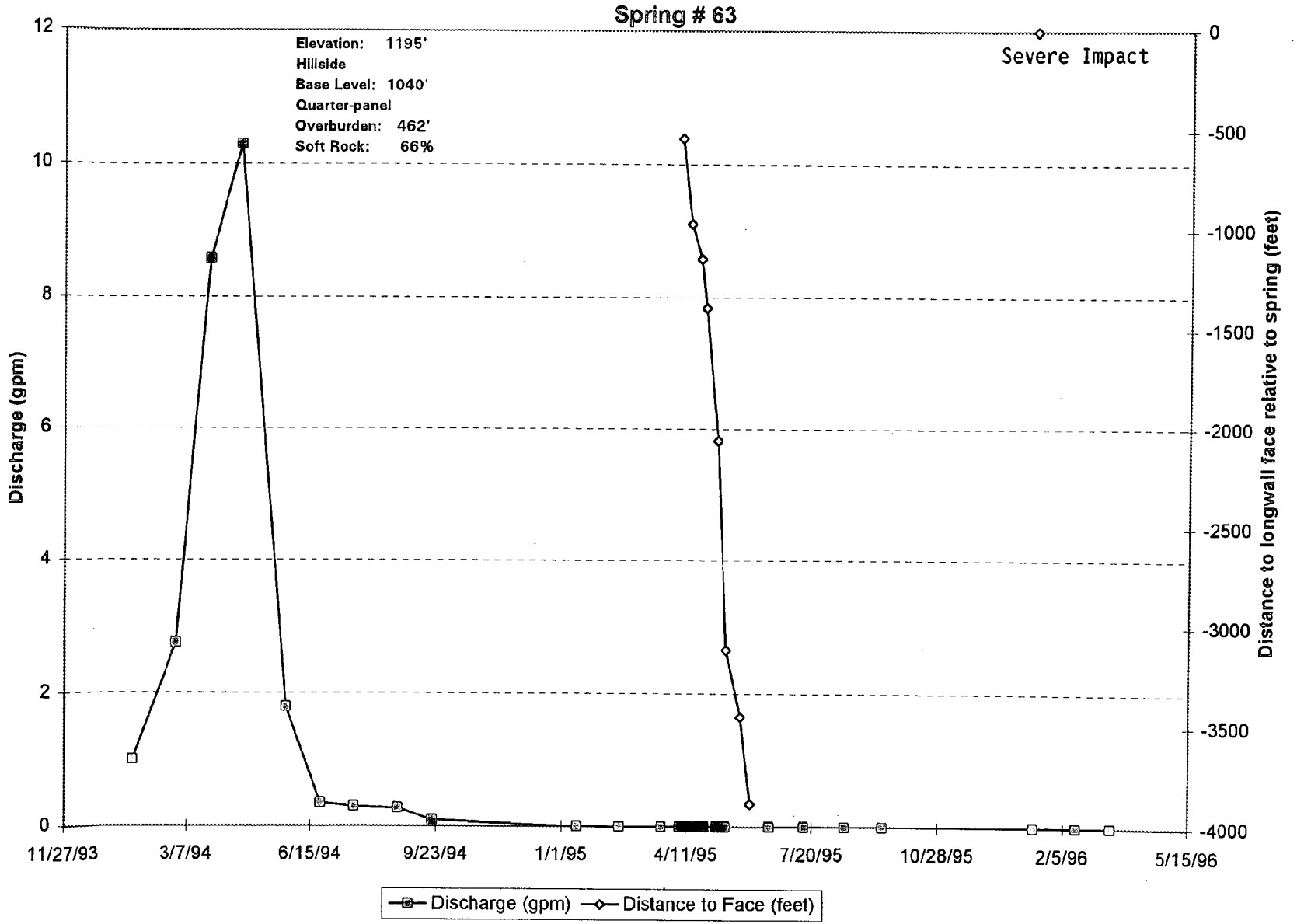
TOVCC 10563


Severe Impact
SPRING #45 DISCHARGE
AREA #2
Elevation: 1201'
Hillside
Base Level: 1100'
Gate
Overburden: 527'
Soft rock: 72%
Discharge (gpm)
2.5
2
1.5
1
0.5
0
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
-4500
Distance to longwall face relative to well (feet)
21-Jun-91
29-Sep-91
7-Jan-92
16-Apr-92
25-Jul-92
2-Nov-92
10-Feb-93
21-May-93
DISCHARGE
DISTANCE TO FACE

TOVCC 10564

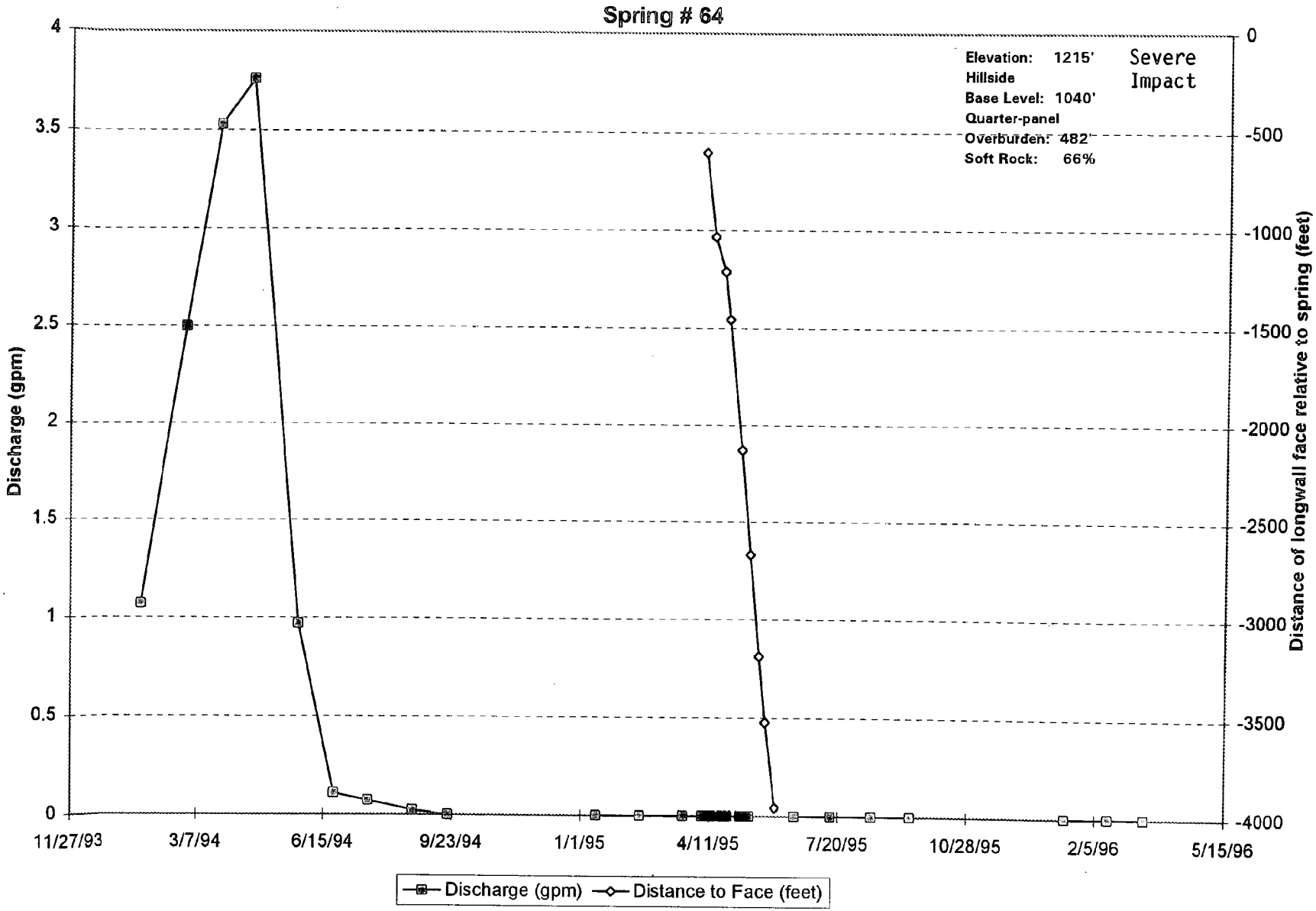

Minimal Impact
SPRING #52 DISCHARGE
AREA #2
Elevation: 1211'
Hillside
Base Level: 1140'
Adjacent
Overburden: 472'
Soft rock: 59%
Discharge (gpm)
Distance to longwall face relative to well (feet)
1.2
1
0.8
0.6
0.4
0.2
0
0
-1000
-2000
-3000
-4000
-5000
-6000
30-Aug-91
8-Dec-91
17-Mar-92
25-Jun-92
3-Oct-92
11-Jan-93
21-Apr-93
30-Jul-93
DISCHARGE
DISTANCE TO FACE

TOAC 10565



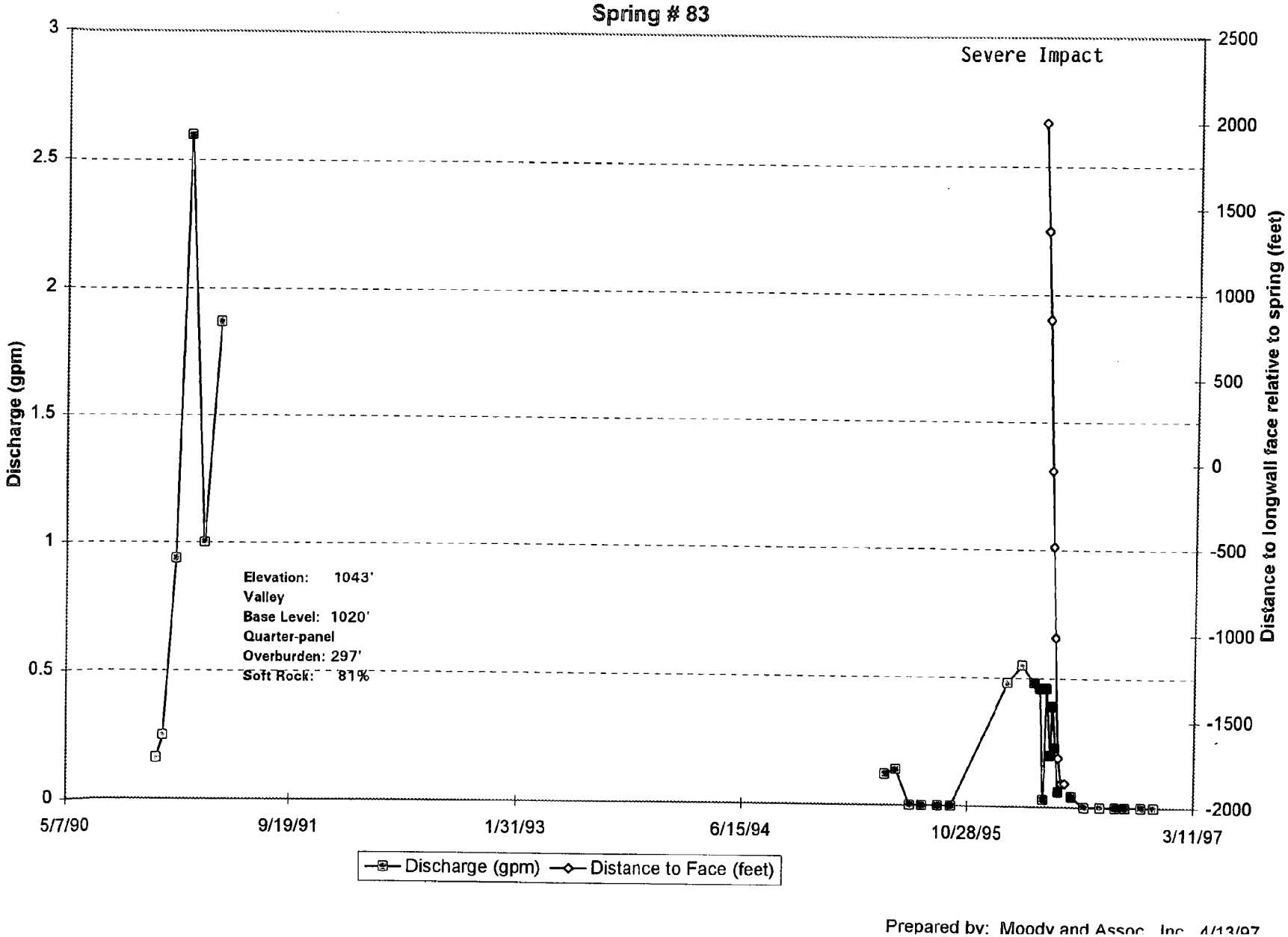
Prepared by: Moody and Assoc. Inc. 4/12/97

TOVCC 10566

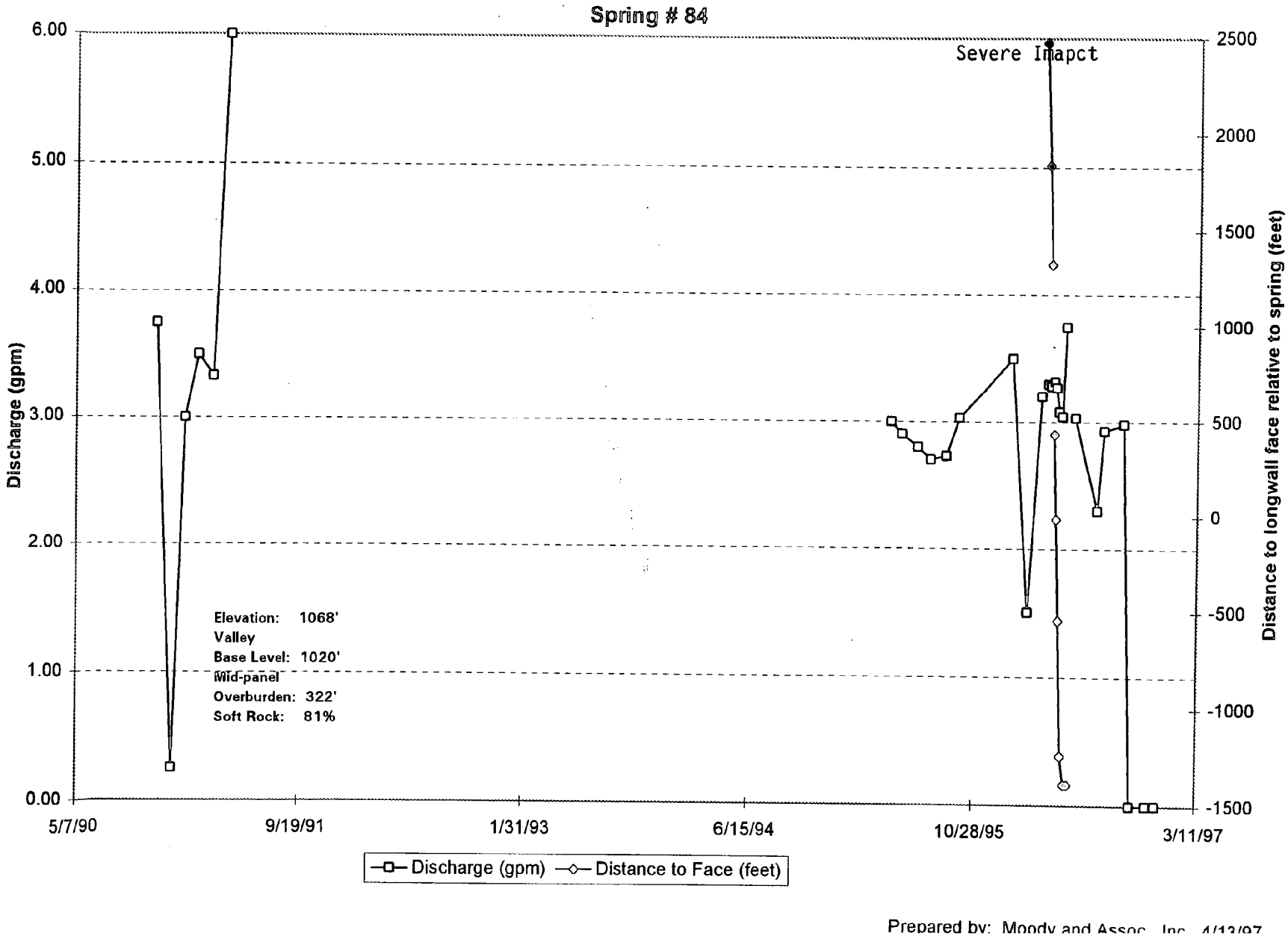


Prepared by : Moody and Assoc Inc 4/13/97

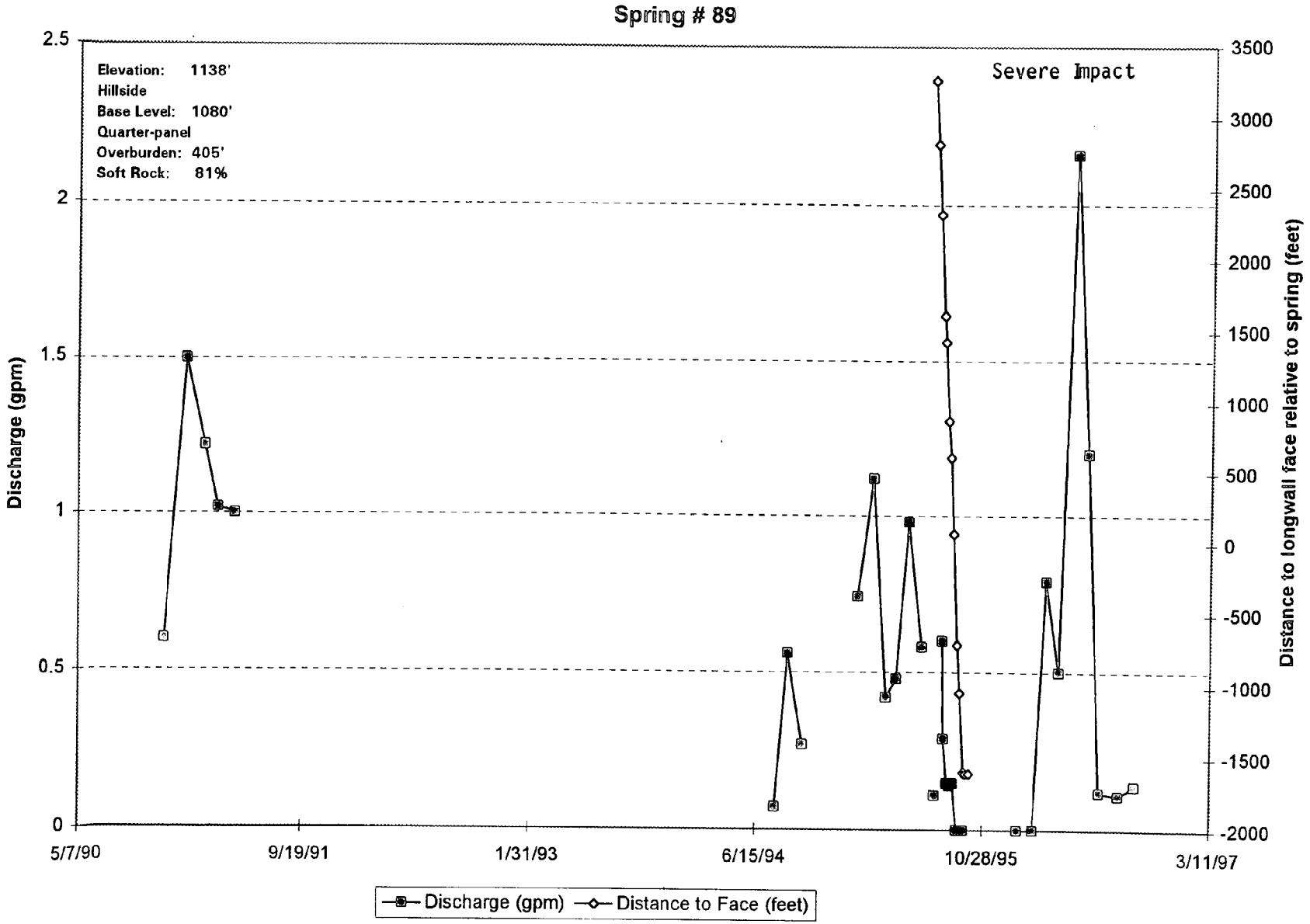
TOVCC 10567


Spring # 83
Severe Impact
Discharge (gpm)
Distance to longwall face relative to spring (feet)
3
2.5
2
1.5
1
0.5
0
2500
2000
1500
1000
500
0
-500
-1000
-1500
-2000
5/7/90
9/19/91
1/31/93
6/15/94
10/28/95
3/11/97
Elevation: 1043'
Valley
Base Level: 1020'
Quarter-panel
Overburden: 297'
Soft Rock: 81%
Discharge (gpm)
Distance to Face (feet)
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10568

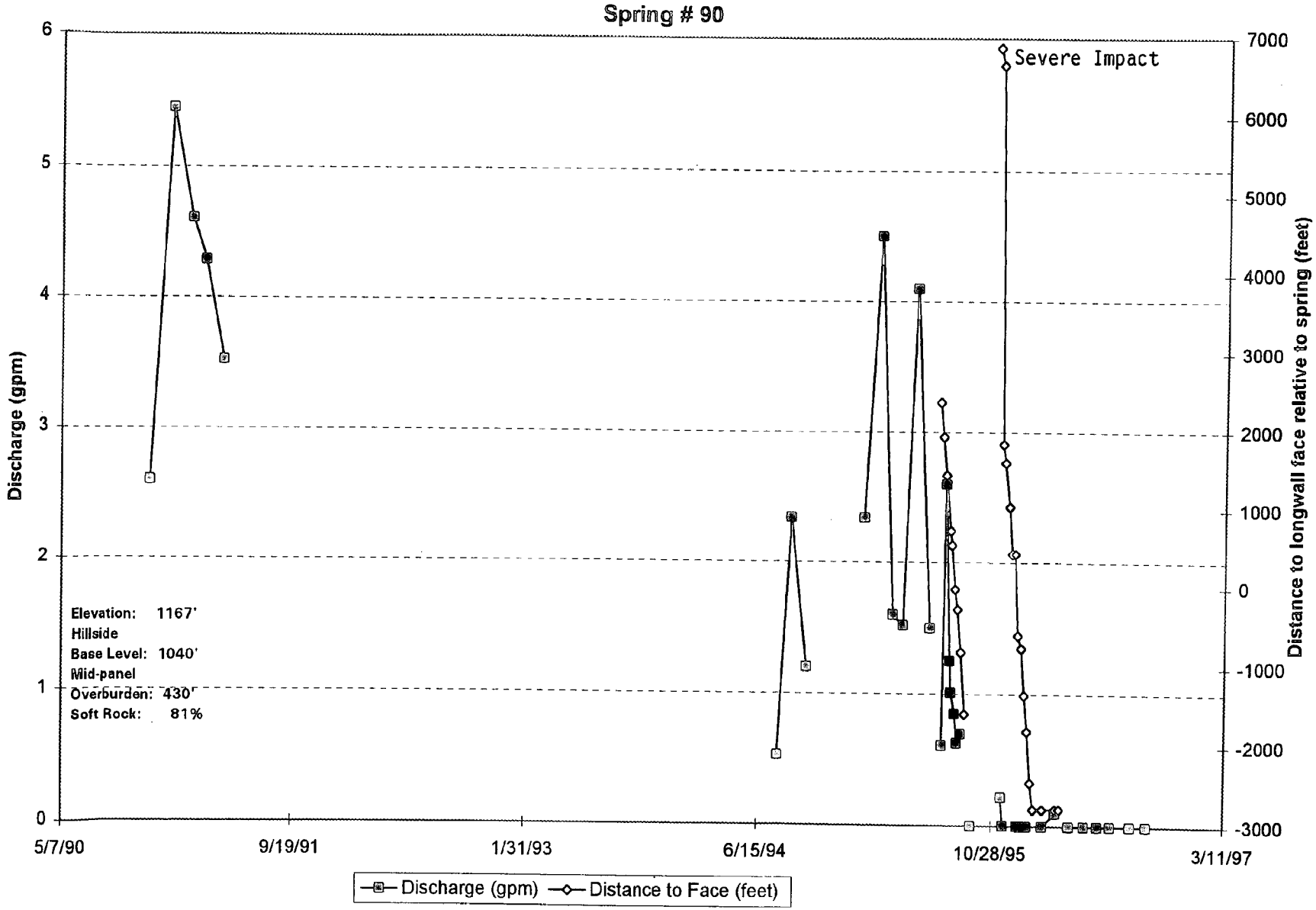

Spring # 84
Severe Impact
Discharge (gpm)
Distance to longwall face relative to spring (feet)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
2500
2000
1500
1000
500
0
-500
-1000
-1500
5/7/90
9/19/91
1/31/93
6/15/94
10/28/95
3/11/97
Elevation: 1068'
Valley
Base Level: 1020'
Mid-panel
Overburden: 322'
Soft Rock: 81%
Discharge (gpm)
Distance to Face (feet)
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10569



Prepared by: Moody and Assoc Inc 4/13/97

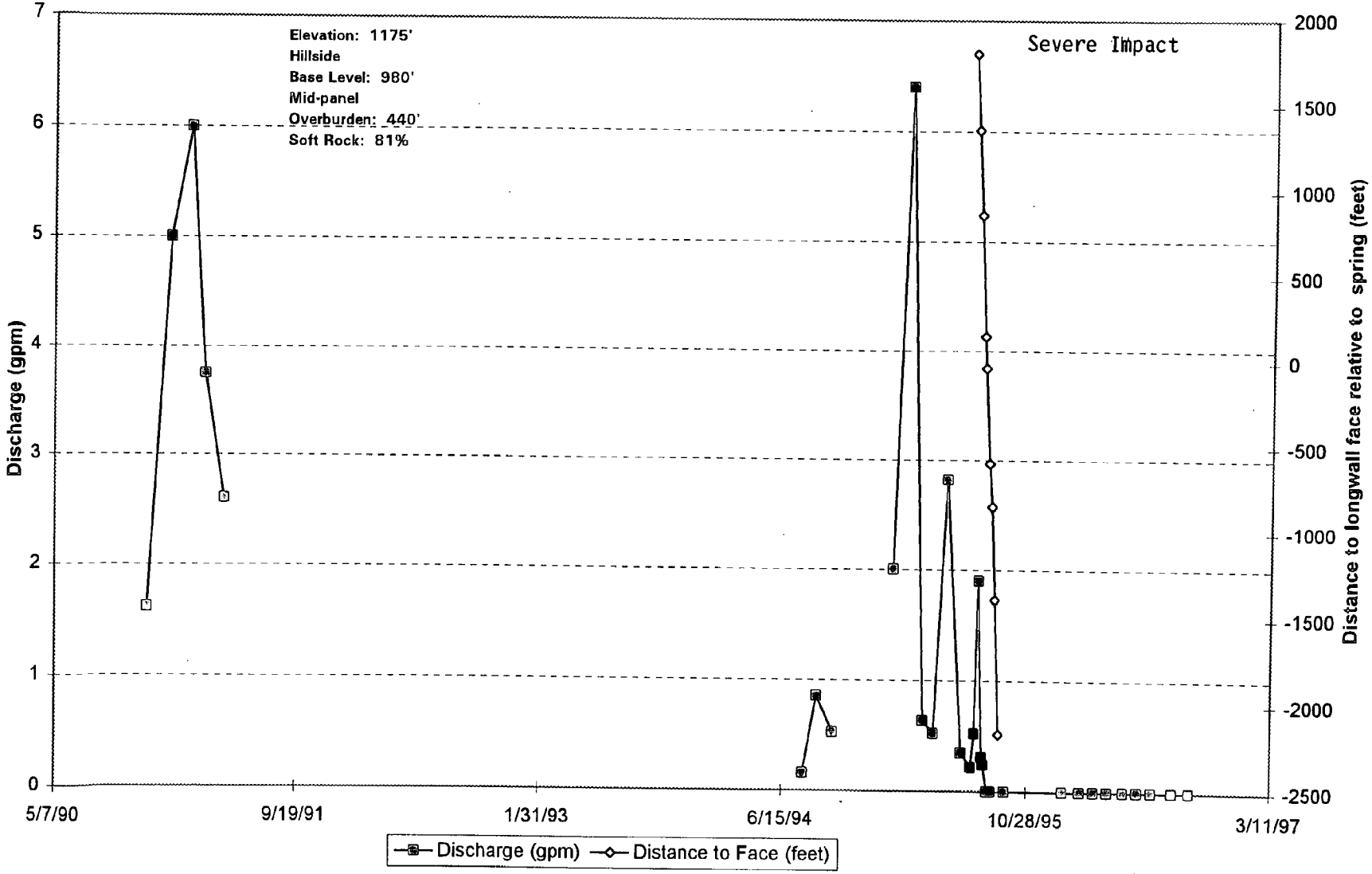
TOVCC 10570



Prepared by: Moody and Assoc., Inc. 4/13/97

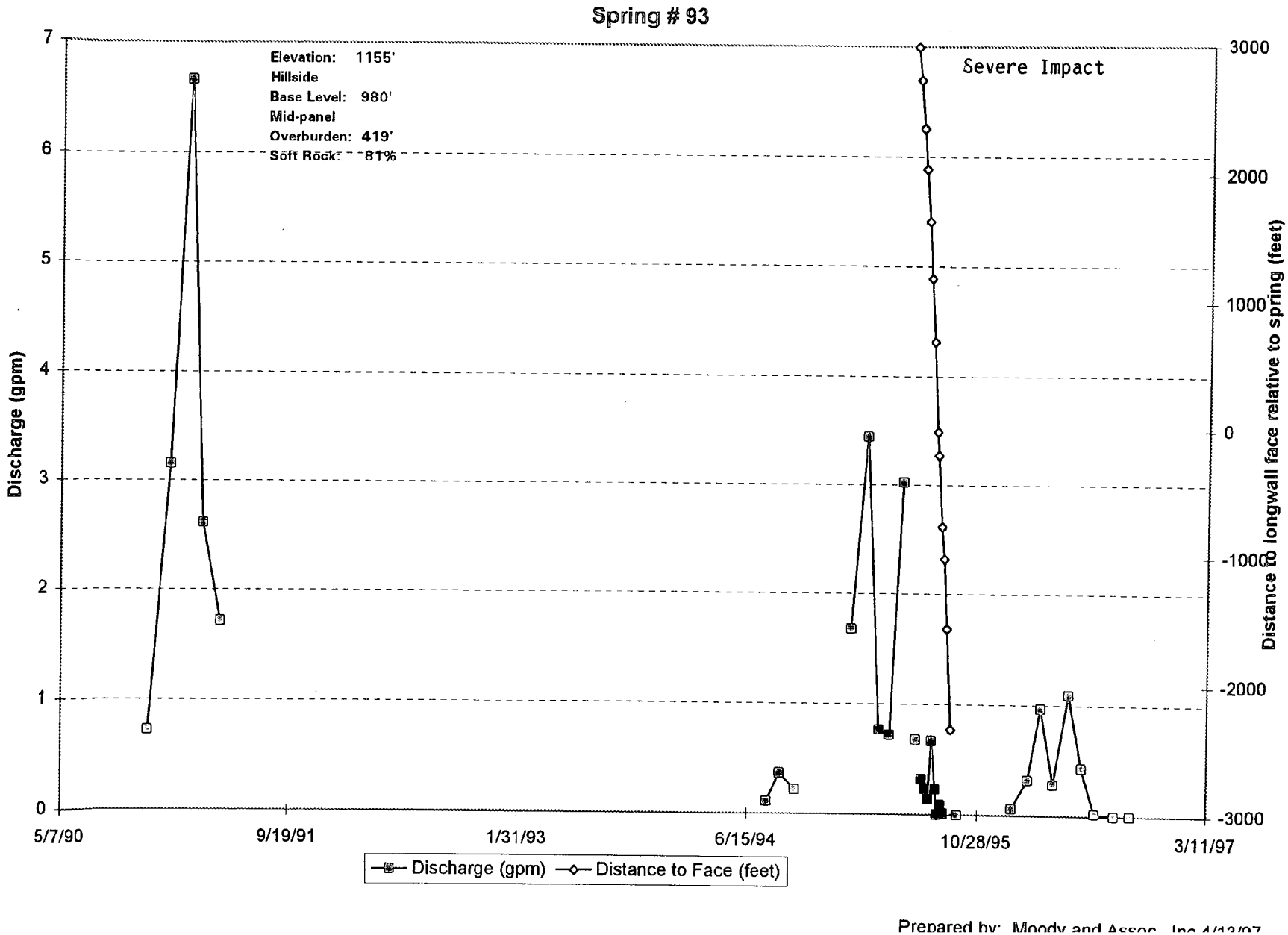
TOVCC 10571

Spring # 92

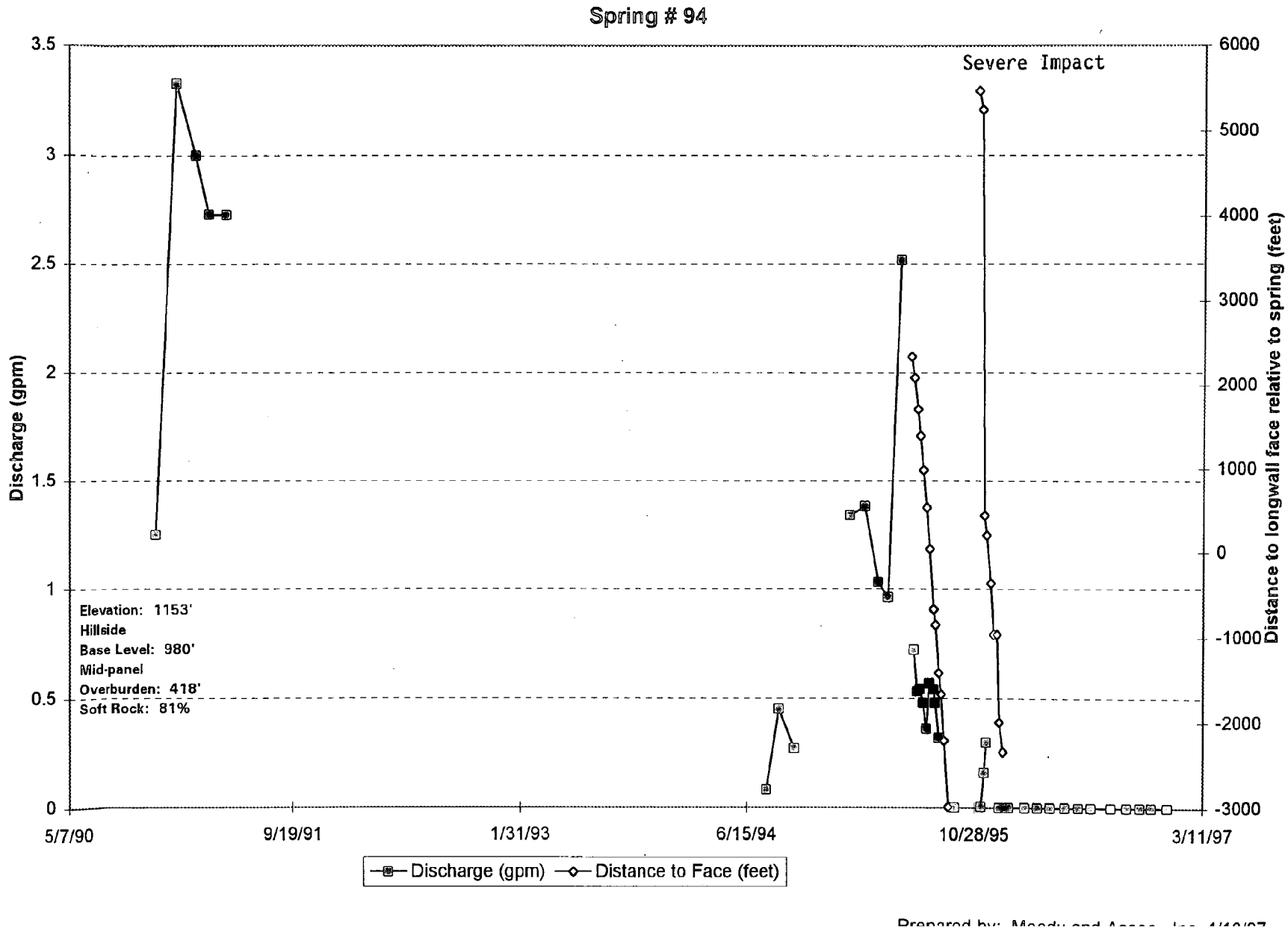


Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10572

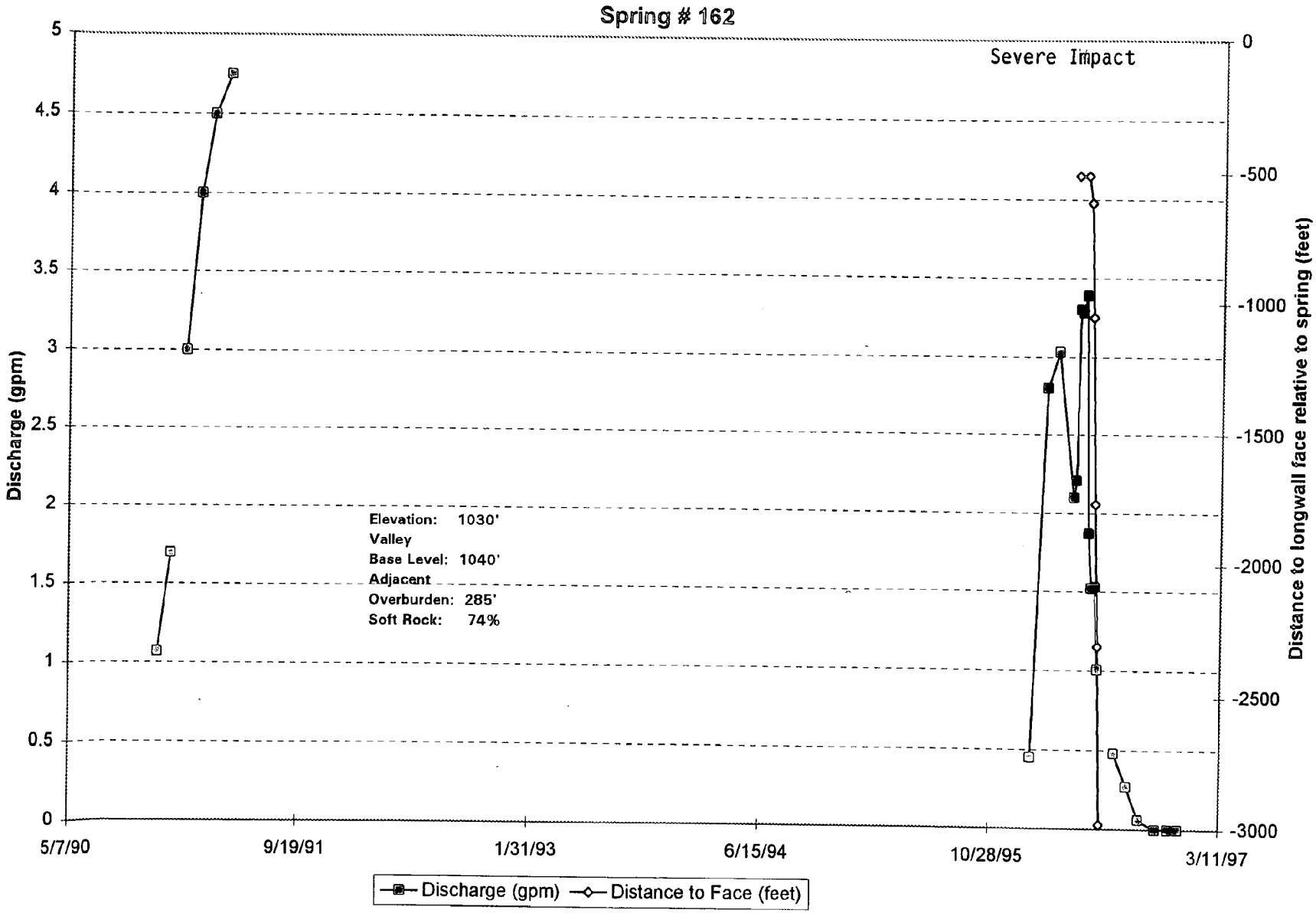

Spring # 93
Elevation: 1155'
Hillside
Base Level: 980'
Mid-panel
Overburden: 419'
Soft Rock: 81%
Severe Impact
Discharge (gpm)
Distance to longwall face relative to spring (feet)
7
6
5
4
3
2
1
0
3000
2000
1000
0
-1000
-2000
-3000
5/7/90
9/19/91
1/31/93
6/15/94
10/28/95
3/11/97
Discharge (gpm)
Distance to Face (feet)
Prepared by: Moody and Assoc. Inc 4/12/97

TOVCC 10573



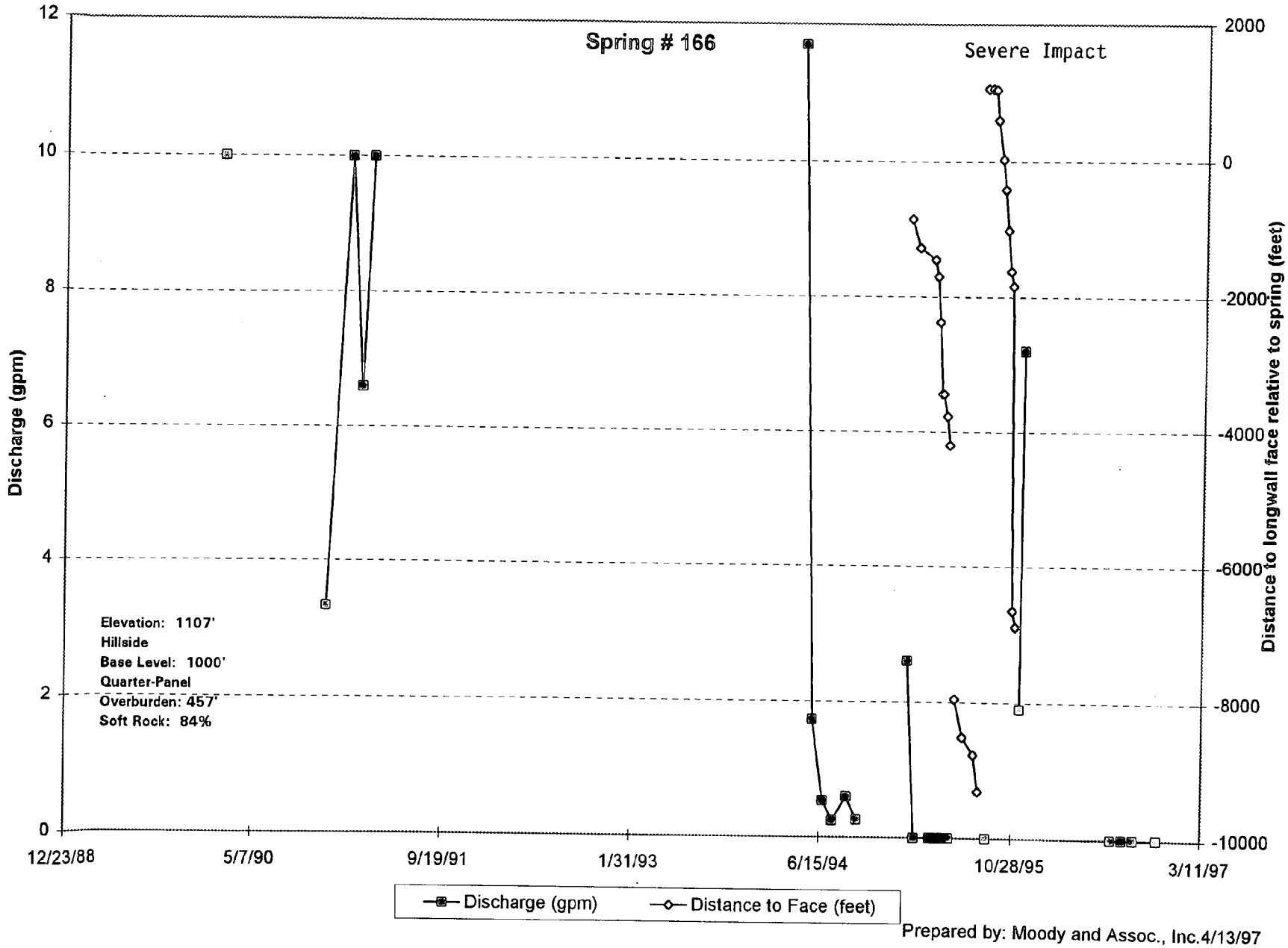
Prepared by: Moody and Assoc., Inc. 4/10/97

TOVCC 10574

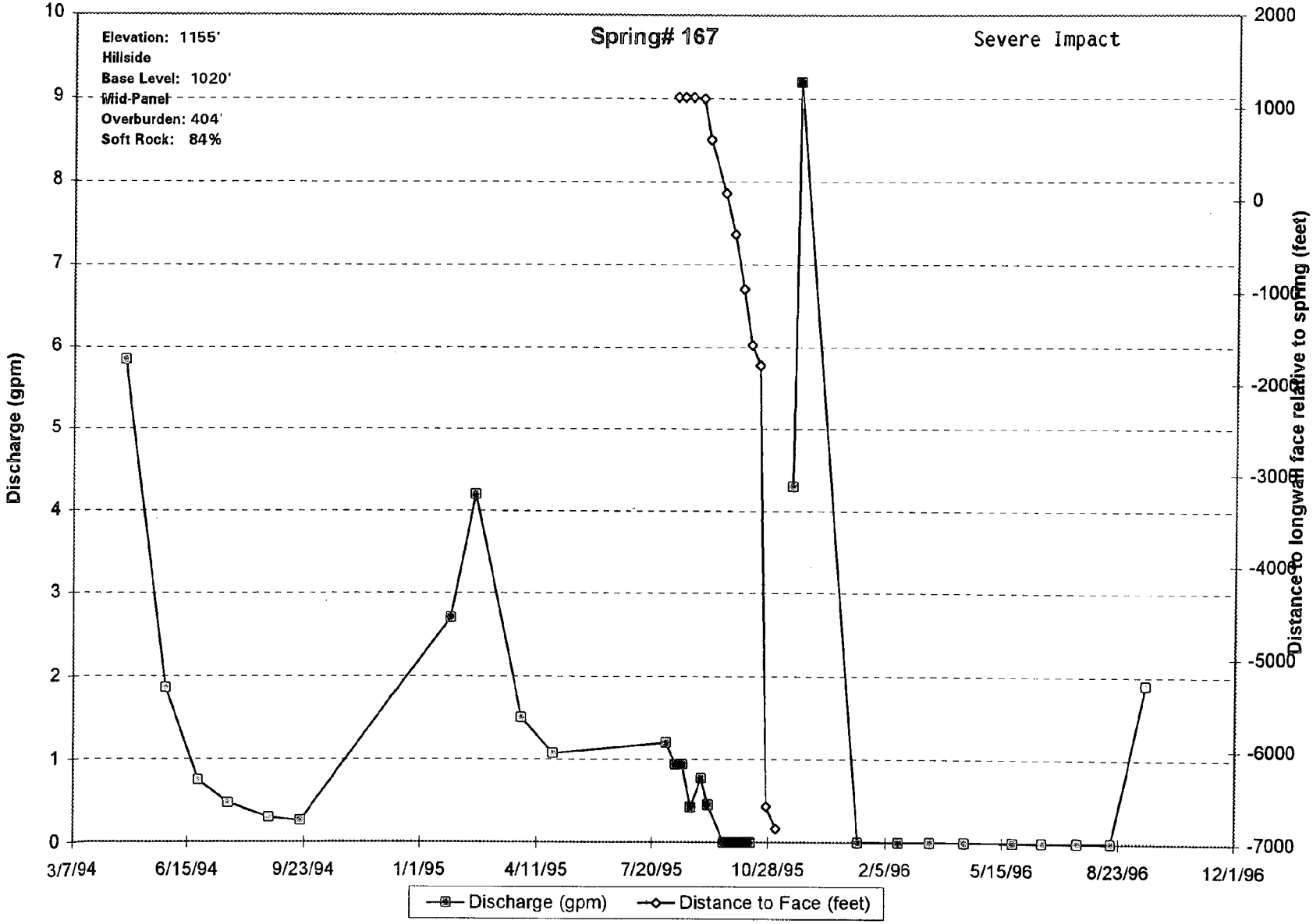


Prepared by: Moody and Assoc Inc 4/13/97

TOVCC 10575

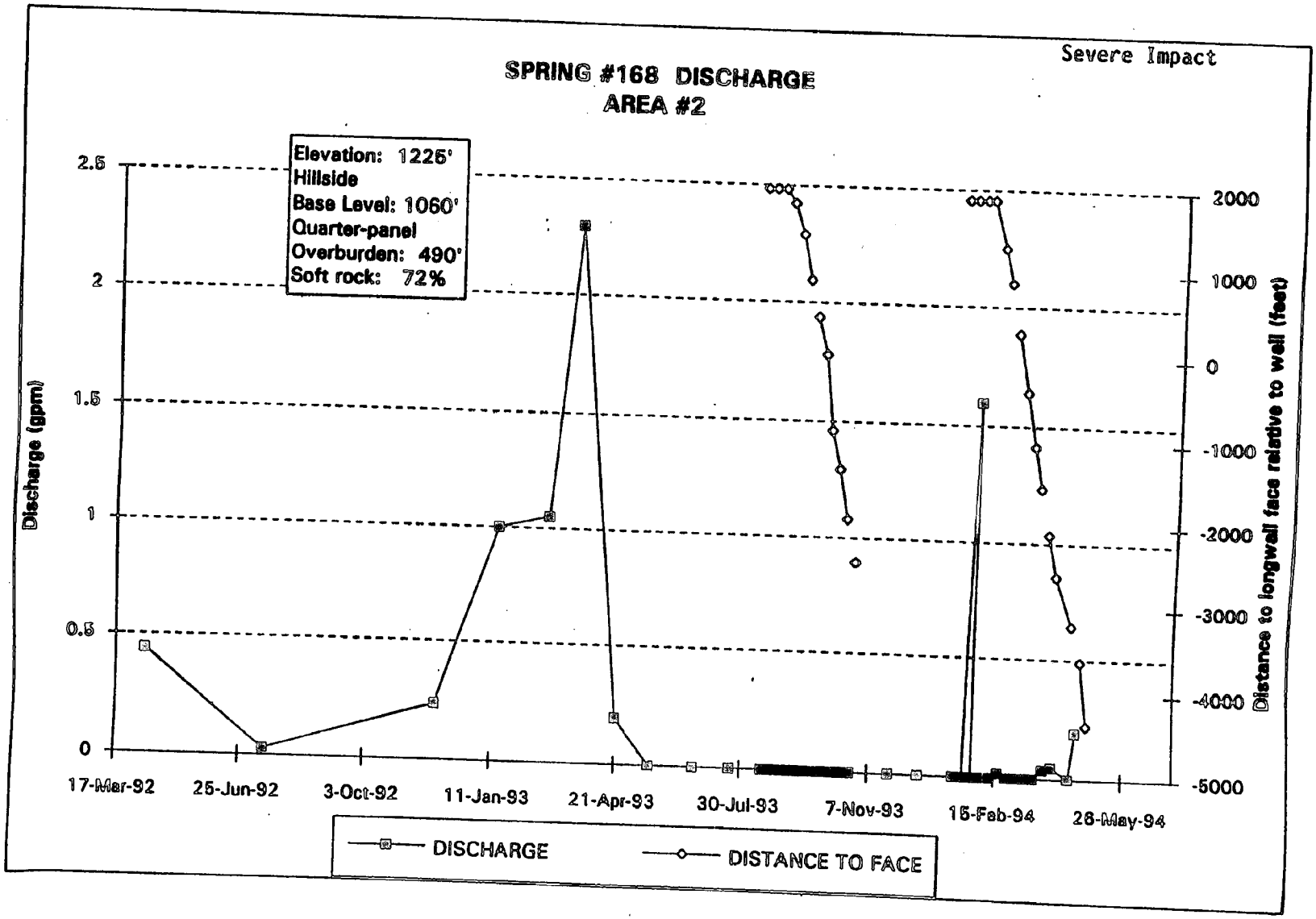

Spring # 166
Severe Impact
Discharge (gpm)
Distance to longwall face relative to spring (feet)
12
10
8
6
4
2
0
2000
0
-2000
-4000
-6000
-8000
-10000
12/23/88
5/7/90
9/19/91
1/31/93
6/15/94
10/28/95
3/11/97
Elevation: 1107'
Hillside
Base Level: 1000'
Quarter-Panel
Overburden: 457'
Soft Rock: 84%
Discharge (gpm)
Distance to Face (feet)
Prepared by: Moody and Assoc., Inc.4/13/97

TOVCC 10576

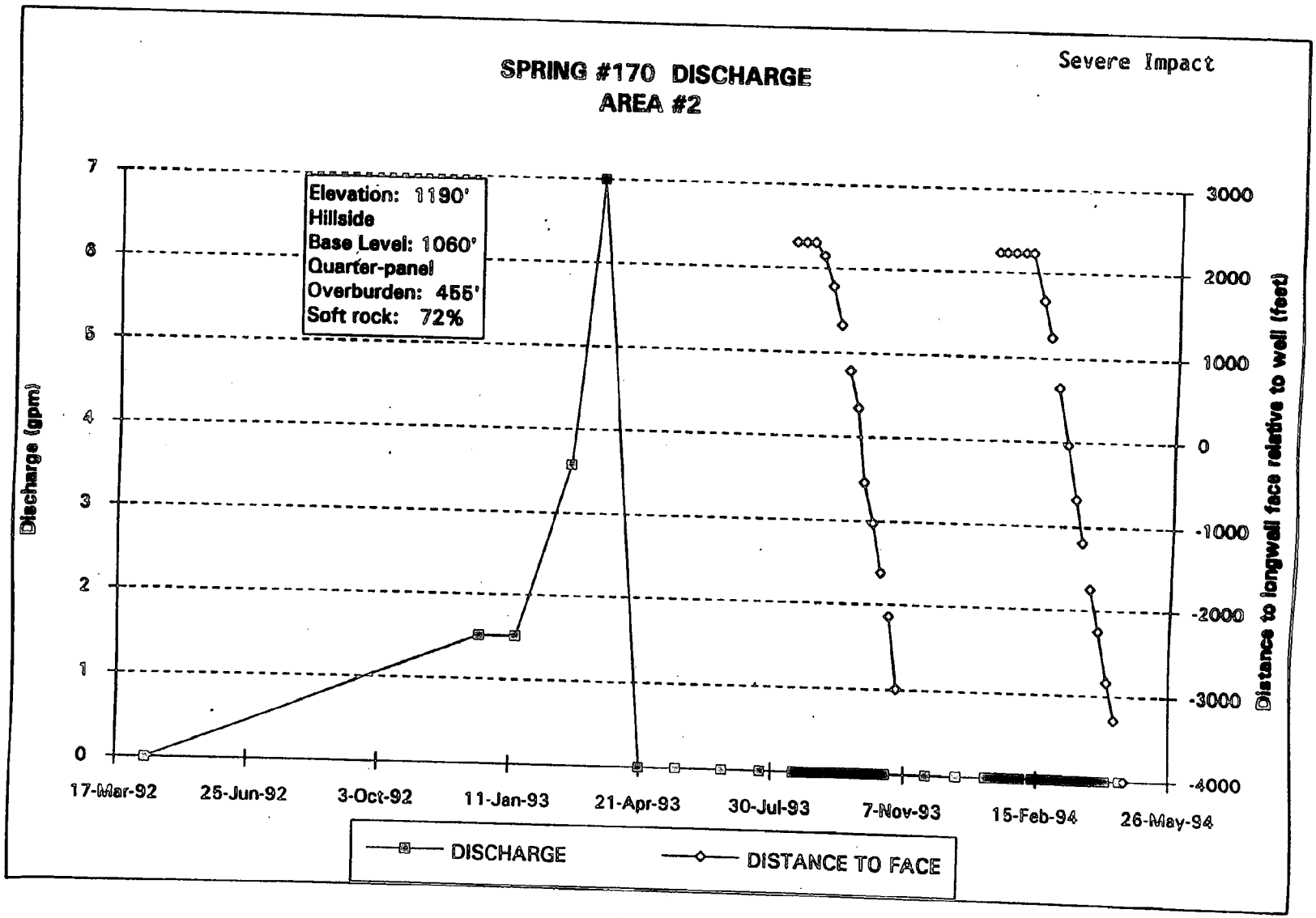


Prepared by: Moody and Assoc., Inc4/13/97

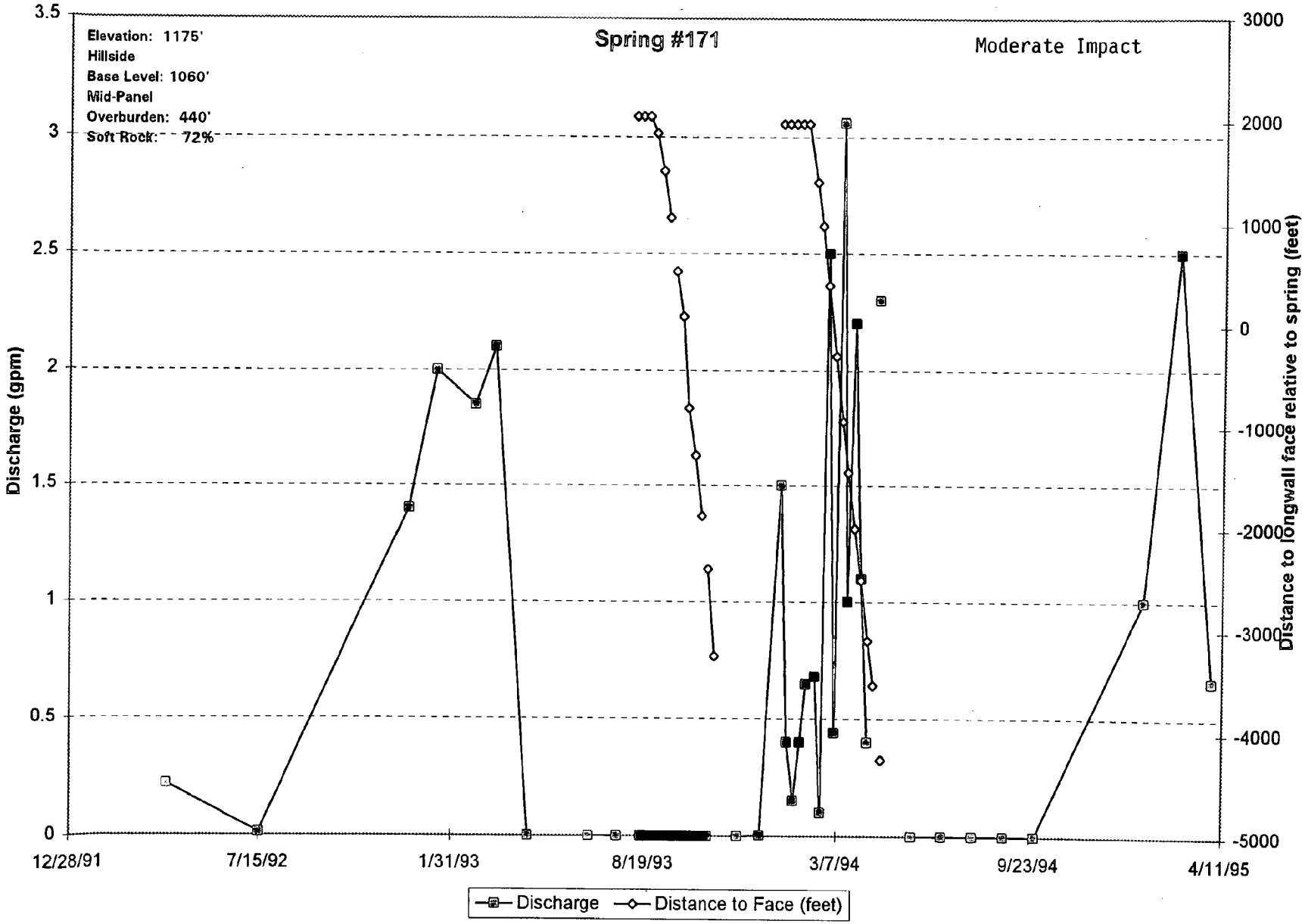
TOVCC 10577


SPRING #168 DISCHARGE
AREA #2
Severe Impact
Elevation: 1225'
Hillside
Base Level: 1060'
Quarter-panel
Overburden: 490'
Soft rock: 72%
Discharge (gpm)
2.5
2
1.5
1
0.5
0
2000
1000
0
-1000
-2000
-3000
-4000
-5000
Distance to longwall face relative to well (feet)
17-Mar-92
25-Jun-92
3-Oct-92
11-Jan-93
21-Apr-93
30-Jul-93
7-Nov-93
15-Feb-94
26-May-94
DISCHARGE
DISTANCE TO FACE

TOVCC 10578

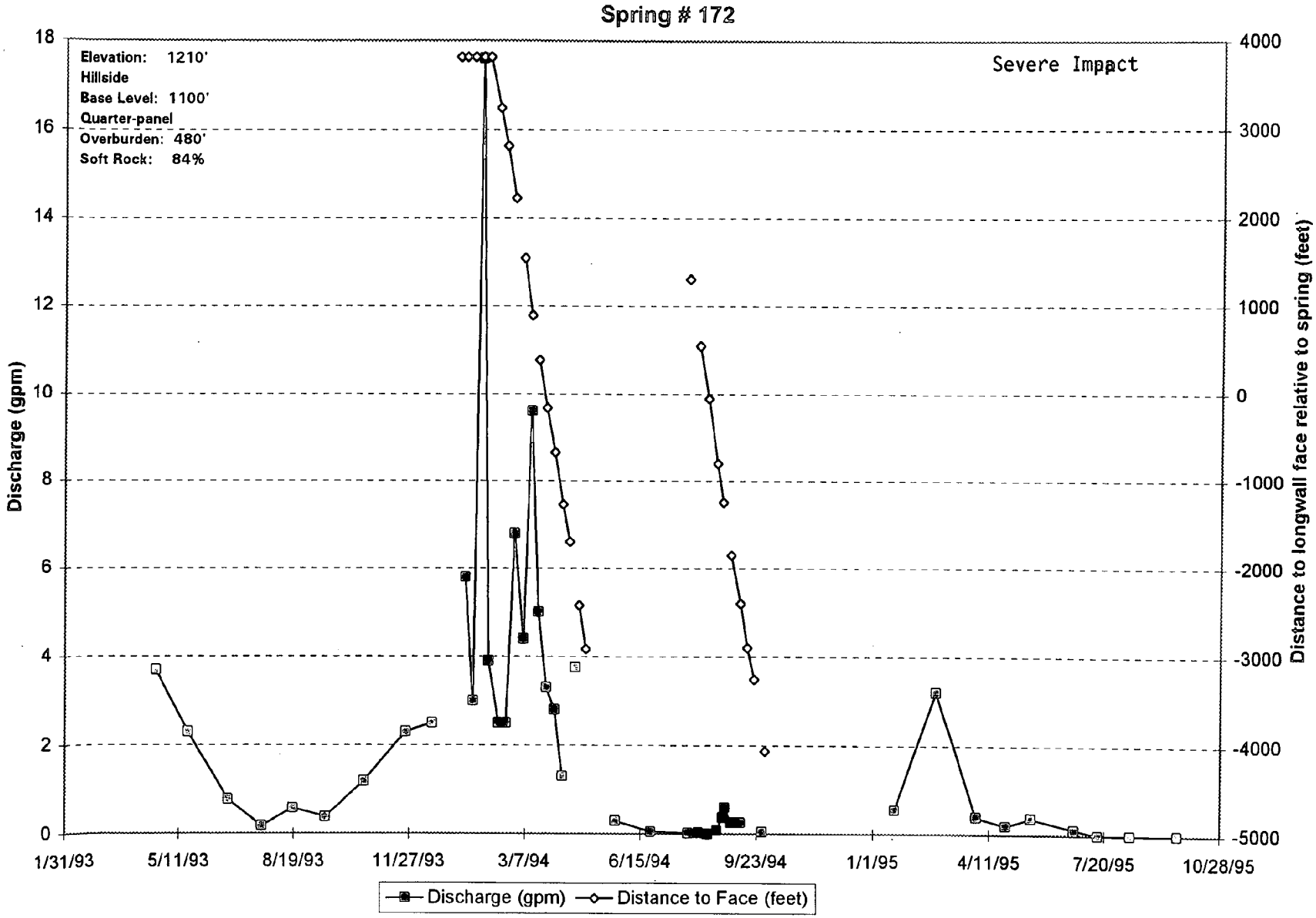

SPRING #170 DISCHARGE
AREA #2
Severe Impact
Elevation: 1190'
Hillside
Base Level: 1060'
Quarter-panel
Overburden: 455'
Soft rock: 72%
Discharge (gpm)
Distance to longwall face relative to well (feet)
0
1
2
3
4
5
6
7
3000
2000
1000
0
-1000
-2000
-3000
-4000
17-Mar-92
25-Jun-92
3-Oct-92
11-Jan-93
21-Apr-93
30-Jul-93
7-Nov-93
15-Feb-94
26-May-94
DISCHARGE
DISTANCE TO FACE

TOVCC 10579



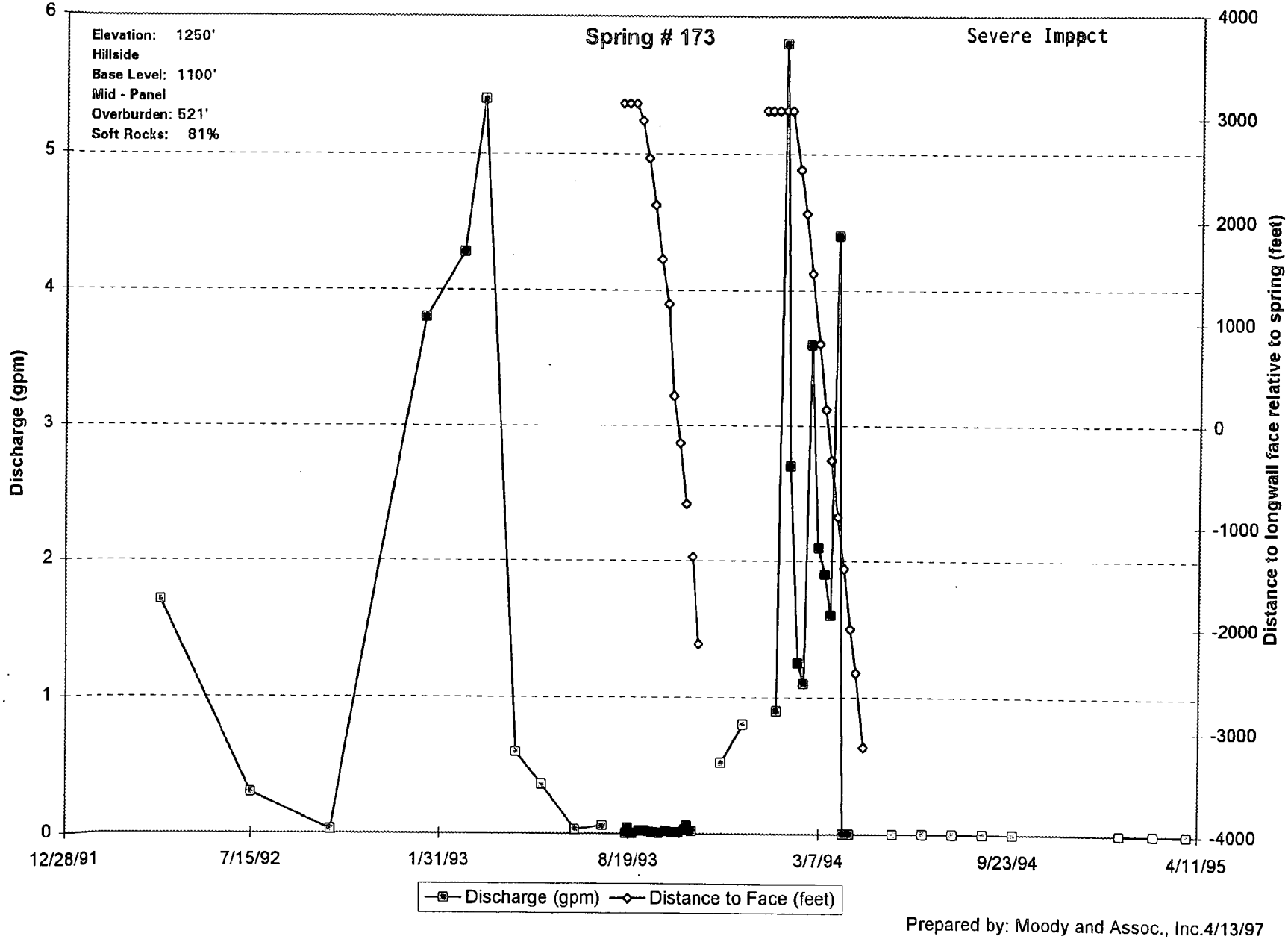
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10580



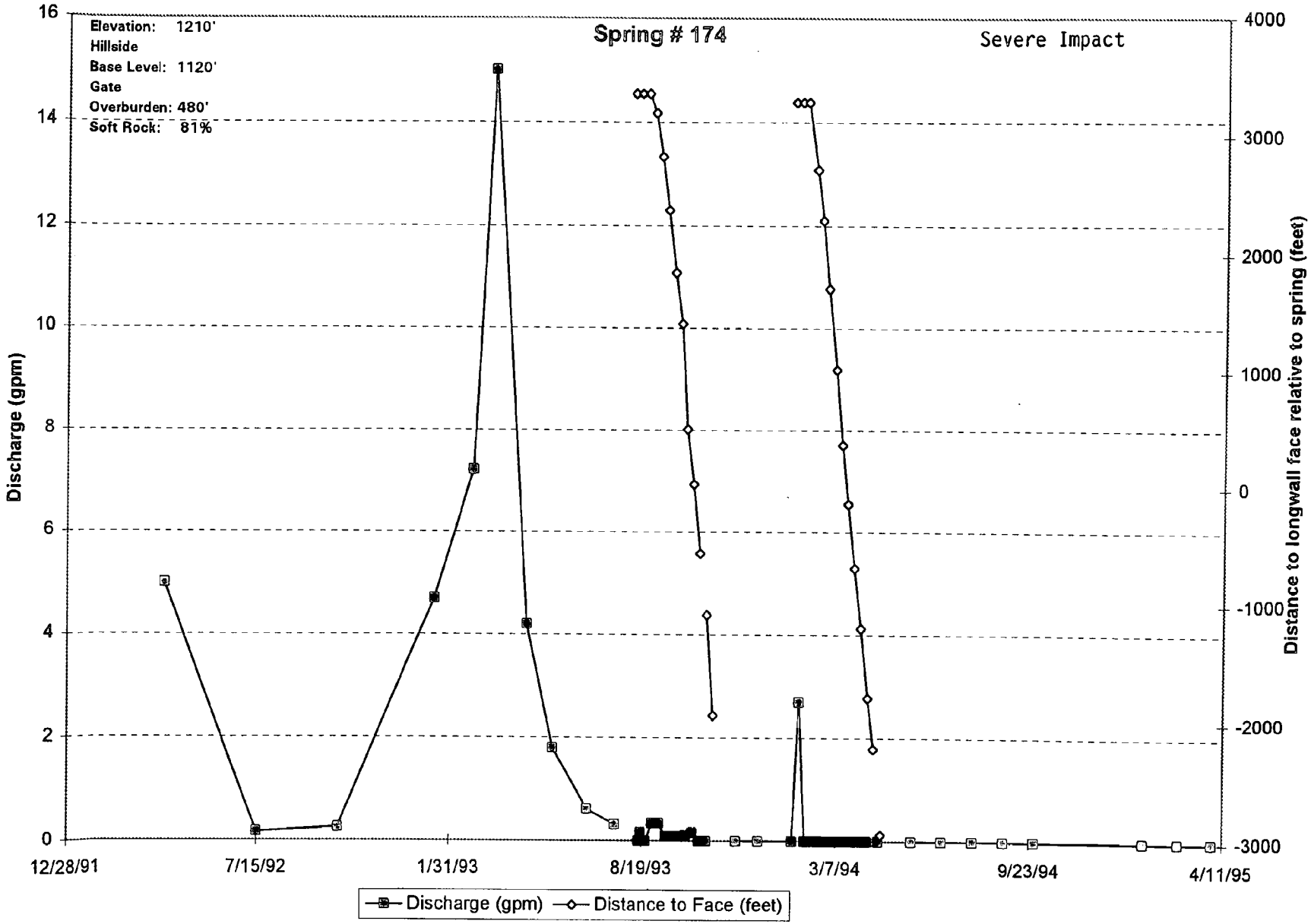
Prepared by: Moody and Assoc., Inc. 4/13/97

TOVCC 10581



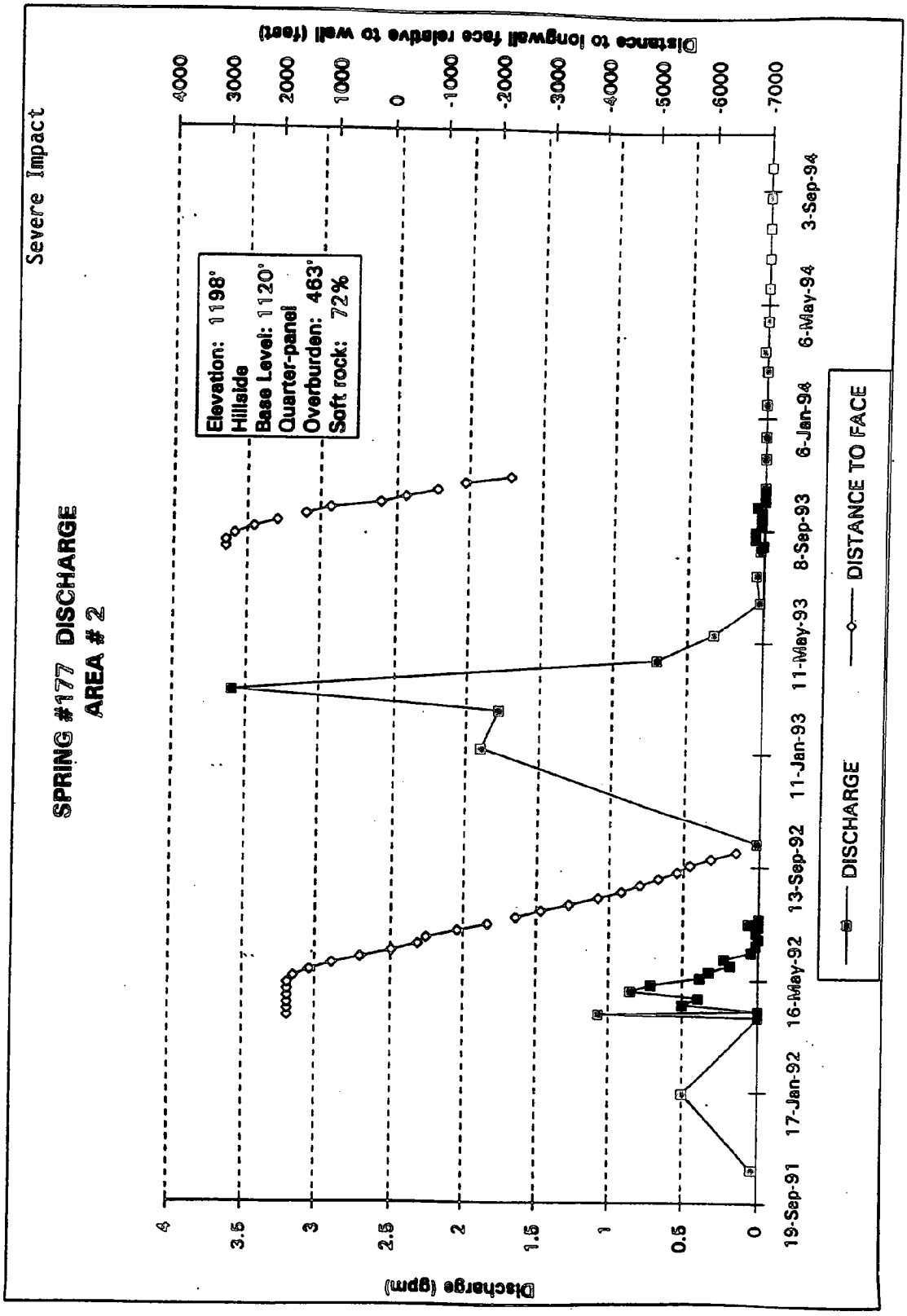
Prepared by: Moody and Assoc., Inc.4/13/97

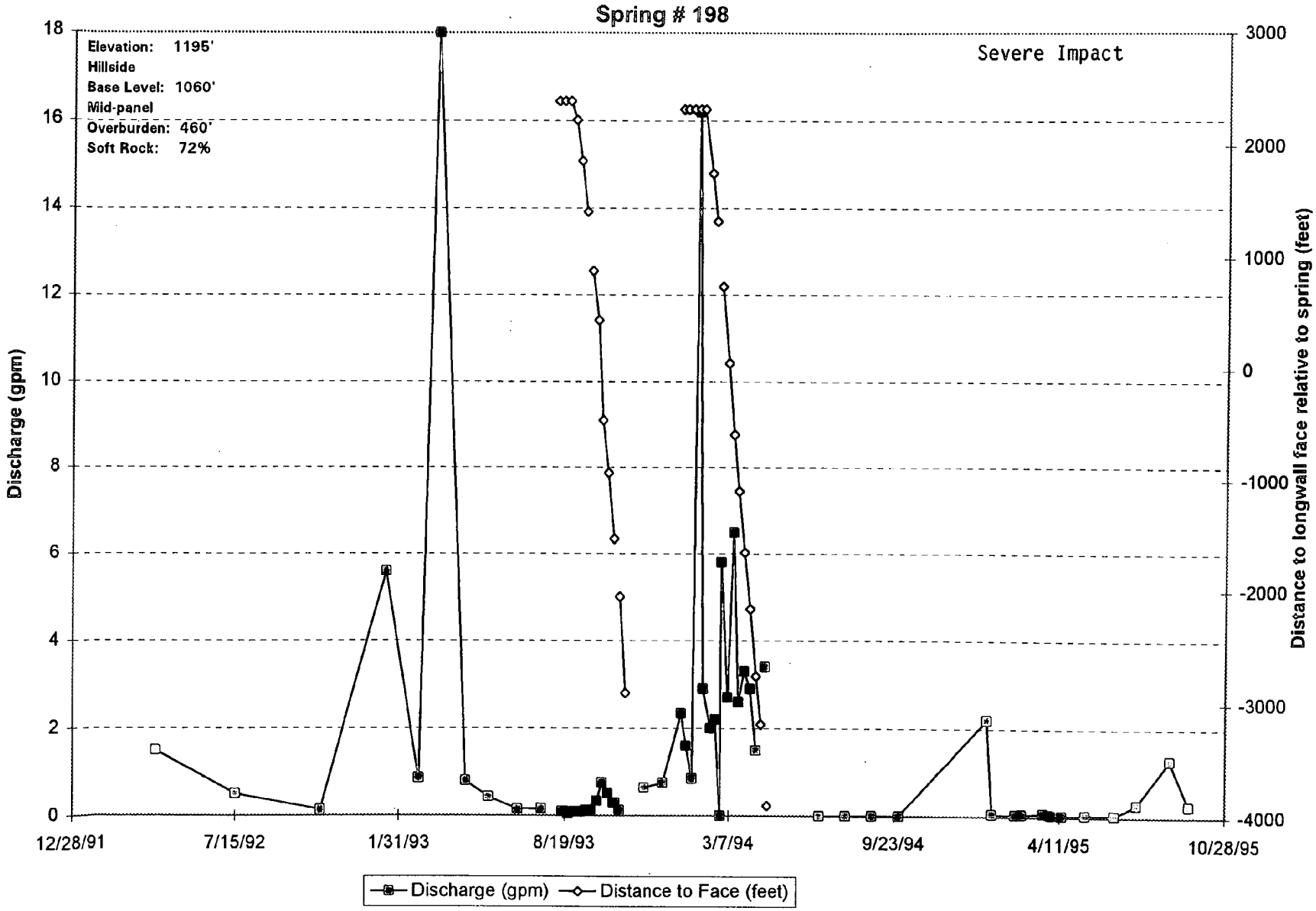
TOVCC 10582



Prepared by: Moody and Assoc. Inc. 4/13/97

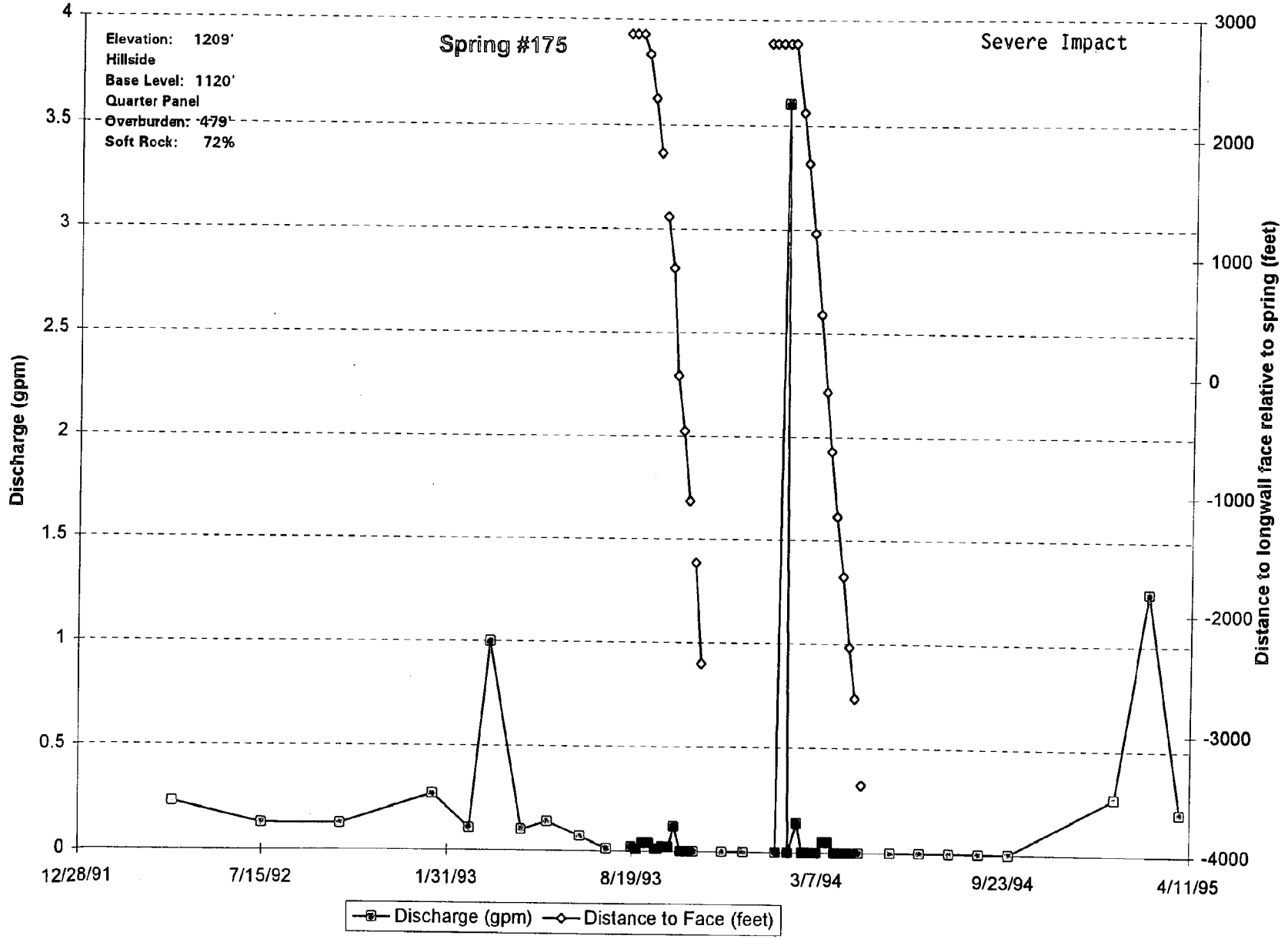
TOVCC 10583


Severe Impact
SPRING #177 DISCHARGE
AREA # 2
Elevation: 1198'
Hillside
Base Level: 1120'
Quarter-panel
Overburden: 463'
Soft rock: 72%
Distance to longwall face relative to well (feet)
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
Discharge (gpm)
4
3.5
3
2.5
2
1.5
1
0.5
0
19-Sep-91
17-Jan-92
16-May-92
13-Sep-92
11-Jan-93
11-May-93
8-Sep-93
6-Jan-94
6-May-94
3-Sep-94
DISCHARGE
DISTANCE TO FACE



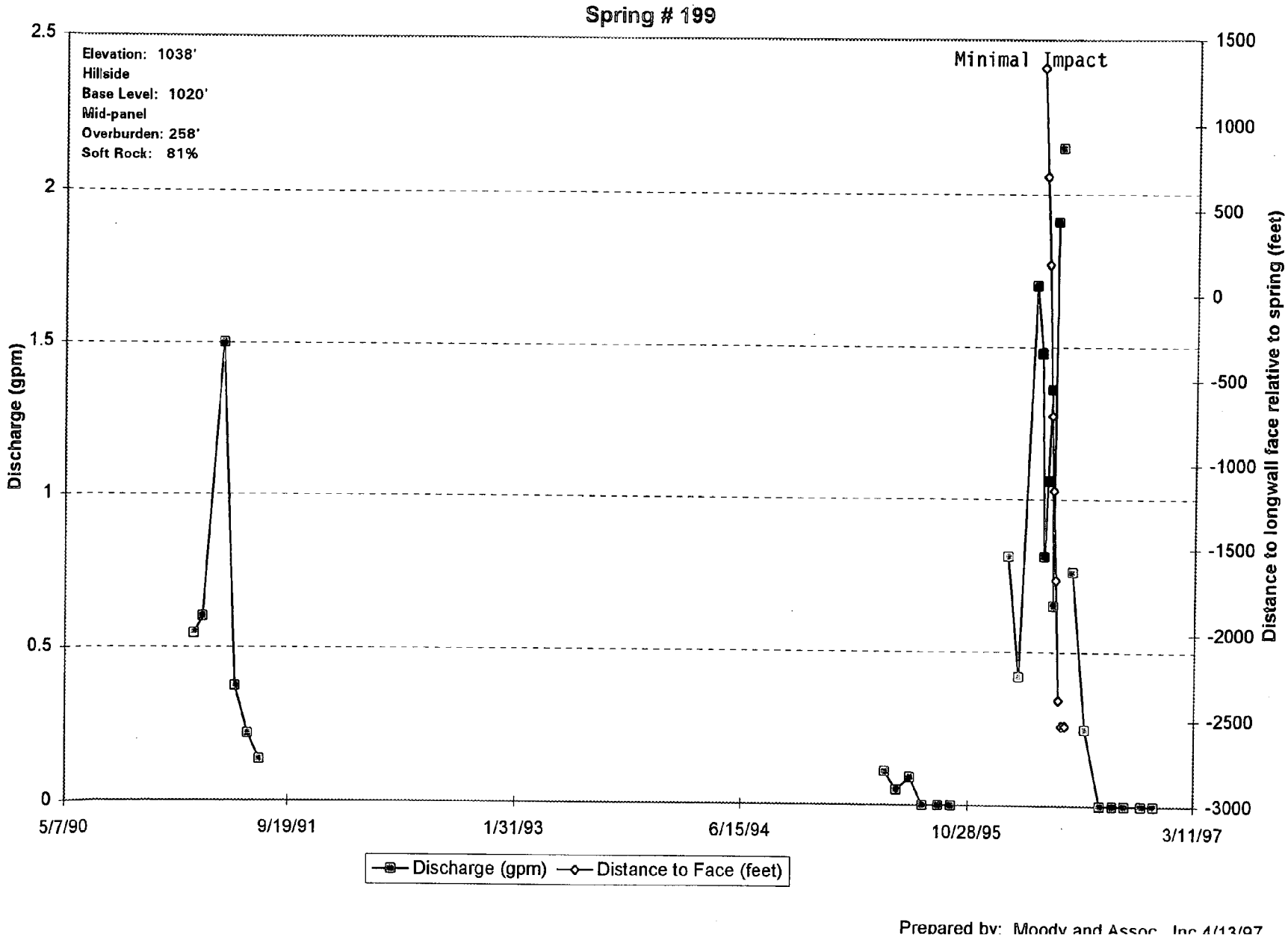
Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10585

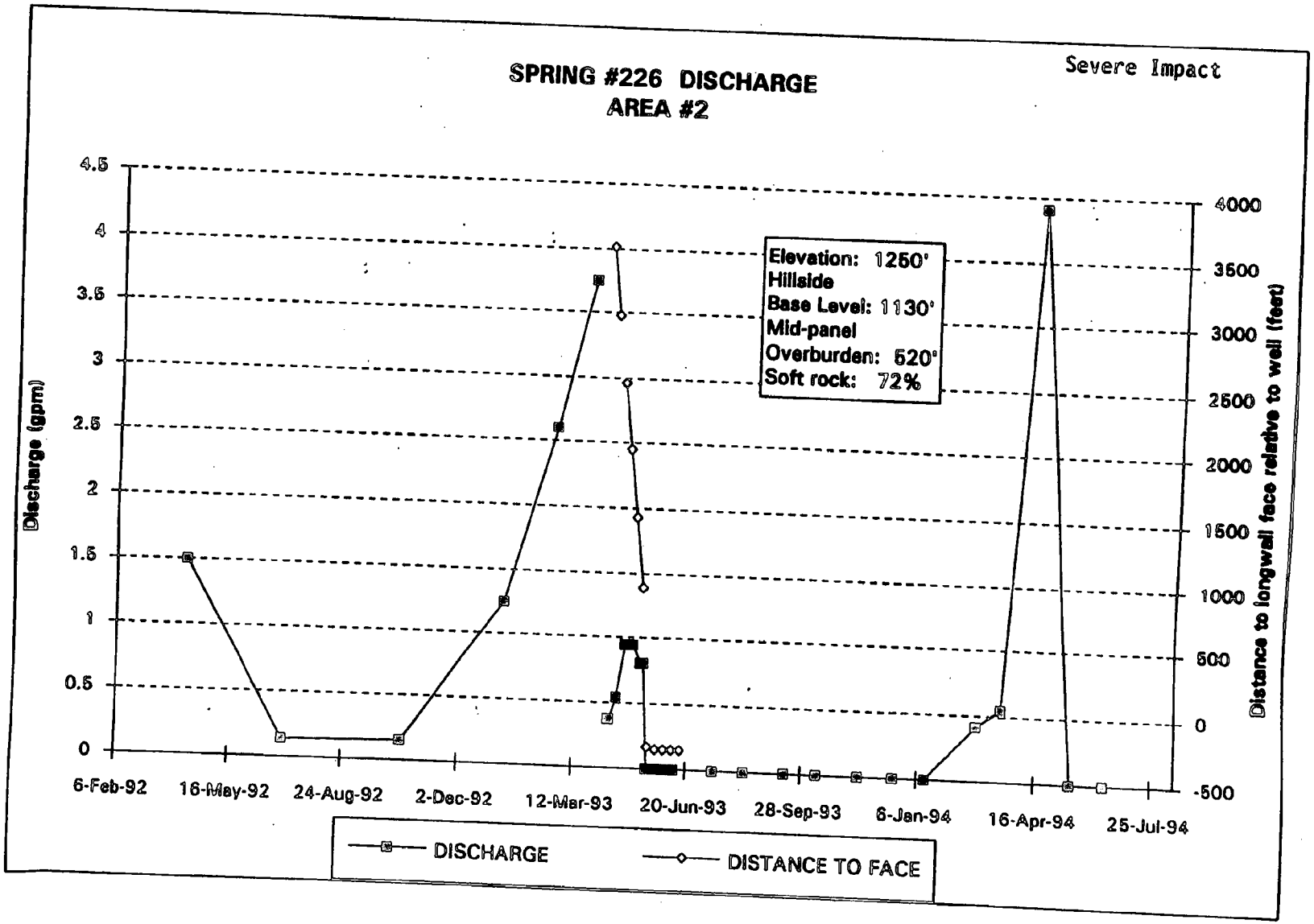


Prepared by: Moody and Assoc. Inc. 4/13/97

TOVCC 10586

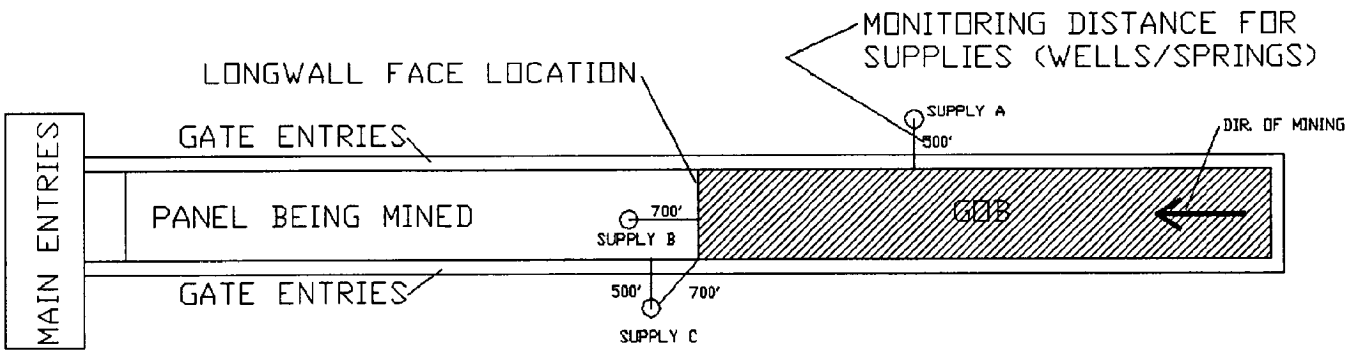

Spring # 199
Elevation: 1038'
Hillside
Base Level: 1020'
Mid-panel
Overburden: 258'
Soft Rock: 81%
Minimal Impact
Discharge (gpm)
Distance to longwall face relative to spring (feet)
2.5
2
1.5
1
0.5
0
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
5/7/90
9/19/91
1/31/93
6/15/94
10/28/95
3/11/97
Discharge (gpm)
Distance to Face (feet)
Prepared by: Moody and Assoc. Inc 4/13/97

TOVCC 10587


SPRING #226 DISCHARGE
AREA #2
Severe Impact
Elevation: 1250'
Hillside
Base Level: 1130'
Mid-panel
Overburden: 520'
Soft rock: 72%
Discharge (gpm)
Distance to longwall face relative to well (feet)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
4000
3500
3000
2500
2000
1500
1000
500
0
-500
6-Feb-92
16-May-92
24-Aug-92
2-Dec-92
12-Mar-93
20-Jun-93
28-Sep-93
6-Jan-94
16-Apr-94
25-Jul-94
DISCHARGE
DISTANCE TO FACE

TOVCC 10588

FIGURE 1
THE OHIO VALLEY COAL COMPANY
SKETCH SHOWING THE RELATIONSHIP OF
WATER SUPPLIES WITH THE BOUNDARY OF THE LONGWALL
PANEL AND THE ADVANCING LONGWALL FACE



SUPPLY A IS 500' FROM THE PANEL EDGE OUTSIDE THE PANEL
SUPPLY B IS 700' FROM THE ADVANCING LONGWALL FACE DIRECTLY AHEAD
SUPPLY C IS 500' FROM THE PANEL EDGE AND 700' FROM THE ADVANCING FACE.

DISTANCES TO FACE AT WHICH IMPACTS
WERE OBSERVED ARE LISTED
IN TABLE 5 OF THIS
PROBABLE HYDROLOGIC CONSEQUENCES STATEMENT

TOVCC 10589

ADDENDUM TO PAGE 18, PART 2, F(2)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ALTERNATIVE WATER SUPPLY INFORMATION

Adjacent Areas Above Full Recovery Mining

The PHC contained in this application indicate a potential for diminution and/or interruption of ground water supplies in areas above and contiguous to full recovery mining operations. However, no contamination of such water supplies is expected.

Notwithstanding its mining rights and without waiving any of its mining rights, where such diminution or interruption results from full recovery mining, The Ohio Valley Coal Company will repair or install a replacement source in the adjacent area at its own expense in a manner mutually satisfactory to OVCC, the water user, and the Division of Mines and Reclamation, and to a level sufficient to meet the water user's pre-mining quantity and quality levels which will be determined by monitoring information gathered in accordance with the Monitoring Plan. While it will be the policy of OVCC to replace a water source, payment of water bills will be the responsibility of the water user, unless otherwise agreed upon by OVCC and the water user.

Past experience indicates that the majority of subsidence (that detectable with surveying equipment) is complete within about 45 days after the longwall passes under the area. Water losses generally occur within that time period.

The steps which OVCC would take to repair or replace affected water sources in the adjacent area include:

1. Repair damaged cisterns after OVCC has determined that subsidence is complete;

2. On a site specific basis, re-drill existing wells, drill new wells, or connect the water user to public water supplies (if no public water supply exists, OVCC may install a line of sufficient size to service those affected by OVCC's mining operation);

3. On a site specific basis, developed springs will be replaced by a farm pond built according to accepted engineering practices, drilling of a new well, development of another spring in close proximity to the original spring, or connect the water user to public water supplies (if no public water supply exists, OVCC may install a line of sufficient size to service those affected by OVCC's mining operation);

4. Repair damaged farm ponds so as to be comparable to their pre-mining conditions;

5. Install an interim water supply until affected water supplies are replaced. Interim supplies may include hauled water or a tap to public water. OVCC will only install temporary, replacement water using a public water supply if it can be connected within 48 hours. OVCC routinely uses the local fire department to haul county water for temporary replacement supplies. This practice is expected to continue. The local fire department can haul water within a matter of hours after receiving a request. Temporary tanks and water troughs for livestock are kept in stock to facilitate quick installations. Payment of interim water bills shall be the responsibility of the water user unless otherwise agreed upon by OVCC and the water user.

6. Such other proven, cost effective, and reasonable techniques as OVCC may now, or in the future, deem appropriate.

It is OVCC's intention to bear the cost of the installation only of both interim and permanent replacement of developed water sources being used at the time of undermining. If contamination, diminution, or interruption of a water user's ground or surface water supply used for domestic use occurs as a proximate result of the mine's operation, OVCC will repair such water supply or install a replacement supply at OVCC's expense. OVCC will not be responsible for non-developed sources or developed sources not being used at the time of undermining. A source is considered to be developed if it has been fully developed (i.e., water delivery system and drinking facilities) and is well maintained such that it is usable at the time of undermining.

OVCC will install, at OVCC's expense, an alternate water supply system (within 48 hours) to be used until repair or replacement is completed or will reimburse the water user for the reasonable cost of obtaining a water supply from the date of any such contamination, diminution, or interruption until the supply is repaired or replaced. In cases where temporary water cannot be provided within 48 hours, OVCC will immediately notify the Chief of the Division of Mines and Reclamation who will determine if the circumstances warrant an extension of the 48 hours.

OVCC will provide the affected water user with no less of an available water supply than the water user had before mining, based on the pre-mining measurements. If required, OVCC will notify the Division of Mines and Reclamation immediately after it has been informed of the loss of developed water (ground or surface water) due to its mining activities.

As previously stated, the elevation of alternative water sources is unpredictable until the water system in the area again attains equilibrium after mining. Therefore, the alternative water supplies to be developed will be identified when the need arises.

ADDENDUM TO PAGE 18, PART 2, F(2)
PAGE THREE

Those supplies may include but not be limited to re-development of an existing well, spring, or pond, or replacement of the source with the County Water System. The County Water System has been contacted by OVCC and has assured us that there is capacity to replace each developed source with county water. A letter to that effect is enclosed.

If a water user believes that his or her underground or surface water source which is used for domestic use has been contaminated, diminished, or interrupted as a proximate result of the mine's operation, he or she should notify OVCC by calling (614) 926-1351. OVCC will make a determination of liability no later than sixty (60) days after notification of the contamination, diminution, or interruption of a water supply as a proximate result of the mine's operation.

Work on installing a temporary alternate water supply will be complete within 48 hours (unless an extension of the 48 hour time frame is granted by the Chief) after OVCC learns of the contamination, diminution, or interruption to a domestic-use water supply proximately caused by the mining operation. OVCC will pay for installation costs only for a temporary, alternate water supply. Permanent repair or the installation of a replacement water supply for an affected water supply shall be completed no later than eighteen (18) months after it has been determined that the supply has been contaminated, diminished, or interrupted as a proximate result of the mine's operation. The costs of repair of the original water supply and/or the installation of a replacement supply system to provide the affected water user with no less of an available water supply than was being used before mining, based on the pre-mining measurements, shall be paid for by OVCC. If the water user opts to do so, he may install his own temporary water supply system. OVCC will reimburse the water user for the costs of installing a temporary water supply system. Payment for domestic water will be the responsibility of the water user unless otherwise agreed upon by OVCC and the water user.

In repairing or replacing a water user's ground or surface water supply system used for domestic use which is damaged as a proximate result of the mine's operation, OVCC's first preference is to repair the affected supply system. If that is neither effective nor feasible, OVCC's second preference is to replace the affected supply system with a like supply system. For example, a damaged pond, if not repairable, would be replaced with a new pond. If that is not feasible, OVCC will replace the affected supply systen with a similar supply system. For example, a damaged dug well, if not repairable or replaceable with another dug well, would be replaced by a potable-type cistern, a drilled well or a similar supply system.

It should be recognized that property sites differ in such elements as geologic and hydrologic composition. Thus, the determination of whether repair of an affected water supply system is feasible or whether replacement by a specific type of water supply system is feasible must be made on a case-by-case, site specific basis by OVCC. OVCC, in the past, has always attempted to consult and negotiate with the affected water user concerning the selection of the type of water replacement system and its site. This is done at the request of water users who prefer this procedure to that of OVCC making unilateral decisions about replacement supplies and sites. However, OVCC, if required by the Division of Mines and Reclamation, will make these decisions unilaterally.

ADDENDUM TO PAGE 18, PART 2, F(2)
PAGE FOUR

In some cases, OVCC reaches pre-subsidence agreements with water users, who are normally represented by counsel and in all cases have full opportunity to consult with counsel or anyone else of their choosing. These agreements, which are typically negotiated by OVCC employees, normally cover all potential damage claims. In situations where such an agreement is reached, OVCC will comply with the water replacement terms contained in the agreement. Such an agreement will satisfy, at a minimum, this permit and ORC 1513.162.

In any situation where OVCC determines that the contamination, diminution, or interruption of a water supply was not proximately caused by the mining operation, based on evidence such as the proximity of the supply to the mining operation, site specific geologic and surface conditions, or climatological conditions, OVCC will provide the Division of Mines and Reclamation with notice of its determination and the proof in support of that determination to allow the Division of Mines and Reclamation to issue a Chief's Order deciding the issue. This Chief's Order is then appealable in accordance with O.R.C. §1513.13. The water user's water supply system will continue in operation during the time OVCC seeks review of this matter pursuant to O.R.C. §1513.13. If it is determined that contamination, diminution, or interruption of a supply is the proximate result of the mine's operation, OVCC shall bear the costs of installing temporary water system. OVCC reserves the right to proceed against the water user to recover costs incurred if it is determined that OVCC is not liable for the contamination, diminution, or interruption of the affected water supply.

Belmont County
COMMISSIONERS
Anita Wiley
John Pollock
Michael Bisnconi
DIRECTOR
David Grum

BELMONT COUNTY
SANITARY SEWER DISTRICT

P. O. BOX 457
ST. CLAIRSVILLE, OHIO 43950
Phone: (614) 695-3144
Fax: (614) 695-3411

TO: Dave Bartsch

FROM: David Grum, Director

DATE: April 3, 1997

SUBJECT: Water System Capacity

Per your request concerning the water supply the District has available for your proposed areas including, Sections 22, 23, 24, 28, 29, 30, 34, 35 and 36, Smith Township, would be ample to properly serve, as you have outlined. However, a hydrological and engineering study may be necessary in order to provide the necessary pressure and volume of water to portions of the area in question.

We will be happy to work with you in developing a water system plant for the area to meet the needs of residents.

DG:jm

ADDENDUM TO PAGE 18, PART 2, F(1)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

DEVELOPED SUPPLIES OF GROUND AND SURFACE WATER THAT MAY BE IMPACTED AS A RESULT OF THE PROPOSED OPERATION

Of the supplies listed in Attachment 14C and 14D, impacts shown in Table 7 (exerpted from the PHC prepared by Moody and Associates, Inc.) are expected as a result of the proposed operation. According to the PHC, these sources may be impacted permanently or may have delayed or long-term recovery. Wells may experience significant declines in static water level with little or no recovery. Springs may experience significant flow declines with long-term or no recovery.

TABLE 7

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Summary Table
and
Predicted Hydrologic Impacts

Well	Surface Elevation	Total Depth	Bottom Elevation	Coal Elevation	Overburden Depth		Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
					Surface	Well Bottom					Minimal	Moderate	Significant
W 166	1106	108	998	765	341	233	51	Hillside	Outside	1000	No impact expected; > 500' to mining		
W 167	1090	96	994	765	325	229	50	Hillside	Outside	850	No impact expected; > 500' to mining		
W 168	1112	62	1050	775	337	275	52	Valley Bottom	Outside	350	44%	9%	47%
W 169	1112	25	1087	775	337	312	52	Valley Bottom	Outside	350	44%	9%	47%
W 170	1105	75	1030	765	340	265	51	Hillside	Outside	500	No impact expected; > 500' to mining		
W 172	1106	116	990	765	341	225	51	Hillside	Outside	300	44%	9%	47%
W 173	1116	25	1091	765	351	326	51	Hillside	Outside	300	44%	9%	47%
W 174	1117	101	1016	770	347	246	51	Hilltop	Middle	350	44%	9%	47%
W 175	1132	46	1086	780	352	306	51	Valley Bottom	Quarter	250	44%	9%	47%
W 176	1142	43	1099	780	362	319	51	Valley Bottom	Quarter	200	44%	9%	47%
W 177	1183	43	1140	780	403	360	51	Hilltop	Quarter	200	44%	9%	47%
W 268	1165			780	385		51	Hilltop	Middle	400	44%	9%	47%
W 294	1120	57	1063	775	345	288	52	Valley Bottom	Outside	200	44%	9%	47%
W 315	1288	88	1200	775	513	425	74	Hilltop	Outside	1100	No impact expected; > 500' to mining		
W 316	1213	72	1141	780	433	361	74	Hillside	Quarter	150	44%	9%	47%
W 317	1303			780	523		74	Hilltop	Quarter	200	44%	9%	47%
W 318	1304	18	1286	775	529	511	74	Hilltop	Outside	800	No impact expected; > 500' to mining		
W 323	1138	120	1018	775	363	243	52	Hillside	Outside	300	44%	9%	47%
W 344	1185	54	1131	810	375	321	75	Hilltop	Outside	1000	No impact expected; > 500' to mining		
W 374	1290	51	1239	795	495	444	81	Hilltop	Outside	900	No impact expected; > 500' to mining		
W 375	1247			790	457		77	Hillside	Middle	300	44%	9%	47%
W 376	1250	30	1220	800	450	420	77	Hillside	Middle	400	44%	9%	47%

TOVCC 10596

TABLE 7

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Summary Table
and
Predicted Hydrologic Impacts

Well	Surface Elevation	Total Depth	Bottom Elevation	Coal Elevation	Overburden Depth		Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
					Surface	Well Bottom					Minimal	Moderate	Significant
W 377	1282	86	1196	800	482	396	77	Hilltop	Middle	350	44%	9%	47%
W 378	1325	68	1257	805	520	452	77	Hilltop	Quarter	200	44%	9%	47%
W 379	1323	120	1203	805	518	398	77	Hilltop	Gate		44%	9%	47%
W 380	1350	80	1270	820	530	450	77	Hilltop	Quarter	200	44%	9%	47%
W 381	1325	100	1225	805	520	420	77	Hilltop	Quarter	150	44%	9%	47%
W 382	1350	155	1195	820	530	375	77	Hilltop	Quarter	100	44%	9%	47%
W 383	1362	125	1237	815	547	422	77	Hilltop	Quarter	100	44%	9%	47%
W 384	1335	80	1255	815	520	440	77	Hilltop	Quarter	100	44%	9%	47%
W 385	1363	100	1263	815	548	448	77	Hilltop	Quarter	175	44%	9%	47%
W 386	1350			830	520		49	Hilltop	Gate		44%	9%	47%
W 387	1260	24	1236	840	420	396	49	Hilltop	Middle	375	44%	9%	47%
W 388	1160			845	315		49	Hilltop	Outside	300	44%	9%	47%
W 389	1145	78	1067	845	300	222	49	Hilltop	Outside	550	No impact expected; > 500' to mining		
W 390	1030	66	964	850	180	114	49	Hilltop	Outside	800	No impact expected; > 500' to mining		
W 391	1120	30	1090	840	280	250	49	Hilltop	Outside	175	44%	9%	47%
W 392	1325	68	1257	815	510	442	77	Hilltop	Quarter	50	44%	9%	47%
W 393	1330	30	1300	815	515	485	77	Hilltop	Quarter	150	44%	9%	47%
W 394	1259	80	1179	820	439	359	77	Hilltop	Middle	250	44%	9%	47%
W 395	1258	50	1208	820	438	388	77	Hilltop	Middle	250	44%	9%	47%
W 396	1305	70	1235	785	520	450	81	Hilltop	Outside	500	44%	9%	47%
W 397	1310	51	1259	780	530	479		Hilltop	Outside	750	No impact expected; > 500' to mining		
W 398	1303	60	1243	780	523	463	81	Hilltop	Outside	1150	No impact expected; > 500' to mining		

TOVCC 10597

TABLE 7

Ohio Valley Coal Company
Application Area D - 0360 - 7

Well Summary Table
and
Predicted Hydrologic Impacts

Well	Surface Elevation	Total Depth	Bottom Elevation	Coal Elevation	Overburden Depth		Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
					Surface	Well Bottom					Minimal	Moderate	Significant
W 401	1318	113	1205	800	518	405	81	Hilltop	Middle	425	44%	9%	47%
W 402	1325			830	495		79	Hilltop	Outside	600	No impact expected; > 500' to mining		
W 404	1155	52	1103	835	320	268	79	Hillside	Middle	400	44%	9%	47%
W 405	1322	103	1219	780	542	439	81	Hilltop	Quarter	50	44%	9%	47%
W 406	1322	24	1298	780	542	518	81	Hilltop	Quarter	50	44%	9%	47%
W 407	1306	63	1243	780	526	463	81	Hilltop	Gate		44%	9%	47%
W 408	1305	33	1272	780	525	492	81	Hilltop	Gate		44%	9%	47%
W 409	1318			790	528		81	Hilltop	Middle	350	44%	9%	47%
W 410	1310	85	1225	805	505	420	81	Hilltop	Quarter	175	44%	9%	47%
W 411	1310			805	505		81	Hilltop	Quarter	250	44%	9%	47%
W 412	1305	68	1237	800	505	437	81	Hilltop	Gate		44%	9%	47%
W 413	1280	47	1233	820	460	413	79	Hilltop	Quarter	75	44%	9%	47%
W 414	1280	55	1225	820	460	405	79	Hillside	Gate		44%	9%	47%
W 415	1135	72	1063	830	305	233	79	Hillside	Gate		44%	9%	47%
W 417	1142	90	1052	835	307	217	79	Hillside	QTR	50	44%	9%	47%
W 418	1150	41	1109	835	315	274	79	Hillside	Middle	300	44%	9%	47%
W 421	1080	24	1056	850	230	206	49	Valley Bottom	Outside	1000	No impact expected; > 500' to mining		
W 422	1080	39	1041	850	230	191	49	Valley Bottom	Outside	1200	No impact expected; > 500' to mining		

TOVCC 10598

TABLE 8

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring Summary Table
and
Predicted Hydrologic Impacts

Spring	Surface Elevation	Coal Elevation	Overburden Thickness	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
								Minimal	Moderate	Significant
SP 111	1120	770	350	52	Hillside	Outside	1100	No impact expected; > 500' to mining		
SP 223	1104	770	334	51	Valley Bottom	Gate		6%	3%	91%
SP 226 A	1170	770	400	51	Hillside	Quarter	200	6%	3%	91%
SP 226 B	1155	775	380	54	Hillside	Middle	450	6%	3%	91%
SP 230	1181	770	411	74	Hillside	Outside	700	No impact expected; > 500' to mining		
SP 231	1246	770	476	74	Hillside	Outside	1100	No impact expected; > 500' to mining		
SP 240	1170	780	390	74	Hillside	Middle	300	6%	3%	91%
SP 241	1190	780	410	52	Hillside	Quarter	200	6%	3%	91%
SP 242	1100	785	315	52	Valley Bottom	Gate		6%	3%	91%
SP 244	1290	775	515	81	Hilltop	Outside	900	No impact expected; > 500' to mining		
SP 265	1200	800	400	75	Valley Bottom	Gate		6%	3%	91%
SP 266	1100	845	255	49	Hillside	Outside	400	6%	3%	91%
SP 267	1225	810	415	75	Hillside	Gate		6%	3%	91%
SP 268	1180	790	390	75	Hillside	Quarter	100	6%	3%	91%
SP 269	1220	800	420	75	Hillside	Quarter	75	6%	3%	91%
SP 270	1260	800	460	75	Hillside	Middle	350	6%	3%	91%

TOVCC 10599

TABLE 8

Ohio Valley Coal Company
Application Area D - 0360 - 7

Spring Summary Table
and
Predicted Hydrologic Impacts

Spring	Surface Elevation	Coal Elevation	Overburden Thickness	Percent Soft Rocks	Topographic Position	Panel Position	Distance to Nearest Panel	Predicted Hydrologic Impact		
								Minimal	Moderate	Significant
SP 271	1323	815	508	77	Hilltop	Quarter	250	6%	3%	91%
SP 272	1258	815	443	77	Hilltop	Quarter	200	6%	3%	91%
SP 273	1265	815	450	77	Hilltop	Quarter	50	6%	3%	91%
SP 274	1230	815	415	77	Hillside	Middle	450	6%	3%	91%
SP 277	1264	780	484	81	Hilltop	Outside	575	No impact expected; > 500' to mining		
SP 278	1230	780	450	81	Hilltop	Outside	850	No impact expected; > 500' to mining		
SP 282	1268	780	488	81	Hilltop	Outside	200	6%	3%	91%
SP 283	1263	790	473	81	Hillside	Quarter	200	6%	3%	91%
SP 285	1190	800	390	81	Hillside	Outside	900	No impact expected; > 500' to mining		
SP 286	1210	780	430	74	Hillside	Gate		6%	3%	91%
SP 287	1210	780	430	81	Hillside	Gate		6%	3%	91%
SP 289	1200	795	405	81	Hillside	Outside	450	6%	3%	91%

TOVCC 10600

ADDENDUM TO PART 3, PAGE 26, F
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

GROUND WATER AND SURFACE WATER MONITORING PLANS

1. Ground Water Monitoring Plan

All legitimately developed, used ground water supplies will be monitored quarterly for quality and monthly for quantity for at least one year prior to full recovery mining, and at least one year subsequent to mining unless access is denied by the land owner. This monitoring will include wells and springs used for domestic purposes. Weekly quantity monitoring will be conducted whenever the longwall face is within three weeks of undermining the supply and no less than three weekly pre-mining and post-mining measurements will be made. Ground water supplies located within 500 feet (measured horizontally) of the perimeter of the active longwall panel will be monitored as if they were located on the panel. Monitoring will be continued for at least one year subsequent to full recovery mining contingent upon review by the Division of Mines and Reclamation. Daily precipitation data will be submitted quarterly to evaluate spring flow.

2. Surface Water Monitoring Plan

Various surface water locations depicted on the application/hydrology map will be sampled monthly for flow and quarterly for quality. The quality requirements of OAC 1501:13-3-14(F)(2) and the other QMR parameters as stated on the QMR report sheets will apply to the surface water analysis. Each surface monitoring station will be monitored for at least one year prior to full coal recovery mining. Monitoring will be continued for at least one year subsequent to full recovery mining contingent upon review by the Division of Mines and Reclamation. Daily precipitation data will be submitted quarterly to evaluate stream flow.

With each quarterly monitoring report of ground and surface water, a map depicting the progression of the longwall face will be attached to indicate the sampling points in the full recovery areas. Notes will be submitted indicating the position relative to the longwall face, with "+" indicating the station is in advance of the face and a "-" indicating a position behind the face. An attempt will be made to monitor and sample as outlined above, however, some sources may not be accessible. These locations, if encountered, will be documented in the quarterly reports. All samples will be taken as outlined to the extent that existing well construction allows. Any samples that are unobtainable will be documented as such in the quarterly report. Quarterly sampling will include analysis for nitrates.

OVCC will monitor all ground and surface locations in accordance with the quarterly monitoring plan outlined above regardless of the saturated zones that they access. All developed supplies have been identified and have been indicated on the application/hydrology map.

ADDENDUM TO PAGE 28, PART 3, K(1)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ENGINEERING AND MINING TECHNIQUES

The Powhatan No. 6 Mine is an operation that uses the longwall method of mining. The engineering and mining techniques for longwall mining are as follows:

Longwall Mining

1. Longwall mining removes long panels of coal that are 600 to 900 ft. and a maximum of approximately 15,000 ft. long. A longwall shearer, a double-drum machine, removes the panel by cutting slices of coal along the width of the face. The roof is temporarily supported by hydraulic supports called shields. The shields are moved forward each time that a slice is cut from the face. The coal is transported from the face by an armored, chain conveyor.

The roof behind the shields is allowed to collapse. Surface subsidence on the order of approximately 66 percent of the mining height occurs when the roof falls.

2. The longwall face is outlined by three or four entries on each side called gate entries, on the end where the panel starts by several entries called bleeder entries, and on the panel end by the main entries or by recovery rooms (entries developed to remove the longwall mining equipment). These entries are developed using a continuous miner, shuttle cars, and roof bolters. Pillars and concrete block stoppings separate each entry from the next. These entries provide ventilation and belt haulage for the longwall mining section, with a maximum recovery of less than 50 percent of the coal. Coal pillars between the longwall panels crush after both adjacent longwall panels are extracted. Subsidence of the surface occurs over these panels and pillars during longwall mining as a result of the pillars crushing and from the extraction of both adjacent longwall panels.

Main Entry Development - Longwall Access

There will be one set of main entries driven in a general north-south direction. The main entries consist of approximately seven entries, driven with continuous miners and are primarily used for ventilation, transportation of men and materials, and haulage. These entries are designed for long-life with the pillars providing roof support. The maximum recovery factor for mains and submains is below 50 percent and is much less if one considers the barrier blocks left in place at the approaches to butt and longwall sections.

ADDENDUM TO PART 3, PAGE 28, (K)(1)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANNUAL MAP

In accordance with PPD Underground 91-1, a mine map will be submitted to coincide with the permit anniversary date. For ground water monitoring, the face location of the active panel will be provided quarterly with the monitoring data. The maps will contain the following:

1. Scale the same as the Division of Mines submittal, or 1 in. = 500 ft.
2. All base map requirements pursuant to ORC 4153.03.
3. Surface owner names and property lines.
4. Streams and other bodies of water.
5. Section lines and numbers.
6. Buildings and other surface structures.
7. Public roads and railroad tracks.
8. Mine openings and surveyed workings, showing pillar and entry size, configuration and location.
9. Survey extension dates for all workings, including longwall face or pillar recovery lines.
10. Areas of full extraction.
11. Coal elevations and extraction height.
12. Completion dates for individual sections (if sealed, date and location of seal).
13. Maximum extraction ratios for completed sections.
14. Ground water and subsidence monitoring stations.
15. The boundaries of the authorized mining area.
16. The location and extent of any other mine excavation (surface or underground) within the same seam being mined.
17. A map title block and notarized map certification.

ADDENDUM TO PAGE 29, PART 3, K(5)(a)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

General

The anticipated surface effects of subsidence during and following coal extraction by the longwall method at the Powhatan No. 6 Mine are related to the following movements of the ground surface:

1. Vertical subsidence
2. Horizontal movement

The combination of vertical and horizontal movements of points on the ground surface leads to tensile (or extension) and compression strains from curvature of the ground surface and tilt. Extension and compression of the ground surface, in the direction of the movement of the longwall face, occur as the face moves in the direction of mining. The extension and compression effects develop after passage of the longwall face. The surface curvature, with resulting extension and compression, and the tilt near the ends of a mined panel and along the sides of a mined panel, represent the permanent effects of subsidence.

There are temporary effects of subsidence from what is known as the dynamic subsidence wave. This wave begins about five days prior to undermining. As the surface begins to subside, the land goes into tension. Tension cracks result on the land surface in some locations (depending on the soil type and topography). Immediately after undermining, the land begins to subside rapidly and goes into compression. Generally, the magnitude of the compressive forces do not reach the magnitude of the tensile forces, and some cracks remain open until the weather (usually rain) fills them. These temporary effects pass very quickly due to the speed of the longwall mining at the Powhatan No. 6 Mine.

Background

The dip of the coal is 40 ft. per mile at South 35 Degrees East. The strike is North 55 Degrees East. The panel dimensions are approximately 600 to 900 ft. wide and up to 15,000 ft. long. The gates are approximately 140 to 200 ft. wide between panels (typically 156 ft). The coal thickness to be extracted is approximately 64 in. throughout most of the application area. There is approximately 25.22 to 60.93 percent of the overburden classified as hard rock according to the test hole data.

ADDENDUM TO PAGE 29, PART 3, K(5)(a)
PAGE TWO

Time of Subsidence

The surface effects of mining occur at times generally related to the advance of the longwall face.

1. Movements which develop over a panel being mined with passage of the face: these represent the most significant movements, start soon after the face passes, and are generally complete within thirteen (13) days of passage of the face. Approximately 99 percent of the subsidence is complete when the face is located at a distance equal to the depth of cover from any point on the surface.

2. Movements which occur over a previously mined panel as an adjacent panel is mined: such super-incumbent movements are relatively insignificant, being in the range of about 0.2 ft at the center of the previously mined panel. Such movement at this location is caused by the collapse of the pillars between the two panels and the subsequent subsidence. Therefore, it is evident that the gate entries are part of the full coal recovery mining method.

3. Movements over a long period of time due to consolidation of the gob and time dependent stress readjustment: long-term subsidence of the ground surface is not measurable, and is insufficient to cause surface damage.

Predicted Movements

The surface movements indicated below are derived from measurements made during subsidence over OVCC's first longwall panel (5 West) and over the 10 West and 11 West panels. Similar movements are anticipated within the application area.

Monitoring Over First Longwall Panel (5 West)

In February, 1990, the first longwall panel progressed beneath Smith Township Road 116. The Ohio Valley Coal Company placed subsidence monuments at 25 and 50 foot intervals along the road, measured their elevations prior to mining, and on several occasions after the mining was past the road. Figure 1 shows the plan view of the subsidence monuments. The longwall gate section entries are shown on the figure also. Figure 2 shows the subsidence profile that developed. Table 1 shows the monitoring data. The longwall face was 600 ft wide (center-to-center), at a depth of 497 ft, and had a mining height of 5.2 ft (62 in).

The maximum angle of draw (measured to .02 ft of displacement) was approximately 13 degrees. The angle of draw on the headgate side was identical to the angle on the tailgate side. It should be noted that the surface at the headgate showed signs of some horizontal movement that caused the monuments on the surface to move downhill. This situation caused some of the

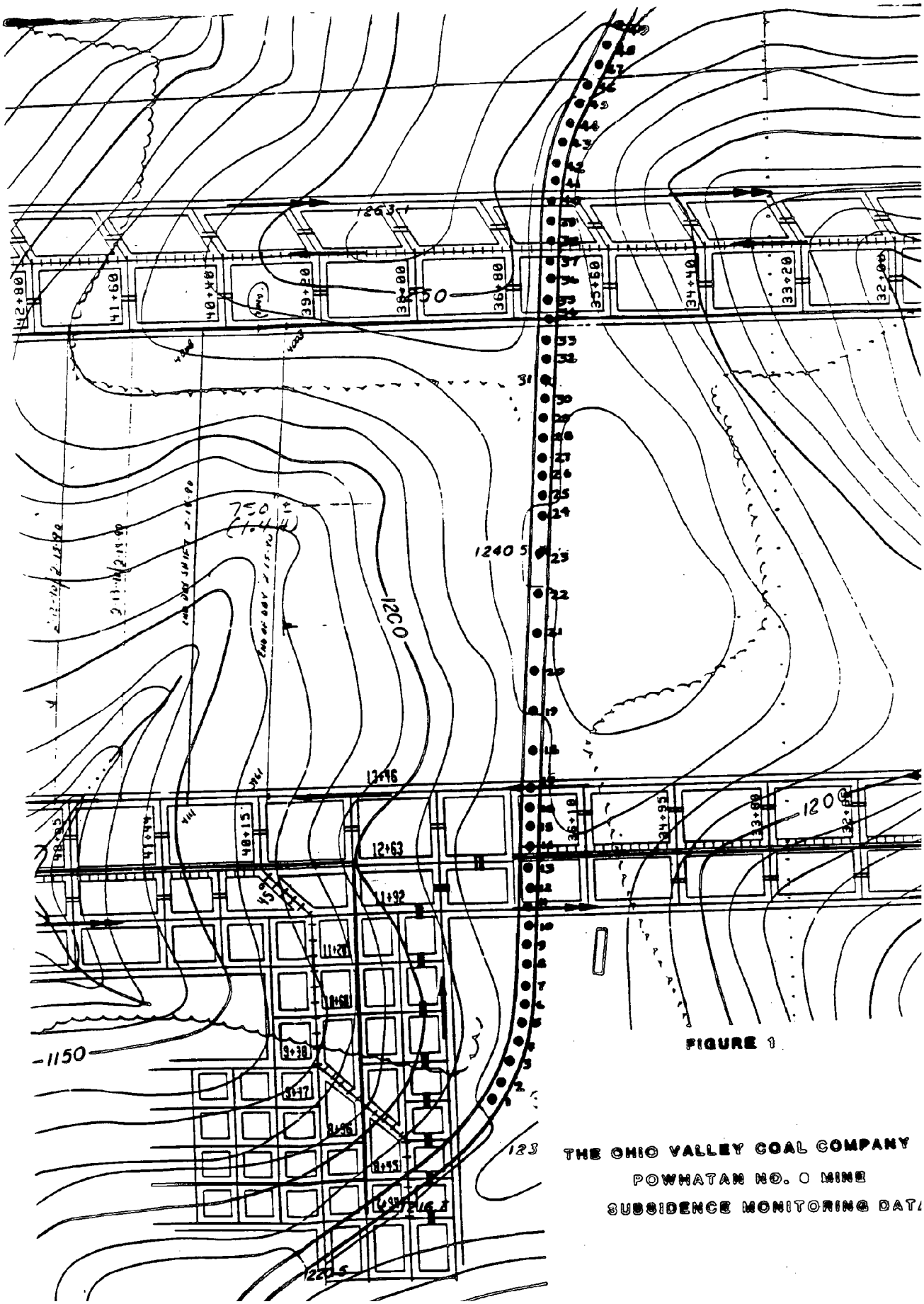


FIGURE 1

THE OHIO VALLEY COAL COMPANY

POWHATAN NO. 6 MINE

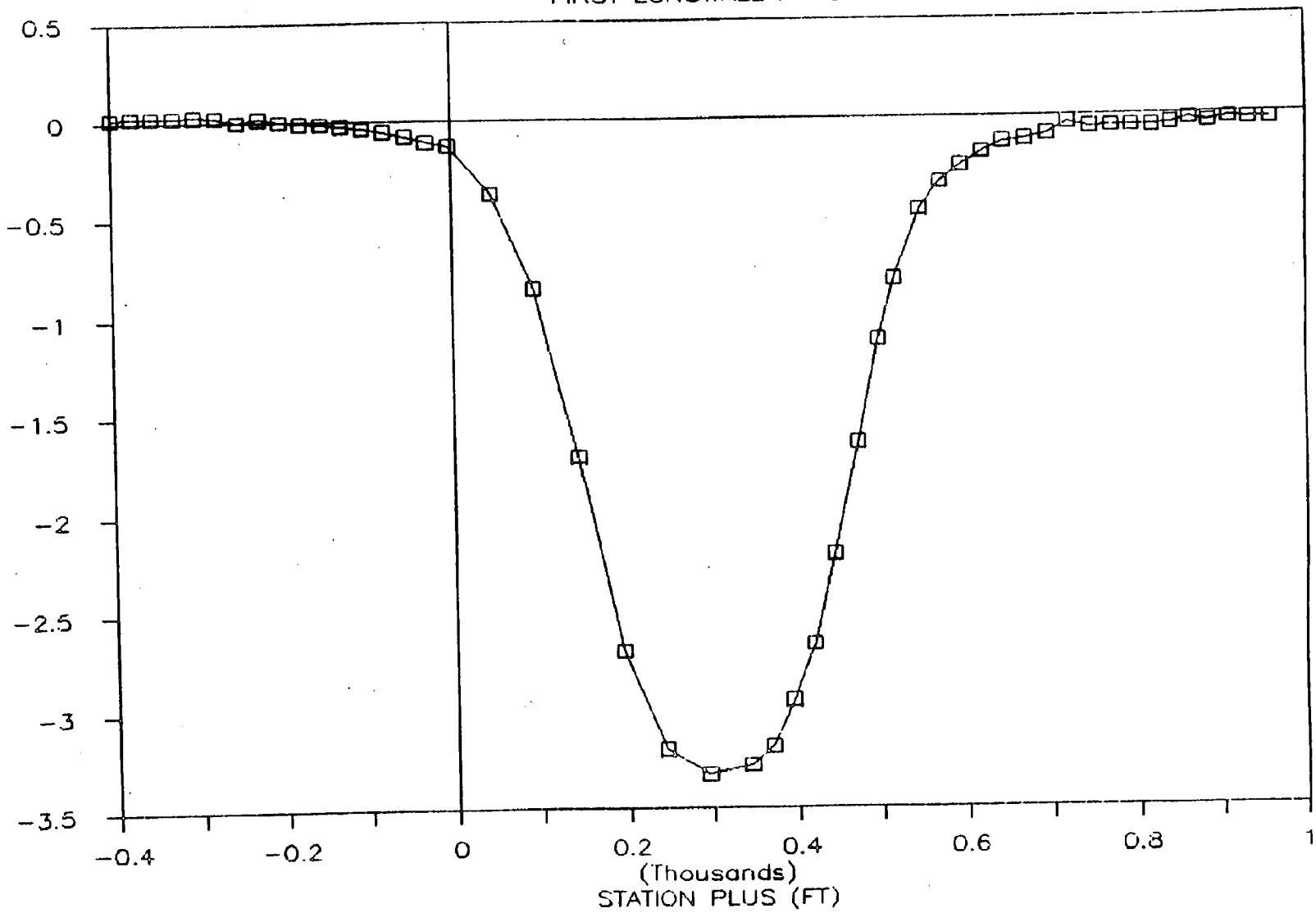
SUBSIDENCE MONITORING DATA

TOVCC 10606

FIGURE 2

SUBSIDENCE PROFILE

FIRST LONGWALL PANEL



TOVCC 10607

TABLE 1
SUBSIDENCE DATA COLLECTED OVER "FIRST" PANEL

LOCATION IN PANEL	SUBSIDENCE STATION	STATION PLUS	AVERAGE SINCE 03-05-90
	1	-399.88	0.02
	2	-376.10	0.02
	3	-352.31	0.02
	4	-327.81	0.02
	5	-302.74	0.03
	6	-277.67	0.02
	7	-252.91	0.00
	8	-228.06	0.02
	9	-203.22	0.00
	10	-178.02	-0.01
	11	-152.98	-0.01
	12	-128.17	-0.02
	13	-103.76	-0.04
	14	-79.23	-0.05
	15	-53.91	-0.08
	16	-29.53	-0.11
T. G.	17	-4.67	-0.13
	18	44.98	-0.37
	19	94.67	-0.86
	20	144.40	-1.71
	21	194.26	-2.70
	22	244.94	-3.20
CENTER	23	295.08	-3.33
	24	344.43	-3.28
	25	369.29	-3.19
	26	394.09	-2.95
	27	418.96	-2.67
	28	443.77	-2.21
	29	472.83	-1.64
	30	497.74	-1.12
	31	517.68	-0.81
	32	547.66	-0.47
	33	572.62	-0.33
H. G.	34	597.63	-0.24
	35	622.37	-0.18
	36	647.21	-0.13
	37	672.17	-0.11
	38	697.21	-0.09
	39	722.39	-0.03
	40	747.40	-0.06
	41	771.54	-0.05
	42	794.95	-0.06
	43	818.47	-0.06
	44	841.35	-0.05
	45	864.06	-0.03
	46	886.73	-0.04
	47	909.96	-0.02
	48	933.35	-0.03
	49	960.15	-0.03

Values shown in ft.
Negative value indicates downward movement.

displacement of the monuments to the north of the angle of draw. However, with the surveying instruments that were used, an accuracy of 0.02 ft. was used, and the displacement north of the angle of draw was minimal.

The longwall panel passed under the road on February 20, 1990. The first subsidence was observed on February 21, with 99 percent of the maximum subsidence occurring by March 5, 1990 (within 13 days).

The second longwall panel was initially instrumented and the pre-mining elevations were determined. Subsequent measurements were not made, and a search for the monuments revealed that most of the monuments could not be found. However, measurements of the monuments over the first panel showed that the ground had experienced displacements as far south as the middle of the first panel. It was attributed to the collapse of the pillars between the panels, although some movement probably occurred in a downhill direction.

The maximum subsidence occurred near the center of the panel being mined and was measured at approximately 64 percent of the extracted seam thickness. Normally, this represents about 40 in. of subsidence.

Monitoring Over Sixth (10 West) and Seventh (11 West) Panels

State Route 9 south of Centerville, Ohio was targeted for the next subsidence monitoring program. This program monitored subsidence over two subsequent panels to further show the effect of the surface movement relative to subsequent longwall panels.

The results for the first panel mined in this set (10 West) was identical to the results for the 5 West panel, except that there were indications that subsidence occurred well into the previous panel as a result of the pillar failure and related vertical movement. Since the 9 West panel was not instrumented or monitored, the initial subsidence is not indicated over the 8 West gate entries. Graphs 1 and 2 show the time dependent subsidence during the monitoring program.

Graph 3 shows the subsidence over the common gate section when the first and second panels pass. When the second panel passes, over one ft. of subsidence occurs when the second panel subsides. If the pillars had not failed, only minor vertical movement would have occurred, similar to when the first panel passed. The maximum angle of draw was found to be 13 degrees over the solid coal to the north of the 11 West gate entries. Subsidence again extended to the middle of the 10 West panel, thus showing the predictable nature of longwall mining subsidence. In addition, the magnitude of the subsidence over these two panels was 67 and 65 percent, nearly the same as for the 5 West panel. The data shows that longwall mining subsidence also is controlled and planned as to the location and timing of the subsidence. Graph 4 shows the longwall subsidence profile similar to the one produced for the first longwall panel (5 West).

TABLE 2

II. DIFFERENCE IN GROUND ELEVATIONS: First LW Panel

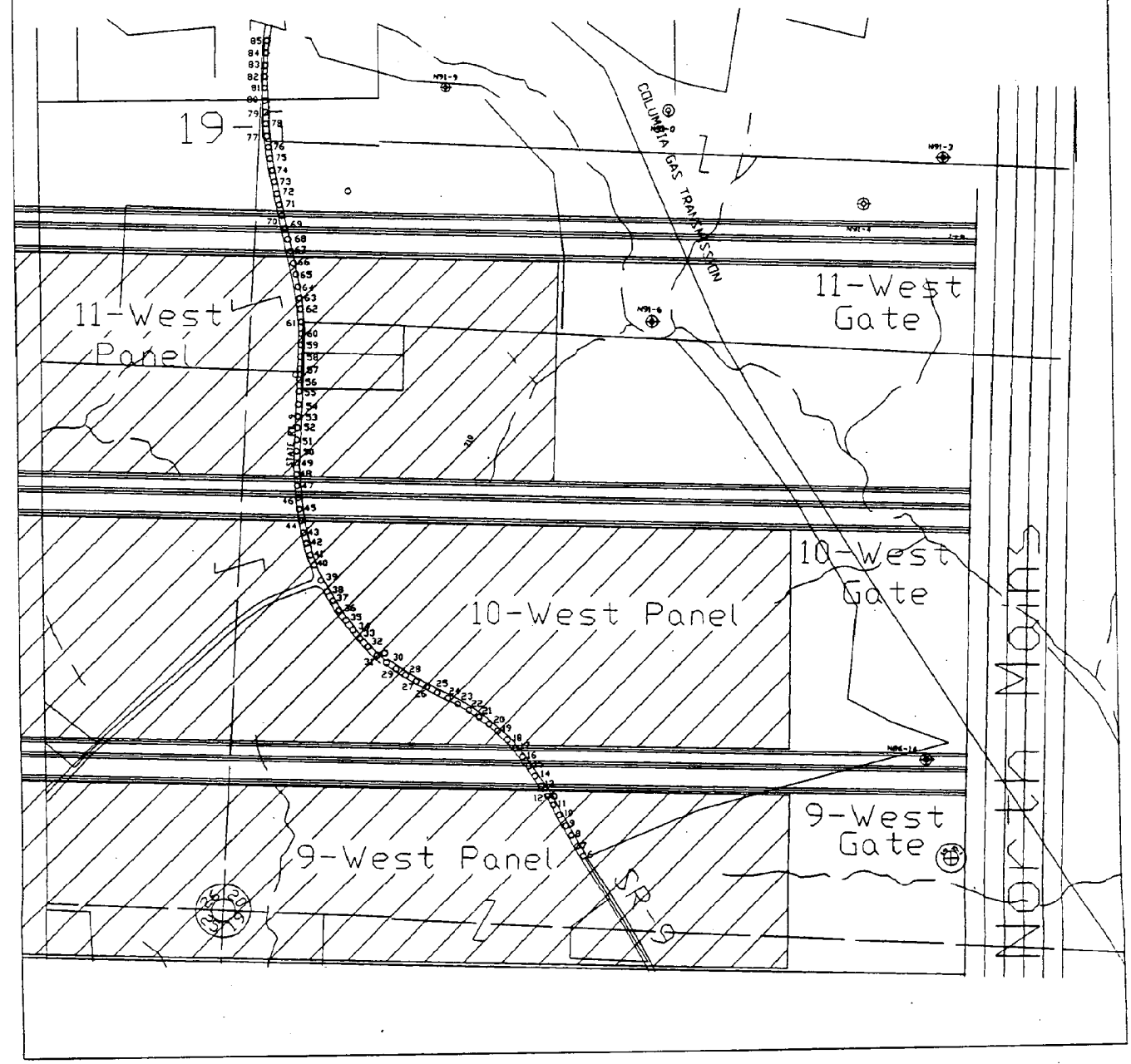
STATION NUMBER	SURVEY DATE 02-10-90	02-16-90	02-21-90	02-23-90	02-26-90	02-28-90	03-02-90	03-05-90	03-12-90	03-19-90	04-12-90	06-11-90	AVERAGE SINCE 03-05-90 ********
1	0.01	0.01	0.00	0.00	0.00	0.01	0.02	0.01	0.03	0.05	-0.01	0.00	0.02
2	0.00	0.02	0.01	-0.02	0.00	0.01	0.01	0.02	0.02	0.05	0.01	0.07	0.02
3	0.03	0.03	0.01	0.01	0.01	0.01	0.03	0.02	0.02	0.05	0.01	0.08	0.02
4	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.03	0.05	0.01	0.04	0.02
5	0.03	0.02	0.03	0.02	0.02	0.02	0.00	0.00	0.01	0.06	0.01	0.07	0.03
6	0.02	0.01	0.01	0.01	0.00	0.01	0.03	0.02	0.02	0.05	0.01	0.07	0.02
7	-0.03	-0.01	0.00	-0.02	-0.01	-0.00	0.01	0.00	0.00	0.03	-0.02	0.05	0.00
8	0.01	0.01	0.02	0.00	0.01	0.01	0.02	0.01	0.02	0.04	0.00	0.06	0.02
9	0.01	0.01	0.00	0.00	0.00	-0.00	0.01	-0.01	0.00	0.03	-0.01	-1.96	0.00
10	0.01	0.01	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.02	-0.03	0.00	-0.01
11	0.08	0.01	0.00	-0.01	0.01	-0.01	-0.01	-0.01	-0.03	0.01	-0.02	0.03	-0.01
12	0.08	0.01	-0.01	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03	0.00	-0.03	0.02	-0.02
13	-0.04	0.01	-0.01	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04	-0.01	-0.06	0.00	-0.04
14	0.07	0.00	-0.01	-0.04	-0.03	-0.07	-0.05	-0.06	-0.06	-0.02	-0.07	-0.01	-0.05
15	0.08	-0.01	-0.02	-0.05	-0.07	-0.08	-0.08	-0.06	-0.08	-0.06	-0.11	-0.05	-0.08
16	0.07	0.00	-0.03	-0.08	-0.09	-0.10	-0.10	-0.11	-0.11	-0.08	-0.13	-0.07	-0.11
T.G. 17	0.11	0.05	0.01	-0.06	-0.09	-0.11	-0.12	-0.13	-0.13	-0.10	-0.15	-0.09	-0.13
18	0.03	0.01	-0.06	-0.21	-0.29	-0.34	-0.35	-0.36	-0.36	-0.30	-0.43	-0.36	-0.37
19	0.08	0.02	-0.07	-0.49	-0.68	-0.81	-0.83	-0.84	-0.85	-0.83	-0.90	-0.86	-0.86
20	0.09	0.00	-0.13	-1.13	-1.47	-1.65	-1.68	-1.69	-1.71	-1.69	-1.75	-1.73	-1.71
21	0.10	-0.01	-0.18	-1.97	-2.41	-2.60	-2.65	-2.68	-2.70	-2.67	-2.70	-2.71	-2.70
22	0.08	-0.01	-0.22	-2.43	-2.90	-3.09	-3.11	-3.17	-3.22	-3.18	-3.22	-3.21	-3.20
Center 23	0.11	0.01	-0.21	-2.54	-3.01	-3.23	-3.23	-3.31	-3.36	-3.30	-3.34	-3.34	-3.33
24	0.09	0.00	-0.21	-2.48	-2.96	-3.19	-3.20	-3.28	-3.30	-3.25	-3.30	-3.30	-3.28
25	0.08	-0.01	-0.20	-2.37	-2.89	-3.08	-3.09	-3.18	-3.21	-3.15	-3.20	-3.20	-3.19
26	0.09	-0.01	-0.17	-2.13	-2.62	-2.85	-2.87	-2.93	-2.97	-2.92	-2.98	-2.97	-2.95
27	0.06	-0.03	-0.18	-1.84	-2.32	-2.56	-2.57	-2.66	-2.70	-2.63	-2.68	-2.68	-2.67
28	0.07	-0.03	-0.15	-1.41	-1.88	-2.11	-2.13	-2.20	-2.24	-2.17	-2.22	-2.22	-2.21
29	0.08	0.00	-0.06	-0.71	-1.24	-1.52	-1.53	-1.65	-1.66	-1.60	-1.66	-1.64	-1.60
30	0.09	0.00	-0.04	-0.44	-0.79	-1.02	-1.03	-1.12	-1.13	-1.08	-1.10	-1.13	-1.12
31	0.07	-0.01	-0.03	-0.33	-0.55	-0.72	-0.73	-0.81	-0.80	-0.78	-0.83	-0.82	-0.81
32	0.09	0.00	-0.04	-0.21	-0.32	-0.40	-0.38	-0.47	-0.49	-0.42	-0.48	-0.46	-0.47
33	0.08	-0.02	-0.03	-0.16	-0.24	-0.28	-0.25	-0.33	-0.36	-0.28	-0.30	-0.31	-0.33
H.G. 34	0.08	-0.02	-0.03	-0.12	-0.18	-0.19	-0.16	-0.24	-0.30	-0.19	-0.29	-0.23	-0.24
35	0.08	-0.02	-0.02	-0.08	-0.13	-0.14	-0.11	-0.18	-0.21	-0.14	-0.19	-0.16	-0.18
36	0.09	0.00	0.01	-0.06	-0.09	-0.09	-0.06	-0.14	-0.16	-0.08	-0.13	-0.11	-0.13
37	0.07	-0.01	-0.01	-0.06	-0.09	-0.08	-0.05	-0.12	-0.15	-0.07	-0.12	-0.09	-0.11
38	0.06	-0.01	-0.03	-0.09	-0.07	-0.06	-0.03	-0.10	-0.11	-0.05	-0.10	-0.07	-0.09
39	0.10	0.03	0.05	-0.01	-0.02	0.00	0.03	-0.04	-0.06	0.01	-0.04	-0.01	-0.03
40	0.08	0.01	0.03	-0.02	-0.06	-0.03	0.00	-0.07	-0.08	-0.02	-0.07		-0.06
41	0.09	0.00	0.01	-0.03	-0.05	-0.03	0.01	-0.07	-0.08	-0.01	-0.06		-0.05
42	0.10	0.00	0.01	-0.01	-0.03	-0.02	0.01	-0.07	-0.08	-0.01	-0.06	-0.02	-0.06
43	0.06	0.00	0.03	-0.02	-0.04	-0.02	0.01	-0.07	-0.09	-0.01	-0.06	-0.03	-0.06
44	0.08	-0.01	0.03	-0.02	-0.03	-0.01	0.02	-0.08	-0.08	0.01	-0.04	-0.01	-0.05
45	0.07	-0.01	0.03	-0.01	-0.01	-0.00	0.00	-0.04	-0.05	0.02	-0.03		-0.03
46	0.07	-0.01	0.02	-0.01	-0.05	-0.01	0.02	-0.03	-0.07	0.00	-0.05	-0.01	-0.00
47	0.05	0.01	0.05	-0.01	-0.02	0.00	0.03	-0.03	-0.06	0.02	-0.03	0.01	-0.02
48	0.07	-0.01	0.00	0.00	-0.02	-0.00	0.02	-0.00	-0.06	0.01	-0.03	0.01	-0.03
49	0.06	-0.02	0.03	0.00	-0.05	0.00	-2.97	-0.03	-0.07	0.01	-0.03	0.01	-0.03
Distance LW face is from road (in feet):		-430	-248	+58	+253	+340	+516	+678	+809				

\- sign means West of road + sign means East of road

Values shown in ft.
Negative value indicates

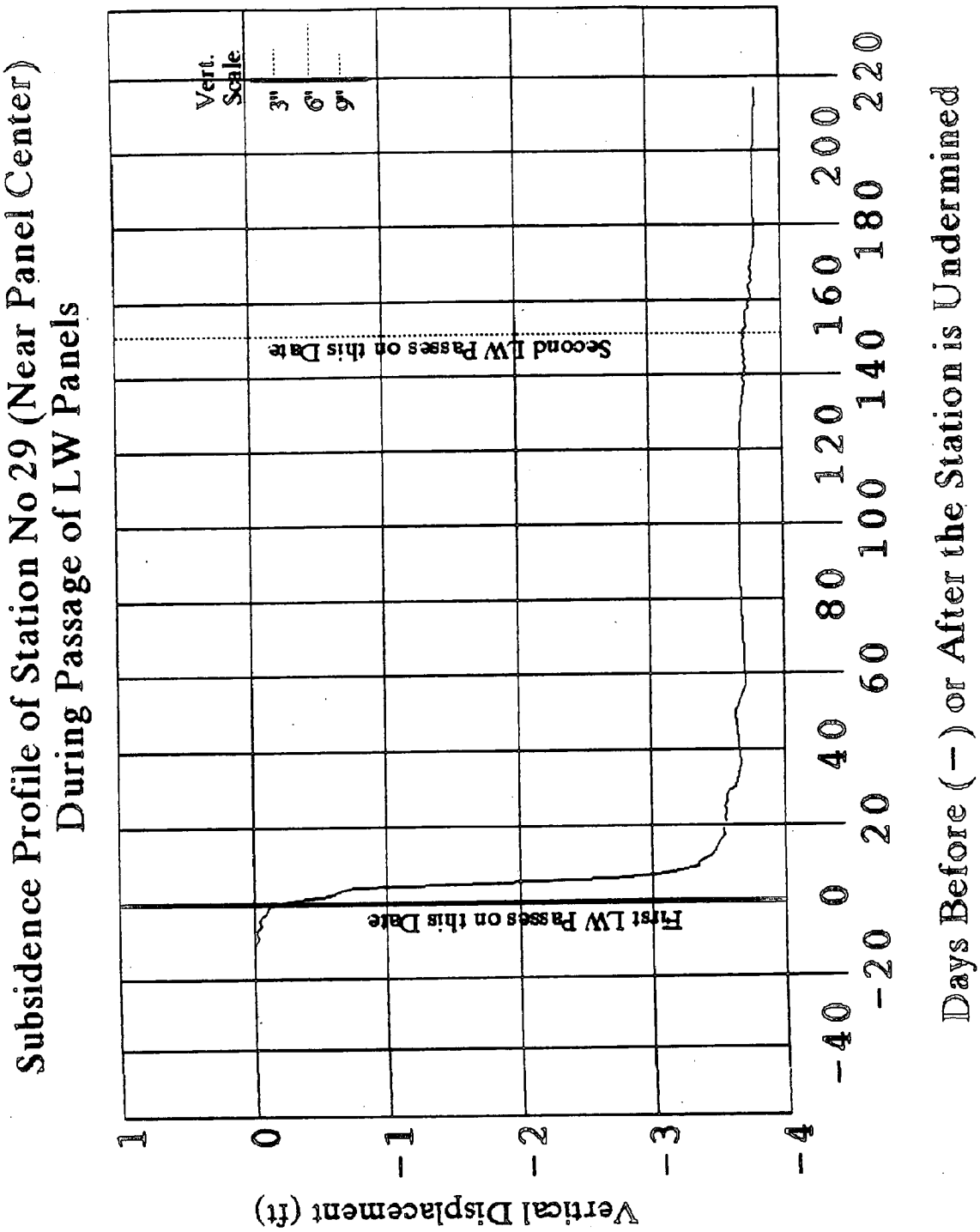
TOVCC 10610

The Ohio Valley Coal Company
Powhatan No. 6 Mine
Permit D-0360
Location of Monitoring Points
Along State Route 9
(Scale 1"= 500')

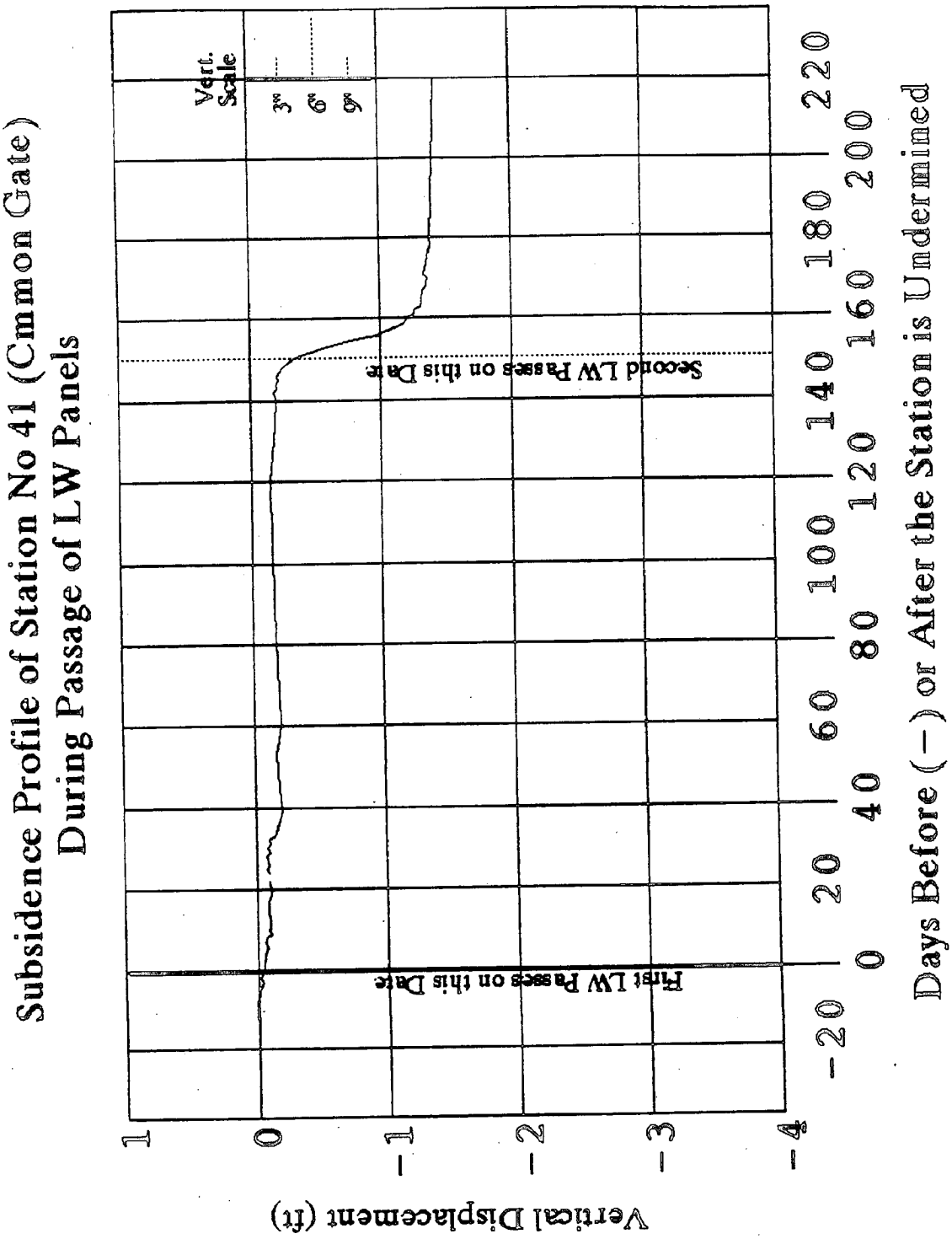


TOVCC 10611

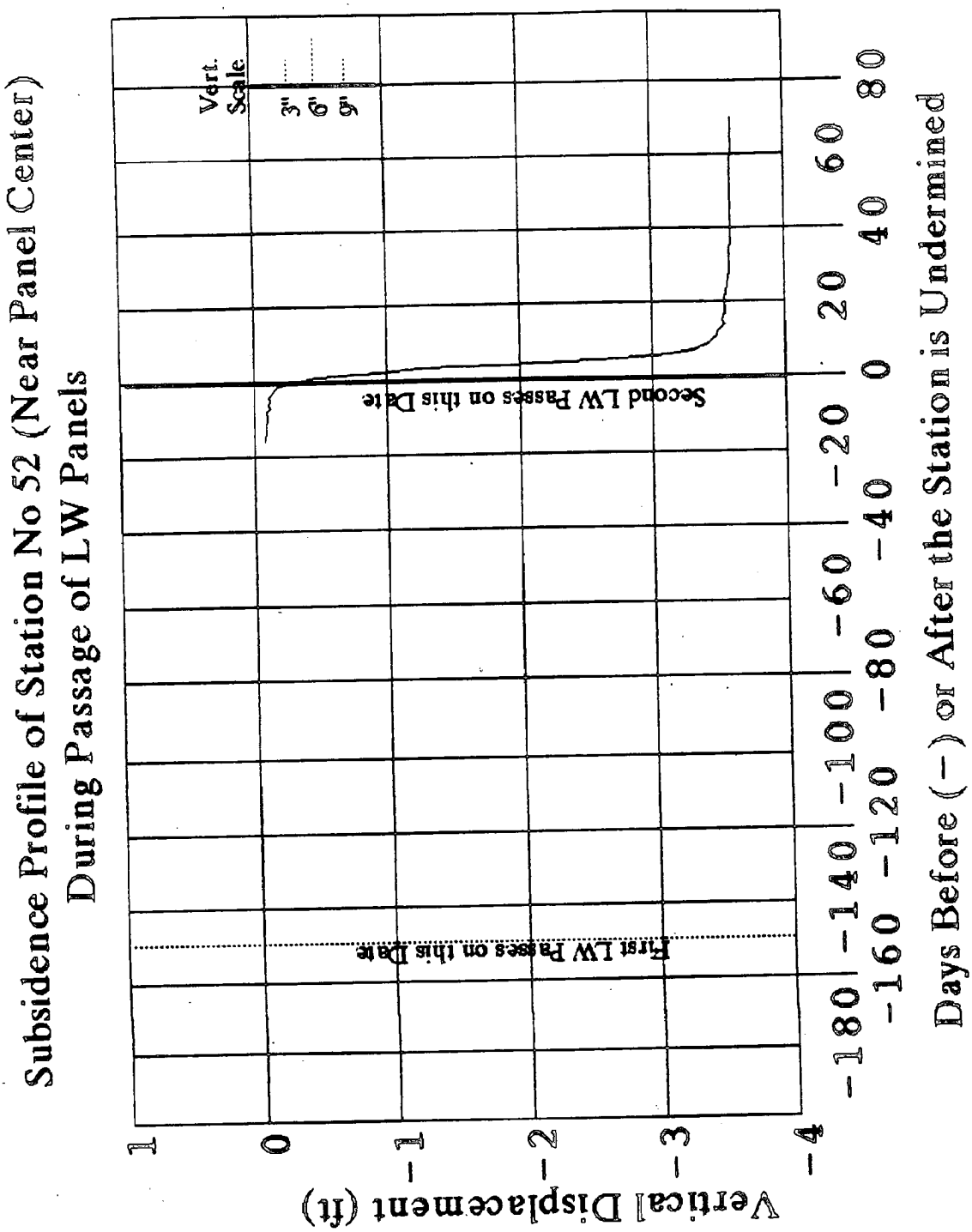
GRAPH #1


Subsidence Profile of Station No 29 (Near Panel Center)
During Passage of LW Panels
Vertical Displacement (ft)
1
0
-1
-2
-3
-4
Vert. Scale
3"
6"
9"
First LW Passes on this Date
Second LW Passes on this Date
-40
-20
0
20
40
60
80
100
120
140
160
180
200
220
Days Before (-) or After the Station is Undermined

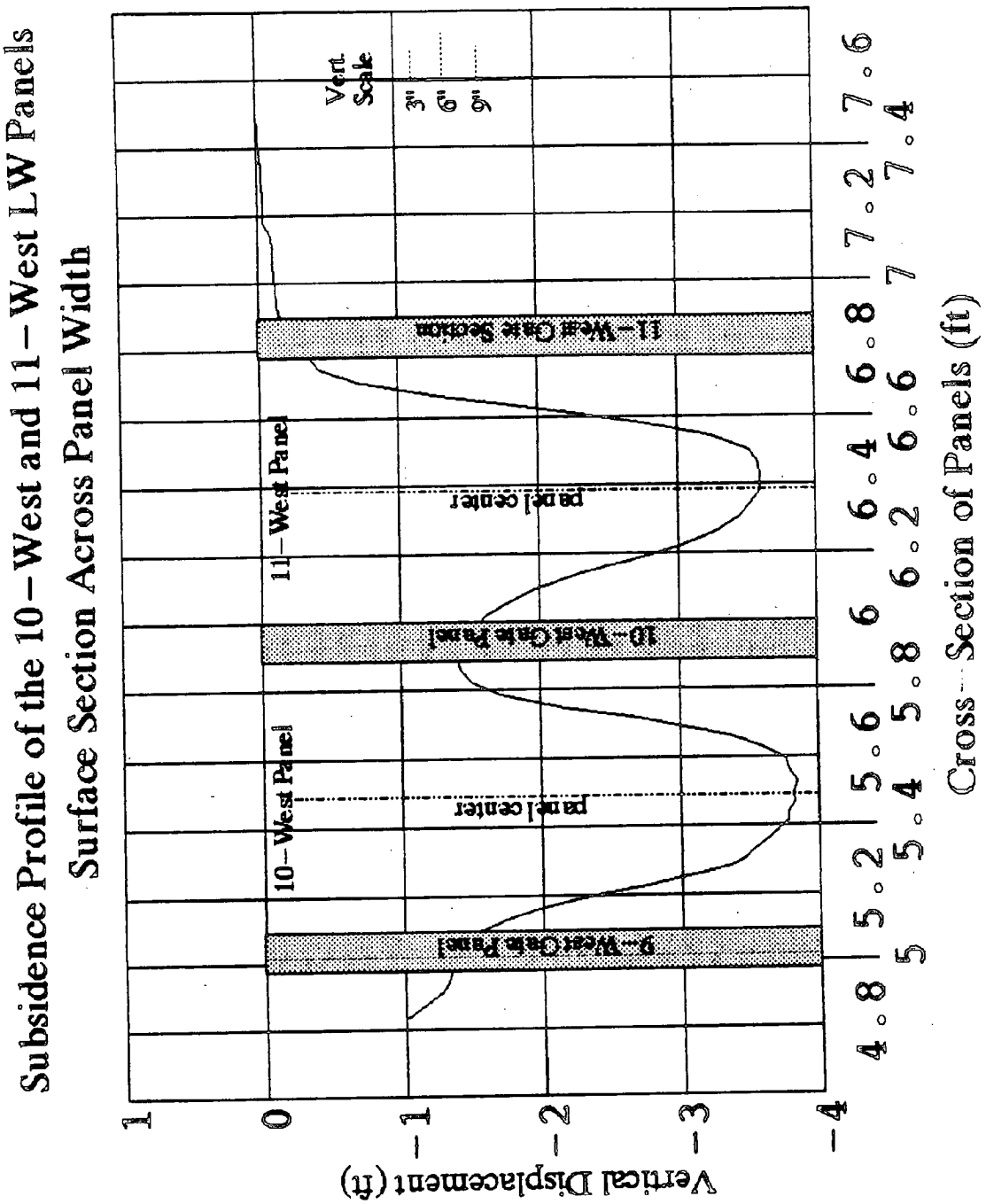
GRAPH #3


Subsidence Profile of Station No 41 (Common Gate)
During Passage of LW Panels
Vertical Displacement (ft)
1
0
-1
-2
-3
-4
Vert. Scale
3"
6"
9"
First LW Passes on this Date
Second LW Passes on this Date
-20
0
20
40
60
80
100
120
140
160
180
200
220
Days Before (-) or After the Station is Undermined

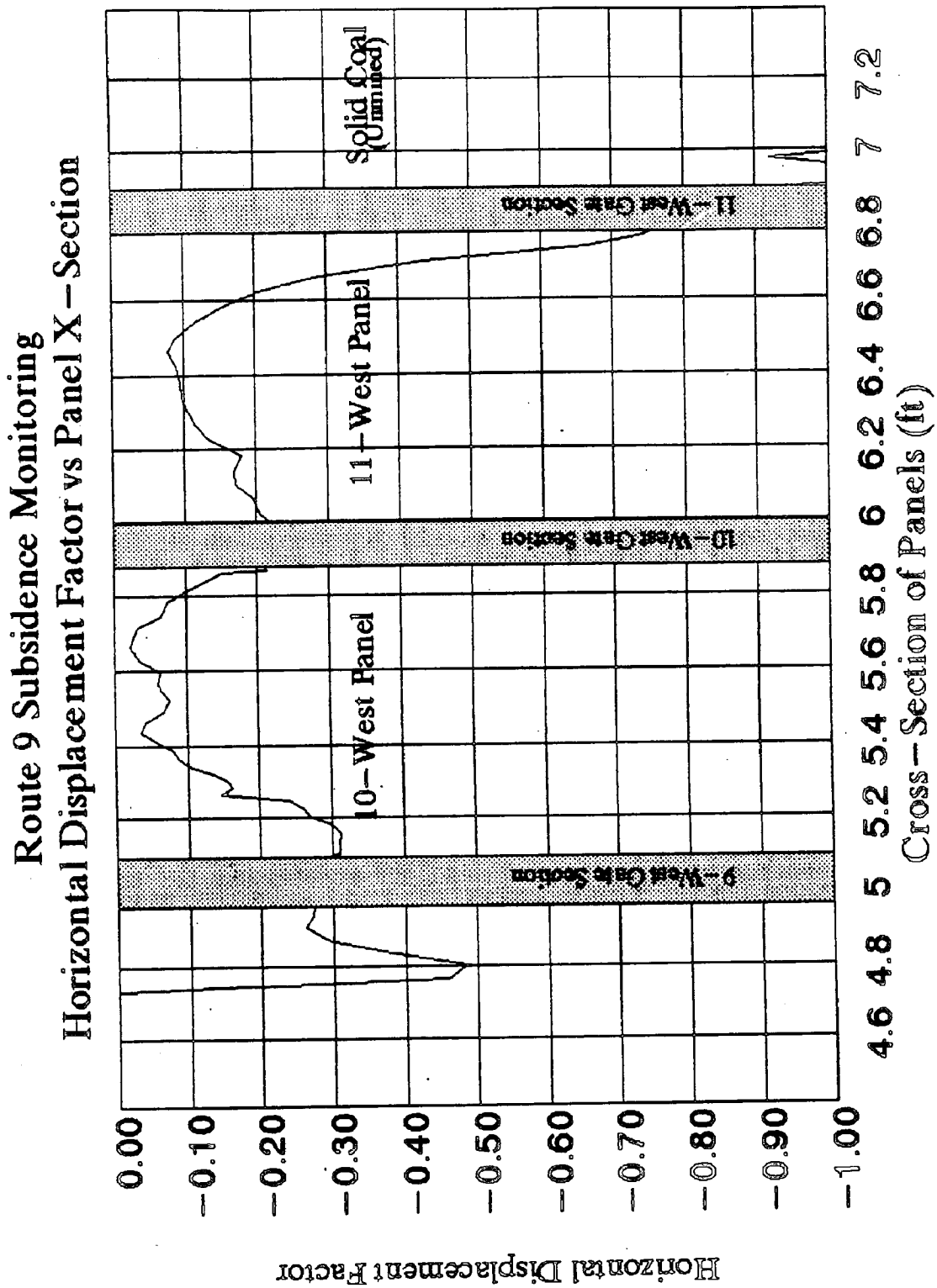
GRAPH #2


Subsidence Profile of Station No 52 (Near Panel Center)
During Passage of LW Panels
Vertical Displacement (ft)
1
0
-1
-2
-3
-4
Vert. Scale
3"
6"
9"
First LW Passes on this Date
Second LW Passes on this Date
-180 -160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80
Days Before (-) or After the Station is Undermined

GRAPH #4


Subsidence Profile of the 10–West and 11–West LW Panels
Surface Section Across Panel Width
Vertical Displacement (ft)
1
0
−1
−2
−3
−4
Vert Scale
3"
6"
9"
11–West Panel
panel center
11–West Gate Section
10–West Panel
panel center
10–West Gate Panel
9–West Gate Panel
4.8
5
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
7
7.2
7.4
7.6
Cross–Section of Panels (ft)

GRAPH #5


Route 9 Subsidence Monitoring
Horizontal Displacement Factor vs Panel X – Section
Horizontal Displacement Factor
0.00
−0.10
−0.20
−0.30
−0.40
−0.50
−0.60
−0.70
−0.80
−0.90
−1.00
4.6 4.8 5 5.2 5.4 5.6 5.8 6 6.2 6.4 6.6 6.8 7 7.2
Cross – Section of Panels (ft)
9 – West Gate Section
10 – West Panel
10 – West Gate Section
11 – West Panel
11 – West Gate Section
Solid Coal (Unmined)

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGINATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	10-WEST (FIRST PANEL)										
SURVEY NUMBER>	0	1	2	3	4	5	6	7	8	9	10
SURVEY DATE>	10-18-91	10-28-91	10-30-91	10-31-91	11-01-91	11-02-91	11-03-91	11-04-91	11-05-91	11-06-91	11-07-91
LONGWALL STATUS>	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	IDLE	RUNNING	RUNNING	RUNNING	RUNNING
DAYS AFTER 1st SURVEY>	0	10	12	13	14	15	16	17	18	19	20
FACE PLUS @ SURVEY>	3440	2842	2693	2659	2581	2500	2468	2439	2360	2289	2255
STATION NUMBER:											
4	0.00	0.00	-0.03	-0.02	-0.04	-0.06	-0.03	-0.01	-0.05	-0.05	-0.01
5	0.00	0.03	-0.03	0.00	-0.02	-0.02	0.01	0.03	-0.03	-0.02	0.00
6	0.00	-0.01	-0.04	-0.02	-0.06	-0.06	-0.02	0.01	-0.04	-0.07	-0.04
7	0.00	-0.01	-0.03	-0.03	-0.04	-0.06	-0.03	-0.01	-0.05	-0.07	-0.03
8	0.00	0.01	-0.02	-0.01	-0.03	-0.04	-0.01	0.01	-0.04	-0.06	-0.03
Edge of Gob>											
9	0.00	0.01	-0.03	-0.02	-0.04	-0.05	-0.04	-0.01	-0.04	-0.07	-0.03
10	0.00	0.01	-0.03	-0.02	-0.04	-0.05	-0.07	-0.01	-0.04	-0.07	-0.03
11	0.00	0.00	-0.04	-0.03	-0.05	-0.08	-0.06	-0.01	-0.06	-0.07	-0.04
Edge of Gob>											
12	0.00	0.02	-0.03	-0.02	-0.04	-0.05	-0.05	0.00	-0.03	-0.07	-0.03
13	0.00	0.00	-0.04	-0.03	-0.05	-0.06	-0.06	-0.02	-0.07	-0.08	-0.05
14	0.00	0.00	-0.03	-0.02	-0.05	-0.06	-0.05	-0.02	-0.06	-0.09	-0.05
15	0.00	0.00	-0.04	-0.03	-0.05	-0.07	-0.04	-0.02	-0.07	-0.08	-0.05
16	0.00	0.00	-0.03	-0.03	-0.05	-0.07	-0.05	-0.02	-0.07	-0.08	-0.05
17	0.00	0.00	-0.03	-0.03	-0.05	-0.07	-0.05	-0.03	-0.07	-0.08	-0.05
18	0.00	0.00	-0.04	-0.03	-0.05	-0.08	0.18	-0.03	-0.07	-0.08	-0.05
19	0.00	0.00	-0.04	-0.03	-0.05	-0.07	-0.06	-0.02	-0.07	-0.08	-0.05
20	0.00	0.00	-0.04	-0.03	-0.04	-0.06	-0.05	-0.01	-0.07	-0.08	-0.04
21	0.00	0.00	-0.03	-0.02	-0.04	-0.06	0.57	-0.02	-0.06	-0.07	-0.04
22	0.00	0.01	-0.02	-0.01	-0.03	-0.05	-0.03	-0.01	-0.06	-0.06	-0.03
23	0.00	0.00	-0.03	-0.02	-0.04	-0.06	-0.04	-0.02	-0.07	-0.07	-0.06
24	0.00	0.01	-0.03	-0.02	-0.04	-0.05	-0.04	-0.03	-0.07	-0.07	-0.07
25	0.00	0.00	-0.03	-0.02	-0.04	-0.06	-0.05	-0.04	-0.09	-0.08	-0.08
26	0.00	0.01	-0.02	-0.01	-0.03	-0.06	-0.03	-0.04	-0.08	-0.08	-0.09
27	0.00	0.02	-0.03	-0.02	-0.04	-0.06	-0.04	-0.04	-0.09	-0.09	-0.10
28	0.00	0.00	-0.02	-0.01	-0.03	-0.06	-0.03	-0.04	-0.08	-0.09	-0.10
Near Panel Center> 29	0.00	0.00	-0.03	-0.01	-0.03	-0.06	-0.04	-0.05	-0.09	-0.10	-0.12
30	0.00	0.00	-0.03	-0.02	-0.04	-0.08	-0.04	-0.05	-0.10	-0.11	-0.13
31	0.00	0.00	-0.03	-0.02	-0.04	-0.06	-0.04	-0.06	-0.09	-0.13	-0.15
32	0.00	-0.05	-0.08	-0.08	-0.09	-0.11	-0.10	-0.11	-0.15	-0.19	-0.22
33	0.00	0.01	-0.04	-0.02	-0.04	0.66	-0.05	-0.07	-0.10	-0.15	-0.19
34	0.00	0.00	-0.03	-0.03	-0.04	-0.06	-0.05	-0.07	-0.10	-0.15	-0.20
35	0.00	-0.01	-0.04	-0.04	-0.05	-0.07	-0.14	-0.07	-0.11	-0.16	-0.20
36	0.00	0.00	-0.03	-0.03	-0.04	-0.06	-0.05	-0.07	-0.10	-0.14	-0.18
37	0.00	0.01	-0.01	-0.02	-0.02	-0.05	-0.03	-0.04	-0.08	-0.11	-0.13
38	0.00	0.00	-0.02	-0.02	-0.03	-0.06	-0.04	-0.05	-0.08	-0.11	-0.12
39	0.00	0.01	-0.01	-0.02	-0.02	-0.04	-0.03	-0.04	-0.07	-0.08	-0.09
Edge of Gob>											
40	0.00	0.00	-0.02	0.08	-0.03	-0.05	-0.02	-0.04	-0.07	-0.07	-0.08
41	0.00	0.01	-0.01	-0.01	-0.02	-0.04	-0.02	-0.03	-0.06	-0.05	-0.05
42	0.00	0.02	0.00	-0.01	-0.01	-0.03	0.00	-0.02	-0.05	-0.03	-0.03
Edge of Gob>											
43	0.00	0.03	0.00	0.00	-0.02	-0.02	-0.01	-0.02	-0.04	-0.03	-0.01
44	0.00	0.02	0.00	-0.01	-0.01	-0.02	-0.01	-0.03	-0.03	-0.02	-0.03
45	0.00	0.03	0.01	0.00	0.00	-0.02	0.01	0.00	-0.03	-0.01	0.00
46	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-
Near Panel Center> 52	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
62	-	-	-	-	-	-	-	-	-	-	-
63	-	-	-	-	-	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
65	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-
67	-	-	-	-	-	-	-	-	-	-	-
68	-	-	-	-	-	-	-	-	-	-	-
69	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-
71	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-
73	-	-	-	-	-	-	-	-	-	-	-
74	-	-	-	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-	-	-	-
76	-	-	-	-	-	-	-	-	-	-	-
77	-	-	-	-	-	-	-	-	-	-	-
78	-	-	-	-	-	-	-	-	-	-	-
79	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-	-	-

TOVCC 10617

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGINATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	10-WEST (FIRST PANEL)										
SURVEY NUMBER>	11	12	13	14	15	16	17	18	19	20	21
SURVEY DATE>	11-08-91	11-09-91	11-10-91	11-11-91	11-12-91	11-13-91	11-14-91	11-15-91	11-16-91	11-17-91	11-18-91
LONGWALL STATUS>	RUNNING	RUNNING	IDLE	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	IDLE	RUNNING
DAYS AFTER 1st SURVEY>	21	22	23	24	25	26	27	28	29	30	31
FACE PLUS @ SURVEY>	2180	2128	2090	2090	2061	1980	1911	1869	1800	1754	1722
STATION NUMBER:											
4	0.00	0.01	-0.04	-0.07	0.01	-0.05	-0.01	-0.02	-0.04	-0.05	-0.03
5	0.02	0.03	-0.01	-0.03	0.02	-0.02	0.01	0.00	-0.04	-0.04	-0.01
6	-0.01	0.01	-0.05	-0.07	0.01	-0.05	-0.03	-0.03	-0.03	-0.07	-0.04
7	-0.02	-0.01	-0.04	-0.06	-0.01	-0.05	-0.02	-0.04	-0.05	-0.07	-0.06
8	0.00	0.01	-0.03	-0.05	0.00	-0.04	-0.01	-0.02	-0.05	-0.06	-0.04
Edge of Gob>											
9	0.09	0.00	-0.04	-0.05	-0.01	-0.05	-0.02	-0.02	-0.06	-0.07	-0.05
10	-0.01	-0.01	-0.04	-0.06	-0.01	-0.05	-0.02	-0.04	-0.03	-0.07	-0.05
11	-0.02	0.00	-0.05	-0.07	-0.02	-0.06	-0.03	-0.04	-0.07	-0.08	-0.06
Edge of Gob>											
12	-0.01	0.00	-0.04	-0.05	-0.01	-0.05	-0.02	-0.03	-0.06	-0.07	-0.06
13	-0.02	-0.01	-0.06	-0.07	-0.02	-0.07	-0.03	-0.05	-0.07	-0.09	-0.08
14	-0.02	-0.01	-0.05	-0.07	-0.02	-0.07	-0.03	-0.04	-0.08	-0.10	-0.10
15	-0.03	-0.02	-0.06	-0.07	-0.03	-0.07	-0.04	-0.05	-0.09	-0.12	-0.13
16	-0.03	-0.02	-0.06	-0.07	-0.03	-0.07	-0.04	-0.06	-0.10	-0.15	-0.17
17	-0.03	-0.02	-0.06	-0.08	-0.03	-0.08	-0.05	-0.07	-0.14	-0.23	-0.29
18	-0.03	-0.02	-0.06	-0.09	-0.03	-0.09	-0.06	-0.10	-0.20	-0.37	-0.49
19	-0.03	-0.03	-0.07	-0.09	-0.04	-0.09	-0.09	-0.13	-0.30	-0.59	-0.77
20	-0.03	-0.03	-0.06	-0.08	-0.03	-0.09	-0.10	-0.19	-0.49	-0.94	-1.68
21	-0.04	-0.03	-0.07	-0.12	-0.04	-0.11	-0.14	-0.30	-0.75	-1.36	-1.63
22	-0.04	-0.03	-0.07		-0.04	-0.12	-0.21	-0.49	-1.11	-1.80	-2.03
23	-0.06	-0.06	-0.09	-0.11	-0.07	-0.18	-0.40	-0.87	-1.60	-2.24	-2.41
24	-0.07	-0.07	-0.11	-0.14	-0.10	-0.26	-0.67	-1.32	-2.09	-2.58	-2.69
25	-0.08	-0.10	-0.15	-0.18	-0.15	-0.39	-1.07	-1.81	-2.44	-2.81	-2.88
26	-0.09	-0.12	-0.20	-0.23	-0.22	-0.62	-1.58	-2.30	-2.80	-3.09	-3.12
27	-0.11	-0.17	-0.30	-0.33	-0.35	-1.01	-2.07	-2.64	-2.97	-3.18	-3.21
28	-0.13	-0.23	-0.40	-0.45	-0.51	-1.43	-2.44	-2.90	-3.13	-3.29	-3.31
Near Panel Center> 29	-0.16	-0.33	-0.58	-0.64	-0.75	-1.82	-2.69	-3.02	-3.21	-3.34	-3.34
30	-0.20	-0.43	-0.79	-0.88	-1.02	-2.15	-2.85	-3.10	-3.24	-3.33	-3.35
31	-0.26	-0.58	-1.05	-1.15	-1.32	-2.39	-2.94	-3.14	-3.25	-3.31	-3.34
32	-0.38	-0.76	-1.33	-1.44	-1.61	-2.54	-2.98	-3.14	-3.23	-3.29	-3.32
33	-0.37	-0.83	-1.43	-1.54	-1.70	-2.48	-2.84	-2.97	-3.06	-3.10	-3.13
34	-0.41	-0.88	-1.44	-1.54	-1.67	-2.24	-2.53	-2.64	-2.71	-2.75	-2.81
35	-0.37	-0.70	-1.03	-1.11	-1.17	-1.48	-1.67	-1.73	-1.78	-1.80	-1.82
36	-0.30	-0.48	-0.64	-0.70	-0.72	-0.88	-1.00	-1.03	-1.07	-1.08	-1.09
37	-0.20	-0.28	-0.34	-0.37	-0.37	-0.42	-0.49	-0.50	-0.52	-0.53	-0.53
38	-0.15	-0.19	-0.22	-0.24	-0.23	-0.26	-0.31	-0.30	-0.32	-0.32	-0.32
39	-0.10	-0.12	-0.14	-0.16	-0.14	-0.16	-0.20	-0.18	-0.20	-0.20	-0.20
Edge of Gob>											
40	-0.07	-0.09	-0.10	-0.13	-0.10	-0.11	-0.15	-0.13	-0.14	-0.14	-0.14
41	-0.06	-0.06	-0.07	-0.09	-0.06	-0.07	-0.11	-0.09	-0.10	-0.10	-0.10
42	-0.01	-0.03	-0.04	-0.06	-0.03	-0.04	-0.08	-0.08	-0.07	-0.07	-0.09
Edge of Gob>											
43	-0.01	-0.01	-0.03	-0.04	-0.02	-0.03	-0.06	-0.04	-0.05	-0.05	-0.05
44	-0.02	-0.01	-0.02	-0.04	-0.01	-0.02	-0.05	-0.04	-0.03	-0.04	-0.04
45	-0.01	0.00	-0.01	-0.03	-0.01	-0.01	-0.04	-0.03	-0.03	-0.03	-0.02
46	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-
Near Panel Center> 52	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
62	-	-	-	-	-	-	-	-	-	-	-
63	-	-	-	-	-	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
65	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-
67	-	-	-	-	-	-	-	-	-	-	-
68	-	-	-	-	-	-	-	-	-	-	-
69	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-
71	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-
73	-	-	-	-	-	-	-	-	-	-	-
74	-	-	-	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-	-	-	-
76	-	-	-	-	-	-	-	-	-	-	-
77	-	-	-	-	-	-	-	-	-	-	-
78	-	-	-	-	-	-	-	-	-	-	-
79	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-	-	-

TOVCC 10618

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	10-WEST (FIRST PANEL)										
SURVEY NUMBER>	22	23	24	25	26	27	28	29	30	31	32
SURVEY DATE>	11-19-91	11-20-91	11-21-91	11-22-91	11-23-91	11-24-91	11-25-91	11-26-91	11-27-91	11-28-91	11-29-91
LONGWALL STATUS>	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	IDLE	RUNNING	RUNNING	RUNNING	IDLE HOLIDAY	IDLE HOLIDAY
DAYS AFTER 1st SURVEY>	32	33	34	35	36	37	38	39	40	41	42
FACE PLUS @ SURVEY>	1669	1625	1540	1465	1431	1404	1369	1289	1259	1233	1238
STATION NUMBER:											
4	-0.05	-0.09	-0.11	-0.13	-0.19	-0.29	-0.34	-0.41	-0.50		-0.57
5	-0.03	-0.08	-0.10	-0.17	-0.23	-0.33	-0.35	-0.49	-0.58		-0.67
6	-0.09	-0.13	-0.14	-0.21	-0.32	-0.37	-0.47	-0.56	-0.66		-0.76
7	-0.10	-0.11	-0.15	-0.23	-0.33	-0.43	-0.49	-0.61	-0.71		-0.81
8	-0.09	-0.12	-0.15	-0.24	-0.35	-0.45	-0.52	-0.64	-0.74		-0.84
Edge of Gob>											
9	-0.09	-0.12	-0.16	-0.27	-0.38	-0.48	-0.55	-0.68	-0.80		-0.89
10	-0.10	-0.13	-0.18	-0.31	-0.41	-0.52	-0.60	-0.74	-0.86		-0.94
11	-0.10	-0.14	-0.21	-0.34	-0.48	-0.59	-0.66	-0.81	-0.93		-1.02
Edge of Gob>											
12	-0.10	-0.14	-0.22	-0.39	-0.52	-0.67	-0.75	-0.91	-1.02		-1.12
13	-0.13	-0.19	-0.31	-0.53	-0.69	-0.83	-0.94	-1.10	-1.22		-1.31
14	-0.16	-0.24	-0.44	-0.73	-0.91	-1.08	-1.18	-1.34	-1.45		-1.54
15	-0.21	-0.32	-0.63	-1.00	-1.21	-1.36	-1.46	-1.61	-1.70		-1.79
16	-0.30	-0.47	-0.94	-1.36	-1.56	-1.70	-1.79	-1.92	-2.01		-2.07
17	-0.49	-0.79	-1.41	-1.82	-2.00	-2.12	-2.20	-2.30	-2.38		-2.43
18	-0.82	-1.29	-1.86	-2.20	-2.34	-2.46	-2.51	-2.59	-2.65		-2.70
19	-1.24	-1.68	-2.24	-2.53	-2.63	-2.74	-2.79	-2.83	-2.89		-2.93
20	-1.69	-2.11	-2.54	-2.76	-2.85	-2.93	-2.97	-3.00	-3.05		-3.09
21	-2.12	-2.46	-2.77	-2.94	-3.01	-3.08	-3.11	-3.12	-3.16		-3.20
22	-2.42	-2.69	-2.91	-3.04	-3.10	-3.15	-3.18	-3.19	-3.22		-3.25
23	-2.70	-2.90	-3.06	-3.16	-3.20	-3.24	-3.28	-3.27	-3.31		-3.33
24	-2.89	-3.06	-3.18	-3.25	-3.30	-3.33	-3.35	-3.35	-3.39		-3.40
25	-3.04	-3.16	-3.25	-3.30	-3.35	-3.38	-3.41	-3.39	-3.42		-3.44
26	-3.24	-3.33	-3.39	-3.43	-3.46	-3.48	-3.51	-3.50	-3.53		-3.54
27	-3.30	-3.36	-3.40	-3.44	-3.47	-3.48	-3.51	-3.50	-3.51		-3.53
28	-3.38	-3.43	-3.47	-3.49	-3.52	-3.53	-3.56	-3.55	-3.56		-3.57
Near Panel Center> 29	-3.40	-3.46	-3.47	-3.49	-3.50	-3.52	-3.56	-3.54	-3.54		-3.56
30	-3.40	-3.43	-3.46	-3.48	-3.48	-3.49	-3.52	-3.51	-3.53		-3.53
31	-3.38	-3.40	-3.42	-3.44	-3.45	-3.46	-3.48	-3.47	-3.48		-3.48
32	-3.34	-3.36	-3.38	-3.40	-3.44	-3.43	-3.44	-3.43	-3.43		-3.44
33	-3.15	-3.17	-3.19	-3.20	-3.20	-3.22	-3.24	-3.23	-3.24		-3.24
34	-2.78	-2.80	-2.81	-2.82	-2.84	-2.86	-2.87	-2.86	-2.87		-2.86
35	-1.83	-1.84	-1.86	-1.86	-1.87	-1.88	-1.90	-1.89	-1.89		-1.90
36	-1.10	-1.11	-1.12	-1.13	-1.13	-1.14	-1.16	-1.15	-1.15		-1.15
37	-0.54	-0.54	-0.55	-0.56	-0.56	-0.57	-0.59	-0.58	-0.58		-0.58
38	-0.32	-0.32	-0.33	-0.43	-0.34	-0.34	-0.37	-0.35	-0.35		-0.34
39	-0.20	-0.19	-0.20	-0.20	-0.19	-0.22	-0.24	-0.22	-0.22		-0.21
Edge of Gob>											
40	-0.14	-0.14	-0.14	-0.14	-0.16	-0.15	-0.17	-0.15	-0.16		-0.15
41	-0.09	-0.09	-0.09	-0.09	-0.10	-0.11	-0.12	-0.10	-0.10		-0.10
42	-0.06	-0.06	-0.06	-0.05	-0.09	-0.07	-0.09	-0.07	-0.07		-0.08
Edge of Gob>											
43	-0.04	-0.04	-0.04	-0.03	-0.04	-0.04	-0.08	-0.04	-0.05		-0.04
44	-0.03	-0.03	-0.03	-0.03	-0.02	-0.03	-0.05	-0.04	0.01		-0.03
45	-0.02	-0.02	-0.02	-0.02	-0.03	-0.02	-0.03	-0.02	-0.02		-0.02
46	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-
Near Panel Center> 52	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
62	-	-	-	-	-	-	-	-	-	-	-
63	-	-	-	-	-	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
65	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-
67	-	-	-	-	-	-	-	-	-	-	-
68	-	-	-	-	-	-	-	-	-	-	-
69	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-
71	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-
73	-	-	-	-	-	-	-	-	-	-	-
74	-	-	-	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-	-	-	-
76	-	-	-	-	-	-	-	-	-	-	-
77	-	-	-	-	-	-	-	-	-	-	-
78	-	-	-	-	-	-	-	-	-	-	-
79	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-	-	-

TOVCC 10619

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	10-WEST (FIRST PANEL)										
SURVEY NUMBER>	33	34	35	36	37	38	39	40	41	42	43
SURVEY DATE>	11-30-91	12-01-91	12-02-91	12-03-91	12-04-91	12-05-91	12-06-91	12-07-91	12-08-91	12-14-91	12-20-91
LONGWALL STATUS>	RUNNING	IDLE	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	IDLE	RECOVERY	RECOVERY
DAYS AFTER 1st SURVEY>	43	44	45	46	47	48	49	50	51	57	63
FACE PLUS @ SURVEY>	1227	1227	1195	1146	1078	1033	983	951	924	734	715
STATION NUMBER:											
4	-0.60	-0.61	-0.59	-0.62	-0.67	-0.68	-0.71	-0.75	-0.83	-0.92	-0.89
5	-0.68	-0.68	-0.70	-0.71	-0.78	-0.79	-0.83	-0.87	-0.95	-1.04	-1.00
6	-0.77	-0.77	-0.78	-0.81	-0.87	-0.90	-0.94	-0.98	-1.07	-1.13	-1.11
7	-0.82	-0.82	-0.83	-0.87	-0.94	-0.95	-0.99	-1.02	-1.10	-1.18	-1.16
8	-0.85	-0.86	-0.89	-0.90	-0.97	-0.98	-1.01	-1.05	-1.13	-1.20	-1.20
Edge of Gob>											
9	-0.89	-0.90	-0.92	-0.95	-1.01	-1.03	-1.07	-1.09	-1.18	-1.25	-1.24
10	-0.95	-0.96	-0.98	-1.00	-1.06	-1.08	-1.11	-1.14	-1.21	-1.29	-1.28
11	-1.03	-1.03	-1.04	-1.08	-1.14	-1.16	-1.19	-1.21	-1.29	-1.27	-1.35
Edge of Gob>											
12	-1.12	-1.12	-1.14	-1.17	-1.24	-1.24	-1.28	-1.30	-1.37	-1.47	-1.42
13	-1.32	-1.32	-1.33	-1.36	-1.42	-1.43	-1.46	-1.48	-1.55	-1.63	-1.60
14	-1.54	-1.54	-1.56	-1.58	-1.64	-1.66	-1.67	-1.69	-1.76	-1.84	-1.80
15	-1.79	-1.79	-1.80	-1.82	-1.87	-1.87	-1.90	-1.93	-1.98	-2.05	-2.02
16	-2.08	-2.07	-2.09	-2.09	-2.15	-2.15	-2.17	-2.19	-2.25	-2.31	-2.28
17	-2.43	-2.43	-2.44	-2.44	-2.50	-2.49	-2.51	-2.53	-2.59	-2.65	-2.62
18	-2.70	-2.69	-2.70	-2.70	-2.75	-2.74	-2.76	-2.78	-2.84	-2.89	-2.86
19	-2.93	-2.93	-2.93	-2.93	-2.98	-2.97	-2.98	-3.00	-3.05	-3.11	-3.08
20	-3.08	-3.08	-3.09	-3.08	-3.12	-3.11	-3.12	-3.14	-3.20	-3.25	-3.21
21	-3.19	-3.19	-3.19	-3.18	-3.21	-3.21	-3.22	-3.23	-3.29	-3.35	-3.30
22	-3.25	-3.24	-3.24	-3.23	-3.27	-3.25	-3.26	-3.28	-3.34	-3.39	-3.34
23	-3.33	-3.24	-3.32	-3.31	-3.35	-3.33	-3.35	-3.36	-3.42	-3.47	-3.42
24	-3.40	-3.39	-3.39	-3.38	-3.41	-3.40	-3.41	-3.42	-3.48	-3.52	-3.49
25	-3.44	-3.44	-3.43	-3.42	-3.45	-3.44	-3.45	-3.46	-3.52	-3.57	-3.55
26	-3.53	-3.54	-3.53	-3.53	-3.55	-3.54	-3.55	-3.56	-3.62	-3.66	-3.63
27	-3.52	-3.52	-3.53	-3.52	-3.54	-3.54	-3.54	-3.55	-3.60	-3.64	-3.63
28	-3.56	-3.57	-3.57	-3.56	-3.59	-3.59	-3.58	-3.60	-3.65	-3.69	-3.65
Near Panel Center> 29	-3.55	-3.56	-3.56	-3.55	-3.57	-3.57	-3.57	-3.58	-3.63	-3.67	-3.65
30	-3.52	-3.53	-3.53	-3.52	-3.54	-3.53	-3.54	-3.55	-3.60	-3.64	-3.62
31	-3.48	-3.49	-3.48	-3.48	-3.50	-3.50	-3.50	-3.51	-3.56	-3.62	-3.57
32	-3.43	-3.45	-3.44	-3.43	-3.45	-3.45	-3.46	-3.46	-3.51	-3.58	-3.54
33	-3.23	-3.25	-3.23	-3.23	-3.25	-3.25	-3.26	-3.26	-3.31	-3.38	-3.33
34	-2.86	-2.87	-2.86	-2.85	-2.88	-2.87	-2.88	-2.88	-2.93	-3.00	-2.96
35	-1.88	-1.90	-1.89	-1.88	-1.91	-1.90	-1.91	-1.91	-1.96	-2.03	-1.99
36	-1.14	-1.16	-1.15	-1.14	-1.17	-1.15	-1.17	-1.17	-1.22	-1.27	-1.23
37	-0.56	-0.59	-0.57	-0.56	-0.59	-0.59	-0.59	-0.59	-0.64	-0.70	-0.66
38	-0.33	-0.34	-0.34	-0.32	-0.35	-0.34	-0.35	-0.35	-0.40	-0.46	-0.41
39	-0.19	-0.22	-0.21	-0.20	-0.22	-0.21	-0.22	-0.22	-0.27	-0.37	-0.29
Edge of Gob>											
40	-0.13	-0.15	-0.14	-0.13	-0.15	-0.14	-0.15	-0.15	-0.20	-0.25	-0.23
41	-0.08	-0.10	-0.09	-0.08	-0.11	-0.09	-0.11	-0.10	-0.15	-0.21	-0.19
42	-0.05	-0.06	-0.05	-0.04	-0.08	-0.06	-0.07	-0.08	-0.12	-0.19	-0.15
Edge of Gob>											
43	-0.03	-0.04	-0.03	-0.02	-0.04	-0.03	-0.04	-0.04	-0.10	-0.16	-0.12
44	-0.02	-0.04	-0.03	-0.01	-0.03	-0.03	-0.04	-0.04	-0.09	-0.15	-0.09
45	0.00	-0.02	-0.01	-0.01	-0.02	-0.01	-0.02	-0.01	-0.07	-0.13	-0.08
46	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-
Near Panel Center> 52	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>	-	-	-	-	-	-	-	-	-	-	-
62	-	-	-	-	-	-	-	-	-	-	-
63	-	-	-	-	-	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>	-	-	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-
67	-	-	-	-	-	-	-	-	-	-	-
68	-	-	-	-	-	-	-	-	-	-	-
69	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-
71	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-
73	-	-	-	-	-	-	-	-	-	-	-
74	-	-	-	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-	-	-	-
76	-	-	-	-	-	-	-	-	-	-	-
77	-	-	-	-	-	-	-	-	-	-	-
78	-	-	-	-	-	-	-	-	-	-	-
79	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-	-	-

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	10-WEST (FIRST PANEL)			
SURVEY NUMBER>	44	45	46	47
SURVEY DATE>	12-28-91	01-04-92	02-03-9	03-04-92
LONGWALL STATUS>	RECOVERE	RECOVERE	RECOVERE	RECOVERED
DAYS AFTER 1st SURVEY>	71	78	108	138
FACE PLUS @ SURVEY>	715	715	715	715
STATION NUMBER:				
4	-0.86	-0.99	-0.98	-1.00
5	-0.97	-1.11	-1.07	-1.12
6	-1.10	-1.21	-1.19	-1.23
7	-1.14	-1.25	-1.22	-1.27
8	-1.17	-1.28	-1.26	-1.30
Edge of Gob>				
9	-1.20	-1.33	-1.30	-1.34
10	-1.25	-1.37	-1.33	-1.38
11	-1.31	-1.43	-1.40	-1.44
Edge of Gob>				
12	-1.41	-1.52	-1.47	-1.52
13	-1.57	-1.69	-1.64	-1.69
14	-1.77	-1.89	-1.84	-1.89
15	-1.99	-2.11	-2.06	-2.11
16	-2.25	-2.37	-2.32	-2.38
17	-2.59	-2.70	-2.65	-2.68
18	-2.89	-2.94	-2.89	-2.91
19	-3.05	-3.16	-3.11	-3.13
20	-3.19	-3.30	-3.25	-3.27
21	-3.27	-3.39	-3.34	-3.38
22	-3.32	-3.43	-3.38	-3.40
23	-3.39	-3.49	-3.46	-3.47
24	-3.46	-3.57	-3.53	-3.54
25	-3.50	-3.60	-3.57	-3.58
26	-3.61	-3.70	-3.66	-3.67
27	-3.59	-3.68	-3.65	-3.65
28	-3.63	-3.73	-3.69	-3.69
Near Panel Center> 29	-3.63	-3.71	-3.67	-3.67
30	-3.59	-3.68	-3.64	-3.65
31	-3.55	-3.63	-3.61	-3.61
32	-3.51	-3.59	-3.55	-3.56
33	-3.31	-3.39	-3.35	-3.36
34	-2.93	-3.01	-2.98	-2.98
35	-1.96	-2.04	-2.00	-2.00
36	-1.20	-1.29	-1.25	-1.25
37	-0.64	-0.71	-0.68	-0.68
38	-0.38	-0.46	-0.41	-0.40
39	-0.28	-0.33	-0.29	-0.28
Edge of Gob>				
40	-0.20	-0.26	-0.22	-0.20
41	-0.17	-0.21	-0.17	-0.15
42	-0.12	-0.17	-0.13	-0.12
Edge of Gob>				
43	-0.10	-0.15	-0.11	-0.10
44	-0.06	-0.14	-0.10	-0.09
45	-0.05	-0.13	-0.08	-0.08
46	-	-	-	-
47	-	-	-	-
48	-	-	-	-
49	-	-	-	-
50	-	-	-	-
51	-	-	-	-
Near Panel Center> 52	-	-	-	-
53	-	-	-	-
54	-	-	-	-
55	-	-	-	-
56	-	-	-	-
57	-	-	-	-
58	-	-	-	-
59	-	-	-	-
60	-	-	-	-
61	-	-	-	-
Edge of Gob>	-	-	-	-
62	-	-	-	-
63	-	-	-	-
64	-	-	-	-
Edge of Gob>	-	-	-	-
65	-	-	-	-
66	-	-	-	-
67	-	-	-	-
68	-	-	-	-
69	-	-	-	-
70	-	-	-	-
71	-	-	-	-
72	-	-	-	-
73	-	-	-	-
74	-	-	-	-
75	-	-	-	-
76	-	-	-	-
77	-	-	-	-
78	-	-	-	-
79	-	-	-	-
80	-	-	-	-

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	11-WEST (SECOND PANEL)										
SURVEY NUMBER>	48	49	50	51	52	53	54	55	56	57	58
SURVEY DATE>	03/18/92	03/25/92	03/26/92	03/27/92	03/28/92	03/29/92	03/30/92	03/31/92	04/01/92	04/02/92	04/03/92
LONGWALL STATUS>	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	SUNDAY	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING
DAYS AFTER 1st SURVEY>	152	159	160	161	162	163	164	165	166	167	168
FACE PLUS @ SURVEY>	3265	2961	2881	2785	2684	2648	2649	2543	2482	2430	2347
STATION NUMBER:	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
9	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
12	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-
28	-3.71	-3.74	-3.72	-3.75	-3.74	-3.74	-3.73	-3.75	-3.73	-3.74	-3.73
Near Panel Center> 29	-3.69	-3.72	-3.70	-3.73	-3.72	-3.73	-3.71	-3.73	-3.71	-3.72	-3.71
30	-3.66	-3.69	-3.67	-3.71	-3.69	-3.70	-3.69	-3.70	-3.69	-3.70	-3.69
31	-3.62	-3.65	-3.63	-3.68	-3.65	-3.66	-3.64	-3.66	-3.65	-3.66	-3.64
32	-3.57	-3.60	-3.58	-3.61	-3.60	-3.60	-3.59	-3.61	-3.60	-3.61	-3.60
33	-3.37	-3.40	-3.38	-3.40	-3.39	-3.40	-3.39	-3.40	-3.40	-3.41	-3.41
34	-2.99	-3.02	-3.00	-3.03	-3.01	-3.02	-3.01	-3.03	-3.03	-3.04	-3.05
35	-2.02	-2.04	-2.02	-2.05	-2.04	-2.05	-2.05	-2.08	-2.08	-2.08	-2.11
36	-1.27	-1.29	-1.27	-1.31	-1.29	-1.31	-1.30	-1.31	-1.32	-1.34	-1.38
37	-0.69	-0.70	-0.69	-0.73	-0.70	-0.72	-0.71	-0.73	-0.74	-0.77	-0.81
38	-0.43	-0.44	-0.43	-0.46	-0.45	-0.46	-0.46	-0.48	-0.49	-0.52	-0.57
39	-0.31	-0.32	-0.31	-0.34	-0.33	-0.34	-0.33	-0.38	-0.37	-0.40	-0.45
Edge of Gob>											
40	-0.23	-0.24	-0.23	-0.26	-0.25	-0.26	-0.25	-0.27	-0.29	-0.32	-0.37
41	-0.19	-0.20	-0.18	-0.21	-0.20	-0.22	-0.21	-0.23	-0.24	-0.27	-0.33
42	-0.15	-0.16	-0.14	-0.17	-0.16	-0.18	-0.17	-0.19	-0.20	-0.23	-0.29
Edge of Gob>											
43	-0.12	-0.13	-0.12	-0.14	-0.13	-0.15	-0.14	-0.16	-0.17	-0.20	-0.26
44	-0.11	-0.12	-0.11	-0.13	-0.12	-0.14	-0.13	-0.15	-0.16	-0.19	-0.25
45	-0.09	-0.11	-0.09	-0.11	-0.10	-0.12	-0.11	-0.13	-0.14	-0.16	-0.23
46	-0.08	-0.10	-0.08	-0.11	-0.10	-0.11	-0.10	-0.12	-0.13	-0.16	-0.24
47	-0.08	-0.10	-0.08	-0.10	-0.10	-0.11	-0.10	-0.12	-0.13	-0.16	-0.25
48	-0.08	-0.10	-0.08	-0.11	-0.10	-0.11	-0.10	-0.12	-0.14	-0.17	-0.27
49	-0.08	-0.11	-0.09	-0.11	-0.11	-0.12	-0.11	-0.13	-0.15	-0.18	-0.29
50	-0.08	-0.10	-0.09	-0.11	-0.11	-0.12	-0.11	-0.13	-0.15	-0.19	-0.30
51	-0.08	-0.10	-0.08	-0.11	-0.10	-0.11	-0.11	-0.13	-0.15	-0.19	-0.30
Near Panel Center> 52	-0.08	-0.10	-0.09	-0.12	-0.11	-0.12	-0.11	-0.14	-0.16	-0.20	-0.33
53	-0.07	-0.09	-0.07	-0.10	-0.10	-0.10	-0.10	-0.12	-0.14	-0.18	-0.30
54	-0.09	-0.11	-0.10	-0.12	-0.12	-0.12	-0.12	-0.14	-0.16	-0.20	-0.31
55	-0.09	-0.10	-0.09	-0.11	-0.11	-0.11	-0.11	-0.13	-0.14	-0.18	-0.29
56	-0.10	-0.10	-0.09	-0.11	-0.11	-0.12	-0.11	-0.13	-0.14	-0.18	-0.28
57	-0.09	-0.09	-0.09	-0.11	-0.10	-0.11	-0.11	-0.12	-0.14	-0.16	-0.24
58	-0.09	-0.10	-0.08	-0.10	-0.10	-0.11	-0.10	-0.12	-0.13	-0.15	-0.22
59	-0.09	-0.09	-0.09	-0.10	-0.10	-0.11	-0.10	-0.11	-0.12	-0.15	-0.20
60	-0.08	-0.09	-0.08	-0.09	-0.09	-0.10	-0.10	-0.11	-0.12	-0.14	-0.17
61	-0.08	-0.09	-0.08	-0.09	-0.09	-0.10	-0.09	-0.11	-0.11	-0.13	-0.16
Edge of Gob>											
62	-0.07	-0.08	-0.07	-0.09	-0.09	-0.09	-0.09	-0.10	-0.10	-0.11	-0.13
63	-0.07	-0.09	-0.08	-0.09	-0.09	-0.09	-0.10	-0.10	-0.10	-0.11	-0.12
64	-0.08	-0.10	-0.09	-0.10	-0.10	-0.10	-0.11	-0.10	-0.11	-0.11	-0.12
Edge of Gob>											
65	-0.07	-0.09	-0.08	-0.09	-0.09	-0.09	-0.09	-0.10	-0.10	-0.10	-0.11
66	-0.07	-0.09	-0.09	-0.10	-0.09	-0.09	-0.10	-0.10	-0.10	-0.10	-0.11
67	-0.08	-0.09	-0.09	-0.10	-0.10	-0.09	-0.09	-0.10	-0.10	-0.10	-0.11
68	-0.07	-0.09	-0.08	-0.09	-0.09	-0.09	-0.08	-0.09	-0.09	-0.09	-0.10
69	-0.08	-0.09	-0.09	-0.10	-0.10	-0.09	-0.10	-0.10	-0.10	-0.10	-0.10
70	-0.09	-0.10	-0.09	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.11	-0.11
71	-0.08	-0.09	-0.08	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.10	-0.10
72	-0.01	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
73	-0.02	-0.02	-0.02	-0.02	-0.03	-0.02	-0.03	-0.03	-0.03	-0.03	-0.03
74	-0.02	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02	-0.03	-0.03
75	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.03
76	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02	-0.02
77	-0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	0.00	-0.00	-0.01	-0.01
78	-0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.00
79	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
80	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	11-WEST (SECOND PANEL)										
SURVEY NUMBER>	59	60	61	62	63	64	65	66	67	68	69
SURVEY DATE>	04/04/92	04/05/92	04/06/92	04/07/92	04/08/92	04/09/92	04/10/92	04/11/92	04/12/92	04/13/92	04/14/92
LONGWALL STATUS>	RUNNING	IDLE	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	RUNNING	IDLE	RUNNING	RUNNING
DAYS AFTER 1st SURVEY>	169	170	171	172	173	174	175	176	177	178	179
FACE PLUS @ SURVEY>	2307	2251	2221	2159	2094	2008	1926	1874	1843	1802	1725
STATION NUMBER:											
4	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
9	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-
Edge of Gob>											
12	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-
28	-3.73	-3.72	-3.74	-3.73	-3.73	-3.75	-3.74	-3.75	-3.74	-3.74	-3.76
Near Panel Center> 29	-3.71	-3.70	-3.72	-3.71	-3.71	-3.74	-3.73	-3.73	-3.73	-3.73	-3.76
30	-3.69	-3.68	-3.70	-3.69	-3.69	-3.72	-3.71	-3.72	-3.71	-3.72	-3.75
31	-3.65	-3.64	-3.66	-3.66	-3.66	-3.69	-3.69	-3.69	-3.69	-3.69	-3.72
32	-3.60	-3.59	-3.62	-3.61	-3.62	-3.65	-3.65	-3.66	-3.66	-3.66	-3.69
33	-3.41	-3.40	-3.43	-3.43	-3.44	-3.46	-3.47	-3.49	-3.50	-3.50	-3.53
34	-3.08	-3.07	-3.10	-3.12	-3.14	-3.19	-3.20	-3.22	-3.23	-3.24	-3.27
35	-2.14	-2.18	-2.23	-2.30	-2.35	-2.44	-2.48	-2.52	-2.54	-2.56	-2.60
36	-1.43	-1.48	-1.54	-1.63	-1.71	-1.83	-1.89	-1.94	-1.96	-1.98	-2.00
37	-0.97	-0.94	-1.00	-1.10	-1.20	-1.33	-1.40	-1.45	-1.49	-1.52	-1.56
38	-0.63	-0.70	-0.76	-0.87	-0.97	-1.11	-1.18	-1.24	-1.28	-1.31	-1.35
39	-0.51	-0.58	-0.66	-0.77	-0.88	-1.02	-1.10	-1.16	-1.20	-1.23	-1.28
Edge of Gob>											
40	-0.44	-0.52	-0.59	-0.71	-0.82	-0.97	-1.05	-1.12	-1.16	-1.19	-1.24
41	-0.39	-0.48	-0.56	-0.69	-0.81	-0.97	-1.06	-1.13	-1.18	-1.21	-1.26
42	-0.39	-0.46	-0.54	-0.70	-0.84	-1.02	-1.12	-1.19	-1.24	-1.27	-1.32
Edge of Gob>											
43	-0.34	-0.45	-0.55	-0.74	-0.91	-1.12	-1.23	-1.31	-1.38	-1.39	-1.45
44	-0.32	-0.46	-0.57	-0.82	-1.04	-1.28	-1.41	-1.49	-1.54	-1.57	-1.62
45	-0.30	-0.48	-0.60	-0.93	-1.20	-1.48	-1.62	-1.71	-1.76	-1.79	-1.84
46	-0.31	-0.55	-0.89	-1.11	-1.34	-1.76	-1.92	-2.00	-2.05	-2.08	-2.13
47	-0.36	-0.65	-0.84	-1.39	-1.81	-2.17	-2.33	-2.41	-2.46	-2.49	-2.53
48	-0.39	-0.75	-0.99	-1.65	-2.15	-2.52	-2.69	-2.78	-2.81	-2.84	-2.89
49	-0.41	-0.83	-1.10	-1.86	-2.42	-2.80	-2.96	-3.04	-3.08	-3.11	-3.15
50	-0.43	-0.88	-1.16	-1.98	-2.57	-2.97	-3.13	-3.21	-3.25	-3.28	-3.32
51	-0.44	-0.90	-1.20	-2.06	-2.66	-3.06	-3.22	-3.29	-3.34	-3.37	-3.41
Near Panel Center> 52	-0.47	-0.95	-1.25	-2.15	-2.75	-3.13	-3.30	-3.37	-3.42	-3.45	-3.49
53	-0.45	-0.93	-1.23	-2.17	-2.76	-3.15	-3.31	-3.38	-3.43	-3.46	-3.50
54	-0.44	-0.91	-1.21	-2.15	-2.75	-3.14	-3.30	-3.37	-3.42	-3.44	-3.48
55	-0.41	-0.84	-1.13	-2.06	-2.67	-3.07	-3.23	-3.30	-3.35	-3.37	-3.41
56	-0.37	-0.72	-0.96	-1.80	-2.39	-2.79	-2.95	-3.03	-3.07	-3.10	-3.13
57	-0.31	-0.57	-0.75	-1.40	-1.89	-2.20	-2.43	-2.49	-2.53	-2.55	-2.59
58	-0.27	-0.44	-0.57	-0.99	-1.35	-1.65	-1.79	-1.84	-1.88	-1.90	-1.93
59	-0.23	-0.33	-0.40	-0.61	-0.82	-1.01	-1.10	-1.15	-1.17	-1.19	-1.21
60	-0.19	-0.24	-0.28	-0.36	-0.44	-0.53	-0.58	-0.58	-0.61	-0.61	-0.62
61	-0.16	-0.20	-0.21	-0.25	-0.28	-0.32	-0.34	-0.32	-0.33	-0.33	-0.37
Edge of Gob>											
62	-0.14	-0.15	-0.16	-0.19	-0.20	-0.22	-0.23	-0.24	-0.23	-0.24	-0.23
63	-0.12	-0.14	-0.14	-0.16	-0.16	-0.18	-0.18	-0.19	-0.19	-0.18	-0.19
64	-0.12	-0.10	-0.12	-0.14	-0.14	-0.16	-0.16	-0.17	-0.17	-0.16	-0.17
Edge of Gob>											
65	-0.10	-0.10	-0.12	-0.12	-0.12	-0.13	-0.13	-0.13	-0.13	-0.13	-0.13
66	-0.10	-0.11	-0.11	-0.11	-0.11	-0.12	-0.11	-0.12	-0.12	-0.11	-0.12
67	-0.10	-0.10	-0.11	-0.11	-0.11	-0.12	-0.11	-0.12	-0.12	-0.11	-0.12
68	-0.09	-0.09	-0.10	-0.10	-0.09	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
69	-0.09	-0.10	-0.10	-0.10	-0.10	-0.11	-0.10	-0.10	-0.11	-0.10	-0.10
70	-0.10	-0.10	-0.10	-0.10	-0.10	-0.11	-0.10	-0.10	-0.10	-0.10	-0.10
71	-0.09	-0.09	-0.09	-0.09	-0.09	-0.10	-0.09	-0.09	-0.09	-0.09	-0.09
72	-0.02	-0.02	-0.03	-0.03	-0.02	-0.03	-0.02	-0.03	-0.03	-0.02	-0.03
73	-0.02	-0.02	-0.03	-0.03	-0.02	-0.03	-0.02	-0.03	-0.03	-0.02	-0.03
74	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.03	-0.03	-0.02	-0.02
75	-0.01	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02
76	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.00	-0.01
77	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.00	0.00
78	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.01	0.00
79	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00

TOVCC 10623

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

PANEL DESIGNATION>	11-WEST (SECOND PANEL)									
SURVEY NUMBER>	70	71	72	73	74	75	76	77	78	79
SURVEY DATE>	04/15/92	04/16/92	04/17/92	04/18/92	04/20/92	04/21/92	04/22/92	04/23/92	04/24/92	05/01/92
LONGWALL STATUS>			RECOVERING	RECOVERING	RECOVERING	RECOVERING	RECOVERING	RECOVERED	RECOVERED	RECOVERED
DAYS AFTER 1st SURVEY>	180	181	182	183	185	188	187	188	189	196
FACE PLUS @ SURVEY>	1671	1575	1545	1537	1538	1528	1525	1525	1525	1525
STATION NUMBER										
4	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
Edge of Gob>										
9	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-
Edge of Gob>										
12	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-
28	-3.78	-3.78	-3.80	-3.78	-3.78	-3.80	-3.78	-3.80	-3.78	-3.81
Near Panel Center> 29	-3.75	-3.77	-3.78	-3.77	-3.78	-3.79	-3.77	-3.79	-3.77	-3.81
30	-3.73	-3.76	-3.77	-3.75	-3.75	-3.78	-3.76	-3.78	-3.75	-3.79
31	-3.70	-3.73	-3.75	-3.73	-3.73	-3.75	-3.74	-3.75	-3.73	-3.76
32	-3.68	-3.71	-3.72	-3.71	-3.71	-3.73	-3.72	-3.73	-3.71	-3.74
33	-3.52	-3.55	-3.56	-3.55	-3.55	-3.57	-3.56	-3.57	-3.56	-3.58
34	-3.25	-3.29	-3.30	-3.30	-3.30	-3.31	-3.31	-3.31	-3.30	-3.32
35	-2.58	-2.63	-2.64	-2.64	-2.64	-2.66	-2.66	-2.66	-2.65	-2.68
36	-2.02	-2.07	-2.09	-2.08	-2.09	-2.10	-2.10	-2.11	-2.09	-2.12
37	-1.55	-1.60	-1.61	-1.61	-1.62	-1.64	-1.64	-1.65	-1.63	-1.67
38	-1.35	-1.40	-1.41	-1.41	-1.42	-1.44	-1.44	-1.45	-1.43	-1.47
39	-1.28	-1.32	-1.33	-1.33	-1.34	-1.36	-1.33	-1.37	-1.35	-1.39
Edge of Gob>										
40	-1.24	-1.29	-1.30	-1.30	-1.31	-1.33	-1.33	-1.34	-1.32	-1.36
41	-1.26	-1.31	-1.32	-1.32	-1.33	-1.35	-1.35	-1.36	-1.34	-1.38
42	-1.33	-1.38	-1.38	-1.40	-1.40	-1.42	-1.42	-1.43	-1.42	-1.45
Edge of Gob>										
43	-1.45	-1.50	-1.52	-1.52	-1.53	-1.55	-1.55	-1.55	-1.54	-1.57
44	-1.63	-1.68	-1.69	-1.70	-1.71	-1.72	-1.73	-1.73	-1.72	-1.75
45	-1.85	-1.89	-1.91	-1.91	-1.92	-1.93	-1.93	-1.94	-1.93	-1.96
46	-2.14	-2.17	-2.20	-2.19	-2.21	-2.22	-2.21	-2.23	-2.21	-2.24
47	-2.54	-2.57	-2.60	-2.59	-2.60	-2.61	-2.61	-2.62	-2.61	-2.63
48	-2.89	-2.92	-2.95	-2.94	-2.95	-2.96	-2.96	-2.97	-2.95	-2.98
49	-3.16	-3.19	-3.22	-3.20	-3.21	-3.23	-3.22	-3.23	-3.22	-3.25
50	-3.33	-3.36	-3.38	-3.37	-3.38	-3.39	-3.39	-3.40	-3.39	-3.42
51	-3.41	-3.44	-3.47	-3.46	-3.47	-3.48	-3.47	-3.48	-3.47	-3.50
Near Panel Center> 52	-3.48	-3.52	-3.56	-3.53	-3.56	-3.56	-3.55	-3.56	-3.55	-3.58
53	-3.50	-3.52	-3.56	-3.53	-3.55	-3.55	-3.55	-3.56	-3.55	-3.58
54	-3.48	-3.50	-3.53	-3.52	-3.53	-3.54	-3.54	-3.55	-3.54	-3.57
55	-3.41	-3.43	-3.46	-3.45	-3.48	-3.47	-3.48	-3.48	-3.43	-3.49
56	-3.14	-3.16	-3.19	-3.17	-3.19	-3.19	-3.19	-3.20	-3.19	-3.22
57	-2.59	-2.62	-2.64	-2.63	-2.64	-2.65	-2.64	-2.66	-2.65	-2.67
58	-1.93	-1.96	-1.98	-1.97	-1.98	-1.99	-1.99	-1.99	-1.98	-2.01
59	-1.20	-1.23	-1.25	-1.24	-1.25	-1.25	-1.25	-1.26	-1.25	-1.27
60	-0.62	-0.64	-0.66	-0.65	-0.66	-0.66	-0.66	-0.67	-0.65	-0.67
61	-0.38	-0.38	-0.40	-0.39	-0.40	-0.40	-0.40	-0.41	-0.39	-0.41
Edge of Gob>										
62	-0.26	-0.27	-0.28	-0.27	-0.28	-0.28	-0.28	-0.28	-0.26	-0.29
63	-0.20	-0.20	-0.22	-0.21	-0.21	-0.22	-0.21	-0.22	-0.19	-0.22
64	-0.17	-0.18	-0.19	-0.18	-0.18	-0.19	-0.19	-0.19	-0.17	-0.19
Edge of Gob>										
65	-0.13	-0.14	-0.15	-0.14	-0.15	-0.15	-0.15	-0.15	-0.13	-0.16
66	-0.12	-0.12	-0.14	-0.13	-0.14	-0.13	-0.13	-0.14	-0.12	-0.14
67	-0.12	-0.12	-0.13	-0.12	-0.13	-0.13	-0.12	-0.13	-0.11	-0.14
68	-0.10	-0.10	-0.12	-0.10	-0.11	-0.11	-0.11	-0.12	-0.09	-0.12
69	-0.10	-0.10	-0.12	-0.10	-0.11	-0.11	-0.11	-0.13	-0.09	-0.12
70	-0.10	-0.10	-0.11	-0.10	-0.11	-0.11	-0.10	-0.12	-0.09	-0.12
71	-0.09	-0.09	-0.10	-0.09	-0.10	-0.10	-0.09	-0.10	-0.08	-0.11
72	-0.02	-0.03	-0.04	-0.03	-0.04	-0.03	-0.03	-0.04	-0.02	-0.04
73	-0.02	-0.02	-0.04	-0.03	-0.03	-0.04	-0.03	-0.04	-0.02	-0.04
74	-0.02	-0.03	-0.03	-0.03	-0.04	-0.03	-0.03	-0.04	-0.01	-0.04
75	-0.01	-0.01	-0.03	-0.02	-0.03	-0.03	-0.02	-0.03	-0.01	-0.03
76	-0.01	-0.01	-0.03	-0.02	-0.02	-0.02	-0.02	-0.03	-0.01	-0.02
77	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	0.00	-0.01
78	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	-0.01	0.00	-0.01
79	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.01	-0.01	0.01	-0.00

TOVCC 10624

THE OHIO VALLEY COAL COMPANY
SUMMARY OF SUBSIDENCE SURVEYS ALONG STATE ROUTE 9
OVER LONGWALL PANELS DESIGNATED AS 10-WEST and 11-WEST

	PANEL DESIGNATION>	11-WEST (SECOND PANEL)		
	SURVEY NUMBER>	80	81	82
	SURVEY DATE>	05/15/92	05/22/92	06/12/92
	LONGWALL STATUS>	RECOVERED	RECOVERED	RECOVERED
DAYS AFTER 1st SURVEY>		210	217	238
FACE PLUS @ SURVEY>		1525	1525	1525
STATION NUMBER:				
	4	-	-	-1.02
	5	-	-	-1.15
	6	-	-	-1.26
	7	-	-	-1.31
	8	-	-	-1.33
Edge of Gob>				
	9	-	-	-1.39
	10	-	-	-1.42
	11	-	-	-1.49
Edge of Gob>			-	
	12	-	-	-1.57
	13	-	-	-1.74
	14	-	-	-1.94
	15	-	-	-2.16
	16	-	-	-2.43
	17	-	-	-2.76
	18	-	-	-3.00
	19	-	-	-3.22
	20	-	-	-3.38
	21	-	-	-3.46
	22	-	-	-3.51
	23	-	-	-3.59
	24	-	-	-3.64
	25	-	-	-3.69
	26	-	-	-3.76
	27	-	-	-3.78
	28	-3.80	-3.81	-3.83
Near Panel Center>	29	-3.80	-3.80	-3.82
	30	-3.79	-3.79	-3.84
	31	-3.76	-3.76	-3.79
	32	-3.74	-3.75	-3.77
	33	-3.58	-3.59	-3.61
	34	-3.33	-3.34	-3.38
	35	-2.68	-2.70	-2.71
	36	-2.13	-2.15	-2.17
	37	-1.68	-1.69	-1.71
	38	-1.47	-1.49	-1.51
	39	-1.40	-1.42	-1.43
Edge of Gob>				
	40	-1.37	-1.38	-1.40
	41	-1.39	-1.40	-1.42
	42	-1.43	-1.46	-1.50
Edge of Gob>				
	43	-1.59	-1.60	-1.62
	44	-1.77	-1.78	-1.80
	45	-1.97	-1.99	-2.00
	46	-2.26	-2.27	-2.28
	47	-2.65	-2.66	-2.68
	48	-2.99	-3.00	-3.01
	49	-3.26	-3.27	-3.28
	50	-3.43	-3.44	-3.44
	51	-3.51	-3.52	-3.53
Near Panel Center>	52	-3.59	-3.59	-3.60
	53	-3.59	-3.60	-3.60
	54	-3.57	-3.58	-3.59
	55	-3.00	-3.51	-3.52
	56	-3.22	-3.24	-3.24
	57	-2.68	-2.69	-2.70
	58	-2.02	-2.02	-2.04
	59	-1.28	-1.29	-1.30
	60	-0.68	-0.68	-0.70
	61	-0.41	-0.41	-0.43
Edge of Gob>				
	62	-0.29	-0.28	-0.29
	63	-0.21	-0.22	-0.22
	64	-0.19	-0.18	-0.20
Edge of Gob>				
	65	-0.15	-0.15	-0.15
	66	-0.13	-0.13	-0.14
	67	-0.13	-0.12	-0.13
	68	-0.11	-0.11	-0.12
	69	-0.11	-0.11	-0.11
	70	-0.11	-0.10	-0.11
	71	-0.10	-0.09	-0.10
	72	-0.03	-0.03	-0.04
	73	-0.04	-0.03	-0.04
	74	-0.03	-0.03	-0.04
	75	-0.03	-0.02	-0.03
	76	-0.03	-0.02	-0.03
	77	-0.01	-0.01	-0.02
	78	-0.00	-0.00	-0.01
	79	-0.00	-0.00	-0.01

Generally, horizontal movement is minimal. Graph 5 shows the horizontal displacement factor (horizontal movement/vertical movement) for each of the panels. The effect of mining against the solid coal versus against the mined panel can be seen.

There were some small (less than 1 in.) surface cracks observed during the monitoring program. These occurred in the soil and in the pavement of Route 9. These cracks closed very quickly due to the compressive forces on the road pavement and to rainfall on the soil areas. No remedial work was required.

Other Observations

Some horizontal movement occurred in steeply sloping ground where several slips occurred. These slips were mainly in slip-prone soils. Near the center of the panel, the ground moved upwards in several small areas after subsidence as the compressive strain caused the soils to heave upward. Surface cracking up to about six inches wide occurred during the time the areas were put under tension. This surface cracking has been limited to only a few small isolated areas, where they generally closed due to compressive forces and to rainfall. Most cracks were less than 1 in. wide. Where cracks in soil were found that were wide enough to be considered hazardous, they were repaired immediately by OVCC.

Shear and twisting strains have never been observed on any structure at the Powhatan No. 6 Mine. Twisting and shearing occur when a structure is located immediately adjacent to a corner of a longwall panel within the angle of draw according to Dr. Syd S.Peng, Professor of Mining Engineering at West Virginia University. According to Dr. Peng, "If the structure is inclined to the permanent panel edge, it will be subjected to twisting and shearing resulting in damage." There have been no structures in this position to date at the No. 6 Mine.

ADDENDUM TO PAGE 16, B(2)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

Geological Impact of Coal Removal Upon Ground Water

The geological impact of coal removal, according to the PHC, is expected to vary from short term to long term. The Pittsburgh (No. 8) coal seam will be mined, and in this area has dip of approximately 40 ft to the southeast, with the strike to the northeast. Ground water occurs in this area in several disconnected saturated zones associated with the occurence of the coal seams and underlying clay stone units that prevent downward migration of the ground water. Ground water is generally limited to within the first 100 ft of the surface. Since primary porosity in the rock units is poor, nearly all of the ground water in this area of Ohio occurs as secondary porosity in the joints, cleats, fractures, and bedding planes of the rocks.

As longwall mining progresses, a caved area occurs immediately over the coal seam mined. Above this area, fractures occur in hard rocks and extend upward to about 200 ft above the coal seam. In the area above these fractures, a zone known as the continuous deformation zone developes where the rocks bend down and form the classic subsidence basin. In the center of the basin, rocks are put into compression, while there are areas of tension from the gate entries inward for a short distance and outside the basin for a short distance. As the mining occurs, the rocks may be fractured and bedding planes may open as a result of this deformation. This process provides new openings to contain additional ground water, with a lowering of the phreatic surface of the water in the area. After mining, the acquifers are more connected and provide a larger source of water for well recharge. Ground water in wells usually drops, and may be found lower in the well or even beneath the bottom of the well. Wells that are drilled deeper can be restored to their full potential usefullness.

The Powhatan No. 6 Mine is virtually a dry mine, with no pumping of water to the outside except for water from behind shaft linings. The deformation and not cracking of the soft rocks accounts for the dry conditions in the mine. Generally speaking, ground or surface water does not enter the No. 6 Mine.

In summary, the coal removal is expected to have some impact ground water in the application area. The impacts are described in the PHC and in the Addendum to Page 18 F(1).

ADDENDUM TO PAGE 21, PART 3, A(1)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

MINING METHODS

This application area will be mined by the longwall method of mining. Longwall mining is a method by which large panels of coal are surrounded by entries and are then extracted. The roof is temporarily supported by shields as the longwall machinery cuts the coal. The shields are then hydraulically moved forward, allowing the roof to collapse behind them. Subsidence of the surface occurs as the strata above the mine first collapses into the void left from the extracted coal, then the overlying strata deforms and comes to rest atop the rubble. Monitoring shows that the surface subsides approximately 60 to 65 percent of the seam thickness of about 64 inches. This mining method maximizes the recovery of the reserve by leaving coal only in the development entries (main and gate entries) and barrier pillars to protect the main entries.

The mining progresses from other approved mining areas to this application area through main entries that carry the ventilation currents and contain the haulage entries. These main entries branch down into the gate entries that surround the longwall panels. While continuous miners are used for these development entries, they do not considered production sections. These mining units are considered part of the longwall mining conducted at the Powhatan No. 6 Mine. Full coal recovery (longwall mining) methods are planned for the entire application area,

ADDENDUM TO PAGE 25, PART 3, D(12)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

PLAN FOR MINIMIZING TO THE EXTENT POSSIBLE AND USING THE BEST TECHNOLOGY CURRENTLY AVAILABLE DISTURBANCES AND ADVERSE IMPACTS OF THE CURRENT OPERATION ON FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES AND ACHIEVING ENHANCEMENT OF SUCH RESOURCES WHERE PRACTICAL

The proposed operation, longwall mining, minimizes to the extent possible (and is the best technology currently available) impacts on fish, wildlife, and environmental values because it occurs in a planned, predictable and controlled manner. There are no impacts anticipated to fish, wildlife, and environmental values. Areas where longwall mining have occurred do not show any impacts on such resources. Streams in this application area may contain minnows that flourish during periods when there is high water conditions. But, in the dry periods, these minnows migrate downstream to deeper water. They migrate back upstream during the following year. Higher order streams undermined by the longwall are not expected to be changed greatly during mining, and any impacts are temporary, as evidenced by mining in other areas. Therefore, no impacts are anticipated to fish, wildlife, and such resources. Ponds in this area that may contain fish historically have not been impacted by longwall mining.

Wetlands

If undeveloped springs that are legitimately used for domestic purposes at the time of mining are dewatered, they will be replaced if requested by the surface owner after an adequate time period has passed to determine if the spring will be permanently impacted. If the dewatered undeveloped springs were legitimately used, they will be replaced according to the water replacement plan in this application. Surface drainage in such areas is not expected to be impacted as a result of mining. In our experience, seepage zones may emerge downstream of where they originally emerged. If this situation occurs and the new location is off the original owners property, water will be restored to the original owner's property according to the water replacement plan in this application if the water source is legitimately used for domestic purposes.

ADDENDUM TO PART 3, PAGE 29, (K)(4)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ENGINEERING PROPERTIES FOR MAIN DEVELOPMENT ENTRIES

The main development entries provide access for air and haulage to the longwall mining sections, and thus are part of the longwall mining system. No room-and-pillar mining is planned for this application area. Where main development entries are planned, the maximum overburden is 465 ft. and the average is 338 ft. The projected maximum extraction ratio is 50 percent for areas beneath surface structures plus 15 ft. plus a 30 degree angle of draw (see Fig. 1). Main entries are to be driven a maximum of 20 ft. wide with cross cut centers projected to be 65 ft x 65 ft ft.

The structural contour map with this application indicates the coal elevation (bottom) in the application area to be 765 to 845 ft. (msl). Table 13 shows typical compressive strengths for the immediate floor in the application area. The floor primarily consists of shale or calcareous shale, with an occasional thin bed of claystone. The compressive strength of the shale is 5,034 to 9,453 psi and for the calcareous shale, 9,444 to 12,590 psi. These shale units frequently contain limestone nodules, which makes excavating the mine floor particularly difficult and costly.

The compressive strength of the coal is generally accepted to be 4,330±600 psi. The strength of the Pittsburgh (No. 8) coal in this area was determined by Professor Charles Holland years ago with the use of 3 in. cube specimens. The design strength was found to be 4330 psi. Professor Holland and others have found that, due to the cleavage planes and other natural seam defects, the in-situ compressive strength for a 6½ ft. seam is 850 psi.

There will be no measures taken on the surface to prevent damage or lessening of the value or reasonably foreseeable use of the surface since extraction ratios will be low. No surface damage is anticipated.

Pillars have been designed with minimum safety factors of 1.3 for butt sections. In mains, a minimum safety factor of 2.0 is used. The following data was used to design the pillars in the application area:

Coal Constant	7,500
Coal specimen size	3 in. cube
Anticipated Maximum Mining Height	6.5 ft.
Worst case safety factor	
Mains	2.0
Butts	1.3
Maximum Depth	600 ft.

ADDENDUM TO PAGE 29, PART 3, K(5)(a)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

Anticipated Effects to Vegetation - Dysart Woods

This application area is located approximately 2000 ft North and Northeast from the Dysart Woods Laboratory owned and operated by Ohio University. The property is a 455 acre farm, within which a total of 50 acres comprise two tracts of primeval oak forest according to the University. The 50 acre tracts are located on each side of Dysart Ault Road and traverse two ravines. This property has been the object of much controversy with regard to the mining at Ohio Valley.

It has been conjectured that the longwall mining in the vicinity of the Woods will impact the vegetation there. However, during the 7 ½ years since longwall mining began at the Powhatan No. 6 Mine, considerable data has been collected regarding hydrology and vegetation. Some of this data was collected by the National Ground Water Association. That preliminary study indicated that the hydrologic impacts of longwall mining extended no more than about 500 ft from the mining and that soil moisture immediately above the longwall mining is not impacted. Currently, that preliminary study is in the process of being updated based on our monitoring data. The Probable Hydrologic Consequences prepared by Moody and Associates for this application indicates that the groundwater is not impacted more than 500 ft from the mining. Our surface water monitoring data shows that surface water is not greatly impacted by longwall mining, and does not appear to be impacted over the long term.

This information indicates that an earlier finite element analysis of the region including both the Powhatan No. 6 Mine and Dysart Woods were in error. That analysis, conducted by Ohio University Professor Moid Ahmad, concluded that longwall mining located approximately 2 miles from the Woods would lower the water table beneath the woods and impact the trees. This prediction did not occur. During 1991, the longwall mining progressed within one mile of the Woods. No hydrologic impacts have been observed during recent monitoring in the area of the Woods to our knowledge. No vegetation has been impacted in the Woods to our knowledge.

The conclusion that we reach from this data is that no impacts to Dysart Woods are expected to occur as a result of longwall mining in this application area.

ADDENDUM TO PAGE 30, PART 3, K(5)(b)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

Effect on Surface Lands

1. Tension cracking of the ground surface may occur. These cracks in the surface may vary in width from hairline, up to several inches wide.

2. OVCC believes that there will be no effect on the crop production as a result of mining. This fact is supported by a paper written by Dr. Frank L. Himes, Ph.D., entitled "Agronomic Evaluation of the Land in the Southern Ohio Coal Company Area", June, 1983. A copy is included in previous applications available to the Chief.

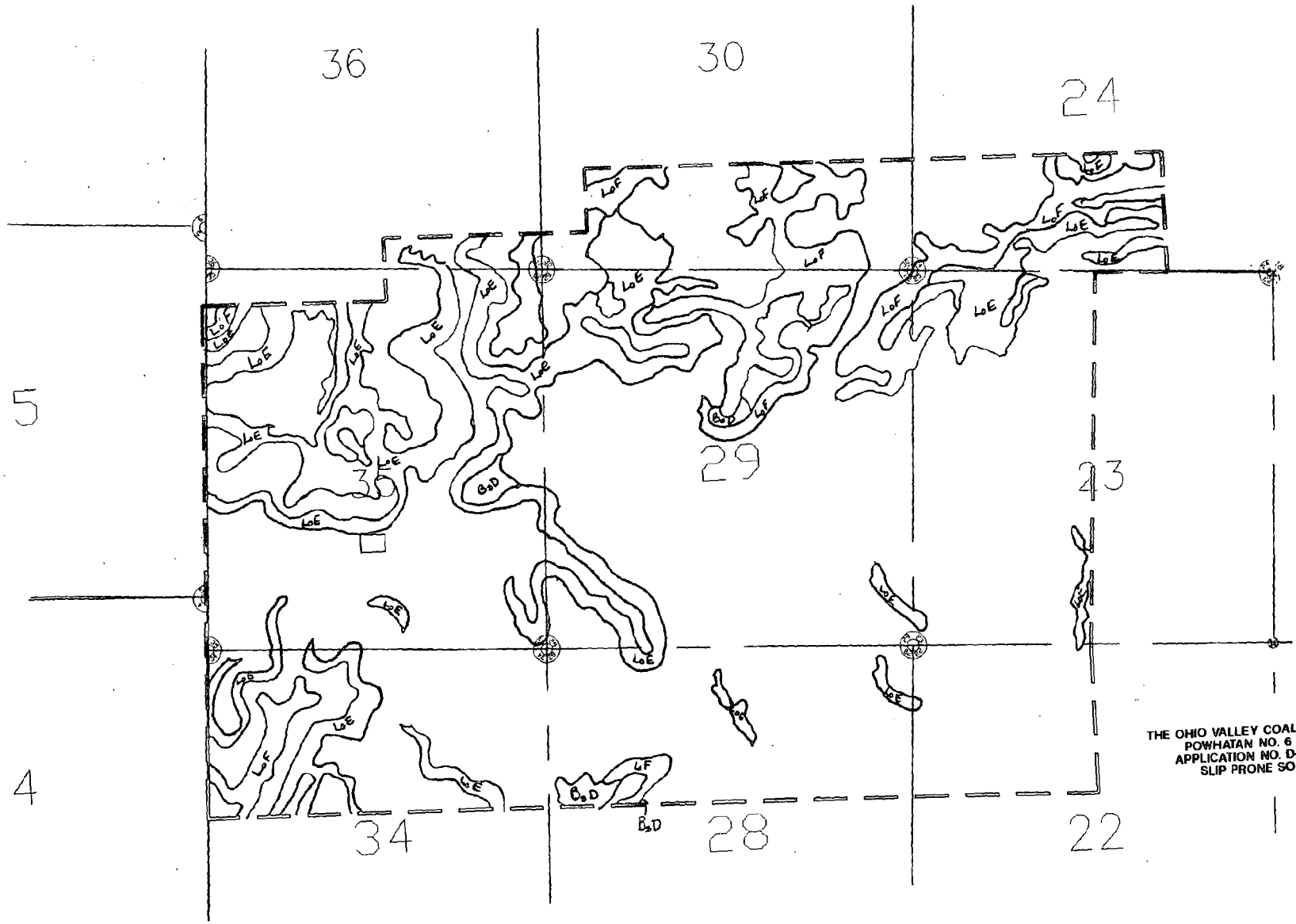
3. Slip-Prone Soils - A search of the Belmont County Soils Maps (specifically Map No. 36, 37, 44, and 45)* revealed several potential slide/slip areas within the following soil types:

Soil Type	Slope	No. of Potential Slide/Slip Areas
LpF	30-70	0
LoE	25-40	13
LoF	40-70	8
BsD	15-25	3
BsE	25-40	0
BsC	8-15	0
RcD	15-25	0

These areas have been mapped on the enclosed map showing the limits of the application area and slip prone soils. Please note - the Soil Survey of Belmont County does not describe subsidence as a source of potential slippage. Rather, it notes soil types that are slip prone for construction sites. Of the types of slip-prone soils identified, only LpF (Lowell-Westmoreland silt loam) has been known to be slip prone during longwall mining-induced subsidence in some areas. Other soil types have been undermined before without slippage occurring.

During the pre-subsidence survey, areas known to be slip prone during subsidence, as well as other similar sites that may have a significant impact to existing structures, may be inspected. Should conditions dictate, site specific measures, not limited to but including installation of cut-off trenches, drainage systems, and retaining walls, may be taken to minimize adverse effects.

*Soil Survey of Belmont County
ODNR, USDA March, 1974



THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
APPLICATION NO. D-0360-7
SLIP PRONE SOILS

TOVCC 10633

ADDENDUM TO PAGE 30, K(5)(b)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

Effect on Water Resources

The effect of subsidence on water resources varies greatly. The effect on wells, streams, streams, and other surface water each differ in the type and duration of effects. Each will be discussed below.

Wells

Depending upon the depth of the well, its location within the longwall subsidence area, and its surface elevation compared to the elevation of the coal, the effect of subsidence on wells may vary from complete dewatering to some dewatering to no dewatering. Generally, as the subsidence opens new places for the ground water to go, the elevation of the water decreases. The ground water is still present, but at a lower elevation. Aquicludes prevent further downward migration of water into the mine. In addition, the soft rock, particularly the clay stones in the strata, tend to swell, erode, and fill voids, causing some recovery in the elevation of the water. Wells may become completely dry permanently, may become completely dry temporarily, may hold less water, or as has been experienced in some instances, may not be affected. In some cases, the water level actually increases temporarily. This effect is caused by the strata being placed in compression and closing some of the joints, cracks, or bedding planes (secondary porosity features) that hold the water. However, as a general rule, the water level in wells decreases. As new surfaces are opened that water begins to flow over, the quality of the water also varies, usually temporarily. Normally, some increase in suspended solids, iron, manganese, and sulfates has been observed. These effects usually return to near normal after the water "washes" out the new chemicals.

Springs

Springs, given the fact that they are located on the surface, generally decrease in flow and usually dry completely with little or no recovery. The water stops flowing because it is no longer at the elevation of the surface installation. The water begins to flow horizontally, through different bedding planes, than before subsidence, and can and has been developed, successfully, as a spring at a lower elevation. Water quality varies as with wells. However, because of the increased porosity of the strata, springs developed over longwall panels, generally have higher flows.

Streams

Generally, streams are temporarily affected by subsidence, decreasing in flow as cracks open in the stream bed. However, because the streams contain a high concentration of sediment during rains, the cracks fill quickly and the effect is short lived. The water re-establishes itself within several months.

Streams in this area begin as undeveloped or developed springs near the head of hollows and are fed throughout its length by springs and surface runoff. Streams that are fed by springs near the head of hollows continue to receive this groundwater, but at a lower elevation. Since rainfall is unaffected by subsidence, runoff continues to supply the water for streams.

Other Surface Water Features

Ponds primarily are the other surface water feature in this area. Our experience at the Powhatan No. 6 Mine has been that ponds are not substantially affected by subsidence in this area. Several ponds have been undermined with no visible effects. Cisterns, catch basins, etc. have been unaffected to date.

ADDENDUM TO PAGE 30, K(5)(d)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE
SUBSTATIONS

A substation owned by the South Central Power Company (formerly Belmont Electric Company) will be subsided by the longwall. Anticipated effects include some minor tilting of the structures (transformers and steel frame work), and minor cracking of the slabs on which the transformers rest.. In 1992, a substation that supplied power to one of our bleeder fans was subsided without incident. This fan substation was critical to our operation, and interruption of service to this facility would have idled the mine. It did not.

ADDENDUM TO PAGE 29, PART 3, K(1)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ENGINEERING AND MINING TECHNIQUES

The Powhatan No. 6 Mine is an operation that uses the longwall method of mining. The engineering and mining techniques for longwall mining are as follows:

Longwall Mining

1. Longwall mining removes long panels of coal that are 600 to 900 ft. and a maximum of approximately 15,000 ft. long. A longwall shearer, a double-drum machine, removes the panel by cutting slices of coal along the width of the face. The roof is temporarily supported by hydraulic supports called shields. The shields are moved forward each time that a slice is cut from the face. The coal is transported from the face by an armored, chain conveyor.

The roof behind the shields is allowed to collapse. Surface subsidence on the order of approximately 66 percent of the mining height occurs when the roof falls.

2. The longwall face is outlined by three or four entries on each side called gate entries, on the end where the panel starts by several entries called bleeder entries, and on the panel end by the main entries or by recovery rooms (entries developed to remove the longwall mining equipment). These entries are developed using a continuous miner, shuttle cars, and roof bolters. Pillars and concrete block stoppings separate each entry from the next. These entries provide ventilation and belt haulage for the longwall mining section, with a maximum recovery of less than 50 percent of the coal. Coal pillars between the longwall panels crush after both adjacent longwall panels are extracted. Subsidence of the surface occurs over these panels and pillars during longwall mining as a result of the pillars crushing and from the extraction of both adjacent longwall panels.

Main Entry Development - Longwall Access

There will be one set of main entries driven in a general north-south direction. The main entries consist of approximately seven entries, driven with continuous miners and are primarily used for ventilation, transportation of men and materials, and haulage. These entries are designed for long-life with the pillars providing roof support. The maximum recovery factor for mains and submains is below 50 percent and is much less if one considers the barrier blocks left in place at the approaches to butt and longwall sections.

ADDENDUM TO PAGE 30, PART 3, K(5)(c)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

Damage Repairs - Surface Lands

If subsidence due to mining operations causes slippage which reduces the value or reasonably foreseeable use of the surface land, OVCC will restore the land to a condition capable of supporting uses it was capable of supporting before subsidence. If slips are triggered by mining activities, these areas would be stabilized in accordance with accepted site specific procedures for such work if technologically and economically feasible. If not feasible, OVCC will arrange alternative mitigatory measures.

1. Notwithstanding its mining rights and without waiving nor releasing any of its rights, OVCC will make repairs of damage caused to surface lands by OVCC's mining operations if the damage reduces the foreseeable use or value of the surface lands. If such damage occurs, OVCC will submit to the Chief within thirty days after the damage occurs:

   a. Site specific plans for the repair or mitigation of the damage, including a time schedule for performance of the remedial action.

   b. A request for more time to prepare such plans; or

   c. Written notification that OVCC believes that repair or restoration measures are not technologically feasible. If repair or restoration measures are not desired by the owner or if repair or restoration measures are not technologically feasible, other mitigatory measures will be described.

2. Damage to surface land will be repaired by local contractors. As surface damage occurs, the landowner will be notified and permission to repair the damage will be requested. Surface cracks will usually be repaired by the following method: After the length of the subsidence crack has been determined, a trench will be made in the crack. During the excavation topsoil will be segregated from subsoil and rock. Upon completion of the excavation, the material will be compacted using the track of the bulldozer or the wheel of the backhoe. Once the soil material has been replaced, the area will be seeded in a hayfield, pasturefield, or a yard.

   OVCC will employ a program to monitor surface cracking and settling resulting from subsidence. Areas being mined will be inspected at various intervals, ranging from daily to weekly. These areas will be visually inspected for any subsidence related problems. If a problem is found, the landowner will be notified immediately.

In most cases, surface cracks are expected to open and close relatively rapidly, however, some surface cracks may take weeks to close. For this reason, most cracks will not be repaired until OVCC determines that the cracks are not going to close themselves. If the surface cracks are in an area that is commonly traveled by man or livestock, the cracks will be repaired immediately. Surface cracking that is found in areas not commonly traveled, may be marked by brightly colored tape. This tape alerts anyone in the area of the depression or opening. If the cracks do not close within the period of time OVCC determines is adequate, a contractor will repair the cracks.

Monitoring of these areas will continue for up to six months after mining, and if the cracks reopen, they will once again be repaired. Monitoring of panel areas before mining consists of visual inspection or aerial photo review. OVCC's subsidence control program will adequately assure that the value and reasonably foreseeable use of the surface land is maintained.

3. Prior to the introduction of farm equipment into fields that have been undermined, OVCC will inspect the field for cracks or slips if requested by the landowner. Repairs needed (to maintain access into the fields) will be made at appropriate times. Crop lands damaged by subsidence will be repaired at appropriate times to permit harvest or cultivation without damage to personnel or equipment. Note: "appropriate times" indicates that the repairs will be made 1) at a time when access is needed and 2) when damage to adjacent plants will be minimized.

ADDENDUM TO PAGE 30, PART 3, K(5)(d)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS - SURFACE STRUCTURES

Structures situated over a panel or within the angle of draw may be damaged due to subsidence. When the longwall passes directly under a structure, the structure experiences first moderate tensile stress, then moderate compressive stress. As the structure subsides, the end that was undermined first subsides first, causing some tilting away from the advancing face. As the surface over the panel subsides, it takes on the shape of a trough, with the edges remaining in tension and the center in compression. Because the Powhatan No. 6 face moves quickly, damage to structure from this type of movement is minimized.

The damage that may be expected may involve cracking of plaster, cracking of concrete block or brick, cracking of dirt and cement floors, cracking along mortar joints, and separation of existing cracks. Cracks may close partially or completely after subsidence is complete. Additions to houses may separate away from the original structure. Cracks that occur during separation may close partially or completely after subsidence is complete.

Ponds may become partially dry temporarily as a result of subsidence-induced surface cracks. However, cracks in ponds have not caused de-watering to date at the Powhatan No. 6 Mine.

ADDENDUM TO PAGE 30, PART 3, K(5)(d)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

ANTICIPATED EFFECTS - UTILITY INSTALLATIONS

With respect only to utility installations passing over, under, or through a "permit area," Ohio Administrative Code 1501:13-11-02(B) requires that coal mining operations be conducted in a manner which minimizes damage, destruction, or disruption of services provided by such utility installations, unless otherwise approved by the Chief and installation owner. (See e. g., The East Ohio Gas Company v. Division of Reclamation, Case No. RBR-5-91-072 (March 19, 1992)). However, this application area does not include any "permit area." Gas pipelines which traverse the application area will be subject to tensile and compressive strains and, according to one pipeline expert, the pipeline coating (if any) could be damaged. Conceivably, the lines could break if left unprotected. If the lines remain buried during subsidence, the friction between the soil and the pipe may not allow the pipe to move freely as the subsidence trough develops. Some areas of the pipe will be placed in tension, others in compression. Protection of these lines is addressed in Section K(5)(e) of this Addendum. Other utility .lines (water, electric, etc.), are generally unaffected by subsidence

Elect
Lines
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ADDENDUM TO PAGE 30, PART 3, K(5)(e)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

MITIGATING MEASURES

Damage to Public Roads

OVCC will notify the appropriate road authority at least six months prior to undermining the road. In the event that roadways are permanently damaged by subsidence, OVCC, at the request of the road authority, will pay to repair the road surface to its pre-mining condition.

Damage to Gas Pipelines

Several gas pipelines traverse the application area and will be subject to potential damage by subsidence if left unprotected during mining. However, because the easement rights of the pipeline operators post-date The Ohio Valley Coal Company's superior mining rights, the pipeline operators are obligated as a matter of law to implement measures necessary to protect their pipelines and the public and avoid any interference with OVCC's right to safely mine without interruption. See, The Ohio Valley Coal Company, et al. v. The East Ohio Gas Company, Case No. 91-CIV-210 (Judgement Entry, February 12, 1992). Gas [illegible] also are responsible for safeguarding their lines consistent with the federal Nati[illegible] 49 U.S.C. §§1671 et seq., and its implementing regulations.

Elect
Lines
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Without waiving any o[illegible] lley Coal Company will contact the appropriate persons responsib[illegible] six months prior to undermining to communicate the timing and lo[illegible] in order to allow them to coordinate their mitigation efforts, if needed. [illegible] otify gas pipeline companies by phone prior to the time when the longwall mining will pass beneath the gas lines and throughout subsidence. OVCC has provided and will continue to provide information and assistance as good neighbors to allow the gas companies to formulate and initiate their monitoring or mitigation program, as they deem necessary, to maintain the integrity of their pipelines, protect the public, and avoid any interference with OVCC's right to safely mine without interruption.

The potential loss of use of agricultural lands crossed by the gas pipelines during the time that such lines may be uncovered is a question of surface owners right-of-way agreements with the gas companies and an issue over which OVCC has no control.

ADDENDUM TO PAGE 30, PART 3, K(5)(e)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

MITIGATING MEASURES

Damage to Dairy Operation

1. This section covers any dairy operations that will be affected by OVCC's mining operations. If the dairy barn and milk house will experience subsidence, some surface and structural damage will be anticipated. It is the intention of OVCC to remove the coal under all structures, including the dairy barn and milk house on the dairy farm as rapidly as possible to minimize damage.

   It is OVCC's experience that dairy farming, and especially milking, will not be interrupted by longwall mining subsidence. Several dairy operations have been undermined by OVCC without interruption of dairy farming. Nonetheless, OVCC will maintain, at OVCC's expense, the dairy farm in full operation by taking the following measures:

   Prior to undermining the dairy structures, most particularly, the barn/milk house, OVCC will prepare the structure at OVCC's expense as follows:

   a. A water supply line from the County water line will be installed prior to mining in order to provide water on a continuous basis. This water line will be installed in such a manner that subsidence will not interrupt the flow of water.

   b. The electrical supply to the barn/milk house will be inspected and, if necessary, changed to permit the downward movement of the structure.

   c. The framework structure of the barn will be inspected to determine its ability to withstand the forces caused by subsidence. The barn will be shored and braced as necessary to allow the barn to undergo subsidence. Reinforcement measures will be used where practical in order to return the barn to pre-mining conditions after subsidence is complete.

   d. The milking system will be inspected to determine its ability to withstand the forces caused by subsidence. If necessary, rigidly held lines will be fastened with flexible couplings to permit movement of the barn and still permit the normal flow of milk to the bulk tank. All modifications will comply with State and County Health Department guidelines.

e. If necessary, the bulk milk tank will be placed on a low-profile platform that permits easy, ongoing leveling. The tank will be re-certified after this change is made at the expense of OVCC. The platform will be arranged to maintain adequate clearance over the tank.

f. If necessary, the compressors and coolant lines for the bulk tank will be inspected and retro-fitted with flexible connections to permit the downward movement of the structure.

2. During mining under the barn/milk house, OVCC will provide the following services at OVCC's expense:

a. The barn/milk house will be inspected at least 2 hours prior to milking for damage that may impede normal milking operations. Minor repairs will be made to insure that the milking processes will occur normally. Specifically, the barn and related facilities (e.g., stanchions) will be maintained in a usable condition. Milk lines will be inspected for breakage and flow direction and any repairs will be made prior to milking. Compressors and refrigerant lines will be inspected and repairs will be made if necessary. The bulk tank will be re-leveled and re-certified prior to pick-up of the milk at OVCC's expense. The integrity of both the water and the electrical systems will be inspected and repaired prior to milking. Sufficient numbers of personnel qualified to do the inspection and repair work will be present before the milking begins. During milking, any necessary repairs will be made to allow the milking process to continue.

b. Following the milking, any additional repairs to the facilities not needed for milking will be completed. The requirements of the County and State Health Service Departments for a Grade A dairy farm will be maintained during subsidence at OVCC's expense, including the repair of doors, the barn floor, the barn cleaner, and the water system. If the barn cleaners cannot be maintained in operation, manual labor will be used to keep the barn clean.

Damage to Public Roads

OVCC will notify the appropriate road authority at least six months prior to undermining the road. In the event that roadways are permanently damaged by subsidence, OVCC, at the request of the road authority, will pay to repair the road surface to its pre-mining condition.

ADDENDUM TO PAGE 30, PART 3, K(5)(e)
PAGE THREE

Damage to Public Water Lines

OVCC will notify the owner of public water lines at least six months prior to undermining the lines. In the event that the pipelines are damaged by subsidence, OVCC, at the request of the public water line authority, will pay to repair the pipeline to its pre-mining conditions.

Damage to Other Utility Lines

OVCC will notify the owner of other utility lines (electric lines and sub-stations) at least six months prior to undermining the lines to allow the utility to take measures that they deem necessary and proper to protect their property and the public health and safety.

ADDENDUM TO PAGE 30, K(5)(e)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

MEASURES TO BE TAKEN TO MITIGATE OR REPAIR DAMAGE TO SUBSTATIONS

The Ohio Valley Coal Company has prior existing rights to this property, therefore it is the responsibility of South Central Power to maintain their facility. However, we will notify them of the progress of our longwall as the time of subsidence nears enabling them to take measures necessary to maintain service to their customers in much the same way as we have done with the East Ohio Gas Company's transmission lines.

No significant damage is anticipated for this facility. Cracks in slabs of concrete if they occur, can be filled with grout. Tilted frames or transformers can be shimmed to re-level them, if necessary. This work will be done by South Central Power Company.

ADDENDUM TO PAGE 30, PART 3, K(5)(f)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

NOTICE OF MINING, PRE-SUBSIDENCE SURVEY, MONITORING OF STRUCTURES

Notice of Mining

OVCC will mail written notice to owners and occupants of surface property or structures of OVCC intent to mine under such property or structures at least six months prior to any mining by OVCC under their property.

Pre-Subsidence Survey

A pre-subsidence survey of all structures to be undermined will be conducted by OVCC personnel or by someone contracted to do this work and will be used to determine the condition of the structures and facilities prior to the mining unless a private agreement exists between OVCC and the landowner. This survey may include, but not be limited to: still and video photography, land surveying, making various measurements, interviewing landowners, tenants, or other individuals, and making various drawings. Refusal of the landowner to allow a pre-subsidence survey will release OVCC from the requirement to conduct the survey and repair damage. This survey will be performed in accordance with Underground PPD 90-3.

Monitoring of Structures

After OVCC has completed its pre-subsidence survey, OVCC will notify the Division of Mines and Reclamation if a private agreement (pursuant to OAC 1501:13-12-03(E)) between OVCC and the landowner exists. If no agreement exists, the Division of Mines and Reclamation, after discussions with OVCC, will decide the need for any monitoring of the structure(s). If monitoring is required, OVCC will submit a plan for the monitoring. If, prior to subsidence, a private agreement is reached, OVCC shall be released from any and all monitoring requirements.

ADDENDUM TO PAGE 30, PART 3, K(5)(g)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

REPAIRS TO STRUCTURES

After mining, structures will be repaired or replaced as required by law or the owner will be compensated for the diminution in value to the extent required by law. A private agreement may be used to satisfy the requirements of OAC 1501:13-12-03. If repaired, structures will be returned to their pre-mining condition.

Repair of and compensation for damage under the terms and conditions of OAC 1501:13-12-03(F) and (H) can be determined only after review and analysis of the damage in each particular situation. OVCC will comply with all legal requirements if subsidence damage occurs.

ADDENDUM TO PAGE 30, PART 3, K(5)(h)
THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

Monitoring of Structures

After OVCC has completed its pre-subsidence survey, OVCC will notify the Division of Mines and Reclamation if a private agreement (pursuant to OAC 1501:13-12-03(E)) between OVCC and the landowner exists. If no agreement exists, the Division of Mines and Reclamation, after discussions with OVCC, will decide the need for any monitoring of the structure(s). If monitoring is required, OVCC will submit a plan for the monitoring. If, prior to subsidence, a private agreement is reached, OVCC shall be released from any and all monitoring requirements.

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

STATIC WATER LEVEL AND FLOW MEASUREMENTS
FIRST QUARTER, 1990

W-21

DATE	SWL (FT)	LW FACE DISTANCE
1-30-90	20	-390
2-22-90	21	-144
3-2-90	31	+642
3-10-90	53	+1130
3-12-90	45	+1175
3-14-90	47	+1345
3-19-90	45	+1450
3-26-90	48	+1930

W-37

DATE	SWL (FT)	LW FACE DISTANCE
1-30-90	32	-2950
2-23-90	30.5	-1335
3-12-90	34	-360
3-19-90	36	-90
3-26-90	38	+400

W-36

DATE	SWL (FT)	LW FACE DISTANCE
1-3-90	17	-3980
2-22-90	12.5	-1394
3-10-90	16	-400
3-19-90	19.5	-80
3-26-90	28 DRY	+400

SP-11

DATE	FLOW GPM	LW FACE DISTANCE
1-3-90	3	-5261
2-22-90	3.5	-2686
3-14-90	1.3	-1470

W-35

DATE	SWL (FT)	LW FACE DISTANCE
1-3-90	15	-3980
2-22-90	11	-1394
3-10-90	15	-400
3-19-90	30	-80
3-26-90	72	+400

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

STATIC WATER LEVEL AND FLOW MEASUREMENTS
SECOND QUARTER, 1990
SOURCES THAT HAVE BEEN UNDERMINED DURING THIS QUARTER

SP-11

DATE	FLOW(GPM)	LW FACE DISTANCE
4-5-90	1.82	-385
4-6-90	1.82	-310
4-7-90	1.72	-228
4-9-90	1.33	-168
4-10-90	0.75	-33
4-12-90	1.20	67
4-14-90	0.66	171
4-15-90	1.00	213
4-16-90	0.86	255
4-23-90	0.51	D
4-24-90	0.46	D
5-28-90	1.38	D
6-11-90	1.46	D

SP-20

DATE	FLOW(GPM)	LW FACE DISTANCE
4-27-90	0.02	D
5-21-90	0.33	-2279
6-14-90	0	-603
6-20-90	0.73	-229
6-21-90	0.73	-155
6-26-90	0	136
6-27-90	0	242
6-28-90	0	273
6-29-90	0.68	392

W-35

DATE	SWL (FT)	LW FACE DISTANCE
4-9-90	72	1842
4-16-90	70	2265
4-23-90	70	D
5-2-90	71	D
5-14-90	68	D
5-28-90	55	D
6-11-90	58	D
6-14-90	57.6	D

W-36

DATE	SWL (FT)	LW FACE DISTANCE
4-9-90	DRY	1842
4-16-90	26.50	2265
4-23-90	DRY	D
5-2-90	DRY	D
5-14-90	26.50	D
5-28-90	24.75	D
6-11-90	26.60	D
6-14-90	26.60	D

D = PANEL DONE

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360

STATIC WATER LEVEL AND FLOW MEASUREMENTS
THIRD QUARTER, 1990
SOURCES THAT HAVE BEEN UNDERMINED DURING THIS QUARTER

SP-20

DATE	FLOW(GPM)	LW FACE DISTANCE
7-5-90	0.00	-450
7-18-90	0.00	-1342
8-15-90	0.00	-2870
9-19-90	0.00	D

SP-22

DATE	FLOW(GPM)	LW FACE DISTANCE
7-25-90	0.81	823
8-6-90	0.75	344
8-13-90	0.09	-335
8-20-90	0.08	D
9-10-90	0.10	D

W-38 *

DATE	SWL(FT)	LW FACE DISTANCE
7-25-90	27.00	1158
8-8-90	30.00	490
8-13-90	31.00	105
8-20-90	28.00	D
9-20-90	21.00	D

W-32 *

DATE	SWL(FT)	LW FACE DISTANCE
7-25-90	29.00	1098
8-8-90	30.00	430
8-13-90	30.50	45
8-20-90	31.00	D
9-20-90	31.00	D

W-19

DATE.	SWL(FT)	LW FACE DISTANCE
7-25-90	21.00	963
8-8-90	22.00	295
8-13-90	25.00	-90
8-20-90	24.00	D
9-10-90	25.00	D

D = PANEL DONE
(-) = BEHIND FACE
* = LOCATED AHEAD OF LONGWALL FINISH POSITION
BUT WITHIN ANGLE OF DRAW

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE - UNDERMINED SOURCES
PERMIT O-0360
SWL AND FLOW MEASUREMENTS - 4TH QUARTER, 1990

SP-21

DATE	FLOW(GPM)	LW FACE DISTANCE
10-16-90	1.07	1377
10-29-90	1	73
11-7-90	0	-391
11-14-90	0	-999
11-15-90	0.05	-1093
11-20-90	0	-1843
11-26-90	0.15	0
12-5-90	0.438	0
12-10-90	0	0
12-17-90	0.31	0
12-24-90	0.53	0

SP-30

DATE	FLOW(GPM)	LW FACE DISTANCE
10-16-90	2.6	2340
11-7-90	1.42	572
11-14-90	0.93	-36
11-20-90	0.58	-880
11-26-90	0.47	0
12-5-90	3.49	0
12-10-90	1	0
12-17-90	1.7	0

O-29

DATE	SWL(FT)	LW FACE DISTANCE
11-15-90	35	-196
12-10-90	33.5	0
12-17-90	33	0
12-24-90	21	0

NOTE: WELL BURIED PRIOR TO 11-15-90

O-30

DATE	SWL(FT)	LW FACE DISTANCE
10-22-90	30.5	1880
11-7-90	33	717
11-14-90	36.5	109
11-20-90	48	-735
11-26-90	51	0
12-5-90	52	0
12-10-90	49	0
12-17-90	50.5	0

O-38

DATE	SWL(FT)	LW FACE DISTANCE
10-8-90	24	3879
11-8-90	24	1225
11-15-90	25	895
11-20-90	25	-5
11-26-90	25	0
12-5-90	20	0
12-10-90	20	0
12-17-90	19	0
12-24-90	15	0

NOTE: WELL IS LOCATED 5 FT FROM END OF PANEL

O-32

DATE	SWL(FT)	LW FACE DISTANCE
10-8-90	33	3829
11-8-90	31	1225
11-15-90	32	895
11-20-90	32	30
11-26-90	32	25(0)
12-5-90	32	0
12-10-90	30	0
12-17-90	30	0
12-24-90	28	0

NOTE: WELL IS LOCATED OUTSIDE OF PANEL

LEGEND
NM = NOT MEASURED
0 = FLOW TOO LOW TO MEASURE
O-30 = WELL
SP-21 = SPRING
WELL MEASUREMENTS IN FT BELOW SURFACE (SWL)
SPRING MEASUREMENTS IN GPM
+ = BEHIND FACE (DISTANCE UNTIL UNDERMINING)
- = AHEAD OF FACE (DISTANCE AFTER UNDERMINING)

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360
WEEKLY MONITORING REPORT

DATE ====>		1/2/91		1/7/91		1/14/91		1/21/91	
LW PLUS ====>		4149		3945		3350		2656	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-24	3525	B	624	B	420	58	-175	44C	-869
W-25	3600	51	549	53	345	51	-250	50	-944
W-26	3525	40	624	41	420	40	-175	48	-869
W-27	1350		2799		2595	31	2000	32	1306
W-28	930		3219		3015	50	2420	51	1726
W-29	1100		3049		2845	28	2250	24	1556
SP-21	1900		2249		2045	NF	1450	NF	756
SP-29	800		3349		3145	3.8	2550	1.7	1856
SP-30	1000		3149		2945	1.3	2350	1.3	1656
U-6A	4350		-201		-405	0.2	-1000	0.01	-1694

DATE ====>		1/28/91		2/4/91		2/11/91		2/18/91	
LW PLUS ====>		2022		1358		842		509	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-24	3525	54	-1503	50	-2167	47	-2683	47	-3016
W-25	3600	51	-1578	51	-2242	51	-2758	51	-3091
W-26	3525	59	-1503	54	-2167	56	-2683	54	-3016
W-27	1350	34	672	37	8	42	-508	50	-841
W-28	930	53	1092	53	428	56	-88	51	-421
W-29	1100	33	922	33	258	34	-258	33	-591
SP-21	1900	NF	122	1.3	-542	2.4	-1058	1.9	-1391
SP-29	800	NF	1222	2.0	558	1.8	42	1.8	-291
SP-30	1000	1.1	1022	0.1	358	1.3	-158	2.0	-491
U-6A	4350	0.04	-2328	0.04	-2992	.06	-3508	.06	-3841

DATE ====>		2/25/91		3/4/91		3/11/91		3/18/91	
LW PLUS ====>		509		509		509		509	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-24	3525	46	-3016	47	-3016	45	-3016	46	-3016
W-25	3600	50	-3091	51	-3091	50	-3091	51	-3091
W-26	3525	54	-3016	59	-3016	54	-3016	55	-3016
W-27	1350	50	-841	45	-841	44	-841	44	-841
W-28	930	51	-421	52	-421	50	-421	51	-421
W-29	1100	33	-591	35	-591	33	-591	33	-591
SP-21	1900	1.9	-1391	1.6	-1391	2.4	-1391	1.6	-1391
SP-29	800	1.8	-291	1.3	-291	2.1	-291	2	-291
SP-30	1000	2	-491	1.2	-491	1.2	-491	1.1	-491
U-6A	4350	0.06	-3841	0.03	-3841	0.07	-3841	0.05	-3841

NF = NO FLOW
C = WATER CASCADING FROM SWL SHOWN
B = WELL BURIED

SWL IS MEASURED IN FT FROM SURFACE
FLOW IS MEASURED IN CFS
- = FACE IS PAST WATER SOURCE

TOVCC 10654

THE OHIO VALLEY COAL COMPANY – POWHATAN NO. 6 MINE – PERMIT D-0360

WEEKLY MONITORING REPORT

DATE	====>	4/8/91		4/15/91		4/24/91		4/29,30/91	
LW PLUS	====>	6210		5708		5021		4411	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-26	3510		2700	57	2198	57	1511	59	901
W-27	1360		4850		4348		3661	44	3051
W-33	3200		3010	18	2508	18	1821	35	1211
SP-23	2400		3810		3308	1.6	2621	1.6	2011
SP-24	2230		3980		3478	2.1	2791	1.5	2181
SP-29	1050		5160		4658		3971	1.9	3361
U-6A	4375	0.005	1835	0.026	1333	0.0424	646	0.009	36
U-22Q	725		5485		4983		4296	0.025	3686

DATE	====>	5/6/91		5/14/91		5/21/91		5/29/91	
LW PLUS	====>	3771		3007		2432		1848	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-26	3510	59	261	62	-503	52	-1078	70	-1662
W-27	1360	68	2411	50	1647	59	1072	71	488
W-33	3200	25	571	22	-193	27	-768	19	-1352
SP-23	2400	1.6	1371	1.4	607	1.4	32	0.7	-552
SP-24	2230	2.1	1541	1.8	777	1.1	202	0.25	-382
SP-29	1050	2.4	2721	1.9	1957	0.35	1382	0.2	798
U-6A	4375	0.067	-604	0.0287	-1368	0.0264	-1943	0.011	-2527
U-22Q	725	0.378	3046	0.209	2282	0.0154	1707	0.0176	1123

DATE	====>	6/3/91		6/10/91		6/17/91		6/24/91	
LW PLUS	====>	1570		1264		821		715	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-26	3510	70	-1940	70	-2246	67	-2689	65	-2795
W-27	1360	64	210	53	-96	75	-539	74	-645
W-33	3200	28	-1630	29	-1936	28	-2379	29	-2485
SP-23	2400	0.2	-830	NF	-1136	NF	-1579	0.03	-1685
SP-24	2230	0.5	-660	NF	-966	NF	-1409	NF	-1515
SP-29	1050	0.5	520	NF	214	0.7	-229	0.6	-335
U-6A	4375	0.033	-2805	NF	-3111	0.0016	-3554	NF	-3660
U-22Q	725	0.019	845	0.0088	539	0.025	96	0.015	-10

NF = NO FLOW

FLOW IS MEASURED IN CFS FOR U-6A AND U-22Q; IN GPM FOR SPRINGS

- = FACE IS PAST WATER SOURCE

SWL IS MEASURED IN FT FROM SURFACE

TOVCC 10655

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT

WEEK OF ====>		7/1/91		7/8/91		7/15/91		7/22/91		7/29/91	
LW PLUS ====>		7395	580	7280		6850		6310		5928	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-26	3510	62	-2930	62	-2930						
W-27	1360	77	-780	75	-780						
W-33	3200	29	-2620	28	-2620						
SP-23	2400	0.375	-1820	0.214	-1820						
SP-24	2230	NF	-1650	NF	-1650						
SP-29	1050	NF	-470	NF	-470						
U-6A	4375	NF	-3795	NF	-3795						
U-22Q	725	0.044	-145	0.257	-145						
U-21A	7000	NF	395	NF	280	NF	-150	0.0004	-690	0.0003	-1072
U-21G	3440									0.005	6310

WEEK OF ====>		8/5/91		8/12/91		8/19/91		8/26/91	
LW PLUS ====>		5642		5485		5345		5165	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-21A	7000	NF	-1358	NF	-1515				
U-21G	3440	0.005	2202	0.003	2045	0.04	1905	0.0009	1725
W-33	3200	29	2442	29	2285	28	2145	29	1965
W-34	2400		3242	20	3085	18	2945	17	2765
W-43	2550		3092	18	2935	18	2795	14	2615
SP-23	2400		3242	NF	3085	NF	2945	NF	2765
SP-24	2230		3412	NF	3255	NF	3115	NF	2935
SP-31	2850		2792	0.326	2635	0.416	2495	0.33	2315

WEEK OF ====>		9/2/91		9/9/91		9/16/91		9/23/91	
LW PLUS ====>		5110		4900		4648		4367	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-21G	3440	0.0008	1670	0.0008	1460	0.0004	1208	0.0003	927
W-33	3200	30	1910	29	1700	28	1448	28	1167
W-34	2400	18	2710	19	2500	19	2248	19	1967
W-43	2550	15	2560	20	2350	19	2098	20	1817
SP-23	2400	NF	2710	NF	2500	NF	2248	NF	1967
SP-24	2230	NF	2880	NF	2670	NF	2418	NF	2137
SP-31	2850	0.36	2260	0.3	2050	0.3	1798	0.3	1517

NF = NO FLOW

FLOW IS MEASURED IN CFS FOR STREAMS; IN GPM FOR SPRINGS

- = FACE IS PAST WATER SOURCE

SWL IS MEASURED IN FT FROM SURFACE

TOVCC 10656

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - 4th QTR 1991

WEEK OF ====>		9/30/91		10/7/91		10/14/91		10/21/91		10/28/91	
LW PLUS ====>			4290		3782		3439		3260		2816
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-33	3200	29'	1090	30'	582	29'	239	29'	60	43'	-384
W-34	2400	19'	1890	19'	1382	20'	1039	21'	860	22'	416
W-43	2550	19'	1740	19'	1232	19'	889	20'	710	20'	266
SP-23	2400	NF	1890	NF	1382	NF	1039	NF	860	NF	416
SP-24	2230	NF	2060	NF	1552	NF	1209	NF	1030	NF	586
SP-31	2850	.3 GPM	1440	.288 GPM	932	.25 GPM	589	.25 GPM	410	NF	-34
U-21G	3440	.0008 CFS	850	.0006 CFS	342	.0089 CFS	-1	.0093 CFS	-180	.0002 CFS	-624
U-22Q	725	.018 CFS	3565	.016 CFS	3057	.0017 CFS	2714	.0016 CFS	2535	.004 CFS	2091

WEEK OF ====>		11/4/91		11/11/91		11/18/91		11/25/91	
LW PLUS ====>			2278		2041		1609		1346
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-33	3200	45'	-922	45'	-1159	46'	-1591	41'	-1854
W-34	2400	23'	-122	23'	-359	24'	-791	23'	-1054
W-43	2550	21'	-272	21'	-509	D	-941	D	-1204
SP-23	2400	NF	-122	NF	-359	NF	-791	NF	-1054
SP-24	2230	NF	48	NF	-189	NF	-621	NF	-884
SP-31	2850	NF	-572	NF	-809	NF	-1241	.012 GPM	-1504
U-21G	3440	.0002 CFS	-1162	.0001 CFS	-1399	.0001 CFS	-1831	.0005 CFS	-2094
U-22Q	725	.004 CFS	1553	.003 CFS	1316	.003 CFS	884	.008 CFS	621

WEEK OF ====>		12/2/91		12/9/91		12/16/91		12/23/91		12/30/91	
LW PLUS ====>			1064		789	7320	725	7320	725	7320	725
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-33	3200	37'	-2136	38'	-2411	36'	-2475	36'	-2475	36'	-2475
W-34	2400	19'	-1336	17'	-1611	15'	-1675	15'	-1675	15'	-1675
W-43	2550	D	-1486	D	-1761	20'	-1825	20'	-1825	20'	-1825
SP-23	2400	.034 GPM	-1336	NF	-1611	NF	-1675	.27 GPM	-1675	.29 GPM	-1675
SP-24	2230	.037 GPM	-1166	NF	-1441	NF	-1505	.37 GPM	-1505	.41 GPM	-1505
SP-31	2850	.039 GPM	-1786	0.10 GPM	-2061	.041 GPM	-2125	.3 GPM	-2125	.31 GPM	-2125
U-7 °	5500	NS	1820	NS	1820	.610 CFS	1820	.779 CFS	1820	.898 CFS	1820
U-21A °	7000	NS	320	NS	320	NF	320	NF	320	NF	320
U-21G	3440	.010 CFS	-2376	.009 CFS	-2651	.019 CFS	-2715	.024 CFS	-2715	.028 CFS	-2715
U-22Q	725	.021 CFS	339	.019 CFS	64	.028 CFS	0	.030 CFS	0	.033 CFS	0

NF = NO FLOW D = DRY NS = NOT SCHEDULED FOR MONITORING ° = MONITORING FOR NEXT PANEL TO NORTH (11W)

SWL IS MEASURED IN FT FROM SURFACE

FLOW IS MEASURED IN CFS FOR STREAMS; IN GPM FOR SPRINGS

- = FACE IS PAST WATER SOURCE

TOVCC 10657

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - 1ST QTR 1992

WEEK OF ====>		1/7/92		1/14/92		1/21/92		1/29/92	
LW PLUS ====>		7300		7075		6718		6168	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-7	5550	0.678	1750	0.776	1525	0.996	1168	1.44	618
U-21A	7000	NF	300	NF	75	NF	-282	NF	-932
U-21G	3440	0.016	3860	0.019	3635	0.027	3278	0.18	2728
U-22P	1100	NS	6200	NS	5975	0.019	5618	0.16	5068
W-34	2400	17'	4900	17'	4675	17	4318	16'	3768
W-43	2550	20'	4750	20'	4525	20'	4168	18'	3618
W-44	2150	B	5150	B	4925	B	4568	B	4018
SP-31	2850	0.09	4450	0.08	4225	0.1	3868	0.06	3318

WEEK OF ====>		2/6/92		2/12/92		2/21/92		2/25/92	
LW PLUS ====>		5622		5326		4765		4562	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-7	5550	3.31	72	1.437	-224	3.68	-785	3.33	-988
U-21A	7000	NF	-1378	NF	-1674	NF	-2235	NF	-2438
U-21G	3440	0.043	2182	0.082	1886	0.22	1325	0.26	1122
U-22P	1100	0.39	4522	0.028	4226	0.31	3665	0.33	3462
W-34	2400	16'	3222	17'	2926	15'	2365	15'	2162
W-43	2550	19'	3072	19'	2776	18'	2215	18'	2012
W-44	2150	B	3472	54'	3176	53'	2615	53'	2412
SP-31	2850	0.125	2772	NF	2476	0.08	1915	0.02	1712

WEEK OF ====>		3/3/92		3/10/92		3/17/92		3/24/92		3/31/92	
LW PLUS ====>		4296		3850		3352		2960		2533	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-7	5550	2.23	-1254	3.34	-1700						
U-21G	3440	0.17	856	0.22	410	0.25	-88	0.27	-480		
U-22P	1100	0.23	3196	0.23	2750	0.28	2252	0.3	1860	0.29	1433
W-34	2400	15'	1896	15'	1450	15'	952	15'	560	15'	133
W-43	2550	17'	1746	17'	1300	17'	802	17'	410	17'	-17
W-44	2150	51'	2146	52'	1700	53'	1202	52'	810	53'	383
SP-31	2850	NF	1446	0.06	1000	0.03	502	0.02	110	NF	-317

NF = NO FLOW D = DRY NS = NOT SCHEDULED FOR MONITORING B = BURIED

SWL IS MEASURED IN FT FROM SURFACE - FOR WELLS

FLOW IS MEASURED IN CFS FOR STREAMS; IN GPM FOR SPRINGS

- = FACE IS PAST WATER SOURCE

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - 2ND QTR 1992

WEEK OF	====>	4/6/92		4/13/92		4/20/92		4/27/92	
LW PLUS	====>	2075	9960	1714	9960	1527	9960	1527	9960
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-22P	1100	.15 cfs	975	.12 cfs	814	.09 cfs	427	.06 cfs	427
W-44	2150	53'	-75	53'	-436	53'	-623	53'	-623
W-92	9890	16'	70	16'	70	16'	70	16'	70
W-93	10440	53'	-480	53'	-480	53'	-480	53'	-480
W-94	10290	36'	-330	35'	-330	35'	-330	36'	-330
W-79	7910	U	2050	U	2050	S	2050	S	2050
W-80	7750	U	2210	U	2210	21'	2210	21'	2210
W-81	8860	U	1100	29'	1100	29'	1100	29'	1100
SP-43	8300	U	1660	U	1660	.3 gpm	1660	.4 gpm	1660
SP-44	7570	U	2390	U	2390	1 gpm	2390	.93 gpm	2390
SP-45	9450	1.07 gpm	510	.93 gpm	510	1.33 gpm	510	.95 gpm	510
SP-177	8200	U	1760	U	1760	.5 gpm	1760	.4 gpm	1760
SP-224	8400	U	1560	1.11 gpm	1560	1.5 gpm	1560	1.3 gpm	1560
U-23J	6400	U	3560	U	3560	U	3560	.83 cfs	3560
U-23L	7890	U	2070	U	2070	.26 cfs	2070	.22 cfs	2070
U-23M	8140	U	1820	U	1820	.18 cfs	1820	.12 cfs	1820
U-23O	5200	U	4760	U	4760	U	4760	.016 cfs	4760
U-24A	10380	.15 cfs	-420	.12 cfs	-420	.12 cfs	-420	.07 cfs	-420
U-28	9950	.33 cfs	10	.20 cfs	10	.08 cfs	10	.03 cfs	10

WEEK OF	====>	5/4/92		5/11/92		5/18/92		5/25/92	
LW PLUS	====>	1527	9960	1527	9960	1527	9850	1527	9555
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-22P	1100	.091 cfs	427	.091 cfs	427	.03 cfs	427	.02 cfs	427
W-44	2150	38'	-623	70'	-623	72'	-623	74'	-623
W-92	9890	17'	70	16'	70	16'	-40	18'	-335
W-93	10440	53'	-480	53'	-480	54'	-590	40'	-885
W-94	10290	36'	-330	35'	-330	37'	-440	58'	-735
W-79	7910	45'	2050	45'	2050	43'	1940	43'	1645
W-80	7750	20'	2210	19'	2210	19'	2100	19'	1805
W-81	8860	29'	1100	29'	1100	29'	990	29'	695
SP-43	8300	.73 gpm	1660	.58 gpm	1660	.48 gpm	1550	.44 gpm	1255
SP-44	7570	2.50 gpm	2390	1.05 gpm	2390	.83 gpm	2280	.73 gpm	1985
SP-45	9450	.63 gpm	510	.68 gpm	510	.5 gpm	400	.39 gpm	105
SP-177	8200	.85 gpm	1760	.71 gpm	1760	.39 gpm	1650	.33 gpm	1355
SP-224	8400	1 gpm	1560	1.25 gpm	1560	1 gpm	1450	.93 gpm	1155
U-23J	6400	.71 cfs	3560	.68 cfs	3560	.55 cfs	3450	.49 cfs	3155
U-23L	7890	.18 cfs	2070	.15 cfs	2070	.11 cfs	1960	.09 cfs	1665
U-23M	8140	.13 cfs	1820	.11 cfs	1820	.09 cfs	1710	.08 cfs	1415
U-23O	5200	.011 cfs	4760	.009 cfs	4760	.008 cfs	4650	.008 cfs	4355
U-24A	10380	.09 cfs	-420	.08 cfs	-420	.05 cfs	-530	.02 cfs	-825
U-28	9950	.27 cfs	10	.27 cfs	10	.22 cfs	-100	.19 cfs	-395

WEEK OF	====>	6/1/92		6/8/92		6/15/92		6/22/92	
LW PLUS	====>	1527	9144	1527	8628	1527	8085	1527	7559
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
U-22P	1100	U	427	U	427	U	427	U	427
W-44	2150	U	-623	U	-623	U	-623	U	-623
W-92	9890	18'	-746	17'	-1262	15'	-1825	13'	-2331
W-93	10440	56'	-1296	58'	-1812	65'	-2375	67'	-2881
W-94	10290	40'	-1146	42'	-1662	42'	-2225	41'	-2731
W-79	7910	46'	1234	46'	718	46'	155	46'	-351
W-80	7750	19'	1394	22'	878	23'	315	21'	-191
W-81	8860	32'	284	D	-232	D	-795	73'	-1301
SP-43	8300	.12 gpm	844	.11 gpm	328	D	-235	.288 gpm	-741
SP-44	7570	.19 gpm	1574	.15 gpm	1058	.13 gpm	495	.178 gpm	-11
SP-45	9450	.18 gpm	-306	D	-822	D	-1385	D	-1891
SP-177	8200	.19 gpm	944	.23 gpm	428	.05 gpm	-135	.02 gpm	-641
SP-224	8400	.51 gpm	744	.667 gpm	228	.5 gpm	-335	.07 gpm	-841
U-23J	6400	.39 cfs	2744	.33 cfs	2228	.27 cfs	1665	.025 cfs	1159
U-23L	7890	.09 cfs	1254	.003 cfs	738	.002 cfs	175	.0002 cfs	-331
U-23M	8140	.08 cfs	1004	.014 cfs	488	.013 cfs	-75	.056 cfs	-581
U-23O	5200	.008 cfs	3944	.006 cfs	3428	.003 cfs	2865	.001 cfs	2359
U-24A	10380	.02 cfs	-1236	.02 cfs	-1752	.007 cfs	-2315	.006 cfs	-2821
U-28	9950	.16 cfs	-806	.18 cfs	-1322	.17 cfs	-1885	.162 cfs	-2391

NF = NO FLOW D = DRY NS = NOT SCHEDULED FOR MONITORING B = BURIED

SWL IS MEASURED IN FT FROM SURFACE - FOR WELLS

FLOW IS MEASURED IN CFS FOR STREAMS; IN GPM FOR SPRINGS

- = FACE IS PAST WATER SOURCE

11 WEST PANEL FINISHED 4/22/92 - 11 EAST PANEL STARTED 5/18/92

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - 3RD QTR 1992

WEEK OF ====>		6/29/92		7/6/92		7/13/92		7/20/92		7/27/92	
LW PLUS ====>		7306		6705		6150		5620		5150	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-81	8850	73'	-1544	73'	-2145	U	-2700	U	-3230	U	-3700
W-262	8860	B	-1554	B	-2155	U	-2710	U	-3240	U	-3710
W-79	7900	D	-594	U	-1195	U	-1750	U	-2280	U	-2750
W-80	7540	D	-234	U	-835	U	-1390	U	-1920	U	-2390
W-57	4750	U	2556	91'	1955	90'	1400	88'	870	92'	400
W-58	5800	U	1506	91'	905	90'	350	77'	-180	64'	-650
W-59	5900	U	1406	34'	805	34'	250	33'	-280	33'	-750
W-56	5600	U	1706	23'	1105	23'	550	22'	20	22'	-450
W-55	4300	U	3006	32'	2405	30'	1850	32'	1320	33'	850
SP-43	8400	U	-1094	.14 GPM	-1695	U	-2250	U	-2780	U	-3250
SP-177	8100	U	-794	.02 GPM	-1395	U	-1950	U	-2480	U	-2950
SP-224	8400	U	-1094	.004 GPM	-1695	U	-2250	U	-2780	U	-3250
SP-44	7500	U	-194	NF	-795	U	-1350	U	-1880	U	-2350

WEEK OF ====>		8/3/92		8/10/92		8/17/92		8/24/92		8/31/92	
LW PLUS ====>		4614		4069		3613		3270		2940	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-81	8850	U	-4236	U	-4781	U	-5237	U	-5580	U	-5910
W-262	8860	U	-4246	U	-4791	U	-5247	U	-5590	U	-5920
W-79	7900	U	-3286	U	-3831	U	-4287	U	-4630	U	-4960
W-80	7540	U	-2926	U	-3471	U	-3927	U	-4270	U	-4600
W-57	4750	89'	-136	93'	-681	94'	-1137	U	-1480	U	-1810
W-58	5800	54'	-1186	56'	-1731	58'	-2187	U	-2530	U	-2860
W-59	5900	32'	-1286	D	-1831	34'	-2287	U	-2630	U	-2960
W-56	5600	22'	-986	23'	-1531	26'	-1987	U	-2330	U	-2660
W-55	4300	45'	314	70'	-231	59'	-687	U	-1030	U	-1360
SP-43	8400	U	-3786	U	-4331	U	-4787	U	-5130	U	-5460
SP-177	8100	U	-3486	U	-4031	U	-4487	U	-4830	U	-5160
SP-224	8400	U	-3786	U	-4331	U	-4787	U	-5130	U	-5460
SP-44	7500	U	-2886	U	-3431	U	-3887	U	-4230	U	-4560

WEEK OF ====>		9/7/92		9/14/92		9/21/92		9/28/92	
LW PLUS ====>		2596		2370		1995		1540	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-81	8850	U	-6254	U	-6480	U	-6855	U	-7310
W-262	8860	U	-6264	U	-6490	U	-6865	U	-7320
W-79	7900	U	-5304	U	-5530	U	-5905	U	-6360
W-80	7540	U	-4944	U	-5170	U	-5545	U	-6000
W-57	4750	U	-2154	U	-2380	U	-2755	U	-3210
W-58	5800	U	-3204	U	-3430	U	-3805	U	-4260
W-59	5900	U	-3304	U	-3530	U	-3905	U	-4360
W-56	5600	U	-3004	U	-3230	U	-3605	U	-4060
W-55	4300	U	-1704	U	-1930	U	-2305	U	-2760
SP-43	8400	U	-5804	U	-6030	U	-6405	U	-6860
SP-177	8100	U	-5504	U	-5730	U	-6105	U	-6560
SP-224	8400	U	-5804	U	-6030	U	-6405	U	-6860
SP-44	7500	U	-4904	U	-5130	U	-5505	U	-5960

NF = NO FLOW D = DRY U = NOT SCHEDULED FOR MONITORING B = BURIED

SWL IS MEASURED IN FT FROM SURFACE - FOR WELLS

FLOW IS MEASURED IN CFS FOR STREAMS; IN GPM FOR SPRINGS

- = FACE IS PAST WATER SOURCE

TOVCC 10660

In summary, the longwall mining has impacted several of the wells and springs within close proximity of the panels. However, not all of the developed sources have been impacted, even when located directly over the mining. The impacts are generally limited to the angle of draw or just slightly beyond, and most sources recover soon after mining.

Ground Water Quality - Undermined Wells and Springs

The attached water quality data is presented for several wells and springs in the study area. Water quality both before and after mining is generally good for well and springs that tap the aquifers above the mine.

The attached quarterly monitoring reports show the comparison of water quality before mining with the quality after mining. In the case of W-21, the source is located outside the angle of draw. The static water level declined soon after mining passed the well in March, 1990 but recovery soon followed. There were no changes in water quality after the mining had passed.

Mining occurred under W-35 in late March, 1990. The water level declined initially and recovered somewhat before the well was abandoned. The total iron content increased from less than 0.02 mg/l to approximately 2 mg/l. Manganese showed slight increases. Other parameters remained the same as pre-mining samples.

1. W-21 Kolence Well. There were no changes in water quality.

2. W-36 Liddle Dug Well. The total iron and manganese contents increased immediately after mining. Shortly thereafter, the well failed to hold water due to a crack in the bottom of the well. When samples could be taken they were representative of surface water that had trickled into the well, accumulating only about one ft. deep. Samples undoubtedly contained material from the bottom of the well. The well has been filled.

3. W-35 Liddle Drilled Well. Initially after mining, samples were not obtainable because the water level stabilized below the point where the casing had collapsed. When samples could again be taken, both iron and manganese levels had increased significantly. However, within one year after undermining, the parameters had returned to pre-mining levels (non-detectable).

4. W-37 is located outside the angle of draw of the first longwall panel. The static water level was not affected by the mining. Total iron, manganese, and suspended solids increased initially, but decreased to pre-mining levels within one year following mining past the well.

5. W-13 Liddle Rt. 9 Well. The Liddle Rt. 9 Well is located outside the angle of draw at the end of the 5 West panel. It was unaffected by the longwall mining.

6. W-19 Bobick Well. The Bobick Well is located over the 6 West gate, and both panels 1 and 2 passed by the well. After the 5 West panel passed the well, the water quality was unaffected. After the 6 West panel passed the well, iron and manganese increased slightly, but returned to normal within one year after mining. Low water levels made sampling of this source impossible at the end of the first year after mining.

7. W-32 Riley Well. The Riley Well is located over the 6 West panel and was undermined in August, 1990. Prior to mining, the total iron content increased initially but decreased to pre-mining levels within one year after mining.

8. W-38 Riley House Well. The Riley House Well is located near W-32 over the 6 West panel and was also undermined in August, 1990. After mining, the total acidity content increased. The total iron content increased just prior to undermining. The level decreased to normal within one year after undermining.

9. Sp-11 Liddle Spring. The Liddle Spring was undermined by the 5 West panel in April, 1990. Initially, the total suspended solids increased, but were within the range of pre-mining samples. There was little or no effect on the water quality.

10. Sp-20 L. Ogilbee Spring. The L. Ogilbee Spring was undermined by the 6 West panel in late June, 1990. Flow stopped in July, 1990. One sample was taken in September, 1990 from the livestock watering tank. It showed a slight increase in suspended solids.

11. Sp-22 Bobick Spring. The Bobick Spring. located above the 6 West panel, did not have pre-mining parameters to compare with. However, within one year after mining, the quality of the water that flowed from the spring was comparable with similarly developed springs in the area, showing that any change in water quality was temporary.

12. W-24 Albert Ogilbee Well. The Albert Ogilbee Well showed increases in several parameters after mining, including iron, manganese, and suspended solids. However, these changes were not enough to cause the well to be un-usable.

13. W-25 Keith Ogilbee Well. The Keith Ogilbee Well water quality was unaffected by mining.

14. W-26 Wayne Ogilbee Well. The Wayne Ogilbee Well water quality was unaffected by mining.

15. W-28 Fankhouser Well. The Fankhouser Well quality analysis indicated that suspended solids and iron content increased somewhat after mining, but returned to normal within one year after mining.

16. Sp-29 and Sp-30 Caretti Springs. The Caretti springs were not significantly affected by mining with regard to water quality.

17. W-27 Ooten Well. The Ooten Well water quality was not affected by mining.

18. W-33 OVCC Well. The OVCC Well water quality was not affected by mining.

19. Sp-31 Otto Spring. The Otto Spring water quality was not affected by mining.

20. W-43 Otto Barn Well. The Otto Barn Well cannot be sampled for analysis.

21. W-34 Otto House Well. The Otto House Well water quality changed initially, but returned to pre-mining levels within one year after mining.

22. Sp-23 and Sp-24 Otto Springs. The Otto Springs only flow during wet periods. When they flow, the water quality is identical to pre-mining quality.

23. W-94 Nada Trigg Well. The Nada Trigg well water quality was not affected by mining.

24. W-92 Gorshe Well. The Gorshe Well has increased in iron and suspended solids since undermining in May, 1992. The water quality in this well is expected to improve to pre-mining levels.

25. Sp-45 Gorshe Spring. Since this spring has been de-watered, post-mining water analyses are not obtainable.

26. W-81 Gladden Well. The Gladden well was un-used and water analyses were not obtainable.

27. W-79 and W-80 Phillips Wells. The Phillips wells were de-watered by mining, making analysis of the water impossible.

28. Sp-44 Phillips Spring. The Phillips spring was de-watered by mining, making analysis of the water impossible.

29. W-57 R. Britton Well. The R. Britton well was undermined in late July, 1992. Reportable water sampling has not occurred since that time.

30. W-58 and W-59 W. Britton Wells. Since the longwall passed these sources in late July and early August, 1992, there is no reportable water analysis.

In summary, with the exception of some short term variations, the water quality was unchanged by the longwall mining. The minor fluctuations in several parameters were predicted before mining and should return to their original levels. No long term effects on the quality of the water is anticipated.

Since longwall mining was begun in January, 1990, OVCC has connected all of the affected water users to the Belmont County Sanitary Sewer water system as a temporary and permanent water source. In most cases, each water user was connected prior to undermining. There are no outstanding claims for water loss at the Powhatan No. 6 Mine.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. D-0369

✓ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	W-21	W-21	W-24	SP-20	W-26
Surface Elevation of Monitoring Site	1224	1224	1266	1148	1297
Depth Below Land Surface	72'	72'	77'	—	80'
Static Water Level Below Land Surface	31'	45'	49'	—	46'
Discharge (G.P.S.)	—	—	—	UNK	—
Date Measured	2-28-90	3-12-90	3-6-90	3-6-90	3-12-90
pH (Standard Units)	7.27	7.18	7.67	7.28	7.28
Total Acidity (mg/l CaCO3)	30.9	30.2	9.4	20.5	18.3
Total Alkalinity (mg/l CaCO3)	304	295	148	203	214
Total Iron (mg/l)	0.08	0.07	<0.02	0.04	0.04
Total Manganese (mg/l)	<0.02	<0.02	0.02	<0.02	0.03
Total Suspended Solids (mg/l)	<1.0	<1.0	<1.0	<1.0	<1.0
Total Hardness (mg/l CaCO3)	356	347	133	310	308
Total Sulfate (mg/l)	82.7	73.6	37.6	73.6	75.2
Specific Conductance (at 25° C in µmhos/cm)	720	680	350	615	615
NITRATE	4.24	3.27	0.04	3.34	3.55

Permittee's Signature [signature] Date 4-13-90

Laboratory Name TRADET, INC

Analyst's Signature [signature] Date 10/13/89

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. D-0360

✓ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	W-2	SP11	W31	W-25	W-13
Surface Elevation of Monitoring Site	835	1200	1270	1272	1282
Depth Below Land Surface	151	—	UNK	UNK	65'
Static Water Level Below Land Surface	13'	—	UNK	UNK	21'
Discharge (C.F.S.)	n/a		—	—	—
Date Measured	3-14-90	3-14-90	3-14-90	3-12-90	3-14-90
PH (Standard Units)	6.81	7.15	7.25	6.88	7.60
Total Acidity (mg/l CaCO3)	2.6	22.9	18.7	9.2	13.8
Total Alkalinity (mg/l CaCO3)	326	158	194	103	199
Total Iron (mg/l)	0.42	0.04	0.03	0.04	0.14
Total Manganese (mg/l)	0.97	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids (mg/l)	<1.0	<1.0	<1.0	<1.0	<1.0
Total Hardness (mg/l CaCO3)	513	176	242	157	219
Total Sulfate (mg/l)	280	62.4	64.0	76.0	30.4
Specific Conductance (at 25° C in µmhos/cm)	1130	450	540	370	515
NITRATES (mg/L)		2410	1.48	4.65	4.53

Permittee's Signature [signature] Date 4-13-90

Laboratory Name TRADET, INC

Analyst's Signature [signature] Date 4/13/90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0360

✓ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-19	SP-22	W-32	W-38	W-33
Surface Elevation of Monitoring Site	1273	1250	1265	1270	1252
Depth Below Land Surface	UNK	—	98'	88'	50'
Static Water Level Below Land Surface	UNK	—	39'	40'	15'
Discharge (G.P.M.)	—	2gpm	—	—	—
Date Measured	3-12-90	3-12-90	3-12-90	3-12-90	3-12-90
pH (Standard Units)	7.66	7.83	7.39	7.37	7.34
Total Acidity (mg/l CaCO3)	6.7	5.3	12.6	17.3	16.0
Total Alkalinity (mg/l CaCO3)	105	88.7	222	231	178
Total Iron (mg/l)	0.13	0.81	1.42	8.54	0.09
Total Manganese (mg/l)	0.03	0.06	0.06	0.26	<0.02
Total Suspended Solids (mg/l)	<1.0	33.7	<1.0	158	<1.0
Total Hardness (mg/l CaCO3)	125	119	246	233	214
Total Sulfate (mg/l)	59.2	55.2	36.0	37.6	41.6
Specific Conductance (at 25° C in umho/cm)	350	350	490	550	470
	0.76	0.19	0.50	2.43	2.48

Permittee's Signature David S. Barton Date 4-13-90

Laboratory Name TRADET, INC

Analyst's Signature [signature] Date 10/3/90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. D-0360

✓ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	W-37	P-2	P-1	M-11	M-10
Surface Elevation of Monitoring Site	1235	1215	1190	1152	1125
Depth Below Land Surface	42'	—	—	—	—
Static Water Level Below Land Surface	34'	—	—	—	—
Discharge (G.P.M.)	—	2gpm	6gpm	4gpm	10gpm
Date Measured	3-12-90	3-12-90	3-12-90	3-12-90	3-12-90
pH (Standard Units)	7.32	7.85	7.49	8.08	7.71
Total Acidity (mg/l CaCO3)	17.1	3.9	3.1	2.8	9.1
Total Alkalinity (mg/l CaCO3)	212	54.7	53.9	108	123
Total Iron (mg/l)	5.12	0.08	0.33	1.14	0.52
Total Manganese (mg/l)	0.27	<0.02	0.12	0.21	0.06
Total Suspended Solids (mg/l)	175	5.3	2.9	55.3	20.5
Total Hardness (mg/l CaCO3)	212	137	45.6	105	162
Total Sulfate (mg/l)	54.4	73.6	47.2	40.8	48.0
Specific Conductance (at 25° C in µmho/cm)	500	370	225	305	380
NITRATES	2.86	3.96	0.28	0.11	0.91

Permittee's Signature [signature] Date 4-3-90

Laboratory Name TRADET, INC

Analyst's Signature [signature] Date 10/13/89

TOVCC 10668

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. D-0360

✓ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	SP-21	W-29	W-27	W-30	W-35
Surface Elevation of Monitoring Site	1164	1282	1283	1269	1210
Depth Below Land Surface	—	UNK	90'	70'	85'
Static Water Level Below Land Surface	—	UNK	32'	30'	15'
Discharge (C.F.S.)	no FLOW	—	—	—	—
Date Measured	3-12-90	3-12-90	3-12-90	3-12-90	3-12-90
pH (Standard Units)	8.26	7.23	7.38	7.49	6.55
Total Acidity (mg/l $CaCO_3$)	3.5	33.1	11.8	11.6	22.1
Total Alkalinity (mg/l $CaCO_3$)	90.9	247	166	206	28.9
Total Iron (mg/l)	0.03	0.11	0.14	0.05	2.21
Total Manganese (mg/l)	0.02	<0.02	0.05	0.03	0.06
Total Suspended Solids (mg/l)	1.7	<1.0	<1.0	<1.0	14.1
Total Hardness (mg/l $CaCO_3$)	100	433	415	274	27.4
Total Sulfate (mg/l)	40.0	92.8	40.8	48.4	51.2
Specific Conductance (at 25° C in UMHO/cm)	255	740	840	550	205
	<.10	1.69	<0.10	3.98	2.98

Permittee's Signature David L. Bartsch Date 4-13-90

Laboratory Name TRADET, INC

Analyst's Signature [signature] Date 10/13/89

TOVCC 10669

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-2	W-45	W-47	W-48	W-13
Surface Elevation of Monitoring Site	835	1273	1278	1270	1283
Depth Below Land Surface	15'	UNK	UNK	35'	62
Static Water Level Below Land Surface	12'	UNK	11'	9'	UNK
Discharge (C.F.S.)	—	—	—	—	—
Date Measured	6-6-90	6-26-90	6-29-90	6-27-90	6-15-90
pH (Standard Units)	6.8	7.4	8.8	7.0	7.6
Total Acidity (mg/l CaCO3)	29.7	14.3	17.6	8.9	10.6
Total Alkalinity (mg/l CaCO3)	33	73.5	185	73.5	139
Total Iron (mg/l)	.68	.10	.10	.10	.09
Total Manganese (mg/l)	.54	.02	.04	.06	.02
Total Suspended Solids (mg/l)	2	5	8	6	3
Total Hardness (mg/l CaCO3)	504	289	203	208	231
Total Sulfate (mg/l)	34	98	96	98	41
Specific Conductance (at 25° C in [illegible])	1094	826	1200	809	472
Nitrates (mg/l)	2.01	2.01	2.26	1.56	4.01

Permittee's Signature David [illegible] Date 7-10-90

Laboratory Name E.A.I.

Analyst's Signature [illegible] Date 7-10-90

TOVCC 10670

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [redacted]

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-19	W-21	W-24	W-25	W-26
Surface Elevation of Monitoring Site	1273'	1225'	85'	1272'	1279'
Depth Below Land Surface	UNK	85'	77'	UNK	80'
Static Water Level Below Land Surface	20'	32'	UNK	45'	40'
Discharge (G.P.D.)	—	—	—	—	—
Date Measured	6-11-90	6-14-90	6-14-90	6-14-90	6-14-90
pH (Standard Units)	7.5	7.3	7.7	7.7	7.4
Total Acidity (mg/l CaCO3)	9.7	30.	121	9.6	223
Total Alkalinity (mg/l CaCO3)	58	29.6	96.	83	196
Total Iron (mg/l)	.19	.10	.03	.08	.06
Total Manganese (mg/l)	.02	.03	.02	.02	.03
Total Suspended Solids (mg/l)	3.	3	2	3	3
Total Hardness (mg/l CaCO3)	117	361	128	143	296
Total Sulfates (mg/l)	71.	81	40	80	68
Specific Conductance (@ 25° C in µmhos/cm)	462	684	372	332	600
Nitrates (mg/l)	.80	3.35	.08	4.25	3.26

Permittee's Signature _____ Date _____

Laboratory Name E.S.I.

Analyst's Signature [signature] Date _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [redacted]

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Ming Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-27	W-28	W-30	W-32	W-33
Surface Elevation of Monitoring Site	1283'	1299'	1269'	1265'	1252'
Depth Below Land Surface	90'	98'	70'	98'	50'
Static Water Level Below Land Surface	31'	49'	27'	26'	21'
Discharge (G.P.M.)	—	—	—	—	—
Date Measured	6-11-90	6-11-90	6-14-90	6-11-90	6-14-90
pH (Standard Units)	7.2	7.2	7.6	7.6	7.5
Total Acidity (mg/l CaCO3)	17.4	20.7	9.8	273	532
Total Alkalinity (mg/l CaCO3)	126	189	14.	149	190
Total Iron (mg/l)	.18	1.28	.04	1.17	.11
Total Manganese (mg/l)	.08	.20	.01	.09	.03
Total Suspended Solids (mg/l)	2	2	2	3	3
Total Hardness (mg/l CaCO3)	405	257	289	219	223
Total Sulfates (mg/l)	39	63	56	48	53
Specific Conductance (at 25° C in µmho/cm)	794	508	517	468.	413
Nitrates (mg/l)	10	2.68	3.70	.56	2.07

Permittee's Signature David L. Bowers Date 7-10-90

Laboratory Name E.E.I.

Analyst's Signature [redacted] Date 7-10-90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-35	W-36	W-37	W-38	W-34
Surface Elevation of Monitoring Site	1210'	1210'	1235'	1270'	1272
Depth Below Land Surface	85'	28'	42'	88'	26'
Static Water Level Below Land Surface	58'	27'	36'	24'	6'
Discharge (G.P.M.)	—	—	—	—	—
Date Measured	6-14-90	6-14-90	6-14-90	6-11-90	6-15-90
pH (Standard Units)	7.6	7.6	7.5	7.3	7.4
Total Acidity (mg/l CaCO3)	30	4.1	3.7	90.5	16.8
Total Alkalinity (mg/l CaCO3)	21.8	36	28.5	19.4	120
Total Iron (mg/l)	2.07	.04	3.11	6.20	3.12
Total Manganese (mg/l)	0.12	.02	0.14	0.17	0.14
Total Suspended Solids (mg/l)	16	2	41	13	4
Total Hardness (mg/l CaCO3)	35	203	197	203	213
Total Sulfates (mg/l)	89	76	59	40	63
Specific Conductance (at 25° C in µmhos/cm)	287	503	473	497	497
Nitrates (mg/l)	3.17	2.86	2.17	2.05	2.03

Permittee's Signature [signature] Date 7-10-90

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 7-10-90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [redacted]

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (S-1, S-2, M-3)	W-43	W-44	SP-24	SP-25	SP-26
Surface Elevation of Monitoring Site	1263	1297	1257	1240	1230
Depth Below Land Surface	UNK	UNK	—	—	—
Static Water Level Below Land Surface	4'	UNK	—	—	—
Discharge (C.F.S.) GPM	—	—	1.87	1.0	.50
Date Measured	6-15-90	6-26-90	6-14-90	6-26-90	6-26-90
pH (Standard Units)	7.4	7.6	7.4	6.7	6.9
Total Acidity (mg/l CaCO3)	13.9	12.4	12.0	12.0	12.6
Total Alkalinity (mg/l CaCO3)	163	84	112	76.5	51
Total Iron (mg/l)	2.89	0.08	0.11	2.08	2.63
Total Manganese (mg/l)	0.21	0.01	0.03	0.14	0.26
Total Suspended Solids (mg/l)	4	8	4	6	3
Total Hardness (mg/l CaCO3)	227	219	219	200	206
Total Sulfates (mg/l)	79	138	57	38	38
Specific Conductance (at 25° C in µmhos/cm)	463	820	803	720	286
Nitrates (mg/l)	3.17	1.94	2.01	2.08	1.32

Permittee's Signature [redacted] Date 7-10-90

Laboratory Name E.E.I.

Analyst's Signature [redacted] Date 7-10-90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0262

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	SP-27	SP-28	SP-29	SP-30	U-4
Surface Elevation of Monitoring Site	1200	1200	1265	1266	1178
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (G.P.M.)	1gpm	3gpm	1gpm	.13gpm	.067cfs
Date Measured	6-26-90	6-26-90	6-26-90	6-26-90	6-14-90
pH (Standard Units)	7.2	6.7	7.0	7.3	8.3
Total Acidity (mg/l CaCO3)	51	4.8	18.4	3.1	8.9
Total Alkalinity (mg/l CaCO3)	56	36	36	26.5	38
Total Iron (mg/l)	8.4	1.38	.18	.08	.14
Total Manganese (mg/l)	.02	0.04	.02	.01	.07
Total Suspended Solids (mg/l)	3	6	3	6	8
Total Hardness (mg/l CaCO3)	201	207	195	193	139
Total Sulfates (mg/l)	75.3	98	59	89	151
Specific Conductance (at 25° C in µmhos/cm)	498	820	489	454	517
Nitrates (mg/l)	0.10	1.32	.10	.14	1.20

Permittee's Signature David Barnett Date 7-10-90

Laboratory Name E.S.I.

Analyst's Signature [signature] Date 7-10-90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [redacted]

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, M-2)	M-11	M-12	SP-11	SP-20	SP-21
Surface Elevation of Monitoring Site	1152	1160	1200	1148	1164
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (G.P.M.)	.09	.016	1.46	0	.50
Date Measured	6-11-90	6-11-90	6-11-90	6-14-90	6-11-90
pH (Standard Units)	8.5	7.8	7.4	7.5	7.3
Total Acidity (mg/l $CaCO_3$)	11.7	6.7	9.9	20.6	8.4
Total Alkalinity (mg/l $CaCO_3$)	36	63	237	197	39.1
Total Iron (mg/l)	.91	.51	.06	0.08	.09
Total Manganese (mg/l)	.17	1.03	.02	0.02	.02
Total Suspended Solids (mg/l)	29	36	9	8	16
Total Hardness (mg/l $CaCO_3$)	127	261	184	297	106
Total Sulfates (mg/l)	51	68	69	78	37
Specific Conductance (at 25° C in µmhos/cm)	221	623	472	574	354
Nitrates (mg/l)	.14	.01	.01	3.51	.01

Permittee's Signature [signature] Date 7-10-90

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 7-10-90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit to Chief's office)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0369

___ 1st Qtr. ✓ 2nd Qtr. ___ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	SP-23	SP-22			
Surface Elevation of Monitoring Site	1251	1250			
Depth Below Land Surface	—	—			
Static Water Level Below Land Surface	—	—			
Discharge (G.P.M.)	1.25gpm	.83gpm			
Date Measured	6-14-90	6-4-90			
pH (Standard Units)	7.1	7.7			
Total Acidity (mg/l $CaCO_3$)	15.3	8.1			
Total Alkalinity (mg/l $CaCO_3$)	108	47			
Total Iron (mg/l)	.97	.54			
Total Manganese (mg/l)	.17	.04			
Total Suspended Solids (mg/l)	3	12			
Total Hardness (mg/l $CaCO_3$)	131	105			
Total Sulfates (mg/l)	81	66			
Specific Conductance (at 25° C in µmhos/cm)	984	327			
Nitrates (mg/l)	1.23	.02			

Permittee's Signature David L. Barker Date 7-10-90

Laboratory Name E.E.I.

Analyst's Signature Phillip Fish Date 7-10-90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. D-0360

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank For Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	M-11	M-12	SP-20	SP-21	SP-23
Surface Elevation of Monitoring Site	1152	1160	1148	1164	1251
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (C.F.S.)	0.016	0.004	0	0.32 gpm	1.30 gpm
Date Measured	20 Sep	20 Sep	19 Sep	20 Sep	20 Sep
pH (Standard Units)	8.12	7.81	7.91	7.41	7.01
Total Acidity (mg/l $CaCO_3$)	13.4	18.9	34.2	47.4	38.2
Total Alkalinity (mg/l $CaCO_3$)	42.1	59.4	184.7	80.8	112.4
Total Iron (mg/l)	0.74	0.64	0.12	0.08	0.88
Total Manganese (mg/l)	0.12	0.89	0.08	0.02	0.12
Total Suspended Solids (mg/l)	31	23	12	2	1
Total Hardness (mg/l $CaCO_3$)	117	236	268	102	126
Total Sulfate (mg/l)	64	61	81	41	76
Specific Conductance (at 25° C in µmhos/cm)	217	594	561	289	907
Nitrates (mg/l)	0.21	0.19	2.87	0.12	0.17

Permittee's Signature [signature] Date 10-11-90

Laboratory Name E.R.I.

Analyst's Signature Phillip [signature] Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0388

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, M-2)	SP-24	SP-29	SA30	SP31	
Surface Elevation of Monitoring Site	1257	1265	1266	1250	
Depth Below Land Surface	—	—	—	—	
Static Water Level Below Land Surface	—	—	—	—	
Discharge (C.F.S.) GPM	1.25	1.25	1.0	1.62	
Date Measured	20 Sep	10 Sep	10 Sep	20 Sep	
pH (Standard Units)	6.85	6.41	6.74	6.61	
Total Acidity (mg/l CaCO3)	27.5	36.4	64.4	81.6	
Total Alkalinity (mg/l CaCO3)	106.2	89.7	100.5	184.5	
Total Iron (mg/l)	0.18	1.30	0.85	1.17	
Total Manganese (mg/l)	0.04	014	018	.24	
Total Suspended Solids (mg/l)	8	18	12	4	
Total Hardness (mg/l CaCO3)	236	224	217	204	
Total Sulfates (mg/l)	84	71	97	89	
Specific Conductance (at 25° C in µmhos/cm)	820	864	855	799	
Nitrates (mg/l)	2.12	1.98	2.24	2.40	

Permittee's Signature Donald Barnhart Date 10-11-90

Laboratory Name E.R.I.

Analyst's Signature Phillip Fast Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0282

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, M-2)	SP-22	SP-25	SP-26	SP-27	SP-28
Surface Elevation of Monitoring Site	1250	1240	1230	1200	1200
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (G.P.M.) (GPM)	0.10 gpm	2.5 gpm	0.50 gpm	0.94 gpm	3 gpm
Date Measured	10 Sep	18 Sep	18 Sep	18 Sep	18 Sep
pH (Standard Units)	7.21	6.83	7.39	7.08	6.79
Total Acidity (mg/l CaCO3)	6.7	14.0	11.5	15.5	12.5
Total Alkalinity (mg/l CaCO3)	94.5	79.5	57.3	54.8	45.8
Total Iron (mg/l)	0.76	1.94	2.12	0.95	1.05
Total Manganese (mg/l)	0.08	0.08	0.12	0.01	0.06
Total Suspended Solids (mg/l)	6.	4	2	2	1
Total Hardness (mg/l CaCO3)	136	186.	204	198	212
Total Sulfates (mg/l)	78	46	44	84	94
Specific Conductance (at 25° C in µmhos/cm)	381	739	300	435	746
Nitrates (mg/l)	0.35	1.35	1.45	0.10	1.50

Permittee's Signature [signature] Date 10-11-90

Laboratory Name E.R.I.

Analyst's Signature Phillip Fish Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [redacted]

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, M-2)	W-1	W-2	W-45	W-44	W-48
Surface Elevation of Monitoring Site	950	835	1273	1297	1270
Depth Below Land Surface	100'	15'	UNK	UNK	35'
Static Water Level Below Land Surface	UNK	9'	UNK	UNK	8'
Discharge (C.F.S.)	—	—	—	—	—
Date Measured	12 Sep	12 Sep	18 Sep	25 Sep	18 Sep
pH (Standard Units)	7.36	6.69	7.56	7.39	6.79
Total Acidity (mg/l CaCO3)	61.2	4.2	14.5	26.4	73.2
Total Alkalinity (mg/l CaCO3)	245.6	294.6	141.6	105.5	145.2
Total Iron (mg/l)	0.08	0.36	0.12	1.98	0.12
Total Manganese (mg/l)	0.01	0.54	0.01	0.10	0.06
Total Suspended Solids (mg/l)	2.	3	1	11	3
Total Hardness (mg/l CaCO3)	356	501	306	227	206
Total Sulfates (mg/l)	145	36	96	126	120
Specific Conductance (at 25° C in umhos/cm)	717	1164	864	780	860
Nitrates (mg/l)	0.85	1.94	2.09	1.90	1.45

Permittee's Signature [redacted] Date 11-11-90

Laboratory Name E.R.I.

Analyst's Signature [redacted] Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. P-0382

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. Sch. W-3)	W-21	W-24	W-25	W-26	W-27
Surface Elevation of Monitoring Site	1225	1250	1272'	1279	1283
Depth Below Land Surface	85'	77'	unk	80'	90
Static Water Level Below Land Surface	29.5'	49'	unk	40.5'	31'
Piezometer (C.P.S.)	—	—	—	—	—
Date Measured	20 Sep	19 Sep	19 Sep	19 Sep	20 Sep
pH (Standard Units)	7.01	7.93	7.39	7.57	7.39
Total Acidity (mg/l CaCO3)	31.6	18.3	67.3	37.5	23.8
Total Alkalinity (mg/l CaCO3)	284	96	112.0	187.0	117.2
Total Iron (mg/l)	.12	.09	.14	.10	.21
Total Manganese (mg/l)	.03	.04	.02	.03	.04
Total Suspended Solids (mg/l)	2	11	3	2	4
Total Hardness (mg/l CaCO3)	351	163	184	217	417
Total Sulfate (mg/l)	96	61	76	67	41
Specific Conductance (at 25° C in µmhos/cm)	679	401	351	591	767
Nitrates (mg/l)	3.19	0.15	3.86	3.32	0.19

Permittee's Signature [signature] Date 10-11-90

Laboratory Name E.R.I.

Analyst's Signature [signature] Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 7-0282

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-28	W-30	W-32	W-33	W-34
Surface Elevation of Monitoring Site	1299	1269	1265	1252	1272
Depth Below Land Surface	98'	70'	98'	50'	26'
Static Water Level Below Land Surface	51'	30'	31'	21'	8'
Discharge (G.P.M.)	—	—	—	—	—
Date Measured	20Sep	21Sep	20Sep	19Sep	20Sep
pH (Standard Units)	7.41	7.65	7.59	7.61	8.09
Total Acidity (mg/l CaCO3)	23.4	8.3	21.4	48.1	23.7
Total Alkalinity (mg/l CaCO3)	163	17.4	136.1	181.3	138.2
Total Iron (mg/l)	1.03	.09	1.01	.17	2.01
Total Manganese (mg/l)	.27	.01	.08	.02	.12
Total Suspended Solids (mg/l)	1.	1	8	2	3
Total Hardness (mg/l CaCO3)	238	259	216	219	210
Total Sulfate (mg/l)	69	59	53	58	67
Specific Conductance (at 25° C in µmhos/cm)	517	523	487	471	491
Nitrates (mg/l)	2.03	2.96	0.81	2.13	2.01

Permittee's Signature [signature] Date 10-11-90

Laboratory Name E.R.I.

Analyst's Signature [signature] Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. P-0269

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	W-37	W-38	W-43	W-47	
Surface Elevation of Monitoring Site	1235	1270	1263	1278	
Depth Below Land Surface	42'	88'	UNK	UNK	
Static Water Level Below Land Surface	35'	21'	5'	10'	
Discharge (G.P.M.)	—	—	—	—	
Date Measured	10 Sep	20 Sep	20 Sep	21 Sep	
pH (Standard Units)	6.81	7.57	7.12	6.79	
Total Acidity (mg/l CaCO3)	43.6	78.3	17.1	94.0	
Total Alkalinity (mg/l CaCO3)	213.4	189.3	159.3	163.4	
Total Iron (mg/l)	3.21	5.41	2.12	.12	
Total Manganese (mg/l)	0.18	023	0.14	.08	
Total Suspended Solids (mg/l)	41	3	17	12	
Total Hardness (mg/l CaCO3)	213	198	203	217	
Total Sulfates (mg/l)	68	44	71	89	
Specific Conductance (at 25° C in µmhos/cm)	432	464	460	1141	
Nitrates (mg/l)	3.28	2.13	2.01	3.28	

Permittee's Signature Date 10-11-90

Laboratory Name E.R.I.

Analyst's Signature Date 9 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0369

___ 1st Qtr. ___ 2nd Qtr. ✓ 3rd Qtr. ___ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-13	W-35	SA-1	W-19	W-36
Surface Elevation of Monitoring Site	1283	1210	1200	1286	1210
Depth Below Land Surface	65'	85'	—	UNK	27'
Static Water Level Below Land Surface	20.5'	61'	—	Dry	Dry
Discharge (S-2 only) GPM	—	—	.086	—	—
Date Measured	29 Aug	29 Aug	29 Aug		
pH (Standard Units)	7.37	7.41	7.29		
Total Acidity (mg/l CaCO3)	12.3	34.1	48.3		
Total Alkalinity (mg/l CaCO3)	164	65.0	178		
Total Iron (mg/l)	0.11	2.09	0.06		
Total Manganese (mg/l)	001	0.04	002		
Total Suspended Solids (mg/l)	3	11	2		
Total Hardness (mg/l CaCO3)	226	39	171		
Total Sulfates (mg/l)	39	59	65		
Specific Conductance (at 25° C in µmhos/cm)	498	231	461		
Nitrates (mg/l)	.12	.16	.03		

Sample Taken

No Sample Taken

Permittee's Signature [signature] Date 10-16-90

Laboratory Name E.R.I.

Analyst's Signature [signature] Date 15 OCT 90

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. D-0262

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (S.W. S-1, M-9)	M-10	M-11	M-12	SP-11	SP-21
Surface Elevation of Monitoring Site	1125	1152	1160	1200	1164
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (G.P.M.)	.249	.026	.016	.30	.43
Date Measured	12-7-90	12-7-90	12-6-90	12-14-90	12-5-90
pH (Standard Units)	7.7	7.3	7.5	7.3	7.5
Total Acidity (mg/l CaCO3)	10.3	29.0	6.1	40.2	7.2
Total Alkalinity (mg/l CaCO3)	101	118	89	221	74
Total Iron (mg/l)	.74	.84	.49	.05	.06
Total Manganese (mg/l)	.14	.12	.90	.01	.03
Total Suspended Solids (mg/l)	14	31	39	8	10
Total Hardness (mg/l CaCO3)	189	145	284	176	101
Total Sulfates (mg/l)	56	49	74	75	47
Specific Conductance (at 25° C in µmhos/cm)	341	243	601	489	341
Nitrates (mg/l)	.91	.16	110	.10	.09

Permittee's Signature _____ Date 1-10-91

Laboratory Name E.A.I.

Analyst's Signature _____ Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO. Permit No. 7-0262

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	SP-22	4-22A	22B	4-22C	4-22G
Surface Elevation of Monitoring Site	1250	1135	1109	1100	1038
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (G.P.D.)	.19	.61	.73	.77	2.3
Date Measured	12-6-90	12-19-90	12-19-90	12-19-90	12-19-90
pH (Standard Units)	7.1	7.4	7.4	7.3	7.4
Total Acidity (mg/l CaCO3)	2.0	1.0	1.2	0	1.8
Total Alkalinity (mg/l CaCO3)	96	74	76	78	80
Total Iron (mg/l)	.41	.24	.34	.40	.72
Total Manganese (mg/l)	.04	.03	.06	.03	.09
Total Suspended Solids (mg/l)	8	4	14	2	0
Total Hardness (mg/l CaCO3)	99	76	74	75	84
Total Sulfates (mg/l)	54	41	34	35	36
Specific Conductance (at 25° C in µmhos/cm)	339	250	250	240	250
Nitrates (mg/l)	7.27	10.13	11.00	8.80	10.6

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	U-22J	U-22P	U-22Q	W-13	W-19
Surface Elevation of Monitoring Site	1021	1265	1175	1283	1280
Depth Below Land Surface	—	—	—	65	27
Static Water Level Below Land Surface	—	—	—	22'	26'
Discharge (C.F.S.)		.466	.21	—	—
Date Measured	12-19-90	12-8-90	12-7-90	12-14-90	12-6-90
pH (Standard Units)	7.4	7.4	7.5	7.3	7.5
Total Acidity (mg/l CaCO3)	1.1	2.3	2.0	10.5	62.0
Total Alkalinity (mg/l CaCO3)	86	118	114	148	159
Total Iron (mg/l)	.57	.15	.28	.08	.01
Total Manganese (mg/l)	.07	.19	.03	.01	.31
Total Suspended Solids (mg/l)	12	4	0	0	1
Total Hardness (mg/l CaCO3)	83	135	126	207	101
Total Sulfate (mg/l)	34	54	46	36	64
Specific Conductance (at 25° C in UMHO/cm)	250	450	400	450	450
Nitrates (mg/l)	9.68	41.8	5.28	4.00	.31

Permittee's Signature [illegible] Date 1-10-91

Laboratory Name E.A.I.

Analyst's Signature Phillip Frick Date 1-9-91

TOVCC 10688

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 7-6260

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (Prefix S-, D-, W-)	W-21	W-24	W-25	W-26	W-27
Surface Elevation of Monitoring Site	1225	1250	1272	1279	1283
Depth Below Land Surface	85'	77	UNK	80'	90
Static Water Level Below Land Surface	33'	.51	UNK	45'	32
Discharge (G.P.D.)	—	—	—	—	—
Date Measured	12-6-90	12-6-90	12-6-90	12-6-90	12-6-90
pH (Standard Units)	7.5	7.1	7.5	7.3	7.9
Total Acidity (mg/l CaCO3)	18.2	10.2	4.2	16.2	12.3
Total Alkalinity (mg/l CaCO3)	201	128	89	186	139
Total Iron (mg/l)	.12	.06	.10	.04	.21
Total Manganese (mg/l)	.04	.02	.04	.03	.10
Total Suspended Solids (mg/l)	1	2	1	2	1
Total Hardness (mg/l CaCO3)	305	121	139	256	400
Total Sulfates (mg/l)	76	36	76	61	36
Specific Conductance (at 25° C in µmhos/cm)	640	350	350	600	750
Nitrates (mg/l)	3.00	.02	4.32	3.01	0.12

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. P-0268

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (S.W. S-), W-#)	W-28	W-29	SP-23	SP-24	SP-25
Surface Elevation of Monitoring Site	1299	1282	1251	1257	1240
Depth Below Land Surface	98	68	—	—	—
Static Water Level Below Land Surface	63	33.5	—	—	—
Discharge (G.P.M.)	—	—	1.33	.82	.26
Date Measured	12-6-90	12-10-90	12-8-90	12-8-90	12-8-90
pH (Standard Units)	7.4	6.9	6.5	6.5	6.6
Total Acidity (mg/l CaCO3)	18.0	38.2	16.4	13.2	3.2
Total Alkalinity (mg/l CaCO3)	176	288	112	118	81
Total Iron (mg/l)	1.34	.15	.71	.40	2.01
Total Manganese (mg/l)	.18	.03	.22	.13	0.16
Total Suspended Solids (mg/l)	1.	0	2	1	3
Total Hardness (mg/l CaCO3)	261	263	141	198	194
Total Sulfates (mg/l)	56	86	76	63	46
Specific Conductance (at 25° C in µmhos/cm)	496	760	878	812	712
Nitrates (mg/l)	2.50	11.80	.17	1.74	2.12

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.L.I.

Analyst's Signature [signature] Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	SP-26	SP-27	SP-28	SP-30	SP-31
Surface Elevation of Monitoring Site	1230	1200	1200	1266	1250
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (C.F.S.)	1.76	1.0	1.5	3.49	.857
Date Measured	12-8-90	12-8-90	12-8-90	12-5-90	12-7-90
pH (Standard Units)	6.7	7.0	6.5	6.9	6.7
Total Acidity (mg/l CaCO3)	6.3	10	4.1	0	0
Total Alkalinity (mg/l CaCO3)	112	59	78	136	70
Total Iron (mg/l)	1.56	.76	1.16	.11	.01
Total Manganese (mg/l)	.012	.02	.03	.08	.01
Total Suspended Solids (mg/l)	1	3	4	3	3
Total Hardness (mg/l CaCO3)	212	212	227	166	114
Total Sulfate (mg/l)	41	81	68	61	61
Specific Conductance (at 25° C in UMHO/cm)	291	461	801	570	350
Nitrates (mg/l)	1.46	0.09	1.48	43.6	32

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.R.I.

Analyst's Signature [signature] Date 1-9-91

TOVCC 10691

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0369

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	SP-31A	U-7	U-21A	U21-B	U21-C
Surface Elevation of Monitoring Site	1260	984	1150	1190	1155
Depth Below Land Surface	—	—	—	—	—
Static Water Level Below Land Surface	—	—	—	—	—
Discharge (G.P.M.)	.937	2.19	.006	.001	.002
Date Measured	12-8-90	12-14-90	12-14-90	12-14-90	12-14-90
pH (Standard Units)	6.9	8.0	7.4	7.2	7.1
Total Acidity (mg/l $CaCO_3$)	0	0	0	0	0
Total Alkalinity (mg/l $CaCO_3$)	70	142	158	94	108
Total Iron (mg/l)	.16	.01	4.74	.03	1.13
Total Manganese (mg/l)	.01	.01	1.19	.03	0.33
Total Suspended Solids (mg/l)	2	3	22	0	16
Total Hardness (mg/l $CaCO_3$)	101	131	145	90	108
Total Sulfates (mg/l)	55	41	36	43	49
Specific Conductance (at 25° C in µmhos/cm)	300	350	350	270	350
Nitrates (mg/l)	2.7	3.28	2.24	2.73	16.2

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 7-0269

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, M-2)	U-4	U21-D	U21-E	U21-F	W-30
Surface Elevation of Monitoring Site	1178	1034	1028	1045	1269
Depth Below Land Surface	—	—	—	—	70
Static Water Level Below Land Surface	—	—	—	—	52
Discharge (G.P.D.)	.029	.73	.815	.49	—
Date Measured	12-8-90	12-14-90	12-14-90	12-14-90	12-5-90
pH (Standard Units)	7.3	8.0	8.0	8.0	7.4
Total Acidity (mg/l CaCO3)	12	12.2	3.2	6.9	10.0
Total Alkalinity (mg/l CaCO3)	59	158	138	170	108
Total Iron (mg/l)	.14	.04	.01	.01	.04
Total Manganese (mg/l)	.01	.01	.02	.01	.01
Total Suspended Solids (mg/l)	1	0	0	0	1
Total Hardness (mg/l CaCO3)	174	139	126	165	296
Total Sulfates (mg/l)	96	44	45	50	59
Specific Conductance (at 25° C in µmhos/cm)	540	350	350	450	500
Nitrates (mg/l)	1.36	3.48	3.00	22.0	3.51

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.C.I.

Analyst's Signature [signature] Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0368

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-32	W-33	W-34	W-35	W-37
Surface Elevation of Monitoring Site	1265	1252	1272	1210	1235
Depth Below Land Surface	98	50	26	70.5*	42
Static Water Level Below Land Surface	32	20	9	70	36
Discharge (G.P.D.)	—	—	—	—	—
Date Measured	12-5-90	12-6-90	12-8-90	12-14-90	12-6-90
pH (Standard Units)	7.5	7.4	6.0	7.5	7.3
Total Acidity (mg/l CaCO3)	18.2	51.2	12.2	26.3	41.6
Total Alkalinity (mg/l CaCO3)	163	196	136	215	273
Total Iron (mg/l)	1.10	0.16	3.01	1.76	2.76
Total Manganese (mg/l)	0.06	0.01	0.18	0.16	0.16
Total Suspended Solids (mg/l)	2	1	3	12	18
Total Hardness (mg/l CaCO3)	201	217	227	96	201
Total Sulfates (mg/l)	46	49	56	76	63
Specific Conductance (at 25° C in µmhos/cm)	450	400	475	275	450
Nitrates (mg/l)	80	3.09	1.98	3.24	2.05

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 1-9-91

* HOLE DRILLED TO 85 FT, COLLAPSED AT 70.5 FT

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-48	U-6A P-1	U-6 P-2	SP-29	D-4
Surface Elevation of Monitoring Site	1270	1190	1215	1265	1025
Depth Below Land Surface	35	—	—	—	—
Static Water Level Below Land Surface	8.5	—	—	—	—
Discharge (C.F.S.)	—	0.026	0.011	2.22	.637
Date Measured	12-8-90	12-6-90	12-6-90	12-7-90	12-7-90
pH (Standard Units)	6.5	7.4	7.5	6.9	7.7
Total Acidity (mg/l CaCO3)	3.2	10.3	11.1	8.3	29.4
Total Alkalinity (mg/l CaCO3)	75	70	72	96	201
Total Iron (mg/l)	.06	.29	.13	.86	.20
Total Manganese (mg/l)	.05	.20	.03	.03	.03
Total Suspended Solids (mg/l)	3	0	0	2	6
Total Hardness (mg/l CaCO3)	201	73	112	201	164
Total Sulfate (mg/l)	86	44	53	67	42
Specific Conductance (at 25° C in [illegible])	800	260	390	800	800
Nitrates (mg/l)	1.86	14.0	57.2	1.86	1.18

Permittee's Signature [illegible] Date 1-10-91

Laboratory Name E.R.I.

Analyst's Signature [illegible] Date 1-9-91

TOVCC 10695

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0262

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (S.S. S-1, M-2)	W-38	W-43	W-44	W-45	W-47
Surface Elevation of Monitoring Site	1270	1263	1297	1273	1278
Depth Below Land Surface	88	20 UNK	UNK	UNK	30 UNK
Static Water Level Below Land Surface	20	.7	UNK	UNK	14
Discharge (G.P.D.)	—	—	—	—	—
Date Measured	12-5-90	12-6-90	12-8-90	12-14-90	12-8-90
pH (Standard Units)	7.5	7.0	7.3	7.4	7.4
Total Acidity (mg/l CaCO3)	43.2	12.9	1.2	11.2	14.2
Total Alkalinity (mg/l CaCO3)	191	174	76	126	181
Total Iron (mg/l)	5.62	2.61	0.06	0.02	0.09
Total Manganese (mg/l)	0.20	0.34	0.01	0.02	0.01
Total Suspended Solids (mg/l)	10	3	2	0	4
Total Hardness (mg/l CaCO3)	198	231	213	313	276
Total Sulfates (mg/l)	46	68	140	38	76
Specific Conductance (at 25° C in umhos/cm)	500	475	800	1000	1200
Nitrates (mg/l)	2.00	2.23	1.63	14.50	2.09

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.C.I.

Analyst's Signature [signature] Date 1-9-91

TOVCC 10696

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. 8-0362

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	D-6	U21-G	W-36	W-50	SP-36
Surface Elevation of Monitoring Site	998	1095	1210	1321	1265
Depth Below Land Surface	—	—	271	44	—
Static Water Level Below Land Surface	—	—	DRY	41	—
Discharge (G.P.M.)	1.36	.116		—	.75
Date Measured	12-7-90	12-7-90		10-8-90	10-10-90
pH (Standard Units)	7.6	7.0		7.6	7.0
Total Acidity (mg/l CaCO3)	19.3	8.2	NO SAMPLE TAKEN	9.3	3.1
Total Alkalinity (mg/l CaCO3)	154	75		111	54
Total Iron (mg/l)	.14	.63		3.85	.46
Total Manganese (mg/l)	.102	.01		.12	.04
Total Suspended Solids (mg/l)	4	2		1	1
Total Hardness (mg/l CaCO3)	175	200		321	22
Total Sulfates (mg/l)	49	96		46	73
Specific Conductance (at 25° C in µmhos/cm)	825	500		486	517
Nitrates (mg/l)	1.54	1.62		<.1	.04

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 1-9-91

TOVCC 10697

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-51	W-52	W-53	SP-34	SP-37
Surface Elevation of Monitoring Site	1281	1282	1292	1276	1241
Depth Below Land Surface	139	79	85	—	—
Static Water Level Below Land Surface	24	27	53	—	—
Discharge (C.F.S.)	—	—	—	1.2	1.87
Date Measured	10-8-90	10-9-90	10-11-90	10-11-90	10-11-90
pH (Standard Units)	7.8	7.7	7.5	7.3	6.3
Total Acidity (mg/l CaCO3)	13.2	12.6	17.6	28.0	12.6
Total Alkalinity (mg/l CaCO3)	194	141	212	159	176
Total Iron (mg/l)	.53	.03	.06	.31	.74
Total Manganese (mg/l)	.03	.02	.02	.07	.07
Total Suspended Solids (mg/l)	12	1	1	22	2
Total Hardness (mg/l CaCO3)	277	175	189	20	14
Total Sulfate (mg/l)	43	36	36	86	68
Specific Conductance (at 25° C in UMHO/cm)	397	409	357	251	207
Nitrates (mg/l)	<.1	<.1	<.1	3.61	0.56

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.R.I.

Analyst's Signature [signature] Date 1-9-91

TOVCC 10698

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	SP-38	423-J	W-54	422-T	W-55
Surface Elevation of Monitoring Site	1219	1098	1245	1165	1290
Depth Below Land Surface	—	—	75	—	79
Static Water Level Below Land Surface	—	—	41	—	28
Discharge (G.P.D.)	.35	.33	—	Soaped	—
Date Measured	10-11-90	10-9-90	10-8-90	10-8-90	10-8-90
pH (Standard Units)	7.3	7.7	7.5	6.9	7.5
Total Acidity (mg/l CaCO3)	21.2	16.3	8.2	63.2	18.2
Total Alkalinity (mg/l CaCO3)	212	201	94	174	186
Total Iron (mg/l)	.64	.10	1.08	0.90	0.07
Total Manganese (mg/l)	.05	.02	.03	.58	.01
Total Suspended Solids (mg/l)	41	2	4	13	11
Total Hardness (mg/l CaCO3)	215	198	212	189	191
Total Sulfates (mg/l)	61	39	86	46	41
Specific Conductance (at 25° C in umhos/cm)	327	277	400	250	351
Nitrates (mg/l)	2.6	2.01	1.50	2.1	2.1

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.E.I.

Analyst's Signature [signature] Date 1-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-3)	W-56	U22-AA	U-22F	U-22Z	W-57
Surface Elevation of Monitoring Site	1301	1120	1068	1035	1307
Depth Below Land Surface	32	—	—	—	138
Static Water Level Below Land Surface	UNK	—	—	—	UNK
Discharge (C.F.S.)	—	.21	.37	.16	—
Date Measured	10-8-90	10-8-90	10-8-90	10-8-90	10-18-90
pH (Standard Units)	7.2	7.9	8.2	7.9	6.9
Total Acidity (mg/l CaCO3)	19.3	12.2	38.2	18.2	6.2
Total Alkalinity (mg/l CaCO3)	156	184	189	168	87
Total Iron (mg/l)	.15	.13	.19	.16	.05
Total Manganese (mg/l)	0.0	0.03	0.04	0.01	.01
Total Suspended Solids (mg/l)	18	4	1	1	10
Total Hardness (mg/l CaCO3)	194	148	214	211	89
Total Sulfate (mg/l)	31	61	48	74	61
Specific Conductance (at 25° C in [illegible])	569	306	307	299	278
Nitrates (mg/l)	3.1	2.1	.21	.21	1.16

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.R.I.

Analyst's Signature [signature] Date 1-9-91

TOVCC 10700

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee: THE OHIO VALLEY COAL CO Permit No. [illegible]

___ 1st Qtr. ___ 2nd Qtr. ___ 3rd Qtr. ✓ 4th Qtr. (Appropriate Blank)

___ Pre-mining ✓ Mining ___ Post-mining (Appropriate Blank for Mine Status)

Monitoring Site Identification No. (e.g. S-1, W-2)	W-58	U-22M	W-60	D-22D	U22-X
Surface Elevation of Monitoring Site	1273	1138	1265	1100	1080
Depth Below Land Surface	100	—	134	—	—
Static Water Level Below Land Surface	27	—	86	—	—
Discharge (C.F.S.)	—	.015	—	.20	.36
Date Measured	10-8-90	10-8-90	10-8-90	10-8-90	10-8-90
pH (Standard Units)	7.2	8.0	7.8	7.8	7.8
Total Acidity (mg/l CaCO3)	17.3	14.9	16.4	18.3	21.6
Total Alkalinity (mg/l CaCO3)	191	140	201	212	208
Total Iron (mg/l)	.07	.11	.14	.09	.23
Total Manganese (mg/l)	.03	.03	.02	.04	.06
Total Suspended Solids (mg/l)	6	4	5	1	1
Total Hardness (mg/l CaCO3)	191	190	118	106	186
Total Sulfate (mg/l)	61	49	62	36	56
Specific Conductance (at 25° C in UMHO/cm)	331	324	471	350	311
Nitrates (mg/l)	5.01	21	0.02	0.10	2.1

Permittee's Signature [signature] Date 1-10-91

Laboratory Name E.A.I.

Analyst's Signature [signature] Date 1-9-91

TOVCC 10701

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

✓ 1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ✓ MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-11	SP-21	SP-22	SP-23	SP-24
SURFACE ELEVATION OF MONITORING SITE	1200	1164	1250	1251	1257
DEPTH BELOW LAND SURFACE	—	—	—	—	—
DISCHARGE (CFS/GPM)	0.833	2.4	0.54	1.5	0.625
DATE MEASURED	2-11	2-11	2-13	2-11	2-11
pH (SU)	7.0	7.7	7.7	6.5	6.5
TOTAL ACIDITY (MG/L CACO3)	16.34	10.64	4.75	27.17	11.40
TOTAL ALKALINITY (MG/L CACO3)	193.23	174.61	58.90	98.42	86.07
TOTAL IRON (MG/L)	<0.04	<0.04	0.08	0.41	0.05
TOTAL MANGANESE (MG/L)	<0.02	0.02	0.03	0.11	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	6	5	8	12.0	4
TOTAL HARDNESS (MG/L CACO3)	212	2218	96	1780	240
TOTAL SULFATE (MG/L)	48	25	24	74	51
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	525	462	290	1990	756
NITRATES (MG/L)	<1.0	<1.0	1.02	24.40	14.90

PERMITTEE'S SIGNATURE David L Bartsch DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

TOVCC 10702

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

__1ST QTR. __2ND QTR. __3RD QTR. __4TH QTR.

__PRE-MINING ✓MINING __POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-29	SP-30	SP-31	SP-27	SP-28
SURFACE ELEVATION OF MONITORING SITE	1282	1266	1250	1200	1200
DEPTH BELOW LAND SURFACE	—	—	—	—	—
DISCHARGE (CFS/GPM)	1.81	1.33	0.5	0.938	1.25
DATE MEASURED	2-12	2-12	2-13	2-13	2-13
pH (SU)	7.5	7.4	7.0	7.0	6.6
TOTAL ACIDITY (MG/L CACO3)	13.11	14.82	16.34	33.63	14.06
TOTAL ALKALINITY (MG/L CACO3)	175.18	226.67	125.59	210.14	109.06
TOTAL IRON (MG/L)	<0.04	0.34	0.04	<0.04	<0.04
TOTAL MANGANESE (MG/L)	<0.02	0.10	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	5	15	4	6	4
TOTAL HARDNESS (MG/L CACO3)	232	320	260	600	235
TOTAL SULFATE (MG/L)	31	39	44	78	60
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	567	735	630	1050	630
NITRATES (MG/L)	2.20	2.82	12.50	5.46	5.53

PERMITTEE'S SIGNATURE David L Bartsch DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

✓ 1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ✓ MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-25	SP-26	SP-31A	W-13	W-19
SURFACE ELEVATION OF MONITORING SITE	1240	1230	1200	1283	1280
DEPTH BELOW LAND SURFACE DEPTH SWL	—	—	—	65' 19.4'	27' 23'11"
DISCHARGE (CFS/GPM)	1.5	0.313	1.5	—	—
DATE MEASURED	2-13	2-13	2-13	2-11	2-11
pH (SU)	6.8	6.8	6.5	7.8	7.5
TOTAL ACIDITY (MG/L CACO3)	22.61	17.67	7.6	11.21	14.06
TOTAL ALKALINITY (MG/L CACO3)	132.62	142.69	52.25	180.69	200.64
TOTAL IRON (MG/L)	<0.04	0.06	<0.04	0.27	0.13
TOTAL MANGANESE (MG/L)	<0.02	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	4	5	3	3	1.
TOTAL HARDNESS (MG/L CACO3)	252	213.0	136	238	270
TOTAL SULFATE (MG/L)	35	42	42	25	49
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	494	420	230	493	588
NITRATES (MG/L)	10.30	2.35	3.05	5.00	3.71

PERMITTEE'S SIGNATURE David L Bartech DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ___MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-36		SP-37	SP-38	W-55
SURFACE ELEVATION OF MONITORING SITE	1265		1241	1219	1290
DEPTH BELOW LAND SURFACE DEPTH SWL	—		—	—	79 26
DISCHARGE (CFS/GPM)	3.0		3.0	.057	—
DATE MEASURED	1-24		1-26	1-26	1-28
pH (SU)	7.0		6.3	7.4	7.6
TOTAL ACIDITY (MG/L CACO3)	0		0	0	0
TOTAL ALKALINITY (MG/L CACO3)	200		111	136	184
TOTAL IRON (MG/L)	0.06		0.06	0.08	0.09
TOTAL MANGANESE (MG/L)	0.02		0.06	0.02	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	9		6	8	3
TOTAL HARDNESS (MG/L CACO3)	63		91	100	71
TOTAL SULFATE (MG/L)	43		41	38	63
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	257		163	206	400
NITRATES (MG/L)	1.82		9.2	1.63	3.62

PERMITTEE'S SIGNATURE David L Bartech DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

✓1ST QTR. __2ND QTR. __3RD QTR. __4TH QTR.

__PRE-MINING ✓MINING __POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-21	W-24	W-25	W-26	W-27
SURFACE ELEVATION OF MONITORING SITE	1225	1250	1272	1279	1283
DEPTH BELOW LAND SURFACE DEPTH SWL	85' 31'5"	77' 46'8"	UNK 50'5"	80' 56'	90' 41'7"
DISCHARGE (CFS/GPM)	—	—	—	—	—
DATE MEASURED	2-12	2-11	2-11	2-11	2-11
pH (SU)	7.3	7.5	7.6	7.4	7.7
TOTAL ACIDITY (MG/L CACO3)	16.91	10.83	10.26	24.89	11.59
TOTAL ALKALINITY (MG/L CACO3)	290.89	169.86	161.12	209.19	169.86
TOTAL IRON (MG/L)	0.34	3.22	2.78	0.06	1.59
TOTAL MANGANESE (MG/L)	0.03	0.61	0.56	<0.02	0.35
TOTAL SUSPENDED SOLIDS (MG/L)	6	36	18	2	22
TOTAL HARDNESS (MG/L CACO3)	368	192	204	280	244
TOTAL SULFATE (MG/L)	56	39	30	49	39
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	714	462	462	525	567
NITRATES (MG/L)	6.65	2.48	3.19	6.04	2.56

PERMITTEE'S SIGNATURE David L Bartlett DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

✓ 1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ✓ MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-28	W-29	W-30	W-32	W-33
SURFACE ELEVATION OF MONITORING SITE	1299	1282	1269	1265	1252
DEPTH BELOW LAND SURFACE (Depth SWL)	98' 52'6"	68' 56'2"	70' 43'10"	98' 29'8"	50' 16'3"
DISCHARGE (CFS/GPM)	—	—	—	—	—
DATE MEASURED	2-12	2-12	2-11	2-11	2-13
pH (SU)	7.5	7.4	7.6	7.8	7.4
TOTAL ACIDITY (MG/L CACO3)	18.43	23.75	13.87	11.78	14.25
TOTAL ALKALINITY (MG/L CACO3)	256.31	261.06	209.38	209.57	173.47
TOTAL IRON (MG/L)	0.48	0.08	0.10	0.11	0.07
TOTAL MANGANESE (MG/L)	0.07	0.07	0.02	0.02	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	25	27	4	3	2
TOTAL HARDNESS (MG/L CACO3)	304	384	312	250.0	242
TOTAL SULFATE (MG/L)	35	50	43	21	35
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	630	777	672	546	525
NITRATES (MG/L)	2.78	1.42	7.50	3.80	8.41

PERMITTEE'S SIGNATURE David L. Bartoe DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ___MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-34	W-35	W-36	W-37	W-38
SURFACE ELEVATION OF MONITORING SITE	1276		1210	1241	1270
DEPTH BELOW LAND SURFACE DEPTH SWL	8'7"	45'10"	27' 26'3"	37'5"	88' 19'1"
DISCHARGE (CFS/GPM)	—	—	—	—	—
DATE MEASURED	2-11	2-11	2-11	2-11	2-11
pH (SU)	6.5	7.6	7.5	7.7	7.6
TOTAL ACIDITY (MG/L CACO3)	14.82	12.16	12.54	10.45	11.40
TOTAL ALKALINITY (MG/L CACO3)	32.68	197.98	183.73	178.22	171.00
TOTAL IRON (MG/L)	0.29	0.47	12.60	0.81	0.76
TOTAL MANGANESE (MG/L)	<0.02	0.06	0.72	0.05	0.03
TOTAL SUSPENDED SOLIDS (MG/L)	4.0.	15	65	37	10.0
TOTAL HARDNESS (MG/L CACO3)	136	244	218	244	234
TOTAL SULFATE (MG/L)	54	46	44	40	33
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	609	546	472	493	504
NITRATES (MG/L)	12.25	2.56	3.65	6.77	9.28

PERMITTEE'S SIGNATURE David L. Bartlett DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

✓ 1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ✓ MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-43	W-44	W-45	W-47	W-48
SURFACE ELEVATION OF MONITORING SITE	1263	1297	1273	1278	1270
DEPTH BELOW LAND SURFACE DEPTH SWL	20' 6'8"	UNK —	UNK —	35' 8'10"	35' 8'3"
DISCHARGE (CFS/GPM)	—	—	—	—	—
DATE MEASURED	2-11	2-13	2-13	2-18	2-13
pH (SU)	7.0	7.5	7.6	6.7	6.8
TOTAL ACIDITY (MG/L CACO3)	17.10	16.53	22.80	9.88	14.63
TOTAL ALKALINITY (MG/L CACO3)	162.26	263.91	215.08	72.20	123.69
TOTAL IRON (MG/L)	9.2	0.42	0.07	0.67	0.26
TOTAL MANGANESE (MG/L)	0.07	0.45	0.02	0.04	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	33	3	2	12	22
TOTAL HARDNESS (MG/L CACO3)	312	296	405	156	220
TOTAL SULFATE (MG/L)	97	34	39	46	84
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	682	598	861	378	945
NITRATES (MG/L)	15.30	1.16	3.26	2.92	7.56

PERMITTEE'S SIGNATURE David L Bartoch DATE 4/14/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ___MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-50	W-51	W-52	W-53	W-54
SURFACE ELEVATION OF MONITORING SITE	1321	1281	1282	1292	1245
DEPTH BELOW LAND SURFACE DEPTH	44	139	79	85	39
SWL	38	19	23	44	39
DISCHARGE (CFS/GPM)	—	—	—	—	—
DATE MEASURED	1-24	1-24	1-26	1-26	1-24
pH (SU)	7.5	7.3	7.4	7.6	7.3
TOTAL ACIDITY (MG/L CACO3)	0	0	0	0	0
TOTAL ALKALINITY (MG/L CACO3)	203	181	176	96	97
TOTAL IRON (MG/L)	0.21	0.10	0.06	0.06	0.08
TOTAL MANGANESE (MG/L)	0.14	0.04	0.01	<0.02	0.01
TOTAL SUSPENDED SOLIDS (MG/L)	20	4	2	3	4
TOTAL HARDNESS (MG/L CACO3)	200	84	91	84	76
TOTAL SULFATE (MG/L)	81	63	50	31	36
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	637	61	167	19	200
NITRATES (MG/L)	1.2	3.82	4.10	8.6	5.16

PERMITTEE'S SIGNATURE David L Bartsch DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING ___MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-56	W-57	W-58	W-60	W-61
SURFACE ELEVATION OF MONITORING SITE	1301	1307	1273	1265	1260
DEPTH BELOW LAND SURFACE DEPTH / SWL	32 / —	138 / —	100 / 22	134 / 44	64'
DISCHARGE (CFS/GPM)	—	—	—	—	—
DATE MEASURED	1-28	1-25	1-24	1-25	3-20
pH (SU)	7.6	7.5	7.3	7.3	7.4
TOTAL ACIDITY (MG/L CACO3)	0	0	0	0	25.64
TOTAL ALKALINITY (MG/L CACO3)	156	131	150	136	204.63
TOTAL IRON (MG/L)	0.18	0.04	0.06	0.10	<0.04
TOTAL MANGANESE (MG/L)	0.14	0.01	<0.02	0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	2	4	6	3	4
TOTAL HARDNESS (MG/L CACO3)	96	63	73	79	246
TOTAL SULFATE (MG/L)	84	46	64	36	48
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	375	126	219	194	504
NITRATES (MG/L)	6.38	8.9	1.0	1.23	5.05

PERMITTEE'S SIGNATURE David L Bartsch DATE 4/10/91

LABORATORY NAME: ENERGY RESOURCES, INCORPORATED

ANALYST'S SIGNATURE [signature] DATE 4-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-55	W-56	W-57	W-58	W-61
SURFACE ELEVATION OF MONITORING SITE	1290	1209	1307	1249	1260
DEPTH BELOW LAND SURFACE	79	27	138	100	64
STATIC WATER LEVEL BELOW LAND SURFACE	29	22	UNK	40	67
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	5/5/14/91	5/14/91	5/11/91	5/14/91	5/11/91
pH (SU)	7.5	7.5	6.8	7.4	7.6
TOTAL ACIDITY (MG/L CACO3)	17.29	49.59	11.97	14.82	17.67
TOTAL ALKALINITY (MG/L CACO3)	187.15	294.12	120.65	169.67	183.92
TOTAL IRON (MG/L)	<0.04	0.20	0.05	<0.04	0.93
TOTAL MANGANESE (MG/L)	0.02	0.06	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	<1.0	5.0	<1.0	<1.0	<1.0
TOTAL HARDNESS (MG/L CACO3)	228.0	400.0	142.0	196.0	228.0
TOTAL SULFATE (MG/L)	45.0	80.0	33.0	39.0	48.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	452	693	320	410	441
NITRATES (MG/L)	3.70	3.89	2.65	3.12	4.51

PERMITTEE'S SIGNATURE David L Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [illegible] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-62				
SURFACE ELEVATION OF MONITORING SITE	1235				
DEPTH BELOW LAND SURFACE	60				
STATIC WATER LEVEL BELOW LAND SURFACE	42				
DISCHARGE (CFS/GPM)	-				
DATE MEASURED	5/11/91				
pH (SU)	7.6				
TOTAL ACIDITY (MG/L CACO3)	14.06				
TOTAL ALKALINITY (MG/L CACO3)	166.44				
TOTAL IRON (MG/L)	<0.04				
TOTAL MANGANESE (MG/L)	<0.02				
TOTAL SUSPENDED SOLIDS (MG/L)	1.0				
TOTAL HARDNESS (MG/L CACO3)	180.0				
TOTAL SULFATE (MG/L)	23.0				
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	389				
NITRATES (MG/L)	3.65				

PERMITTEE'S SIGNATURE David L. Bartlett DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	M-12	W-13	U21-G	SP-22	SP-23
SURFACE ELEVATION OF MONITORING SITE	1160	1283	1038	1250	1251
DEPTH BELOW LAND SURFACE	-	65'	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	22'4"	-	-	-
DISCHARGE (CFS/GPM)	.014	-	.282	.9375	1.621
DATE MEASURED	5/7/91	5/7/91	5/7/91	5/7/91	5/7/91
pH (SU)	7.5	7.5	7.7	7.5	6.3
TOTAL ACIDITY (MG/L CACO3)	8.17	17.10	6.84	7.03	40.47
TOTAL ALKALINITY (MG/L CACO3)	91.01	191.52	109.25	69.92	102.03
TOTAL IRON (MG/L)	0.13	0.04	<0.04	0.13	0.11
TOTAL MANGANESE (MG/L)	0.12	<0.02	<0.02	0.07	0.09
TOTAL SUSPENDED SOLIDS (MG/L)	18.0	3.0	10.0	22.0	6.0
TOTAL HARDNESS (MG/L CACO3)	126.0	232.0	146.0	95.0	357.0
TOTAL SULFATE (MG/L)	15.0	21.0	29.0	10.0	70.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	389	483	378	280	1008
NITRATES (MG/L)	6.82	13.50	8.10	6.22	27.2

PERMITTEE'S SIGNATURE David L. Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-24	SP-24	W-25	SP-27	W-28
SURFACE ELEVATION OF MONITORING SITE	1250	1257	1272	1200	1299
DEPTH BELOW LAND SURFACE	77'	-	UNK	-	98'
STATIC WATER LEVEL BELOW LAND SURFACE	45'8"	-	51'4"	-	53'3"
DISCHARGE (CFS/GPM)	-	1.764	-	61.132	-
DATE MEASURED	5/6/91	5/7/91	5/7/91	5/7/91	5/7/91
pH (SU)	6.9	6.4	7.6	6.9	7.3
TOTAL ACIDITY (MG/L CACO3)	17.48	25.84	10.64	36.67	7.60
TOTAL ALKALINITY (MG/L CACO3)	116.47	82.46	144.21	202.54	259.35
TOTAL IRON (MG/L)	0.08	<0.04	<0.04	<0.04	<0.04
TOTAL MANGANESE (MG/L)	0.02	0.03	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	16.0	1.0	5.0	6.0	12.0
TOTAL HARDNESS (MG/L CACO3)	196.0	276.0	188.0	466.0	276.0
TOTAL SULFATE (MG/L)	70.0	50.0	40.0	73.0	23.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	494	819	473	1103	599
NITRATES (MG/L)	11.10	16.0	8.18	13.50	8.12

PERMITTEE'S SIGNATURE David L. Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mania DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-28	SP-31	W-32	W-33	W-34
SURFACE ELEVATION OF MONITORING SITE	1200	1250	1265	1252	1276
DEPTH BELOW LAND SURFACE	-	-	98'	50'	UNK
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	34'3"	21'	9'
DISCHARGE (CFS/GPM)	1.764	1.395	-	-	-
DATE MEASURED	5/7/91	5/7/91	5/7/91	5/7/91	5/7/91
pH (SU)	6.7	6.7	7.5	6.9	6.3
TOTAL ACIDITY (MG/L CACO3)	56.81	17.48	18.62	16.72	18.24
TOTAL ALKALINITY (MG/L CACO3)	100.89	98.23	199.50	150.10	29.64
TOTAL IRON (MG/L)	<0.04	0.04	<0.04	<0.04	0.05
TOTAL MANGANESE (MG/L)	<0.02	0.02	<0.02	0.03	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	14.0	10.0	4.0	5.0	6.0
TOTAL HARDNESS (MG/L CACO3)	227.0	209.0	228.0	214.0	153.0
TOTAL SULFATE (MG/L)	48.0	39.0	24.0	34.0	49.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	651	504	494	473	599
NITRATES (MG/L)	10.95	13.80	10.30	11.70	12.95

PERMITTEE'S SIGNATURE David L. Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-35	W-36	W-37	W-38	W-43
SURFACE ELEVATION OF MONITORING SITE	1210	1210	1241	1270	1263
DEPTH BELOW LAND SURFACE	72'	27'	42'	88'	20'
STATIC WATER LEVEL BELOW LAND SURFACE	48'4"	26'2"	38'4"	44'6"	8'7"
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	5/7/91	5/7/91	5/7/91	5/7/91	5/7/91
pH (SU)	7.0	7.1	7.2	6.9	6.9
TOTAL ACIDITY (MG/L CACO3)	19.57	9.88	23.18	25.65	26.03
TOTAL ALKALINITY (MG/L CACO3)	155.61	101.08	186.96	220.97	160.74
TOTAL IRON (MG/L)	<0.04	7.60	0.14	0.07	3.55
TOTAL MANGANESE (MG/L)	0.02	0.62	0.04	0.02	0.06
TOTAL SUSPENDED SOLIDS (MG/L)	10.0	60.0	18.0	2.0	22.0
TOTAL HARDNESS (MG/L CACO3)	211.0	115.0	248.0	272.0	292.0
TOTAL SULFATE (MG/L)	40.0	20.0	38.0	29.0	75.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	462	300	504	567	630
NITRATES (MG/L)	7.15	7.74	11.70	13.80	18.0

PERMITTEE'S SIGNATURE David L. Bartosh DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B M Mamin DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-45	W-47	W-48	M-9	M-10
SURFACE ELEVATION OF MONITORING SITE	1273	1278	1270	1084	1125
DEPTH BELOW LAND SURFACE	UNK	30'	35'	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	16'2"	7'11"	-	-
DISCHARGE (CFS/GPM)	-	-	-	.635	.431
DATE MEASURED	5/7/91	5/7/91	5/7/91	5/8/91	5/8/91
pH (SU)	7.5	6.5	6.7	8.1	8.1
TOTAL ACIDITY (MG/L CACO3)	28.88	15.20	24.70	8.17	6.65
TOTAL ALKALINITY (MG/L CACO3)	208.62	63.65	112.10	207.10	202.73
TOTAL IRON (MG/L)	0.09	0.19	0.11	<0.04	0.05
TOTAL MANGANESE (MG/L)	0.02	0.02	<0.02	0.03	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	6.0	10.0	12.0	6.0	7.0
TOTAL HARDNESS (MG/L CACO3)	437.0	130.0	214.0	169.0	158.0
TOTAL SULFATE (MG/L)	38.0	38.0	70.0	28.0	26.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	903	389	1008	525	525
NITRATES (MG/L)	5.86	6.81	9.70	6.40	7.23

PERMITTEE'S SIGNATURE David L. Burtoes DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mannion DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	M-11	SP-25	SP-26	SP-29	
SURFACE ELEVATION OF MONITORING SITE	1152	1240	1230	1282	
DEPTH BELOW LAND SURFACE	-	-	-	-	
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	
DISCHARGE (CFS/GPM)	.022	.258	1.5	1.578	
DATE MEASURED	5/8/91	5/9/91	5/9/91	5/10/91	
pH (SU)	8.7	6.9	6.8	7.5	
TOTAL ACIDITY (MG/L CACO3)	0.00	30.40	40.09	36.86	
TOTAL ALKALINITY (MG/L CACO3)	84.93	150.10	140.79	189.62	
TOTAL IRON (MG/L)	0.41	0.05	<0.04	<0.04	
TOTAL MANGANESE (MG/L)	0.16	<0.02	<0.02	0.05	
TOTAL SUSPENDED SOLIDS (MG/L)	28.0	2.0	<1.0	5.0	
TOTAL HARDNESS (MG/L CACO3)	107.0	208.0	235.0	255.0	
TOTAL SULFATE (MG/L)	11.0	36.0	34.0	21.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	240	462	504	515	
NITRATES (MG/L)	3.22	9.40	16.0	4.81	

PERMITTEE'S SIGNATURE David L. Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Marion DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-30	SP-31A	W-26	W-29	U-7
SURFACE ELEVATION OF MONITORING SITE	1266	1200	1279	1282	978
DEPTH BELOW LAND SURFACE	-	-	80'	68'	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	68'3"	SEALED	-
DISCHARGE (CFS/GPM)	.312	.861	-	-	2.583
DATE MEASURED	5/8/91	5/10/91	5/10/91	5/8/91	5/10/91
pH (SU)	7.5	6.5	7.5	7.4	7.9
TOTAL ACIDITY (MG/L CACO3)	29.83	17.10	23.75	38.38	5.51
TOTAL ALKALINITY (MG/L CACO3)	189.24	61.18	218.31	254.60	124.83
TOTAL IRON (MG/L)	0.06	<0.04	0.08	0.13	<0.04
TOTAL MANGANESE (MG/L)	<0.02	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	20.0	4.0	15.0	18.0	6.0
TOTAL HARDNESS (MG/L CACO3)	283.0	121.0	270.0	355.0	157.0
TOTAL SULFATE (MG/L)	44.0	45.0	31.0	38.0	29.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	651	320	546	714	347
NITRATES (MG/L)	6.47	7.77	9.12	4.94	3.46

PERMITTEE'S SIGNATURE David L. Bartach DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Mancuso DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	U-20	SP-21	D-7	D-20	D-21
SURFACE ELEVATION OF MONITORING SITE	1230	1164	927	990	950
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.049	1.875	3.157	.879	2.309
DATE MEASURED	5/10/91	5/8/91	5/10/91	5/10/91	5/10/91
pH (SU)	7.4	7.2	8.0	7.9	7.9
TOTAL ACIDITY (MG/L CACO3)	6.08	30.40	3.61	7.79	7.41
TOTAL ALKALINITY (MG/L CACO3)	92.53	186.77	128.63	135.66	132.43
TOTAL IRON (MG/L)	0.16	<0.04	<0.04	<0.04	<0.04
TOTAL MANGANESE (MG/L)	0.05	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	2.0	5.0	2.0	4.0
TOTAL HARDNESS (MG/L CACO3)	105.0	241.0	149.0	166.0	153.0
TOTAL SULFATE (MG/L)	<10.0	24.0	33.0	31.0	29.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	220	525	378	358	378
NITRATES (MG/L)	2.71	3.27	3.97	4.00	4.51

PERMITTEE'S SIGNATURE David L. Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [illegible] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-27	W-44	U21-A	U21-B	U21-C
SURFACE ELEVATION OF MONITORING SITE	1283	1297	1050	1190	1155
DEPTH BELOW LAND SURFACE	90	UNK	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	59'4"	UNK	-	-	-
DISCHARGE (CFS/GPM)	-	-	0.011	.014	.008
DATE MEASURED	5/10/91	5/10/91	5/10/91	5/10/91	5/10/91
pH (SU)	7.4	7.5	7.4	7.0	7.8
TOTAL ACIDITY (MG/L CACO3)	20.14	24.51	6.46	11.21	15.39
TOTAL ALKALINITY (MG/L CACO3)	167.58	216.22	93.67	79.04	137.37
TOTAL IRON (MG/L)	0.12	0.04	0.07	<0.04	<0.04
TOTAL MANGANESE (MG/L)	<0.02	0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	7.0	2.0	30.0	2.0	1.0
TOTAL HARDNESS (MG/L CACO3)	245.0	261.0	136.0	115.0	202.0
TOTAL SULFATE (MG/L)	43.0	31.0	23.0	33.0	41.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	515	515	270	260	410
NITRATES (MG/L)	5.88	6.95	3.44	3.40	7.41

PERMITTEE'S SIGNATURE David L. Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	U23-J	W-30	SP-36	SP-37	SP-38
SURFACE ELEVATION OF MONITORING SITE	1098	1269	1265	1241	1219
DEPTH BELOW LAND SURFACE	-	70	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	53	-	-	-
DISCHARGE (CFS/GPM)	.605	-	1.9	1.9	1.5
DATE MEASURED	5/11/91	5/14/91	5/14/91	5/11/91	5/11/91
pH (SU)	7.9	7.5	7.2	6.5	7.5
TOTAL ACIDITY (MG/L CACO3)	9.89	20.71	24.32	23.56	13.49
TOTAL ALKALINITY (MG/L CACO3)	133.95	230.47	182.02	61.18	148.96
TOTAL IRON (MG/L)	0.07	0.07	2.12	0.15	0.05
TOTAL MANGANESE (MG/L)	0.02	0.02	0.14	0.03	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	7.0	2.0	40.0	<1.0	7.0
TOTAL HARDNESS (MG/L CACO3)	159.0	300.0	244.0	92.0	168.0
TOTAL SULFATE (MG/L)	21.0	44.0	49.0	26.0	25.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	320	609	483	200	357
NITRATES (MG/L)	4.60	6.20	6.42	1.50	3.63

PERMITTEE'S SIGNATURE David L Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-39	W-50	W-52	W-53	W-54
SURFACE ELEVATION OF MONITORING SITE	1135	1321	1282	1292	1245
DEPTH BELOW LAND SURFACE	-	44	79	85	UNK
STATIC WATER LEVEL BELOW LAND SURFACE	-	41	27	55	45
DISCHARGE (CFS/GPM)	.01	-	-	-	-
DATE MEASURED	5/11/91	5/14/91	5/11/91	5/11/91	5/14/91
pH (SU)	7.6	7.2	7.5	7.5	7.5
TOTAL ACIDITY (MG/L CACO3)	11.59	26.79	19.95	15.96	12.35
TOTAL ALKALINITY (MG/L CACO3)	151.05	212.42	199.12	166.82	171.38
TOTAL IRON (MG/L)	2.56	0.59	<0.04	<0.04	<0.04
TOTAL MANGANESE (MG/L)	0.17	0.07	<0.02	0.03	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	55.0	10.0	<1.0	<1.0	<1.0
TOTAL HARDNESS (MG/L CACO3)	176.0	332.0	249.0	208.0	176.0
TOTAL SULFATE (MG/L)	18.0	95.0	48.0	35.0	33.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	347	630	504	441	399
NITRATES (MG/L)	5.59	5.62	3.35	7.65	4.12

PERMITTEE'S SIGNATURE David L Bartsch DATE 7-9-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 7-9-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

NF = NO FLOW; NS = NOT SAMPLED

MONITORING SITE IDENTIFICATION NUMBER	W-1	W-2	W-13	W-19	W-24
SURFACE ELEVATION OF MONITORING SITE	950	835	1283	1273	1250
DEPTH BELOW LAND SURFACE	15	U	65	28	87
STATIC WATER LEVEL BELOW LAND SURFACE	14	34	29	28	UNK
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-10-91	9-10-91	9-18-91	9-11-91	9-25-91
pH (SU)	7.0	7.3	7.2	NS	8.2
TOTAL ACIDITY (MG/L CACO3)	79.61	18.81	17.56		6.27
TOTAL ALKALINITY (MG/L CACO3)	327	193.4	203.80		127.00
TOTAL IRON (MG/L)	19.70	.13	0.16		10.50
TOTAL MANGANESE (MG/L)	.48	.03	<0.02		0.69
TOTAL SUSPENDED SOLIDS (MG/L)	210	15	2.0		30.0
TOTAL HARDNESS (MG/L CACO3)	392	225	263.0		154.0
TOTAL SULFATE (MG/L)	820	43	29.0		77.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	2331	483	494		441
NITRATES (MG/L)	1.42	1.11	3.45		1.26

PERMITTEE'S SIGNATURE David L. Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mannion DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

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MONITORING SITE IDENTIFICATION NUMBER	W-25	W-26	W-27	W-28	W-29
SURFACE ELEVATION OF MONITORING SITE	1272	1279	1283	1299	1282
DEPTH BELOW LAND SURFACE	77	80	90	98	68
STATIC WATER LEVEL BELOW LAND SURFACE	55	62	82	86	UNK
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-13-91	9-13-91	9-11-91	9-11-91	9-11-91
pH (SU)	7.7	7.3	7.80	7.3	7.0
TOTAL ACIDITY (MG/L CACO3)	12.54	22.23	12.54	24.89	37.43
TOTAL ALKALINITY (MG/L CACO3)	154	229.6	172.4	266.80	260.60
TOTAL IRON (MG/L)	.29	.74	19.1	7.90	0.65
TOTAL MANGANESE (MG/L)	.03	.07	1.46	0.41	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	17	54	60.0	2.0
TOTAL HARDNESS (MG/L CACO3)	204	273	140	266.0	356.0
TOTAL SULFATE (MG/L)	38	30	13	14.0	30.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	462	525	777	609	683
NITRATES (MG/L)	2.56	5.56	1.89	1.57	1.46

PERMITTEE'S SIGNATURE David L. Bartoch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

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MONITORING SITE IDENTIFICATION NUMBER	W-30	W-32	W-33	W-34	W-35
SURFACE ELEVATION OF MONITORING SITE	1269	1265	1252	1276	1210
DEPTH BELOW LAND SURFACE	70	98	50	U	72
STATIC WATER LEVEL BELOW LAND SURFACE	59	70	29	19	71
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-4-91	9-11-91	9-9-91	9-9-91	9-17-91
pH (SU)	NS	7.6	7.1	6.1	NS
TOTAL ACIDITY (MG/L CACO3)		18.24	21.47	21.09	
TOTAL ALKALINITY (MG/L CACO3)		216.60	186.60	132.80	
TOTAL IRON (MG/L)		<0.04	0.11	0.11	
TOTAL MANGANESE (MG/L)		0.02	0.02	0.04	
TOTAL SUSPENDED SOLIDS (MG/L)		<1.0	8.0	15.0	
TOTAL HARDNESS (MG/L CACO3)		261.0	227.0	215.0	
TOTAL SULFATE (MG/L)		10.0	34.0	55.0	
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)		483	546	819	
NITRATES (MG/L)		2.50	5.85	8.01	

PERMITTEE'S SIGNATURE David L Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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MONITORING SITE IDENTIFICATION NUMBER	W-36	W-37	W-38	W-43	W-44
SURFACE ELEVATION OF MONITORING SITE	1210	1241	1270	1265	1297
DEPTH BELOW LAND SURFACE	27	42	38	20	U
STATIC WATER LEVEL BELOW LAND SURFACE	27	39	40	20	UNK
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-17-91	9-11-91	9-11-91	9-9-91	9-6-91
pH (SU)	NS	7.3	7.2	7.0	7.4
TOTAL ACIDITY (MG/L CACO3)		17.67	24.70	76.00	32.11
TOTAL ALKALINITY (MG/L CACO3)		191.40	223.40	264.80	343.90
TOTAL IRON (MG/L)		4.60	0.22	51.80	0.55
TOTAL MANGANESE (MG/L)		0.60	0.05	0.79	0.04
TOTAL SUSPENDED SOLIDS (MG/L)		45.0	6.0	180.0	12.0
TOTAL HARDNESS (MG/L CACO3)		236.0	258.0	712.0	371.0
TOTAL SULFATE (MG/L)		43.0	33.0	54.0	16.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)		546	525	735	630.00
NITRATES (MG/L)		7.42	6.00	1.80	0.80

PERMITTEE'S SIGNATURE David L. Bartlett DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE Benamin DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

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MONITORING SITE IDENTIFICATION NUMBER	W-45	W-47	W-48	W-50	W-51
SURFACE ELEVATION OF MONITORING SITE	1273	1278	1270	1321	1281
DEPTH BELOW LAND SURFACE	U	50	35	44	109
STATIC WATER LEVEL BELOW LAND SURFACE	UNK	26	11	43	44
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-6-91	9-13-91	9-6-91	9-12-91	9-12-91
pH (SU)	7.3	6.90	6.6	7.2	7.4
TOTAL ACIDITY (MG/L CACO3)	32.68	9.88	48.45	22.61	19.19
TOTAL ALKALINITY (MG/L CACO3)	204.80	50.60	169.00	221.80	242.60
TOTAL IRON (MG/L)	0.07	0.77.	0.11	1.98	0.09
TOTAL MANGANESE (MG/L)	0.02	0.06	0.02	0.06	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	6.0	17.0	8.0	3.0	6.0
TOTAL HARDNESS (MG/L CACO3)	506.0	115.0	266.0	280.0	227.0
TOTAL SULFATE (MG/L)	33.0	40.0	61.0	57.0	48.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	945	320	945	525	473
NITRATES (MG/L)	1.72	5.53	4.31	2.37	1.43

PERMITTEE'S SIGNATURE David L Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B M Cowan DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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MONITORING SITE IDENTIFICATION NUMBER	W-52	W-53	W-54	W-55	W-56
SURFACE ELEVATION OF MONITORING SITE	1282	1292	1245	1290	1290
DEPTH BELOW LAND SURFACE	79	85	75	79	32
STATIC WATER LEVEL BELOW LAND SURFACE	38	62	69	49	25
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-14-91	9-14-91	9-12-91	9-19-91	9-19-91
pH (SU)	7.5	7.4	7.50	7.4	7.0
TOTAL ACIDITY (MG/L CACO3)	17.29	16.34	12.54	53.96	49.59
TOTAL ALKALINITY (MG/L CACO3)	202.20	212.00	268.20	198.00	296.60
TOTAL IRON (MG/L)	<0.04	<0.04	<0.04	0.10	0.09
TOTAL MANGANESE (MG/L)	<1.02	<0.02	<0.02	<0.02	0.33
TOTAL SUSPENDED SOLIDS (MG/L)	7.0	3.0	2.0	2.0	1.0
TOTAL HARDNESS (MG/L CACO3)	254.0	250.0	128.0	245.0	403.0
TOTAL SULFATE (MG/L)	48.0	48.0	30.0	40.0	64.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	483	494	536	473	693
NITRATES (MG/L)	1.32	1.27	1.59	0.98	2.16

PERMITTEE'S SIGNATURE David L Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [illegible] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

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MONITORING SITE IDENTIFICATION NUMBER	W-57	W-58	W-59	W-60	W-61
SURFACE ELEVATION OF MONITORING SITE	1307	1249	1260	1272	1260
DEPTH BELOW LAND SURFACE	138	100	55	134	117
STATIC WATER LEVEL BELOW LAND SURFACE	UNK	71	32	101	73
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-11-91	9-11-91	9-11-91	9-13-91	7-13-91
pH (SU)	7.3	7.5	7.3	7.7	7.5
TOTAL ACIDITY (MG/L CACO3)	12.73	6.46	22.04	0.00	16.91
TOTAL ALKALINITY (MG/L CACO3)	197.60	271.40	229.60	280.80	223.00
TOTAL IRON (MG/L)	0.45	0.05	<0.04	0.17	0.05
TOTAL MANGANESE (MG/L)	0.02	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	2.0	2.0	9.0	<1.0
TOTAL HARDNESS (MG/L CACO3)	92.0	78.0	259.0	66.0	175.0
TOTAL SULFATE (MG/L)	40.0	55.0	55.0	40.0	38.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	441	578	483	546	515
NITRATES (MG/L)	1.32	1.53	1.55	1.46	1.41

PERMITTEE'S SIGNATURE David L Bartush DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mancini DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
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QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

NF = NO FLOW; NS = NOT SAMPLED

MONITORING SITE IDENTIFICATION NUMBER	W-62	W-79	W-80	W-81	W-82
SURFACE ELEVATION OF MONITORING SITE	1262	1279	1226	1314	1238
DEPTH BELOW LAND SURFACE	60	50	35	66	80
STATIC WATER LEVEL BELOW LAND SURFACE	49	UNK	22	32	UNK
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-12-91	9-13-91	9-13-91	9-16-91	9-11-91
pH (SU)	7.4	7.2	7.1	NS	7.0
TOTAL ACIDITY (MG/L CACO3)	19.57	19.00	24.89		24.89
TOTAL ALKALINITY (MG/L CACO3)	228.00	191.40	187.80		234.00
TOTAL IRON (MG/L)	0.06	<0.04	2.09		<0.04
TOTAL MANGANESE (MG/L)	0.02	<0.02	0.07		<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	<1.0	<1.0	30.0		<1.0
TOTAL HARDNESS (MG/L CACO3)	228.0	251.0	213.0		261.0
TOTAL SULFATE (MG/L)	23.0	44.0	40.0		54.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	494	462	462		515
NITRATES (MG/L)	1.25	1.79	3.83		1.57

PERMITTEE'S SIGNATURE David L Bartsch DATE 10-1-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

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MONITORING SITE IDENTIFICATION NUMBER	W-92	W-93	W-94	W-95	W-96
SURFACE ELEVATION OF MONITORING SITE	1231	1262	1274	1276	1228
DEPTH BELOW LAND SURFACE	42	109	69	U	27
STATIC WATER LEVEL BELOW LAND SURFACE	UNK	56	39	U	35
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9-12-91	9-11-91	9-12-91	9-11-91	9-11-91
pH (SU)	6.7	7.0	6.9	7.3	7.0
TOTAL ACIDITY (MG/L CACO3)	16.34	26.03	35.92	15.01	25.27
TOTAL ALKALINITY (MG/L CACO3)	83.80	214.40	171.20	208.80	190.00
TOTAL IRON (MG/L)	1.53	0.87	0.60	0.05	0.04
TOTAL MANGANESE (MG/L)	0.02	0.05	0.03	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	10.0	20.0	15.0	2.0	5.0
TOTAL HARDNESS (MG/L CACO3)	162.0	291.0	312.0	206.0	321.0
TOTAL SULFATE (MG/L)	98.0	48.0	45.0	47.0	45.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	735	609	735	525	735
NITRATES (MG/L)	2.21	4.86	3.32	2.64	1.60

PERMITTEE'S SIGNATURE David L Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [illegible] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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MONITORING SITE IDENTIFICATION NUMBER	W-97	W-282	W-283	SP-11	SP-20
SURFACE ELEVATION OF MONITORING SITE	1332	1272	1272	1200	1148
DEPTH BELOW LAND SURFACE	100	118	102	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	UNK	69	76	-	-
DISCHARGE (CFS/GPM)	-	-	-	NF	NF
DATE MEASURED	9-13-91	9-13-91	9-13-91	9-17-91	9-11-91
pH (SU)	7.1	7.5	7.4	NS	NS
TOTAL ACIDITY (MG/L CACO3)	22.61	13.87	17.10		
TOTAL ALKALINITY (MG/L CACO3)	223.60	162.40	183.60		
TOTAL IRON (MG/L)	<0.04	0.25	0.19		
TOTAL MANGANESE (MG/L)	<0.02	0.03	0.02		
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	12.0	9.0		
TOTAL HARDNESS (MG/L CACO3)	250.0	189.0	227.0		
TOTAL SULFATE (MG/L)	50.0	37.0	34.0		
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	546	399	420		
NITRATES (MG/L)	2.51	3.60	1.49		

PERMITTEE'S SIGNATURE David L. Bartush DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B.M. Massie DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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MONITORING SITE IDENTIFICATION NUMBER	SP-21	SP-22	SP-23	SP-24	SP-25
SURFACE ELEVATION OF MONITORING SITE	1164	1250	1251	1257	1240
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	NF	NF	NF	NF	.234 GPM
DATE MEASURED	9-11-91	9-11-91	9-9-91	9-9-91	9-6-91
pH (SU)	NS	NS	NS	NS	7.1
TOTAL ACIDITY (MG/L CACO3)					20.33
TOTAL ALKALINITY (MG/L CACO3)					185.20
TOTAL IRON (MG/L)					0.04
TOTAL MANGANESE (MG/L)					0.03
TOTAL SUSPENDED SOLIDS (MG/L)					6.0
TOTAL HARDNESS (MG/L CACO3)					312.0
TOTAL SULFATE (MG/L)					20.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)					567
NITRATES (MG/L)					7.11

PERMITTEE'S SIGNATURE David L. Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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MONITORING SITE IDENTIFICATION NUMBER	SP-26	SP-27	SP-28	SP-29	SP-30
SURFACE ELEVATION OF MONITORING SITE	1230	1200	1200	1282	1266
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.053 GPM	.390 GPM	.187 GPM	NF	NF
DATE MEASURED	9-6-91	9-6-91	9-6-91	9-9-91	9-9-91
pH (SU)	7.0	7.1	7.0	NS	NS
TOTAL ACIDITY (MG/L CACO3)	24.70	42.56	28.31		
TOTAL ALKALINITY (MG/L CACO3)	193.20	237.80	161.80		
TOTAL IRON (MG/L)	0.05	2.50	0.04		
TOTAL MANGANESE (MG/L)	<0.02	0.02	<0.02		
TOTAL SUSPENDED SOLIDS (MG/L)	5.0	68.0	6.0		
TOTAL HARDNESS (MG/L CACO3)	282.0	558.0	390.0		
TOTAL SULFATE (MG/L)	27.0	62.0	50.0		
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	567	1050	882		
NITRATES (MG/L)	4.61	5.45	5.90		

PERMITTEE'S SIGNATURE David L. Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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MONITORING SITE IDENTIFICATION NUMBER	SP-31	SP-31A	SP-36	SP-37	SP-38
SURFACE ELEVATION OF MONITORING SITE	1250	1200	1265	1241	1219
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.300 GPM	.096 GPM	.125 GPM	0.22 GPM	.3 GPM
DATE MEASURED	9-9-91	9-13-91	9-12-91	9-14-91	9-14-91
pH (SU)	7.0	7.2	7.5	6.9	7.4
TOTAL ACIDITY (MG/L CACO3)	23.37	13.30	17.29	24.13	15.20
TOTAL ALKALINITY (MG/L CACO3)	166.00	82.00	214.00	142.40	180.40
TOTAL IRON (MG/L)	0.09	0.16	0.08	0.97	0.11
TOTAL MANGANESE (MG/L)	0.02	0.02	0.05	0.12	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	4.0	5.0	10.0	22.0	9.0
TOTAL HARDNESS (MG/L CACO3)	263.0	157.0	262.0	150.0	205.0
TOTAL SULFATE (MG/L)	48.0	55.0	54.0	<10.0	27.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	630	410	525	300	389
NITRATES (MG/L)	4.50	5.78	2.40	1.13	1.07

PERMITTEE'S SIGNATURE David L. Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

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MONITORING SITE IDENTIFICATION NUMBER	SP-39	SP-43	SP-44	SP-45	SP-52
SURFACE ELEVATION OF MONITORING SITE	1135	1200	1234	1201	1211
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	NF	.156 GPM	.083 GPM	.083 GPM	.460 GPM
DATE MEASURED	9-14-91	9-13-91	9-13-91	9-11-91	9-12-91
pH (SU)	NS	7.3	7.0	7.1	7.2
TOTAL ACIDITY (MG/L CACO3)		17.10	27.17	15.77	19.95
TOTAL ALKALINITY (MG/L CACO3)		178.80	197.60	167.60	197.80
TOTAL IRON (MG/L)		0.05	0.04	0.17	<0.04
TOTAL MANGANESE (MG/L)		0.02	<0.02	0.03	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)		4.0	8.0	5.0	4.0
TOTAL HARDNESS (MG/L CACO3)		195.0	248.0	177.0	219.0
TOTAL SULFATE (MG/L)		33.0	40.0	43.0	21.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)		462	462	389	420
NITRATES (MG/L)		1.16	2.27	1.14	1.27

PERMITTEE'S SIGNATURE David L. Bartoch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mannion DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
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MONITORING SITE IDENTIFICATION NUMBER	SP-53	SP-55	SP-59	SP-68	SP-216
SURFACE ELEVATION OF MONITORING SITE	1220	1270	1180	1140	1200
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	NF	.460 GPM	.530 GPM	.267 GPM	.009 GPM
DATE MEASURED	9-11-91	9-11-91	9-11-91	9-6-91	9-12-91
pH (SU)	NS	7.0	7.1	7.7	6.8
TOTAL ACIDITY (MG/L CACO3)		23.18	21.66	16.34	73.68
TOTAL ALKALINITY (MG/L CACO3)		209.00	215.80	233.20	110.60
TOTAL IRON (MG/L)		1.41	0.04	0.09	0.06
TOTAL MANGANESE (MG/L)		<0.02	<0.02	<0.02	0.03
TOTAL SUSPENDED SOLIDS (MG/L)		8.0	<1.0	14.0	4.0
TOTAL HARDNESS (MG/L CACO3)		275.0	234.0	297.0	147.0
TOTAL SULFATE (MG/L)		50.0	40.0	43.0	24.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)		515	494	546	290
NITRATES (MG/L)		2.06	2.69	1.17	1.57

PERMITTEE'S SIGNATURE David L. Bartoch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

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MONITORING SITE IDENTIFICATION NUMBER	SP-221	U-1	D-1	D-2	D-3
SURFACE ELEVATION OF MONITORING SITE	1200	840	800	835	830
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.107 GPM	15.0 CFS	13.6 CFS	.3 CFS	.3 CFS
DATE MEASURED	9-12-91	9-10-91	9-10-91	9-10-91	9-10-91
pH (SU)	7.5	8.4	8.3	8.2	8.1
TOTAL ACIDITY (MG/L CACO3)	17.29	46.36	11.02	13.68	17.48
TOTAL ALKALINITY (MG/L CACO3)	187.60	152.80	156.00	198.40	212.48
TOTAL IRON (MG/L)	.27	0.15	0.12	0.08	0.17
TOTAL MANGANESE (MG/L)	.02	0.05	0.03	0.03	0.09
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	18.0	14.0	19.0	22.0
TOTAL HARDNESS (MG/L CACO3)	240.0	284.0	300.0	424.0	612.0
TOTAL SULFATE (MG/L)	37.0	230.0	260.0	150.0	440.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	431	1260	1050	1050	1365
NITRATES (MG/L)	1.52	1.37	1.19	1.54	1.47

PERMITTEE'S SIGNATURE David L. Bartsch DATE 10-8-91

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B. Mannion DATE 10-10-91

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-27	W-28	W-29	W-30	W-32
SURFACE ELEVATION OF MONITORING SITE	1283	1299	1282	1269	1265
DEPTH BELOW LAND SURFACE	90	98	68	70	98
STATIC WATER LEVEL BELOW LAND SURFACE	81	88	UNK	47	77
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	10-17-91	10-17-91	10-17-91	12-23-91	10-17-91
pH (SU)	7.1	7.0	6.9	7.3	7.5
TOTAL ACIDITY (MG/L CACO3)	15.01	17.55	35.34	0.0	15.58
TOTAL ALKALINITY (MG/L CACO3)	163.78	264.10	268.09	248.40	201.40
TOTAL IRON (MG/L)	14.70	1.67	0.35	1.24	0.07
TOTAL MANGANESE (MG/L)	0.58	0.19	0.26	0.07	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	39.0	32.0	5.0	45.0	2.0
TOTAL HARDNESS (MG/L CACO3)	202.0	278.0	360.0	310.0	239.0
TOTAL SULFATE (MG/L)	26.0	18.0	34.0	47.0	21.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	882	630	840	578	494
NITRATES (MG/L)	1.91	0.97	0.92	3.05	2.11

PERMITTEE'S SIGNATURE David L Bartsch DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B E Marcum DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
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MONITORING SITE IDENTIFICATION NUMBER	W-33	W-34	W-38	W-43	W-44
SURFACE ELEVATION OF MONITORING SITE	1252	1276	1270	1265	1297
DEPTH BELOW LAND SURFACE	50	U	38	20	U
STATIC WATER LEVEL BELOW LAND SURFACE	28	20	48	19	UNK
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	10-21-91	10-21-91	10-21-91	10-21-91	10-14-91
pH (SU)	7.8	6.7	7.0	7.0	7.1
TOTAL ACIDITY (MG/L CACO3)	0.00	24.13	31.73	31.92	30.78
TOTAL ALKALINITY (MG/L CACO3)	22.23	160.17	249.66	207.86	336.87
TOTAL IRON (MG/L)	<0.04	0.66	0.14	36.10	0.09
TOTAL MANGANESE (MG/L)	<0.02	0.85	0.02	0.53	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	1.0	32.0	17.0	38.0	1.0
TOTAL HARDNESS (MG/L CACO3)	155.0	282.0	273.0	259.0	344.0
TOTAL SULFATE (MG/L)	115.0	53.0	30.0	56.0	<10.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	504	735	546	630	672
NITRATES (MG/L)	1.01	6.75	3.873	<1.0	0.94

PERMITTEE'S SIGNATURE David L Bartsch DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Mason DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-55	W-56	W-57	W-58	W-59
SURFACE ELEVATION OF MONITORING SITE	1290	1290	1307	1249	1260
DEPTH BELOW LAND SURFACE	79	32	138	100	55
STATIC WATER LEVEL BELOW LAND SURFACE	50	25	UNK	70	+32
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	10-24-91	10-24-91	10-14-91	10-11	10-11
pH (SU)	7.5	7.2	7.3	7.6	7.2
TOTAL ACIDITY (MG/L CACO3)	26.03	52.25	9.5	8.74	22.80
TOTAL ALKALINITY (MG/L CACO3)	207.10	300.01	261.82	335.35	285.00
TOTAL IRON (MG/L)	0.06	0.20	0.43	0.08	0.30
TOTAL MANGANESE (MG/L)	<0.02	0.29	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	4.0	3.0	8.0	6.0	2.0
TOTAL HARDNESS (MG/L CACO3)	234.0	380.0	65.0	81.0	264.0
TOTAL SULFATE (MG/L)	44.0	78.0	37.0	47.0	45.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	441	651	441	620	515
NITRATES (MG/L)	<1.0	1.02	0.68	0.99	0.70

PERMITTEE'S SIGNATURE David L. Bartsch DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE _____ DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-60	W-61	W-62	W-79	W-80
SURFACE ELEVATION OF MONITORING SITE	1272	1260	1262	1279	1226
DEPTH BELOW LAND SURFACE	134	117	60	50	35
STATIC WATER LEVEL BELOW LAND SURFACE	103	75	49	UNK	22
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	10-11-91	10-29-91	10-11-91	10-24-91	10-24-91
pH (SU)	7.6	7.0	7.3	7.2	6.9
TOTAL ACIDITY (MG/L CACO3)	0.00	0.00	16.34	25.46	26.98
TOTAL ALKALINITY (MG/L CACO3)	350.74	226.29	284.43	201.97	188.67
TOTAL IRON (MG/L)	0.47	0.11	0.08	<0.04	2.68
TOTAL MANGANESE (MG/L)	<0.02	0.05	<0.02	<0.02	0.03
TOTAL SUSPENDED SOLIDS (MG/L)	10.0	4.0	4.0	4.0	18.0
TOTAL HARDNESS (MG/L CACO3)	60.0	164.0	251.0	239.0	228.0
TOTAL SULFATE (MG/L)	41.0	35.0	14.0	44.0	43.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	630	473	483	431	441
NITRATES (MG/L)	1.28	<1.0	0.72	<1.0	2.24

PERMITTEE'S SIGNATURE Donald L Bartech DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mason DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-81	W-82	W-83	W-84	W-85
SURFACE ELEVATION OF MONITORING SITE	1314	1238	1293	1287	1293
DEPTH BELOW LAND SURFACE	66	80	208	90	53
STATIC WATER LEVEL BELOW LAND SURFACE	32	UNK	185	72	33
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	NS	10-11-91	10-24-91	10-24-91	10-24-91
pH (SU)	BURIED	7.3	7.4	7.4	7.3
TOTAL ACIDITY (MG/L CACO3)		19.95	8.17	11.02	18.81
TOTAL ALKALINITY (MG/L CACO3)		279.49	280.25	273.22	100.51
TOTAL IRON (MG/L)		0.23	0.12	0.04	0.43
TOTAL MANGANESE (MG/L)		<0.02	<0.02	<0.02	0.04
TOTAL SUSPENDED SOLIDS (MG/L)		7.0	2.0	<1.0	8.0
TOTAL HARDNESS (MG/L CACO3)		264.0	84.0	83.0	129.0
TOTAL SULFATE (MG/L)		54.0	44.0	43.0	24.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)		525	546	546	260
NITRATES (MG/L)		0.95	<1.0	<1.0	4.40

PERMITTEE'S SIGNATURE David L. Bartsch DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE _____ DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-92	W-93	W-94	W-262	W-282
SURFACE ELEVATION OF MONITORING SITE	1231	1262	1274	1290	1272
DEPTH BELOW LAND SURFACE	42	109	69	UNK	118
STATIC WATER LEVEL BELOW LAND SURFACE	18	55	39	UNK	69
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	10-21-91	10-11-91	10-29-91	NS	10-11-91
pH (SU)	6.9	7.4	7.0	BURIED	7.4
TOTAL ACIDITY (MG/L CACO3)	24.70	21.09	15.96		12.54
TOTAL ALKALINITY (MG/L CACO3)	127.49	252.89	240.35		229.71
TOTAL IRON (MG/L)	1.94	1.03	<0.04		0.60
TOTAL MANGANESE (MG/L)	0.02	0.03	0.02		<2.0
TOTAL SUSPENDED SOLIDS (MG/L)	12.0	13.0	<1.0		6.0
TOTAL HARDNESS (MG/L CACO3)	239.0	288.0	229.0		199.0
TOTAL SULFATE (MG/L)	87.0	50.0	41.0		44.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	777	651	462		452
NITRATES (MG/L)	<1.0	4.05	<1.00		3.20

PERMITTEE'S SIGNATURE David L Bartsen DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Marina DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-283	SP-20	SP-21	SP-23	SP-24
SURFACE ELEVATION OF MONITORING SITE	1272	1148	1164	1251	1257
DEPTH BELOW LAND SURFACE	102	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	76	-	-	-	-
DISCHARGE (CFS/GPM)	-	NF	0.01	0.034 GPM	0.037 GPM
DATE MEASURED	10-11-91	10-14-91	12-19-91	12-4-91	12-04-91
pH (SU)	7.5	NS	8.0	7.9	7.3
TOTAL ACIDITY (MG/L CACO3)	14.44		8.60	25.20	2.20
TOTAL ALKALINITY (MG/L CACO3)	249.85		99.20	247.20	46.00
TOTAL IRON (MG/L)	0.18		0.28	6.20	1.15
TOTAL MANGANESE (MG/L)	<0.02		0.03	0.28	0.66
TOTAL SUSPENDED SOLIDS (MG/L)	3.0		28.0	52.0	23.0
TOTAL HARDNESS (MG/L CACO3)	203.0		131.0	432.0	253.0
TOTAL SULFATE (MG/L)	38.0		43.0	210.0	76.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	462		260	1680	693
NITRATES (MG/L)	2.31		1.90	23.10	10.70

PERMITTEE'S SIGNATURE Daniel L Bartech DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [illegible] DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-25	SP-26	SP-29	SP-30	SP-31
SURFACE ELEVATION OF MONITORING SITE	1240	1230	1282	1266	1250
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	0.25 GPM	0.277 GPM	NF	0.6 GPM	0.25 GPM
DATE MEASURED	10-28-91	10-28-91	NS	12-19-91	10-21-91
pH (SU)	7.0	7.1	DRY	7.3	6.8
TOTAL ACIDITY (MG/L CACO3)	21.09	21.85	ALL QUARTER	10.60	34.39
TOTAL ALKALINITY (MG/L CACO3)	210.71	189.05		129.60	224.39
TOTAL IRON (MG/L)	<0.04	0.13		0.19	<0.04
TOTAL MANGANESE (MG/L)	0.04	0.04		0.03	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	10.0		14.0	2.0
TOTAL HARDNESS (MG/L CACO3)	251.0	254.0		158.0	319.0
TOTAL SULFATE (MG/L)	21.0	28.0		36.0	43.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	462	473		310	693
NITRATES (MG/L)	7.40	4.89		2.05	2.91

PERMITTEE'S SIGNATURE Daniel B Bartsch DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B V Manion DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-43	SP-44	SP-45	SP-52	SP-59
SURFACE ELEVATION OF MONITORING SITE	1200	1234	1201	1211	1180
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	0.048 GPM	0.03 GPM	0.093 GPM	0.14 GPM	0.57 GPM
DATE MEASURED	10-24-91	10-24-91	10-23-91	10-14-91	10-14-91
pH (SU)	7.9	7.3	7.1	7.3	7.2
TOTAL ACIDITY (MG/L CACO3)	13.49	23.94	56.24	15.20	29.26
TOTAL ALKALINITY (MG/L CACO3)	188.86	206.72	168.91	238.83	313.31
TOTAL IRON (MG/L)	0.11	0.08	<0.04	0.09	1.84
TOTAL MANGANESE (MG/L)	0.02	0.02	0.02	<0.02	0.10
TOTAL SUSPENDED SOLIDS (MG/L)	10.0	15.0	3.0	5.0	15.0
TOTAL HARDNESS (MG/L CACO3)	188.0	235.0	236.0	221.0	244.0
TOTAL SULFATE (MG/L)	34.0	39.0	34.0	26.0	<10.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	420	452	368	441	504
NITRATES (MG/L)	<1.0	1.55	<1.0	0.74	0.73

PERMITTEE'S SIGNATURE David L Bartech DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mancia DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-60	SP-177	U-1	D-1	D-2
SURFACE ELEVATION OF MONITORING SITE	1142	1198	840	800	835
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	NF	.0449 GPM	8.48 CFS	8.55 CFS	.02 CFS
DATE MEASURED	10-29-91	10-25-91	11-12-91	11-12-91	11-12-91
pH (SU)	6.9	7.6	7.9	7.9	7.8
TOTAL ACIDITY (MG/L CACO3)	21.09	27.93	9.12	9.31	0.0
TOTAL ALKALINITY (MG/L CACO3)	201.02	180.50	162.83	163.02	237.31
TOTAL IRON (MG/L)	0.51	0.28	0.10	0.09	0.08
TOTAL MANGANESE (MG/L)	0.20	0.05	0.04	0.04	0.04
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	10.0	3.0	2.0	5.0
TOTAL HARDNESS (MG/L CACO3)	231.0	295.0	252.0	267.0	581.0
TOTAL SULFATE (MG/L)	49.0	35.0	140.0	150.0	320.0
SPECIFIC CONDUCTANCE (AT 25° C IN μMHO/CM)	420	588	1050	1050	1365
NITRATES (MG/L)	<1.00	<1.0	2.27	2.36	1.02

PERMITTEE'S SIGNATURE David L. Bartsch DATE 1-15-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-1	W-2	W-24	W-25	W-26
SURFACE ELEVATION OF MONITORING SITE	950	835	1250	1272	1279
DEPTH BELOW LAND SURFACE	15	U	87	77	80
STATIC WATER LEVEL BELOW LAND SURFACE	13'	29'	BURIED	53'	62'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	2-12-92	2-12-92	1-29-92	1-21-92	1-21-92
pH (SU)	7.1	6.9	8.2	7.4	7.4
TOTAL ACIDITY (MG/L CACO3)	91.00	95.00	27.60	38.80	46.00
TOTAL ALKALINITY (MG/L CACO3)	309.20	332.40	145.80	166.00	219.60
TOTAL IRON (MG/L)	18.30	0.16	2.30	0.76	0.30
TOTAL MANGANESE (MG/L)	0.28	0.62	0.09	0.05	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	56.0	10.0	18.0	18.0	6.0
TOTAL HARDNESS (MG/L CACO3)	775.0	492.0	200.0	215.0	258.0
TOTAL SULFATE (MG/L)	340.0	220.0	50.0	34.0	23.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	1260	945	452	431	473
NITRATES (MG/L)	6.39	5.9	4.8	7.42	7.66

PERMITTEE'S SIGNATURE David L. Bartsch DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B C Manion DATE 3-9-92

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-27	W-28	W-33	W-34	W-43
SURFACE ELEVATION OF MONITORING SITE	1283	1299	1252	1276	1265
DEPTH BELOW LAND SURFACE	90	98	50	U	20
STATIC WATER LEVEL BELOW LAND SURFACE	64'	74'	35'	15'	18'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	1-22-92	1-22-92	1-29-92	1-29-92	1-29-92
pH (SU)	7.3	7.3	7.2	6.9	UNABLE
TOTAL ACIDITY (MG/L CACO3)	45.40	62.80	26.0	17.80	TO SAMPLE
TOTAL ALKALINITY (MG/L CACO3)	169.40	256.40	157.0	57.00	
TOTAL IRON (MG/L)	1.40	0.20	0.31	0.04	
TOTAL MANGANESE (MG/L)	0.05	0.02	0.08	<0.02	
TOTAL SUSPENDED SOLIDS (MG/L)	26.0	6.0	12.0	5.0	
TOTAL HARDNESS (MG/L CACO3)	275.0	296.0	224.0	155.0	
TOTAL SULFATE (MG/L)	29.0	15.0	33.0	53.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	840	609	410	452	
NITRATES (MG/L)	1.86	2.90	6.91	10.70	

PERMITTEE'S SIGNATURE David L Barker DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B M Garrison DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-44	W-55	W-56	W-57	W-58
SURFACE ELEVATION OF MONITORING SITE	1297	1290	1290	1307	1249
DEPTH BELOW LAND SURFACE	U	79	32	138	100
STATIC WATER LEVEL BELOW LAND SURFACE	BURIED	28'	22'	BURIED	56'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	1-22-92	1-21-92	1-21-92	1-10-92	1-9-92
pH (SU)	7.4	7.3	7.0	7.2	7.4
TOTAL ACIDITY (MG/L CACO3)	71.40	47.80	86.40	21.80	22
TOTAL ALKALINITY (MG/L CACO3)	345.40	214.40	294.00	115.80	187.20
TOTAL IRON (MG/L)	0.66	0.24	1.73	0.05	0.05
TOTAL MANGANESE (MG/L)	<0.02	<0.02	0.31	<0.02	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	5.0	2.0	4.0	2.0
TOTAL HARDNESS (MG/L CACO3)	336.0	272.0	24.0	160.0	128.0
TOTAL SULFATE (MG/L)	18.0	55.0	76.0	31.0	44.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	609	462	630	347	483
NITRATES (MG/L)	1.07	2.00	7.19	1.42	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Mamian DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-59	W-60	W-61	W-62	W-79
SURFACE ELEVATION OF MONITORING SITE	1260	1272	1260	1262	1279
DEPTH BELOW LAND SURFACE	55	134	117	60	50
STATIC WATER LEVEL BELOW LAND SURFACE	33'	85'	69'	44'	BURIED
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	1-9-92	1-9-92	1-10-92	1-9-92	1-22-92
pH (SU)	7.1	7.4	7.4	7.2	7.2
TOTAL ACIDITY (MG/L CACO3)	32.60	21.80	38.80	29.00	47.00
TOTAL ALKALINITY (MG/L CACO3)	165.20	271.60	192.40	174.80	184.40
TOTAL IRON (MG/L)	0.12	1.46	0.06	0.06	0.07
TOTAL MANGANESE (MG/L)	<0.02	0.11	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	47.0	4.0	2.0	6.0
TOTAL HARDNESS (MG/L CACO3)	204.0	60.0	222.0	213.0	238.0
TOTAL SULFATE (MG/L)	49.0	39.0	44.0	25.0	44.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	483	735	504	389	462
NITRATES (MG/L)	<1.00	<1.00	1.22	1.45	3.52

PERMITTEE'S SIGNATURE David L Barton DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Marion DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-80	W-81	W-82	W-83	W-84
SURFACE ELEVATION OF MONITORING SITE	1226	1314	1238	1293	1287
DEPTH BELOW LAND SURFACE	35	66	80	208	90
STATIC WATER LEVEL BELOW LAND SURFACE	20'	31'		133'	41'
DISCHARGE (CFS/GPM)	-	-	BURIED	-	-
DATE MEASURED	1-22-92	1-10-92		1-10-92	1-10-92
pH (SU)	7.4	UNABLE	UNABLE	7.2	7.3
TOTAL ACIDITY (MG/L CACO3)	41.00	TO SAMPLE	TO SAMPLE	36.6	17.40
TOTAL ALKALINITY (MG/L CACO3)	194.40			192.20	188.60
TOTAL IRON (MG/L)	12.10			0.10	0.10
TOTAL MANGANESE (MG/L)	0.30			0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	39.0			3.0	9.0
TOTAL HARDNESS (MG/L CACO3)	236.0			248.0	26.0
TOTAL SULFATE (MG/L)	43.0			40.0	34.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	473			431	525
NITRATES (MG/L)	5.53			1.11	4.16

PERMITTEE'S SIGNATURE David L Bastock DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B C Marion DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-85	W-92	W-93	W-94	W-262
SURFACE ELEVATION OF MONITORING SITE	1293	1231	1262	1274	1290
DEPTH BELOW LAND SURFACE	53	42	109	69	UNK
STATIC WATER LEVEL BELOW LAND SURFACE	23'	17'	54'	37'	BURIED
DISCHARGE (CFS/GPM)	-	-	-	-	
DATE MEASURED	1-10-92	1-21-92	1-10-92	1-29-92	
pH (SU)	7.1	7.0	7.4	7.1	UNABLE
TOTAL ACIDITY (MG/L CACO3)	14.60	72.00	49.80	32.60	TO SAMPLE
TOTAL ALKALINITY (MG/L CACO3)	76.2	81.40	210.00	147.80	
TOTAL IRON (MG/L)	1.12	2.21	0.84	.037	
TOTAL MANGANESE (MG/L)	0.14	<0.02	0.04	0.04	
TOTAL SUSPENDED SOLIDS (MG/L)	18.0	15.0	23.0	15.0	
TOTAL HARDNESS (MG/L CACO3)	116.0	178.0	334.0	339.0	
TOTAL SULFATE (MG/L)	30.0	100.0	49.0	30.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	290	651	714	735	
NITRATES (MG/L)	2.34	1.19	4.70	4.00	

PERMITTEE'S SIGNATURE David L Bartsch DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B C Manior DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-282	W-283	SP-21	SP-23	SP-24
SURFACE ELEVATION OF MONITORING SITE	1272	1272	1164	1251	1257
DEPTH BELOW LAND SURFACE	118	102	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	63'	71'	-	-	-
DISCHARGE (CFS/GPM)	-	-	DRY	.03 GPM	.05 GPM
DATE MEASURED	1-9-92	1-9-92		1-29-92	1-29-92
pH (SU)	7.3	7.9	UNABLE	7.2	6.9
TOTAL ACIDITY (MG/L CACO3)	30.40	32.00	TO SAMPLE	68.40	15.20
TOTAL ALKALINITY (MG/L CACO3)	156.40	187.40		304.60	44.60
TOTAL IRON (MG/L)	0.36	2.27		2.04	<0.04
TOTAL MANGANESE (MG/L)	0.04	0.10		0.16	0.27
TOTAL SUSPENDED SOLIDS (MG/L)	28.0	33.0		25.0	4.0
TOTAL HARDNESS (MG/L CACO3)	200.0	216.0		778.0	267.0
TOTAL SULFATE (MG/L)	39.0	39.0		220.0	83.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	410	420		1890	714
NITRATES (MG/L)	2.61	1.24		32.80	12.40

PERMITTEE'S SIGNATURE David L Bantsch DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE BMorrison DATE 3-4-92

TOVCC 10757

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-25	SP-26	SP-29	SP-30	SP-31
SURFACE ELEVATION OF MONITORING SITE	1240	1230	1282	1266	1250
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.68 GPM	.63 GPM	DRY	.78 GPM	.09 GPM
DATE MEASURED	1-8-92	1-8-92		1-29-92	1-7-92
pH (SU)	7.0	6.9	UNABLE	7.1	7.1
TOTAL ACIDITY (MG/L CACO3)	43.20	41.20	TO SAMPLE	29.00	11.40
TOTAL ALKALINITY (MG/L CACO3)	154.80	151.00		175.60	43.00
TOTAL IRON (MG/L)	<0.04	<0.04		<0.04	0.04
TOTAL MANGANESE (MG/L)	<0.02	<0.02		0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	9.0	3.0		3.0	2.0
TOTAL HARDNESS (MG/L CACO3)	258.0	243.0		248.0	136.0
TOTAL SULFATE (MG/L)	30.0	40.0		31.0	41.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	515	473		462	280
NITRATES (MG/L)	9.12	6.04		2.91	4.18

PERMITTEE'S SIGNATURE David L Barker DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B C Mason DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-43	SP-44	SP-45	SP-52	SP-59
SURFACE ELEVATION OF MONITORING SITE	1200	1234	1201	1211	1180
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.41 GPM	.41 GPM	.73 GPM	.5 GPM	.62 GPM
DATE MEASURED	1-22-92	1-22-92	1-22-92	1-10-92	1-10-92
pH (SU)	7.1	7.4	6.7	6.9	7.3
TOTAL ACIDITY (MG/L CACO3)	22.60	46.00	40.60	23.60	39.40
TOTAL ALKALINITY (MG/L CACO3)	97.80	196.20	115.80	126.00	202.20
TOTAL IRON (MG/L)	0.06	<0.04	<0.04	0.09	0.05
TOTAL MANGANESE (MG/L)	<0.02	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	7.0	3.0	1.0	3.0	6.0
TOTAL HARDNESS (MG/L CACO3)	142.0	251.0	160.0	181.0	251.0
TOTAL SULFATE (MG/L)	35.0	43.0	49.0	29.0	40.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	320	494	347	347	525
NITRATES (MG/L)	1.14	9.53	1.42	<1.00	1.68

PERMITTEE'S SIGNATURE David L. Bartsch DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Marcum DATE 3-4-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

_X_1ST QTR. ___2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-60	SP-177	SP-224	SP-226	U-1
SURFACE ELEVATION OF MONITORING SITE	1142	1198	1250	1250	840
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.10 GPM	.50 GPM	.68 GPM	GPM	77.7 CFS
DATE MEASURED	1-22-92	1-15-92	1-22-92	2-21-92	2-12-92
pH (SU)	6.9	7.8	7.1	7.6	8.0
TOTAL ACIDITY (MG/L CACO3)	37.2	19.60	49.00	36.2	27.60
TOTAL ALKALINITY (MG/L CACO3)	145.60	126.40	187.20	180.80	140.40
TOTAL IRON (MG/L)	0.28	0.09	<0.04	0.60	0.23
TOTAL MANGANESE (MG/L)	0.05	<0.02	<0.02	0.03	0.03
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	8.0	6.0	5.0	18.0
TOTAL HARDNESS (MG/L CACO3)	194.0	164.0	218.0	203.0	233.0
TOTAL SULFATE (MG/L)	41.0	36.0	36.0	23.0	117.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	389	368	452	420	567
NITRATES (MG/L)	3.95	<1.00	3.74	6.02	7.00

PERMITTEE'S SIGNATURE David L. Bartsch DATE 3-5-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Marcum DATE 3-9-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-1	W-2	W-26	W-27	W-33
SURFACE ELEVATION OF MONITORING SITE	950	835	1279	1283	1252
DEPTH BELOW LAND SURFACE	15	U	80	90	50
STATIC WATER LEVEL BELOW LAND SURFACE	13'	27'	61'	61'	35'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	5/7/92	5/7/92	4/14/92	4/17/92	4/14/92
pH (SU)	7.1	6.7	7.4	7.3	7.5
TOTAL ACIDITY (MG/L CACO3)	24.80	33.80	51.2	42.80	34.80
TOTAL ALKALINITY (MG/L CACO3)	311.80	310.60	204.20	196.60	177.60
TOTAL IRON (MG/L)	<0.04	<0.04	0.22	3.02	0.05
TOTAL MANGANESE (MG/L)	<0.02	0.44	<0.02	0.40	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	3.0	6.0	4.0	16.0	5.0
TOTAL HARDNESS (MG/L CACO3)	368.0	409.0	268.0	282.0	197.0
TOTAL SULFATE (MG/L)	113.0	150.0	44.0	33.0	36.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	735	903	410	578	389
NITRATES (MG/L)	0.61	0.68	<1.00	1.12	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mania DATE 6-15-92

TOVCC 10761

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-34	W-43	W-44	W-51	W-52
SURFACE ELEVATION OF MONITORING SITE	1276	1265	1297	1281	1282
DEPTH BELOW LAND SURFACE	U	20	U	109	79
STATIC WATER LEVEL BELOW LAND SURFACE	16'	19'	65'	26'	38'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	4/14/92	4/14/92	4/10/92	4/21/92	4/22/92
pH (SU)	6.5	UNABLE	7.3	7.4	7.7
TOTAL ACIDITY (MG/L CACO3)	33.00	TO	40.80	40.40	36.60
TOTAL ALKALINITY (MG/L CACO3)	48.60	BAIL	238.20	210.80	213.00
TOTAL IRON (MG/L)	1.41		2.09	<0.04	<0.04
TOTAL MANGANESE (MG/L)	0.04		0.07	>0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	22.0		10.0	3.0	1.0
TOTAL HARDNESS (MG/L CACO3)	158.0		264.0	255.0	280.0
TOTAL SULFATE (MG/L)	53.0		33.0	50.0	55.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	483		452	431	452
NITRATES (MG/L)	<1.00		<1.00	<1.00	<1.00

PERMITTEE'S SIGNATURE David L Bartlett DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B M Mason DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-53	W-54	W-55	W-56	W-57
SURFACE ELEVATION OF MONITORING SITE	1292	1245	1290	1290	1307
DEPTH BELOW LAND SURFACE	85	75	79	32	138
STATIC WATER LEVEL BELOW LAND SURFACE	56'	53'	26'	22'	SEALED
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	4/22/92	4/22/92	4/14/92	4/14/92	4/8/92
pH (SU)	7.4	7.4	7.4	7.2	7.1
TOTAL ACIDITY (MG/L CACO3)	28.00	19.20	24.80	71.00	23.00
TOTAL ALKALINITY (MG/L CACO3)	182.80	170.60	193.40	244.80	151.00
TOTAL IRON (MG/L)	1.34	0.26	0.08	0.30	0.12
TOTAL MANGANESE (MG/L)	0.02	<0.02	<0.02	0.04	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	3.0	11.0	2.0	<1.0	3.0
TOTAL HARDNESS (MG/L CACO3)	240.0	190.0	240.0	320.0	184.0
TOTAL SULFATE (MG/L)	38.0	38.0	51.0	64.0	31.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	431	399	420	483	320
NITRATES (MG/L)	<1.00	<1.00	1.02	<1.00	<1.00

PERMITTEE'S SIGNATURE David L. Bartlett DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Mason DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-58	W-59	W-60	W-61	W-62
SURFACE ELEVATION OF MONITORING SITE	1249	1260	1272	1260	1262
DEPTH BELOW LAND SURFACE	100	55	134	117	60
STATIC WATER LEVEL BELOW LAND SURFACE	25'	31'	74'	67'	39'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	4/8/92	4/8/92	4/8/92	4/17/92	4/8/92
pH (SU)	7.4	7.1	7.4	7.3	7.5
TOTAL ACIDITY (MG/L CACO3)	20.00	34.40	33.60	41.40	26.20
TOTAL ALKALINITY (MG/L CACO3)	172.20	173.60	211.60	200.80	168.00
TOTAL IRON (MG/L)	0.05	0.29	0.22	<0.04	0.10
TOTAL MANGANESE (MG/L)	<0.02	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	6.0	4.0	2.0	2.0
TOTAL HARDNESS (MG/L CACO3)	175.0	217.0	249.0	252.0	195.0
TOTAL SULFATE (MG/L)	41.0	54.0	48.0	49.0	23.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	357	420	452	462	357
NITRATES (MG/L)	1.13	<1.00	<1.00	<1.00	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Mann DATE 6-5-92

TOVCC 10764

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-63	W-64	W-79	W-80	W-81
SURFACE ELEVATION OF MONITORING SITE	1251	1264	1279	1226	1314
DEPTH BELOW LAND SURFACE	24	62	50	35	66
STATIC WATER LEVEL BELOW LAND SURFACE	18'	29'	BURIED	20'	29
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	4/8/92	4/8/92	4/17/92	4/17/92	4/14/92
pH (SU)	7.0	7.3	7.2	7.4	BURIED
TOTAL ACIDITY (MG/L CACO3)	29.40	32.00	36.80	40.60	NOT
TOTAL ALKALINITY (MG/L CACO3)	173.20	183.80	193.00	192.20	IN
TOTAL IRON (MG/L)	0.57	0.07	0.16	2.41	USE
TOTAL MANGANESE (MG/L)	0.02	<0.02	0.02	0.00	
TOTAL SUSPENDED SOLIDS (MG/L)	4.0	3.0	4.0	44.0	
TOTAL HARDNESS (MG/L CACO3)	220.0	231.0	253.0	257.0	
TOTAL SULFATE (MG/L)	41.0	38.0	44.0	43.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	431	441	452	452	
NITRATES (MG/L)	<1.00	<1.00	<1.00	<1.00	

PERMITTEE'S SIGNATURE David L Barbee DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mason DATE 6-5-92

TOVCC 10765

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-82	W-83	W-84	W-85	W-92
SURFACE ELEVATION OF MONITORING SITE	1238	1293	1287	1293	1231
DEPTH BELOW LAND SURFACE	80	208	90	53	42
STATIC WATER LEVEL BELOW LAND SURFACE	SEALED	141'	21'	20'	16'
DISCHARGE (CFS/GPM)		-	-	-	-
DATE MEASURED	4/8/92	4/8/92	4/8/92	4/8/92	4/10/92
pH (SU)	7.2	7.0	7.0	6.8	6.9
TOTAL ACIDITY (MG/L CACO3)	41.20	8.00	11.60	16.60	16.40
TOTAL ALKALINITY (MG/L CACO3)	245.40	197.80	181.00	42.20	66.00
TOTAL IRON (MG/L)	0.17	0.04	0.13	0.24	0.65
TOTAL MANGANESE (MG/L)	<0.02	<0.02	<0.02	0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	1.0	2.0	1.0	15.0	4.0
TOTAL HARDNESS (MG/L CACO3)	256.0	27.0	20.0	90.0	172.0
TOTAL SULFATE (MG/L)	57.0	40.0	36.0	18.0	93.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	515	452	452	190	609
NITRATES (MG/L)	<1.00	<1.00	<1.00	<1.00	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Mania DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-93	W-94	W-96	W-97	W-261
SURFACE ELEVATION OF MONITORING SITE	1262	1274	1228	1332	1301
DEPTH BELOW LAND SURFACE	109	69	27	100	U
STATIC WATER LEVEL BELOW LAND SURFACE	53'	36'	21'	BURIED	SEALED
DISCHARGE (CFS/GPM)	-	-	-	-	NOT
DATE MEASURED	4/14/92	4/14/92	4/17/92	4/10/92	IN
pH (SU)	7.2	7.2	7.0	7.2	USE
TOTAL ACIDITY (MG/L CACO3)	56.40	51.60	49.40	33.00	OWNER REFUSES
TOTAL ALKALINITY (MG/L CACO3)	206.40	156.60	188.40	218.80	TO OPEN
TOTAL IRON (MG/L)	0.47	3.40	0.06	0.13	
TOTAL MANGANESE (MG/L)	0.03	0.43	<0.02	<0.02	
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	38.0	8.0	3.0	
TOTAL HARDNESS (MG/L CACO3)	310	354.0	371.0	260.0	
TOTAL SULFATE (MG/L)	50.0	49.0	41.0	41.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	515	651	735	525	
NITRATES (MG/L)	<1.00	<1.00	<1.00	<1.00	

PERMITTEE'S SIGNATURE David L. Bartsch DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE [signature] DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-262	W-263	W-264	W-265	W-282
SURFACE ELEVATION OF MONITORING SITE	1290	1263	1263	1265	1272
DEPTH BELOW LAND SURFACE	U	U	U	U	118
STATIC WATER LEVEL BELOW LAND SURFACE	SEALED	SEALED	SEALED	SEALED	51'
DISCHARGE (CFS/GPM)	NOT	NOT	NOT	NOT	-
DATE MEASURED	IN	IN	IN	IN	4/8/92
pH (SU)	USE	USE	USE	USE	7.3
TOTAL ACIDITY (MG/L CACO3)	OWNER REFUSES	OWNER REFUSES	OWNER REFUSES	OWNER REFUSES	24.20
TOTAL ALKALINITY (MG/L CACO3)	TO OPEN	TO OPEN	TO OPEN	TO OPEN	160.80
TOTAL IRON (MG/L)					0.21
TOTAL MANGANESE (MG/L)					<0.02
TOTAL SUSPENDED SOLIDS (MG/L)					8.0
TOTAL HARDNESS (MG/L CACO3)					204.0
TOTAL SULFATE (MG/L)					43.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)					358
NITRATES (MG/L)					<1.00

PERMITTEE'S SIGNATURE David L Bartlett DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B C Mannion DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-283	SP-23	SP-24	SP-30	SP-31
SURFACE ELEVATION OF MONITORING SITE	1272	1251	1257	1266	1250
DEPTH BELOW LAND SURFACE	102	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	64'	-	-	-	-
DISCHARGE (CFS/GPM)	-	DRY	DRY	.65 GPM	DRY
DATE MEASURED	4/8/92	4/14/92	4/14/92	4/17/92	4/14/92
pH (SU)	7.5			7.3	
TOTAL ACIDITY (MG/L CACO3)	25.40			20.20	
TOTAL ALKALINITY (MG/L CACO3)	169.80			204.80	
TOTAL IRON (MG/L)	0.66			0.06	
TOTAL MANGANESE (MG/L)	0.05			0.02	
TOTAL SUSPENDED SOLIDS (MG/L)	10.0			2.0	
TOTAL HARDNESS (MG/L CACO3)	204.0			244.0	
TOTAL SULFATE (MG/L)	40.0			26.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	368			452	
NITRATES (MG/L)	<1.00			<1.00	

PERMITTEE'S SIGNATURE David L Bartsch DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mannion DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
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PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-37	SP-38	SP-39	SP-43	SP-44
SURFACE ELEVATION OF MONITORING SITE	1241	1210	1135	1200	1234
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.39GPM	.44 GPM	.31 GPM	.37 GPM	.93 GPM
DATE MEASURED	4/22/92	4/22/92	4/22/92	4/14/92	4/17/92
pH (SU)	6.6	7.5	7.4	7.1	7.3
TOTAL ACIDITY (MG/L CACO3)	14.00	26.00	24.00	18.40	41.60
TOTAL ALKALINITY (MG/L CACO3)	58.60	160.00	159.60	92.40	188.40
TOTAL IRON (MG/L)	1.35	0.08	0.04	0.06	0.06
TOTAL MANGANESE (MG/L)	0.26	0.02	<0.02	0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	33.0	9.0	2.0	6.0	4.0
TOTAL HARDNESS (MG/L CACO3)	91.0	190.0	184.0	127.0	240.0
TOTAL SULFATE (MG/L)	29.0	30.0	19.0	38.0	36.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	220	320	320	260	431
NITRATES (MG/L)	2.66	1.54	<1.00	1.65	<1.00

PERMITTEE'S SIGNATURE David L Bartlett DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B L Maniar DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
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MONITORING SITE IDENTIFICATION NUMBER	SP-45	SP-52	SP-54	SP-168	SP-169
SURFACE ELEVATION OF MONITORING SITE	1201	1211	1212	1225	1199
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	1.07 GPM	.68 GPM	.54 GPM	.44 GPM	7.4 GPM
DATE MEASURED	4/10/92	4/14/92	4/17/92	4/9/92	4/9/92
pH (SU)	6.7	7.0	7.0	7.2	7.3
TOTAL ACIDITY (MG/L CACO3)	25.40	37.40	52.40	32.20	30.00
TOTAL ALKALINITY (MG/L CACO3)	118.80	142.20	189.60	169.60	177.20
TOTAL IRON (MG/L)	4.00	0.06	0.24	<0.04	0.15
TOTAL MANGANESE (MG/L)	0.10	<0.02	<0.02	<0.02	0.03
TOTAL SUSPENDED SOLIDS (MG/L)	1.0	3.0	10.0	5.0	17.0
TOTAL HARDNESS (MG/L CACO3)	163.0	163.0	388.0	266.0	240.0
TOTAL SULFATE (MG/L)	40.0	34.0	44.0	34.0	34.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	280	290	798	473	462
NITRATES (MG/L)	1.12	1.82	<1.00	<1.00	<1.00

PERMITTEE'S SIGNATURE David L Barker DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Cameron DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-170	SP-171	SP-173	SP-174	SP-175
SURFACE ELEVATION OF MONITORING SITE	1190	1175	1250	1210	1209
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.12 GPM	.22 GPM	1.71 GPM	5.0 GPM	.23 GPM
DATE MEASURED	4/9/92	4/9/92	4/9/92	4/9/92	4/9/92
pH (SU)	6.9	7.4	6.8	7.3	7.5
TOTAL ACIDITY (MG/L CACO3)	22.00	11.60	17.60	28.00	36.20
TOTAL ALKALINITY (MG/L CACO3)	120.80	80.00	79.00	177.40	166.60
TOTAL IRON (MG/L)	0.50	<0.04	0.14	<0.04	1.47
TOTAL MANGANESE (MG/L)	0.09	<0.02	<0.02	<0.02	0.94
TOTAL SUSPENDED SOLIDS (MG/L)	33.0	2.0	30.0	2.0	37.0
TOTAL HARDNESS (MG/L CACO3)	144.0	96.0	126.0	190.0	304.0
TOTAL SULFATE (MG/L)	33.0	23.0	36.0	25.0	43.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	280	220	230	347	630
NITRATES (MG/L)	<1.00	1.11	<1.00	<1.00	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Marcum DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
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___1ST QTR. _X_2ND QTR. ___3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-176	SP-177	SP-198	SP-215	SP-216
SURFACE ELEVATION OF MONITORING SITE	1197	1198	1195	1267	1200
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	1.66 GPM	1.07 GPM	1.5 GPM	REFUSED	1.11 GPM
DATE MEASURED	4/9/92	4/9/92	4/9/92	TO	4/14/92
pH (SU)	7.2	7.3	6.8	ALLOW	6.9
TOTAL ACIDITY (MG/L CACO3)	31.00	29.00	32.40	SAMPLING	15.60
TOTAL ALKALINITY (MG/L CACO3)	152.80	168.40	140.80		70.20
TOTAL IRON (MG/L)	0.05	1.16	<0.04		0.52
TOTAL MANGANESE (MG/L)	0.02	0.17	<0.02		0.05
TOTAL SUSPENDED SOLIDS (MG/L)	6.0	2.0	4.0		37.0
TOTAL HARDNESS (MG/L CACO3)	261.0	296.0	195.0		128.0
TOTAL SULFATE (MG/L)	33.0	37.0	30.0		30.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	525	609	378		200
NITRATES (MG/L)	<1.00	<1.00	1.40		2.50

PERMITTEE'S SIGNATURE David L Barton DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Means DATE 6-15-92

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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-220	SP-221	SP-224	SP-226	U-1
SURFACE ELEVATION OF MONITORING SITE	1200	1250	1250	1250	840
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	1.36 GPM	.62 GPM	1.11 GPM	1.5 GPM	41,676 CFS
DATE MEASURED	4/9/92	4/21/92	4/14/92	4/8/92	5/7/92
pH (SU)	7.4	7.2	7.3	7.7	8.0
TOTAL ACIDITY (MG/L CACO3)	16.40	34.40	2.00	25.40	3.40
TOTAL ALKALINITY (MG/L CACO3)	97.00	157.80	169.80	189.60	128.60
TOTAL IRON (MG/L)	0.08	9.80	0.04	0.08	0.05
TOTAL MANGANESE (MG/L)	<0.02	0.45	<0.02	0.02	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	24.0	90.0	2.0	2.0	7.0
TOTAL HARDNESS (MG/L CACO3)	140.0	215.0	220.0	220.0	182.0
TOTAL SULFATE (MG/L)	40.0	36.0	35.0	37.0	72.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	270	320	389	410	462
NITRATES (MG/L)	1.71	1.38	<1.00	1.15	<0.05

PERMITTEE'S SIGNATURE David L Bartee DATE 6-8-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Romine DATE 6-15-92

OHIO DEPARTMENT OF NATURAL RESOURCES
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___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-1	W-2	W-33	W-34	W-43
SURFACE ELEVATION OF MONITORING SITE	950	835	1252	1276	1265
DEPTH BELOW LAND SURFACE	15	U	50	U	20
STATIC WATER LEVEL BELOW LAND SURFACE	14'	34'	39'	22'	DRY
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	8/26/92	8/28/92'	7/10/92	7/10/92	7/10/92
pH (SU)	6.9	7.30	7.6	7.1	DRY
TOTAL ACIDITY (MG/L CACO3)	37.00	19.80	20.20	13.20	FOR ENTIRE
TOTAL ALKALINITY (MG/L CACO3)	304.40	210.20	150.00	81.60	PERIOD
TOTAL IRON (MG/L)	0.89	1.54	0.10	0.05	
TOTAL MANGANESE (MG/L)	0.05	0.09	0.04	<0.02	
TOTAL SUSPENDED SOLIDS (MG/L)	17.0	18.00	11.0	8.0	
TOTAL HARDNESS (MG/L CACO3)	842.0	272.0	192.0	180.0	
TOTAL SULFATE (MG/L)	440.0	46.00	32.0	56.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	1470	525.00	420	630	
NITRATES (MG/L)	0.55	0.54	4.37	10.00	

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-44	W-51	W-52	W-53	W-54
SURFACE ELEVATION OF MONITORING SITE	1297	1281	1282	1292	1245
DEPTH BELOW LAND SURFACE	U	109	79	85	75
STATIC WATER LEVEL BELOW LAND SURFACE	67'	29'	36'	57'	61'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	7/28/92	7/28/92	7/28/92	7/28/92	7/9/92
pH (SU)	7.6	7.5	7.7	7.6	7.6
TOTAL ACIDITY (MG/L CACO3)	18.00	17.20	20.80	16.60	16.40
TOTAL ALKALINITY (MG/L CACO3)	261.00	220.40	203.60	198.20	240.00
TOTAL IRON (MG/L)	1.88	0.15	0.04	0.05	<0.04
TOTAL MANGANESE (MG/L)	0.02	<0.02	<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	12.0	4.0	1.0	2.0	2.0
TOTAL HARDNESS (MG/L CACO3)	240.0	266.0	254.0	250.0	144.0
TOTAL SULFATE (MG/L)	34.0	62.0	56.0	50.0	34.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	651	630	546	557	504
NITRATES (MG/L)	<0.50	0.62	0.73	1.08	<1.0

PERMITTEE'S SIGNATURE David L. Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

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OHIO DEPARTMENT OF NATURAL RESOURCES
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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-55	W-56	W-57	W-58	W-59
SURFACE ELEVATION OF MONITORING SITE	1290	1290	1307	1249	1260
DEPTH BELOW LAND SURFACE	79	32	138	100	55
STATIC WATER LEVEL BELOW LAND SURFACE	32'	23'	90'	84'	34'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	7/9/92	7/9/92	7/2/92	7/3/92	7/3/92
pH (SU)	7.4	7.1	7.8	7.8	7.3
TOTAL ACIDITY (MG/L CACO3)	21.80	52.30	0.00	0.00	15.20
TOTAL ALKALINITY (MG/L CACO3)	207.00	266.40	197.40	248.0	219.00
TOTAL IRON (MG/L)	0.07	0.17	0.07	0.08	1.82
TOTAL MANGANESE (MG/L)	<0.02	0.10	<0.02	<0.02	0.12
TOTAL SUSPENDED SOLIDS (MG/L)	<1.0	2.0	<1.0	<1.0	18.0
TOTAL HARDNESS (MG/L CACO3)	238.0	344.0	80.0	72.C	184.0
TOTAL SULFATE (MG/L)	35.0	45.0	36.0	49.0	51.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	504	756	441	546	557
NITRATES (MG/L)	<1.00	3.87	<1.0	<1.00	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-60	W-61	W-62	W-63	W-64
SURFACE ELEVATION OF MONITORING SITE	1272	1260	1262	1251	1264
DEPTH BELOW LAND SURFACE	134	117	60	24	62
STATIC WATER LEVEL BELOW LAND SURFACE	86'	72'	46'	21'	35'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	7/3/92	7/3/92	7/3/92	7/3/92	7/3/92
pH (SU)	7.9	7.6	7.4	7.4	7.3
TOTAL ACIDITY (MG/L CACO3)	0.0	15.80	15.80	20.60	16.60
TOTAL ALKALINITY (MG/L CACO3)	284.80	205.80	140.20	174.20	198.80
TOTAL IRON (MG/L)	0.05	0.08	0.08	0.08	<0.04
TOTAL MANGANESE (MG/L)	<0.02	<0.02	<0.02	0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	1.0	5.0	7.0	10.0	2.0
TOTAL HARDNESS (MG/L CACO3)	40.0	196.0	160.0	220.0	208.0
TOTAL SULFATE (MG/L)	36.0	48.0	20.0	38.0	34.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	630	515	378	504	546
NITRATES (MG/L)	<1.00	<1.00	<1.00	6.20	7.63

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

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MONITORING SITE IDENTIFICATION NUMBER	W-65	W-66	W-67	W-68	W-79
SURFACE ELEVATION OF MONITORING SITE	1250	1193	1193	1202	1279
DEPTH BELOW LAND SURFACE	114	38	59	38	50
STATIC WATER LEVEL BELOW LAND SURFACE	99'	SEALED'	36'	22'	BURIED
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	9/18/92	9/18/92	9/18/92	9/18/92	7/1/92
pH (SU)	7.8	7.3	7.1	6.8	DRY
TOTAL ACIDITY (MG/L CACO3)	13.0	20.00	15.80	41.00	FOR ENTIRE
TOTAL ALKALINITY (MG/L CACO3)	186.20	221.40	159.40	202.40	PERIOD
TOTAL IRON (MG/L)	<0.04	0.10	0.21	0.77	
TOTAL MANGANESE (MG/L)	.03	0.02	<0.02	0.08	
TOTAL SUSPENDED SOLIDS (MG/L)	2.0	<1.0	<1.0	15.0	
TOTAL HARDNESS (MG/L CACO3)	211.0	284	188.0	344.0	
TOTAL SULFATE (MG/L)	38.0	63.0	36.0	41.0	
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	441	546	420	756	
NITRATES (MG/L)	2.41	1.36	2.78	25.0	

PERMITTEE'S SIGNATURE David L Bartsch DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

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___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-80	W-81	W-82	W-83	W-84
SURFACE ELEVATION OF MONITORING SITE	1226	1314	1238	1293	1287
DEPTH BELOW LAND SURFACE	35	66	80	208	90
STATIC WATER LEVEL BELOW LAND SURFACE	DRY	73'	14'	150'	19'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	7/1/92	7/1/92	7/28/92	29	7/29/92
pH (SU)	DRY	UNABLE	7.6	7.7	7.4
TOTAL ACIDITY (MG/L CACO3)	FOR ENTIRE	TO SAMPLE (BURIED)	24.20	35.40	38.80
TOTAL ALKALINITY (MG/L CACO3)	PERIOD		222.20	226.20	156.0
TOTAL IRON (MG/L)			0.10	0.05	0.14
TOTAL MANGANESE (MG/L)			<0.02	<0.02	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)			4.0	2.0	5.0
TOTAL HARDNESS (MG/L CACO3)			284.0	104.0	220.0
TOTAL SULFATE (MG/L)			26.0	40.0	39.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)			557	567	452
NITRATES (MG/L)			<0.05	0.92	4.61

PERMITTEE'S SIGNATURE Daniel L Bartsch DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

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___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-85	W-86	W-92	W-93	W-94
SURFACE ELEVATION OF MONITORING SITE	1293	1315	1231	1262	1274
DEPTH BELOW LAND SURFACE	53	50	42	109	69
STATIC WATER LEVEL BELOW LAND SURFACE	22'		23'	69'	41'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	7/29/92		7/29/92	7/28/92	7/29/92
pH (SU)	6.7		7.4	7.5	7.3
TOTAL ACIDITY (MG/L CACO3)	24.00		32.20	18.00	52
TOTAL ALKALINITY (MG/L CACO3)	54.00		100.20	194.20	143.40
TOTAL IRON (MG/L)	0.16		2.85	0.55	0.04
TOTAL MANGANESE (MG/L)	<0.02		0.02	0.03	0.09
TOTAL SUSPENDED SOLIDS (MG/L)	9.0		28.0	17.0	23.0
TOTAL HARDNESS (MG/L CACO3)	116.0		250.0	304.0	332.0
TOTAL SULFATE (MG/L)	31.0		70.0	39.0	45.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	250		651	777	840
NITRATES (MG/L)	5.90		0.68	<0.50	2.07

PERMITTEE'S SIGNATURE David L Bartsch DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-96	W-97	W-261	W-262	W-263
SURFACE ELEVATION OF MONITORING SITE	1228	1332	1301	1290	1263
DEPTH BELOW LAND SURFACE	27	100	U	U	U
STATIC WATER LEVEL BELOW LAND SURFACE	23'	BURIED	BURIED	BURIED	BURIED
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	7/29/92	7/28/92	BURIED	BURIED	BURIED
pH (SU)	7.3	7.6	FOR	FOR	FOR
TOTAL ACIDITY (MG/L CACO3)	50.20	18.60	ENTIRE PERIOD	ENTIRE PERIOD	ENTIRE PERIOD
TOTAL ALKALINITY (MG/L CACO3)	175.00	221.00			
TOTAL IRON (MG/L)	0.15	0.09			
TOTAL MANGANESE (MG/L)	0.02	<0.02			
TOTAL SUSPENDED SOLIDS (MG/L)	9.0	2.0			
TOTAL HARDNESS (MG/L CACO3)	387.0	254.0			
TOTAL SULFATE (MG/L)	49.0	54.0			
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	987	567			
NITRATES (MG/L)	0.92	<0.05			

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-264	W-265	W-280	W-282	W-283
SURFACE ELEVATION OF MONITORING SITE	1263	1265	1314	1272	1272
DEPTH BELOW LAND SURFACE	U	U	U	118	102
STATIC WATER LEVEL BELOW LAND SURFACE	BURIED	BURIED		69'	74'
DISCHARGE (CFS/GPM)	-	-	-	-	-
DATE MEASURED	BURIED	BURIED	BURIED	7/3/92	7/3/92
pH (SU)	FOR	FOR	FOR	7.7	7.6
TOTAL ACIDITY (MG/L CACO3)	ENTIRE PERIOD	ENTIRE PERIOD	ENTIRE PERIOD	13.60	15.40
TOTAL ALKALINITY (MG/L CACO3)				154.60	191.80
TOTAL IRON (MG/L)				0.29	0.44
TOTAL MANGANESE (MG/L)				0.03	0.02
TOTAL SUSPENDED SOLIDS (MG/L)				7.0	15.0
TOTAL HARDNESS (MG/L CACO3)				199.0	212.0
TOTAL SULFATE (MG/L)				40.0	41.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)				452	473
NITRATES (MG/L)				3.54	1.52

PERMITTEE'S SIGNATURE Daniel L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-23	SP-24	SP-25	SP-26	SP-31
SURFACE ELEVATION OF MONITORING SITE	1251	1257	1240	1230	1250
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	DRY	DRY	.187 GPM	0.20 GPM	0.025 GPM
DATE MEASURED	FOR	FOR	7/10/92	7/10/92	7/10/92
pH (SU)	ENTIRE	ENTIRE	7.2	7.4	6.2
TOTAL ACIDITY (MG/L CACO3)	PERIOD	PERIOD	33.20	19.80	11.40
TOTAL ALKALINITY (MG/L CACO3)			228.80	185.90	38.40
TOTAL IRON (MG/L)			0.08	0.09	0.05
TOTAL MANGANESE (MG/L)			0.02	<0.02	0.03
TOTAL SUSPENDED SOLIDS (MG/L)			6.0	10.0	2.0
TOTAL HARDNESS (MG/L CACO3)			240.0	248.0	100.0
TOTAL SULFATE (MG/L)			13.0	18.0	50.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)			630	525	300
NITRATES (MG/L)			1.20	8.50	<1.00

PERMITTEE'S SIGNATURE David L Bartsch DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-37	SP-38	SP-39	SP-40	SP-43
SURFACE ELEVATION OF MONITORING SITE	1241	1210	1135	1150	1200
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	0.83 GPM	0.25 GPM	.0002 GPM	.326 GPM	.14 GPM
DATE MEASURED	7/28/92	7/28/92	8/18/92	9/18/92	7/1/92
pH (SU)	6.3	7.6	7.3	7.3	7.7
TOTAL ACIDITY (MG/L CACO3)	35.0	12.60	15.60	16.20	11.20
TOTAL ALKALINITY (MG/L CACO3)	75.60	156.60	169.60	185.00	195.80
TOTAL IRON (MG/L)	0.12	0.08	347	0.48	0.09
TOTAL MANGANESE (MG/L)	0.02	<0.02	<0.02	0.14	0.02
TOTAL SUSPENDED SOLIDS (MG/L)	15.0	6.0	24.0	8.0	6.0
TOTAL HARDNESS (MG/L CACO3)	120.0	192.0	0.05	208.0	193.0
TOTAL SULFATE (MG/L)	34.0	26.0	10.0	32	29.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	250	320	197.0	410	504
NITRATES (MG/L)	<0.50	<0.50	<1.00	0.70	<1.00

PERMITTEE'S SIGNATURE David L Barbour DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE _____ DATE _____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-44	SP-45	SP-46	SP-47	SP-52
SURFACE ELEVATION OF MONITORING SITE	1234	1201	1188	1220	1211
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	DRY	DRY			.625 GPM
DATE MEASURED	FOR	FOR			7/28/92
pH (SU)	ENTIRE	ENTIRE			6.9
TOTAL ACIDITY (MG/L CACO3)	PERIOD	PERIOD			26.40
TOTAL ALKALINITY (MG/L CACO3)					157.80
TOTAL IRON (MG/L)					0.08
TOTAL MANGANESE (MG/L)					<0.02
TOTAL SUSPENDED SOLIDS (MG/L)					3.0
TOTAL HARDNESS (MG/L CACO3)					188.0
TOTAL SULFATE (MG/L)					30.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)					420
NITRATES (MG/L)					<0.05

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-54	SP-168	SP-169	SP-170	SP-171
SURFACE ELEVATION OF MONITORING SITE	1212	1225	1199	1190	1175
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.68 GPM	.03 GPM	1.61 GPM	DRY	.013 GPM
DATE MEASURED	7/29/92	7/15/92	7/15/92	FOR	7/15/92
pH (SU)	7.9	7.8	7.2	ENTIRE	6.9
TOTAL ACIDITY (MG/L CACO3)	51.40	35.20	50.40	PERIOD	22.20
TOTAL ALKALINITY (MG/L CACO3)	175.60	198.20	206.0		133.20
TOTAL IRON (MG/L)	0.10	0.05	0.04		0.84
TOTAL MANGANESE (MG/L)	<0.02	<0.02	0.02		0.02
TOTAL SUSPENDED SOLIDS (MG/L)	17.0	2.0	3.0		27.0
TOTAL HARDNESS (MG/L CACO3)	374.0	276.0	272.0		132.0
TOTAL SULFATE (MG/L)	51.0	45.0	44.0		21.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	840	588	588		270
NITRATES (MG/L)	0.78	0.73	0.72		<0.50

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-173	SP-174	SP-175	SP-176	SP-177
SURFACE ELEVATION OF MONITORING SITE	1250	1210	1209	1197	1198
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.3 GPM	.17 GPM	.129 GPM	.576 GPM	.072 GPM
DATE MEASURED	7/15/92	7/15/92	7/15/92	7/15/92	7/15/92
pH (SU)	7.6	7.4	7.7	7.6	7.7
TOTAL ACIDITY (MG/L CACO3)	20.60	40.80	47.0	31.80	31.00
TOTAL ALKALINITY (MG/L CACO3)	112.00	20.0	208.80	201.00	187.60
TOTAL IRON (MG/L)	0.25	0.04	0.54	0.09	0.61
TOTAL MANGANESE (MG/L)	<0.02	<0.02	0.26	0.04	0.06
TOTAL SUSPENDED SOLIDS (MG/L)	5.0	2.0	17.0	2.0	23.0
TOTAL HARDNESS (MG/L CACO3)	155.0	200.0	372.0	304.0	284.0
TOTAL SULFATE (MG/L)	36.0	22.0	40.0	41.0	36.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	368	420	882	682	672
NITRATES (MG/L)	1.12	0.50	0.98	0.60	<0.50

PERMITTEE'S SIGNATURE David L Bartsch DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-198	SP-215	SP-216	SP-220	SP-221
SURFACE ELEVATION OF MONITORING SITE	1195	1267	1200	1200	1250
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.5 GPM	REFUSED	.047 GPM	.187 GPM	.187 GPM
DATE MEASURED	7/15/92	TO	7/9/92	7/15/92	7/9/92
pH (SU)	7.4	ALLOW	6.9	7.7	7.4
TOTAL ACIDITY (MG/L CACO3)	31.80	SAMPLING	11.80	25.40	26.00
TOTAL ALKALINITY (MG/L CACO3)	193.80		108.40	196.80	182.40
TOTAL IRON (MG/L)	0.10		0.10	0.29	0.34
TOTAL MANGANESE (MG/L)	0.02		0.06	0.11	<0.02
TOTAL SUSPENDED SOLIDS (MG/L)	1.0		8.0	29.0	11.1
TOTAL HARDNESS (MG/L CACO3)	240.0		128.0	201.0	232.0
TOTAL SULFATE (MG/L)	37.0		20.0	10.0	25.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	504		260	430	473
NITRATES (MG/L)	<0.50		<1.00	<0.50	<1.0

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

TOVCC 10789

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. _X_3RD QTR. ___4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	SP-224	SP-226	U-1	D-1	D-2
SURFACE ELEVATION OF MONITORING SITE	1250	1250	840	800	835
DEPTH BELOW LAND SURFACE	-	-	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	-	-	-	-	-
DISCHARGE (CFS/GPM)	.004 GPM	.144 GPM	19.5 CFS	3.3 CFS	.052 CFS
DATE MEASURED	7/1/92	7/3/92	8/26/92	8/26/92	8/28/92
pH (SU)	8.3	7.7	7.6	7.7	7.8
TOTAL ACIDITY (MG/L CACO3)	10.40	17.00	9.4	11.40	16.20
TOTAL ALKALINITY (MG/L CACO3)	151.20	208.00	136.00	136.00	216.60
TOTAL IRON (MG/L)	0.22	0.05	0.12	0.24	0.27
TOTAL MANGANESE (MG/L)	0.02	0.03	0.06	0.12	0.18
TOTAL SUSPENDED SOLIDS (MG/L)	7.0	9.0	5.0	11.0	14.0
TOTAL HARDNESS (MG/L CACO3)	175.0	216.0	230.0	213.0	529.0
TOTAL SULFATE (MG/L)	33.0	24.0	68.0	74.0	230.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	378	473	525	515	1029
NITRATES (MG/L)	<1.00	<1.00	0.92	0.60	0.80

PERMITTEE'S SIGNATURE David L Bartlett DATE 9-29-92

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE_____DATE_____

TOVCC 10790

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - ~~2ND~~ 1ST QTR, 1996

JANUARY									
PANEL BEING MINED		17 EAST	18 EAST	17 EAST	18 EAST	17 EAST	18 EAST	17 EAST	18 EAST
DATE MEAS.	====>		01/05/96		01/11/96		01/19/96		01/26/96
LW PLUS	====>	3410	9410	2952	9410	2308	9410	1968	9410
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-090	4755	0 GPM	-1345	0 GPM	-1803	U	-2447	U	-2787
SP-091	5225	0 GPM	-1815	0 GPM	-2273	U	-2917	U	-3257
W-208	8715	7 FT.	695	9 FT.	695	8 FT.	695	6 FT.	695
W-209	8540	15 FT.	870	17 FT.	870	13 FT.	870	9 FT.	870
W-189	6560	U	2850	U	2850	U	2850	U	2850

FEBRUARY									
PANEL BEING MINED		18 EAST		18 EAST		18 EAST		18 EAST	
DATE MEAS.	====>	02/06/96		02/14/96		02/23/96		02/28/96	
LW PLUS	====>	9251		8540		7955		7354	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-090	4755	U	-2787	U	-2787	U	-2787	U	-2787
SP-091	5225	U	-3257	U	-3257	U	-3257	U	-3257
W-208	8715	9 FT.	536	DRY	-175	DRY	-760	DRY	-1361
W-209	8540	10 FT.	711	11 FT.	0	DRY	-585	22 FT.	-1186
W-189	6560	U	2691	3 FT.	1980	3'	1395	3 FT.	794

MARCH									
PANEL BEING MINED		18 EAST		18 EAST		18 EAST		18 EAST	
DATE MEAS.	====>	03/05/96		03/12/96		03/21/96		03/28/96	
LW PLUS	====>	6883		6482		5680		4985	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-090	4755	U	-2787	U	-2787	U	-2787	U	-2787
SP-091	5225	U	-3257	U	-3257	U	-3257	U	-3257
W-188	4070	U	2813	10'	2412	9'	1610	9'	915
W-208	8715	DRY	-1832		-2233	U	-3035	U	-3730
W-209	8540	DRY	-1657	DRY	-2058	U	-2860	U	-3555
W-189	6560	3'	323	3'	-78	2'	-880	2'	-1575

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING

SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS (W-#)

FLOW = MEASURED IN GPM FOR SPRINGS (SP-#)

POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE

LONGWALL PLUS IS RECORDED DAILY

N/A = SPRING CANNOT BE SAMPLED

TOVCC 10791

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360
WEEKLY MONITORING REPORT - 2ND QTR, 1996

APRIL									
PANEL BEING MINED		18 EAST		18 EAST		17 EAST	18 EAST	18 EAST	
DATE MEAS.	===>	04/03/96		04/11/96		04/17/96		04/26/96	
LW PLUS	===>	4497		3864		3346		2454	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-079	2500	0.6 GPM	1997	0.38 GPM	1364	0.65 GPM	846	0.47 GPM	-46
SP-083	2490	0.46 GPM	2007	0.03 GPM	1374	0.46 GPM	856	0.20 GPM	-36
SP-199	3160	1.48 GPM	1337	0.81 GPM	704	1.06 GPM	186	1.36 GPM	-706
W-184	2400	8 FT	2097	9 FT	1464	8 FT	946	13 FT	54
W-185	2655	NM	1842	NM	1209	NM	691	NM	-201
W-188	4050	10 FT	447	20 FT	-186	6 FT	-704	6 FT	-1596
SP-261	4580	0.21 GPM	-83	0.02 GPM	-716	0.01 GPM	-1234	0.25 GPM	-2126
W-186	1630	U	2867	9 FT	2234	9 FT	1716	9 FT	824
W-187	1620	U	2877	4 FT	2244	3 FT	1726	3 FT	834
SP-086	2020	U	2477	3.3 GPM	1844	3.29 GPM	1326	3.32 GPM	434
SP-079A	2500	U	1997	0.82 GPM	1364	0.65 GPM	846	0.47 GPM	-46

MAY											
PANEL BEING MINED		19 EAST	18 EAST	19 EAST	18 EAST	19 EAST	18 EAST	19 EAST	18 EAST	19 EAST	18 EAST
DATE MEAS.	===>	05/01/96		05/07/96		05/14/96		05/21/96		05/29/96	
LW PLUS	===>	9520	2009	9520	1479	9520	778	9520	629	9418	629
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-078	210	7.32 GPM	1799	9.55 GPM	1269	9.62 GPM	568	9.15 GPM	419	5.05 GPM	419
SP-083	2490	0.39 GPM	-481	0.23 GPM	-1011	0.06 GPM	-1712	U	-1861	U	-1861
SP-199	3160	0.65 GPM	-1151	1.91 GPM	-1681	U	-2382	U	-2531	U	-2531
SP-79A	2500	5.30 GPM	-491	1.24 GPM	-1021	1.56 GPM	-1722	U	-1871	U	-1871
W-184	2400	17 FT	-391	16 FT	-921	U	-1622	U	-1771	U	-1771
W-186	1630	10 FT	379	13 FT	-151	17 FT	-852	13 FT	-1001	12 FT	-1001
SP-162	10030	2.21 GPM	-510	3.30 GPM	-510	3.28 GPM	-510	3.39 GPM	-510	1.87 GPM	-612
SP-079	2500	1.46 GPM	-491	0.84 GPM	-1021	0.56 GPM	-1722	U	-1871	U	-1871
SP-086	2020	3.27 GPM	-11	3.08 GPM	-541	3.04 GPM	-1242	3.75 GPM	-1391	U	-1391
SP-261	4580	0.09 GPM	-2571	U	-3101	U	-3802	U	-3951	U	-3951
W-217	10140	3 FT	-620	3 FT	-620	4 FT	-620	4 FT	-620	5 FT	-722
W-185	2655	NM	-646	NM	-1176	U	-1877	U	-2026	U	-2026
W-187	1620	2 FT	389	2 FT	-141	4 FT	-842	3 FT	-991	6 FT	-991

JUNE									
PANEL BEING MINED		18 EAST	19 EAST	18 EAST	19 EAST	18 EAST	19 EAST	18 EAST	19 EAST
DATE MEAS.	===>	06/04/96		06/12/96		06/18/96		06/25/96	
LW PLUS	===>	629	8981	629	8266	629	7723	629	7047
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-078	210	3.92 GPM	419	U	419	U	419	U	419
SP-162	10030	1.52 GPM	-1049	1.53 GPM	-1764	1.01 GPM	-2307	U	-2983
W-217	10140	5 FT	-1159	5 FT	-1874	U	-2417	U	-3093

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING
SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS (W-0)
FLOW = MEASURED IN GPM FOR SPRINGS (SP-0)
POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE
LONGWALL PLUS IS RECORDED DAILY
N/A = SPRING CANNOT BE SAMPLED NM = WELL CANNOT BE MEASURED

TOVCC 10792

FOR OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT O-0360

WEEKLY MONITORING REPORT - 3RD QTR, 1996

JULY											
PANEL BEING MINED		20 EAST	19 EAST	20 EAST	19 EAST	20 EAST	19 EAST	20 EAST	19 EAST	20 EAST	19 EAST
DATE MEAS.	====>		07/03/96		07/09/96		07/16/96		07/26/96		07/31/96
LW PLUS	====>	9450	6612	9450	5809	9450	5226	9450	4573	9450	4573
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-079	2500	U	3912	U	3309	U	2726	0.30 GPM	2073	0.26 GPM	2073
SP-079A	2500	U	3912	U	3309	U	2726	0.40 GPM	2073	0.30 GPM	2073
SP-078	210	U	6202	U	5599	U	5016	U	4363	U	4363
SP-083	2490	U	3922	U	3319	U	2736	U	2083	0 GPM	2083
SP-086	2020	U	4392	U	3789	U	3206	U	2553	2.30 GPM	2553
SP-199	3160	U	3252	U	2649	0.29 GPM	2066	0.25 GPM	1413	0.27 GPM	1413
SP-162	10030	U	-580	U	-580	U	-580	U	-580	U	-500
W-183	2700	U	3712	U	3109	U	2526	11 FT	1873	11 FT	1873
W-184	2400	U	4012	U	3409	U	2826	16 FT	2173	16 FT	2173
W-185	2655	U	3757	U	3154	U	2571	U	1918	U	1910
W-186	1630	U	4782	U	4179	U	3596	U	2943	U	2943
W-187	1620	U	4792	U	4189	U	3606	U	2953	U	2953
W-191	5425	U	987	44 FT	384	58 FT	-199	66 FT	-852	53 FT	-852
W-192	5280	26 FT	1132	26 FT	529	28 FT	-54	DRY	-707	DRY	-707
W-210	8250	U	1200	U	1200	U	1200	U	1200	U	1200

AUGUST									
PANEL BEING MINED		20 EAST	19 EAST	20 EAST	19 EAST	20 EAST	19 EAST	20 EAST	19 EAST
DATE MEAS.	====>		08/07/96		08/15/96		08/21/96		08/28/96
LW PLUS	====>	9450	3612	9450	2706	9450	2274	9450	1659
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-079	2500	0.09 GPM	912	0.05 GPM	206	0.82 GPM	-226	0.71 GPM	-841
SP-079A	2500	0.32 GPM	912	0.31 GPM	206	0 GPM	-226	0.20 GPM	-841
SP-078	210	U	3202	0.46 GPM	2496	0.49 GPM	2064	0.38 GPM	1649
SP-083	2490	0 GPM	922	0 GPM	216	0 GPM	-216	0 GPM	-831
SP-086	2020	2.96 GPM	1392	2.93 GPM	686	2.93 GPM	254	2.85 GPM	-361
SP-199	3160	0.18 GPM	252	0 GPM	-454	0 GPM	-886	0 GPM	-1501
SP-162	10030	U	-580	U	-580	0.27 GPM	-580	0.26 GPM	-580
W-183	2700	13 FT	712	31 FT	6	29 FT	-426	31 FT	-1041
W-184	2400	14 FT	1012	DRY	306	21 FT	-126	17 FT	-741
W-185	2655	NM	757	NM	51	NM	-381	NM	-996
W-186	1630	13 FT	1782	14 FT	1076	14 FT	644	25 FT	29
W-187	1620	8 FT	1792	10 FT	1086	11 FT	654	14 FT	39
W-191	5425	58 FT	-2013	U	-2719	U	-3151	U	-3766
W-192	5280	DRY	-1868	U	-2574	U	-3006	U	-3621
W-210	8250	U	1200	U	1200	U	1200	U	1200

SEPTEMBER									
PANEL BEING MINED		20 EAST	19 EAST	20 EAST	19 EAST	19 EAST	20 EAST	19 EAST	20 EAST
DATE MEAS.	====>		09/04/96		09/10/96		09/19/96		09/25/96
LW PLUS	====>	9450	1007	9450	635	630	9552	630	9092
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-079	2500	U	-1493	U	-1865	U	-1870	U	-1870
SP-079A	2500	U	-1493	U	-1865	U	-1870	U	-1870
SP-078	210	0.37 GPM	797	0.42 GPM	425	0.44 GPM	420	0.42 GPM	420
SP-083	2490	0 GPM	-1483	0 GPM	-1855	U	-1860	U	-1860
SP-086	2020	2.87 GPM	-1013	2.98 GPM	-1385	U	-1390	U	-1390
SP-199	3160	U	-2153	U	-2525	U	-2530	U	-2530
SP-162	10030	0.26 GPM	-580	0.29 GPM	-580	0.06 GPM	-478	0.05 GPM	-938
W-183	2700	31 FT	-1693	U	-2065	U	-2070	U	-2070
W-184	2400	16 FT	-1393	U	-1765	U	-1770	U	-1770
W-185	2655	NM	-1648	NM	-2020	U	-2028	U	-2025
W-186	1630	25 FT	-623	26 FT	-995	11 FT	-1000	U	-1000
W-187	1620	15 FT	-613	14 FT	-985	BURIED	-990	U	-990
W-191	5425	U	-4418	U	-4790	U	-4795	U	-4795
W-192	5280	U	-4273	U	-4645	U	-4650	U	-4650
W-210	8250	40 FT	1200	41 FT	1209	43 FT	1302	43 FT	842

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING

SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS (W-#)

FLOW = MEASURED IN GPM FOR SPRINGS (SP-#)

POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE

LONGWALL PLUS IS RECORDED DAILY

N/A = SPRING CANNOT BE SAMPLED NM = WELL CANNOT BE MEASURED

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
WEEKLY MONITORING REPORT - 4TH QUARTER 1996

OCTOBER
DATE MONITORED

		10/10/96		10/15/96		10/23/96		10/31/96	
		FACE PLUS	7935	FACE PLUS	7472	FACE PLUS	6846	FACE PLUS	6129
SOURCE	**PLUS**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**
W-211	7480	103	455	105	-8	86	-634	108	-1351
W-212	7485	37	450	39	-13	41	-639	45	-1356
W-191	5425	10	2510	10	2047	10	1421	10	704
W-192	5280	UNSCH	2655	DRY	2192	DRY	1566	DRY	849
W-193	4650	UNSCH	3285	UNSCH	2822	BURIED	2196	BURIED	1479
W-193A	4505	UNSCH	3430	UNSCH	2967	UNSCH	2341	UNSCH	1624
W-210	8250	45	-315	48	-778	45	-1404	47	-2121
SP-262	5430	UNSCH	2505	UNSCH	2042	0	1416	0	699
W-182	2470	UNSCH	5465	UNSCH	5002	UNSCH	4376	UNSCH	3659
W-183	2700	UNSCH	5235	UNSCH	4772	UNSCH	4146	UNSCH	3429

NOVEMBER
DATE MONITORED

		11/06/96		11/14/96		11/19/96		11/27/96	
		FACE PLUS	5692	FACE PLUS	5111	FACE PLUS	4641	FACE PLUS	3835
SOURCE	**PLUS**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**
W-211	7480	111	7935	UNSCH	7472	UNSCH	6846	UNSCH	6129
W-212	7485	54	7935	UNSCH	7472	UNSCH	6846	UNSCH	6129
W-191	5425	60	7935	48	7472	UNSCH	6846	UNSCH	6129
W-192	5280	DRY	7935	DRY	7472	DRY	6846	DRY	6129
W-193	4650	BURIED	4258	BURIED	3795	BURIED	3169	BURIED	2452
W-193A	4505	44	4287	21	3824	34	3198	37	2481
W-210	8250	48	4358	UNSCH	3895	UNSCH	3269	UNSCH	2552
SP-262	5430	0	4483	0	4020	0	3394	0	2677
W-182	2470	UNSCH	4525	UNSCH	4062	UNSCH	3436	19	2719
W-183	2700	UNSCH	4613	UNSCH	4150	UNSCH	3524	18	2807

DECEMBER
DATE MONITORED

		12/04/96		12/11/96		12/19/96		12/26/96	
		FACE PLUS	3394	FACE PLUS	2908	FACE PLUS	2414	FACE PLUS	2214
SOURCE	**PLUS**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**	**SWL/FLOW**	**+/-**
W-211	7480	UNSCH	5181	UNSCH	4718	UNSCH	4092	UNSCH	3375
W-212	7485	UNSCH	5255	UNSCH	4792	UNSCH	4166	UNSCH	3449
W-191	5425	UNSCH	5295	UNSCH	4832	UNSCH	4206	UNSCH	3489
W-192	5280	DRY	5399	DRY	4936	UNSCH	4310	UNSCH	3593
W-193	4650	BURIED	5478	BURIED	5015	UNSCH	4389	UNSCH	3672
W-193A	4505	66	5534	68	5071	UNSCH	4445	UNSCH	3728
W-210	8250	UNSCH	5627	UNSCH	5164	UNSCH	4538	UNSCH	3821
SP-262	5430	0	5694	UNSCH	5231	UNSCH	4605	UNSCH	3888
W-182	2470	17	5775	22	5312	18	4686	17	3969
W-183	2700	17	5809	18	5346	10	4720	8	4003

+/- = PLUS INDICATES FACE IS APPROACHING SOURCE, MINUS INDICATES FACE IS PAST SOURCE
UNSCH = SOURCE IS UNSCHEDULED FOR MONITORING ON A WEEKLY BASIS
WELLS (W-#) SWL = FT. DOWN FROM SURFACE
SPRINGS(SP-#) FLOW = GPM

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
U28-L	1028.012000	01/12/96	9601105	8.20	8.14	4.20	250	0.06	0.04	0.50	180	92	700	0.53
U28-L	1028.012000	04/12/96	9604135	8.00	8.25	1.40	220	0.71	0.04	0.50	190	90	590	0.12
U29-C	1029.003000	01/12/96	9601107	7.40	7.56	14.00	250	0.05	0.01	0.50	240	78	0.62	0.58
U29-C	1029.003000	04/12/96	9604137	7.90	7.84	12.00	250	0.34	0.04	4.40	230	62	540	0.18
U29-D	1029.004000	01/12/96	9601108	8.30	8.23	0.75	270	0.12	0.01	0.50	200	94	740	1.20
U29-D	1029.004000	04/12/96	9604138	8.30	8.24	0.75	250	0.65	0.03	0.50	190	74	620	0.23
U30-L	1030.012000	01/12/96	9601118	7.40	7.63	6.30	130	0.30	0.02	19.00	190	56	380	1.00
U30-L	1030.012000	04/12/96	9604141	7.70	7.83	5.30	120	4.60	0.18	67.00	190	51	320	0.51
U30-M	1030.013000	01/12/96	9601119	7.90	7.97	6.70	170	0.03	0.01	0.50	250	62	540	1.80
U30-M	1030.013000	04/12/96	9604142	8.30	8.33	0.75	150	0.13	0.03	0.50	220	61	440	0.26
U30-M	1030.013000	07/18/96	9607208	7.90	8.09	5.00	150	0.66	0.01	7.30	200	70	370	1.00
U30-N	1030.014000	01/12/96	9601120	7.80	7.98	5.00	160	0.13	0.01	0.50	200	54	400	0.19
U30-N	1030.014000	04/12/96	9604143	8.10	8.07	3.30	150	0.65	0.04	7.90	210	52	350	0.05
U30-N	1030.014000	07/18/96	9607207	7.90	8.07	5.60	160	1.10	0.02	22.00	180	39	340	0.36
U34-029	1034.029000	01/23/96	9601276	7.60	7.77	4.40	100	0.73	0.08	12.00	160	37	280	2.30
U34-029	1034.029000	04/17/96	9604231	8.10	8.01	5.10	100	0.71	0.05	12.00	140	33	320	1.20
U34-029	1034.029000	07/26/96	9607272	8.00	8.25	0.75	150	0.24	0.04	0.50	160	32	340	0.50
U34-029	1034.029000	10/08/96	9610118	8.50	8.22	11.00	260	0.27	0.03	1.30	200	180	1900	0.55
U34-032	1034.032000	07/24/96	9607248	8.00	8.13	8.20	220	1.20	0.10	38.00	220	47	410	0.34
U34-032	1034.032000	10/08/96	9610119	7.90	7.92	12.00	220	2.90	0.13	120.00	260	52	510	0.12
U34-033	1034.033000	07/24/96	9607249	8.00	8.08	5.60	170	0.44	0.03	0.50	0.5	29	330	0.32
U34-033	1034.033000	10/08/96	9610120	8.40	8.02	6.80	190	0.16	0.01	8.70	200	35	400	0.13
U34-034	1034.034000	07/24/96	9607250	8.00	8.07	7.00	180	0.28	0.02	0.50	180	34	330	0.26
U34-034	1034.034000	10/08/96	9610121	8.40	7.97	8.10	190	0.25	0.01	4.00	210	22	420	0.12
U34-035	1034.035000	07/11/96	9607104	7.70	8.21	5.60	180	0.20	0.01	0.50	220	28	320	0.24
U34-035	1034.035000	10/08/96	9610122	8.40	8.02	180.00	180	0.03	0.01	0.50	200	35	380	0.15
U34-036	1034.036000	07/11/96	9607105	7.80	8.22	4.40	180	0.44	0.03	8.00	200	37	320	0.40
U34-036	1034.036000	10/08/96	9610123	8.40	8.12	6.80	180	0.11	0.01	1.30	220	37	420	0.13
U34-037	1034.037000	01/18/96	9601203	7.30	7.58	5.70	43	0.95	0.04	11.00	76	23	120	0.18
U34-037	1034.037000	04/17/96	9604236	7.90	8.02	8.60	110	0.36	0.01	3.60	160	27	260	0.05
U34-037	1034.037000	07/11/96	9607106	7.80	8.26	3.70	180	0.48	0.02	25.00	210	34	320	0.29
U34-037	1034.037000	10/08/96	9610124	8.30	8.06	6.10	180	0.15	0.01	16.00	200	28	380	0.17
U34-038	1034.038000	01/23/96	9601279	7.70	7.84	3.20	99	0.62	0.07	11.00	150	36	300	3.20
U34-038	1034.038000	04/17/96	9604238	7.70	8.10	5.20	100	0.37	0.02	4.00	130	32	280	0.87
U34-038	1034.038000	07/11/96	9607107	8.00	8.15	5.60	160	0.30	0.02	0.50	200	37	320	0.51
U34-038	1034.038000	10/10/96	9610157	8.00	7.94	4.70	220	0.24	0.01	0.50	180	110	1000	0.21
U34-039	1034.039000	01/23/96	9601280	7.70	7.90	3.80	98	0.62	0.06	14.00	150	36	290	2.00
U34-039	1034.039000	04/17/96	9604239	7.70	8.12	3.90	100	0.36	0.02	4.80	140	23	280	0.77
U34-039	1034.039000	07/11/96	9607109	8.00	8.18	4.00	150	0.16	0.02	7.00	200	38	330	0.55
U34-039	1034.039000	10/10/96	9610158	8.00	8.04	2.70	220	0.23	0.01	0.50	160	110	1000	0.29
U34-040	1034.040000	01/23/96	9601283	7.60	7.93	6.60	100	0.56	0.03	3.60	140	39	140	0.73
U34-040	1034.040000	04/17/96	9604240	7.90	7.93	5.00	110	0.94	0.04	17.00	170	34	280	0.44
U34-040	1034.040000	07/12/96	9607142	7.70	8.25	12.00	180	0.37	0.03	9.00	220	42	360	0.26
U34-040	1034.040000	10/10/96	9610159	8.30	8.19	1.80	190	0.20	0.01	0.50	230	37	440	0.05
U34-041	1034.041000	01/23/96	9601284	7.60	7.90	5.10	110	0.51	0.03	2.80	170	42	140	0.57
U34-041	1034.041000	04/17/96	9604241	7.90	8.06	4.30	110	0.81	0.01	14.00	130	34	280	0.30
U34-041	1034.041000	07/12/96	9607143	7.70	8.07	11.00	180	0.45	0.04	15.00	220	44	360	0.24
U34-041	1034.041000	10/10/96	9610160	8.10	8.06	4.50	190	0.22	0.01	0.50	200	38	380	0.05
U34-042	1034.042000	01/23/96	9601285	7.90	8.06	6.10	170	0.03	0.01	0.50	230	27	310	0.17
U34-042	1034.042000	04/17/96	9604242	8.40	8.18	5.80	160	2.40	0.06	75.00	190	34	340	0.13
U34-042	1034.042000	07/12/96	9607148	8.00	8.34	3.60	180	0.45	0.02	9.00	230	38	340	0.19
U34-042	1034.042000	11/15/96	9611143	4.50	4.01	360.00	0.75	1.80	27.00	3.00	1400	1900	2900	0.05
U34-043	1034.043000	01/23/96	9601286	7.70	7.90	3.40	120	1.10	0.04	2.00	160	37	250	0.05
U34-043	1034.043000	04/17/96	9604243	7.90	7.91	4.10	110	4.10	0.15	130.00	150	34	260	0.11
U34-043	1034.043000	07/12/96	9607144	8.00	8.14	7.30	170	0.38	0.02	0.50	200	42	310	0.22
U34-044	1034.044000	01/23/96	9601287	7.70	7.93	2.20	100	0.08	0.02	0.50	150	33	230	0.05
U34-044	1034.044000	04/17/96	9604244	7.90	7.94	6.90	98	0.66	0.01	5.60	130	30	240	0.05
U34-044	1034.044000	07/12/96	9607145	8.00	8.20	5.40	170	0.32	0.02	2.00	200	39	310	0.26

TOVCC 10795

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
U34-054	1034.054000	01/10/96	9601089	7.70	7.85	0.75	120	0.03	0.01	5.60	160	37	340	0.54
U34-054	1034.054000	04/12/96	9604134	7.80	7.94	4.80	120	0.55	0.05	16.00	200	37	310	0.24
U34-054	1034.054000	07/10/96	9607083	8.00	8.04	8.10	160	0.63	0.03	31.00	180	31	300	0.18
U34-054	1034.054000	10/25/96	9610340	7.90	7.69	12.00	140	0.70	0.04	110.00	190	30	240	0.47
U34-055	1034.055000	04/17/96	9604245	8.40	8.22	2.40	100	0.22	0.01	3.20	170	40	320	0.98
U34-055	1034.055000	07/11/96	9607116	7.70	8.10	7.50	190	0.31	0.02	0.50	220	53	400	0.92
U34-055	1034.055000	10/10/96	9610161	8.00	8.06	3.20	170	0.08	0.01	0.50	230	53	470	0.29
U34-056	1034.056000	04/17/96	9604246	7.90	8.18	0.75	96	0.30	0.01	1.20	150	36	280	0.69
U34-056	1034.056000	07/11/96	9607117	7.50	7.90	9.10	150	0.15	0.06	0.50	180	38	320	0.47
U34-056	1034.056000	10/10/96	9610162	7.90	785.00	8.90	160	0.10	0.01	0.50	200	52	430	0.12
U34-057	1034.057000	01/23/96	9601272	7.70	7.85	3.50	99	0.28	0.03	5.60	160	40	290	2.80
U34-057	1034.057000	04/17/96	9604247	8.00	8.05	3.70	95	0.51	0.02	1.60	130	37	280	0.88
U34-057	1034.057000	07/11/96	9607118	7.70	7.83	8.70	140	0.40	0.05	3.00	190	61	380	0.47
U34-058	1034.058000	01/24/96	9601290	7.30	7.57	3.20	64	1.90	0.09	46.00	120	26	210	1.70
U34-058	1034.058000	04/18/96	9604288	8.30	7.92	0.75	120	0.16	0.04	0.50	150	33	310	0.74
U34-058	1034.058000	07/11/96	9607119	8.00	8.22	4.20	150	0.16	0.01	0.50	200	39	330	0.77
U34-058	1034.058000	10/10/96	9610164	8.00	7.98	8.00	180	0.56	0.30	0.50	180	92	720	0.31
U34-059	1034.059000	01/24/96	9601291	6.80	7.46	0.75	26	0.44	0.02	0.50	68	23	100	1.60
U34-059	1034.059000	04/18/96	9604289	7.40	7.56	0.75	46	0.17	0.02	2.80	84	24	170	0.25
U34-060	1034.060000	01/11/96	9601097	7.40	7.62	9.80	140	0.21	0.04	2.80	260	54	660	0.28
U34-060	1034.060000	04/11/96	9604130	7.70	7.74	5.50	86	0.21	0.02	3.60	240	44	450	0.63
U34-060	1034.060000	07/10/96	9607087	7.70	7.81	9.10	140	0.49	0.01	11.00	250	35	540	0.24
U34-061	1034.061000	01/11/96	9601098	7.40	7.63	8.30	140	0.18	0.03	2.40	240	55	640	0.39
U34-061	1034.061000	04/11/96	9604131	8.40	8.40	0.75	120	0.15	0.01	0.50	230	40	540	0.11
U34-061	1034.061000	07/10/96	9607084	8.00	8.18	8.90	170	0.64	0.02	3.00	230	43	550	0.14
U34-062	1034.062000	04/11/96	9604149	7.80	7.82	5.50	210	0.10	0.03	0.50	160	51	500	0.76
U34-063	1034.063000	01/11/96	9601099	7.40	7.65	9.40	140	0.15	0.04	3.60	250	55	660	0.28
U34-063	1034.063000	04/11/96	9604132	8.40	8.39	0.75	120	0.09	0.05	0.50	220	45	500	0.10
U34-063	1034.063000	10/25/96	9610342	8.00	7.86	14.00	170	0.33	0.01	2.00	250	39	640	0.57
U34-064	1034.064000	02/15/96	9602219	7.70	7.89	7.20	220	1.70	0.07	28.00	200	60	150	0.86
U34-064	1034.064000	04/11/96	9604150	8.10	8.12	5.10	220	0.33	0.04	7.60	200	45	490	0.75
U34-064	1034.064000	07/10/96	9607085	7.90	8.16	8.50	240	0.68	0.03	12.00	180	48	480	0.40
U34-064	1034.064000	10/25/96	9610343	7.90	7.75	14.00	240	0.11	0.01	0.50	180	38	510	0.05
U34-065	1034.065000	01/24/96	9601292	7.30	7.63	3.30	64	1.90	0.09	45.00	110	29	210	0.77
U34-065	1034.065000	04/18/96	9604291	7.90	8.00	0.75	120	0.19	0.05	3.60	160	37	340	0.77
U34-065	1034.065000	07/11/96	9607120	7.90	8.18	4.40	160	0.15	0.04	0.50	200	47	360	0.71
U34-065	1034.065000	10/10/96	9610165	8.00	7.92	8.50	180	0.44	0.19	0.50	200	67	550	0.22
U34-066	1034.066000	01/24/96	9601293	7.30	7.64	3.70	67	1.80	0.09	39.00	130	31	250	1.80
U34-066	1034.066000	04/18/96	9604292	8.20	8.08	1.50	120	0.15	0.05	0.50	140	38	340	0.72
U34-066	1034.066000	07/12/96	9607155	8.00	8.07	7.50	180	0.11	0.04	1.00	190	47	380	0.64
U34-067	1034.067000	01/26/96	9601338	8.20	8.00	3.50	200	0.12	0.05	0.50	130	110	560	0.55
U34-067	1034.067000	04/18/96	9604293	8.20	8.02	2.60	220	0.12	0.02	0.50	130	79	600	0.46
U34-067	1034.067000	07/12/96	9607156	8.00	8.19	6.20	280	0.03	0.01	15.00	140	79	680	0.34
U34-068	1034.068000	01/26/96	9601339	8.10	8.03	4.60	180	0.13	0.04	0.50	210	96	500	0.94
U34-068	1034.068000	04/18/96	9604294	8.30	8.20	3.40	200	0.10	0.04	0.50	160	71	540	0.80
U34-068	1034.068000	07/12/96	9607157	8.00	8.22	6.40	260	0.12	0.01	5.00	150	77	630	0.38
U34-071	1034.071000	10/30/96	9611006	7.70	7.81	7.70	180	0.34	0.12	0.50	220	32	380	0.24
U34-072	1034.072000	07/19/96	9607233	7.30	7.65	11.00	140	0.52	0.24	0.50	100	27	290	0.11
U34-072	1034.072000	10/23/96	9610320	7.70	7.35	13.00	160	0.94	0.53	2.00	180	24	340	0.17
U34-073	1034.073000	07/18/96	9607203	7.50	7.86	5.20	180	73.00	5.40	4000.00	160	28	170	0.20
U34-073	1034.073000	10/23/96	9610317	8.20	7.84	9.20	200	2.00	0.20	140.00	340	63	450	0.18
U34-074	1034.074000	01/18/96	9601204	7.50	7.52	3.90	71	1.60	0.09	52.00	120	31	180	1.50
U34-074	1034.074000	04/18/96	9604296	8.00	8.14	3.60	140	0.44	0.06	12.00	180	36	350	0.22
U34-074	1034.074000	07/26/96	9607274	8.00	8.19	5.20	200	0.60	0.13	8.00	180	32	370	0.17
U34-074	1034.074000	10/23/96	9610316	8.00	7.86	8.00	200	0.24	0.06	0.50	220	42	400	0.13
U34-075	1034.075000	01/18/96	9601205	7.60	7.62	4.80	66	1.60	0.09	48.00	110	32	190	1.60
U34-075	1034.075000	04/18/96	9604297	8.30	8.05	0.75	130	3.36	0.04	3.20	170	38	320	0.05
U34-075	1034.075000	07/26/96	9607275	8.00	8.20	4.60	190	0.44	0.04	1.00	160	35	370	0.05
U34-075	1034.075000	10/23/96	9610315	80.00	7.92	14.00	190	0.13	0.01	0.50	200	45	400	0.16

TOVCC 10796

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
U34-076	1034.076000	01/26/96	9601340	7.80	7.80	2.80	94	0.22	0.04	0.50	140	41	250	0.58
U34-076	1034.076000	04/18/96	9604298	7.90	8.01	2.40	140	0.20	0.04	2.40	190	40	320	0.05
U34-076	1034.076000	07/26/96	9607276	7.90	8.10	5.80	180	0.77	0.10	0.50	140	35	370	0.05
U34-076	1034.076000	10/17/96	9610252	7.80	7.89	8.00	180	0.19	0.07	3.60	190	50	420	0.24
U34-077	1034.077000	01/26/96	9601341	7.80	7.81	3.10	96	0.24	0.05	1.20	140	38	250	0.59
U34-077	1034.077000	04/18/96	9604299	8.40	8.11	3.00	130	0.27	0.03	6.00	200	40	320	0.23
U34-078	1034.078000	01/24/96	9601294	7.30	7.61	3.40	67	1.90	0.09	38.00	0.1	31	240	1.80
U34-078	1034.078000	04/18/96	9604300	8.40	8.24	0.75	120	0.20	0.04	3.60	160	42	340	0.43
U34-80A	1034.080001	01/23/96	9601275	8.00	8.16	5.10	170	0.68	0.04	29.00	220	34	330	0.13
U34-80A	1034.080001	04/17/96	9604254	8.40	8.17	7.50	160	0.83	0.01	32.00	200	33	340	0.18
U34-80A	1034.080001	07/12/96	9607147	8.00	8.19	6.60	180	0.52	0.03	17.00	210	38	340	0.26
U34-083	1034.083000	10/25/96	9610349	7.60	7.66	7.80	140	0.39	0.18	35.00	150	20	280	0.11
U34-084	1034.084000	04/24/96	9604430	7.80	7.90	5.30	100	0.59	0.03	10.00	120	24	230	0.15
U34-084	1034.084000	07/26/96	9607281	7.90	8.18	3.10	140	0.22	0.01	0.50	92	21	260	0.05
U34-084	1034.084000	10/25/96	9610348	7.90	7.84	6.90	150	0.06	0.01	0.50	200	24	300	0.16
U34-085	1034.085000	01/18/96	9601206	7.20	7.57	2.80	53	0.81	0.06	14.00	80	26	140	1.20
U34-085	1034.085000	04/24/96	9604431	8.10	7.99	3.40	110	0.85	0.08	25.00	160	30	250	0.41
U34-085	1034.085000	07/26/96	9607282	7.80	8.19	4.80	170	0.49	0.16	0.50	140	26	300	0.05
U34-085	1034.085000	10/25/96	9610347	7.90	7.89	11.00	160	0.21	0.10	0.50	180	28	340	0.11
U34-086	1034.086000	01/18/96	9601207	7.20	7.33	5.00	48	4.00	0.29	110.00	80	31	150	1.30
U34-086	1034.086000	04/24/96	9604432	7.70	7.99	3.10	120	0.44	0.04	3.60	140	32	150	0.15
U34-086	1034.086000	07/26/96	9607283	7.90	8.15	5.20	160	0.38	0.06	0.50	140	28	300	0.05
U34-086	1034.086000	10/25/96	9610346	7.90	7.87	7.40	170	0.13	0.01	0.50	190	31	340	0.05
U34-087	1034.087000	01/18/96	9601208	7.20	7.50	5.10	67	0.63	0.05	9.60	110	31	170	1.30
U34-087	1034.087000	04/24/96	9604433	8.00	8.00	4.60	140	0.81	0.10	24.00	170	35	300	0.16
U34-087	1034.087000	07/26/96	9607284	8.00	8.12	6.00	190	1.00	0.20	5.00	160	24	330	0.05
U34-087	1034.087000	10/25/96	9610345	7.90	7.88	14.00	220	0.37	0.05	100.00	220	30	430	0.43
U34-088	1034.088000	01/26/96	9601342	7.50	7.73	2.80	74	0.44	0.06	2.40	100	34	190	0.33
U34-088	1034.088000	04/18/96	9604301	7.40	7.85	6.70	140	0.48	0.16	6.80	180	73	390	0.20
U34-088	1034.088000	07/26/96	9607285	7.60	8.00	8.30	210	0.34	0.24	0.50	160	86	480	0.11
U34-088	1034.088000	10/25/96	9610344	7.90	7.89	9.20	170	0.12	0.01	0.50	200	28	360	0.05
U34-089	1034.089000	01/24/96	9601295	7.40	7.60	3.40	66	1.50	0.09	42.00	110	33	240	1.80
U34-089	1034.089000	04/18/96	9604302	7.70	8.26	0.75	110	0.22	0.05	2.40	180	47	350	0.38
U34-090	1034.090000	01/25/96	9601350	7.40	7.76	0.75	76	0.48	0.05	3.20	120	36	230	0.73
U34-090	1034.090000	04/18/96	9604303	8.00	7.90	0.75	120	0.86	0.04	25.00	180	45	320	0.29
U34-090	1034.090000	07/26/96	9607277	7.30	7.79	14.00	200	0.75	0.22	15.00	200	68	440	0.05
U34-091	1034.091000	01/25/96	9601351	7.40	7.75	2.60	73	0.52	0.05	1.60	130	35	230	0.76
U34-091	1034.091000	04/18/96	9604305	7.90	7.91	3.60	120	0.85	0.04	25.00	180	48	330	0.33
U34-092	1034.092000	01/24/96	9601296	7.40	7.63	4.60	74	1.80	0.10	31.00	110	30	240	2.20
U34-092	1034.092000	04/18/96	9604306	7.80	8.25	0.75	110	0.14	0.05	0.50	160	48	340	0.36
U34-093	1034.093000	01/25/96	9601354	7.40	7.50	3.70	100	0.91	0.22	11.00	160	62	370	2.30
U34-093	1034.093000	04/24/96	9604434	8.10	8.25	1.60	140	0.26	0.07	0.50	160	56	370	0.19
U34-094	1034.094000	01/25/96	9601355	7.40	7.56	5.20	100	0.92	0.22	10.00	180	66	370	2.80
U34-094	1034.094000	04/24/96	9604435	8.10	8.24	4.10	140	0.25	0.07	0.50	160	52	370	0.35
U34-095	1034.095000	01/25/96	9601356	7.40	7.58	5.40	100	0.90	0.21	11.00	140	64	370	2.40
U34-095	1034.095000	04/24/96	9604436	8.10	8.24	2.10	140	0.03	0.08	1.60	170	51	370	0.77
U34-096	1034.096000	01/25/96	9601357	7.40	7.54	3.70	110	0.82	0.21	12.00	140	64	370	2.50
U34-096	1034.096000	04/24/96	9604437	8.00	8.22	2.50	140	0.27	0.08	3.60	160	48	370	0.21
U34-096	1034.096000	07/19/96	9607215	7.40	7.52	19.00	98	7.70	0.38	130.00	56	26	280	0.49
U34-097	1034.097000	01/25/96	9601358	7.40	7.60	5.70	100	0.86	0.22	11.00	220	66	370	2.60
U34-097	1034.097000	04/25/96	9604438	8.00	8.20	4.10	140	0.29	0.08	0.50	160	56	370	0.19
U34-097	1034.097000	07/19/96	9607216	7.40	7.79	6.80	93	7.90	0.37	130.00	68	26	290	0.43
U34-097	1034.097000	10/11/96	9610199	8.00	8.07	7.40	210	0.48	0.08	0.50	200	100	600	0.05
U34-098	1034.098000	01/12/96	9601115	7.50	7.62	13.00	270	0.07	0.02	0.50	200	110	720	1.80
U34-098	1034.098000	04/12/96	9604155	7.60	7.54	20.00	310	1.40	0.10	0.50	180	85	630	0.17
U34-098	1034.098000	07/18/96	9607210	7.00	7.50	16.00	210	14.00	0.52	460.00	220	70	470	2.10
U34-098	1034.098000	10/15/96	9610215	7.90	7.80	11.00	350	2.90	0.08	84.00	150	77	720	0.25

TOVCC 10797

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
U34-099	1034.099000	01/25/96	9601359	7.40	7.55	3.90	110	0.90	0.21	10.00	160	66	370	2.00
U34-099	1034.099000	04/25/96	9604439	8.00	8.22	3.60	140	0.48	0.08	0.50	160	55	370	0.20
U34-099	1034.099000	07/19/96	9607217	7.40	7.62	8.00	93	4.90	0.23	120.00	72	26	250	0.47
U34-099	1034.099000	10/11/96	9610200	8.00	8.09	7.00	210	0.51	0.07	0.50	280	110	620	0.05
U34-100	1034.100000	01/25/96	9601360	6.90	6.83	14.00	50	4.40	2.30	24.00	440	56	990	1.80
U34-100	1034.100000	04/25/96	9604440	7.10	7.51	10.00	100	5.40	1.50	22.00	430	500	920	0.39
U34-100	1034.100000	07/19/96	9607219	7.20	7.67	5.00	64	2.60	0.79	34.00	220	240	600	1.00
U34-100	1034.100000	10/11/96	9610201	8.10	8.09	7.20	260	0.44	0.52	0.50	280	280	930	0.05
U34-100A	1034.100001	10/24/96	9611008	7.90	7.83	4.30	130	1.50	0.08	57.00	160	28	300	0.76
U34-101	1034.101000	01/18/96	9601217	7.10	7.39	0.75	38	0.63	0.06	8.40	100	26	150	4.20
U34-101	1034.101000	04/25/96	9604441	7.70	7.99	0.75	98	0.35	0.03	8.80	140	39	240	0.05
U34-101	1034.101000	07/26/96	9607286	7.90	8.16	5.30	270	0.22	0.06	0.50	120	50	550	0.05
U34-101	1034.101000	10/25/96	9610357	7.90	7.91	11.00	290	0.24	0.28	0.50	170	52	620	0.32
U34-103	1034.103000	01/26/96	9601331	7.50	7.94	6.50	120	0.22	0.04	1.60	220	86	380	0.70
U34-103	1034.103000	04/25/96	9604443	7.60	8.03	5.20	140	1.20	0.07	42.00	220	75	360	0.33
U34-103	1034.103000	07/19/96	9607231	7.50	7.71	5.20	91	1.80	0.08	20.00	110	50	250	0.53
U34-103	1034.103000	10/15/96	9610216	8.30	7.95	10.00	240	3.70	0.34	140.00	120	180	720	0.05
U34-104	1034.104000	01/25/96	9601361	6.70	7.05	0.75	46	0.14	0.05	2.00	230	200	440	0.52
U34-104	1034.104000	04/25/96	9604444	7.20	7.63	3.40	74	0.47	0.02	12.00	190	120	350	0.15
U34-104	1034.104000	07/19/96	9607222	7.30	7.34	15.00	96	0.50	0.06	7.00	200	140	410	0.55
U34-104	1034.104000	10/11/96	9610203	8.00	7.94	6.20	130	1.30	0.02	24.00	310	180	530	0.17
U34-105	1034.105000	01/25/96	9601362	7.20	7.62	0.75	58	0.24	0.03	2.80	96	38	440	1.70
U34-105	1034.105000	04/25/96	9604445	7.80	7.91	3.60	100	0.38	0.02	5.20	140	56	280	0.38
U34-105	1034.105000	07/19/96	9607223	7.50	7.67	6.20	77	0.98	0.04	24.00	72	27	180	0.59
U34-105	1034.105000	10/11/96	9610204	7.80	7.71	9.60	190	0.32	0.02	1600.00	230	89	430	0.05
U34-106	1034.106000	01/25/96	9601363	7.40	7.70	9.20	99	0.84	0.20	11.00	170	70	210	2.50
U34-106	1034.106000	04/25/96	9604446	8.00	8.32	0.75	140	0.31	0.07	2.00	180	63	360	0.24
U34-106	1034.106000	07/19/96	9607218	7.60	7.84	5.40	99	5.00	0.24	100.00	76	28	250	0.51
U34-106	1034.106000	10/11/96	9610202	8.30	8.29	1.40	220	26.00	1.00	0.50	300	110	680	0.05
U34-107	1034.107000	01/18/96	9601218	7.20	7.41	2.10	41	1.50	0.12	46.00	80	30	140	1.50
U34-107	1034.107000	04/25/96	9604447	7.80	7.96	3.40	110	0.30	0.02	4.00	140	36	260	0.10
U34-107	1034.107000	07/26/96	9607288	8.00	8.14	3.50	140	0.28	0.05	0.50	130	38	290	0.05
U34-107	1034.107000	10/25/96	9610355	7.50	7.84	7.20	140	0.24	0.02	3.00	200	38	310	0.29
U34-108	1034.108000	01/18/96	9601219	7.20	7.54	2.40	42	1.20	0.08	22.00	84	28	140	1.60
U34-108	1034.108000	04/25/96	9604448	7.70	8.08	2.00	110	0.27	0.02	6.40	160	36	260	0.12
U34-108	1034.108000	07/26/96	9607289	7.90	8.19	2.30	150	0.48	0.03	4.00	130	37	290	0.05
U34-108	1034.108000	10/25/96	9610356	7.60	7.79	5.40	140	0.21	0.01	0.50	190	34	310	0.35
U34-109	1034.109000	01/26/96	9601371	7.50	7.86	2.80	83	0.05	0.02	0.50	130	33	250	0.70
U34-109	1034.109000	04/25/96	9604449	7.80	8.05	3.20	100	0.23	0.02	4.00	140	36	260	0.05
U34-109	1034.109000	07/19/96	9607224	7.70	7.68	8.50	99	4.40	0.23	130.00	68	30	250	0.61
U34-112	1034.112000	10/25/96	9610354	8.00	8.04	6.30	170	0.07	0.01	4.00	220	39	370	0.36
U34-113	1034.113000	10/25/96	9610353	7.30	7.63	8.20	110	0.34	0.01	1.00	190	34	260	0.19
U34-115	1034.115000	10/25/96	9610352	7.80	7.98	5.60	150	0.10	0.01	0.50	230	38	340	0.39
U34-116	1034.116000	04/25/96	9604450	7.90	8.12	2.00	110	0.18	0.01	1.60	150	36	260	0.05
U34-116	1034.116000	07/26/96	9607290	7.90	7.99	6.60	150	0.18	0.01	0.50	110	34	290	0.05
U34-116	1034.116000	10/25/96	9610351	7.70	7.93	5.40	160	0.05	0.01	0.50	220	39	340	0.05
U34-117	1034.117000	01/26/96	9601332	7.70	7.90	2.70	88	0.48	0.05	8.80	160	40	240	0.45
U34-117	1034.117000	04/25/96	9604451	8.00	8.12	2.30	110	0.18	0.01	4.00	150	38	260	0.05
U34-117	1034.117000	07/26/96	9607291	8.00	8.23	3.30	150	0.20	0.01	0.50	120	34	290	0.05
U34-117	1034.117000	10/17/96	9610250	7.90	8.24	0.75	160	0.06	0.01	0.50	200	38	400	0.11
U34-118	1034.118000	01/26/96	9601333	7.60	7.82	5.40	110	0.69	0.18	10.00	180	76	380	1.90
U34-118	1034.118000	04/25/96	9604452	8.10	8.34	0.75	140	0.26	0.06	0.50	170	59	370	0.22
U34-118	1034.118000	07/26/96	9607292	8.00	8.26	2.50	180	0.35	0.02	0.50	150	59	400	0.05
U34-118	1034.118000	10/17/96	9310249	8.30	8.32	0.75	220	0.30	0.02	1.00	230	110	670	0.16
U34-119	1034.119000	01/26/96	9601334	7.60	7.85	3.90	110	0.74	0.19	11.00	160	75	380	2.00
U34-119	1034.119000	04/25/96	9604453	8.10	8.34	12.00	150	1.20	0.06	2.80	160	56	370	0.33
U34-119	1034.119000	07/26/96	9607293	8.00	8.32	1.40	190	0.16	0.02	0.50	140	69	450	0.16
U34-119	1034.119000	10/17/96	9610248	8.20	8.06	7.20	230	1.60	0.07	28.00	260	120	720	0.05

TOVCC 10798

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
U34-122	1034.122000	07/26/96	9607294	7.70	8.07	4.30	140	0.44	0.01	21.00	130	40	290	0.05
U34-122	1034.122000	10/17/96	9610247	7.60	7.82	7.00	150	0.16	0.01	3.00	190	50	410	0.40
U34-123	1034.123000	07/26/96	9607278	7.50	7.99	7.60	170	0.65	0.02	11.00	160	44	340	0.05
U34-123	1034.123000	11/20/96	9611173	7.60	7.75	13.00	150	0.13	0.01	4.00	240	46	360	0.05
U34-132	1034.132000	07/24/96	9607255	8.00	8.21	1.70	160	0.62	0.04	5.00	140	43	330	0.39
U34-132	1034.132000	10/17/96	9610245	8.40	8.15	5.90	190	0.14	0.01	0.50	220	42	450	0.05
U34-134	1034.134000	01/18/96	9601201	6.90	7.10	5.70	30	1.30	0.04	17.00	96	24	100	0.93
U34-134	1034.134000	04/17/96	9604237	7.30	7.76	4.50	83	0.32	0.01	4.00	110	32	230	0.35
U34-134	1034.134000	07/11/96	9607121	7.70	7.68	10.00	150	1.20	0.19	68.00	180	44	310	0.81
U34-134	1034.134000	10/08/96	9610115	8.00	8.10	26.00	160	0.30	0.06	40.00	170	35	370	0.17
U34-135	1034.135000	07/24/96	9607256	7.90	8.23	2.70	170	0.47	0.03	0.50	150	43	330	0.46
U34-135	1034.135000	10/17/96	9610244	8.30	8.05	6.30	190	0.20	0.01	3.40	230	52	460	0.14
U34-138	1034.138000	07/24/96	9607257	7.50	7.42	18.00	220	42.00	2.10	2500.00	130	36	390	0.69
U34-138	1034.138000	10/17/96	9610242	8.50	8.21	19.00	220	0.68	0.04	20.00	250	42	680	0.30
U34-139	1034.139000	07/24/96	9607258	8.10	8.31	0.75	180	0.25	0.02	7.00	160	58	1200	0.51
U34-139	1034.139000	10/17/96	9610243	8.20	8.07	9.40	220	0.14	0.01	0.50	200	98	680	0.12
U34-144	1034.144000	01/26/96	9601337	7.30	7.71	2.80	67	0.37	0.05	2.40	120	37	210	1.60
U34-144	1034.144000	04/18/96	9604295	7.90	8.14	5.60	220	0.44	0.02	4.80	110	51	500	0.24
U34-144	1034.144000	07/12/96	9607152	8.00	8.31	5.60	320	0.31	0.01	0.50	120	63	640	0.97
U34-144	1034.144000	10/10/96	9610166	8.10	8.12	5.20	370	0.20	0.01	0.50	150	68	700	0.25
U34-155	1034.155000	01/23/96	9601270	7.80	7.90	3.80	110	0.30	0.02	5.60	180	45	330	3.40
U34-156	1034.156000	01/23/96	9601271	7.70	7.88	5.90	99	0.32	0.03	4.00	160	41	290	3.60
U34-170	1034.170000	07/11/96	9607115	7.20	7.64	11.00	110	1.80	0.07	68.00	170	46	250	0.26
U34-170	1034.170000	10/23/96	9610307	7.30	7.41	6.20	99	1.40	0.05	25.00	150	52	640	0.11
U34-A	1034.901000	01/18/96	9601202	6.70	6.94	4.20	29	0.93	0.03	35.00	60	17	100	0.17
U34-A	1034.901000	04/17/96	9604233	6.80	7.41	7.50	59	0.18	0.01	6.40	110	21	170	0.05
U34-A	1034.901000	07/26/96	9607273	7.70	7.97	5.80	140	1.90	0.10	72.00	100	24	230	0.05
U34-A	1034.901000	10/08/96	9610117	7.30	7.24	24.00	170	0.64	0.02	23.00	170	23	340	0.23
U34-B	1034.902000	01/23/96	9601277	6.90	7.37	12.00	110	0.03	0.02	0.50	160	27	240	1.00
U34-B	1034.902000	04/17/96	9604232	6.80	7.22	11.00	63	0.08	0.01	4.00	150	25	190	0.78
U34-B	1034.902000	07/11/96	9607122	7.20	7.55	20.00	180	2.80	0.21	170.00	210	35	330	0.86
U34-B	1034.902000	10/08/96	9610116	7.20	7.35	18.00	170	0.84	0.06	43.00	160	28	360	0.79
U34-D	1034.904000	07/24/96	9607253	7.10	7.28	18.00	160	0.69	0.11	12.00	130	30	300	0.35
U34-D	1034.904000	10/16/96	9610223	7.40	7.71	11.00	180	0.99	0.09	30.00	130	33	360	0.38
U34-E	1034.905000	07/11/96	9607103	7.20	7.54	15.00	150	11.00	1.40	260.00	180	28	290	0.57
U34-E	1034.905000	11/15/96	9611144	8.00	7.65	22.00	150	0.14	0.10	0.50	230	45	440	0.05
U34-I	1034.909000	07/24/96	9607251	7.90	8.02	9.70	230	10.00	0.60	480.00	200	32	410	0.43
U34-I	1034.909000	10/17/96	9610253	8.00	8.04	5.90	220	0.27	0.04	0.50	290	51	470	0.11
U34-I	1034.909000	10/23/96	9610308	8.20	7.95	17.00	270	2.10	0.13	68.00	320	47	270	0.28
U34-J	1034.910000	07/24/96	9607252	7.20	7.67	20.00	290	4.50	0.20	15.00	280	42	480	1.70
U34-J	1034.910000	10/17/96	9610254	8.00	8.10	4.60	190	4.90	0.18	97.00	260	36	420	1.10
U34-102	1304.102000	01/26/96	9601330	7.70	7.89	0.75	100	0.10	0.03	0.50	140	38	250	0.69
U34-102	1304.102000	04/25/96	9604442	7.90	8.07	2.30	120	0.47	0.02	2.80	170	36	280	0.13
U34-102	1304.102000	07/26/96	9607287	7.90	8.19	0.75	280	0.16	0.05	0.50	100	50	550	0.05
U34-102	1304.102000	10/25/96	9610358	7.90	7.92	6.30	300	0.28	0.30	2.00	150	48	620	0.23
D-28	2028.000000	01/12/96	9601104	8.10	8.15	2.40	240	0.16	0.20	0.50	0.5	5	0	0.05
D-28A	2028.001000	01/12/96	9601106	8.30	8.16	2.90	260	0.08	0.04	0.50	180	98	740	0.52
D-28A	2028.001000	04/12/96	9604136	8.30	8.19	3.10	240	0.15	0.05	0.50	150	94	590	0.05
D-29A	2029.001000	01/12/96	9601109	8.00	8.05	6.90	260	0.32	0.10	2.40	240	110	760	0.62
D-29A	2029.001000	04/12/96	9604139	8.30	8.27	0.75	230	0.14	0.07	4.00	180	97	600	0.05
SP-078	3078.000000	01/23/96	9601266	7.30	7.67	7.80	170	0.03	0.01	0.50	200	31	320	0.42
SP-078	3078.000000	04/17/96	9604235	7.20	7.73	17.00	170	0.03	0.01	0.50	190	28	360	0.49
SP-078	3078.000000	07/11/96	9607111	7.10	7.61	18.00	170	0.07	0.01	0.50	200	29	320	0.23
SP-078	3078.000000	10/10/96	9610149	7.40	7.53	12.00	180	0.08	0.01	0.50	220	28	360	0.14
SP-079	3079.000000	01/23/96	9601274	7.10	7.48	10.00	110	1.40	0.02	0.50	160	30	240	0.05
SP-079	3079.000000	04/17/96	9604253	7.10	7.41	9.00	95	0.92	0.01	3.20	130	28	230	0.12
SP-079	3079.000000	07/12/96	9607150	7.50	7.93	12.00	200	0.08	0.01	0.50	230	48	380	0.05
SP-079	3079.000000	10/10/96	9610150	7.50	7.66	15.00	320	0.23	0.01	7.30	270	72	620	0.05

TOVCC 10799

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
SP-079A	3079.001000	04/12/96	9604186	6.90	7.17	21.00	160	0.03	0.02	0.50	200	36	340	0.05
SP-079A	3079.001000	07/12/96	9607149	6.80	7.50	32.00	190	0.03	0.01	0.50	230	45	380	0.05
SP-079A	3079.001000	10/10/96	9610151	7.40	7.61	13.00	230	0.14	0.01	0.50	260	42	380	0.13
SP-083	3083.000000	01/23/96	9601269	6.40	6.94	14.00	54	0.25	0.01	0.50	110	23	140	0.23
SP-083	3083.000000	04/17/96	9604256	6.80	6.92	13.00	47	0.28	0.01	0.50	80	18	140	0.05
SP-084	3084.000000	01/23/96	9601282	6.70	7.04	10.00	60	1.00	0.03	20.00	92	27	140	0.21
SP-084	3084.000000	04/18/96	9604311	6.60	6.96	0.75	16	0.15	0.01	0.50	28	5	710	0.81
SP-084	3084.000000	07/31/96	9608026	6.00	7.05	14.00	70	1.10	0.03	0.50	44	26	150	0.05
SP-089	3089.000000	04/11/96	9604127	7.80	7.77	10.00	160	0.45	0.01	11.00	220	30	240	0.40
SP-089	3089.000000	07/10/96	9607086	7.20	7.47	12.00	170	0.80	0.09	20.00	190	33	320	0.05
SP-091	3091.000000	06/12/96	9606124	7.50	7.48	31.00	130	7.40	0.23	110.00	170	28	550	0.46
SP-092	3092.000000	04/11/96	9604128	6.40	7.08	16.00	94	3.40	0.22	93.00	170	40	320	2.90
SP-093	3093.000000	01/12/96	9601096	7.50	7.64	12.00	180	0.03	0.01	3.60	220	33	430	1.10
SP-093	3093.000000	04/11/96	9604129	7.60	7.60	13.00	160	0.55	0.04	10.00	220	34	340	0.63
SP-093	3093.000000	07/10/96	9607088	7.30	7.48	14.00	190	0.32	0.14	26.00	220	33	360	0.14
SP-097	3097.000000	07/18/96	9607204	7.70	7.62	11.00	110	1.90	0.07	100.00	160	24	240	0.20
SP-097	3097.000000	10/23/96	9610318	8.00	7.90	7.40	180	5.00	0.17	260.00	370	48	410	0.28
SP-099	3099.000000	10/24/96	9611007	7.30	7.45	13.00	180	0.13	0.01	0.50	200	35	380	0.40
SP-099A	3099.001000	10/23/96	9610321	7.40	7.43	17.00	230	0.05	0.01	0.50	270	41	480	1.50
SP-102	3102.000000	10/30/96	9611004	7.50	7.55	16.00	250	0.10	0.01	0.50	350	24	490	0.88
SP-102A	3102.001000	10/30/96	9611003	7.20	7.30	26.00	260	0.23	0.05	0.50	330	37	510	0.59
SP-152A	3152.001000	01/11/96	9601103	7.10	7.32	23.00	240	0.03	0.01	0.50	280	48	500	0.91
SP-158	3158.000000	07/24/96	9607254	7.50	7.90	11.00	230	1.20	0.07	110.00	260	78	460	0.82
SP-158	3158.000000	10/17/96	9610246	8.00	8.15	7.20	250	3.90	0.15	220.00	320	90	600	0.30
SP-160	3160.000000	01/26/96	9601329	6.70	7.00	16.00	110	1.30	0.03	0.50	440	52	700	0.54
SP-160	3160.000000	04/26/96	9604462	6.60	7.22	20.00	140	1.20	0.05	42.00	500	380	810	0.43
SP-160	3160.000000	07/19/96	9607227	6.30	7.13	8.70	48	1.20	0.06	42.00	120	100	290	0.81
SP-161	3161.000000	01/30/96	9602024	7.50	7.94	6.80	140	0.82	0.04	18.00	300	120	660	1.40
SP-161	3161.000000	04/26/96	9604463	7.00	7.45	11.00	180	0.10	0.01	3.20	280	87	680	0.75
SP-161	3161.000000	07/19/96	9607226	7.10	7.35	20.00	160	2.40	0.06	86.00	150	71	500	0.76
SP-162	3162.000000	01/26/96	9601369	7.20	7.43	12.00	230	0.13	0.03	0.50	280	33	450	0.60
SP-162	3162.000000	04/25/96	9604454	7.10	7.40	25.00	260	0.03	0.01	0.50	320	47	470	0.61
SP-162	3162.000000	07/26/96	9607279	7.20	7.70	23.00	240	0.05	0.01	0.50	220	42	440	0.05
SP-165	3165.000000	01/12/96	9601113	7.30	7.40	21.00	340	0.03	0.01	0.50	200	86	780	0.72
SP-165	3165.000000	04/12/96	9604154	7.30	7.59	19.00	320	0.09	0.04	0.50	200	86	680	0.05
SP-165	3165.000000	07/18/96	9607206	7.20	7.71	22.00	330	0.07	0.01	0.50	160	76	660	0.05
SP-165	3165.000000	10/15/96	9610214	7.40	7.44	20.00	320	0.51	0.02	27.00	150	71	680	0.26
SP-183	3183.000000	01/10/96	9601090	6.80	7.41	11.00	79	0.08	0.02	0.50	270	63	900	5.10
SP-189	3189.000000	01/12/96	9601110	7.20	7.32	28.00	280	0.03	0.01	0.50	380	74	700	7.60
SP-189	3189.000000	04/11/96	9604152	7.50	7.55	21.00	260	0.03	0.02	0.50	360	70	620	6.00
SP-189	3189.000000	07/18/96	9607209	7.20	7.65	23.00	260	0.76	0.10	0.50	350	48	580	6.70
SP-199	3199.000000	01/23/96	9601288	6.90	7.77	11.00	120	1.60	0.02	0.50	150	16	230	0.20
SP-199	3199.000000	04/17/96	9604255	7.30	7.64	12.00	130	0.43	0.01	0.50	140	21	280	0.14
SP-199	3199.000000	07/12/96	9607146	7.20	8.04	15.00	200	0.11	0.01	0.50	210	29	350	0.23
SP-203	3203.000000	01/23/96	9601278	7.90	8.11	5.10	160	0.03	0.02	0.50	210	28	300	1.70
SP-203	3203.000000	04/17/96	9604234	8.00	8.11	8.80	160	0.11	0.01	2.80	180	26	330	0.13
SP-203	3203.000000	07/11/96	9607123	8.00	8.14	5.80	190	5.60	0.15	300.00	200	30	330	0.43
SP-203	3203.000000	10/08/96	9610125	8.30	7.66	9.70	160	0.36	0.01	21.00	190	22	320	0.26
SP-217	3217.000000	01/10/96	9601088	7.60	7.87	28.00	160	0.03	0.01	0.50	180	36	360	0.44
SP-217	3217.000000	04/12/96	9604133	7.20	7.34	15.00	150	0.05	0.01	0.50	210	27	320	0.58
SP-217	3217.000000	07/10/96	9607082	7.80	7.63	28.00	160	0.10	0.01	0.50	160	28	330	0.05
SP-217	3217.000000	10/25/96	9610341	7.30	7.34	23.00	170	0.07	0.01	0.50	190	28	330	0.76
SP-260	3260.000000	02/23/96	9602275	7.20	7.22	14.00	230	0.03	0.01	0.50	290	43	450	0.65
SP-260	3260.000000	04/25/96	9604455	7.30	7.51	16.00	240	0.35	0.01	0.50	270	46	450	0.70
SP-260	3260.000000	07/26/96	9607280	7.20	7.91	17.00	230	0.14	0.01	0.50	220	37	440	0.05
SP-260	3260.000000	10/25/96	9610350	7.40	7.53	19.00	230	0.06	0.01	0.50	260	36	450	0.37
SP-261	3261.000000	04/03/96	9604054	6.70	7.05	19.00	41	1.30	0.02	12.00	72	27	150	0.05
SP-261	3261.000000	07/12/96	9607153	8.50	8.18	12.00	200	0.46	0.01	0.50	230	29	360	0.17
SP-261	3261.000000	10/16/96	9610224	7.80	8.12	7.80	210	0.31	0.01	0.50	200	28	410	0.05
SP-262	3262.000000	07/11/96	9607114	7.20	7.53	23.00	200	0.07	0.01	0.50	240	48	390	2.30

TOVCC 10800

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
W-069	4069.000000	01/11/96	9601094	7.00	7.23	9.60	46	0.12	0.01	0.50	310	52	1200	4.60
W-072	4072.000000	01/11/96	9601095	7.40	7.51	11.00	120	0.06	0.01	0.50	290	59	740	7.30
W-072	4072.000000	04/11/96	9604126	7.30	7.24	19.00	130	0.17	0.02	0.50	250	45	600	3.90
W-072	4072.000000	07/10/96	9607089	7.30	7.35	12.00	140	0.30	0.02	0.50	200	33	420	3.80
W-073	4073.000000	01/25/96	9601352	7.40	7.56	12.00	220	0.21	0.05	0.50	300	38	540	0.14
W-074	4074.000000	01/25/96	9601364	7.40	7.46	8.50	180	24.00	0.29	110.00	180	49	450	4.40
W-075	4075.000000	01/11/96	9601101	7.30	7.40	18.00	220	0.22	0.01	4.00	310	71	600	2.60
W-077	4077.000000	01/11/96	9601102	6.80	7.08	0.75	35	0.52	0.05	20.00	120	49	340	6.40
W-106	4106.000000	01/11/96	9601093	7.00	7.15	6.90	55	1.70	0.02	7.20	140	40	360	14.00
W-106	4106.000000	04/11/96	9604125	6.90	7.08	9.60	54	0.41	0.01	2.80	140	49	310	9.20
W-160	4160.000000	07/10/96	9607091	6.50	6.72	16.00	78	0.46	0.05	0.50	130	38	290	10.00
W-182	4182.000000	01/23/96	9601281	6.50	6.80	29.00	80	0.19	0.02	0.50	120	34	230	4.70
W-182	4182.000000	04/17/96	9604248	6.30	6.60	18.00	34	6.80	0.02	0.50	96	22	180	4.70
W-182	4182.000000	07/11/96	9607108	6.70	7.38	25.00	130	0.22	0.09	0.50	160	34	280	0.64
W-182	4182.000000	10/10/96	9610152	7.20	7.01	36.00	160	2.10	0.26	120.00	280	31	340	0.05
W-183	4183.000000	01/26/96	9601335	7.30	7.43	13.00	200	0.62	0.23	0.50	200	36	410	0.05
W-183	4183.000000	04/17/96	9604249	6.90	7.66	18.00	200	12.00	0.31	8.00	190	34	430	0.05
W-183	4183.000000	07/11/96	9607110	7.00	7.62	16.00	140	10.00	0.30	49.00	200	58	350	0.28
W-183	4183.000000	10/10/96	9610153	7.30	7.70	9.40	200	4.10	0.23	23.00	180	61	420	0.05
W-184	4184.000000	01/23/96	9601273	7.70	7.32	27.00	160	14.00	3.50	29.00	730	740	1200	0.54
W-184	4184.000000	04/17/96	9604250	7.30	7.32	8.80	83	4.40	0.59	12.00	300	260	640	0.36
W-184	4184.000000	07/12/96	9607151	0.00	7.46	30.00	160	16.00	3.00	47.00	530	480	1000	0.10
W-184	4184.000000	10/10/96	9610154	7.20	7.15	21.00	160	14.00	3.00	19.00	380	86	800	0.05
W-186	4186.000000	01/23/96	9601267	7.20	7.49	15.00	160	0.09	0.02	2.00	140	33	320	0.37
W-186	4186.000000	04/17/96	9604251	7.20	7.77	9.00	0.3	0.03	0.01	ERR	130	31	310	0.32
W-186	4186.000000	07/11/96	9607112	6.90	7.62	14.00	140	0.05	0.01	0.50	140	32	280	0.34
W-186	4186.000000	10/10/96	9610155	7.70	7.74	5.80	170	0.90	0.02	21.00	150	41	390	0.19
W-187	4187.000000	01/23/96	9601268	6.60	6.97	20.00	75	1.20	0.11	0.50	76	17	180	1.70
W-187	4187.000000	04/17/96	9604252	6.60	6.91	19.00	0.57	1.10	0.73	30.00	72	18	180	0.14
W-187	4187.000000	07/11/96	9607113	5.90	6.52	48.00	58	1.70	0.20	32.00	44	7	120	0.24
W-187	4187.000000	10/16/96	9610222	7.40	7.12	31.00	200	5.20	0.18	220.00	130	38	450	0.14
W-188	4188.000000	01/26/96	9601336	7.70	7.54	22.00	310	3.40	1.60	3.20	300	260	930	0.05
W-188	4188.000000	04/18/96	9604290	7.70	7.98	12.00	220	1.20	0.21	0.50	350	480	120	0.05
W-188	4188.000000	07/12/96	9607154	7.30	7.78	4.00	65	1.30	0.57	11.00	60	15	120	0.05
W-188	4188.000000	10/16/96	9610225	7.40	7.60	3.90	60	0.32	2.50	0.50	190	28	200	0.64
W-189	4189.000000	01/25/96	9601343	6.30	6.51	20.00	59	0.07	0.08	0.50	140	44	340	8.40
W-189	4189.000000	04/18/96	9604310	6.80	6.67	36.00	78	1.20	0.10	0.50	130	53	310	0.39
W-189	4189.000000	07/18/96	9607202	6.00	6.73	55.00	73	0.46	0.03	11.00	130	50	290	1.50
W-189	4189.000000	10/17/96	9610251	6.20	6.80	28.00	86	0.18	0.02	0.50	180	50	400	2.10
W-191	4191.000000	01/25/96	9601344	7.10	7.26	26.00	290	0.05	0.07	0.50	540	210	890	2.80
W-191	4191.000000	04/18/96	9604309	7.00	7.18	40.00	290	0.39	0.06	13.00	480	140	860	4.40
W-191	4191.000000	07/12/96	9607158	7.50	7.74	24.00	240	2.00	0.07	10.00	420	130	700	4.30
W-191	4191.000000	10/23/96	9610312	7.30	7.52	21.00	290	0.31	0.02	0.50	210	58	600	0.15
W-192	4192.000000	01/25/96	9601345	7.60	7.55	5.00	130	0.20	0.05	0.50	180	37	360	3.20
W-192	4192.000000	04/18/96	9604308	7.40	7.49	13.00	170	0.10	0.02	0.50	240	47	440	3.40
W-192	4192.000000	07/12/96	9607159	7.30	7.73	14.00	180	0.20	0.01	0.50	220	42	370	3.10
W-193	4193.000000	01/29/96	9602019	7.20	7.56	16.00	180	0.14	0.01	0.50	230	42	410	1.80
W-193	4193.000000	04/18/96	9604304	7.40	7.67	5.00	170	0.08	0.02	0.50	8	45	450	0.79
W-193	4193.000000	07/12/96	9607160	7.30	7.83	7.30	180	0.15	0.01	0.50	4	46	430	1.10
W-193	4193.000000	10/23/96	9610314	7.60	7.58	2.80	180	0.13	0.01	0.50	0.5	42	420	1.10
W-193A	4193.001000	01/26/96	9601366	7.20	7.50	0.75	130	0.05	0.02	0.50	160	34	310	0.38
W-193A	4193.001000	04/18/96	9604307	ERR	7.52	6.50	130	0.14	0.03	0.50	170	28	310	0.31
W-193A	4193.001000	07/12/96	9607161	7.20	7.80	16.00	140	0.32	0.01	0.50	160	26	260	0.34
W-193A	4193.001000	10/23/96	9610313	7.20	7.33	10.00	140	0.36	0.01	0.50	170	32	310	0.49
W-195	4195.000000	07/19/96	9607234	7.20	7.51	18.00	210	0.17	0.03	0.50	220	44	480	8.80
W-195	4195.000000	10/23/96	9610319	7.50	7.36	26.00	270	0.10	0.01	0.50	330	61	620	6.00
W-194	4197.000000	07/19/96	9607232	7.30	8.13	6.20	160	0.13	0.03	0.50	150	28	300	0.17
W-194	4197.000000	10/30/96	9611005	7.60	7.56	9.40	180	0.09	0.01	0.50	240	26	350	0.16
W-198	4198.000000	10/30/96	9611002	7.70	7.45	7.20	160	4.90	0.10	63.00	220	35	380	5.00
W-208	4208.000000	01/12/96	9601116	6.40	6.54	15.00	36	0.06	0.05	0.50	130	32	240	8.60

TOVCC 10801

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
W-209	4209.000000	01/12/96	9601117	7.30	7.52	12.00	98	0.10	0.06	0.50	170	50	360	1.40
W-210	4210.000000	01/29/96	9602020	7.40	7.85	9.10	240	0.10	0.01	0.50	310	61	520	3.80
W-210	4210.000000	04/24/96	9604426	7.70	7.62	11.00	240	0.54	0.01	14.00	300	58	500	3.50
W-210	4210.000000	07/29/96	9608025	7.40	7.41	9.90	98	3.00	0.21	0.50	80	21	240	1.20
W-210	4210.000000	10/10/96	9610156	7.30	7.60	10.00	600	34.00	1.20	1500.00	670	52	440	0.46
W-211	4211.000000	01/29/96	9602021	7.20	7.74	12.00	220	0.03	0.01	0.50	270	58	480	0.49
W-211	4211.000000	04/24/96	9604427	7.40	7.71	11.00	250	0.15	0.01	0.50	300	62	500	0.70
W-211	4211.000000	07/29/96	9608022	7.70	7.69	14.00	260	0.61	0.02	16.00	230	54	510	0.24
W-211	4211.000000	07/29/96	9608022	7.70	7.69	14.00	230	0.61	0.02	16.00	230	54	510	0.24
W-211	4211.000000	10/23/96	9610310	7.20	7.63	16.00	240	0.38	0.04	0.50	280	56	500	1.10
W-212	4212.000000	01/29/96	9602022	7.30	7.73	18.00	240	0.13	0.02	0.50	300	65	520	2.20
W-212	4212.000000	04/24/96	9604428	7.40	7.44	11.00	250	0.98	0.03	2.40	290	69	500	0.21
W-212	4212.000000	07/29/96	9608023	7.40	7.60	16.00	240	0.37	0.07	0.50	230	50	510	0.23
W-212	4212.000000	10/23/96	9610311	7.70	7.58	16.00	230	0.84	0.04	1.00	280	56	480	0.92
W-213	4213.000000	01/25/96	9601346	7.70	7.59	11.00	190	0.16	0.15	0.50	190	33	540	0.05
W-213	4213.000000	04/12/96	9604144	7.60	7.62	13.00	200	0.26	0.15	0.50	220	22	570	0.11
W-214	4214.000000	01/25/96	9601347	6.70	7.66	7.00	50	1.60	0.06	10.00	100	28	210	2.50
W-214	4214.000000	04/12/96	9604145	6.40	6.80	40.00	120	0.12	0.03	0.50	280	92	450	9.40
W-215	4215.000000	01/25/96	9601348	7.20	7.36	4.20	120	3.80	0.13	18.00	80	8.9	250	1.80
W-215	4215.000000	04/12/96	9604146	7.50	7.57	10.00	180	2.40	0.14	28.00	80	81	490	0.61
W-216	4216.000000	01/25/96	9601349	7.50	7.39	34.00	300	0.48	0.28	0.50	620	520	1700	1.50
W-216	4216.000000	04/12/96	9604147	7.40	7.47	45.00	320	0.58	0.36	1.60	800	690	1700	0.82
W-217	4217.000000	01/26/96	9601367	6.30	6.80	6.80	44	0.45	0.04	0.50	96	26	290	8.00
W-217	4217.000000	04/25/96	9604456	6.10	6.80	7.60	41	0.97	0.03	1.20	88	26	190	2.80
W-217	4217.000000	07/19/96	9607220	6.00	7.10	10.00	24	0.91	0.07	0.50	0.5	20	110	1.20
W-217	4217.000000	10/15/96	9610217	6.70	7.11	12.00	65	0.51	0.36	12.00	390	26	210	1.30
W-218	4218.000000	07/19/96	9607221	6.30	6.98	12.00	56	0.13	0.02	0.50	150	140	340	2.70
W-218	4218.000000	10/15/96	9610218	6.60	6.95	20.00	47	4.20	3.10	21.00	180	130	340	3.00
W-219	4219.000000	01/25/96	9601353	6.80	7.11	8.70	110	0.20	0.05	0.50	270	130	480	1.80
W-219	4219.000000	04/25/96	9604457	6.60	6.84	19.00	100	0.12	0.01	0.50	220	140	410	2.10
W-220	4220.000000	01/26/96	9601327	7.70	7.79	6.70	200	0.03	0.03	0.50	240	36	450	0.05
W-220	4220.000000	04/25/96	9604458	7.70	7.75	8.70	190	0.12	0.01	0.50	220	44	450	0.05
W-220	4220.000000	07/19/96	9607225	7.50	7.63	13.00	170	0.23	0.04	0.50	160	48	410	0.05
W-221	4221.000000	01/26/96	9601368	8.90	9.08	0.75	330	0.03	0.02	0.50	52	50	660	0.47
W-221	4221.000000	04/26/96	9604459	8.70	8.95	0.75	340	0.11	0.01	2.00	32	29	600	0.43
W-221	4221.000000	07/19/96	9607228	8.50	8.01	3.70	150	1.50	0.08	20.00	0.5	17	290	1.30
W-221	4221.000000	07/19/96	9607230	7.20	7.52	18.00	180	0.33	0.04	4.00	190	63	440	1.20
W-221	4221.000000	10/15/96	9610219	9.00	9.07	0.75	320	0.34	0.10	0.50	170	30	640	0.32
W-222	4222.000000	01/26/96	9601328	7.20	7.46	11.00	140	0.03	0.02	0.50	230	51	410	2.00
W-222	4222.000000	04/26/96	9604460	7.20	7.51	11.00	150	0.12	0.01	0.50	200	49	400	1.50
W-223	4223.000000	01/26/96	9601370	7.00	7.12	9.10	86	0.32	0.02	0.50	150	37	310	13.00
W-223	4223.000000	04/26/96	9604461	7.40	7.62	13.00	200	0.19	0.01	0.50	260	62	480	4.70
W-223	4223.000000	07/19/96	9607229	5.70	6.06	22.00	15	1.70	0.04	0.50	0.5	220	100	2.40
W-223	4223.000000	10/15/96	9610220	7.40	7.55	22.00	250	0.20	0.02	2.80	310	50	530	2.40
W-243	4243.000000	01/12/96	9601111	7.50	7.50	8.10	120	0.22	0.03	0.50	190	57	410	9.50
W-243	4243.000000	04/12/96	9604140	7.80	7.64	5.50	100	0.40	0.06	0.50	170	40	320	7.50
W-243	4243.000000	07/18/96	9607200	7.20	7.41	9.40	93	0.25	0.02	0.50	170	68	330	1.40
W-244	4244.000000	01/12/96	9601112	6.20	7.50	17.00	240	4.70	0.44	39.00	300	44	580	2.80
W-244	4244.000000	04/11/96	9604153	7.30	7.30	26.00	250	2.50	0.52	34.00	300	45	520	2.00
W-244	4244.000000	07/18/96	9607201	7.20	7.69	21.00	240	0.32	0.02	2.70	280	40	480	1.80
W-260	4260.000000	01/12/96	9601114	7.20	7.22	46.00	360	0.41	1.70	14.00	450	95	840	2.10
W-260	4260.000000	04/12/96	9604148	7.10	7.24	40.00	310	0.94	2.40	28.00	410	70	640	0.64
W-260	4260.000000	07/18/96	9607205	7.20	7.42	38.00	320	2.40	10.00	93.00	400	79	640	1.20
W-260	4260.000000	10/15/96	9610213	7.60	7.24	40.00	360	0.58	3.80	26.00	450	77	740	0.75
W-269	4269.000000	01/25/96	9601365	7.20	7.44	16.00	210	0.33	0.06	0.50	480	42	990	3.10
W-287	4287.000000	01/29/96	9602023	6.80	7.36	0.75	100	0.30	0.03	4.00	180	33	390	4.60
W-287	4287.000000	04/24/96	9604429	7.30	7.40	5.20	81	1.40	0.06	28.00	130	30	250	2.50
W-287	4287.000000	07/29/96	9608024	6.90	7.46	17.00	260	0.50	0.04	0.50	190	62	480	0.05
W-287	4287.000000	10/23/96	9610309	7.20	7.40	5.00	73	0.35	0.01	0.50	180	33	260	2.40

TOVCC 10802

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - ANALYSES
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	ANALYSIS NO.	FIELD pH	LAB pH	TOT. ACIDITY	TOTAL ALKALINITY	TOTAL IRON	TOTAL MANGANESE	TOTAL SUSPENDED SOLIDS	HARDNESS	SULFATE	SPECIFIC CONDUCTANCE	NITRATE
W-288	4288.000000	01/11/96	9601100	7.40	7.57	16.00	180	0.07	0.01	0.50	380	55	820	1.20
W-288	4288.000000	04/11/96	9604151	7.50	7.40	18.00	170	0.05	0.02	0.50	320	57	620	1.10
W-288	4288.000000	07/10/96	9607090	7.30	7.33	15.00	200	0.24	0.02	3.00	290	42	560	4.40

TOVCC 109803

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U28-L	1028.012000	01/12/96		0.6100	970				738		GTE	2,441,726.51	728,057.98
U28-L	1028.012000	02/15/96		0.7400	970				738		GTE	2,441,726.51	728,057.98
U28-L	1028.012000	03/14/96		2.3000	970				738		GTE	2,441,726.51	728,057.98
U28-L	1028.012000	04/12/96		0.9700	970				738		GTE	2,441,726.51	728,057.98
U28-L	1028.012000	05/15/96		1.8400	970				738		GTE	2,441,726.51	728,057.98
U28-L	1028.012000	06/14/96		0.3500	970				738		GTE	2,441,726.51	728,057.98
U29-B	1029.002000	01/12/96		0.0000	1080				738		PAN	2,443,653.22	727,691.27
U29-B	1029.002000	02/15/96		0.0000	1080				738		PAN	2,443,653.22	727,691.27
U29-B	1029.002000	03/14/96		0.0300	1080				738		PAN	2,443,653.22	727,691.27
U29-C	1029.003000	01/12/96		0.0300	1000				740		PAN	2,443,126.83	728,203.19
U29-C	1029.003000	02/15/96		0.0500	1000				740		PAN	2,443,126.83	728,203.19
U29-C	1029.003000	03/14/96		0.1600	1000				740		PAN	2,443,126.83	728,203.19
U29-C	1029.003000	04/12/96		0.0600	1000				740		PAN	2,443,126.83	728,203.19
U29-C	1029.003000	05/24/96		0.1800	1000				740		PAN	2,443,126.83	728,203.19
U29-C	1029.003000	06/18/96		0.0400	1000				740		PAN	2,443,126.83	728,203.19
U29-D	1029.004000	01/12/96		0.1400	992				740		PAN	2,442,967.06	728,131.82
U29-D	1029.004000	02/15/96		0.1500	992				740		PAN	2,442,967.06	728,131.82
U29-D	1029.004000	03/14/96		0.7200	992				740		PAN	2,442,967.06	728,131.82
U29-D	1029.004000	04/12/96		0.2500	992				740		PAN	2,442,967.06	728,131.82
U29-D	1029.004000	05/24/96		0.4300	992				740		PAN	2,442,967.06	728,131.82
U29-D	1029.004000	06/18/96		0.1200	992				740		PAN	2,442,967.06	728,131.82
U30-L	1030.012000	01/12/96		0.0004	1025				745		PAN	2,445,680.01	729,308.49
U30-L	1030.012000	02/16/96		0.0001	1025				745		PAN	2,445,680.01	729,308.49
U30-L	1030.012000	03/21/96		0.0005	1025				745		PAN	2,445,680.01	729,308.49
U30-L	1030.012000	04/12/96		0.0050	1025				745		PAN	2,445,680.01	729,308.49
U30-L	1030.012000	05/15/96		0.0600	1025				745		PAN	2,445,680.01	729,308.49
U30-L	1030.012000	06/13/96		0.0040	1025				745		PAN	2,445,680.01	729,308.49
U30-M	1030.013000	01/12/96		0.3200	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	02/16/96		0.2600	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	03/21/96		0.3100	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	04/12/96		0.3900	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	05/15/96		0.7800	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	06/13/96		0.3200	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	07/18/96		0.5700	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	08/16/96		0.1500	990				745		PAN	2,445,762.89	729,397.16
U30-M	1030.013000	09/13/96		0.0200	990				745		PAN	2,445,762.89	729,397.16
U30-N	1030.014000	01/12/96		0.0300	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	02/16/96		0.0090	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	03/21/96		0.0400	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	04/12/96		0.1700	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	05/15/96		0.2000	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	06/13/96		0.0500	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	07/18/96		0.0300	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	08/16/96		0.0200	990				749		PAN	2,441,745.73	724,713.51
U30-N	1030.014000	09/13/96		0.0100	990				749		PAN	2,441,745.73	724,713.51
U34-029	1034.029000	01/23/96		10.9000	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	02/16/96		5.3000	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	03/21/96		9.7000	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	04/17/96		18.7000	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	05/16/96		12.0100	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	06/14/96		6.1200	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	07/25/96		1.4200	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	08/15/96		0.6100	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	09/11/96		0.2900	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	10/08/96		1.0700	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	11/14/96		2.0900	1020				763		PAN	2,432,564.27	728,028.82
U34-029	1034.029000	12/11/96		3.8900	1020				763		PAN	2,432,564.27	728,028.82
U34-032	1034.032000	07/24/96		0.0050	1100				759		PAN	2,434,169.51	729,967.48
U34-032	1034.032000	08/15/96		0.0010	1100				759		PAN	2,434,169.51	729,967.48
U34-032	1034.032000	09/11/96		0.0020	1100				759		PAN	2,434,169.51	729,967.48
U34-032	1034.032000	10/08/96		0.0010	1100				759		PAN	2,434,169.51	729,967.48
U34-032	1034.032000	11/14/96		0.0060	1100				759		PAN	2,434,169.51	729,967.48
U34-032	1034.032000	12/11/96		0.0300	1100				759		PAN	2,434,169.51	729,967.48
U34-033	1034.033000	07/24/96		0.1700	1078				759		PAN	2,434,567.13	729,961.24
U34-033	1034.033000	08/15/96		0.1000	1078				759		PAN	2,434,567.13	729,961.24
U34-033	1034.033000	09/11/96		0.1000	1078				759		PAN	2,434,567.13	729,961.24
U34-033	1034.033000	10/08/96		0.1100	1078				759		PAN	2,434,567.13	729,961.24
U34-033	1034.033000	11/14/96		0.4000	1078				759		PAN	2,434,567.13	729,961.24
U34-033	1034.033000	12/11/96		0.2800	1078				759		PAN	2,434,567.13	729,961.24

TOVCC 10804

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-034	1034.034000	07/24/96		0.0240	1090				758		PAN	2,435,031.48	729,989.9(
U34-034	1034.034000	08/15/96		0.0100	1090				758		PAN	2,435,031.48	729,989.9(
U34-034	1034.034000	09/11/96		0.0100	1090				758		PAN	2,435,031.48	729,989.9(
U34-034	1034.034000	10/08/96		0.0100	1090				758		PAN	2,435,031.48	729,989.9(
U34-034	1034.034000	11/14/96		0.0600	1090				758		PAN	2,435,031.48	729,989.9(
U34-034	1034.034000	12/11/96		0.0500	1090				758		PAN	2,435,031.48	729,989.9(
U34-035	1034.035000	07/11/96		0.2000	1070				758		PAN	2,434,632.70	729,689.6(
U34-035	1034.035000	08/15/96		0.1400	1070				758		PAN	2,434,632.70	729,689.6(
U34-035	1034.035000	09/11/96		0.1300	1070				758		PAN	2,434,632.70	729,689.6(
U34-035	1034.035000	10/08/96		0.1100	1070				758		PAN	2,434,632.70	729,689.6(
U34-035	1034.035000	11/14/96		0.4000	1070				758		PAN	2,434,632.70	729,689.6(
U34-035	1034.035000	12/11/96		0.3600	1070				758		PAN	2,434,632.70	729,689.6(
U34-036	1034.036000	07/11/96		0.2300	1060				757		PAN	2,434,653.71	729,275.6(
U34-036	1034.036000	08/15/96		0.1500	1060				757		PAN	2,434,653.71	729,275.6(
U34-036	1034.036000	09/11/96		0.1400	1060				757		PAN	2,434,653.71	729,275.6(
U34-036	1034.036000	10/08/96		0.1100	1060				757		PAN	2,434,653.71	729,275.6(
U34-036	1034.036000	11/14/96		0.4100	1060				757		PAN	2,434,653.71	729,275.6(
U34-036	1034.036000	12/11/96		0.3700	1060				757		PAN	2,434,653.71	729,275.6(
U34-037	1034.037000	01/18/96		0.1200	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	02/16/96		0.0200	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	03/22/96		0.0600	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	04/17/96		0.0300	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	05/16/96		0.1100	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	06/13/96		0.0200	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	07/11/96		0.0100	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	08/15/96		0.0030	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	09/11/96		0.0040	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	10/08/96		0.0050	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	11/14/96		0.0200	1050				759		PAN	2,434,625.93	728,210.8(
U34-037	1034.037000	12/11/96		0.0200	1050				759		PAN	2,434,625.93	728,210.8(
U34-038	1034.038000	01/23/96		28.9000	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	02/16/96		10.8000	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	03/21/96		21.9000	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	04/17/96		22.3000	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	04/17/96		22.3000	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	05/16/96		13.4200	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	06/14/96		6.5500	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	07/11/96		1.4400	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	08/15/96		0.6700	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	09/13/96		0.3000	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	10/10/96		1.3200	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	11/12/96		2.6300	1010				761		PAN	2,434,495.16	727,251.8(
U34-038	1034.038000	12/12/96		4.6600	1010				761		PAN	2,434,495.16	727,251.8(
U34-039	1034.039000	01/23/96		29.7000	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	02/16/96		11.2000	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	03/21/96		22.4000	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	04/17/96		24.0000	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	05/16/96		14.4400	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	06/14/96		7.1500	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	07/11/96		2.3800	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	08/15/96		0.7600	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	09/13/96		0.3100	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	10/10/96		1.4100	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	11/15/96		2.9500	1009				761		PAN	2,434,766.47	727,152.3
U34-039	1034.039000	12/12/96		4.9300	1009				761		PAN	2,434,766.47	727,152.3
U34-040	1034.040000	01/23/96		0.2500	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	02/16/96		0.0600	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	03/21/96		0.4500	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	04/17/96		0.1500	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	05/16/96		0.2700	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	06/13/96		0.0700	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	07/12/96		0.0100	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	08/15/96		0.0060	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	09/13/96		0.0050	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	10/10/96		0.0300	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	11/15/96		0.0300	1057				758		PAN	2,435,601.42	727,177.6
U34-040	1034.040000	12/12/96		0.0700	1057				758		PAN	2,435,601.42	727,177.6

TOVCC 10805

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-041	1034.041000	01/23/96		0.2500	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	02/16/96		0.0800	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	03/21/96		0.7200	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	04/17/96		0.2600	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	05/16/96		0.3600	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	06/13/96		0.1000	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	07/12/96		0.0300	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	08/15/96		0.0200	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	09/13/96		0.0070	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	10/10/96		0.0300	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	11/15/96		0.0500	1040				758		PAN	2,435,534.32	726,977.73
U34-041	1034.041000	12/12/96		0.0700	1040				758		PAN	2,435,534.32	726,977.73
U34-042	1034.042000	01/23/96		0.0200	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	02/16/96		0.0000	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	03/21/96		0.0700	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	04/17/96		0.0200	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	05/16/96		0.1400	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	06/13/96		0.0400	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	07/12/96		0.0070	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	08/15/96		0.0010	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	09/13/96		0.0000	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	10/10/96		0.0000	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	11/15/96		0.0050	1005				752		PAN	2,435,070.82	725,934.63
U34-042	1034.042000	12/12/96		0.0020	1005				752		PAN	2,435,070.82	725,934.63
U34-043	1034.043000	01/23/96		0.1000	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	02/16/96		0.0300	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	03/21/96		0.1300	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	04/17/96		0.1300	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	05/16/96		0.1800	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	06/13/96		0.0300	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	07/12/96		0.0100	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	08/15/96		0.0000	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	09/13/96		0.0000	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	10/10/96		0.0000	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	11/15/96		0.0000	1008				755		GTE	2,442,235.97	726,468.66
U34-043	1034.043000	12/12/96		0.0000	1008				755		GTE	2,442,235.97	726,468.66
U34-044	1034.044000	01/23/96		0.1200	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	02/16/96		0.0600	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	03/21/96		0.2100	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	04/17/96		0.1700	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	05/16/96		0.2600	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	06/13/96		0.0500	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	07/12/96		0.0100	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	08/15/96		0.0000	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	09/13/96		0.0000	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	10/10/96		0.0000	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	11/15/96		0.0000	1007				752		PAN	2,435,283.08	725,993.74
U34-044	1034.044000	12/12/96		0.0000	1007				752		PAN	2,435,283.08	725,993.74
U34-054	1034.054000	01/10/96		0.0300	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	02/15/96		0.0400	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	03/14/96		0.1400	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	04/12/96		0.0500	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	05/14/96		0.1100	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	06/12/96		0.0800	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	07/10/96		0.0100	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	08/22/96		0.0020	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	09/26/96		0.0200	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	10/25/96		0.0100	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	11/21/96		0.0400	1090				746		PAN	2,432,880.90	729,980.13
U34-054	1034.054000	12/23/96		0.0500	1090				746		PAN	2,432,880.90	729,980.13
U34-055	1034.055000	01/23/96		1.3000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	02/23/96		1.6000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	03/21/96		1.6000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	04/17/96		1.2000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	05/15/96		2.7600	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	06/14/96		0.4000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	07/11/96		0.0200	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	08/15/96		0.0000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	09/13/96		0.0000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	10/10/96		0.0500	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	11/14/96		0.5000	1020				750		PAN	2,433,744.09	725,448.78
U34-055	1034.055000	12/12/96		0.5800	1020				750		PAN	2,433,744.09	725,448.78

TOVCC 10806

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-056	1034.056000	01/23/96		3.0200	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	02/23/96		2.9000	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	03/21/96		6.5000	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	04/17/96		2.2000	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	05/15/96		4.9400	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	06/14/96		0.6900	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	07/11/96		0.0400	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	08/15/96		0.0010	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	09/13/96		0.0000	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	10/10/96		0.0600	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	11/14/96		0.5800	1020				752		GTE	2,434,649.32	725,650.73
U34-056	1034.056000	12/12/96		0.6900	1020				752		GTE	2,434,649.32	725,650.73
U34-057	1034.057000	01/23/96		3.3000	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	02/23/96		3.1000	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	03/21/96		6.7000	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	04/17/96		2.3300	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	05/16/96		5.2600	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	06/14/96		0.8600	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	07/11/96		0.0500	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	08/15/96		0.0010	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	09/13/96		0.0000	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	10/10/96		0.0800	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	11/14/96		0.6000	1020				751		GTE	2,435,039.19	725,702.55
U34-057	1034.057000	12/12/96		0.7000	1020				751		GTE	2,435,039.19	725,702.55
U34-058	1034.058000	01/24/96		21.8000	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	02/23/96		12.4000	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	03/21/96		33.4000	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	04/17/96		6.1200	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	05/15/96		16.4100	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	06/14/96		11.3900	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	07/11/96		2.8100	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	08/15/96		0.7700	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	09/13/96		0.0000	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	10/10/96		2.4000	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	11/14/96		3.4000	1000				751		GTE	2,435,205.48	725,627.96
U34-058	1034.058000	12/12/96		6.1200	1000				751		GTE	2,435,205.48	725,627.96
U34-059	1034.059000	01/24/96		0.1600	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	02/23/96		0.0500	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	03/21/96		0.2000	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	04/17/96		0.4600	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	05/24/96		0.0200	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	06/13/96		0.0100	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	07/12/96		0.0000	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	08/15/96		0.0000	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	09/13/96		0.0000	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	10/10/96		0.0000	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	11/14/96		0.0000	1000				748		PAN	2,435,555.53	725,306.80
U34-059	1034.059000	12/12/96		0.0000	1000				748		PAN	2,435,555.53	725,306.80
U34-060	1034.060000	01/11/96		0.0030	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	02/15/96		0.0100	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	02/15/96		0.0300	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	03/14/96		0.0800	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	04/11/96		0.0400	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	05/14/96		0.1000	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	06/12/96		0.0400	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	07/10/96		0.0100	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	08/22/96		0.0200	1135				731		ADJ	2,435,156.92	727,889.9
U34-060	1034.060000	09/26/96		0.0200	1135				731		ADJ	2,435,156.92	727,889.9
U34-061	1034.061000	01/11/96		0.0080	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	02/15/96		0.0300	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	03/14/96		0.1500	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	04/11/96		0.0600	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	05/14/96		0.1100	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	06/12/96		0.0700	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	07/10/96		0.0200	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	08/22/96		0.0200	1000				731		ADJ	2,434,626.19	728,314.4
U34-061	1034.061000	09/26/96		0.0080	1000				731		ADJ	2,434,626.19	728,314.4

TOVCC 10807

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	DATE UNDERMINED	LOCATION	STATE PLANE COORDS X	Y
U34-062	1034.062000	01/11/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	02/15/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	03/14/96		0.0500	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	04/11/96		0.0600	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	05/14/96		0.2200	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	06/12/96		0.0800	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	07/10/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	08/22/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	09/26/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	10/25/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	11/19/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-062	1034.062000	12/23/96		0.0000	1182				738		PAN	2,433,966.39	728,824.94
U34-063	1034.063000	01/11/96		0.0080	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	03/14/96		0.2000	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	04/11/96		0.1200	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	04/14/96		0.1100	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	05/14/96		0.1100	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	06/12/96		0.1500	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	07/10/96		0.0000	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	08/22/96		0.0000	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	09/26/96		0.0000	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	10/25/96		0.0200	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	11/19/96		0.0200	995				738		PAN	2,434,654.59	728,739.19
U34-063	1034.063000	12/23/96		0.0900	995				738		PAN	2,434,654.59	728,739.19
U34-064	1034.064000	01/11/96		0.0000	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	02/15/96		0.0005	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	03/14/96		0.2100	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	04/11/96		0.0500	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	05/14/96		0.1500	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	06/12/96		0.0700	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	07/10/96		0.0100	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	08/22/96		0.0000	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	09/26/96		0.0000	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	10/25/96		0.0010	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	11/19/96		0.0700	960				739		GTE	2,435,188.55	729,139.88
U34-064	1034.064000	12/23/96		0.0300	960				739		GTE	2,435,188.55	729,139.88
U34-065	1034.065000	01/24/96		25.3000	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	02/23/96		15.6000	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	03/22/96		19.7000	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	04/18/96		9.8000	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	05/15/96		23.1700	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	06/14/96		11.8600	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	07/11/96		4.1400	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	08/15/96		0.8000	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	09/13/96		0.3300	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	10/10/96		2.6900	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	11/14/96		5.2700	996				744		PAN	2,436,579.93	729,921.13
U34-065	1034.065000	12/12/96		8.1500	996				744		PAN	2,436,579.93	729,921.13
U34-066	1034.066000	01/24/96		29.7000	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	02/23/96		18.8000	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	03/22/96		29.5000	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	04/18/96		13.4000	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	05/15/96		2.8900	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	06/14/96		12.8900	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	07/12/96		6.0400	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	08/15/96		0.9000	982				737		PAN	2,438,094.89	729,637.83
U34-066	1034.066000	09/13/96		0.3300	982				737		PAN	2,438,094.89	729,637.83
U34-067	1034.067000	01/25/96		0.2400	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	02/23/96		0.1900	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	03/22/96		0.3200	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	04/18/96		1.0100	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	05/15/96		0.3900	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	06/14/96		0.1700	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	07/12/96		0.0500	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	08/15/96		0.1100	1000				735		PAN	2,437,959.84	728,752.46
U34-067	1034.067000	09/13/96		0.0300	1000				735		PAN	2,437,959.84	728,752.46

TOVCC 10808

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-068	1034.068000	01/25/96		1.0300	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	02/23/96		0.5400	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	03/22/96		1.2000	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	04/18/96		1.3300	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	05/15/96		1.6000	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	06/14/96		0.2300	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	07/12/96		0.1300	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	08/15/96		0.1300	977				736		GTE	2,438,101.43	729,112.08
U34-068	1034.068000	09/13/96		0.0400	977				736		GTE	2,438,101.43	729,112.08
U34-071	1034.071000	10/30/96		0.0300	1175				760		PAN	2,436,761.81	730,587.25
U34-071	1034.071000	11/21/96		0.0050	1175				760		PAN	2,436,761.81	730,587.25
U34-071	1034.071000	12/20/96		0.0900	1175				760		PAN	2,436,761.81	730,587.25
U34-072	1034.072000	07/19/96		0.1700	1150				755		PAN	2,436,713.59	729,720.74
U34-072	1034.072000	08/16/96		0.0020	1150				755		PAN	2,436,713.59	729,720.74
U34-072	1034.072000	09/26/96		0.0040	1150				755		PAN	2,436,713.59	729,720.74
U34-072	1034.072000	10/24/96		0.0100	1150				755		PAN	2,436,713.59	729,720.74
U34-072	1034.072000	11/21/96		0.0200	1150				755		PAN	2,436,713.59	729,720.74
U34-072	1034.072000	12/20/96		0.0500	1150				755		PAN	2,436,713.59	729,720.74
U34-073	1034.073000	07/18/96		0.6900	1170				752		PAN	2,436,672.45	728,837.46
U34-073	1034.073000	08/16/96		0.0020	1170				752		PAN	2,436,672.45	728,837.46
U34-073	1034.073000	09/26/96		0.0050	1170				752		PAN	2,436,672.45	728,837.46
U34-073	1034.073000	10/24/96		0.0009	1170				752		PAN	2,436,672.45	728,837.46
U34-073	1034.073000	11/21/96		0.0080	1170				752		PAN	2,436,672.45	728,837.46
U34-073	1034.073000	12/20/96		0.0100	1170				752		PAN	2,436,672.45	728,837.46
U34-074	1034.074000	01/18/96		2.4000	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	02/23/96		0.7600	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	03/22/96		1.3300	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	04/18/96		0.1900	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	05/22/96		0.6700	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	06/14/96		0.2100	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	07/23/96		0.1500	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	08/16/96		0.0300	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	09/13/96		0.0100	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	10/24/96		0.0700	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	11/21/96		0.1300	1000				748		GTE	2,437,210.71	728,506.95
U34-074	1034.074000	12/20/96		0.3600	1000				748		GTE	2,437,210.71	728,506.95
U34-075	1034.075000	01/18/96		5.6000	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	02/23/96		0.9000	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	03/22/96		1.8000	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	04/18/96		0.8200	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	05/22/96		0.7300	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	06/14/96		0.3500	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	07/25/96		0.3900	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	08/16/96		0.0500	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	09/13/96		0.0200	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	10/24/96		0.0800	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	11/21/96		0.2500	1065				743		PAN	2,437,848.85	727,130.54
U34-075	1034.075000	12/20/96		0.5500	1065				743		PAN	2,437,848.85	727,130.54
U34-076	1034.076000	01/25/96		1.5000	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	02/23/96		0.9700	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	03/22/96		2.4000	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	04/18/96		1.4300	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	05/22/96		0.7700	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	06/14/96		0.3900	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	07/25/96		0.6000	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	08/16/96		0.0600	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	09/13/96		0.0300	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	10/17/96		0.0900	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	11/15/96		0.5500	980				738		PAN	2,438,944.44	729,736.0
U34-076	1034.076000	12/13/96		0.9600	980				738		PAN	2,438,944.44	729,736.0
U34-077	1034.077000	01/25/96		1.6000	978				737		PAN	2,438,984.13	729,480.9
U34-077	1034.077000	02/23/96		1.2000	978				737		PAN	2,438,984.13	729,480.9
U34-077	1034.077000	03/22/96		3.0400	978				737		PAN	2,438,984.13	729,480.9
U34-077	1034.077000	04/18/96		1.6300	978				737		PAN	2,438,984.13	729,480.9
U34-077	1034.077000	05/16/96		2.1200	978				737		PAN	2,438,984.13	729,480.9
U34-077	1034.077000	06/14/96		0.4900	978				737		PAN	2,438,984.13	729,480.9
U34-078	1034.078000	01/24/96		33.1000	970				736		PAN	2,439,407.01	729,241.3
U34-078	1034.078000	02/23/96		23.1000	970				736		PAN	2,439,407.01	729,241.3
U34-078	1034.078000	03/22/96		37.3000	970				736		PAN	2,439,407.01	729,241.3
U34-078	1034.078000	04/18/96		19.6000	970				736		PAN	2,439,407.01	729,241.3
U34-078	1034.078000	05/16/96		26.4000	970				736		PAN	2,439,407.01	729,241.
U34-078	1034.078000	06/14/96		13.3200	970				736		PAN	2,439,407.01	729,241.

TOVCC 10809

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-80A	1034.080001	01/23/96		0.0400	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	02/16/96		0.0200	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	03/21/96		0.0600	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	04/17/96		0.0300	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	05/16/96		0.0400	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	06/13/96		0.0200	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	07/12/96		0.0020	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	08/15/96		0.0010	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	09/13/96		0.0000	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	10/10/96		0.0000	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	11/15/96		0.0000	1038				752		PAN	2,434,810.10	726,075.90
U34-80A	1034.080001	12/12/96		0.0000	1038				752		PAN	2,434,810.10	726,075.90
U34-083	1034.083000	10/25/96		0.0300	1170				761		PAN	2,438,056.79	730,496.30
U34-083	1034.083000	11/21/96		0.0400	1170				761		PAN	2,438,056.79	730,496.30
U34-083	1034.083000	12/20/96		0.0800	1170				761		PAN	2,438,056.79	730,496.30
U34-084	1034.084000	04/24/96		0.1500	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	05/22/96		0.1500	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	06/18/96		0.0500	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	07/26/96		0.0800	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	08/22/96		0.0500	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	09/19/96		0.0300	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	10/25/96		0.0600	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	11/20/96		0.2400	1135				754		GTE	2,438,543.91	729,454.27
U34-084	1034.084000	12/19/96		0.1700	1135				754		GTE	2,438,543.91	729,454.27
U34-085	1034.085000	01/18/96		1.4000	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	02/27/96		2.2000	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	03/22/96		0.7800	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	04/24/96		0.4800	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	05/22/96		0.3000	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	06/18/96		0.1300	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	07/26/96		0.1900	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	08/22/96		0.0500	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	09/19/96		0.0600	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	10/25/96		0.1000	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	11/20/96		0.2500	1111				746		GTE	2,438,704.78	728,409.52
U34-085	1034.085000	12/19/96		0.2700	1111				746		GTE	2,438,704.78	728,409.52
U34-086	1034.086000	01/18/96		2.9000	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	02/27/96		4.6000	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	03/22/96		1.3000	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	04/24/96		0.8200	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	05/22/96		0.8100	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	06/18/96		0.2300	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	07/26/96		0.4100	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	08/22/96		0.0600	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	09/19/96		0.0600	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	10/25/96		0.1200	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	11/20/96		0.3000	1000				738		PAN	2,439,110.57	727,100.44
U34-086	1034.086000	12/19/96		0.3200	1000				738		PAN	2,439,110.57	727,100.44
U34-087	1034.087000	01/18/96		0.1100	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	02/27/96		0.7000	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	03/22/96		0.1600	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	04/24/96		0.1600	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	05/22/96		0.0400	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	06/18/96		0.0200	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	07/26/96		0.0200	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	08/22/96		0.0070	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	09/19/96		0.0030	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	10/25/96		0.0003	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	11/20/96		0.0020	1100				740		PAN	2,439,406.49	727,779.1
U34-087	1034.087000	12/19/96		0.0100	1100				740		PAN	2,439,406.49	727,779.1
U34-088	1034.088000	01/25/96		1.6000	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	02/23/96		1.4300	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	03/22/96		1.8000	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	04/18/96		2.1500	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	05/16/96		1.1300	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	06/14/96		0.2900	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	07/26/96		0.4600	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	08/22/96		0.0600	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	09/19/96		0.0900	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	10/25/96		0.1400	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	11/20/96		0.3700	970				741		PAN	2,439,985.79	729,741.6
U34-088	1034.088000	12/19/96		0.4200	970				741		PAN	2,439,985.79	729,741.6

TOVCC 10810

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-089	1034.089000	01/24/96		37.2000	965				738		PAN	2,440,688.95	729,279.34
U34-089	1034.089000	02/23/96		29.3000	965				738		PAN	2,440,688.95	729,279.34
U34-089	1034.089000	03/22/96		49.9000	965				738		PAN	2,440,688.95	729,279.34
U34-089	1034.089000	04/18/96		21.0200	965				738		PAN	2,440,688.95	729,279.34
U34-089	1034.089000	05/16/96		28.3600	965				738		PAN	2,440,688.95	729,279.34
U34-089	1034.089000	06/14/96		14.9900	965				738		PAN	2,440,688.95	729,279.34
U34-090	1034.090000	01/25/96		0.4200	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	02/23/96		0.1300	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	03/22/96		0.2400	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	04/18/96		0.1100	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	05/16/96		0.2500	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	06/14/96		0.0020	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	07/25/96		0.0020	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	08/16/96		0.0004	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	09/13/96		0.0000	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	10/17/96		0.0000	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	11/15/96		0.0000	980				741		PAN	2,441,023.39	729,692.47
U34-090	1034.090000	12/19/96		0.0000	980				741		PAN	2,441,023.39	729,692.47
U34-091	1034.091000	01/25/96		0.4200	963				739		PAN	2,441,097.97	729,273.46
U34-091	1034.091000	02/23/96		0.1600	963				739		PAN	2,441,097.97	729,273.46
U34-091	1034.091000	03/22/96		0.3300	963				739		PAN	2,441,097.97	729,273.46
U34-091	1034.091000	04/18/96		0.1300	963				739		PAN	2,441,097.97	729,273.46
U34-091	1034.091000	05/16/96		0.3800	963				739		PAN	2,441,097.97	729,273.46
U34-091	1034.091000	06/14/96		0.0040	963				739		PAN	2,441,097.97	729,273.46
U34-092	1034.092000	01/24/96		38.9000	957				738		PAN	2,441,220.17	729,136.27
U34-092	1034.092000	02/23/96		33.6000	957				738		PAN	2,441,220.17	729,136.27
U34-092	1034.092000	03/22/96		55.4000	957				738		PAN	2,441,220.17	729,136.27
U34-092	1034.092000	04/18/96		28.7200	957				738		PAN	2,441,220.17	729,136.27
U34-092	1034.092000	05/16/96		29.7700	957				738		PAN	2,441,220.17	729,136.27
U34-092	1034.092000	06/14/96		15.2300	957				738		PAN	2,441,220.17	729,136.27
U34-093	1034.093000	01/25/96		22.6000	957				739		PAN	2,441,702.63	729,098.40
U34-093	1034.093000	02/27/96		70.5000	957				739		PAN	2,441,702.63	729,098.40
U34-093	1034.093000	03/27/96		25.9000	957				739		PAN	2,441,702.63	729,098.40
U34-093	1034.093000	04/25/96		15.6000	957				739		PAN	2,441,702.63	729,098.40
U34-093	1034.093000	05/24/96		21.6200	957				739		PAN	2,441,702.63	729,098.40
U34-093	1034.093000	06/18/96		7.9000	957				739		PAN	2,441,702.63	729,098.40
U34-094	1034.094000	01/25/96		22.9000	957				739		PAN	2,441,701.85	729,160.46
U34-094	1034.094000	02/27/96		70.9000	957				739		PAN	2,441,701.85	729,160.46
U34-094	1034.094000	03/27/96		27.3000	957				739		PAN	2,441,701.85	729,160.46
U34-094	1034.094000	04/25/96		15.8000	957				739		PAN	2,441,701.85	729,160.46
U34-094	1034.094000	05/24/96		22.0400	957				739		PAN	2,441,701.85	729,160.46
U34-094	1034.094000	06/18/96		9.9100	957				739		PAN	2,441,701.85	729,160.46
U34-095	1034.095000	01/25/96		23.8000	957				739		ADJ	2,441,626.57	729,342.11
U34-095	1034.095000	02/27/96		71.6000	957				739		ADJ	2,441,626.57	729,342.11
U34-095	1034.095000	03/27/96		32.9000	957				739		ADJ	2,441,626.57	729,342.11
U34-095	1034.095000	04/25/96		16.1000	957				739		ADJ	2,441,626.57	729,342.11
U34-095	1034.095000	05/24/96		22.3400	957				739		ADJ	2,441,626.57	729,342.11
U34-095	1034.095000	06/18/96		10.2300	957				739		ADJ	2,441,626.57	729,342.11
U34-096	1034.096000	01/25/96		24.3000	953				739		ADJ	2,441,700.24	729,584.00
U34-096	1034.096000	02/27/96		72.8000	953				739		ADJ	2,441,700.24	729,584.00
U34-096	1034.096000	03/27/96		36.5000	953				739		ADJ	2,441,700.24	729,584.00
U34-096	1034.096000	04/25/96		16.8000	953				739		ADJ	2,441,700.24	729,584.00
U34-096	1034.096000	05/24/96		23.1100	953				739		ADJ	2,441,700.24	729,584.00
U34-096	1034.096000	06/18/96		11.3900	953				739		ADJ	2,441,700.24	729,584.00
U34-097	1034.097000	01/25/96		25.1000	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	02/27/96		74.7000	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	03/27/96		40.2000	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	04/25/96		17.1000	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	05/24/96		23.5800	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	06/18/96		11.6400	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	07/19/96		17.1500	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	08/22/96		1.4700	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	09/26/96		0.8900	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	10/11/96		3.1100	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	11/20/96		9.4800	953				742		PAN	2,441,917.75	729,710.81
U34-097	1034.097000	12/13/96		12.7000	953				742		PAN	2,441,917.75	729,710.81

TOVCC 10811

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-098	1034.098000	01/12/96		0.0040	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	02/16/96		0.0020	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	03/14/96		0.0200	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	04/12/96		0.0100	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	05/24/96		0.2200	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	06/18/96		0.0030	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	07/18/96		0.0100	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	08/16/96		0.0050	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	09/26/96		0.0010	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	10/15/96		0.0007	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	11/15/96		0.0090	1040				742		GTE	2,442,503.70	728,984.20
U34-098	1034.098000	12/13/96		0.0200	1040				742		GTE	2,442,503.70	728,984.20
U34-099	1034.099000	01/25/96		26.7000	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	02/27/96		81.6000	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	03/27/96		46.9000	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	04/25/96		17.4000	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	05/24/96		23.8900	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	06/18/96		12.1500	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	07/19/96		17.8500	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	08/22/96		1.6900	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	09/26/96		1.2300	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	10/11/96		3.1800	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	11/20/96		9.6500	952				742		PAN	2,442,208.54	729,816.75
U34-099	1034.099000	12/13/96		12.8900	952				742		PAN	2,442,208.54	729,816.75
U34-100	1034.100000	01/25/96		0.0900	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	02/27/96		0.2300	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	03/27/96		0.1000	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	04/25/96		0.0600	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	05/24/96		24.1100	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	06/18/96		0.0500	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	07/19/96		0.1000	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	08/22/96		1.7500	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	09/26/96		2.0000	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	10/11/96		0.0200	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	11/20/96		0.0800	940				742		GTE	2,442,415.10	729,943.47
U34-100	1034.100000	12/13/96		0.0500	940				742		GTE	2,442,415.10	729,943.47
U34-100A	1034.100001	10/24/96		0.0200	1190				761		GTE	2,436,564.51	730,539.53
U34-100A	1034.100001	11/21/96		3.1400	1190				761		GTE	2,436,564.51	730,539.53
U34-100A	1034.100001	12/20/96		0.0100	1190				761		GTE	2,436,564.51	730,539.53
U34-101	1034.101000	01/18/96		0.8200	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	02/27/96		0.6600	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	03/22/96		0.1500	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	04/25/96		0.1200	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	05/22/96		0.0500	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	05/24/96		0.0300	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	06/18/96		0.0200	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	07/26/96		0.0600	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	08/22/96		0.0800	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	09/19/96		0.0300	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	10/25/96		0.0200	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	11/20/96		0.0300	1050				748		GTE	2,440,250.44	728,378.1
U34-101	1034.101000	12/19/96		0.0900	1050				748		GTE	2,440,250.44	728,378.1
U34-103	1034.103000	01/26/96		0.1200	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	02/27/96		0.6000	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	03/27/96		0.1300	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	04/25/96		0.0800	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	05/24/96		0.1500	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	06/20/96		0.0300	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	07/19/96		0.1100	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	08/23/96		0.0020	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	09/26/96		0.0040	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	10/15/96		0.0070	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	11/21/96		0.0100	960				743		GTE	2,442,424.01	725,648.0
U34-103	1034.103000	12/13/96		0.0200	960				743		GTE	2,442,424.01	725,648.0

TOVCC 10812

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	DATE UNDERMINED	LOCATION	STATE PLANE COORDS X	Y
U34-104	1034.104000	01/25/96		0.0700	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	02/27/96		0.0600	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	03/27/96		0.0600	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	04/25/96		0.0400	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	06/18/96		0.0030	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	07/19/96		0.0600	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	08/23/96		0.0000	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	09/26/96		0.0000	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	10/11/96		0.0008	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	11/21/96		0.0080	953				743		GTE	2,435,767.36	726,574.42
U34-104	1034.104000	12/13/96		0.0300	953				743		GTE	2,435,767.36	726,574.42
U34-105	1034.105000	01/25/96		0.0500	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	02/27/96		0.3500	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	03/27/96		0.0200	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	04/25/96		0.0200	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	05/24/96		0.0200	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	06/18/96		0.0050	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	07/19/96		0.0300	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	08/23/96		0.0000	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	09/26/96		0.0000	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	10/11/96		0.0002	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	11/20/96		0.0020	950				743		PAN	2,443,257.54	726,676.30
U34-105	1034.105000	12/13/96		0.0300	950				743		PAN	2,443,257.54	726,676.30
U34-106	1034.106000	01/25/96		39.2000	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	02/27/96		150.2000	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	03/27/96		58.1000	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	04/25/96		29.2800	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	05/25/96		29.2800	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	06/18/96		13.5500	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	07/19/96		17.9000	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	08/22/96		1.8000	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	09/26/96		1.2500	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	10/11/96		3.3800	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	11/20/96		10.4500	948				743		PAN	2,443,154.01	726,776.67
U34-106	1034.106000	12/13/96		13.2700	948				743		PAN	2,443,154.01	726,776.67
U34-107	1034.107000	01/18/96		1.8000	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	02/27/96		1.1100	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	03/22/96		0.4600	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	03/22/96		0.4000	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	04/25/96		0.1300	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	05/22/96		0.1400	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	06/18/96		0.0500	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	07/26/96		0.0300	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	08/22/96		0.0070	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	09/19/96		0.0100	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	10/25/96		0.0100	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	11/20/96		0.0300	1040				752		GTE	2,441,817.56	728,348.25
U34-107	1034.107000	12/19/96		0.0800	1040				752		GTE	2,441,817.56	728,348.25
U34-108	1034.108000	01/18/96		2.0200	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	02/27/96		1.2600	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	03/22/96		0.4600	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	04/25/96		0.2100	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	05/22/96		0.2400	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	06/18/96		0.1100	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	07/26/96		0.0400	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	08/22/96		0.0200	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	09/19/96		0.0200	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	10/25/96		0.0200	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	11/20/96		0.0500	1038				751		PAN	2,441,853.08	728,202.82
U34-108	1034.108000	12/19/96		0.0800	1038				751		PAN	2,441,853.08	728,202.82
U34-109	1034.109000	01/26/96		0.2300	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	02/27/96		2.9000	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	03/27/96		0.1700	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	04/25/96		0.3300	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	05/24/96		0.2700	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	06/20/96		0.1600	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	07/19/96		0.9900	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	08/22/96		0.0600	935				748		GTE	2,442,795.17	727,401.9
U34-109	1034.109000	09/19/96		0.0400	935				748		GTE	2,442,795.17	727,401.9
U34-112	1034.112000	10/25/96		0.1500	1000				764		PAN	2,441,283.49	730,405.5
U34-112	1034.112000	11/20/96		0.2800	1000				764		PAN	2,441,283.49	730,405.5
U34-112	1034.112000	12/19/96		0.6600	1000				764		PAN	2,441,283.49	730,405.5

TOVCC 10813

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-113	1034.113000	10/25/96		0.0700	990				764		PAN	2,441,432.96	730,419.20
U34-113	1034.113000	11/20/96		0.2400	990				764		PAN	2,441,432.96	730,419.20
U34-113	1034.113000	12/19/96		0.2300	990				764		PAN	2,441,432.96	730,419.20
U34-115	1034.115000	10/25/96		0.1200	967				765		GTE	2,442,195.25	730,268.73
U34-115	1034.115000	11/20/96		0.5600	967				765		GTE	2,442,195.25	730,268.73
U34-115	1034.115000	12/19/96		0.9900	967				765		GTE	2,442,195.25	730,268.73
U34-116	1034.116000	04/25/96		2.3700	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	05/24/96		0.9800	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	06/20/96		1.6300	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	07/26/96		0.4100	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	08/22/96		0.0600	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	09/19/96		0.1000	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	10/25/96		0.1400	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	11/20/96		0.9800	950				763		PAN	2,434,676.39	729,441.68
U34-116	1034.116000	12/19/96		1.1400	950				763		PAN	2,434,676.39	729,441.68
U34-117	1034.117000	01/26/96		2.7000	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	02/27/96		15.3000	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	03/27/96		3.5000	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	04/25/96		3.4400	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	05/24/96		1.5100	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	06/20/96		3.7600	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	07/26/96		0.6800	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	08/22/96		0.1200	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	09/19/96		0.1400	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	10/17/96		0.1400	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	11/20/96		1.0600	948				757		GTE	2,443,302.91	728,426.41
U34-117	1034.117000	12/19/96		1.2300	948				757		GTE	2,443,302.91	728,426.41
U34-118	1034.118000	01/26/96		30.1000	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	02/27/96		190.1000	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	03/27/96		64.8000	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	04/25/96		19.6500	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	05/24/96		27.4400	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	06/20/96		20.0900	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	07/26/96		18.0300	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	08/22/96		2.0700	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	09/26/96		1.4400	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	10/17/96		3.6200	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	11/20/96		11.0200	945				757		GTE	2,443,420.99	728,359.16
U34-118	1034.118000	12/13/96		14.0400	945				757		GTE	2,443,420.99	728,359.16
U34-119	1034.119000	01/26/96		31.0000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	02/27/96		195.8000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	03/27/96		67.2000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	04/25/96		22.1000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	05/24/96		28.4000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	06/20/96		21.3300	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	07/26/96		18.2000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	08/22/96		2.3000	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	09/26/96		2.0600	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	10/17/96		4.0300	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	11/20/96		11.3600	900				758		ADJ	2,443,793.07	728,380.55
U34-119	1034.119000	12/13/96		14.3100	900				758		ADJ	2,443,793.07	728,380.55
U34-122	1034.122000	07/26/96		0.0100	1070				768		PAN	2,444,239.46	729,535.38
U34-122	1034.122000	08/22/96		0.0000	1070				768		PAN	2,444,239.46	729,535.38
U34-122	1034.122000	09/19/96		0.0000	1070				768		PAN	2,444,239.46	729,535.38
U34-122	1034.122000	10/17/96		0.0006	1070				768		PAN	2,444,239.46	729,535.38
U34-122	1034.122000	11/20/96		0.0200	1070				768		PAN	2,444,239.46	729,535.38
U34-122	1034.122000	12/13/96		0.0300	1070				768		PAN	2,444,239.46	729,535.38
U34-123	1034.123000	07/26/96		0.0020	970				765		ADJ	2,444,807.10	729,045.39
U34-123	1034.123000	08/22/96		0.0000	970				765		ADJ	2,444,807.10	729,045.39
U34-123	1034.123000	09/19/96		0.0000	970				765		ADJ	2,444,807.10	729,045.39
U34-123	1034.123000	10/17/96		0.0000	970				765		ADJ	2,444,807.10	729,045.39
U34-123	1034.123000	11/20/96		0.0005	970				765		ADJ	2,444,807.10	729,045.39
U34-123	1034.123000	12/13/96		0.0020	970				765		ADJ	2,444,807.10	729,045.39
U34-132	1034.132000	07/24/96		0.4200	940				775		GTE	2,445,771.06	730,264.42
U34-132	1034.132000	08/16/96		0.1900	940				775		GTE	2,445,771.06	730,264.42
U34-132	1034.132000	09/26/96		0.0900	940				775		GTE	2,445,771.06	730,264.42
U34-132	1034.132000	10/17/96		0.1300	940				775		GTE	2,445,771.06	730,264.42
U34-132	1034.132000	11/20/96		0.1500	940				775		GTE	2,445,771.06	730,264.42
U34-132	1034.132000	12/13/96		0.3500	940				775		GTE	2,445,771.06	730,264.42

TOVCC 10814

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	DATE UNDERMINED	LOCATION	STATE PLANE COORDS X	Y
U34-134	1034.134000	01/18/96		0.4400	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	02/16/96		0.0100	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	03/22/96		0.1000	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	04/17/96		0.0600	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	05/16/96		1.5100	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	06/13/96		0.0300	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	07/11/96		0.0100	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	08/15/96		0.0010	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	09/11/96		0.0000	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	10/08/96		0.0010	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	11/15/96		0.0100	1035				765		GTE	2,432,539.72	728,452.76
U34-134	1034.134000	12/11/96		0.0200	1035				765		GTE	2,432,539.72	728,452.76
U34-135	1034.135000	07/24/96		0.7400	910				771		PAN	2,446,461.36	729,491.91
U34-135	1034.135000	08/16/96		0.2400	910				771		PAN	2,446,461.36	729,491.91
U34-135	1034.135000	09/26/96		0.1700	910				771		PAN	2,446,461.36	729,491.91
U34-135	1034.135000	10/17/96		0.1300	910				771		PAN	2,446,461.36	729,491.91
U34-135	1034.135000	11/20/96		0.2400	910				771		PAN	2,446,461.36	729,491.91
U34-135	1034.135000	12/13/96		0.5000	910				771		PAN	2,446,461.36	729,491.91
U34-138	1034.138000	07/24/96		0.0500	882				770		ADJ	2,446,751.44	729,178.90
U34-138	1034.138000	08/16/96		0.0200	882				770		ADJ	2,446,751.44	729,178.90
U34-138	1034.138000	09/26/96		0.0200	882				770		ADJ	2,446,751.44	729,178.90
U34-138	1034.138000	10/17/96		0.0200	882				770		ADJ	2,446,751.44	729,178.90
U34-138	1034.138000	11/20/96		0.0500	882				770		ADJ	2,446,751.44	729,178.90
U34-138	1034.138000	12/13/96		0.1400	882				770		ADJ	2,446,751.44	729,178.90
U34-139	1034.139000	07/24/96		18.4500	880				770		GTE	2,446,741.65	729,380.71
U34-139	1034.139000	08/16/96		3.7600	880				770		GTE	2,446,741.65	729,380.71
U34-139	1034.139000	09/26/96		2.5800	880				770		GTE	2,446,741.65	729,380.71
U34-139	1034.139000	10/17/96		4.5600	880				770		GTE	2,446,741.65	729,380.71
U34-139	1034.139000	11/20/96		11.7600	880				770		GTE	2,446,741.65	729,380.71
U34-139	1034.139000	12/13/96		15.2300	880				770		GTE	2,446,741.65	729,380.71
U34-144	1034.144000	01/25/96		0.1600	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	02/23/96		0.0800	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	03/22/96		0.2200	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	04/18/96		0.1700	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	05/15/96		0.2400	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	06/13/96		0.0900	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	07/12/96		0.0200	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	08/15/96		0.0500	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	09/13/96		0.0000	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	10/10/96		0.0200	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	11/14/96		0.1400	1030				742		PAN	2,437,468.82	725,250.78
U34-144	1034.144000	12/12/96		0.0300	1030				742		PAN	2,437,468.82	725,250.78
U34-170	1034.170000	07/18/96		0.0003	1140				745		PAN	2,437,243.47	726,310.11
U34-170	1034.170000	08/16/96		0.0003	1140				745		PAN	2,437,243.47	726,310.11
U34-170	1034.170000	09/26/96		0.0000	1140				745		PAN	2,437,243.47	726,310.11
U34-170	1034.170000	10/23/96		0.0010	1140				745		PAN	2,437,243.47	726,310.11
U34-170	1034.170000	11/14/96		0.0080	1140				745		PAN	2,437,243.47	726,310.11
U34-170	1034.170000	12/12/96		0.0300	1140				745		PAN	2,437,243.47	726,310.11
U34-A	1034.901000	01/18/96		27.8000	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	02/16/96		1.5000	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	03/22/96		17.3000	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	04/17/96		12.9000	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	05/16/96		3.6200	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	06/25/96		19.4200	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	07/25/96		0.1600	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	08/15/96		0.3600	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	09/11/96		0.3300	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	10/08/96		1.2600	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	11/14/96		1.3400	1096				762		PAN	2,432,640.76	727,721.73
U34-A	1034.901000	12/11/96		1.7400	1096				762		PAN	2,432,640.76	727,721.73
U34-B	1034.902000	01/23/96		5.3000	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	02/16/96		2.0700	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	03/22/96		15.6000	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	04/17/96		9.2200	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	05/16/96		16.9500	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	06/13/96		3.8200	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	07/11/96		11.0000	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	08/15/96		0.3200	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	09/11/96		0.2400	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	10/08/96		1.1800	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	11/14/96		3.4300	1094				763		PAN	2,433,498.32	728,355.40
U34-B	1034.902000	12/11/96		3.0400	1094				763		PAN	2,433,498.32	728,355.40

TOVCC 10815

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
U34-D	1034.904000	07/24/96		0.4900	1086				762		ADJ	2,432,417.61	728,806.89
U34-D	1034.904000	08/15/96		0.1600	1086				762		ADJ	2,432,417.61	728,806.89
U34-D	1034.904000	09/11/96		0.5200	1086				762		ADJ	2,432,417.61	728,806.89
U34-D	1034.904000	10/16/96		0.2100	1086				762		ADJ	2,432,417.61	728,806.89
U34-D	1034.904000	11/15/96		0.6900	1086				762		ADJ	2,432,417.61	728,806.89
U34-D	1034.904000	12/11/96		1.1400	1086				762		ADJ	2,432,417.61	728,806.89
U34-E	1034.905000	07/11/96		0.1700	1130				761		PAN	2,432,963.19	729,177.23
U34-E	1034.905000	08/15/96		0.0200	1130				761		PAN	2,432,963.19	729,177.23
U34-E	1034.905000	09/11/96		0.4800	1130				761		PAN	2,432,963.19	729,177.23
U34-E	1034.905000	10/16/96		0.0000	1130				761		PAN	2,432,963.19	729,177.23
U34-E	1034.905000	11/15/96		0.6100	1130				761		PAN	2,432,963.19	729,177.23
U34-E	1034.905000	12/11/96		0.9400	1130				761		PAN	2,432,963.19	729,177.23
U34-F	1034.906000	07/11/96		0.0000	1195				759		PAN	2,433,750.44	728,934.26
U34-F	1034.906000	08/15/96		0.0000	1195				759		PAN	2,433,750.44	728,934.26
U34-F	1034.906000	09/11/96		0.0000	1195				759		PAN	2,433,750.44	728,934.26
U34-F	1034.906000	10/23/96		1.3800	1195				759		PAN	2,433,750.44	728,934.26
U34-F	1034.906000	11/14/96		2.3300	1195				759		PAN	2,433,750.44	728,934.26
U34-F	1034.906000	12/11/96		2.5400	1195				759		PAN	2,433,750.44	728,934.26
U34-I	1034.909000	07/24/96		1.3900	1088				758		PAN	2,434,388.18	729,624.42
U34-I	1034.909000	08/15/96		0.3900	1088				758		PAN	2,434,388.18	729,624.42
U34-I	1034.909000	09/11/96		0.4600	1088				758		PAN	2,434,388.18	729,624.42
U34-I	1034.909000	10/17/96		0.1600	1088				758		PAN	2,434,388.18	729,624.42
U34-I	1034.909000	11/14/96		2.1600	1088				758		PAN	2,434,388.18	729,624.42
U34-I	1034.909000	12/11/96		2.2400	1088				758		PAN	2,434,388.18	729,624.42
U34-J	1034.910000	07/24/96		0.3800	1163				759		PAN	2,433,822.93	729,823.85
U34-J	1034.910000	08/15/96		0.2100	1163				759		PAN	2,433,822.93	729,823.85
U34-J	1034.910000	09/11/96		0.2200	1163				759		PAN	2,433,822.93	729,823.85
U34-J	1034.910000	10/17/96		0.6700	1163				759		PAN	2,433,822.93	729,823.85
U34-J	1034.910000	11/14/96		2.8200	1163				759		PAN	2,433,822.93	729,823.85
U34-J	1034.910000	12/11/96		3.4600	1163				759		PAN	2,433,822.93	729,823.85
U34-102	1304.102000	01/26/96		0.5500	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	02/27/96		4.2000	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	03/27/96		0.4800	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	04/25/96		0.6600	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	05/22/96		0.3300	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	06/18/96		0.1500	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	07/26/96		0.1200	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	08/22/96		0.1200	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	08/22/96		0.1200	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	09/19/96		0.0400	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	10/25/96		0.0300	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	11/20/96		0.0500	968				742		PAN	2,441,835.38	725,899.85
U34-102	1304.102000	12/13/96		0.3400	968				742		PAN	2,441,835.38	725,899.85
D-28	2028.000000	01/12/96		0.5000	993				737		PAN	2,441,687.38	727,367.35
D-28	2028.000000	02/15/96		0.5000	993				737		PAN	2,441,687.38	727,367.35
D-28	2028.000000	03/14/96		1.4400	993				737		PAN	2,441,687.38	727,367.35
D-28A	2028.001000	01/12/96		1.2000	960				739		PAN	2,441,898.82	728,589.65
D-28A	2028.001000	02/15/96		1.2100	960				739		PAN	2,441,898.82	728,589.65
D-28A	2028.001000	03/14/96		3.7000	960				739		PAN	2,441,898.82	728,589.65
D-28A	2028.001000	04/12/96		2.9100	960				739		PAN	2,441,898.82	728,589.65
D-28A	2028.001000	05/15/96		4.5700	960				739		PAN	2,441,898.82	728,589.65
D-28A	2028.001000	06/14/96		1.0800	960				739		PAN	2,441,898.82	728,589.65
D-29A	2029.001000	01/12/96		0.4400	961				740		PAN	2,442,096.23	728,570.15
D-29A	2029.001000	02/15/96		0.4600	961				740		PAN	2,442,096.23	728,570.15
D-29A	2029.001000	03/14/96		1.4000	961				740		PAN	2,442,096.23	728,570.15
D-29A	2029.001000	04/12/96		0.8200	961				740		PAN	2,442,096.23	728,570.15
D-29A	2029.001000	05/15/96		1.4700	961				740		PAN	2,442,096.23	728,570.15
D-29A	2029.001000	06/14/96		0.3600	961				740		PAN	2,442,096.23	728,570.15
SP-063	3063.000000	01/12/96		0.0000	1194				750	03/29/95	PAN	2,443,876.81	727,792.35
SP-063	3063.000000	02/15/96		0.0000	1194				750	03/29/95	PAN	2,443,876.81	727,792.35
SP-063	3063.000000	03/14/96		0.0000	1194				750	03/29/95	PAN	2,443,876.81	727,792.35
SP-064	3064.000000	01/12/96		0.0000	1198				750	03/28/95	PAN	2,443,951.63	727,817.05
SP-064	3064.000000	02/15/96		0.0000	1198				750	03/28/95	PAN	2,443,951.63	727,817.05
SP-064	3064.000000	03/14/96		0.0000	1198				750	03/28/95	PAN	2,443,951.63	727,817.05

TOVCC 10816

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
SP-078	3078.000000	01/23/96			1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	02/23/96		2.9000	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	03/21/96		7.4000	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	04/17/96		5.6200	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	05/15/96		9.6200	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	06/13/96		3.2500	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	07/11/96		1.0100	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	08/15/96		0.4600	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	09/18/96		0.4400	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	10/10/96		0.5300	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	11/14/96		0.2900	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-078	3078.000000	12/12/96		1.2000	1163				751	05/18/96	ADJ	2,432,411.51	725,777.06
SP-079	3079.000000	01/23/96		0.4800	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	02/23/96		0.3600	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	03/21/96		1.1000	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	04/17/96		0.6500	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	05/14/96		0.5600	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	06/13/96		0.2900	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	07/12/96		0.0800	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	08/15/96		0.3100	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	09/26/96		0.2100	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	10/10/96		0.3500	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	11/15/96		0.5600	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079	3079.000000	12/12/96		0.2000	1076				752	04/26/96	PAN	2,434,704.16	725,888.50
SP-079A	3079.001000	04/12/96		0.8200	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	05/14/96		1.5600	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	06/13/96		0.8000	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	07/12/96		0.2900	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	08/15/96		0.0500	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	09/26/96		0.4200	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	10/10/96		0.0200	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	11/15/96		0.2200	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-079A	3079.001000	12/12/96		0.4300	1076				752	04/26/96	PAN	2,434,704.11	725,799.55
SP-083	3083.000000	01/23/96		0.4800	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	02/23/96		0.5500	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	03/21/96		0.4800	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	04/17/96		0.4600	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	05/14/96		0.0600	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	06/13/96		0.0400	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	07/11/96		0.0000	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	08/15/96		0.0000	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	09/18/96		0.0000	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	10/10/96		0.0000	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	11/14/96		0.0000	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-083	3083.000000	12/12/96		0.0000	1043				750	04/26/96	PAN	2,434,488.59	725,420.24
SP-084	3084.000000	01/23/96		3.5000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	02/28/96		1.5000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	03/28/96		3.2000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	04/18/96		3.2800	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	05/14/96		3.0400	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	06/12/96		3.0300	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	07/31/96		2.3000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	08/15/96		2.9300	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	09/26/96		2.9800	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	10/16/96		0.0000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	11/21/96		0.0000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-084	3084.000000	12/12/96		0.0000	1068				750	05/01/96	PAN	2,434,026.62	725,367.10
SP-089	3089.000000	01/11/96		0.0000	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	02/15/96		0.0000	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	03/14/96		0.7900	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	04/11/96		0.5000	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	05/14/96		2.1600	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	06/12/96		1.2000	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	07/10/96		0.1200	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	08/22/96		0.1100	1138				731	08/23/95	PAN	2,434,838.23	728,327.2
SP-089	3089.000000	09/26/96		0.1400	1138				731	08/23/95	PAN	2,434,838.23	728,327.2

TOVCC 10817

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
SP-090	3090.000000	01/11/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	02/15/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	03/14/96		0.1000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	04/11/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	05/14/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	06/12/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	07/10/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	08/22/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-090	3090.000000	09/26/96		0.0000	1167				735	12/13/95	PAN	2,435,720.00	728,772.98
SP-091	3091.000000	01/11/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	02/15/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	03/14/96		0.3600	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	04/11/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	05/14/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	06/12/96		0.0800	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	07/10/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	08/22/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	09/26/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	10/25/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	11/19/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-091	3091.000000	12/23/96		0.0000	1192				739	12/08/95	PAN	2,436,008.49	724,006.00
SP-092	3092.000000	01/11/96		0.0000	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	02/15/96		0.0000	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	03/14/96		0.1400	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	04/11/96		0.1800	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	05/14/96		0.8000	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	06/12/96		0.2500	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	07/10/96		0.0000	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	08/22/96		0.0000	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-092	3092.000000	09/26/96		0.0000	1175				733	08/01/95	PAN	2,436,291.87	728,539.74
SP-093	3093.000000	01/11/96		0.0600	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	02/15/96		0.3200	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	03/14/96		0.9700	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	04/11/96		0.2800	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	05/14/96		1.0900	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	06/12/96		0.4300	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	07/10/96		0.0200	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	08/22/96		0.0000	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-093	3093.000000	09/26/96		0.0000	1175				733	07/29/95	PAN	2,436,468.74	728,690.77
SP-094	3094.000000	01/11/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	02/15/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	03/14/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	04/11/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	05/14/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	06/12/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	07/10/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	08/22/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	09/26/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	10/25/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	11/19/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-094	3094.000000	12/23/96		0.0000	1153				735	11/25/95	PAN	2,437,136.80	729,472.5
SP-097	3097.000000	07/18/96		0.0200	1287				753		PAN	2,436,419.94	729,014.8
SP-097	3097.000000	08/16/96		0.8600	1287				753		PAN	2,436,419.94	729,014.8
SP-097	3097.000000	09/26/96		0.1700	1287				753		PAN	2,436,419.94	729,014.8
SP-097	3097.000000	10/24/96		0.7200	1287				753		PAN	2,436,419.94	729,014.8
SP-097	3097.000000	11/21/96		1.0400	1287				753		PAN	2,436,419.94	729,014.8
SP-097	3097.000000	12/20/96		2.0700	1287				753		PAN	2,436,419.94	729,014.8
SP-099	3099.000000	10/24/96		0.0000	1198				757		PAN	2,436,311.94	729,952.5
SP-099	3099.000000	11/21/96		3.5400	1198				757		PAN	2,436,311.94	729,952.5
SP-099	3099.000000	12/20/96		4.3200	1198				757		PAN	2,436,311.94	729,952.5
SP-099A	3099.001000	10/24/96		0.4400	1175				756		PAN	2,436,496.77	729,715.0
SP-099A	3099.001000	11/21/96		0.4400	1175				756		PAN	2,436,496.77	729,715.0
SP-099A	3099.001000	12/20/96		0.1600	1175				756		PAN	2,436,496.77	729,715.0
SP-102	3102.000000	07/18/96		0.0300	1175				760		GTE	2,436,854.20	730,415.
SP-102	3102.000000	08/16/96		0.0000	1175				760		GTE	2,436,854.20	730,415.
SP-102	3102.000000	09/26/96		0.0000	1175				760		GTE	2,436,854.20	730,415.
SP-102	3102.000000	10/30/96		2.7900	1175				760		GTE	2,436,854.20	730,415.
SP-102	3102.000000	11/21/96		1.6400	1175				760		GTE	2,436,854.20	730,415.
SP-102	3102.000000	12/20/96		11.6300	1175				760		GTE	2,436,854.20	730,415.
SP-102A	3102.001000	10/30/96		1.5000	1205				759		ADJ	2,437,408.39	729,910.
SP-102A	3102.001000	11/21/96		2.3800	1205				759		ADJ	2,437,408.39	729,910.
SP-102A	3102.001000	12/20/96		2.7600	1205				759		ADJ	2,437,408.39	729,910.

TOVCC 10818

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

											DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
SP-152	3152.000000	01/11/96		0.0000	1193				734	02/10/95	PAN	2,440,056.91	727,420.84
SP-152	3152.000000	02/15/96		0.0000	1193				734	02/10/95	PAN	2,440,056.91	727,420.84
SP-152	3152.000000	03/14/96		0.0000	1193				734	02/10/95	PAN	2,440,056.91	727,420.84
SP-152A	3152.001000	01/11/96		1.5000	1193				734	02/10/95	PAN	2,440,056.91	727,420.84
SP-152A	3152.001000	02/15/96		0.8600	1193				734	02/10/95	PAN	2,440,056.91	727,420.84
SP-152A	3152.001000	03/14/96		1.8000	1193				734	02/10/95	PAN	2,440,056.91	727,420.84
SP-158	3158.000000	07/24/96		0.8500	1050				768		ADJ	2,445,559.23	729,051.78
SP-158	3158.000000	08/16/96		0.2900	1050				768		ADJ	2,445,559.23	729,051.78
SP-158	3158.000000	09/26/96		0.3700	1050				768		ADJ	2,445,559.23	729,051.78
SP-158	3158.000000	10/17/96		0.2000	1050				768		ADJ	2,445,559.23	729,051.78
SP-158	3158.000000	11/20/96		4.1900	1050				768		ADJ	2,445,559.23	729,051.78
SP-158	3158.000000	12/13/96		6.0500	1050				768		ADJ	2,445,559.23	729,051.78
SP-160	3160.000000	01/26/96		0.3700	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	02/27/96		2.3000	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	03/27/96		0.2700	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	04/26/96		1.1600	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	05/22/96		1.8700	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	06/20/96		1.1800	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	07/19/96		0.0200	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	08/22/96		0.3500	946				753		ADJ	2,443,477.54	727,859.88
SP-160	3160.000000	09/26/96		0.1000	946				753		ADJ	2,443,477.54	727,859.88
SP-161	3161.000000	01/30/96		1.0000	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	02/27/96		0.3900	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	03/27/96		0.0700	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	04/26/96		2.1400	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	05/24/96		0.1400	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	06/20/96		0.0800	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	07/19/96		3.8200	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	08/22/96		0.4100	928				752		PAN	2,443,223.42	727,801.20
SP-161	3161.000000	09/26/96		0.1300	928				752		PAN	2,443,223.42	727,801.20
SP-162	3162.000000	01/26/96		0.4500	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	02/27/96		2.8000	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	03/22/96		3.0300	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	04/25/96		2.1000	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	05/14/96		3.2800	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	06/12/96		1.5300	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	07/26/96		0.4800	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	08/22/96		0.2700	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	09/18/96		0.0600	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	10/25/96		0.0000	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	11/21/96		0.0000	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-162	3162.000000	12/13/96		0.0000	1030				741	05/27/96	GTE	2,442,235.43	726,468.65
SP-165	3165.000000	01/12/96		1.6000	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	02/16/96		1.7800	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	03/14/96		5.5000	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	04/12/96		5.1200	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	05/24/96		6.2500	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	06/18/96		1.7900	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	07/18/96		1.5200	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	08/16/96		0.5900	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	09/26/96		0.1100	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	10/15/96		0.6400	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	11/15/96		2.5100	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-165	3165.000000	12/13/96		3.2300	1155				749	11/10/95	GTE	2,442,444.97	729,062.14
SP-166	3166.000000	01/12/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	02/16/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	03/14/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	04/12/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	05/24/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	06/18/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	07/18/96		0.0000	1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	08/16/96		0.0000	1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	09/26/96		0.0000	1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	10/15/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	11/15/96		0.0000	1107				749	10/12/95	PAN	2,443,572.27	728,792.98
SP-166	3166.000000	12/13/96			1107				749	10/12/95	PAN	2,443,572.27	728,792.98

TOVCC 10819

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
SP-167	3167.000000	01/12/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	02/16/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	03/14/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	04/12/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	05/24/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	06/18/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	07/18/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	08/16/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	09/26/96		0.0000	1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	10/15/96			1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	11/15/96			1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-167	3167.000000	12/13/96			1155				749	10/13/95	PAN	2,444,189.08	729,403.16
SP-183	3183.000000	01/10/96		0.4200	1274				725	09/29/93	ADJ	2,435,055.70	727,397.87
SP-183	3183.000000	02/15/96		0.4100	1274				725	09/29/93	ADJ	2,435,055.70	727,397.87
SP-183	3183.000000	03/14/96		0.4800	1274				725	09/29/93	ADJ	2,435,055.70	727,397.87
SP-189	3189.000000	01/12/96		0.1100	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	02/16/96		0.0900	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	03/21/96		0.2300	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	04/11/96		0.0800	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	05/14/96		1.8800	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	06/13/96		1.5400	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	07/18/96		0.1000	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	08/16/96		0.0700	1185				749		PAN	2,446,652.38	729,462.40
SP-189	3189.000000	09/13/96		0.1300	1185				749		PAN	2,446,652.38	729,462.40
SP-199	3199.000000	01/23/96		0.8100	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	02/16/96		0.4200	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	03/21/96		1.7000	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	04/17/96		1.0600	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	05/16/96		2.1500	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	06/13/96		0.7600	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	07/12/96		0.2500	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	08/15/96		0.0000	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	09/13/96		0.0000	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	10/10/96		0.0000	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	11/15/96		0.0000	1010				752		PAN	2,435,377.51	726,124.37
SP-199	3199.000000	12/12/96		0.0000	1010				752		PAN	2,435,377.51	726,124.37
SP-203	3203.000000	01/23/96		1.9000	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	02/16/96		0.7300	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	03/22/96		2.7000	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	04/17/96		1.0000	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	05/16/96		3.0500	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	06/13/96		1.2000	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	07/11/96		0.7500	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	08/15/96		0.3700	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	09/11/96		0.4200	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	10/08/96		0.5600	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	11/14/96		1.1600	1037				760		PAN	2,434,345.18	728,225.98
SP-203	3203.000000	12/11/96		1.0700	1037				760		PAN	2,434,345.18	728,225.98
SP-217	3217.000000	01/10/96		1.6000	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	02/15/96		1.6700	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	03/14/96		1.9000	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	04/12/96		2.0200	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	05/14/96		0.6000	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	06/12/96		0.0800	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	07/10/96		0.0060	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	08/22/96		0.9800	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	09/26/96		0.0900	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	10/25/96		1.0800	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	11/21/96		2.7200	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-217	3217.000000	12/23/96		1.6300	1280				741	05/10/93	ADJ	2,432,381.93	729,380.49
SP-260	3260.000000	04/25/96		3.2300	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	05/24/96		0.4500	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	06/18/96		1.5800	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	07/26/96		1.4000	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	08/22/96		0.8900	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	09/19/96		0.9500	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	10/20/96		3.0100	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	10/25/96		1.2700	1200				753		GTE	2,439,058.06	729,364.00
SP-260	3260.000000	12/19/96		1.6000	1200				753		GTE	2,439,058.06	729,364.00

TOVCC 10820

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
SP-261	3261.000000	04/03/96		0.2100	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	05/15/96		0.0500	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	06/13/96		0.0500	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	07/12/96		0.0100	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	08/21/96		0.0100	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	09/13/96		0.0000	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	10/16/96		0.0300	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	11/14/96		0.0300	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-261	3261.000000	12/12/96		0.0300	997				745	04/03/96	PAN	2,436,783.02	725,011.01
SP-262	3262.000000	10/23/96		0.0000	1146				744		GTE	2,437,639.54	726,532.01
SP-262	3262.000000	11/14/96		0.0000	1146				744		GTE	2,437,639.54	726,532.01
SP-262	3262.000000	12/12/96		0.0000	1146				744		GTE	2,437,639.54	726,532.01
W-069	4069.000000	01/11/96	25		1281	1256	1247	34	725	05/11/93	ADJ	2,434,983.45	727,359.47
W-069	4069.000000	02/15/96	15		1281	1266	1247	34	725	05/11/93	ADJ	2,434,983.45	727,359.47
W-069	4069.000000	03/14/96	22		1281	1259	1247	34	725	05/11/93	ADJ	2,434,983.45	727,359.47
W-072	4072.000000	01/11/96	31		1310	1279	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	02/15/96	30		1310	1280	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	03/14/96	28		1310	1282	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	04/11/96	30		1310	1280	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	05/14/96	29		1310	1281	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	06/12/96	30		1310	1280	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	07/10/96	30		1310	1280	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	08/22/96	30		1310	1280	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-072	4072.000000	09/26/96	30		1310	1280	1271	39	732	08/03/95	ADJ	2,436,123.65	727,888.35
W-073	4073.000000	01/25/96	31		1264	1233			733	08/18/94	ADJ	2,438,545.21	727,087.00
W-073	4073.000000	02/15/96	37		1264	1227			733	08/18/94	ADJ	2,438,545.21	727,087.00
W-073	4073.000000	03/14/96	32		1264	1232			733	08/18/94	ADJ	2,438,545.21	727,087.00
W-074	4074.000000	01/25/96	13		1264	1251			733	08/17/94	ADJ	2,438,623.41	727,066.36
W-074	4074.000000	02/15/96	12		1264	1252			733	08/17/94	ADJ	2,438,623.41	727,066.36
W-074	4074.000000	03/14/96	10		1264	1254			733	08/17/94	ADJ	2,438,623.41	727,066.36
W-075	4075.000000	01/11/96	43		1262	1219	1190	72	733	02/25/95	ADJ	2,438,765.91	727,060.82
W-075	4075.000000	02/15/96	43		1262	1219	1190	72	733	02/25/95	ADJ	2,438,765.91	727,060.82
W-075	4075.000000	03/14/96	37		1262	1225	1190	72	733	02/25/95	ADJ	2,438,765.91	727,060.82
W-076	4076.000000	01/11/96		SEALED	1262		1172	90	733	02/25/95	ADJ	2,439,076.38	727,057.38
W-076	4076.000000	02/15/96		SEALED	1262		1172	90	733	02/25/95	ADJ	2,439,076.38	727,057.38
W-076	4076.000000	03/14/96		SEALED	1262		1172	90	733	02/25/95	ADJ	2,439,076.38	727,057.38
W-077	4077.000000	01/18/96	18		1255	1237	1215	40	733	02/25/95	ADJ	2,439,236.72	727,084.93
W-077	4077.000000	02/15/96	17		1255	1238	1215	40	733	02/25/95	ADJ	2,439,236.72	727,084.93
W-077	4077.000000	03/14/96	16		1255	1239	1215	40	733	02/25/95	ADJ	2,439,236.72	727,084.93
W-078	4078.000000	01/11/96		BURIED	1261		1242	19	733	02/24/95	ADJ	2,438,959.47	721,708.49
W-078	4078.000000	02/15/96		BURIED	1261		1242	19	733	02/24/95	ADJ	2,438,959.47	721,708.49
W-078	4078.000000	03/14/96		BURIED	1261		1242	19	733	02/24/95	ADJ	2,438,959.47	721,708.49
W-106	4106.000000	01/11/96	35		1322	1287			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	02/15/96	34		1322	1288			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	03/14/96	33		1322	1289			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	04/11/96	35		1322	1287			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	05/14/96	34		1322	1288			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	06/12/96	34		1322	1288			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	07/10/96	35		1322	1287			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	08/22/96	35		1322	1287			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-106	4106.000000	09/13/96	35		1322	1287			725	06/16/93	ADJ	2,433,185.02	727,932.49
W-148	4148.000000	01/10/96		SEALED	1305				731		ADJ	2,432,529.86	728,552.18
W-148	4148.000000	02/15/96		SEALED	1305				731		ADJ	2,432,529.86	728,552.18
W-148	4148.000000	03/14/96		SEALED	1305				731		ADJ	2,432,529.86	728,552.18
W-182	4182.000000	01/23/96	9		1005	996	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	02/16/96	10		1005	995	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	03/21/96	3		1005	1002	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	04/17/96	4		1005	1001	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	05/16/96	5		1005	1000	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	06/13/96	13		1005	992	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	07/11/96	15		1005	990	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	08/13/96	24		1005	981	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	09/13/96	25		1005	980	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	10/10/96	21		1005	984	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	11/15/96	19		1005	986	979	26	761		PAN	2,434,690.35	727,196.1
W-182	4182.000000	12/11/96	22		1005	983	979	26	761		PAN	2,434,690.35	727,196.1

TOVCC 10821

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
W-183	4183.000000	01/25/96	5		1004	999	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	02/16/96	6		1004	998	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	03/21/96	4		1004	1000	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	04/17/96	6		1004	998	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	05/16/96	11		1004	993	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	06/13/96	11		1004	993	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	07/11/96	15		1004	989	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	08/13/96	31		1004	973	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	09/13/96	29		1004	975	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	10/10/96	20		1004	984	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	11/15/96	18		1004	986	968	36	760		PAN	2,434,918.12	726,887.19
W-183	4183.000000	12/11/96	18		1004	986	968	36	760		PAN	2,434,918.12	726,887.19
W-184	4184.000000	01/23/96	8		1007	999	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	02/23/96	8		1007	999	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	03/21/96	6		1007	1001	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	04/17/96	8		1007	999	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	05/16/96	13		1007	994	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	06/13/96	13		1007	994	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	07/12/96	14		1007	993	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	08/15/96	25		1007	982	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	09/26/96	18		1007	989	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	10/10/96	12		1007	995	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	11/15/96	11		1007	996	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-184	4184.000000	12/12/96	11		1007	996	982	25	752	04/27/96	PAN	2,434,953.48	725,782.54
W-185	4185.000000	01/23/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	02/16/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	03/21/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	04/17/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	05/24/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	06/13/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	07/24/96		CONTA	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	08/15/96		BURIED	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	09/26/96		BURIED	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	10/10/96		BURIED	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	11/15/96		BURIED	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-185	4185.000000	12/12/96		BURIED	1007		969	38	751	04/25/96	GTE	2,434,890.69	725,685.37
W-186	4186.000000	01/23/96	12		1040	1028	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	02/23/96	8		1040	1032	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	03/21/96	9		1040	1031	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	04/17/96	9		1040	1031	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	05/14/96	17		1040	1023	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	06/13/96	13		1040	1027	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	07/11/96	14		1040	1026	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	08/15/96	14		1040	1026	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	09/18/96	11		1040	1029	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	10/10/96	11		1040	1029	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	11/14/96	9		1040	1031	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-186	4186.000000	12/12/96	9		1040	1031	1009	31	751	05/06/96	GTE	2,433,844.78	725,616.53
W-187	4187.000000	01/23/96	4		1047	1043	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	02/23/96	3		1047	1044	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	03/21/96	2		1047	1045	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	04/17/96	3		1047	1044	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	05/14/96	4		1047	1043	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	06/13/96	4		1047	1043	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	07/11/96	7		1047	1040	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	08/15/96	10		1047	1037	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	09/18/96	8		1047	1039	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	10/16/96	20		1047	1027	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	11/14/96	16		1047	1031	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-187	4187.000000	12/12/96	15		1047	1032	1003	44	751	05/06/96	GTE	2,433,877.66	725,660.9
W-188	4188.000000	01/25/96	10		997	987	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	02/23/96	10		997	987	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	03/21/96	9		997	988	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	04/18/96	6		997	991	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	05/15/96	5		997	992	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	06/13/96	6		997	991	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	07/12/96	6		997	991	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	08/21/96	7		997	990	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	09/13/96	8		997	989	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	10/16/96	7		997	990	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	11/14/96	7		997	990	940	57	746	04/10/96	PAN	2,435,957.59	724,833.0
W-188	4188.000000	12/12/96	7		997	990	940	57	746	04/10/96	PAN	2,435,957.59	724,833.

TOVCC 10822

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
W-189	4189.000000	01/25/96	2		979	977	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	02/16/96	3		979	976	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	03/21/96	2		979	977	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	04/18/96	3		979	976	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	05/16/96	3		979	976	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	06/14/96	4		979	975	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	07/18/96	4		979	975	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	08/16/96	4		979	975	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	09/13/96	4		979	975	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	10/17/96	6		979	973	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	11/15/96	6		979	973	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-189	4189.000000	12/13/96	5		979	974	964	15	738	03/12/96	PAN	2,438,946.15	729,598.67
W-190	4190.000000	01/10/96	60		1185	1125	1120	65	745	06/28/95	PAN	2,438,620.28	728,201.97
W-190	4190.000000	02/15/96	60		1185	1125	1120	65	745	06/28/95	PAN	2,438,620.28	728,201.97
W-190	4190.000000	03/14/96	58		1185	1127	1120	65	745	06/28/95	PAN	2,438,620.28	728,201.97
W-190	4190.000000	04/11/96	60		1185	1125	1120	65	745	06/28/95	PAN	2,438,620.28	728,201.97
W-190	4190.000000	05/15/96	60		1185	1125	1120	65	745	06/28/95	PAN	2,438,620.28	728,201.97
W-190	4190.000000	06/12/96	62		1185	1123	1120	65	745	06/28/95	PAN	2,438,620.28	728,201.97
W-191	4191.000000	01/25/96	43		1146	1103	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	02/23/96	43		1146	1103	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	03/22/96	42		1146	1104	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	04/18/96	43		1146	1103	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	05/22/96	43		1146	1103	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	06/14/96	43		1146	1103	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	07/12/96	14		1146	1132	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	08/16/96	60		1146	1086	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	09/26/96	61		1146	1085	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	10/24/96	58		1146	1088	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	11/14/96	48		1146	1098	1064	82	744		PAN	2,437,631.95	726,273.84
W-191	4191.000000	12/12/96	59		1146	1087	1064	82	744		PAN	2,437,631.95	726,273.84
W-192	4192.000000	01/25/96	23		1186	1163	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	02/23/96	25		1186	1161	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	03/22/96	23		1186	1163	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	04/18/96	26		1186	1160	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	05/22/96	25		1186	1161	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	06/14/96	26		1186	1160	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	07/12/96	27		1186	1159	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	08/16/96	30		1186	1156	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	09/26/96	30		1186	1156	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	10/23/96	30		1186	1156	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	11/14/96	30		1186	1156	1156	30	744		GTE	2,437,486.73	726,573.64
W-192	4192.000000	12/12/96	30		1186	1156	1156	30	744		GTE	2,437,486.73	726,573.64
W-193	4193.000000	01/29/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	02/23/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	03/22/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	04/18/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	05/22/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	06/14/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	07/12/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	08/16/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	09/26/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	10/24/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	11/14/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193	4193.000000	12/12/96		BURIED	1210				748		PAN	2,436,867.80	727,173.34
W-193A	4193.001000	01/26/96	14		1210	1196			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	02/23/96	15		1210	1195			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	03/22/96	13		1210	1197			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	04/18/96	15		1210	1195			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	05/22/96	13		1210	1197			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	06/14/96	14		1210	1196			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	07/12/96	19		1210	1191			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	08/16/96	52		1210	1158			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	09/26/96	49		1210	1161			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	10/24/96	22		1210	1188			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	11/14/96	21		1210	1189			748		PAN	2,436,721.94	727,307.4
W-193A	4193.001000	12/12/96	68		1210	1142			748		PAN	2,436,721.94	727,307.4
W-195	4195.000000	07/19/96		SEALED	1161		1112	49	756		PAN	2,436,608.11	729,779.4
W-195	4195.000000	08/16/96		SEALED	1161		1112	49	756		PAN	2,436,608.11	729,779.4
W-195	4195.000000	09/26/96		SEALED	1161		1112	49	756		PAN	2,436,608.11	729,779.4
W-195	4195.000000	10/24/96		SEALED	1161		1112	49	756		PAN	2,436,608.11	729,779.4
W-195	4195.000000	11/21/96		SEALED	1161		1112	49	756		PAN	2,436,608.11	729,779.4
W-195	4195.000000	12/20/96		SEALED	1161		1112	49	756		PAN	2,436,608.11	729,779.4

TOVCC 10823

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
W-194	4197.000000	07/19/96	40		1177	1137	1137	40	754		GTE	2,436,606.71	729,301.13
W-194	4197.000000	08/16/96	40		1177	1137	1137	40	754		GTE	2,436,606.71	729,301.13
W-194	4197.000000	09/26/96	40		1177	1137	1137	40	754		GTE	2,436,606.71	729,301.13
W-194	4197.000000	10/30/96	38		1177	1139	1137	40	754		GTE	2,436,606.71	729,301.13
W-194	4197.000000	11/21/96	36		1177	1141	1137	40	754		GTE	2,436,606.71	729,301.13
W-194	4197.000000	12/20/96	36		1177	1141	1137	40	754		GTE	2,436,606.71	729,301.13
W-198	4198.000000	10/30/96	44		1250	1206	1192	58	762		PAN	2,437,460.48	730,673.52
W-198	4198.000000	11/21/96	43		1250	1207	1192	58	762		PAN	2,437,460.48	730,673.52
W-198	4198.000000	12/20/96	43		1250	1207	1192	58	762		PAN	2,437,460.48	730,673.52
W-207	4207.000000	01/12/96		BURIED	965				738	05/15/95	ADJ	2,441,132.15	729,385.25
W-207	4207.000000	02/15/96		BURIED	965				738	05/15/95	ADJ	2,441,132.15	729,385.25
W-207	4207.000000	03/21/96		BURIED	965				738	05/15/95	ADJ	2,441,132.15	729,385.25
W-207	4207.000000	04/18/96		BURIED	965				738	05/15/95	ADJ	2,441,132.15	729,385.25
W-207	4207.000000	05/24/96		BURIED	965				738	05/15/95	ADJ	2,441,132.15	729,385.25
W-207	4207.000000	06/18/96		BURIED	965				738	05/15/95	ADJ	2,441,132.15	729,385.25
W-208	4208.000000	01/12/96	9		1085	1076	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	02/14/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	03/21/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	04/25/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	05/22/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	06/18/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	07/29/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	08/16/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	09/19/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	10/23/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	11/15/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-208	4208.000000	12/19/96	15		1085	1070	1070	15	742	02/12/96	PAN	2,440,898.99	725,073.19
W-209	4209.000000	01/12/96	17		1090	1073	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	02/14/96	11		1090	1079	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	03/21/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	04/24/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	05/22/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	06/18/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	07/29/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	08/16/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	09/19/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	10/23/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	11/15/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-209	4209.000000	12/19/96	21		1090	1069	1069	21	743	02/14/96	PAN	2,440,722.24	725,153.96
W-210	4210.000000	01/29/96	31		1195	1164	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	02/27/96	32		1195	1163	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	03/21/96	28		1195	1167	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	04/24/96	34		1195	1161	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	05/22/96	32		1195	1163	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	06/18/96	38		1195	1157	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	07/29/96	38		1195	1157	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	08/16/96	41		1195	1154	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	09/18/96	43		1195	1152	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	10/10/96	48		1195	1147	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	11/15/96	45		1195	1150	1143	52	738		PAN	2,440,471.70	727,030.97
W-210	4210.000000	12/19/96	46		1195	1149	1143	52	738		PAN	2,440,471.70	727,030.97
W-211	4211.000000	01/29/96	27		1193	1166	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	02/27/96	29		1193	1164	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	03/21/96	26		1193	1167	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	04/24/96	29		1193	1164	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	05/22/96	27		1193	1166	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	06/18/96	31		1193	1162	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	07/29/96	32		1193	1161	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	08/16/96	76		1193	1117	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	09/19/96	104		1193	1089	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	10/24/96	86		1193	1107	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	11/15/96	32		1193	1161	1053	140	747		PAN	2,439,712.92	728,227.25
W-211	4211.000000	12/19/96	31		1193	1162	1053	140	747		PAN	2,439,712.92	728,227.25

TOVCC 10824

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
W-212	4212.000000	01/29/96	30		1196	1166	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	02/28/96	28		1196	1168	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	03/21/96	27		1196	1169	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	04/24/96	31		1196	1165	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	05/22/96	29		1196	1167	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	06/18/96	33		1196	1163	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	07/29/96	35		1196	1161	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	08/16/96	36		1196	1160	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	10/24/96	41		1196	1155	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	11/15/96	34		1196	1162	1103	93	747		GTE	2,439,649.54	728,359.75
W-212	4212.000000	12/19/96	33		1196	1163	1103	93	747		GTE	2,439,649.54	728,359.75
W-213	4213.000000	01/25/96	6		953	947	946	7	740	05/06/95	ADJ	2,441,822.70	729,281.92
W-213	4213.000000	02/16/96	7		953	946	946	7	740	05/06/95	ADJ	2,441,822.70	729,281.92
W-213	4213.000000	03/21/96	5		953	948	946	7	740	05/06/95	ADJ	2,441,822.70	729,281.92
W-213	4213.000000	04/12/96	7		953	946	946	7	740	05/06/95	ADJ	2,441,822.70	729,281.92
W-213	4213.000000	05/24/96	7		953	946	946	7	740	05/06/95	ADJ	2,441,822.70	729,281.92
W-213	4213.000000	06/14/96	7		953	946	946	7	740	05/06/95	ADJ	2,441,822.70	729,281.92
W-214	4214.000000	01/25/96	2		960	958	923	37	740	05/04/95	ADJ	2,441,897.67	729,152.46
W-214	4214.000000	02/16/96	5		960	955	923	37	740	05/04/95	ADJ	2,441,897.67	729,152.46
W-214	4214.000000	03/21/96	2		960	958	923	37	740	05/04/95	ADJ	2,441,897.67	729,152.46
W-214	4214.000000	04/12/96	6		960	954	923	37	740	05/04/95	ADJ	2,441,897.67	729,152.46
W-214	4214.000000	05/24/96	6		960	954	923	37	740	05/04/95	ADJ	2,441,897.67	729,152.46
W-214	4214.000000	06/14/96	7		960	953	923	37	740	05/04/95	ADJ	2,441,897.67	729,152.46
W-215	4215.000000	01/25/96	5		765	760	727	38	739	05/04/95	ADJ	2,441,896.26	728,695.84
W-215	4215.000000	02/16/96	7		765	758	727	38	739	05/04/95	ADJ	2,441,896.26	728,695.84
W-215	4215.000000	03/21/96	5		765	760	727	38	739	05/04/95	ADJ	2,441,896.26	728,695.84
W-215	4215.000000	04/12/96	7		765	758	727	38	739	05/04/95	ADJ	2,441,896.26	728,695.84
W-215	4215.000000	05/15/96	6		765	759	727	38	739	05/04/95	ADJ	2,441,896.26	728,695.84
W-215	4215.000000	06/14/96	7		765	758	727	38	739	05/04/95	ADJ	2,441,896.26	728,695.84
W-216	4216.000000	01/25/96	6		970	964	937	33	740	05/03/95	PAN	2,441,988.27	728,736.78
W-216	4216.000000	02/16/96	7		970	963	937	33	740	05/03/95	PAN	2,441,988.27	728,736.78
W-216	4216.000000	03/21/96	5		970	965	937	33	740	05/03/95	PAN	2,441,988.27	728,736.78
W-216	4216.000000	04/12/96	7		970	963	937	33	740	05/03/95	PAN	2,441,988.27	728,736.78
W-216	4216.000000	05/15/96	6		970	964	937	33	740	05/03/95	PAN	2,441,988.27	728,736.78
W-216	4216.000000	06/14/96	7		970	963	937	33	740	05/03/95	PAN	2,441,988.27	728,736.78
W-217	4217.000000	01/26/96	3		948	945	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	02/27/96	2		948	946	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	03/28/96	4		948	944	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	04/25/96	4		948	944	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	05/14/96	4		948	944	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	06/12/96	5		948	943	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	07/19/96	3		948	945	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	08/23/96	7		948	941	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	09/26/96	6		948	942	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	10/15/96	7		948	941	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	11/21/96	6		948	942	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-217	4217.000000	12/13/96	5		948	943	936	12	742	05/27/96	PAN	2,442,338.98	725,990.66
W-218	4218.000000	01/25/96		SEALED	972		942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	02/27/96		SEALED	972		942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	03/28/96		SEALED	972		942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	04/24/96		SEALED	972		942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	05/24/96		SEALED	972		942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	06/18/96		SEALED	972		942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	07/19/96	11		972	961	942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	08/23/96	12		972	960	942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	09/26/96	12		972	960	942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	10/15/96	12		972	960	942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	11/21/96	12		972	960	942	30	742		PAN	2,442,774.63	726,123.3
W-218	4218.000000	12/13/96	13		972	959	942	30	742		PAN	2,442,774.63	726,123.3
W-219	4219.000000	01/25/96	12		969	957	859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	02/27/96	12		969	957	859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	03/28/96	10		969	959	859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	04/25/96	10		969	959	859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	05/24/96	10		969	959	859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	06/18/96	12		969	957	859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	07/19/96		SEALED	969		859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	08/21/96		SEALED	969		859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	09/26/96		SEALED	969		859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	10/15/96		BURIED	969		859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	11/21/96		BURIED	969		859	110	742		PAN	2,442,811.85	726,012.5
W-219	4219.000000	12/13/96		BURIED	969		859	110	742		PAN	2,442,811.85	726,012.5

TOVCC 10825

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
W-220	4220.000000	01/26/96	25		930	905	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	02/27/96	24		930	906	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	03/28/96	23		930	907	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	04/25/96	24		930	906	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	05/24/96	24		930	906	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	06/20/96	23		930	907	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	07/19/96	23		930	907	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	08/22/96	25		930	905	878	52	748		GTE	2,442,983.47	727,489.35
W-220	4220.000000	09/26/96	26		930	904	878	52	748		GTE	2,442,983.47	727,489.35
W-221	4221.000000	01/26/96	20		935	915	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	02/27/96	55		935	880	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	03/28/96	21		935	914	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	04/26/96	21		935	914	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	05/24/96	19		935	916	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	06/20/96	26		935	909	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	07/19/96	22		935	913	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	08/22/96	26		935	909	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	09/26/96	28		935	907	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	10/15/96	29		935	906	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	11/21/96	23		935	912	880	55	754		PAN	2,443,303.91	727,969.93
W-221	4221.000000	12/13/96	25		935	910	880	55	754		PAN	2,443,303.91	727,969.93
W-222	4222.000000	01/26/96	11		977	966	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	02/27/96	34		977	943	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	03/28/96	37		977	940	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	04/26/96	42		977	935	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	05/24/96	40		977	937	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	06/20/96	45		977	932	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	07/19/96	45		977	932	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	08/22/96	47		977	930	919	58	755		ADJ	2,443,755.05	727,861.28
W-222	4222.000000	09/26/96	47		977	930	919	58	755		ADJ	2,443,755.05	727,861.28
W-223	4223.000000	01/26/96	11		950	939	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	02/27/96	5		950	945	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	03/28/96	13		950	937	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	04/26/96	18		950	932	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	05/24/96	13		950	937	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	06/20/96	12		950	938	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	07/19/96	6		950	944	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	08/22/96	18		950	932	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	09/26/96	15		950	935	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	10/15/96	17		950	933	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	11/21/96	15		950	935	894	56	755		PAN	2,443,489.33	728,079.06
W-223	4223.000000	12/13/96	16		950	934	894	56	755		PAN	2,443,489.33	728,079.06
W-243	4243.000000	01/12/96		SEALED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	02/15/96		SEALED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	03/21/96		SEALED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	04/12/96		SEALED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	05/24/96		SEALED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	06/13/96		SEALED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	07/18/96		BURIED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	08/16/96		BURIED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-243	4243.000000	09/13/96		BURIED	1205		1181	24	749		GTE	2,446,818.39	729,488.78
W-244	4244.000000	01/12/96	77		1205	1128	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	02/16/96	77		1205	1128	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	03/21/96	74		1205	1131	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	04/11/96	75		1205	1130	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	05/14/96	74		1205	1131	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	06/13/96	77		1205	1128	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	07/18/96	78		1205	1127	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	08/16/96	79		1205	1126	1116	89	749		GTE	2,446,953.22	729,404.64
W-244	4244.000000	09/13/96	79		1205	1126	1116	89	749		GTE	2,446,953.22	729,404.64
W-260	4260.000000	01/12/96	43		1051	1008	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	02/16/96	42		1051	1009	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	03/14/96	37		1051	1014	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	04/12/96	39		1051	1012	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	05/24/96	30		1051	1021	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	06/18/96	59		1051	992	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	07/18/96	41		1051	1010	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	08/16/96	42		1051	1009	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	09/26/96	40		1051	1011	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	10/15/96	41		1051	1010	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	11/15/96	39		1051	1012	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1
W-260	4260.000000	12/13/96	38		1051	1013	992	59	742	11/09/95	PAN	2,442,499.94	729,122.1

TOVCC 10826

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT - MONITORING DATA
4TH QUARTER, 1996

										DATE		STATE PLANE COORDS	
SOURCE	SITE CODE	DATE	SWL	FLOW	ELEV.	SWL ELEV	BOTT ELEV	DEPTH	COAL ELEV	UNDERMINED	LOCATION	X	Y
W-269	4269.000000	01/25/96		SEALED	1303				729	10/07/93	GTE	2,432,949.95	728,236.95
W-269	4269.000000	02/15/96		SEALED	1303				729	10/07/93	GTE	2,432,949.95	728,236.95
W-269	4269.000000	03/14/96		SEALED	1303				729	10/07/93	GTE	2,432,949.95	728,236.95
W-287	4287.000000	01/29/96	5		1185	1180			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	02/27/96	1		1185	1184			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	03/21/96	2		1185	1183			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	04/24/96	7		1185	1178			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	05/22/96	6		1185	1179			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	06/18/96	10		1185	1175			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	07/29/96	10		1185	1175			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	08/16/96	12		1185	1173			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	09/19/96	10		1185	1175			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	10/24/96	10		1185	1175			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	11/15/96	10		1185	1175			747		PAN	2,439,725.42	728,144.75
W-287	4287.000000	12/19/96	9		1185	1176			747		PAN	2,439,725.42	728,144.75
W-288	4288.000000	01/11/96	18		1270	1252	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	02/15/96	17		1270	1253	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	03/14/96	15		1270	1255	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	04/11/96	17		1270	1253	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	05/14/96	15		1270	1255	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	06/12/96	17		1270	1253	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	07/10/96	18		1270	1252	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	08/22/96	20		1270	1250	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88
W-288	4288.000000	09/13/96	19		1270	1251	1249	21	733	07/24/95	ADJ	2,436,956.11	727,759.88

TOVCC 10827

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - 2ND QTR, 1995

APRIL									
PANEL BEING MINED		16 EAST		16 EAST		16 EAST		16 EAST	
DATE MEAS.	====>	04/06/95		04/13/95		04/21/95		04/25/95	
LW PLUS	====>	12417		11987		11808		11563	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-207	10155	B	2262	B	1832	B	1653	B	1408
W-213	10845	8'	1572	8'	1142	8'	963	8'	718
W-214	10930	8'	1487	5'	1057	6'	878	7'	633
W-215	10930	6'	1487	6'	1057	6'	878	5'	633
W-216	11025	9'	1392	8'	962	8'	783	8'	538
W-260	11520	32'	897	31'	467	32'	288	32'	43
SP-63	12950	0 GPM	-533	0 GPM	-963	0 GPM	-1142	0 GPM	-1387
SP-64	13020	0 GPM	-603	0 GPM	-1033	0 GPM	-1212	0 GPM	-1457
SP-165	11470	0 GPM	947	0.16 GPM	517	0.23 GPM	338	0.22 GPM	93
SP-166	13260	2.6 GPM	-843	0 GPM	-1273	0 GPM	-1452	0 GPM	-1697
SP-179	13785	0 GPM	-1368	0.04 GPM	-1798	0.05 GPM	-1977	U	-2222

MAY											
PANEL BEING MINED		16 EAST		16 EAST		16 EAST		16 EAST		16 EAST	
DATE MEAS.	====>	05/05/95		05/12/95		05/19/95		05/23/95		05/31/95	
LW PLUS	====>	10892		10352		9835		9499		9064	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-190	7670	U	3222	U	2682	U	2165	U	1829	45'	1394
W-207	10155	B	737	B	197	B	-320	B	-656	B	-1091
W-213	10845	6'	47	8'	-493	7'	-1010	8'	-1346	8'	-1781
W-214	10930	3'	-38	5'	-578	3'	-1095	6'	-1431	7'	-1866
W-215	10930	2'	-38	10'	-578	6'	-1095	7'	-1431	7'	-1866
W-216	11025	3'	-133	6'	-673	5'	-1190	6'	-1526	6'	-1961
W-260	11520	41'	-628	43'	-1168	32'	-1685	34'	-2021	33'	-2456
SP-63	12950	0 GPM	-2058	U	-2598	U	-3115	U	-3451	U	-3886
SP-64	13020	0 GPM	-2128	U	-2668	U	-3185	U	-3521	U	-3956
SP-165	11470	1.7 GPM	-578	1.26 GPM	-1118	4.5 GPM	-1635	2.3 GPM	-1971	1.13 GPM	-2406
SP-166	13260	0 GPM	-2368	U	-2908	U	-3425	U	-3761	U	-4196

JUNE									
PANEL BEING MINED		16 EAST		16 EAST		16 EAST		16 EAST	
DATE MEAS.	====>	06/09/95		06/15/95		06/23/95		06/29/95	
LW PLUS	====>	8502		8246		7870		7551	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-190	7670	46'	832	47'	576	48'	200	50'	-119
W-207	10155	B	-1653	U	-1909	U	-2285	U	-2604
W-288	6015	U	2487	U	2231	20'	1855	20'	1536
SP-93	5505	U	2997	U	2741	U	2365	0.32 GPM	2046
SP-94	6160	U	2342	U	2086	0.53 GPM	1710	0.54 GPM	1391

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING

SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS

FLOW = MEASURED IN GPM

POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE

LONGWALL PLUS IS RECORDED DAILY

OPERATOR

RECEIVED
JUL 13 1995
DIVISION OF
COAL MINE REGULATION

TOVCC 10828

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360

WEEKLY MONITORING REPORT - ~~2ND~~ 3RD QTR, 1995

JULY									
PANEL BEING MINED		16 EAST		16 EAST		16 EAST		16 EAST	
DATE MEAS.	====>	07/06/95		07/13/95		07/20/95		07/29/95	
LW PLUS	====>	7144		6699		6205		5494	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-89	3875	U	3269	U	2824	U	2330	0.6 GPM	1619
SP-90	4755	U	2389	U	1944	2.6 GPM	1450	1.25 GPM	739
SP-91	5225	U	1919	0.49 GPM	1474	3.2 GPM	980	1.5 GPM	269
SP-92	5335	.22 GPM	1809	0.52 GPM	1364	1.9 GPM	870	0.31 GPM	159
SP-93	5505	.24 GPM	1639	0.14 GPM	1194	0.67 GPM	700	0.23 GPM	-11
SP-94	6160	.48 GPM	984	0.36 GPM	539	0.57 GPM	45	0.54 GPM	-666
W-72	5180	U	1964	30 FT.	1519	28 FT.	1025	28 FT.	314
W-190	7670	63 FT.	-526	DRY	-971	DRY	-1465	U	-2176
W-288	6015	20 FT.	1129	20 FT.	684	20 FT.	190	19 FT.	-521

AUGUST											
PANEL BEING MINED		16 EAST		16 EAST		16 EAST		16 EAST		17 EAST	16 EAST
DATE MEAS.	====>	08/01/95		08/09/95		08/15/95		08/22/95			08/31/95
LW PLUS	====>	5306		4746		4490		3948		14330	3168
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-89	3875	0.29 GPM	1431	0.15 GPM	871	0.14 GPM	615	0.15 GPM	73	0 GPM	-707
SP-90	4755	1.01 GPM	551	0.85 GPM	-9	0.63 GPM	-265	0.70 GPM	-807	U	-1587
SP-91	5225	1.10 GPM	81	0.50 GPM	-479	0.015 GPM	-735	0 GPM	-1277	U	-2057
SP-92	5335	0.24 GPM	-29	0 GPM	-589	0 GPM	-845	U	-1387	U	-2167
SP-93	5505	0 GPM	-199	0.09 GPM	-759	0.014 GPM	-1015	U	-1557	U	-2337
SP-94	6160	0.48 GPM	-854	0.32 GPM	-1414	U	-1670	U	-2212	U	-2992
W-72	5180	29 FT.	126	29 FT.	-434	30 FT.	-690	30 FT.	-1232	U	-2012
W-288	6015	19 FT.	-709	19 FT.	-1269	U	-1525	U	-2067	U	-2847
W-106	2240	U	3066	U	2506	35 FT.	2250	35 FT.	1708	35 FT.	928
SP-167	13215	U	-7909	U	-8469	U	-8725	1.20 GPM	-9267	0.93 GPM	1115
SP-166	13260	U	-7954	U	-8514	U	-8770	U	-9312	N/A	1070

SEPTEMBER									
PANEL BEING MINED		17 EAST	16 EAST	17 EAST	16 EAST	16 EAST	17 EAST	16 EAST	17 EAST
DATE MEAS.	====>		09/06/95		09/15/95		09/19/95		09/27/95
LW PLUS	====>	14330	2831	14330	2280	2269	14330	2269	14315
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
SP-89	3875	0 GPM	-1044	U	-1595	U	-1606	U	-1606
W-106	2240	35 FT.	591	35 FT.	40	35 FT.	29	35 FT.	29
SP-166	13260	N/A	1070	N/A	1070	N/A	1070	N/A	1055
SP-167	13215	0.94 GPM	1115	0.43 GPM	1115	42 FT.	1115	0.77 GPM	1100
SP-165	11470	U	2860	U	2860	U	2860	0.28 GPM	2845
W-260	11520	U	2810	U	2810	U	2810	36 FT.	2795

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING

SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS

FLOW = MEASURED IN GPM

POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE

LONGWALL PLUS IS RECORDED DAILY

N/A = SPRING CANNOT BE SAMPLED

TOVCC 10829

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT D-0360
WEEKLY MONITORING REPORT - 4TH QTR, 1995

OCTOBER									
PANEL BEING MINED		17 EAST		17 EAST		17 EAST		17 EAST	
DATE MEAS. ====>		10/05/95		10/12/95		10/19/95		10/26/95	
LW PLUS ====>		13870		13293		12849		12248	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-260	11520	37'	2350	36'	1773	34'	1329	33'	728
SP-165	11470	0.3 GPM	2400	0.22 GPM	1823	0.38 GPM	1379	0.42 GPM	778
SP-166	13260	N/A	610	N/A	33	N/A	-411	N/A	-1012
SP-167	13215	0.45 GPM	655	0 GPM	78	0 GPM	-366	0 GPM	-967
W-213	10845	U	3025	U	2448	7'	2004	7'	1403
W-214	10930	U	2940	U	2363	6'	1919	6'	1318
W-215	10930	U	2940	U	2363	7'	1919	7'	1318
W-216	11025	U	2845	U	2268	7'	1824	7'	1223
W-189	7975	U	5895	U	5318	U	4874	4'	4273

NOVEMBER									
PANEL BEING MINED		17 EAST		17 EAST		17 EAST		17 EAST	
DATE MEAS. ====>		11/03/95		11/10/95		11/17/95		11/22/95	
LW PLUS ====>		11640		11420		6605		6367	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-188	5445	U	6195	7'	5975	7'	1160	7'	922
W-213	10845	7'	795	8'	575	7'	-4240	7'	-4478
W-214	10930	4'	710	6'	490	3'	-4325	5'	-4563
W-215	10930	7'	710	7'	490	6'	-4325	7'	-4563
W-216	11025	7'	615	8'	395	7'	-4420	8'	-4658
W-260	11520	34'	120	40'	-100	41'	-4915	D	-5153
SP-090	6160	U	5480	0.004 GPM	5260	0.16 GPM	445	0.3 GPM	207
SP-165	11470	4.7 GPM	170	0 GPM	-50	0 GPM	-4865	0 GPM	-5103
W-189	7975	3'	3665	U	3445	U	-1370	U	-1608
SP-166	13260	N/A	-1620	U	-1840	U	-6655	U	-6893
SP-167	13215	0 GPM	-1575	U	-1795	U	-6610	U	-6848
SP-090	4755	U	6885	U	6665	0.22 GPM	1850	0.005 GPM	1612
SP-091	5225	U	6415	U	6195	0.07 GPM	1380	0 GPM	1142

DECEMBER											
PANEL BEING MINED		17 EAST		17 EAST		17 EAST		17 EAST		17 EAST	
DATE MEAS. ====>		12/01/95		12/08/95		12/15/95		12/21/95		12/29/95	
LW PLUS ====>		5797		5198		4633		4166		3817	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-188	5455	7'	342	7'	-257	11'	-822	11'	-1289	11'	-7208
W-213	10845	7'	-5048	7'	-5647	8'	-6212	U	-6679	U	-938
W-214	10930	6'	-5133	6'	-5732	5'	-6297	U	-6764	U	-1408
W-215	10930	6'	-5133	6'	-5732	7'	-6297	U	-6764	U	-2343
W-216	11025	7'	-5228	7'	-5827	7'	-6392	U	-6859	U	-7703
SP-090	4755	R	1042	R	443	0.03 GPM	-122	0 GPM	-589	0 GPM	-7653
SP-091	5225	R	572	R	-27	0 GPM	-592	0 GPM	-1059	0 GPM	-1408
SP-094	6160	R	-363	R	-962	0 GPM	-1527	0 GPM	-1994	U	-2343
W-260	11520	44'	-5723	U	-6322	U	-6887	U	-7354	U	-7703
SP-165	11470	0 GPM	-5673	U	-6272	U	-6837	U	-7304	U	-7653

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING
SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS
FLOW = MEASURED IN GPM
POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE
LONGWALL PLUS IS RECORDED DAILY
N/A = SPRING CANNOT BE SAMPLED

TOVCC 10830

THE OHIO VALLEY COAL COMPANY

January 9, 1996

Mr. Jack D. Graham
Reclamation Inspector
Division of Reclamation
Ohio Department of Natural Resources
70245 Bannock-Uniontown Road
St. Clairsville, Ohio 43950

Dear Jack:

Enclosed are the quarterly monitoring reports for The Ohio Valley Coal Company's Powhatan No. 6 Mine (Permit D-0360) covering the Fourth Quarter, 1995. If you have any questions, please contact me.

Permittee's Signature David L. Bartsch Date 1-9-96

Laboratory Name TraDet, Incorporated

Analyst's Signature [signature] Date 1/10/96

56854 PLEASANT RIDGE ROAD ◦ ALLEDONIA OHIO 43902 ◦ (614) 926-1351 ◦ FAX (614) 926-1615

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT 0-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
D28	993	-				0.68	01/19/95	6.7	0.00	223.80	0.24	0.025	3.0	196.0	78.0	696	0.89		737		PAN	727567.34	2441687.38
D28	993	-				3.02	02/17/95												737		PAN	727567.34	2441687.38
D28	993	-				0.69	03/23/95												737		PAN	727567.34	2441687.38
D28	993	-				0.69	04/20/95	8.6	3.2	250	0.62	<0.02	<1.0	160	82	650	0.22		737		PAN	727567.34	2441687.38
D28	993	-				1.22	05/12/95												737		PAN	727567.34	2441687.38
D28	993	-				0.23	06/21/95												737		PAN	727567.34	2441687.38
D28	993	-				1.4	07/18/95	8.3	7.3	190	0.44	<0.02	<1.0	150	51	500	0.78		737		PAN	727567.34	2441687.38
D28	993	-				0.053	08/15/95												737		PAN	727567.34	2441687.38
D28	993	-				0	08/16/95												737		PAN	727567.34	2441687.38
D28	993	-				0	10/12/95												737		PAN	727567.34	2441687.38
D28	993	-				0.51	11/14/95	8.3	1.6	230	0.29	<0.02	<1.0	190	100	660	0.62		737		PAN	727567.34	2441687.38
D28	993	-				0.38	12/28/95												737		PAN	727567.34	2441687.38
D28	993	-				1.36	01/16/95	8.7	0.00	22.020	0.43	0.03	4.0	180.0	84.0	655	0.85		736		PAN	726586.81	2441868.82
D28-A	960	-				5.25	02/17/95												736		PAN	726586.81	2441868.82
D28-A	960	-				1.75	03/23/95												736		PAN	726586.81	2441868.82
D28-A	960	-				1.4	04/20/95	8.6	4.0	280	0.71	0.04	<1.0	160	76	690	0.13		736		PAN	726586.81	2441868.82
D28-A	960	-				1.8	05/12/95												736		PAN	726586.81	2441868.82
D28-A	960	-				0.58	06/21/95												736		PAN	726586.81	2441868.82
D28-A	960	-				2.23	07/18/95	8.3	6.2	220	0.35	0.03	5.2	180	60	580	0.89		736		PAN	726586.81	2441868.82
D28-A	960	-				0.14	08/15/95												736		PAN	726586.81	2441868.82
D28-A	960	-				0.14	08/25/95	8.0	12	380	0.11	0.08	<1.0	140	66	630	0.11		736		PAN	726586.81	2441868.82
D28-A	960	-				0.09	08/16/95												736		PAN	726586.81	2441868.82
D28-A	960	-				1.23	11/17/95												736		PAN	726586.81	2441868.82
D28-A	960	-				0.51	11/17/95												736		PAN	726586.81	2441868.82
D28-A	960	-				1.1	12/28/95												736		PAN	726586.81	2441868.82
D29	1059	-				0.19	01/16/95	8.2	0.80	248.00	0.30	0.04	5.0	190.0	58.0	375	1.04		759		PAN	727378.23	2443232.00
D29	1059	-				0.47	02/17/95												759		PAN	727378.23	2443232.00
D29	1059	-				0.23	03/23/95												759		PAN	727378.23	2443232.00
D29	1059	-				0.8	04/21/95	7.7	13	300	0.71	0.03	<1.0	190	89	77	0.17		759		PAN	727378.23	2443232.00
D29	1059	-				0.19	05/12/95												759		PAN	727378.23	2443232.00
D29	1059	-				0.08	06/16/95												759		PAN	727378.23	2443232.00
D29	1059	-				0.0004	07/14/95	8.1	14	330	0.51	0.07	7.0	220	82	940	0.20		759		PAN	727378.23	2443232.00
D29	1059	-				0.001	08/15/95												759		PAN	727378.23	2443232.00
D29	1059	-				0	09/16/95												759		GTE	727378.23	2443232.00
D29	1059	-				0	10/12/95												759		PAN	727378.23	2443232.00
D29	1059	-				0.04	11/14/95	8.3	3.8	190	0.20	<0.02	2.8	200	81	580	0.58		759		PAN	727378.23	2443232.00
D29	1059	-				0.08	12/28/95												759		PAN	726570.15	2442066.23
D28-A	981	-				0.89	01/16/95	8.7	0.00	205.60	0.23	0.04	7.0	188.0	48.0	623	0.44		740		PAN	726570.15	2442066.23
D28-A	981	-				2.3	02/17/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.36	03/23/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.48	04/21/95	8.6	3.2	230	0.54	0.04	40	200	64	610	0.12		740		PAN	726570.15	2442066.23
D28-A	981	-				0.78	05/12/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.13	06/16/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.02	07/14/95	8.3	12	290	0.32	0.11	<1.0	220	60	760	<0.10		740		PAN	726570.15	2442066.23
D28-A	981	-				0.02	08/15/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.02	08/25/95	7.8	16	290	0.38	0.14	<1.0	210	60	670	0.18		740		PAN	726570.15	2442066.23
D28-A	981	-				0.007	09/19/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.12	11/17/95												740		PAN	726570.15	2442066.23
D28-A	981	-				0.2	12/28/95												740		PAN	726570.15	2442066.23
SP-032	1270	-				0.52	01/13/95	7.4	8.20	147.40	0.05	0.03	5.0	400.0	85.0	827	2.14		735		PAN	727685.58	2432938.18
SP-032	1270	-				0.59	02/10/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				1.81	03/22/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				0.9	04/12/95	7.1	17	120	0.04	<0.02	<1.0	380	82	850	24		735		PAN	727685.58	2432938.18
SP-032	1270	-				0.74	05/08/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				0.74	06/13/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				0.31	07/11/95	8.7	48	160	0.04	<0.02	<1.0	400	68	1000	6.9		735		PAN	727685.58	2432938.18
SP-032	1270	-				0.4	08/09/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				0.15	09/12/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				0.19	10/10/95	7.3	21	150	0.04	<0.02	<1.0	380	72	800	17		735		PAN	727685.58	2432938.18
SP-032	1270	-				2.0	11/14/95												735		PAN	727685.58	2432938.18
SP-032	1270	-				2.4	12/15/95												735		PAN	727685.58	2432938.18
SP-033	1264	-				0.27	01/10/95	7.7	3.60	81.00	<0.04	<0.02	8.0	136.0	88.0	506	0.99	5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.44	02/10/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.85	03/22/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.41	04/12/95	7.0	4.1	88	0.06	<0.02	<1.0	150	40	260	4.4	5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.35	05/08/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.32	06/15/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.23	07/07/95	7.3	15	110	0.07	<0.02	<1.0	180	41	380	1.5	5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.57	08/09/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.23	09/12/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.17	10/10/95	7.0	<1.5	87	0.13	<0.02	<1.0	140	38	260	2.9	5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.4	11/14/95											5/11/64	730		PAN	727148.92	2432860.82
SP-033	1264	-				0.69	12/15/95											5/11/64	730		PAN	727148.92	2432860.82

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THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																					STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
SP-035	1200	-				0	01/10/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	02/10/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	03/22/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	04/12/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	05/09/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	06/15/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	07/11/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	08/09/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	09/12/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	10/10/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	11/06/95											5/11/04	720		GTE	726143.52	2434123.55
SP-035	1200	-				0	11/14/95											5/11/04	720		GTE	726143.52	2434123.55
SP-036	1265	-				0	01/10/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	02/10/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	03/22/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	04/12/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	05/09/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	06/15/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	07/11/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	08/09/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	09/12/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	10/10/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	11/14/95											5/6/04	721		PAN	726202.32	2434439.07
SP-036	1265	-				0	12/15/95											5/6/04	721		PAN	726202.32	2434439.07
SP-038	1210	-				0	01/10/95											11/18/03	720		PAN	725366.87	2435821.28
SP-038	1210	-				0.08	02/10/95	7.5	7.40	176.80	0.21	<0.02	4.0	229.0	44.0	446	2.85	11/18/03	720		PAN	725366.87	2435821.28
SP-038	1210	-				0.08	03/16/95											11/18/03	720		PAN	725366.87	2435821.28
SP-038	1210	-				0.002	04/12/95	6.4	<1.5	190	0.06	<0.02	<1.0	230	50	420	0.18	11/18/03	720		PAN	725366.87	2435821.28
SP-038	1210	-				0.45	05/11/95											11/18/03	720		PAN	725366.87	2435821.28
SP-038	1210	-				0.07	06/15/95											11/18/03	720		PAN	725366.87	2435821.28
SP-038	1135	-				0	01/10/95											10/22/03	730		PAN	724677.34	2438937.28
SP-038	1135	-				1.86	02/10/95	7.4	6.80	47.00	0.07	<0.02	5.0	142.0	23.0	282	2.70	10/22/03	730		PAN	724677.34	2438937.28
SP-038	1135	-				0.62	03/16/95											10/22/03	730		PAN	724677.34	2438937.28
SP-038	1135	-				0	04/13/95											10/22/03	730		PAN	724677.34	2438937.28
SP-038	1135	-				0	05/11/95											10/22/03	730		PAN	724677.34	2438937.28
SP-038	1135	-				0	06/15/95											10/22/03	730		PAN	724677.34	2438937.28
SP-041	1165	-				0	01/10/95											4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0.35	02/10/95	6.6	10.80	132.80	0.26	0.02	5.0	84.0	22.0	154	1.78	4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0	03/16/95											4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0	04/13/95											4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0.05	05/11/95	6.9	62	310	1.1	0.40	7.2	98	24	250	<0.10	4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0	06/15/95											4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0	07/11/95											4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0	08/09/95											4/21/04	722		PAN	726216.20	2435826.10
SP-041	1165	-				0	09/12/95											4/21/04	722		PAN	726216.20	2435826.10
SP-043	1184	-				0	01/13/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	02/10/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	03/22/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	04/13/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	05/12/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	06/16/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	07/14/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	08/15/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	09/14/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	10/12/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	11/14/95											3/28/05	750		PAN	727762.57	2443876.81
SP-043	1184	-				0	12/27/95											3/28/05	750		PAN	727762.57	2443876.81
SP-044	1188	-				0	01/13/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	02/10/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	03/27/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	04/13/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	05/12/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	06/16/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	07/14/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	08/15/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	09/14/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	10/12/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	11/14/95											3/28/05	750		PAN	727817.08	2443851.85
SP-044	1188	-				0	12/27/95											3/28/05	750		PAN	727817.08	2443851.85
SP-078	1183	-				4.5	04/27/95	7.5	11	170	2.7	0.03	76	200	34	340	0.10		751		ADJ	725777.08	2432411.51
SP-078	1183	-				4.6	05/23/95												751		ADJ	725777.08	2432411.51
SP-078	1183	-				0.73	06/22/95												751		ADJ	725777.08	2432411.51
SP-078	1183	-				0.37	07/20/95	7.1	<1.5	170	0.50	<0.02	<1.0	210	30	330	0.25		751		ADJ	725777.08	2432411.51
SP-078	1183	-				0.10	08/23/95												751		ADJ	725777.08	2432411.51
SP-078	1183	-				0.13	09/21/95												751		ADJ	725777.08	2432411.51
SP-078	1183	-				0	10/20/95												751		ADJ	725777.08	2432411.51
SP-078	1183	-				0	11/21/95												751		ADJ	725777.08	2432411.51
SP-078	1183	-				0	12/22/95												751		ADJ	725777.08	2432411.51

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THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
SP-079	1076	-				0.38	04/28/95	7.9	7.5	180	0.17	<0.02	<1.0	210	39	350	<0.10		752		PAN	725888.50	2434704.16
SP-079	1076	-				0.48	05/23/95												752		PAN	725888.50	2434704.16
SP-079	1076	-				0.11	06/22/95												752		PAN	725888.50	2434704.16
SP-079	1076	-				0.09	07/20/95	7.7	5.8	200	0.21	<0.02	<1.0	220	39	380	<0.10		752		PAN	725888.50	2434704.16
SP-079	1076	-				0.007	08/23/95												752		PAN	725888.50	2434704.16
SP-079	1076	-				0.007	08/21/95												752		PAN	725888.50	2434704.16
SP-079	1076	-				0.02	10/10/95	8.1	6.6	220	0.39	<0.02	3.6	250	47	390	0.66		752		PAN	725888.50	2434704.16
SP-079	1076	-				0.13	11/21/95												752		PAN	725888.50	2434704.16
SP-079	1076	-				0.23	12/22/95												752		PAN	725888.50	2434704.16
SP-083	1043	-				0.12	04/28/95	6.4	9.8	90	0.22	<0.02	2.8	110	37	180	0.13		750		PAN	725420.24	2434488.50
SP-083	1043	-				0.14	05/23/95												750		PAN	725420.24	2434488.50
SP-083	1043	-				DRY	06/22/95												750		PAN	725420.24	2434488.50
SP-083	1043	-				0	07/20/95												750		PAN	725420.24	2434488.50
SP-083	1043	-				0	08/23/95												750		PAN	725420.24	2434488.50
SP-083	1043	-				0	09/21/95												750		PAN	725420.24	2434488.50
SP-083	1043	-				0	10/20/95												742		PAN	725420.24	2434488.50
SP-083	1043	-				0.14	11/21/95	6.5	16	60	0.17	<0.02	<1.0	92	25	180	0.28		750		PAN	725420.24	2434488.50
SP-083	1043	-				0.14	11/21/95	6.5	16	60	0.17	<0.02	<1.0	92	25	180	0.28		750		PAN	725420.24	2434488.50
SP-083	1043	-				0.15	12/22/95												750		PAN	725420.24	2434488.50
SP-084	1068	-				3.0	04/28/95	6.4	17	95	3.0	0.06	93	120	25	200	0.22		750		PAN	725347.10	2434026.82
SP-084	1068	-				2.9	05/22/95												750		PAN	725347.10	2434026.82
SP-084	1068	-				2.8	06/20/95												750		PAN	725347.10	2434026.82
SP-084	1068	-				2.7	07/25/95	6.2	45	66	0.10	<0.02	<1.0	96	27	170	0.37		750		PAN	725347.10	2434026.82
SP-084	1068	-				2.73	08/28/95												750		PAN	725347.10	2434026.82
SP-084	1068	-				3.03	09/28/95												750		PAN	725347.10	2434026.82
SP-084	1068	-				3.16	10/24/95	7.2	180	180	1.5	0.04	6.3	210	40	540	0.54		750		PAN	725347.10	2434026.82
SP-084	1068	-				6.6	11/22/95												750		PAN	725347.10	2434026.82
SP-084	1068	-				3.3	12/29/95												750		PAN	725347.10	2434026.82
SP-089	1138	-				0.74	01/26/95	7.4	6.60	151.80	0.10	0.02	4.0	148.0	22.0	327	<0.50		731		PAN	726327.22	2434838.25
SP-089	1138	-				1.12	02/28/95												731		PAN	726327.22	2434838.25
SP-089	1138	-				0.42	03/29/95												731		PAN	726327.22	2434838.25
SP-089	1138	-				0.48	04/28/95	7.3	8.1	150	0.90	0.02	<1.0	180	21	320	0.16		731		PAN	726327.22	2434838.25
SP-089	1138	-				0.98	05/17/95												731		PAN	726327.22	2434838.25
SP-089	1138	-				0.58	06/16/95												731		PAN	726327.22	2434838.25
SP-089	1138	-				0.11	07/13/95	7.4	11	180	0.64	0.09	7.2	170	32	370	0.12		731		PAN	726327.22	2434838.25
SP-089	1138	-				0.15	08/09/95												731		PAN	726327.22	2434838.25
SP-089	1138	-				0	09/14/95												731		PAN	726327.22	2434838.25
SP-089	1138	-				0	10/12/95											8/23/95	731		PAN	726327.22	2434838.25
SP-089	1138	-				0	11/14/95											8/23/95	731		PAN	726327.22	2434838.25
SP-089	1138	-				0	12/15/95												731		PAN	726327.22	2434838.25
SP-080	1187	-				2.34	01/26/95	7.7	4.60	138.60	0.21	0.03	5.0	132.0	22.0	300	0.60		735		PAN	726772.98	2435720.00
SP-080	1187	-				4.5	02/28/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				1.6	03/28/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				1.52	04/28/95	7.7	8.4	130	1.5	0.04	12	150	28	320	0.32		735		PAN	726772.98	2435720.00
SP-080	1187	-				4.1	05/17/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				1.5	06/16/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				0.61	07/13/95	7.9	6.8	180	0.26	0.12	<1.0	180	29	370	0.46		735		PAN	726772.98	2435720.00
SP-080	1187	-				0.85	08/09/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				0	09/14/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				0	10/12/95												735		PAN	726772.98	2435720.00
SP-080	1187	-				0.72	11/14/95	6.8	<1.5	44	3.6	0.11	20	64	23	180	0.11		735		PAN	726772.98	2435720.00
SP-080	1187	-				0.03	12/15/95											8/9/95	735		PAN	726772.98	2435720.00
SP-081	1192	-				3.48	01/26/95	7.2	7.20	150.00	0.11	<0.02	4.0	158.0	30.0	348	0.55		738		PAN	724008.00	2436008.48
SP-081	1192	-				8.7	02/28/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				2.2	03/28/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				2.3	04/28/95	7.3	13	160	0.62	<0.02	3.6	190	34	370	0.37		738		PAN	724008.00	2436008.48
SP-081	1192	-				5.14	05/17/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				1.8	06/16/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				0.49	07/13/95	7.3	13	150	0.46	0.02	2.8	220	36	450	0.62		738		PAN	724008.00	2436008.48
SP-081	1192	-				0.5	08/09/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				0	09/14/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				0	10/12/95												738		PAN	724008.00	2436008.48
SP-081	1192	-				0.07	11/14/95	7.1	18	100	0.76	0.03	6.8	150	50	310	0.97		738		PAN	724008.00	2436008.48
SP-081	1192	-				0	12/15/95											6/2/95	738		PAN	724008.00	2436008.48
SP-082	1175	-				2.0	01/26/95	7.1	5.20	82.60	0.12	0.11	7.8	106.0	34.0	2.85	1.35		733		PAN	726530.74	2436261.87
SP-082	1175	-				8.4	02/28/95												733		PAN	726530.74	2436261.87
SP-082	1175	-				0.64	03/29/95												733		PAN	726530.74	2436261.87
SP-082	1175	-				0.52	04/28/95	6.8	18	100	0.85	0.04	5.2	150	34	310	0.97		733		PAN	726530.74	2436261.87
SP-082	1175	-				2.82	05/17/95												733		PAN	726530.74	2436261.87
SP-082	1175	-				0.35	06/16/95												733		PAN	726530.74	2436261.87
SP-082	1175	-				0.52	07/13/95	7.2	17	130	2.0	0.07	47	200	36	390	1.5		733		PAN	726530.74	2436261.87
SP-082	1175	-				0	08/09/95												733		PAN	726530.74	2436261.87
SP-082	1175	-				0	09/14/95												733		PAN	726530.74	2436261.87
SP-082	1175	-				0	10/12/95												742		PAN	726530.74	2436261.87
SP-082	1175	-				0.86	11/14/95	6.4	<1.5	44	0.46	0.17	52	160	120	360	0.43		733		PAN	726530.74	2436261.87
SP-082	1175	-				0	12/15/95											0/1/95	733		PAN	726530.74	2436261.87

TOVCC 10834

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS.	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
SP-083	1175	-				1.88	01/26/95	7.2	5.80	122.80	0.16	<0.02	9.0	142.0	33.0	324	1.09		733		PAN	726690.77	2436488.74
SP-083	1175	-				3.44	02/28/95												733		PAN	726690.77	2436488.74
SP-083	1175	-				0.77	03/29/95												733		PAN	726690.77	2436488.74
SP-083	1175	-				0.72	04/26/95	7.8	9.8	180	0.05	<0.02	2.4	160	34	380	1.5		733		PAN	726690.77	2436488.74
SP-083	1175	-				3.02	05/17/95												733		PAN	726690.77	2436488.74
SP-083	1175	-				0.68	06/16/95												733		PAN	726690.77	2436488.74
SP-083	1175	-				0.14	07/13/95	7.6	13	190	0.16	0.04	<1.0	240	36	460	1.6		733		PAN	726690.77	2436488.74
SP-083	1175	-				0.09	08/00/95												733		PAN	726690.77	2436488.74
SP-083	1175	-				0	09/14/95												733		PAN	726690.77	2436488.74
SP-083	1175	-				0	10/12/95												743		GTE	726690.77	2436488.74
SP-083	1175	-				0.8	11/14/95	7.3	10	140	0.83	0.04	7.2	190	38	360	1.2	7/26/95	733		PAN	726690.77	2436488.74
SP-083	1175	-				0.05	12/15/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				1.34	01/26/95	7.8	6.00	192.80	0.12	0.02	11.0	196.0	33.0	422	0.73		735		PAN	726472.57	2437138.80
SP-084	1153	-				1.38	02/28/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				1.85	03/29/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				0.98	04/26/95	7.8	12	190	0.22	<0.02	6.0	220	34	400	0.26		735		PAN	726472.57	2437138.80
SP-084	1153	-				2.53	05/17/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				0.72	06/16/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				0.35	07/13/95	15	200	0.34	0.07	<0.02	<1.0	220	35	480	0.37		735		PAN	726472.57	2437138.80
SP-084	1153	-				0.32	08/00/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				0	09/14/95												735		PAN	726472.57	2437138.80
SP-084	1153	-				0.003	10/10/95	7.4	23	210	0.95	0.83	1.6	200	17	360	0.24		735		PAN	726472.57	2437138.80
SP-084	1153	-				0.18	11/14/95											7/20/95	735		PAN	726472.57	2437138.80
SP-084	1153	-				0	12/15/95											7/20/95	735		PAN	726472.57	2437138.80
SP-152	1103	-				0.15	01/12/95	7.7	5.40	206.00	0.14	0.04	11.0	260.0	44.0	507	0.87	2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0.50	02/16/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0.30	03/22/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0.17	04/12/95	7.3	11	220	0.08	<0.02	<1.0	320	41	470	0.23	2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0.28	05/11/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0.08	06/15/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0	07/13/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0	08/15/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0	09/14/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0	10/10/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0	11/17/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				0	12/15/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152	1103	-				-												2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0	07/13/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0	07/13/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0	08/15/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0	09/14/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0	11/17/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0	12/15/95											2/10/95	734		PAN	727420.84	2440058.01
SP-152A	1103	-				0.16	10/10/95	8.2	28	250	<0.02	<0.02	<1.0	310	44	490	0.27		741		GTE	726488.85	2442235.43
SP-162	1030	-				0.12	11/22/95												741		GTE	726488.85	2442235.43
SP-162	1030	-				0.14	12/26/95												741		GTE	726488.85	2442235.43
SP-162	1030	-				1.81	01/27/95	7.5	0.80	181.00	0.07	0.02	4.0	2120.0	49.0	499	0.42	4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				5.3	02/17/95											4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				0.35	03/29/95											4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				0.22	04/25/95	7.8	10	220	<0.02	<0.02	<1.0	280	41	470	5.5	4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				2.3	05/23/95											4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				0.72	06/21/95											4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				0.88	07/19/95	7.2	15	220	0.09	<0.02	<1.0	270	43	480	4.6	4/27/95	742		GTE	726062.14	2442444.97
SP-185	1025	-				0.4	08/23/95											4/27/95	742		PAN	726062.14	2442444.97
SP-185	1025	-				0.26	09/19/95											4/27/95	743		GTE	726062.14	2442444.97
SP-185	1025	-				0.22	10/10/95	7.8	16	260	0.02	<0.02	<1.0	270	41	480	2.0	4/27/95	743		GTE	726062.14	2442444.97
SP-185	1025	-				0	11/13/95											4/27/95	743		GTE	726062.14	2442444.97
SP-185	1025	-				0.7	12/26/95											4/27/95	743		GTE	726062.14	2442444.97
SP-185	1025	-				3.04	01/27/95	7.4	14.40	211.20	0.16	<0.02	6.0	248.0	53.0	512	2.07	8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				8.5	02/17/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				5.07	03/29/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				0	04/25/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				0	05/23/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				0	06/21/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				NA	07/19/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				-	08/22/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				0	09/19/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				NA	11/14/95											8/24/93	749		PAN	726787.98	2443572.27
SP-188	1107	-				NA	12/26/95											8/24/93	749		PAN	726787.98	2443572.27
SP-187	1155	-				1.90	01/27/95	7.7	8.40	185.20	0.48	0.02	3.0	208.0	39.0	439	0.71	8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				7.2	02/17/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				3.9	03/29/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				2.7	04/25/95	7.3	10	200	<0.02	<0.02	<1.0	230	40	410	0.23	8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				4.2	05/23/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				1.5	06/21/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				1.07	07/19/95	7.3	16	220	0.28	<0.02	1.6	260	41	450	<0.10	8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				1.2	08/22/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				0.42	09/19/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				0	10/13/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				0	11/14/95											8/21/93	748		PAN	726403.16	2444189.08
SP-187	1155	-				0	12/26/95											8/21/93	748		PAN	726403.16	2444189.08

TOVCC 10835

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT 0-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																					STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
SP-166	1199	-				4.3	01/16/95	7.2	7.80	190.40	0.12	<0.02	5.0	292.0	64.0	850	0.84	8/20/03	735		PAN	724892.00	2440175.48
SP-166	1199	-				0.2	02/22/95											8/20/03	735		PAN	724892.00	2440175.48
SP-166	1199	-				1.0	03/31/95											8/20/03	735		PAN	724892.00	2440175.48
SP-171	1175	-				0.26	01/16/95	7.4	5.60	85.20	0.25	<0.02	3.0	100.0	26.0	280	0.82	8/21/03	735		PAN	725374.18	2440028.18
SP-171	1175	-				0.28	02/24/95											8/21/03	735		PAN	725374.18	2440028.18
SP-171	1175	-				0	03/31/95											8/21/03	735		PAN	725374.18	2440028.18
SP-172	1210	-				1.0	01/16/95	7.5	7.20	179.00	0.24	<0.02	4.0	280.0	44.0	639	1.10	3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				2.5	02/24/95											3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.66	03/31/95											3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.55	04/25/95	7.9	10	170	0.08	<0.02	<1.0	290	100	450	1.1	3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				3.2	05/17/95											3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.4	06/23/95											3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.2	07/14/95	7.5	18	200	0.10	<0.02	<1.0	310	42	740	0.78	3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.2	07/14/95	7.5	18	200	0.10	<0.02	<1.0	310	42	740	0.78	3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.2	07/14/95	7.5	18	200	0.10	<0.02	<1.0	310	42	740	0.78	3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.38	08/11/95											3/23/04	727		PAN	725795.43	2438187.87
SP-172	1210	-				0.13	09/21/95											3/23/04	727		PAN	725795.43	2438187.87
SP-175	1250	-				0	01/16/95											10/7/03	750		PAN	725386.65	2438655.25
SP-175	1250	-				0	02/24/95											10/7/03	750		PAN	725386.65	2438655.25
SP-175	1250	-				0	03/31/95											10/7/03	750		PAN	725386.65	2438655.25
SP-174	1210	-				0	01/16/95											10/11/03	750		GTE	725112.88	2438715.13
SP-174	1210	-				0	02/24/95											10/11/03	750		GTE	725112.88	2438715.13
SP-174	1210	-				0	03/31/95											10/11/03	750		GTE	725112.88	2438715.13
SP-175	1209	-				0	01/16/95											10/4/03	750		PAN	724958.54	2438965.20
SP-175	1209	-				0	02/24/95											10/4/03	750		PAN	724958.54	2438965.20
SP-175	1209	-				0	03/31/95											10/4/03	750		PAN	724958.54	2438965.20
SP-176	1197	-				0.27	01/16/95	7.1	8.40	158.40	0.11	<0.02	5.0	320.0	54.0	765	1.21	10/6/03	750		PAN	724835.25	2438814.84
SP-176	1197	-				1.25	02/24/95											10/6/03	750		PAN	724835.25	2438814.84
SP-176	1197	-				0.2	03/31/95											10/6/03	750		PAN	724835.25	2438814.84
SP-176	1155	-				0	01/13/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0.16	02/16/95	7.6	6.00	132.00	0.11	<0.02	5.0	184.0	30.0	381	4.88	3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0.48	03/22/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0.04	04/13/95	7.8	5.8	190	0.05	<0.02	<1.0	340	41	410	1.8	3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0.02	05/17/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	06/16/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	07/14/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	08/15/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	09/14/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	10/12/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	10/12/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	11/14/95											3/14/05	750		PAN	727871.70	2444729.08
SP-176	1155	-				0	12/21/95											3/14/05	750		PAN	727871.70	2444729.08
SP-183	1274	-				0.20	01/12/95	7.3	7.20	101.40	0.26	0.03	4.0	256.0	57.0	775	5.02	8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.33	02/10/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.42	03/16/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.43	04/12/95	6.8	10	84	0.21	<0.02	2.6	220	57	730	4.8	8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.41	05/08/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.33	06/15/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.16	07/13/95	7.3	17	120	0.22	0.02	5.2	260	68	900	2.1	8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.28	08/08/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.12	09/14/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.18	10/10/95	7.1	18	120	0.35	0.03	<1.0	210	34	610	6.0	8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.5	11/14/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-183	1274	-				0.46	12/15/95											8/28/03	726		ADJ	727397.87	2435055.70
SP-189	1185	-				0.03	01/13/95	7.4	8.60	265.80	0.60	0.03	6.0	378.0	65.0	734	5.70		748		PAN	726462.40	2446852.38
SP-189	1185	-				0.16	02/16/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.054	03/22/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.05	04/13/95	7.2	15	280	0.04	<0.02	<1.0	380	67	630	2.6		748		PAN	726462.40	2446852.38
SP-189	1185	-				0.07	05/17/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.04	06/16/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.03	07/13/95	7.2	20	280	0.15	<0.02	18	310	70	780	1.8		748		PAN	726462.40	2446852.38
SP-189	1185	-				0.04	08/22/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.04	09/14/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.04	10/10/95	7.2	30	280	0.12	0.03	<1.0	380	67	810	5.1		748		PAN	726462.40	2446852.38
SP-189	1185	-				0.15	11/14/95												748		PAN	726462.40	2446852.38
SP-189	1185	-				0.18	12/15/95												748		PAN	726462.40	2446852.38
SP-198	1185	-				0.17	01/16/95	7.2	7.20	123.60	0.34	0.07	4.0	218.0	60.0	454	1.08	8/27/03	735		PAN	725365.87	2438688.38
SP-198	1185	-				2.2	02/24/95											8/27/03	735		PAN	725365.87	2438688.38
SP-198	1185	-				0.04	03/31/95											8/27/03	735		PAN	725365.87	2438688.38
SP-189	1010	-				0.28	04/26/95	7.6	8.6	180	0.88	<0.02	4.0	210	22	360	0.11		752		PAN	726124.37	2435377.51
SP-189	1010	-				1.3	05/23/95												752		PAN	726124.37	2435377.51
SP-189	1010	-				0.28	06/22/95												752		PAN	726124.37	2435377.51
SP-189	1010	-				0.11	07/26/95	7.7	6.8	190	0.15	<0.02	<1.0	200	25	360	0.13		752		PAN	726124.37	2435377.51
SP-189	1010	-				0.05	08/23/95												752		PAN	726124.37	2435377.51
SP-189	1010	-				0.09	09/21/95												752		PAN	726124.37	2435377.51
SP-189	1010	-				0.12	10/10/95	7.7	20	220	0.16	<0.02	1.2	240	39	420	0.31		752		PAN	726124.37	2435377.51
SP-189	1010	-				0.21	11/21/95												752		PAN	726124.37	2435377.51
SP-189	1010	-				0.32	12/15/95												752		PAN	726124.37	2435377.51

TOVCC 10836

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAT	STATE PLANE COORDINA X	Y
SP-218	1200	-				0	01/13/95											12/3/93	722		GTE	725082.50	2434380.78
SP-218	1200	-				0	02/10/95											12/3/93	722		GTE	725082.50	2434380.78
SP-218	1200	-				0	03/16/95											12/3/93	722		GTE	725082.50	2434380.78
SP-218	1200	-				0	04/12/95											12/3/93	722		GTE	725082.50	2434380.78
SP-218	1200	-				0	05/08/95											12/3/93	722		GTE	725082.50	2434380.78
SP-218	1200	-				0	06/15/95											12/3/93	722		GTE	725082.50	2434380.78
SP-218	1200	-				0	07/11/95											6/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.17	07/10/95	7.7	5.80	159.20	<0.04	<0.02	4.0	181.0	27.0	388	0.52	5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.38	02/10/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.7	05/22/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.4	04/12/95	7.8	9.5	170	0.03	<0.02	<1.0	190	30	340	0.44	5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.7	05/08/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.3	06/15/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				0.8	07/11/95	7.1	20	180	0.05	<0.02	<1.0	200	33	410	0.26	5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.08	08/08/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				0.52	09/12/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				0.44	10/10/95	8.0	8.7	180	0.04	<0.02	<1.0	200	30	340	0.20	5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				0.98	11/14/95											5/10/93	741		ADJ	728380.49	2432581.93
SP-217	1260	-				1.7	12/15/95											12/2/93	722		GTE	725081.08	2434547.58
U22-221	1250	-				0	01/13/95											12/2/93	722		GTE	725081.08	2434547.58
U22-221	1250	-				0	02/10/95											12/2/93	722		GTE	725081.08	2434547.58
U22-221	1250	-				0.33	03/16/95	7.6	3.40	155.00	0.15	0.03	8.0	244.0	40.0	454	<0.50	12/2/93	722		GTE	725081.08	2434547.58
U22-221	1250	-				0.0004	04/12/95	7.4	10	190	0.07	0.02	38	220	62	410	0.23	12/2/93	722		GTE	725081.08	2434547.58
U22-221	1250	-				0.0005	05/08/95											12/2/93	722		GTE	725081.08	2434547.58
U22-221	1250	-				0.00002	06/15/95												722		GTE	725081.08	2434547.58
U22-221	1250	-				0.002	07/10/95	6.8	7.80	93.60	0.34	0.11	8.0	140.0	39.0	328	1.25		756		PAN	727530.23	2431884.65
U22-34	1260	-				0.002	02/10/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.004	03/22/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.02	04/12/95	6.7	10	48	0.29	0.04	8.0	110	41	210	3.8		756		PAN	727530.23	2431884.65
U22-34	1260	-				0.01	05/08/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.01	06/15/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.0005	07/11/95	6.8	33	170	7.3	1.6	580	220	62	470	2.1		756		PAN	727530.23	2431884.65
U22-34	1260	-				0.0007	08/08/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.005	09/12/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.0005	10/10/95	7.3	50	250	3.9	0.78	280	240	40	520	0.12		756		PAN	727530.23	2431884.65
U22-34	1260	-				0.02	11/14/95												756		PAN	727530.23	2431884.65
U22-34	1260	-				0.02	12/15/95												756		PAN	727530.23	2431884.65
U22-D	1085	-				0.4	01/13/95	6.7	1.00	138.60	0.18	0.05	8.0	224.0	65.0	626	1.48	1/10/94	720		ADJ	719269.55	2431947.82
U22-D	1085	-				0.38	02/10/95											1/10/94	720		ADJ	719269.55	2431947.82
U22-D	1085	-				53	03/22/95											1/10/94	720		ADJ	719269.55	2431947.82
U22-S	1200	-				0.026	01/10/95	8.0	0.00	187.00	0.13	0.08	4.0	164.0	36.0	537	<0.50		758		PAN	727284.78	2432449.98
U22-S	1200	-				0.04	02/10/95												758		PAN	727284.78	2432449.98
U22-S	1200	-				0.1	03/22/95												758		PAN	727284.78	2432449.98
U22-S	1200	-				0.17	04/12/95	6.2	8.5	150	0.43	0.04	4.0	150	38	370	1.2		758		PAN	727284.78	2432449.98
U22-S	1200	-				0.13	05/08/95												758		PAN	727284.78	2432449.98
U22-S	1200	-				0.1	06/15/95												758		PAN	727284.78	2432449.98
U22-S	1200	-				0.01	07/01/95	8.1	8.3	240	0.11	0.15	<1.0	150	38	570	0.10		758		PAN	727284.78	2432449.98
U22-S	1200	-				0.03	08/08/95												758		PAN	727284.78	2432449.98
U22-S	1200	-				0.004	09/12/95												758		PAN	727284.78	2432449.98
U22-S	1200	-				0.009	10/10/95	8.1	12	240	0.08	0.83	<1.0	180	55	510	0.10		758		PAN	727284.78	2432449.98
U22-S	1200	-				0.22	11/14/95												758		PAN	727284.76	2432449.98
U22-S	1200	-				0.2	12/15/95												758		PAN	727284.76	2432449.98
U22-U	1188	-				0.034	01/10/95	8.8	0.00	345.00	0.19	<0.02	8.0	368.0	32.0	614	<0.50	1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.04	02/10/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.05	03/22/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.08	04/12/95	8.6	<1.5	310	0.11	<0.02	<1.0	44	38	580	0.74	1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.06	05/08/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.04	06/15/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0	07/11/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0	08/08/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0	09/12/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0	10/10/95											1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.02	11/14/95	8.7	<1.5	380	0.10	0.02	<1.0	24	47	760	0.41	1/5/94	720		PAN	721118.78	2433577.78
U22-U	1188	-				0.003	12/15/95											1/5/94	720		PAN	721118.78	2433577.78
U22-X	1084	-				0.25	01/13/95	8.6	0.00	187.80	0.23	0.08	8.0	176.0	44.0	522	0.85	1/5/94	723		PAN	719248.24	2432626.47
U22-X	1084	-				0.25	02/10/95											1/5/94	723		PAN	719248.24	2432626.47
U22-X	1084	-				0.44	03/22/95											1/5/94	723		PAN	719248.24	2432626.47
U22-X	1084	-				0	01/13/95												723		PAN	724873.49	2434472.34
U22-Y	1163	-				0	02/10/95												723		PAN	724873.49	2434472.34
U22-Y	1163	-				0.003	03/16/95	8.3	0.00	117.00	0.20	0.03	4.0	213.0	42.0	377	0.64		723		PAN	724873.49	2434472.34
U22-Y	1163	-				0	04/12/95												723		PAN	724873.49	2434472.34
U22-Y	1163	-				0	05/08/95												723		PAN	724873.49	2434472.34
U22-Y	1163	-				0	06/15/95												723		PAN	724873.49	2434472.34
U22-Y	1163	-				0.015	01/13/95	8.8	6.40	41.40	1.06	0.40	61.0	110.0	23.0	288	0.86		726		ADJ	727308.41	2436844.12
U23	1224	-				0.2	02/10/95												726		ADJ	727308.41	2436844.12
U23	1224	-				0.01	03/16/95												726		ADJ	727308.41	2436844.12
U23	1224	-				0.005	04/13/95	7.2	2.0	48	0.78	0.07	14	100	37	380	0.16		726		ADJ	727308.41	2436844.12
U23	1224	-				0.01	05/17/95												726		ADJ	727308.41	2436844.12
U23	1224	-				0.003	06/15/95												726		ADJ	727308.41	2436844.12
U23	1224	-				0	07/11/95												726		ADJ	727308.41	2436844.12
U23	1224	-				0	08/08/95												726		ADJ	727308.41	2436844.12
U23	1224	-				0	09/14/95												726		ADJ	727308.41	2436844.12

TOVCC 10837

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
U23-220	1200	-				0	01/18/95											3/15/94	730		PAN	716487.45	2438750.52
U23-220	1200	-				0.0001	02/24/95	7.2	7.00	85.40	0.13	<0.02	8.0	174.0	73.0	424	<0.50	3/15/94	730		PAN	716487.45	2438750.52
U23-220	1200	-				0	03/31/95											3/15/94	730		PAN	716487.45	2438750.52
U23-220	1200	-				0.0002	01/13/95	6.1	8.20	45.40	1.17	0.18	78.0	118.0	33.0	232	0.50	11/18/93	720		PAN	724827.88	2435526.15
U23-37	1241	-				0	02/10/95											11/18/93	720		PAN	724827.88	2435526.15
U23-37	1241	-				0.002	03/16/95											11/18/93	720		PAN	724827.88	2435526.15
U23-37	1241	-				0.001	04/12/95	6.4	14	61	0.10	<0.02	<1.0	86	32	180	0.22	11/18/93	720		PAN	724827.88	2435526.15
U23-37	1241	-				0.0006	05/09/95											11/18/93	720		PAN	724827.88	2435526.15
U23-37	1241	-				0.00008	06/15/95											11/18/93	720		PAN	724827.88	2435526.15
U23-42	1180	-				0	01/10/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	02/16/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	03/16/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	04/13/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	05/11/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	06/15/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	07/11/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	08/08/95											4/20/94	722		PAN	725876.08	2435848.78
U23-42	1180	-				0	09/12/95											4/20/94	722		PAN	725876.08	2435848.78
U23-A	1221	-				0.005	01/10/95	6.9	4.60	18.00	0.37	0.33	14.0	112.0	101.0	384	0.75		723		PAN	721360.53	2435740.80
U23-A	1221	-				0.03	02/16/95												723		PAN	721360.53	2435740.80
U23-A	1221	-				0.008	03/16/95												723		PAN	721360.53	2435740.80
U23-A	1221	-				0.0004	04/13/95	7.3	4.3	52	0.49	0.56	4.0	120	52	250	0.19		723		PAN	721360.53	2435740.80
U23-A	1221	-				0.003	05/11/95												723		PAN	721360.53	2435740.80
U23-A	1221	-				0.003	06/15/95												723		PAN	721360.53	2435740.80
U23-A	1221	-				0	07/11/95												723		PAN	721360.53	2435740.80
U23-A	1221	-				0	08/08/95												723		PAN	721360.53	2435740.80
U23-A	1221	-				0	09/12/95												723		PAN	721360.53	2435740.80
U23-B	1212	-				0.005	01/10/95	6.6	3.80	17.40	0.30	0.34	4.0	112.0	105.0	382	0.75		723		PAN	721262.03	2435714.32
U23-B	1212	-				0.03	02/16/95												723		PAN	721262.03	2435714.32
U23-B	1212	-				0.008	03/16/95												723		PAN	721262.03	2435714.32
U23-B	1212	-				0.0004	04/13/95	7.3	4.3	54	0.60	0.58	4.0	110	54	250	0.18		723		PAN	721262.03	2435714.32
U23-B	1212	-				0.003	05/11/95												723		PAN	721262.03	2435714.32
U23-B	1212	-				0.0003	06/15/95												723		PAN	721262.03	2435714.32
U23-B	1212	-				0	07/11/95												723		PAN	721262.03	2435714.32
U23-B	1212	-				0	08/08/95												723		PAN	721262.03	2435714.32
U23-B	1212	-				0	09/12/95												723		PAN	721262.03	2435714.32
U23-C	1188	-				0	01/10/95												722		PAN	726307.92	2435581.61
U23-C	1188	-				0.13	02/16/95	7.1	4.40	62.80	0.60	<0.02	7.0	86.0	30.0	190	1.97		722		PAN	726307.92	2435581.61
U23-C	1188	-				0.03	03/16/95												722		PAN	726307.92	2435581.61
U23-C	1188	-				0.001	04/13/95	7.1	4.8	74	0.20	0.14	<1.0	126	42	280	0.29		722		PAN	726307.92	2435581.61
U23-C	1188	-				0.02	05/11/95												722		PAN	726307.92	2435581.61
U23-C	1188	-				0	06/15/95												722		PAN	726307.92	2435581.61
U23-C	1188	-				0	07/11/95												722		PAN	726307.92	2435581.61
U23-C	1188	-				0	08/08/95												722		PAN	726307.92	2435581.61
U23-C	1188	-				0	09/12/95												722		PAN	726307.92	2435581.61
U23-D	1160	-				0	01/10/95												720		PAN	725585.54	2435581.15
U23-D	1160	-				0.067	02/16/95	7.2	6.00	109.60	0.80	<0.02	18.0	114.0	38.0	242	3.05		720		PAN	725585.54	2435581.15
U23-D	1160	-				0.03	03/16/95												720		PAN	725585.54	2435581.15
U23-D	1160	-				0.004	04/13/95	7.5	0.7	120	0.70	0.03	16	160	50	320	0.25		720		PAN	725585.54	2435581.15
U23-D	1160	-				0.01	05/11/95												720		PAN	725585.54	2435581.15
U23-D	1160	-				0	06/15/95												720		PAN	725585.54	2435581.15
U23-D	1160	-				0	07/10/95												720		PAN	725585.54	2435581.15
U23-E	1170	-				0.17	02/16/95	6.8	5.80	84.21	0.44	0.09	9.0	98.0	28.0	188	1.84		720		PAN	725580.44	2435708.80
U23-E	1170	-				0.05	03/16/95												720		PAN	725580.44	2435708.80
U23-E	1170	-				0.007	04/13/95	7.2	6.1	82	1.1	0.31	5.8	140	36	240	0.30		720		PAN	725580.44	2435708.80
U23-E	1170	-				0.02	05/11/95												720		PAN	725580.44	2435708.80
U23-E	1170	-				0	06/15/95												720		PAN	725580.44	2435708.80
U23-E	1170	-				0.04	01/10/95	7.6	7.60	188.60	0.07	0.03	10.0	164.0	43.0	464	<0.50		725		PAN	725355.35	2436206.78
U23-F	1143	-				0.68	02/16/95												725		PAN	725355.35	2436206.78
U23-F	1143	-				0.29	03/16/95												725		PAN	725355.35	2436206.78
U23-F	1143	-				0.08	04/13/95	7.6	3.0	160	0.09	0.04	1.6	170	40	390	0.26		725		PAN	725355.35	2436206.78
U23-F	1143	-				0.18	05/11/95												725		PAN	725355.35	2436206.78
U23-F	1143	-				0.08	06/15/95												725		PAN	725355.35	2436206.78
U23-G	1115	-				0.11	01/11/95	8.4	0.60	203.20	0.18	0.03	3.0	204.0	43.0	469	0.81		728		GTE	725142.22	2436738.07
U23-G	1115	-				1.04	02/16/95												728		GTE	725142.22	2436738.07
U23-G	1115	-				0.39	03/16/95												728		GTE	725142.22	2436738.07
U23-G	1115	-				0.18	04/13/95	8.4	<1.5	200	0.10	<0.02	<1.0	170	41	430	<0.10		728		GTE	725142.22	2436738.07
U23-G	1115	-				0.28	05/11/95												728		GTE	725142.22	2436738.07
U23-G	1115	-				0.12	06/15/95												728		GTE	725142.22	2436738.07
U23-G	1115	-				0.14	01/11/95	8.3	1.20	189.20	0.17	0.05	5.0	185.0	33.0	511	0.63		726		GTE	725136.26	2437132.36
U23-H	1115	-				0.35	02/16/95												726		GTE	725136.26	2437132.36
U23-H	1115	-				0.33	03/16/95												726		GTE	725136.26	2437132.36
U23-H	1115	-				0.27	04/13/95	8.3	1.0	180	0.13	0.04	<1.0	200	37	430	<0.10		726		GTE	725136.26	2437132.36
U23-H	1115	-				0.19	05/11/95												726		GTE	725136.26	2437132.36
U23-H	1115	-				0.1	06/15/95												726		GTE	725136.26	2437132.36

TOVCC 10838

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SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
U23-I	1158	-				0.04	01/13/95	8.2	1.00	267.60	0.10	<0.02	8.0	180.0	31.0	538	0.69		730		PAN	725855.30	2437705.17
U23-I	1158	-				0.21	02/16/95												730		PAN	725855.30	2437705.17
U23-I	1158	-				0.22	03/16/95												730		PAN	725855.30	2437705.17
U23-I	1158	-				0.11	04/13/95	8.2	<1.5	190	0.05	<0.02	<1.0	170	39	440	0.17		730		PAN	725855.30	2437705.17
U23-I	1158	-				0.11	05/17/95												730		PAN	725855.30	2437705.17
U23-I	1158	-				0.06	06/15/95												730		PAN	725855.30	2437705.17
U23-I	1158	-				0.01	07/11/95	7.9	0.1	230	0.13	<0.02	12	170	38	570	0.16		730		PAN	725855.30	2437705.17
U23-I	1158	-				0.04	08/09/95												742		PAN	725855.30	2437705.17
U23-I	1030	-				0.059	09/14/95												742		PAN	726550.78	2438640.18
U23-I	1030	-				0.003	01/19/95	7.8	4.60	117.80	1.30	0.15	34.0	252.0	47.0	578	0.85	3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.005	02/24/95											3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.001	03/31/95											3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.0009	04/25/95	7.9	4.8	180	0.74	0.33	26	300	40	590	<0.10	3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.005	05/17/95											3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.0002	06/23/95											3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0	07/17/95											3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.0007	08/17/95											3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0.0007	08/17/95	7.9	9.6	180	0.60	0.30	14	350	46	660	0.20	3/18/94	725		PAN	726550.78	2438640.18
U28-180	1180	-				0	09/22/95											3/18/94	725		PAN	726550.78	2438640.18
U28-214	1160	-				0.0001	01/19/95	7.9	7.80	119.20	0.57	0.05	10.0	220.0	38.0	514	0.75	3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0.003	02/24/95											3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0	03/31/95											3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0	04/25/95											3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0.005	05/17/95	7.7	<1.5	150	0.15	0.03	8.0	200	41	620	0.29	3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0	06/23/95											3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0	07/17/95											3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0	08/11/95											3/17/94	727		PAN	726492.12	2438686.85
U28-214	1160	-				0	08/22/95											3/17/94	727		PAN	726492.12	2438686.85
U28-A	1105	-				0.01	01/19/95	7.8	3.80	187.20	0.35	0.03	8.0	244.0	58.0	558	0.52	2/25/94	737		PAN	725186.08	2440442.40
U28-A	1105	-				0.035	02/24/95											2/25/94	737		PAN	725186.08	2440442.40
U28-A	1105	-				0.007	03/31/95											2/25/94	737		PAN	725186.08	2440442.40
U28-A	1105	-				0.07	10/10/95	8.0	7.9	360	0.35	0.04	4.0	180	60	820	0.48	2/25/94	737		PAN	725169.08	2440442.40
U28-A	1105	-				0.11	01/26/95	8.2	0.80	162.80	0.47	0.04	10.0	230.0	58.0	567	1.26		745		PAN	724700.49	2442808.37
U28-C	1104	-				0.19	02/23/95												745		PAN	724700.49	2442808.37
U28-C	1104	-				0.08	03/22/95												745		PAN	724700.49	2442808.37
U28-C	1104	-				0.24	01/26/95	9.4	4.60	153.60	0.27	0.02	8.0	234.0	54.0	607	0.78		742		PAN	724884.10	2441738.42
U28-D	1068	-				0.33	02/22/95												742		PAN	724884.10	2441738.42
U28-D	1068	-				0.18	03/22/95												742		PAN	724884.10	2441738.42
U28-D	1068	-				0.14	01/19/95	9.4	0.40	253.40	0.66	0.04	5.0	200.0	67.0	834	0.87		735		PAN	721086.29	2440338.74
U28-E	1048	-				0.65	02/17/95												735		PAN	721086.29	2440338.74
U28-E	1048	-				0.21	03/22/95												735		PAN	721086.29	2440338.74
U28-E	1048	-				0.12	04/20/95	8.2	8.3	290	1.5	0.08	34	170	64	730	0.30		735		PAN	721086.29	2440338.74
U28-E	1048	-				0.16	05/12/95												735		PAN	721086.29	2440338.74
U28-E	1048	-				0.07	06/21/95												735		PAN	721086.29	2440338.74
U28-E	1048	-				0.27	07/18/95	8.2	9.8	220	0.48	0.03	14	200	58	560	0.71		735		PAN	721086.29	2440338.74
U28-E	1048	-				0.02	08/15/95												735		PAN	721086.29	2440338.74
U28-E	1048	-				0	09/18/95												735		PAN	721086.29	2440338.74
U28-F	1010	-				0.25	01/19/95	8.2	2.60	244.00	0.37	0.03	8.0	192.0	63.0	686	0.86	3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				1.1	02/17/95											3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.26	03/23/95											3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.15	04/20/95	8.2	10	280	0.94	0.03	13	170	100	710	0.48	3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.24	05/12/95											3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.11	06/21/95											3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.34	07/18/95	8.3	10	220	0.79	0.03	18	170	59	580	0.94	3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.04	08/15/95											3/2/94	735		PAN	726217.58	2441138.25
U28-F	1010	-				0.002	09/18/95												735		PAN	726217.58	2441138.25
U28-G	1110	-				0	01/28/95												748		PAN	726449.12	2442728.66
U28-G	1110	-				0	02/23/95												748		PAN	726449.12	2442728.66
U28-G	1110	-				0	03/22/95												748		PAN	726449.12	2442728.66
U28-G	1110	-				0	04/19/95												748		PAN	726449.12	2442728.66
U28-G	1110	-				0	05/12/95												748		PAN	726449.12	2442728.66
U28-G	1110	-				0	06/16/95												748		PAN	726449.12	2442728.66
U28-H	1002	-				0.77	01/16/95	8.4	0.40	238.60	0.38	0.02	4.0	180.0	76.0	704	1.20		738		PAN	726821.38	2441537.12
U28-H	1002	-				2.3	02/17/95												738		PAN	726821.38	2441537.12
U28-H	1002	-				0.89	03/23/95												738		PAN	726821.38	2441537.12
U28-H	1002	-				0.68	04/20/95	8.4	7.4	260	0.16	0.03	<1.0	160	83	670	0.62		738		PAN	726821.38	2441537.12
U28-H	1002	-				0.98	05/12/95												738		PAN	726821.38	2441537.12
U28-H	1002	-				0.15	06/21/95												738		PAN	726821.38	2441537.12
U28-H	1002	-				1.2	07/18/95	8.2	10	160	0.42	<0.02	8.6	160	55	520	0.71		738		PAN	726821.38	2441537.12
U28-H	1002	-				0.05	08/15/95												738		PAN	726821.38	2441537.12
U28-H	1002	-				0	09/18/95												738		PAN	726821.38	2441537.12
U28-I	1191	-				0.01	01/19/95	7.8	8.40	217.00	0.41	0.18	4.0	260.0	52.0	886	0.77	3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.03	02/24/95											3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.008	03/31/95											3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.004	04/25/95	7.8	8.6	200	0.23	0.14	<1.0	240	48	810	<0.10	3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.004	05/17/95											3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.008	06/23/95											3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.0003	07/17/95	7.4	11	180	0.45	0.24	54	190	64	850	0.20	3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.003	08/11/95											3/2/94	728		GTE	725952.83	2439506.43
U28-I	1191	-				0.0004	08/21/95																

TOVCC 10839

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
U26-J	1085	-				0.04	01/10/95	6.3	0.60	226.20	1.38	0.85	10.0	186.0	57.0	584	0.82		734		PAN	726548.71	2440244.03
U26-J	1085	-				0.15	02/17/95												734		PAN	726548.71	2440244.03
U26-J	1085	-				0.04	03/23/95												734		PAN	726548.71	2440244.03
U26-J	1085	-				0.023	04/20/95	6.8	5.1	270	1.2	0.04	17	160	54	580	0.20		734		PAN	726548.71	2440244.03
U26-J	1085	-				0.04	05/12/95												734		PAN	726548.71	2440244.03
U26-J	1085	-				0.005	06/21/95												734		PAN	726548.71	2440244.03
U26-J	1085	-				0.05	07/16/95	6.2	20	210	0.78	0.24	10	180	51	480	0.85		734		PAN	726548.71	2440244.03
U26-J	1085	-				0	08/15/95												734		PAN	726548.71	2440244.03
U26-J	1085	-				0	09/19/95												734		PAN	726548.71	2440244.03
U26-K	1060	-				0	01/10/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0.0002	02/17/95	6.8	5.60	249.80	0.63	0.05	17.0	202.0	238.0	936	1.32		734		PAN	726553.51	2440428.26
U26-K	1060	-				0	03/23/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0	04/20/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0	05/12/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0	06/21/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0	07/16/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0	08/15/95												734		PAN	726553.51	2440428.26
U26-K	1060	-				0	09/19/95												734		PAN	726553.51	2440428.26
U26-L	970	-				1.06	01/10/95	6.7	0.00	231.60	0.24	0.02	8.0	180.0	70.0	660	0.93		738		GTE	728057.98	2441728.51
U26-L	970	-				3.61	02/17/95												738		GTE	728057.98	2441728.51
U26-L	970	-				1.1	03/23/95												738		GTE	728057.98	2441728.51
U26-L	970	-				0.83	04/20/95	6.6	7.2	270	0.22	0.06	2.8	180	85	670	0.20		738		GTE	728057.98	2441728.51
U26-L	970	-				1.83	05/12/95												738		GTE	728057.98	2441728.51
U26-L	970	-				0.37	06/21/95												738		GTE	728057.98	2441728.51
U26-L	970	-				1.8	07/16/95	6.3	6.8	210	0.36	0.03	2.8	150	51	540	0.80		742		PAN	728057.98	2441728.51
U26-L	970	-				0.11	08/15/95												738		GTE	728057.98	2441728.51
U26-L	970	-				0.07	09/19/95												738		GTE	728057.98	2441728.51
U26-L	970	-				0.03	10/10/95	7.8	13	360	0.18	0.06	5.6	170	41	820	0.26		738		GTE	728057.98	2441728.51
U26-L	970	-				0.68	11/17/95												738		GTE	728057.98	2441728.51
U26-L	970	-				0.44	12/26/95												738		GTE	728057.98	2441728.51
U26-M	1170	-				0.009	01/10/95	7.8	5.40	167.00	0.15	<0.02	4.0	184.0	40.0	800	0.99		727		PAN	726800.43	2438742.42
U26-M	1170	-				0.003	02/24/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0	03/31/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0	04/25/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0.003	05/17/95	7.7	4.3	130	0.32	0.09	16	230	37	500	0.20		727		PAN	726800.43	2438742.42
U26-M	1170	-				DRY	06/23/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0	07/14/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0	08/11/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0	08/21/95												727		PAN	726800.43	2438742.42
U26-M	1170	-				0	01/10/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0.001	02/16/95	7.6	6.80	98.40	0.18	<0.02	7.0	168.0	43.0	360	6.43		748		PAN	727014.52	2443738.31
U26-65	1170	-				0	03/22/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	04/13/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	05/12/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	06/18/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	07/14/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	08/15/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	09/14/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	10/12/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	11/14/95												748		PAN	727014.52	2443738.31
U26-65	1170	-				0	12/21/95												748		PAN	727014.52	2443738.31
U26-A	1072	-				0.09	01/10/95	7.8	4.60	112.60	0.23	0.02	8.0	188.0	49.0	455	1.21		745		GTE	726818.95	2443530.85
U26-A	1072	-				0.24	02/17/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0.16	03/23/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0.08	04/20/95	8.0	7.8	140	0.25	0.05	<1.0	210	58	460	0.41		745		GTE	726818.95	2443530.85
U26-A	1072	-				0.08	05/12/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0.03	06/18/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0.0002	07/14/95	7.8	13	180	0.56	0.08	8.8	280	53	860	0.56		745		GTE	726818.95	2443530.85
U26-A	1072	-				0.0008	08/15/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0	09/18/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0.0003	10/10/95	7.4	13	150	0.04	0.04	<1.0	250	82	490	0.36		745		GTE	726818.95	2443530.85
U26-A	1072	-				0.009	10/10/95	8.1	7.2	280	0.12	0.04	1.2	220	75	860	0.30		745		GTE	726818.95	2443530.85
U26-A	1072	-				0.02	11/17/95												745		GTE	726818.95	2443530.85
U26-A	1072	-				0.06	12/26/95												745		GTE	726818.95	2443530.85
U26-B	1080	-				0.0002	01/13/95	7.8	5.20	120.20	0.44	<0.02	8.0	212.0	75.0	435	3.95		738		PAN	727691.27	2443855.22
U26-B	1080	-				0.002	02/16/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0.00003	03/22/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0.0002	04/13/95	7.4	2.0	110	1.1	0.02	12	140	38	260	0.38		738		PAN	727691.27	2443855.22
U26-B	1080	-				0.0003	05/12/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0	06/16/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0	07/14/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0	08/15/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0	09/19/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0	10/12/95												738		PAN	727691.27	2443855.22
U26-B	1080	-				0.0002	11/14/95	7.5	7.0	120	0.69	0.02	8.0	230	66	430	1.8		738		PAN	727691.27	2443855.22
U26-B	1080	-				0	12/26/95																

TOVCC 10840

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
U28-C	1000	-				0.054	01/19/95	7.9	3.80	138.80	0.59	0.04	12.0	204.0	38.0	387	1.09		740		PAN	728203.19	2443128.83
U28-C	1000	-				0.38	02/17/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0.08	03/23/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0.06	04/20/95	7.5	17	250	0.33	0.08	<1.0	200	56	510	0.24		740		PAN	728203.19	2443128.83
U28-C	1000	-				0.06	05/12/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0.01	06/16/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0	07/14/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0	08/15/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0	09/19/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0	10/12/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0	10/12/95												740		PAN	728203.19	2443128.83
U28-C	1000	-				0.002	11/14/95	7.6	9.8	200	0.14	<0.02	4.4	250	660	1.0	<0.10		740		PAN	728205.19	2443128.83
U28-C	1000	-				0.01	12/26/95												740		PAN	728205.19	2443128.83
U28-D	992	-				0.38	01/19/95	8.3	0.60	224.40	0.78	0.05	51.0	180.0	50.0	637	0.86		740		PAN	728131.82	2442987.06
U28-D	992	-				1.05	02/17/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0.27	03/23/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0.27	04/20/95	8.4	6.0	250	0.48	0.02	7.2	190	62	610	0.16		740		PAN	728131.82	2442987.06
U28-D	992	-				0.33	05/12/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0.08	06/16/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0.0008	07/14/95	8.2	14	330	0.44	0.07	10	200	60	860	0.25		740		PAN	728131.82	2442987.06
U28-D	992	-				0.002	08/15/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0	09/19/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0	10/12/95												740		PAN	728131.82	2442987.06
U28-D	992	-				0.1	11/14/95	8.3	4.8	190	0.16	<0.02	1.2	200	62	610	0.54		740		PAN	728131.82	2442987.06
U28-D	992	-				0.11	12/26/95												740		PAN	728131.82	2442987.06
U50-C	1058	-				0.0005	01/13/95	7.6	6.80	200.80	1.19	0.09	88.0	200.0	58.0	580	1.06		748		PAN	727518.88	2445358.02
U50-C	1058	-				0.66	02/28/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0.04	03/22/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0.013	04/21/95	8.4	8.2	280	1.6	0.05	35	130	87	610	0.27		748		PAN	727518.88	2445358.02
U50-C	1058	-				0.07	05/23/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0.0008	06/21/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0	07/14/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0	08/22/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0	09/19/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0	10/12/95												748		PAN	727518.88	2445358.02
U50-C	1058	-				0.01	11/14/95	7.2	7.8	120	1.5	0.07	29	120	61	400	0.06		748		PAN	727518.88	2445358.02
U50-C	1058	-				0	12/21/95												748		PAN	727518.88	2445358.02
U50-E	1045	-				0.32	01/13/95	8.1	5.00	148.20	0.34	<0.02	3.0	224.0	52.0	513	0.88		753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.47	02/23/95												753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.18	03/22/95												753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.18	04/21/95	8.3	6.6	170	0.47	0.02	4.4	220	58	510	0.12		753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.35	05/23/95												753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.07	06/21/95												753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.01	07/14/95	8.3	13	250	2.8	0.09	120	260	60	660	0.43		753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.012	08/22/95												753		ADJ	726262.54	2445892.78
U50-E	1045	-				0.007	09/19/95												753		ADJ	726262.54	2445892.78
U50-L	1025	-				0.007	01/13/95	7.9	4.80	133.40	0.49	<0.02	8.0	196.0	54.0	378	0.88		745		PAN	726306.49	2445880.01
U50-L	1025	-				0.04	02/23/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0.014	03/22/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0.013	04/20/95	8.3	5.8	180	2.4	0.09	78	210	64	380	0.40		745		PAN	726306.49	2445880.01
U50-L	1025	-				0.05	05/23/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0.0008	06/21/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0	07/14/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0	08/22/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0	09/19/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0	10/12/95												745		PAN	726306.49	2445880.01
U50-L	1025	-				0.03	11/14/95	7.5	4.4	84	1.3	0.03	22	150	59	290	0.59		745		PAN	726306.49	2445880.01
U50-L	1025	-				0	12/21/95												745		PAN	726306.49	2445880.01
U50-M	980	-				0.61	01/13/95	8.1	1.00	155.40	0.19	<0.02	6.0	253.0	51.0	504	1.43		745		PAN	726397.18	2445782.88
U50-M	980	-				0.72	02/23/95												745		PAN	726397.18	2445782.88
U50-M	980	-				0.34	03/22/95												745		PAN	726397.18	2445782.88
U50-M	980	-				0.23	04/20/95	8.6	5.7	170	0.29	<0.02	2.5	220	55	470	0.13		745		PAN	726397.18	2445782.88
U50-M	980	-				0.79	05/23/95												745		PAN	726397.18	2445782.88
U50-M	980	-				0.15	06/21/95												745		PAN	726397.18	2445782.88
U50-M	980	-				0.02	07/14/95	8.3	11	210	0.33	<0.02	8.8	280	57	640	0.43		745		PAN	726397.18	2445782.88
U50-M	980	-				0.04	08/22/95												745		PAN	726397.18	2445782.88
U50-M	980	-				0.009	09/19/95												745		PAN	726397.18	2445782.88
U50-M	980	-				0.012	10/10/95	8.1	8.1	200	0.07	<0.02	<1.0	250	74	510	0.22		745		PAN	726397.18	2445782.88
U50-M	980	-				1.33	11/14/95												745		PAN	726397.18	2445782.88
U50-M	980	-				1.8	12/21/95												745		PAN	726397.18	2445782.88
U50-N	980	-				0.083	01/13/95	7.8	3.60	135.40	0.28	<0.02	2.0	204.0	47.0	363	0.73		748		PAN	724713.51	2441745.73
U50-N	980	-				0.14	02/23/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.16	03/22/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.15	04/20/95	8.4	4.7	140	0.57	0.02	13	180	48	330	0.14		748		PAN	724713.51	2441745.73
U50-N	980	-				0.33	05/23/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.03	06/21/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.004	07/14/95	8.5	8.8	200	0.95	0.02	16	240	55	530	0.49		748		PAN	724713.51	2441745.73
U50-N	980	-				0.004	08/22/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.0008	09/19/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.004	10/12/95	8.3	0.8	190	0.05	<0.02	<1.0	280	65	440	0.16		748		PAN	724713.51	2441745.73
U50-N	980	-				0.14	11/14/95												748		PAN	724713.51	2441745.73
U50-N	980	-				0.23	12/21/95												748		PAN	724713.51	2441745.73

TOVCC 10841

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																				STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Data UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
U50-O	925	-				0.98	01/13/95	6.3	2.60	143.40	0.27	<0.02	4.0	234.0	50.0	450	0.67		760		PAN	725822.60	2448114.26
U50-O	925	-				1.21	02/23/95												760		PAN	725822.60	2448114.26
U50-O	925	-				0.83	03/22/95												760		PAN	725822.60	2448114.26
U50-O	925	-				0.57	04/20/95	6.3	4.9	160	0.38	<0.02	6.8	200	56	400	0.17		760		PAN	725822.60	2448114.26
U50-O	925	-				2.7	05/23/95												760		PAN	725822.60	2448114.26
U50-O	925	-				0.54	06/21/95												760		PAN	725822.60	2448114.26
U50-O	925	-				0.08	07/14/95	6.2	11	200	0.50	<0.02	12	250	51	610	0.22		760		PAN	725822.60	2448114.26
U50-O	925	-				0.1	08/22/95												760		PAN	725822.60	2448114.26
U50-O	925	-				0.12	09/19/95												760		PAN	725822.60	2448114.26
U50-O	925	-				0.022	10/10/95	6.3	5.8	180	0.24	<0.02	<1.0	240	74	480	0.19		760		PAN	725822.60	2448114.26
U50-O	925	-				2.07	11/14/95												742		PAN	725822.60	2448114.26
U50-O	925	-				3.8	12/21/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.04	01/13/95	7.8	4.20	138.80	0.42	<0.02	8.0	228.0	48.0	380	<0.50		760		PAN	725858.32	2445053.23
U50-P	960	-				0.12	02/23/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.05	03/22/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.08	04/20/95	6.4	3.4	140	0.52	<0.02	8.6	170	50	330	0.17		760		PAN	725858.32	2445053.23
U50-P	960	-				0.89	05/23/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.06	06/21/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.005	07/14/95	6.2	12	200	0.62	<0.02	26	340	65	530	0.26		760		PAN	725858.32	2445053.23
U50-P	960	-				0.008	08/22/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.0008	09/19/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.14	11/14/95												760		PAN	725858.32	2445053.23
U50-P	960	-				0.22	12/21/95												752		PAN	725834.63	2435070.82
U54-042	1005	-				0.008	04/20/95	6.4	5.1	180	0.39	<0.02	4.6	220	58	330	0.18		752		PAN	725854.63	2435070.82
U54-042	1005	-				0.02	05/23/95												752		PAN	725854.63	2435070.82
U54-042	1005	-				0.004	06/22/95												752		PAN	725854.63	2435070.82
U54-042	1005	-				0	07/20/95												752		PAN	725854.63	2435070.82
U54-042	1005	-				0	08/23/95												752		PAN	725854.63	2435070.82
U54-042	1005	-				0	09/21/95												752		PAN	725854.63	2435070.82
U54-042	1005	-				0	10/20/95												752		PAN	725854.63	2435070.82
U54-042	1005	-				0.008	11/21/95	8.0	7.9	180	0.11	<0.02	<1.0	210	38	180	0.10		752		PAN	725854.63	2435070.82
U54-042	1005	-				0.008	11/21/95	8.0	7.8	180	0.11	<0.02	<1.0	210	36	180	0.10		752		PAN	725854.63	2435070.82
U54-042	1005	-				0.008	12/22/95												755		GTE	726466.86	2442235.97
U54-043	1008	-				0.0002	10/19/95	7.7	10	190	0.02	0.17	20	230	64	370	0.34		755		GTE	726466.86	2442235.97
U54-043	1008	-				0.02	11/21/95												755		GTE	726466.86	2442235.97
U54-044	1007	-				0.02	12/22/95												752		PAN	725865.74	2435265.08
U54-044	1007	-				0.05	04/28/95	6.3	8.0	180	0.32	<0.02	13	180	40	350	0.11		752		PAN	725865.74	2435265.08
U54-044	1007	-				0.07	05/23/95												752		PAN	725865.74	2435265.08
U54-044	1007	-				0.01	06/22/95												752		PAN	725865.74	2435265.08
U54-044	1007	-				0.005	07/20/95	8.2	4.8	180	0.13	<0.02	3.2	180	33	340	0.29		752		PAN	725865.74	2435265.08
U54-044	1007	-				0	08/23/95												752		PAN	725865.74	2435265.08
U54-044	1007	-				0	09/21/95												752		PAN	725865.74	2435265.08
U54-044	1007	-				0.0004	10/19/95	7.7	10	170	0.51	0.17	10	220	45	380	0.38		752		PAN	725865.74	2435265.08
U54-044	1007	-				0.03	11/21/95												752		PAN	725865.74	2435265.08
U54-044	1007	-				0.04	12/22/95												748		PAN	726080.13	2432880.90
U54-054	1090	-				0.85	01/10/95	7.7	5.40	122.60	0.20	<0.02	5.0	170.0	43.0	366	<0.50		748		PAN	726080.13	2432880.90
U54-054	1090	-				0.04	02/10/95												748		PAN	726080.13	2432880.90
U54-054	1090	-				0.08	03/22/95												748		PAN	726080.13	2432880.90
U54-054	1090	-				0.22	04/12/95	7.9	5.4	110	0.30	0.04	12	150	38	320	0.36		748		PAN	726080.13	2432880.90
U54-054	1090	-				0.09	05/08/95												748		PAN	726080.13	2432880.90
U54-054	1090	-				0.04	06/15/95												748		PAN	726080.13	2432880.90
U54-054	1090	-				0.009	07/17/95	8.2	8.8	180	0.38	0.04	12	210	34	440	0.30		748		PAN	726080.13	2432880.90
U54-054	1090	-				0.02	08/06/95												742		PAN	726080.13	2432880.90
U54-054	1090	-				0.03	09/12/95												743		PAN	726080.13	2432880.90
U54-054	1090	-				0.003	10/10/95	8.0	8.5	180	0.12	<0.02	<1.0	220	38	360	0.22		748		PAN	726080.13	2432880.90
U54-054	1090	-				0.11	11/14/95												748		PAN	726080.13	2432880.90
U54-054	1090	-				0.13	12/15/95												748		PAN	726080.13	2432880.90
U54-055	1020	-				0.35	04/27/95	8.6	<1.5	120	0.16	<0.02	1.6	180	53	300	<0.10		750		PAN	725448.78	2433744.06
U54-055	1020	-				0.83	05/23/95												750		PAN	725448.78	2433744.06
U54-055	1020	-				0.12	06/22/95												750		PAN	725448.78	2433744.06
U54-055	1020	-				0.37	07/20/95	7.6	4.1	140	0.20	0.02	5.8	180	48	380	0.47		750		PAN	725448.78	2433744.06
U54-055	1020	-				0.008	08/23/95												750		PAN	725448.78	2433744.06
U54-055	1020	-				0.022	09/21/95												750		PAN	725448.78	2433744.06
U54-055	1020	-				0.03	10/10/95	8.1	8.7	170	0.09	<0.02	5.0	250	72	460	0.43		750		PAN	725448.78	2433744.06
U54-055	1020	-				0.6	11/21/95												750		PAN	725448.78	2433744.06
U54-055	1020	-				0.54	12/22/95												752		GTE	725850.73	2434640.32
U54-055	1020	-				0.85	04/27/95	8.7	<1.5	110	0.18	<0.02	<1.0	160	45	300	0.11		752		GTE	725850.73	2434640.32
U54-058	1020	-				1.14	05/23/95												752		GTE	725850.73	2434640.32
U54-058	1020	-				0.18	06/22/95												752		GTE	725850.73	2434640.32
U54-058	1020	-				0.55	07/20/95	7.8	3.3	130	0.30	0.03	7.2	180	44	360	0.86		743		GTE	725850.73	2434640.32
U54-058	1020	-				0.013	08/23/95												752		GTE	725850.73	2434640.32
U54-058	1020	-				0.04	09/21/95												752		GTE	725850.73	2434640.32
U54-058	1020	-				0.07	10/19/95	8.1	11	180	0.08	0.02	<1.0	230	68	430	0.87		752		GTE	725850.73	2434640.32
U54-058	1020	-				1.07	11/21/95												752		GTE	725850.73	2434640.32
U54-058	1020	-				0.76	12/22/95												752		GTE	725850.73	2434640.32

TOVCC 10842

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
U54-057	1020	-				0.73	04/27/95	8.7	<1.5	120	0.17	<0.02	<1.0	180	45	300	<0.10		751		GTE	725702.55	2435039.19
U54-057	1020	-				1.5	05/23/95												751		GTE	725702.55	2435039.19
U54-057	1020	-				0.20	06/22/95												751		GTE	725702.55	2435039.19
U54-057	1020	-				0.02	07/20/95	7.9	2.7	130	0.22	0.03	5.6	180	39	370	0.01		751		GTE	725702.55	2435039.19
U54-057	1020	-				0.018	08/23/95												751		GTE	725702.55	2435039.19
U54-057	1020	-				0.6	09/21/95												751		GTE	725702.55	2435039.19
U54-057	1020	-				0.09	10/19/95	7.9	7.7	180	0.10	0.08	<1.0	240	69	420	0.49		751		GTE	725702.55	2435039.19
U54-057	1020	-				1.23	11/21/95												751		GTE	725702.55	2435039.19
U54-057	1020	-				0.81	12/22/95												751		GTE	725702.55	2435039.19
U54-058	1000	-				4.87	04/27/95	8.7	1.3	130	0.13	<0.02	<1.0	180	41	310	<0.10		751		GTE	725627.06	2435205.48
U54-058	1000	-				15.9	05/23/95												751		GTE	725627.06	2435205.48
U54-058	1000	-				2.6	06/22/95												751		GTE	725627.06	2435205.48
U54-058	1000	-				2.0	07/20/95	7.9	4.4	140	0.17	0.04	1.6	180	39	370	0.01		751		GTE	725627.06	2435205.48
U54-058	1000	-				0.03	08/23/95												751		GTE	725627.06	2435205.48
U54-058	1000	-				0.08	09/21/95												751		GTE	725627.06	2435205.48
U54-058	1000	-				0.43	10/19/95	8.1	6.8	160	0.07	0.02	<1.0	230	67	400	0.41		743		GTE	725627.06	2435205.48
U54-058	1000	-				4.72	11/21/95												751		GTE	725627.06	2435205.48
U54-058	1000	-				8.4	12/22/95												751		GTE	725627.06	2435205.48
U54-059	1000	-				0.03	04/27/95	7.7	3.3	90	0.21	<0.02	5.2	110	29	200	0.12		748		PAN	725308.80	2435555.53
U54-059	1000	-				0.03	05/23/95												748		PAN	725308.80	2435555.53
U54-059	1000	-				0.002	06/22/95												748		PAN	725308.80	2435555.53
U54-059	1000	-				0.008	07/20/95	7.5	3.6	100	0.31	0.03	4.4	120	26	220	0.23		748		PAN	725308.80	2435555.53
U54-059	1000	-				0	08/23/95												748		PAN	725308.80	2435555.53
U54-059	1000	-				0.18	09/20/95												748		PAN	725308.80	2435555.53
U54-059	1000	-				0	09/21/95												748		PAN	725308.80	2435555.53
U54-059	1000	-				0	10/20/95												748		PAN	725308.80	2435555.53
U54-059	1000	-				0.02	11/21/95	7.3	3.0	75	0.74	0.03	58	100	28	320	0.27		743		PAN	725308.80	2435555.53
U54-059	1000	-				0.02	11/21/95	7.3	3.0	75	0.74	0.03	58	100	28	320	0.27		748		PAN	725308.80	2435555.53
U54-059	1000	-				0.02	11/21/95	7.3	3.0	75	0.74	0.03	58	100	28	320	0.27		748		PAN	725308.80	2435555.53
U54-059	1000	-				0.02	12/22/95												748		PAN	725308.80	2435555.53
U54-060	1135	-				0.08	01/26/95	7.8	5.40	121.20	0.10	0.02	3.0	163.0	44.0	510	0.74		731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.38	02/28/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.04	03/29/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.05	04/27/95	8.3	5.5	140	0.19	<0.02	<1.0	240	39	480	0.14		731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.15	05/17/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.03	06/18/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.003	07/13/95	8.2	7.1	180	0.39	<0.02	23	260	35	670	0.39		731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.007	08/08/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0	09/14/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0	10/12/95												731		ADJ	727889.97	2435158.92
U54-060	1135	-				0.02	11/14/95	7.3	5.9	110	0.30	0.14	<1.0	220	61	550	0.13		743		GTE	727889.97	2435158.92
U54-060	1135	-				0.005	12/15/95												731		ADJ	727889.97	2435158.92
U54-061	1000	-				0.15	01/26/95	7.6	3.80	121.40	0.05	0.02	6.0	186.0	42.0	510	0.54		731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.88	02/28/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.09	03/29/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.12	04/26/95	8.1	5.1	130	0.24	<0.02	<1.0	210	43	480	0.20		731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.42	05/17/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.08	06/18/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.007	07/13/95	8.2	5.0	180	0.48	0.05	8.0	270	29	610	0.23		743		ADJ	726314.48	2434826.19
U54-061	1000	-				0.007	07/13/95	8.2	5.0	180	0.48	0.05	8.0	270	29	610	0.23		731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.009	08/08/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0	09/14/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0	10/12/95												731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.03	11/14/95	7.3	5.0	110	0.30	0.14	2.4	200	58	550	<0.10		731		ADJ	726314.48	2434826.19
U54-061	1000	-				0.01	12/15/95												731		ADJ	726314.48	2434826.19
U54-062	1182	-				0.17	01/26/95	7.8	4.80	126.80	0.09	0.02	5.0	170.0	43.0	431	<0.50		738		PAN	726824.94	2433866.39
U54-062	1182	-				0.28	02/28/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0.04	03/29/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0.06	04/26/95	8.1	4.6	150	0.25	0.02	1.6	190	44	480	0.35		738		PAN	726824.94	2433866.39
U54-062	1182	-				0.32	05/17/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0.03	06/18/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0.002	07/13/95	8.2	8.4	180	0.83	0.03	14	230	35	530	0.31		738		PAN	726824.94	2433866.39
U54-062	1182	-				0.005	08/08/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0	09/14/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0	10/12/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0	11/14/95												738		PAN	726824.94	2433866.39
U54-062	1182	-				0	12/15/95												738		PAN	726824.94	2433866.39
U54-063	865	-				0.17	01/26/95	7.8	3.80	122.60	0.05	0.03	7.0	184.0	40.0	499	0.67		738		PAN	726758.19	2434854.59
U54-063	865	-				0.80	02/28/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0.12	03/29/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0.13	04/26/95	7.8	7.0	130	0.19	<0.02	<1.0	210	40	460	0.12		738		PAN	726758.19	2434854.59
U54-063	865	-				0.47	05/17/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0.07	06/18/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0.01	07/13/95	8.2	4.8	180	0.52	0.05	18	240	29	810	0.28		738		PAN	726758.19	2434854.59
U54-063	865	-				0.02	08/08/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0	09/14/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0	10/12/95												738		PAN	726758.19	2434854.59
U54-063	865	-				0.04	11/14/95	7.2	6.8	110	0.30	0.14	3.6	210	60	550	<0.10		738		PAN	726758.19	2434854.59
U54-063	865	-				0.01	12/15/95																

TOVCC 10843

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																						STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
134-084	960	-				0.12	01/26/95	8.0	4.40	149.60	0.09	0.02	10.0	150.0	29.0	340	<0.50		739		GTE	729139.88	2435188.55
134-084	960	-				0.14	02/28/95												739		GTE	729139.88	2435188.55
134-084	960	-				0.04	03/20/95												739		GTE	729139.88	2435188.55
134-084	960	-				0.05	04/20/95	8.1	5.3	150	1.4	0.04	34	160	30	330	0.22		739		GTE	729139.88	2435188.55
134-084	960	-				0.19	05/17/95												739		GTE	729139.88	2435188.55
134-084	960	-				0.03	06/16/95												739		GTE	729139.88	2435188.55
134-084	960	-				0.000	07/13/95	8.3	5.5	200	2.3	0.09	58	220	27	480	0.38		739		GTE	729139.88	2435188.55
134-084	960	-				0.02	08/09/95												739		GTE	729139.88	2435188.55
134-084	960	-				0	09/14/95												739		GTE	729139.88	2435188.55
134-084	960	-				0	10/12/95												739		GTE	729139.88	2435188.55
134-084	960	-				0.01	11/14/95	7.3	4.8	100	0.89	0.06	16	120	40	270	<0.10		743		GTE	729139.88	2435188.55
134-084	960	-				0.009	12/15/95												739		GTE	729139.88	2435188.55
134-085	996	-				10.3	01/19/95	8.6	2.60	114.80	0.18	<0.02	6.0	188.0	37.0	355	0.87		744		PAN	729021.13	2438570.93
134-085	996	-				13.8	02/23/95												744		PAN	729021.13	2438570.93
134-085	996	-				3.98	03/29/95												744		PAN	729021.13	2438570.93
134-085	996	-				5.12	04/27/95	8.7	<1.5	140	0.14	<0.02	<1.0	180	38	320	<0.10		744		PAN	729021.13	2438570.93
134-085	996	-				9.3	05/17/95												744		PAN	729021.13	2438570.93
134-085	996	-				3.11	06/22/95												744		PAN	729021.13	2438570.93
134-085	996	-				3.6	07/19/95	7.9	8.7	130	0.28	0.02	6.8	190	39	350	0.85		744		PAN	729021.13	2438570.93
134-085	996	-				0.13	08/23/95												744		PAN	729021.13	2438570.93
134-085	996	-				0.04	09/20/95												744		PAN	729021.13	2438570.93
134-085	996	-				0.55	10/19/95	7.9	8.9	150	0.08	0.02	<1.0	240	55	390	0.48		744		PAN	729021.13	2438570.93
134-085	996	-				8.8	12/22/95												744		PAN	729021.13	2438570.93
134-086	982	-				12.07	01/19/95	8.8	1.60	113.60	0.20	<0.02	5.0	190.0	35.0	357	0.80		737		PAN	729837.83	2438094.89
134-086	982	-				16.3	02/23/95												737		PAN	729837.83	2438094.89
134-086	982	-				6.3	03/29/95												737		PAN	729837.83	2438094.89
134-086	982	-				5.9	04/27/95	8.8	1.3	140	0.09	<0.02	<1.0	170	41	330	<0.10		737		PAN	729837.83	2438094.89
134-086	982	-				10.9	05/17/95												737		PAN	729837.83	2438094.89
134-086	982	-				3.8	06/22/95												737		PAN	729837.83	2438094.89
134-086	982	-				5.56	07/19/95	7.8	5.6	130	0.28	0.02	4.0	170	39	360	1.0		737		PAN	729837.83	2438094.89
134-086	982	-				0.10	08/23/95												737		PAN	729837.83	2438094.89
134-086	982	-				0.07	09/20/95												737		PAN	729837.83	2438094.89
134-086	982	-				0.61	10/19/95	8.2	8.5	150	<0.02	<0.02	2.0	210	65	410	0.34		737		PAN	729837.83	2438094.89
134-086	982	-				5.7	11/21/95												742		PAN	729837.83	2438094.89
134-086	982	-				10.7	12/22/95												737		PAN	729837.83	2438094.89
134-087	1000	-				0.08	01/19/95	8.2	4.60	155.00	0.27	0.02	12.0	264.0	48.0	605	1.23		735		PAN	728752.46	2437959.84
134-087	1000	-				0.14	02/23/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0.03	03/29/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0.05	04/27/95	8.6	1.7	170	0.29	<0.02	<1.0	260	52	510	0.59		735		PAN	728752.46	2437959.84
134-087	1000	-				0.18	05/17/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0.01	06/22/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0.05	07/19/95	8.2	4.0	190	1.1	<0.02	22	180	53	460	0.56		735		PAN	728752.46	2437959.84
134-087	1000	-				0	08/23/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0	09/20/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0.02	10/19/95	8.3	10	380	0.14	0.08	2.8	100	55	700	0.21		735		PAN	728752.46	2437959.84
134-087	1000	-				0.06	11/21/95												735		PAN	728752.46	2437959.84
134-087	1000	-				0.08	12/22/95												735		PAN	728752.46	2437959.84
134-088	977	-				0.28	01/19/95	8.2	3.60	130.40	0.13	<0.02	8.0	220.0	47.0	442	1.17		736		GTE	729112.08	2438101.43
134-088	977	-				0.83	02/23/95												734		GTE	729112.08	2438101.43
134-088	977	-				0.17	03/29/95												736		GTE	729112.08	2438101.43
134-088	977	-				0.2	04/27/95	8.7	<1.5	160	0.28	<0.02	1.8	240	51	410	0.33		736		GTE	729112.08	2438101.43
134-088	977	-				0.82	05/17/95												736		GTE	729112.08	2438101.43
134-088	977	-				0.05	06/22/95												736		GTE	729112.08	2438101.43
134-088	977	-				0.16	07/19/95	8.2	4.6	200	1.2	<0.02	12	150	50	480	0.54		736		GTE	729112.08	2438101.43
134-088	977	-				0	08/23/95												734		GTE	729112.08	2438101.43
134-088	977	-				0	09/20/95												736		GTE	729112.08	2438101.43
134-088	977	-				0.02	10/19/95	8.2	15	340	0.12	0.03	1.2	110	45	700	0.26		736		GTE	729112.08	2438101.43
134-088	977	-				0.24	11/21/95												736		GTE	729112.08	2438101.43
134-088	977	-				0.29	12/22/95												736		GTE	729112.08	2438101.43
134-078	980	-				0.55	01/19/95	7.9	4.0	137.20	0.28	<0.02	8.0	200.0	41.0	370	0.51		738		PAN	729738.02	2438944.44
134-078	980	-				0.74	02/23/95												738		PAN	729738.02	2438944.44
134-078	980	-				0.22	03/29/95												738		PAN	729738.02	2438944.44
134-078	980	-				0.38	04/25/95	8.3	2.8	160	0.82	0.04	29	200	40	840	0.13		738		PAN	729738.02	2438944.44
134-078	980	-				0.08	05/17/95												738		PAN	729738.02	2438944.44
134-078	980	-				0.08	06/22/95												738		PAN	729738.02	2438944.44
134-078	980	-				0.11	07/19/95	7.8	4.98	160	0.44	<0.02	22	190	38	360	0.77		738		PAN	729738.02	2438944.44
134-078	980	-				0	08/23/95												738		PAN	729738.02	2438944.44
134-078	980	-				0	09/20/95												738		PAN	729738.02	2438944.44
134-078	980	-				0.02	10/19/95	8.1	8.2	150	0.07	<0.02	<1.0	220	74	390	1.2		738		PAN	729738.02	2438944.44
134-078	980	-				0.33	11/21/95												738		PAN	729738.02	2438944.44
134-078	980	-				0.31	12/22/95												738		PAN	729738.02	2438944.44
134-077	978	-				0.80	01/19/95	8.1	3.80	136.80	0.21	0.02	9.0	184.0	40.0	368	0.48		737		PAN	729480.90	2438984.13
134-077	978	-				0.98	02/23/95												737		PAN	729480.90	2438984.13
134-077	978	-				0.3	03/29/95												737		PAN	729480.90	2438984.13
134-077	978	-				0.42	04/25/95	8.3	3.6	160	0.81	0.04	13	200	40	350	0.12		737		PAN	729480.90	2438984.13
134-077	978	-				1.14	05/17/95												737		PAN	729480.90	2438984.13
134-077	978	-				0.08	06/22/95												737		PAN	729480.90	2438984.13
134-077	978	-				0.10	07/19/95	7.8	4.6	160	0.51	<0.02	19	180	38	360	0.60		737		PAN	729480.90	2438984.13
134-077	978	-				0	08/23/95												737		PAN	729480.90	2438984.13
134-077	978	-				0	09/20/95												737		PAN	729480.90	2438984.13
134-077	978	-				0.02	10/18/95	8.2	8.2	150	0.06	<0.02	<1.0	220	88	390	1.8		737		PAN	729480.90	2438984.13
134-077	978	-				0.47	11/21/95												737		PAN	729480.90	2438984.13
134-077	978	-				0.37	12/22/95												737		PAN	729480.90	2438984.13

TOVCC 10844

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
U34-078	970	-				13.44	01/19/95	8.4	0.80	116.40	0.87	0.04	9.0	178.0	41.0	359	0.71		738		PAN	720241.50	2439407.01
U34-078	970	-				31.2	02/23/95												738		PAN	720241.50	2439407.01
U34-078	970	-				6.7	03/29/95												738		PAN	720241.50	2439407.01
U34-078	970	-				8.62	04/25/95	8.6	<1.5	130	0.32	0.03	<1.0	170	40	350	<0.10		738		PAN	720241.50	2439407.01
U34-078	970	-				12.1	05/17/95												738		PAN	720241.50	2439407.01
U34-078	970	-				4.2	06/22/95												738		PAN	720241.50	2439407.01
U34-078	970	-				8.6	07/19/95	7.8	5.2	140	0.30	0.02	6.0	170	38	360	0.88		738		PAN	720241.50	2439407.01
U34-078	970	-				0.22	08/23/95												738		PAN	720241.50	2439407.01
U34-078	970	-				0.1	09/20/95												738		PAN	720241.50	2439407.01
U34-078	970	-				0.51	10/18/95	7.8	9.4	180	0.07	0.04	<1.0	210	88	390	0.55		738		PAN	720241.50	2439407.01
U34-078	970	-				6.9	11/21/95												738		PAN	720241.50	2439407.01
U34-078	970	-				11.1	12/22/95												738		PAN	720241.50	2439407.01
U34-080A	1038	-				0.02	04/26/95	7.8	3.2	190	0.1	0.30	18	210	41	360	0.12		752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.04	05/23/95												752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.008	06/22/95												752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.005	07/20/95	8.3	4.4	180	0.21	0.02	18	200	34	370	0.28		752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.001	08/23/95												752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.005	09/21/95												752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.0008	10/19/95	8.3	7.9	190	0.81	0.02	41	230	59	420	0.26		752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.02	11/21/95												752		PAN	728075.90	2434810.10
U34-080A	1038	-				0.02	12/22/95												752		PAN	728075.90	2434810.10
U34-088	970	-				0.47	01/19/95	7.8	4.20	123.20	0.25	0.05	6.0	172.0	39.0	334	<0.50		741		PAN	720741.66	2439085.79
U34-088	970	-				0.87	02/23/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.29	03/29/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.48	04/25/95	8.2	2.8	150	0.40	0.08	4.4	180	40	310	<0.10		741		PAN	720741.66	2439085.79
U34-088	970	-				1.38	05/17/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.08	06/21/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.44	07/19/95	7.9	8.0	130	0.87	0.06	19	170	34	300	0.26		741		PAN	720741.66	2439085.79
U34-088	970	-				0.002	08/23/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.002	09/20/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.03	10/18/95	7.8	11	140	0.18	<0.02	<1.0	230	100	390	0.33		741		PAN	720741.66	2439085.79
U34-088	970	-				0.16	11/22/95												741		PAN	720741.66	2439085.79
U34-088	970	-				0.34	12/22/95												741		PAN	720741.66	2439085.79
U34-089	985	-				14.8	01/19/95	8.7	0.40	119.20	0.17	0.04	4.0	174.0	40.0	356	0.79		738		PAN	720279.34	2440688.95
U34-089	985	-				34.2	02/23/95												738		PAN	720279.34	2440688.95
U34-089	985	-				7.8	03/29/95												738		PAN	720279.34	2440688.95
U34-089	985	-				9.30	04/25/95	8.0	1.7	140	0.06	0.02	<1.0	180	37	330	<0.10		738		PAN	720279.34	2440688.95
U34-089	985	-				15.6	05/17/95												738		PAN	720279.34	2440688.95
U34-089	985	-				3.5	06/21/95												738		PAN	720279.34	2440688.95
U34-089	985	-				17.7	07/18/95	7.9	8.8	110	1.1	0.09	38	180	34	300	1.6		738		PAN	720279.34	2440688.95
U34-089	985	-				0.29	08/23/95												738		PAN	720279.34	2440688.95
U34-089	985	-				0.79	10/18/95	7.8	9.5	180	0.07	0.03	<1.0	220	87	380	7.0		738		PAN	720279.34	2440688.95
U34-089	985	-				2.8	11/22/95												738		PAN	720279.34	2440688.95
U34-089	985	-				11.9	12/22/95												738		PAN	720279.34	2440688.95
U34-090	980	-				0.10	01/19/95	7.8	4.20	108.20	0.43	0.03	12.0	180.0	38.0	309	0.80		741		PAN	720692.47	2441023.39
U34-090	980	-				0.30	02/23/95												741		PAN	720692.47	2441023.39
U34-090	980	-				0.05	03/29/95												741		PAN	720692.47	2441023.39
U34-090	980	-				0.11	04/25/95	8.1	3.4	140	1.0	0.04	27	180	43	300	0.31		741		PAN	720692.47	2441023.39
U34-090	980	-				0.26	05/17/95												741		PAN	720692.47	2441023.39
U34-090	980	-				0.01	06/21/95												741		PAN	720692.47	2441023.39
U34-090	980	-				0.08	07/18/95	8.1	7.0	110	1.3	0.07	48	140	34	270	0.45		741		PAN	720692.47	2441023.39
U34-090	980	-				0	08/23/95												741		PAN	720692.47	2441023.39
U34-090	980	-				0	09/20/95												741		PAN	720692.47	2441023.39
U34-090	980	-				0.005	10/18/95	7.7	15	180	0.10	0.02	<1.0	280	92	430	0.46		743		GTE	720692.47	2441023.39
U34-090	980	-				0.03	11/22/95												742		PAN	720692.47	2441023.39
U34-090	980	-				0.1	12/22/95												741		PAN	720692.47	2441023.39
U34-091	983	-				0.13	01/19/95	7.8	4.0	108.0	0.50	0.03	7.0	162.0	40.0	312	0.84		739		PAN	720273.48	2441097.97
U34-091	983	-				0.31	02/23/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0.053	03/29/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0.14	04/25/95	8.0	3.4	140	0.83	0.04	28	170	40	300	0.27		739		PAN	720273.48	2441097.97
U34-091	983	-				0.29	05/17/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0.01	06/21/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0.12	07/18/95	8.2	5.8	110	1.6	0.07	48	140	35	270	0.51		739		PAN	720273.48	2441097.97
U34-091	983	-				0	08/23/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0	09/20/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0.005	10/18/95	7.7	13	180	0.08	0.02	<1.0	270	88	460	0.48		739		PAN	720273.48	2441097.97
U34-091	983	-				0.03	11/22/95												739		PAN	720273.48	2441097.97
U34-091	983	-				0.13	12/22/95												739		PAN	720273.48	2441097.97
U34-092	957	-				15.87	01/19/95	8.7	0.80	116.00	0.20	0.02	8.0	178.0	39.0	357	0.50		738		PAN	720138.22	2441220.17
U34-092	957	-				37.3	02/23/95												738		PAN	720138.22	2441220.17
U34-092	957	-				9.3	03/29/95												738		PAN	720138.22	2441220.17
U34-092	957	-				8.51	04/25/95	8.8	2.2	140	0.08	0.02	<1.0	180	38	340	0.16		738		PAN	720138.22	2441220.17
U34-092	957	-				16.2	05/17/95												738		PAN	720138.22	2441220.17
U34-092	957	-				3.71	06/21/95												738		PAN	720138.22	2441220.17
U34-092	957	-				16.8	07/18/95	7.8	7.6	110	0.82	0.09	24	150	41	320	1.4		738		PAN	720138.22	2441220.17
U34-092	957	-				0.31	08/23/95												738		PAN	720138.22	2441220.17
U34-092	957	-				0.23	09/20/95												738		PAN	720138.22	2441220.17
U34-092	957	-				8.88	10/18/95	7.0	10	150	0.06	0.13	<1.0	240	100	460	0.51		738		PAN	720138.22	2441220.17
U34-092	957	-				3.3	11/22/95												738		PAN	720138.22	2441220.17
U34-092	957	-				12.7	12/22/95												738		PAN	720138.22	2441220.17

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THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																					STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Data UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
U54-083	957	-				4.78	01/27/95	7.8	8.40	165.20	0.08	0.03	11.0	168.0	49.0	481	<0.50		739		PAN	726086.40	2441702.85
U54-083	957	-				41.9	02/23/95												739		PAN	726086.40	2441702.85
U54-083	957	-				12.3	03/29/95												739		PAN	726086.40	2441702.85
U54-083	957	-				9.6	04/25/95	6.6	2.2	160	0.06	0.03	<1.0	170	46	380	0.12		739		PAN	726086.40	2441702.85
U54-083	957	-				19	05/17/95												739		PAN	726086.40	2441702.85
U54-083	957	-				4.13	06/21/95												739		PAN	726086.40	2441702.85
U54-083	957	-				22.8	07/18/95	7.8	6.8	130	1.1	0.10	22	160	48	380	1.4		739		PAN	726086.40	2441702.85
U54-083	957	-				0.4	08/23/95												739		PAN	726086.40	2441702.85
U54-083	957	-				0.28	09/20/95												739		PAN	726086.40	2441702.85
U54-083	957	-				1.58	10/18/95	8.2	10	200	0.45	0.14	<1.0	250	120	180	0.75		739		PAN	726086.40	2441702.85
U54-083	957	-				8.9	11/22/95												739		PAN	726086.40	2441702.85
U54-083	957	-				14.4	12/22/95												739		PAN	726086.40	2441702.85
U54-084	957	-				5.13	01/27/95	7.8	5.60	161.60	0.09	0.03	6.0	168.0	48.0	483	0.62		739		PAN	726180.48	2441701.85
U54-084	957	-				42.2	02/23/95												739		PAN	726180.48	2441701.85
U54-084	957	-				12.6	03/29/95												739		PAN	726180.48	2441701.85
U54-084	957	-				10.3	04/25/95	6.6	34	160	0.10	0.02	<1.0	160	44	400	0.14		739		PAN	726180.48	2441701.85
U54-084	957	-				19.3	05/17/95												739		PAN	726180.48	2441701.85
U54-084	957	-				4.2	06/21/95												739		PAN	726180.48	2441701.85
U54-084	957	-				24.0	07/18/95	7.8	6.4	130	0.90	0.10	22	150	46	370	1.2		739		PAN	726180.48	2441701.85
U54-084	957	-				0.48	08/23/95												739		PAN	726180.48	2441701.85
U54-084	957	-				0.33	09/20/95												739		PAN	726180.48	2441701.85
U54-084	957	-				1.83	10/18/95	8.2	11	210	0.46	0.15	<1.0	230	130	640	0.50		739		PAN	726180.48	2441701.85
U54-084	957	-				8.6	11/22/95												739		PAN	726180.48	2441701.85
U54-084	957	-				14.5	12/22/95												739		PAN	726180.48	2441701.85
U54-085	957	-				5.83	01/27/95	7.9	4.40	163.00	0.14	0.03	5.0	169.0	51.0	482	0.70		739		PAN	726342.11	2441626.57
U54-085	957	-				42.9	02/23/95												739		PAN	726342.11	2441626.57
U54-085	957	-				13.73	03/29/95												739		PAN	726342.11	2441626.57
U54-085	957	-				10.6	04/25/95	6.6	5.8	150	0.09	<0.02	<1.0	160	44	370	0.13		739		PAN	726342.11	2441626.57
U54-085	957	-				19.8	05/17/95												739		PAN	726342.11	2441626.57
U54-085	957	-				4.76	06/21/95												739		PAN	726342.11	2441626.57
U54-085	957	-				27.6	07/18/95	7.9	7.1	130	0.91	0.10	26	160	47	370	1.2		739		PAN	726342.11	2441626.57
U54-085	957	-				0.5	08/23/95												739		PAN	726342.11	2441626.57
U54-085	957	-				0.4	09/20/95												739		PAN	726342.11	2441626.57
U54-085	957	-				1.9	10/18/95	8.2	11	210	0.48	0.14	<1.0	230	130	640	0.57		739		PAN	726342.11	2441626.57
U54-085	957	-				7.2	11/22/95												739		PAN	726342.11	2441626.57
U54-085	957	-				14.8	12/22/95												739		PAN	726342.11	2441626.57
U54-086	953	-				8.17	01/27/95	7.8	5.80	164.20	0.15	0.02	4.0	160.0	55.0	481	0.66		745		PAN	726584.03	2441700.24
U54-086	953	-				43.8	02/23/95												745		PAN	726584.03	2441700.24
U54-086	953	-				14.1	03/29/95												745		PAN	726584.03	2441700.24
U54-086	953	-				11.2	04/25/95	6.6	5.6	160	0.12	<0.02	<1.0	160	44	370	0.13		745		PAN	726584.03	2441700.24
U54-086	953	-				20.6	05/17/95												745		PAN	726584.03	2441700.24
U54-086	953	-				5.21	06/21/95												745		PAN	726584.03	2441700.24
U54-086	953	-				30.5	07/18/95	7.9	6.2	150	0.89	0.10	26	150	45	370	1.2		745		PAN	726584.03	2441700.24
U54-086	953	-				0	08/23/95												742		PAN	726584.03	2441700.24
U54-086	953	-				0.45	09/20/95												745		PAN	726584.03	2441700.24
U54-086	953	-				1.94	10/18/95	8.2	11	210	0.44	0.14	<1.0	230	130	640	0.56		745		PAN	726584.03	2441700.24
U54-086	953	-				8.1	11/22/95												745		PAN	726584.03	2441700.24
U54-086	953	-				15.3	12/22/95												745		PAN	726584.03	2441700.24
U54-087	953	-				7.2	01/27/95	7.8	4.40	161.80	0.13	0.03	4.0	166.0	50.0	483	0.72		742		PAN	726710.89	2441617.75
U54-087	953	-				45.1	02/23/95												742		PAN	726710.89	2441617.75
U54-087	953	-				16.09	03/29/95												742		PAN	726710.89	2441617.75
U54-087	953	-				11.6	04/25/95	6.8	6.6	150	0.16	<0.02	<1.0	160	44	370	0.13		742		PAN	726710.89	2441617.75
U54-087	953	-				21.8	05/17/95												742		PAN	726710.89	2441617.75
U54-087	953	-				5.6	06/21/95												742		PAN	726710.89	2441617.75
U54-087	953	-				34.4	07/18/95	7.8	5.1	130	1.1	0.10	18	160	47	370	1.1		742		PAN	726710.89	2441617.75
U54-087	953	-				0.55	08/23/95												742		PAN	726710.89	2441617.75
U54-087	953	-				0.48	09/20/95												742		PAN	726710.89	2441617.75
U54-087	953	-				2.01	10/18/95	8.2	11	210	0.11,0.14	<0.02	220	130	640	0.56	<0.10		742		PAN	726710.89	2441617.75
U54-087	953	-				9.3	11/22/95												742		PAN	726710.89	2441617.75
U54-087	953	-				16.1	12/22/95												742		PAN	726710.89	2441617.75
U54-088	1040	-				0.011	01/27/95	7.2	8.40	132.00	1.34	0.31	38.0	148.0	48.0	364	0.93		742		GTE	726884.20	2442503.70
U54-088	1040	-				0.03	02/17/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				0.008	03/29/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				0.004	04/25/95	7.9	14	220	0.4	0.04	220	220	24	400	0.41		742		GTE	726884.20	2442503.70
U54-088	1040	-				0.008	05/23/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				000003	06/21/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				0.0002	07/18/95	6.9	18	100	5.5	2.8	18	350	250	700	<0.10		742		GTE	726884.20	2442503.70
U54-088	1040	-				0.0002	08/22/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				0	09/20/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				0	10/12/95												742		GTE	726884.20	2442503.70
U54-088	1040	-				0.014	11/14/95	6.8	16	60	5.1	0.44	130	280	160	680	0.2		742		GTE	726884.20	2442503.70
U54-088	1040	-				0.0009	12/20/95												742		GTE	726884.20	2442503.70

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THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																					STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Data UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
US4-099	952	-				9.13	01/27/95	7.9	4.80	168.40	0.14	0.02	3.0	186.0	57.0	484	0.74		742		PAN	726818.75	2442208.54
US4-099	952	-				48.2	02/23/95												742		PAN	726818.75	2442208.54
US4-099	952	-				17.2	03/20/95												742		PAN	726818.75	2442208.54
US4-099	952	-				12.1	04/25/95	8.4	3.8	180	0.09	<0.02	<1.0	180	44	370	0.18		742		PAN	726818.75	2442208.54
US4-099	980	-				23	05/17/95												742		PAN	726818.75	2442208.54
US4-099	952	-				8.2	06/21/95												742		PAN	726818.75	2442208.54
US4-099	952	-				36.8	07/18/95	7.8	7.0	130	1.0	0.10	28	160	47	380	1.0		742		PAN	726818.75	2442208.54
US4-099	952	-				0.57	08/23/95												742		PAN	726818.75	2442208.54
US4-099	952	-				0.53	09/20/95												742		PAN	726818.75	2442208.54
US4-099	952	-				2.16	10/18/95	8.2	11	210	0.42	0.14	<1.0	340	130	640	0.2		742		PAN	726818.75	2442208.54
US4-099	952	-				10.3	11/22/95												742		PAN	726818.75	2442208.54
US4-099	952	-				16.7	12/22/95												742		PAN	726818.75	2442208.54
US4-100	940	-				0.833	01/27/95	7.4	10.80	101.80	1.50	0.19	12.0	256.0	153.0	614	0.02		742		GTE	726943.47	2442415.10
US4-100	940	-				0.08	02/23/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.02	03/20/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.02	04/25/95	7.7	6.8	88	1.4	0.52	11	360	320	660	0.88		742		GTE	726943.47	2442415.10
US4-100	940	-				0.08	05/17/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.004	06/21/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.22	07/18/95	7.8	4.8	80	1.4	0.89	18	350	300	700	0.74		742		GTE	726943.47	2442415.10
US4-100	940	-				0.0007	08/23/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.0006	09/20/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.003	10/18/95	7.7	12	67	0.12	1.5	<1.0	660	1000	1800	0.50		742		GTE	726943.47	2442415.10
US4-100	940	-				0.02	11/22/95												742		GTE	726943.47	2442415.10
US4-100	940	-				0.04	12/22/95												742		GTE	726943.47	2442415.10
US4-102	968	-				0.27	01/27/95	7.9	7.80	185.00	0.12	0.05	4.0	189.0	48.0	388	0.52		742		PAN	725899.89	2441835.38
US4-102	968	-				0.44	02/23/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0.22	03/20/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0.27	04/25/95	8.7	<1.5	180	0.34	<0.02	8.4	180	40	440	0.11		742		PAN	725899.89	2441835.38
US4-102	968	-				0.34	05/17/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0.008	06/21/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0.18	07/18/95	8.4	4.4	150	0.50	0.02	17	170	34	330	0.26		742		PAN	725899.89	2441835.38
US4-102	968	-				0	08/23/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0	09/20/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0.007	10/18/95	8.2	11	170	0.03	<0.02	<1.0	210	54	370	0.26		742		PAN	725899.89	2441835.38
US4-102	968	-				0.04	11/22/95												742		PAN	725899.89	2441835.38
US4-102	968	-				0.07	12/26/95												742		PAN	725899.89	2441835.38
US4-103	960	-				0.04	01/27/95	8.1	9.40	176.80	0.15	0.02	7.0	244.0	118.0	544	<0.50		743		GTE	725848.04	2442424.01
US4-103	960	-				0.125	02/23/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.04	03/20/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.032	04/25/95	8.4	2.2	180	0.56	0.04	14	250	90	740	0.17		743		GTE	725848.04	2442424.01
US4-103	960	-				8.13	05/17/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.04	06/21/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.02	07/18/95	8.2	5.8	150	1.1	0.10	66	250	150	470	0.53		743		GTE	725848.04	2442424.01
US4-103	960	-				0.034	08/23/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.0005	09/20/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.001	10/18/95	8.3	18	220	0.52	0.04	11	550	280	800	0.24		743		GTE	725848.04	2442424.01
US4-103	960	-				0.02	11/22/95												743		GTE	725848.04	2442424.01
US4-103	960	-				0.02	12/26/95												743		GTE	725848.04	2442424.01
US4-104	953	-				0	10/18/95												743		GTE	726574.42	2435767.38
US4-104	953	-				0	11/22/95												743		GTE	726574.42	2435767.38
US4-104	953	-				0.008	12/26/95	7.8	13	84	1.6	0.07	91	340	220	580	0.30		743		GTE	726574.42	2435767.38
US4-105	950	-				0	10/18/95												743		PAN	726878.30	2443257.54
US4-105	950	-				0	11/22/95												743		PAN	726878.30	2443257.54
US4-105	950	-				0.0002	12/26/95	8.6	3.7	140	0.06	<0.02	<1.0	300	110	620	1.00		743		PAN	726878.30	2443257.54
US4-106	948	-				3.78	10/18/95	8.8	5.6	200	0.17	0.03	<1.0	240	120	620	0.33		743		PAN	726778.87	2443154.01
US4-106	948	-				15.5	11/22/95												743		PAN	726778.87	2443154.01
US4-106	948	-				16.2	12/22/95												743		PAN	726778.87	2443154.01
US4-144	1030	-				0.009	07/18/95	7.8	5.5	140	0.44	<0.02	5.6	170	33	320	0.29		742		PAN	725250.78	2437468.82
US4-144	1030	-				0.009	07/18/95	7.8	5.5	140	0.44	<0.02	5.6	170	33	320	0.29		742		PAN	725250.78	2437468.82
US4-144	1030	-				0	08/23/95												742		PAN	725250.78	2437468.82
US4-144	1030	-				0	09/20/95												742		PAN	725250.78	2437468.82
US4-144	1030	-				0.0004	10/18/95	7.8	14	170	0.18	0.05	6.6	220	41	380	0.24		742		PAN	725250.78	2437468.82
US4-144	1030	-				0.01	11/21/95												742		PAN	725250.78	2437468.82
US4-144	1030	-				0.03	12/22/95												741		PAN	725250.78	2437468.82
W-048	1300	114	1186	90	1210	-	01/18/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	88	1214	-	02/21/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	87	1233	-	03/16/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	80	1210	-	04/17/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	89	1211	-	05/09/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	93	1207	-	06/15/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	94	1206	-	07/11/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	95	1205	-	08/09/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	95	1205	-	09/12/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186			0	10/10/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	91	1209	-	11/14/95											10/12/64	720		ADJ	727149.64	2434282.52
W-048	1300	114	1186	93	1207	-	12/15/95											10/12/64	720		ADJ	727149.64	2434282.52

TDWGC 108847

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS.	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA	
																						X	Y
W-050	1321	44	1277			-					<0.02	<0.02	<1.0		<10.0		<0.10	5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277	44	1277	-	01/10/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277	44	1277	-	02/10/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277	44	1277	-	03/22/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277	44	1277	-	04/12/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277	44	1277	-	05/09/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277	44	1277	-	06/15/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277			0	07/11/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277			0	08/09/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277			0	09/12/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277			DRY	10/10/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277			DRY	11/14/95											5/5/94	721		PAN	725071.29	2434828.80
W-050	1321	44	1277			DRY	12/15/95											5/5/94	721		PAN	725071.29	2434828.80
W-051	1281	109	1172	65	1216	-	01/10/95	7.8	2.80	275.40	<0.04	<0.02	6.0	100.0	35.0	628	<0.50	5/4/94	722		PAN	725638.14	2434749.83
W-051	1281	109	1172	64	1217	-	02/10/95											5/4/94	722		PAN	725638.14	2434749.83
W-051	1281	109	1172	51	1230	-	03/16/95											5/4/94	722		PAN	725638.14	2434749.83
W-051	1281	109	1172	64	1217	-	04/12/95	7.8	11	260	0.16	<0.02	<1.0	180	67	560	0.73	5/4/94	722		PAN	725638.14	2434749.83
W-051	1281	109	1172	61	1220	-	05/09/95											5/4/94	722		PAN	725638.14	2434749.83
W-051	1281	109	1172	64	1217	-	06/15/95											5/4/94	722		PAN	725638.14	2434749.83
W-052	1282	79	1203	79	1203	-	01/13/95											12/3/93	720		PAN	725398.47	2434911.67
W-052	1282	79	1203	79	1203	-	02/10/95											12/3/93	720		PAN	725398.47	2434911.67
W-052	1282	79	1203	63	1219	-	03/16/95	8.2	4.20	192.60	0.25	0.17	3.0	303.0	63.0	616	1.43	12/3/93	720		PAN	725398.47	2434911.67
W-052	1282	79	1203	79	1203	-	04/12/95											12/3/93	720		PAN	725398.47	2434911.67
W-052	1282	79	1203	79	1203	-	05/09/95											12/3/93	720		PAN	725398.47	2434911.67
W-052	1282	79	1203	79	1203	-	06/15/95											12/3/93	720		PAN	725398.47	2434911.67
W-053	1292	85	1207	73	1219	-	01/13/95	7.8	7.80	211.60	0.53	0.07	6.0	282.0	53.0	545	1.40	11/30/93	720		GTE	725073.29	2435124.47
W-053	1292	85	1207	65	1227	-	02/10/95											11/30/93	720		GTE	725073.29	2435124.47
W-053	1292	85	1207	62	1230	-	03/16/95											11/30/93	720		GTE	725073.29	2435124.47
W-053	1292	85	1207	72	1220	-	04/12/95	7.8	7.8	220	0.11	0.03	<1.0	280	73	560	0.56	11/30/93	720		GTE	725073.29	2435124.47
W-053	1292	85	1207	67	1225	-	05/09/95											11/30/93	720		GTE	725073.29	2435124.47
W-053	1292	85	1207	71	1221	-	06/15/95											11/30/93	720		GTE	725073.29	2435124.47
W-054	1245	75	1170	75	1170	-	01/13/95											5/11/94	723		PAN	724888.98	2434241.95
W-054	1245	75	1170	73	1172	-	02/09/95	7.4	8.80	192.80	0.91	0.04	56.0	192.0	109.0	637	0.82	5/11/94	723		PAN	724888.98	2434241.95
W-054	1245	75	1170	66	1179	-	03/16/95											5/11/94	723		PAN	724888.98	2434241.95
W-054	1245	75	1170	73	1172	-	04/12/95	7.4	12	240	2.7	0.12	120	180	98	550	1.4	5/11/94	723		PAN	724888.98	2434241.95
W-054	1245	75	1170	74	1171	-	05/09/95											5/11/94	723		PAN	724888.98	2434241.95
W-054	1245	75	1170	74	1171	-	06/15/95											5/11/94	723		PAN	724888.98	2434241.95
W-069	1281	34	1247	25	1256	-	01/12/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	25	1256	-	02/10/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	23	1258	-	03/16/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	22	1259	-	04/12/95	7.1	7.4	49	0.72	0.02	3.8	200	48	810	1.2	5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	24	1257	-	05/09/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	23	1258	-	06/15/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	27	1254		07/13/95	6.8	46	130	0.13	<0.02	<1.0	200	57	840	1.9	5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	25	1256	-	08/09/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	27	1254	-	09/14/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	25	1256	-	10/10/95	6.6	32	100	1.3	1.9	13	130	34	480	3.5	5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	22	1259		11/14/95											5/11/93	725		ADJ	727359.47	2434983.45
W-069	1281	34	1247	24	1257	-	12/15/95											5/11/93	725		ADJ	727359.47	2434983.45
W-070	1296	41	1255	35	1261	-	01/10/95	7.40	4.20	121.80	1.15	0.05	12.0	256.0	75.0	608	4.11	5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	32	1264	-	02/16/95											5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	33	1263	-	03/16/95											5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	35	1261	-	04/12/95	7.0	11	120	0.24	<0.02	11	240	74	530	18	5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	35	1261	-	05/11/95											5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	35	1261	-	06/15/95											5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	35	1261	-	07/13/95	7.2	24	120	0.62	0.02	2.8	260	88	670	16	5/4/93	742		ADJ	727291.09	2435712.02
W-070	1296	41	1255	35	1261	-	08/09/95											5/4/93	732		ADJ	727291.09	2435712.02
W-070	1296	41	1255	35	1261	-	09/14/95											5/4/93	732		ADJ	727291.09	2435712.02
W-071	1299	59	1240	47	1252	-	01/10/95	7.3	6.60	139.00	3.14	<0.02	29.0	232.0	44.0	524	2.16	8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	35	1264	-	02/16/95											8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	41	1258	-	03/16/95											8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	45	1254	-	04/12/95	7.2	8.8	110	1.5	0.07	39	190	45	410	8.0	8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	44	1255	-	05/23/95											8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	46	1253	-	06/15/95											8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	47	1252		07/14/95	7.7	27	150	1.2	0.04	34	250	58	570	0.3	8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	47	1252	-	08/09/95											8/25/94	732		ADJ	727144.35	2435541.85
W-071	1299	59	1240	48	1251	-	09/19/95											8/25/94	732		ADJ	727144.35	2435541.85
W-072	1310	39	1271	27	1283	-	01/26/95	7.2	22.40	138.00	2.82	0.19	5.0	330.0	11.0	1404	0.93		732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	26	1284	-	02/28/95												732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	29	1281	-	03/28/95												732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	29	1281	-	04/20/95	7.2	29	120	0.48	0.28	<1.0	400	89	1400	0.21		732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	27	1283	-	05/17/95												732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	28	1282	-	06/16/95												732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	30	1280	-	07/13/95	7.2	21	120	0.17	<0.02	<1.0	350	92	1200	1.3		732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	29	1281	-	08/09/95												732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	30	1280	-	09/14/95												732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	31	1279	-	10/10/95	7.4	21	120	0.22	0.02	<1.0	300	100	820	0.66	8/3/95	732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	28	1282	-	11/14/95											8/3/95	732		ADJ	727888.35	2438123.65
W-072	1310	39	1271	29	1281	-	12/15/95											8/3/95	732		ADJ	727888.35	2438123.65

TOVCC 10848

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
W-073	1264	U		36	1228	-	01/12/95	7.7	8.40	208.00	0.88	<0.02	3.0	312.0	33.0	883	1.04	8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		36	1228	-	02/16/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		33	1231	-	03/22/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		37	1227	-	04/12/95	7.6	12	210	0.24	<0.02	<1.0	300	38	570	0.10	8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		37	1227	-	05/11/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		39	1225	-	06/15/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		40	1224	-	07/24/95	7.3	28	240	0.24	<0.02	<1.0	310	45	620	<0.10	8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		42	1223	-	08/15/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		44	1220	-	09/14/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		44	1220	-	10/10/95	7.0	28	250	0.23	<0.02	<1.0	310	39	620	0.30	8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		39	1225	-	11/17/95											8/18/64	733		ADJ	727087.00	2438545.21
W-073	1264	U		40	1224	-	12/15/95											8/18/64	733		ADJ	727087.00	2438545.21
W-074	1264	U		8	1256	-	01/12/95	7.4	12.40	98.60	0.07	0.22	5.0	240.0	49.0	556	22.00	8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		8	1256	-	02/16/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		12	1252	-	03/22/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		10	1254	-	04/12/95	7.6	9.1	120	0.21	0.17	<1.0	180	55	430	5.9	8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		9	1255	-	05/11/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		15	1248	-	06/15/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		14	1250	-	07/24/95	7.3	9.3	120	0.50	0.14	72	150	56	380	3.8	8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		51	1213	-	08/15/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		48	1216	-	09/14/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		16	1248	-	10/10/95	7.6	20	180	2.2	0.24	16	200	44	410	5.5	8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		9	1255	-	11/17/95											8/17/64	733		ADJ	727088.38	2438625.41
W-074	1264	U		22	1242	-	12/15/95											8/17/64	733		ADJ	727088.38	2438625.41
W-075	1262	74	1188	43	1219	-	01/12/95	7.8	5.20	215.80	0.46	<0.02	4.0	319.0	56.0	625	2.00	8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	37	1225	-	02/16/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	45	1217	-	03/22/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	45	1217	-	04/12/95	7.4	14	220	0.36	<0.02	7.0	310	70	570	1.3	8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	44	1218	-	05/11/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	48	1214	-	06/15/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	46	1216	-	07/13/95	7.5	10	220	0.81	0.03	28	380	87	850	1.1	8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	46	1216	-	08/15/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	48	1214	-	09/14/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	48	1213	-	10/10/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	44	1218	-	11/17/95	7.1	30	230	0.21	0.02	2.4	300	59	520	0.12	8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	45	1217	-	12/15/95											8/18/64	733		ADJ	727060.82	2438785.81
W-075	1262	74	1188	47	1216													2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	01/12/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	02/16/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	03/22/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	04/12/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	05/11/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	06/15/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	07/13/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	08/15/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	09/14/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	10/10/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	11/17/95											2/25/85	733		ADJ	727057.38	2438076.38
W-076	1262	80	1172			SEALED	12/15/95											2/25/85	733		ADJ	727057.38	2438076.38
W-077	1255	40	1215	17	1238	-	01/12/95	6.9	4.80	45.40	0.87	0.03	28.0	144.0	52.0	367	1.76	2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	13	1242	-	02/16/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	17	1238	-	03/22/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	17	1238	-	04/12/95	6.8	8.0	35	0.91	0.06	9.2	88	35	230	1.4	2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	17	1238	-	05/11/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	17	1238	-	06/15/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	17	1238	-	07/13/95	7.6	26	87	7.0	0.14	42	190	38	380	1.8	2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	18	1237	-	08/15/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	18	1237	-	09/14/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	18	1238	-	10/10/95	6.8	38	120	0.39	0.10	25	180	25	380	4.9	2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	18	1237	-	11/17/95											2/23/85	733		ADJ	727064.93	2438258.72
W-077	1255	40	1215	17	1238	-	12/15/95											2/23/85	733		ADJ	727064.93	2438258.72
W-078	1261	19	1242	37	1224	-	01/12/95	7.8	5.20	206.80	0.20	0.03	12.0	322.0	99.0	855	0.18	2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242	33	1228	-	02/16/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242	30	1231	-	03/22/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242	37	1226	-	04/12/95	7.0	0.8	200	0.26	0.04	17	360	120	850	14	2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242	35	1226	-	05/11/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242	34	1227	-	06/15/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242	35	1226	-	07/13/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242			BURIED	08/15/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242			BURIED	09/14/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242			BURIED	10/10/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242			BURIED	11/17/95											2/24/85	733		ADJ	721708.49	2438958.47
W-078	1261	19	1242			BURIED	12/15/95											2/24/85	733		ADJ	721708.49	2438958.47

TOVCC 10849

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT 0-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																					STATE PLANE COORDINATES	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDUMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
W-088	1185	107	1078	107	1078	BURIED	01/10/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	02/10/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	03/22/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	04/13/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	05/12/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	06/16/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	07/14/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	08/15/95											6/18/83	742		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	09/14/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	10/10/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	11/17/95											6/18/83	745		PAN	727237.07	2443814.83
W-088	1185	107	1078	107	1078	BURIED	12/21/95											6/18/83	745		PAN	727237.07	2443814.83
W-108	1322	U		35	1287	-	01/10/95	6.9	4.00	48.20	0.21	<0.02	6.0	101.0	29.0	250	1.76	6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		34	1288	-	02/10/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		34	1288	-	03/22/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		34	1288	-	04/12/95	6.7	14	50	0.74	0.04	5.2	100	31	240	6.6	6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		35	1287	-	05/09/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		35	1287	-	06/15/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		35	1287	8.8	07/11/95	6.8	26	78	0.11	<0.02	<1.0	140	36	340	7.4	6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		35	1287		08/09/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		35	1287	-	09/13/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		35	1287	-	10/10/95	6.3	36	45	0.28	0.02	2.2	110	18	180	5.4	6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		34			11/14/95											6/18/83	725		ADJ	727032.49	2435185.02
W-108	1322	U		33	1288		12/21/95											6/18/83	725		ADJ	727032.49	2435185.02
W-107	1302	U				BURIED	01/10/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	03/10/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	05/10/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	04/12/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	05/09/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	06/15/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	07/11/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	08/09/95											6/1/83	732		ADJ	727145.19	2435388.18
W-107	1302	U				BURIED	09/12/95											6/1/83	732		ADJ	727145.19	2435388.18
W-108	1303	U				BURIED	01/10/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	02/10/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	03/16/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	04/12/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	05/09/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	06/15/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	07/11/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	08/09/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	09/12/95											6/23/84	732		ADJ	727341.14	2435798.48
W-108	1303	U				BURIED	09/12/95											6/23/84	732		ADJ	727341.14	2435798.48
W-109	1281	99	1182			BURIED	01/12/95	7.7	14.40	218.20	0.89	0.15	5.0	520.0	10.0	1020	1.89	6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	02/10/95											6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	03/16/95											6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	04/12/95	7.5	27	240	0.94	<0.02	<1.0	480	53	980	0.50	6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	05/09/95											6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	06/15/95											6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	07/13/95	7.2	39	240	0.12	0.15	<1.0	550	61	1320	0.27	6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	08/09/95											6/28/84	733		ADJ	727215.18	2437744.37
W-109	1281	99	1182			BURIED	09/12/95											6/28/84	733		ADJ	727215.18	2437744.37
W-148	1305	U				SEALED	01/10/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	02/10/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	03/16/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	04/12/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	05/09/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	06/15/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	07/11/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	08/09/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	09/12/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	10/10/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	11/14/95												731		ADJ	728552.18	2432526.86
W-148	1305	U				SEALED	12/15/95												731		ADJ	728552.18	2432526.86
W-183	1004	36	968	5	999	-	10/23/95	7.3	20	200	1.0	0.22	<1.0	180	31	420	0.14		781		PAN	726887.19	2434818.12
W-183	1004	36	968	4	1000	-	11/21/95												781		PAN	726887.19	2434818.12
W-183	1004	36	968	6	998	-	12/28/95												781		PAN	726887.19	2434818.12
W-184	1007	25	982	7	1000	-	04/28/95	7.8	25	150	8.4	35	18	980	1100	650	0.10		752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	999	-	05/23/95												752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	999	-	06/22/95												752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	999	-	07/20/95	7.8	17	130	6.4	2.8	14	1100	1100	2200	<0.10		752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	998	-	08/23/95												752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	999	-	09/21/95												752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	999	-	10/19/95	7.2	23	120	11	3.2	20	1300	1200	2200	0.31		752		PAN	725782.54	2434853.48
W-184	1007	25	982	7	1000	-	11/21/95												752		PAN	725782.54	2434853.48
W-184	1007	25	982	8	999	-	12/22/95												752		PAN	725782.54	2434853.48
W-185	1007	38	969			-	04/28/95												751		GTE	725685.37	2434890.68
W-185	1007	38	969			-	05/23/95												751		GTE	725685.37	2434890.68
W-185	1007	38	969			-	06/22/95												751		GTE	725685.37	2434890.68
W-185	1007	38	969			-	08/20/95												751		GTE	725685.37	2434890.68
W-185	1007	38	969			-	11/21/95												751		GTE	725685.37	2434890.68
W-185	1007	38	969			-	12/22/95												751		GTE	725685.37	2434890.68

TDWGC 108850

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

																					STATE PLANE COORDINA	
SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS.	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	X	Y
W-186	1040	31	1009	9	1034	-	04/27/95	7.1	11	180	11	2.8	38	140	37	300	0.12		751		GTE	725818.53	2435844.78
W-186	1040	31	1009	7	1033	-	05/23/95												751		GTE	725818.53	2435844.78
W-186	1040	31	1009	9	1031	-	06/22/95												751		GTE	725818.53	2435844.78
W-186	1040	31	1009	10	1030	-	07/20/95	7.3	7.5	150	0.15	0.05	<1.0	170	34	350	<0.10		751		GTE	725818.53	2435844.78
W-186	1040	31	1009	9	1031	-	08/23/95												751		GTE	725818.53	2435844.78
W-186	1040	31	1009	9	1031	-	09/21/95												751		GTE	725818.53	2435844.78
W-186	1040	31	1009	15	1025	-	10/19/95	7.3	21	180	0.25	0.02	<1.0	200	26	230	0.44		751		GTE	725818.53	2435844.78
W-186	1040	31	1009	9	1031	-	11/21/95												751		GTE	725818.53	2435844.78
W-186	1040	31	1009	8	1032	-	12/22/95												751		GTE	725818.53	2435844.78
W-187	1047	44	1003	5	1042	-	04/27/95	6.7	18	290	0.51	<0.02	32	16	17	470	<0.10		751		GTE	725680.91	2435877.66
W-187	1047	44	1003	4	1043	-	05/23/95												751		GTE	725680.91	2435877.66
W-187	1047	44	1003	5	1042	-	06/22/95												751		GTE	725680.91	2435877.66
W-187	1047	44	1003	4	1043	-	07/20/95	6.2	26	50	1.3	0.30	95	60	23	110	0.47		751		GTE	725680.91	2435877.66
W-187	1047	44	1003	8	1039	-	08/23/95												751		GTE	725680.91	2435877.66
W-187	1047	44	1003	9	1038	-	09/21/95												751		GTE	725680.91	2435877.66
W-187	1047	44	1003	7	1040	-	10/19/95	6.9	23	84	0.78	0.19	34	110	22	430	0.51		751		GTE	725680.91	2435877.66
W-187	1047	44	1003	9	1038	-	11/21/95												751		GTE	725680.91	2435877.66
W-187	1047	44	1003	4	1043	-	12/25/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	31	956	-	01/18/95	7.6	5.60	315.80	2.43	0.17	6.0	600.0	221.0	1182	0.85		748		PAN	724853.05	2435857.56
W-188	987	57	940	50	947	-	02/7/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	34	953	-	03/29/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	36	951	-	04/27/95	7.9	18	380	0.63	0.08	<1.0	250	45	1100	<0.10		748		PAN	724853.05	2435857.56
W-188	987	57	940	30	957	-	05/23/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	8	969	-	06/22/95												742		PAN	724853.05	2435857.56
W-188	987	57	940	6	969	-	07/18/95	7.6	24	270	6.4	2.6	31	400	290	980	<0.10		748		PAN	724853.05	2435857.56
W-188	987	57	940	10	967	-	08/23/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	10	967	-	09/20/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	6	969	-	10/19/95	7.8	30	280	0.93	5.4	16	370	200	820	0.21		748		PAN	724853.05	2435857.56
W-188	987	57	940	7	960	-	11/17/95												748		PAN	724853.05	2435857.56
W-188	987	57	940	4	963	-	12/15/95												748		PAN	724853.05	2435857.56
W-189	979	15	964	5	974	-	01/18/95	6.1	6.80	41.60	0.57	<0.02	4.0	180.0	54.0	258	3.74		736		PAN	726506.87	2438848.15
W-189	979	15	964	5	974	-	02/23/95												736		PAN	726506.87	2438848.15
W-189	979	15	964	5	974	-	03/29/95												736		PAN	726506.87	2438848.15
W-189	979	15	964	5	974	-	04/25/95	6.2	16	48	0.12	<0.02	<1.0	100	48	240	2.6		736		PAN	726506.87	2438848.15
W-189	979	15	964	4	975	-	05/23/95												736		PAN	726506.87	2438848.15
W-189	979	15	964	4	975	-	06/21/95												742		PAN	726506.87	2438848.15
W-189	979	15	964	4	975	-	07/18/95	6.4	13	67	0.31	<0.02	<1.0	110	49	270	5.1		736		PAN	726506.87	2438848.15
W-189	979	15	964	4	975	-	08/23/95												736		PAN	726506.87	2438848.15
W-189	979	15	964	7	972	-	09/20/95												736		PAN	726506.87	2438848.15
W-189	979	15	964	5	974	-	10/19/95	6.8	38	150	0.37	0.02	<1.0	150	54	340	1.0		736		PAN	726506.87	2438848.15
W-189	979	15	964	4	975	-	11/21/95												736		PAN	726506.87	2438848.15
W-189	979	15	964	4	975	-	12/26/95												736		PAN	726506.87	2438848.15
W-190	1185	65	1120	47	1138	-	01/17/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	45	1140	-	02/16/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	43	1142	-	03/22/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	43	1142	-	04/17/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	44	1141	-	05/11/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	47	1138	-	06/15/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	65	1120	-	07/13/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	65	1120	-	08/15/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	65	1120	-	09/14/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	65	1120	-	10/10/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	62	1123	-	11/17/95												745		PAN	726201.87	2438820.26
W-190	1185	65	1120	61	1124	-	12/15/95												744		PAN	726273.84	2437851.65
W-191	1148	62	1084	47	1089	-	10/19/95	7.2	34	300	0.17	0.02	<1.0	480	130	760	3.8		744		PAN	726273.84	2437851.65
W-191	1148	62	1084	48	1100	-	11/21/95												744		PAN	726273.84	2437851.65
W-191	1148	62	1084	45	1101	-	12/26/95												744		PAN	726273.84	2437851.65
W-192	1166	30	1158	30	1158	-	10/19/95	7.8	15	190	0.02	<0.02	<1.0	240	46	430	4.2		744		GTE	726573.64	2437486.73
W-192	1166	30	1158	28	1160	-	11/21/95												744		GTE	726573.64	2437486.73
W-192	1166	30	1158	28	1160	-	12/26/95												744		GTE	726573.64	2437486.73
W-207	985	U				BURIED	01/18/95	6.7	0.80	582.00	0.47	0.02	3.0	420.0	188.0	2010	1.85	5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	02/17/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	03/22/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	04/25/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	05/23/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	06/21/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	07/18/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	08/22/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	09/19/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	10/18/95											5/15/95	758		PAN	726385.25	2441152.15
W-207	985	U				BURIED	11/23/95												742		PAN	726385.25	2441152.15
W-207	985	U				BURIED	12/21/95																

TOVCC 10851

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
W-208	1085	15	1070	8	1077	-	01/27/95	6.4	8.40	41.00	1.48	0.11	3.0	58.0	30.0	170	0.90		742		PAN	725073.19	2440898.99
W-208	1085	15	1070	8	1077	-	02/23/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	7	1078	-	03/23/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	8	1077	-	04/25/95	6.2	17	28	0.12	0.02	<1.0	80	35	150	1.1		742		PAN	725073.19	2440898.99
W-208	1085	15	1070	7	1078	-	05/23/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	10	1075	-	06/21/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	4	1081	-	07/19/95	5.9	11	21	0.32	0.02	6.4	60	28	160	5.3		742		PAN	725073.19	2440898.99
W-208	1085	15	1070	13	1072	-	08/22/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	13	1072	-	09/18/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	13	1072	-	10/19/95	6.7	29	83	0.51	0.13	<1.0	120	39	220	1.4		742		PAN	725073.19	2440898.99
W-208	1085	15	1070	13	1072	-	11/22/95												742		PAN	725073.19	2440898.99
W-208	1085	15	1070	8	1077	-	12/26/95												742		PAN	725153.96	2440722.24
W-208	1085	15	1070	8	1077	-	01/27/96	7.3	12.00	78.00	0.33	0.05	11.0	104.0	57.0	274	<0.50		743		PAN	725153.96	2440722.24
W-209	1080	21	1059	15	1078	-	01/27/95												743		PAN	725153.96	2440722.24
W-209	1080	21	1059	12	1078	-	02/23/95												743		PAN	725153.96	2440722.24
W-209	1080	21	1059	11	1078	-	03/23/95												743		PAN	725153.96	2440722.24
W-209	1080	21	1059	12	1078	-	04/25/95	6.4	6.1	56	0.14	0.03	<1.0	120	43	280	1.2		743		PAN	725153.96	2440722.24
W-209	1080	21	1059	10	1080	-	05/23/95												743		PAN	725153.96	2440722.24
W-209	1080	21	1059	18	1072	-	06/21/95												742		PAN	725153.96	2440722.24
W-209	1080	21	1059	18	1074	-	07/19/95	7.1	10	110	0.25	0.03	2.0	170	44	380	1.2		743		PAN	725153.96	2440722.24
W-209	1080	21	1059	17	1075	-	08/22/95												743		PAN	725153.96	2440722.24
W-209	1080	21	1059	16	1074	-	09/18/95	7.3	21	190	0.26	0.08	1.6	230	46	430	0.57		743		PAN	725153.96	2440722.24
W-209	1080	21	1059	17	1075	-	11/22/95												743		PAN	725153.96	2440722.24
W-209	1080	21	1059	16	1074	-	12/26/95												743		PAN	725153.96	2440722.24
W-208	1080	21	1059	15	1075	-	01/27/95	7.6	6.00	192.20	0.53	0.18	6.0	178.0	129.0	635	0.64	5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	7	846	-	02/17/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	7	846	-	03/23/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	8	845	-	04/25/95	7.2	8.0	220	0.29	0.09	<1.0	160	18	550	<0.10	5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	8	845	-	05/23/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	8	845	-	06/21/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	7	846	-	07/19/95	7.8	10	190	0.46	1.8	<1.0	200	30	560	0.41	5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	7	846	-	08/22/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	8	845	-	09/19/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	8	845	-	10/19/95	8.1	8.3	190	0.54	0.42	<1.0	200	25	800	1.3	5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	7	846	-	11/17/95											5/4/95	740		PAN	726281.92	2441822.70
W-213	853	7	846	7	846	-	12/15/95											5/4/95	740		PAN	726281.92	2441822.70
W-214	860	37	823	3	857	-	01/27/95	6.6	25.60	127.20	0.09	0.02	3.0	208.0	89.0	479	4.50	5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	2	858	-	02/17/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	6	854	-	03/23/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	7	853	-	04/25/95	6.7	27	230	0.06	<0.02	<1.0	260	44	470	4.4	5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	6	854	-	05/23/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	8	852	-	06/21/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	11	852	-	07/19/95	6.6	11	33	0.71	0.04	31	72	17	170	6.2	5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	4	856	-	08/22/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	8	852	-	09/18/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	8	852	-	10/19/95	6.7	38	130	<0.02	<0.02	<1.0	280	110	460	8.5	5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	6	854	-	11/17/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	3	857	-	12/15/95											5/4/95	740		PAN	726152.48	2441897.87
W-214	860	37	823	5	855	-	01/27/95	7.6	6.80	220.20	0.60	0.12	<1.0	85.0	45.0	507	2.57	5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	6	859	-	02/17/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	6	859	-	03/23/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	5	860	-	04/25/95	6.6	<1.5	380	0.45	0.03	1.2	20	28	720	0.11	5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	05/23/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	06/21/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	07/19/95	6.9	14	68	0.80	0.02	5.6	76	21	240	8.0	5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	6	859	-	08/22/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	09/25/95	7.2	10	85	0.81	0.04	8.0	72	24	230	6.1	5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	09/18/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	10/19/95	7.3	17	150	1.4	0.02	8.0	160	41	480	14	5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	11/17/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	8	859	-	12/15/95											5/4/95	739		PAN	726695.84	2441898.26
W-215	865	38	827	7	858	-	01/27/95	7.3	14.80	272.00	0.19	0.08	6.0	330.0	201.0	1103	0.75	5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	8	861	-	02/17/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	8	862	-	03/23/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	8	861	-	04/25/95	7.5	20	270	0.36	0.17	<1.0	350	148	880	<0.10	5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	8	862	-	05/23/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	6	864	-	06/21/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	6	864	-	07/19/95	8.1	13	360	0.95	0.32	<1.0	160	77	980	<0.10	5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	6	864	-	08/22/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	7	863	-	09/19/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	7	863	-	10/19/95	8.4	8.8	380	0.83	0.44	<1.0	200	130	880	0.42	5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	7	863	-	11/17/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	7	863	-	12/15/95											5/3/95	740		PAN	726750.78	2441868.27
W-218	870	33	837	7	863	-	10/19/95	6.8	28	60	0.27	0.02	2.8	130	31	220	2.1		742		PAN	725990.86	2442338.98
W-217	848	12	836	7	841	-	11/22/95												742		PAN	725990.86	2442338.98
W-217	848	12	836	5	843	-	12/26/95												742		PAN	725990.86	2442338.98
W-217	848	12	836	5	843	-	10/26/95	7.1	140	140	0.50	0.05	1.2	240	130	440	0.11		742		PAN	726123.37	2442774.63
W-218	872	30	842	5	867	-	11/22/95												742		PAN	726123.37	2442774.63
W-218	872	30	842	5	867	-	12/26/95												742		PAN	726123.37	2442774.63
W-218	872	30	842	5	867	-	10/26/95	7.1	120	120	0.52	0.02	<1.0	250	140	430	1.4		742		PAN	726012.58	2442811.65
W-218	869	110	859	12	857	-	11/22/95												742		PAN	726012.58	2442811.65
W-218	869	110	858	11	858	-	12/26/95												742		PAN	726012.58	2442811.65
W-218	869	110	859	13	856	-																	

TOVCC 10852

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
PERMIT D-0360
QUARTERLY MONITORING REPORT FOURTH QUARTER, 1995

SITE ID	ELEV	DEPTH	BOTT ELEV	SWL	WATER ELEV	FLOW	DATE MEAS	pH	ACID	ALKAL	IRON	MANG	SUSP SOLID	HARD	SULFATES	COND	NITRATES	Date UNDMINE	COAL ELV	FACE LOCAL	SITE LOCAL	STATE PLANE COORDINA X	Y
W-243	1205	24	1181			SEALED	01/13/95	6.6	0.0	49.20	0.24	0.03	6.0	62.0	<10.0	150	0.87		749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	02/16/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	03/22/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	04/13/95	6.3	<1.3	62	0.90	0.03	<1.0	80	20	170	9.4		749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	05/12/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	06/16/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	07/13/95	7.0	10	170	0.38	0.14	<1.0	200	46	490	2.4		749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	08/15/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	09/14/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	10/10/95	7.0	10	180	0.19	0.10	<1.0	220	48	410	4.7		749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	11/17/95												749		GTE	726488.78	2448818.39
W-243	1205	24	1181			SEALED	12/15/95												749		GTE	726488.78	2448818.39
W-244	1205	89	1116	76	1127	-	01/13/95	7.6	6.60	239.00	1.60	0.16	33.0	282.0	33.0	572	1.12		749		GTE	726404.64	2448853.22
W-244	1205	89	1116	78	1127	-	02/16/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	75	1130	-	03/22/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	77	1128	-	04/13/95	7.4	11	250	12	1.8	130	300	41	530	1.9		749		GTE	726404.64	2448853.22
W-244	1205	89	1116	78	1126	-	05/12/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	78	1127	-	06/16/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	77	1127	-	07/13/95	7.4	22	340	4.8	0.51	27	270	33	590	1.2		749		GTE	726404.64	2448853.22
W-244	1205	89	1116	80	1125	-	08/15/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	80	1125	-	09/22/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	80	1125	-	10/10/95	7.4	28	240	6.2	0.71	44	270	32	475	1.0		749		GTE	726404.64	2448853.22
W-244	1205	89	1116	81	1124	-	11/17/95												749		GTE	726404.64	2448853.22
W-244	1205	89	1116	85	1126	-	12/15/95												749		GTE	726404.64	2448853.22
W-260	1051	59	992	29	1022	-	01/27/95	7.3	32.40	382.80	0.09	0.13	7.0	410.0	75.0	826	1.06	4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	28	1023	-	02/17/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	30	1021	-	03/20/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	32	1019	-	04/25/95	7.0	25	350	0.02	<0.02	<1.0	420	80	780	1.5	4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	34	1017	-	05/23/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	35	1016	-	06/21/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	36	1015	-	07/19/95	7.2	33	350	0.09	0.16	<1.0	470	75	800	2.0	4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	36	1015	-	08/22/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	37	1014	-	09/19/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	36	1015	-	10/10/95	7.3	37	310	0.07	0.03	<1.0	380	50	610	0.23	4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	41	1010	-	11/14/95											4/26/95	742		PAN	726122.19	2443486.84
W-260	1051	59	992	43	1008	-	12/26/95											4/26/95	742		PAN	726122.19	2443486.84
W-268	1303	U				BURIED	01/31/95	6.2	16.20	101.80	1.84	0.03	10.0	192.0	18.0	488	1.54	10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	02/10/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	03/16/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	04/12/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	05/08/95	7.4	24	200	0.32	<0.02	<1.0	470	52	1000	2.3	10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	06/15/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	07/31/95	7.7	18	200	0.56	0.03	<1.0	490	44	1000	1.0	10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	08/09/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	09/12/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	10/26/95	7.3	20	200	0.16	0.02	<1.0	470	50	990	2.5	10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	11/14/95											10/7/93	729		GTE	728258.95	2432949.95
W-268	1303	U				BURIED	12/15/95											10/7/93	729		GTE	728258.95	2432949.95
W-269	1303	U				-	01/13/95	7.3	9.60	182.20	0.17	0.04	8.0	470.0	95.0	1196	2.52		733		ADJ	727575.36	2437133.07
W-284	1270	U		28	1241	-	01/13/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		28	1242	-	02/16/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		28	1244	-	03/22/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		28	1243	-	04/12/95	6.9	33	230	0.19	<0.02	7.0	550	88	1300	1.9		733		ADJ	727575.36	2437133.07
W-284	1270	U		28	1241	-	05/11/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		28	1241	-	06/15/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		32	1238	-	07/13/95	6.9	60	260	0.20	<0.02	5.0	660	110	1600	0.94		733		ADJ	727575.36	2437133.07
W-284	1270	U		31	1239	-	08/09/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		34	1236	-	09/14/95												733		ADJ	727575.36	2437133.07
W-284	1270	U		34	1236	-	10/27/95	7.4	15.60	234.00	0.69	0.14	12.0	386.0	99.0	861	0.76	8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	76	1236	-	01/27/95											8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	75	1237	-	02/28/95											8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	76	1236	-	03/31/95											8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	85	1227	-	04/27/95	7.3	23	220	21	0.29	85	450	87	320	<0.10	8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	71	1241	-	05/23/95											8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	78	1233	-	06/18/95											8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	89	1223	-	07/14/95	7.0	27	170	5.1	0.12	180	290	60	710	<0.10	8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	88	1224	-	08/22/95											8/25/94	730		ADJ	726441.88	2437654.21
W-285	1312	115	1197	90	1222	-	09/21/95												733		ADJ	727750.88	2436856.11
W-285	1312	115	1197	90	1250	-	01/13/95	7.7	6.60	185.80	0.50	0.07	12.0	352.0	51.0	851	2.60		733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	20	1250	-	01/13/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	18	1252	-	02/16/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	18	1252	-	03/22/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	19	1251	-	04/12/95	6.9	3.3	150	0.56	0.03	6.0	180	36	450	1.3		733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	19	1251	-	05/11/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	20	1250	-	06/15/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	20	1250	-	07/13/95	7.2	28	210	0.15	<0.02	<1.0	380	60	800	4.0		733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	19	1251	-	08/09/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	20	1250	-	09/14/95												733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	20	1250	-	10/10/95	7.2	17	150	0.13	<0.02	<1.0	210	44	450	5.4	7/24/95	733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	18	1252	-	11/17/95											7/24/95	733		ADJ	727750.88	2436856.11
W-288	1270	21	1249	18	1252	-	12/15/95											7/24/95	733		ADJ	727750.88	2436856.11

TOVCC 10853

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT O-0360
WEEKLY MONITORING REPORT - 1ST QTR, 1994

PANEL BEING MINED		12 EAST		13 EAST*	12 EAST	13 EAST*	12 EAST	13 EAST*	12 EAST
DATE MEAS.	====>	01/07/94	01/08/94	01/14/94	01/14/94	01/21/94	01/21/94	01/28/94	01/28/94
LW PLUS	====>	1855	1809	11115	1443	11115	1070	11115	802
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-54	3205	D	-1350	U	-1762	U	-2135	U	-2603
W-261	8835	B	2280	D	2280	D	2280	D	2280
W-263	8245	U	2870	B	2870	D	2870	D	2870
W-264	8065	U	3050	U	3050	B	3050	B	3050
W-265	7920	U	3195	U	3195	D	3195	D	3195
SP-168	9235	D	1880	0 GPM	1880	0 GPM	1880	0 GPM	1880
SP-169	9230	2.45 GPM	1885	3.03 GPM	1885	2.3 GPM	1885	4.8 GPM	1885
SP-170	8875	0 GPM	2240	0 GPM	2240	0 GPM	2240	0 GPM	2240
SP-171	9130	1.5 GPM	1985	0.4 GPM	1985	.19	1985	60.0 GPM	1905
SP-172	7300	U	3815	5.8 GPM	3815	3.0 GPM	3815	17.6 GPM	3815
SP-173	8030	U	3085	U	3085	0.9 GPM	3085	5.8 GPM	3085
SP-174	7820	U	3295	U	3295	0 GPM	3295	2.7 GPM	3295
SP-175	8310	U	2805	U	2805	0 GPM	2805	3.6 GPM	2805
SP-176	8125	U	2990	U	2990	0 GPM	2990	5.8 GPM	2990
SP-180	7720	U	3395	U	3395	1.6 GPM	3395	46.2 GPM	3395
SP-198	8790	2.34 GPM	2325	1.6 GPM	2325	0.85 GPM	2325	16.2 GPM	2325
SP-214	7768	U	3347	U	3347	1.11 GPM	3347	39.3 GPM	3367
SP-215	8570	U	2545	R	2545	R	2545	R	2545
SP-216	3498	0 GPM	7625	U	7625	U	7625	U	7625
SP-220	8025	U	3090	U	3090	0 GPM	3090	2.6 GPM	3090
SP-221	3800	0 GPM	-1945	U	-2357	U	-2730	U	-2998

* = 13 EAST PANEL BEING MONITORED WHILE 12 EAST PANEL IS BEING MINED

PANEL BEING MINED		13 EAST		13 EAST		13 EAST		13 EAST	
DATE MEAS.	====>	02/03/94		02/12/94		02/18/94		02/25/94	
LW PLUS	====>	11115		10542		10117		9529	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-261	8835	B	2280	B	1707	B	1282	B	694
W-263	8245	B	2870	B	2297	B	1872	D	1284
W-264	8065	B	3050	B	2477	D	2052	B	1464
W-265	7920	B	3195	B	2622	B	2197	B	1609
SP-168	9235	0 GPM	1880	0 GPM	1307	.02 GPM	882	0 GPM	294
SP-169	9230	1.9 GPM	1885	1.3 GPM	1312	1.2 GPM	887	1.68 GPM	299
SP-170	8875	0 GPM	2240	0 GPM	1667	0 GPM	1242	0 GPM	654
SP-171	9130	.65 GPM	1985	.68 GPM	1412	0.1 GPM	987	2.5 GPM	399
SP-172	7300	3.9 GPM	3815	2.5 GPM	3242	2.5 GPM	2817	6.8 GPM	2229
SP-173	8030	2.7 GPM	3085	1.25 GPM	2512	1.1 GPM	2087	3.6 GPM	1499
SP-174	7820	0 GPM	3295	0 GPM	2722	0 GPM	2297	0 GPM	1709
SP-175	8310	0 GPM	2805	.14 GPM	2232	0 GPM	1807	0 GPM	1219
SP-176	8125	2.7 GPM	2990	.53 GPM	2417	0.1 GPM	1992	4.7 GPM	1404
SP-180	7720	2.8 GPM	3395	1.6 GPM	2822	4.2 GPM	2397	7.5 GPM	1809
SP-198	8790	2.9 GPM	2325	2.0 GPM	1752	2.2 GPM	1327	5.8 GPM	739
SP-214	7768	3.1 GPM	3347	1.2 GPM	2774	2.3 GPM	2349	5.8 GPM	1761
SP-215	8570	R	2545	R	1972	R	1547	R	959
SP-220	8025	0 GPM	3090	.47 GPM	2517	.2 GPM	2092	0.9 GPM	1504

PANEL BEING MINED		13 EAST		13 EAST		13 EAST		13 EAST	
DATE MEAS.	====>	03/05/94		03/12/94		03/18/94		03/25/94	
LW PLUS	====>	8843		8196		7690		7136	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-261	8835	B	8	B	-639	B	-1145	B	-1699
W-263	8245	B	598	B	-49	B	-555	B	-1109
W-264	8065	B	778	B	131	B	-375	B	-929
W-265	7920	B	923	B	276	B	-230	B	-784
SP-168	9235	0 GPM	-392	0 GPM	-1039	0 GPM	-1545	0.04 GPM	-2099
SP-169	9230	.95 GPM	-387	2.2 GPM	-1034	1.4 GPM	-1540	1.9 GPM	-2094
SP-170	8875	0 GPM	-32	0 GPM	-679	0 GPM	-1185	0 GPM	-1739
SP-171	9130	.44 GPM	-287	3.06 GPM	-934	1.0 GPM	-1440	2.2 GPM	-1994
SP-172	7300	4.4 GPM	1543	9.6 GPM	896	5.0 GPM	390	3.3 GPM	-164
SP-173	8030	2.1 GPM	813	1.9 GPM	166	1.6 GPM	-340	4.4 GPM	-894
SP-174	7820	0 GPM	1023	0 GPM	376	0 GPM	-130	0 GPM	-684
SP-175	8310	0 GPM	533	0.05 GPM	-114	0.05 GPM	-620	0 GPM	-1174
SP-176	8125	1.25 GPM	718	4.7 GPM	71	3.7 GPM	-435	3.4 GPM	-989
SP-180	7720	3.2 GPM	1123	13.3 GPM	476	6.4 GPM	-30	6.2 GPM	-584
SP-198	8790	2.7 GPM	53	6.5 GPM	-594	2.6 GPM	-1100	3.3 GPM	-1654
SP-214	7768	2.0 GPM	1075	8.6 GPM	428	3.3 GPM	-78	3.1 GPM	-632
SP-215	8570	R	273	R	-374	R	-880	R	-1434
SP-220	8025	0.3 GPM	818	0.2 GPM	171	0.2 GPM	-335	0.3 GPM	-889

*BE = NOT MEASURABLE - PROBE KEPT STUCK IN WELL
D = DRY R = REFUSED B = BURIED U = NOT SCHEDULED NF = NO FLOW
SWL IS MEASURED IN FT FROM SURFACE - FOR WELLS (W-#) FLOW IS MEASURED IN GPM FOR SPRINGS (SP-#)
POSITIVE NUMBERS INDICATE LONGWALL IS APPROACHING SOURCE

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT O-0366
WEEKLY MONITORING REPORT - 2ND QTR, 1994

APRIL											
PANEL BEING MINED		13 EAST		13 EAST		13 EAST		13 EAST		13 EAST	
DATE MEAS.	====>	04/01/94		04/08/94		04/16/94		04/22/94		04/28/94	
LW PLUS	====>	6626		6033		5604		4878		4383	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-50	3720	U	2906	U	2313	U	1884	38'	1158	40'	663
W-51	3845	U	2781	U	2188	22'	1759	21'	1033	27'	538
W-52	4020	U	2606	U	2013	43'	1584	50'	858	57'	363
W-53	3230	U	3396	U	2803	63'	2374	67'	1648	70'	1153
W-54	3205	U	3421	U	2828	U	2399	U	1673	D	1178
W-261	8835	B	-2209	B	-2802	U	-3231	U	-3957	U	-4452
W-263	8245	B	-1619	B	-2212	U	-2641	U	-3367	U	-3862
W-264	8065	B	-1439	B	-2032	U	-2461	U	-3187	U	-3682
W-265	7920	B	-1294	B	-1887	U	-2316	U	-3042	U	-3537
SP-35	3215	U	3411	U	2818	U	2389	U	1663	1.28 GPM	1168
SP-36	3525	U	3101	U	2508	U	2079	3.1 GPM	1353	1.3 GPM	858
SP-37	4640	U	1986	1.18 GPM	1393	3.8 GPM	964	1.09 GPM	238	0.03 GPM	-257
SP-38	4720	U	1906	1.47 GPM	1313	2.4 GPM	884	0.13 GPM	158	0 GPM	-337
SP-39	6050	1.25 GPM	576	1.07 GPM	-17	2.29 GPM	-446	0.74 GPM	-1172	0.05 GPM	-1667
SP-41	4915	0.97 GPM	1711	0.97 GPM	1118	1.33 GPM	689	0.71 GPM	-37	0.36 GPM	-532
SP-42	5040	1.17 GPM	1586	0.99 GPM	993	1.22 GPM	564	0.08 GPM	-162	0 GPM	-657
SP-168	9235	0.05 GPM	-2609	0.0006 GPM	-3202	U	-3631	U	-4357	U	-4852
SP-169	9230	1.3 GPM	-2604	1.31 GPM	-3197	U	-3626	U	-4352	U	-4847
SP-170	8875	0 GPM	-2249	0 GPM	-2842	U	-3271	U	-3997	U	-4492
SP-171	9130	1.1 GPM	-2504	0.4 GPM	-3097	U	-3526	U	-4252	U	-4747
SP-172	7300	2.8 GPM	-674	1.3 GPM	-1267	U	-1696	U	-2422	U	-2917
SP-173	8030	0 GPM	-1404	0 GPM	-1997	U	-2426	U	-3152	U	-3647
SP-174	7820	0 GPM	-1194	0 GPM	-1787	U	-2216	U	-2942	U	-3437
SP-175	8310	0 GPM	-1684	0 GPM	-2277	U	-2706	U	-3432	U	-3927
SP-176	8125	3.8 GPM	-1499	2.3 GPM	-2092	U	-2521	U	-3247	U	-3742
SP-180	7720	2.2 GPM	-1094	2.7 GPM	-1687	U	-2116	U	-2842	U	-3337
SP-198	8790	2.9 GPM	-2164	1.5 GPM	-2757	U	-3186	U	-3912	U	-4407
SP-214	7768	1.9 GPM	-1142	1.7 GPM	-1735	U	-2164	U	-2890	U	-3385
SP-215	8570	R	-1944	R	-2537	U	-2966	U	-3692	U	-4187
SP-216	3490	U	3136	U	2543	U	2114	0 GPM	1388	0 GPM	893
SP-220	8025	0.3 GPM	-1399	0.2 GPM	-1992	U	-2421	U	-3147	U	-3642
SP-221	3800	U	2826	U	2233	1.0 GPM	1804	0.48 GPM	1078	0.15 GPM	583

MAY									
PANEL BEING MINED		13 EAST		13 EAST		13 EAST		13 EAST	
DATE MEAS.	====>	05/09/94		05/13/94		05/17/94		05/26/94	
LW PLUS	====>	3721		3004		2660		1952	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-50	3720	43'	1	D	-716	D	-1060	D	-1768
W-51	3845	113'	-124	81'	-841	90'	-1185	93'	-1893
W-52	4020	D	-299	D	-1016	D	-1360	D	-2068
W-53	3230	70'	491	74'	-226	74'	-570	75'	-1278
W-54	3205	D	516	D	-201	D	-545	D	-1253
SP-35	3215	0.67 GPM	506	0.56 GPM	-211	0.44 GPM	-555	0.18 GPM	-1263
SP-36	3525	0.79 GPM	196	0.20 GPM	-521	0.24 GPM	-865	0.12 GPM	-1573
SP-37	4640	D	-919	D	-1636	D	-1980	U	-2688
SP-38	4720	D	-999	D	-1716	D	-2060	U	-2768
SP-39	6050	D	-2329	D	-3046	U	-3390	U	-4098
SP-41	4915	0.24 GPM	-1194	0.16 GPM	-1911		-2255		-2963
SP-42	5040	D	-1319	D	-2036	U	-2380	U	-3088
SP-216	3490	0 GPM	231	0 GPM	-486	0 GPM	-830	0 GPM	-1538
SP-221	3800	0 GPM	-79	0 GPM	-796	0 GPM	-1140	0 GPM	-1848

JUNE											
PANEL BEING MINED		13 EAST		13 EAST		13 EAST		13 EAST		13 EAST	
DATE MEAS.	====>	06/02/94		06/09/94		06/16/94		06/23/94		06/30/94	
LW PLUS	====>	1586		1070		740		740		740	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-50	3720	D	-2134	U	-2650	U	-2980	U	-2980	U	-2980
W-51	3845	94'	-2259	U	-2775	U	-3105	U	-3105	U	-3105
W-54	3205	D	-1619	U	-2135	U	-2465	U	-2465	U	-2465
SP-35	3215	0.092 GPM	-1629	U	-2145	U	-2475	U	-2475	U	-2475
SP-36	3525	0.087 GPM	-1939	U	-2455	U	-2785	U	-2785	U	-2785
SP-216	3490	0 GPM	-1904	U	-2420	U	-2750	U	-2750	U	-2750
SP-221	3800	0 GPM	-2214	U	-2730	U	-3060	U	-3060	U	-3060

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING

SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS

FLOW = MEASURED IN GPM

POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE

LONGWALL PLUG IS RECORDED DAILY

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT O-0360
WEEKLY MONITORING REPORT - 3RD QTR, 1994

JULY									
PANEL BEING MINED								14 EAST	
DATE MEAS.	====>							07/26/94	
LW PLUS	====>							9601	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-75	7845							37'	1756
W-76	8135							SEALED	1466
W-77	8300							17'	1301
W-78	8210							32'	1391
SP-172	8295							0.02 GPM	1306

AUGUST									
PANEL BEING MINED		14 EAST		14 EAST		14 EAST		14 EAST	
DATE MEAS.	====>	08/04/94		08/12/94		08/20/94		08/25/94	
LW PLUS	====>	8843		8242		7495		7030	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-73	7615	B	1228	B	627	75'	-120	37'	-565
W-74	7685	B	1158	B	557	50'	-190	8'	-635
W-75	7845	37'	998	43'	397	37'	-350	36'	-795
W-76	8135	SEALED	708	SEALED	107	SEALED	-640	SEALED	-1085
W-77	8300	16'	543	17'	-58	17'	-805	16'	-1250
W-78	8210	33'	633	33'	32	33'	-715	31'	-1160
W-109	6805	U	2038	U	1437	B	690	B	245
W-285	7020	U	1823	U	1222	85'	475	80'	30
SP-172	8295	0.033 GPM	548	0.003 GPM	-53	0.08 G[,	-800	0.38 GPM	-1245

SEPTEMBER											
PANEL BEING MINED		14 EAST		14 EAST		14 EAST		14 EAST		14 EAST	
DATE MEAS.	====>	09/01/94		09/09/94		09/15/94		09/21/94		09/30/94	
LW PLUS	====>	6448		5894		5394		5042		4234	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-49	3330	U	3118	U	2564	U	2064	77'	1712	77'	904
W-50	3720	U	2728	U	2174	U	1674	DRY	1322	DRY	514
W-51	3845	U	2603	U	2049	U	1549	65'	1197	65'	389
W-70	4780	U	1668	35'	1114	36'	614	35'	262	35'	-546
W-71	4620	U	1828	43'	1274	45'	774	43'	422	67'	-386
W-73	7615	15'	-1167	37'	-1721	38'	-2221	38'	-2573	U	-3381
W-74	7685	37'	-1237	29'	-1791	28'	-2291	23'	-2643	U	-3451
W-75	7845	39'	-1397	45'	-1951	U	-2451	U	-2803	U	-3611
W-76	8135	SEALED	-1687	SEALED	-2241	U	-2741	U	-3093	U	-3901
W-77	8300	17'	-1852	17'	-2406	U	-2906	U	-3258	U	-4066
W-78	8210	32'	-1762	33'	-2316	U	-2816	U	-3168	U	-3976
W-107	4470	U	1978	B	1424	B	924	B	572	B	-256
W-108	4880	U	1568	B	1014	B	514	B	162	B	-646
W-109	6805	B	-357	B	-911	B	-1411	B	-1763	U	-2571
W-285	7020	74'	-572	84'	-1126	87'	-1626	U	-1978	U	-2786
SP-35	3215	U	3233	U	2679	U	2179	0.009 GPM	1827	0 GPM	1019
SP-36	3525	U	2923	U	2369	U	1869	0.04 GPM	1517	0.09 GPM	709
SP-41	4915	U	1533	0.011 GPM	979	0.03 GPM	479	0.06 GPM	127	0 GPM	-681
SP-172	8295	0.26 GPM	-1847	0.26 GPM	-2401	U	-2901	U	-3253	U	-4061

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING
SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS
FLOW = MEASURED IN GPM
POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE
LONGWALL PLUS IS RECORDED DAILY

TOVCC 10856

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT O-0360
WEEKLY MONITORING REPORT - 4TH QTR, 1994

OCTOBER									
PANEL BEING MINED		14 EAST		14 EAST		14 EAST		14 EAST	
DATE MEAS.	====>	10/07/94		10/11/94		10/19/94		10/26/94	
LW PLUS	====>	3682		3412		2735		2203	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-49	3330	75'	352	77'	82	84'	-595	92'	-1127
W-50	3720	DRY	-38	DRY	-308	DRY	-985	DRY	-1517
W-51	3845	67'	-163	67'	-433	80'	-1110	83'	-1642
W-70	6780	35'	-1098	36'	-1368	37'	-2045	U	-2577
W-71	4620	50'	-938	50'	-1208	49'	-1885	48'	-2417
W-107	4470	B	-788	B	-1058	B	-1735	B	-2267
W-108	4880	B	-1198	B	-1468	B	-2145	B	-2677
SP-35	3215	0 GPM	467	0 GPM	197	0 GPM	-480	0 GPM	-1012
SP-36	3525	0.003 GPM	157	0.76 GPM	-113	0 GPM	-790	0 GPM	-1322
SP-61	4915	0 GPM	-1233	0 GPM	-1503	0 GPM	-2180	U	-2712
SP-33	2060	U	1622	0.16 GPM	1352	0.13 GPM	675	0.09 GPM	143

NOVEMBER											
PANEL BEING MINED		15 EAST	14 EAST	15 EAST	14 EAST	15 EAST		15 EAST		15 EAST	
DATE MEAS.	====>		11/03/94		11/09/94	11/18/94		11/18/94		11/30/94	
LW PLUS	====>	14283	1525	14283	1115	14283		14283		14173	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-49	3330	93'	-1805	U	-2215	U	10953	U	10953	U	10843
W-50	3720	DRY	-2195	U	-2605	U	10563	U	10563	U	10453
W-51	3845	86'	-2320	U	-2730	U	10438	U	10438	U	10328
SP-33	2060	0.14 GPM	-535	0.14 GPM	-945	0.14 GPM	12223	0.13 GPM	12223	U	12113
SP-35	3215	0 GPM	-1690	0 GPM	-2100	U	11068	U	11068	U	10958
SP-36	3525	0 GPM	-2000	U	-2410	U	10758	U	10758	U	10648
W-99	12985	U	1298	U	1298	B	1298	B	1298	B	1188
SP-63	12950	U	1333	U	1333	0.34 GPM	1333	0.36 GPM	1333	0.42 GPM	1223
SP-64	13020	U	1263	U	1263	0.03 GPM	1263	0 GPM	1263	0.03 GPM	1153
SP-179	13790	U	493	U	493	0.05 GPM	493	0.067 GPM	493	0.074 GPM	383

DECEMBER									
PANEL BEING MINED		15 EAST		15 EAST		15 EAST		15 EAST	
DATE MEAS.	====>	12/09/94		12/16/94		12/22/94		12/30/94	
LW PLUS	====>	13652		13174		12686		12316	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-99	12985	B	667	B	189	B	-299	B	-669
SP-63	12950	1.08 GPM	702	1.02 GPM	224	0.007 GPM	-264	0 GPM	-634
SP-64	13020	0.58 GPM	632	0.78 GPM	154	0 GPM	-334	0 GPM	-704
SP-179	13790	0.03 GPM	-138	0.54 GPM	-616	0.03 GPM	-1104	0 GPM	-1474

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING
SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS
FLOW = MEASURED IN GPM
POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE
LONGWALL PLUS IS RECORDED DAILY
*NM = NOT MEASURABLE - PROBE GETS STUCK IN WELL

TOVCC 10857

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DIVISION OF
RECLAMATION
ST. CLAIRSVILLE

The Ohio Valley Coal Company
Powhatan No. 6 Mine
Permit D-0360

Certification of Refuse Disposal Area
Period: Fourth Quarter, 1994

I, the undersigned, hereby certify, to the best of my knowledge and belief, that the Powhatan No. 6 Mine Refuse Pile has been constructed and maintained as designed and in accordance with the approved plan and applicable rules and regulations.

David L. Bartsch

David L. Bartsch, P. E.

STATE OF OHIO
DAVID L. BARTSCH
E-50396
REGISTERED
PROFESSIONAL ENGINEER

RECEIVED
JAN 13 1995
DIVISION OF
RECLAMATION
ST. CLAIRSVILLE

November 23, 1994

Mr. Jack D. Graham
Reclamation Inspector
Division of Reclamation
Ohio Department of Natural Resources
70245 Bannock-Uniontown Road
St. Clairsville, Ohio 43950

Dear Jack:

Enclosed are the quarterly monitoring reports for The Ohio Valley Coal Company's Powhatan No. 6 Mine (Permit D-0360) covering the Fourth Quarter, 1994. If you have any questions, please contact me.

Permittee's Signature David L Barton Date 11-23-94

Laboratory Name Industrial Lab Analysis, Incorporated

Analyst's Signature [illegible] Date 11-26-94

56854 PLEASANT RIDGE ROAD • ALLEDONIA OHIO 43902 ◦ (614) 926-1351 ◦ FAX (614) 926-1615

OPERATOR

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

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QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	W-1	W-2	U-1	D-1	D-2
SURFACE ELEVATION OF MONITORING SITE	950	835	840	800	835
DEPTH BELOW LAND SURFACE	15'	unk	-	-	-
STATIC WATER LEVEL BELOW LAND SURFACE	14'	32'	-	-	-
DISCHARGE (CFS/GPM)	-	-	40.2 CFS	50.3 CFS	1.18 CFS
DATE MEASURED	11/9/94	11/9/94	11/8/94	11/8/94	11/8/94
pH (SU)	6.8	7.3	8.6	8.7	8.7
TOTAL ACIDITY (MG/L CACO3)	24.80	12.80	0.0	1.20	14.20
TOTAL ALKALINITY (MG/L CACO3)	339.20	233.80	178.60	170.80	160.80
TOTAL IRON (MG/L)	0.20	0.39	0.17	0.10	6.90
TOTAL MANGANESE (MG/L)	0.03	0.17	0.02	0.03	0.45
TOTAL SUSPENDED SOLIDS (MG/L)	8.0	15.0	9.0	8.0	195.0
TOTAL HARDNESS (MG/L CACO3)	916.0	288.0	247.0	245.0	265.0
TOTAL SULFATE (MG/L)	596.0	47.0	79.0	97.0	208.0
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	1841	613	591	627	912
NITRATES (MG/L)	0.83	<0.50	<0.50	0.52	<0.50

PERMITTEE'S SIGNATURE David L. Bartsch DATE 11-23-94

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B Mann DATE 11-26-94

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

QUARTERLY MONITORING REPORT SHEETS
(SUBMIT IN QUADRUPLICATE)

PERMITTEE: THE OHIO VALLEY COAL COMPANY PERMIT NO. D-0360

___1ST QTR. ___2ND QTR. ___3RD QTR. _X_4TH QTR.

___PRE-MINING _X_MINING ___POST-MINING

MONITORING SITE IDENTIFICATION NUMBER	D-3				
SURFACE ELEVATION OF MONITORING SITE	830				
DEPTH BELOW LAND SURFACE	-				
STATIC WATER LEVEL BELOW LAND SURFACE	-				
DISCHARGE (CFS/GPM)	1.48 CFS				
DATE MEASURED	11/8/94				
pH (SU)	8.7				
TOTAL ACIDITY (MG/L CACO3)	6.60				
TOTAL ALKALINITY (MG/L CACO3)	161.40				
TOTAL IRON (MG/L)	2.51				
TOTAL MANGANESE (MG/L)	0.17				
TOTAL SUSPENDED SOLIDS (MG/L)	45.0				
TOTAL HARDNESS (MG/L CACO3)	266.0				
TOTAL SULFATE (MG/L)	210.0				
SPECIFIC CONDUCTANCE (AT 25° C IN µMHO/CM)	933				
NITRATES (MG/L)	0.54				

PERMITTEE'S SIGNATURE David L. Barton DATE 11-23-94

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS

ANALYST'S SIGNATURE B C Mannion DATE 11-26-94

THE OHIO VALLEY COAL COMPANY
POWHATAN NO. 6 MINE
RAINFALL RECORD – 1994

MONTH

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.10	0.00
2	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
3	0.00	T	T	0.10	0.05	0.00	0.00	T	0.00	0.00	0.00	0.00
4	1.10	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.90
5	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.06
6	0.28	0.00	0.00	0.70	0.20	0.00	0.83	0.00	0.00	0.00	T	0.01
7	0.14	0.00	0.19	0.00	0.83	0.00	0.01	0.00	0.00	0.00	0.00	0.04
8	0.00	0.81	0.00	0.00	T	0.00	0.00	0.00	0.00	T	0.59	0.00
9	0.00	T	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
10	0.00	0.00	T	1.38	0.00	0.00	T	0.00	T	0.00	0.00	0.61
11	0.30	T	0.00	0.11	0.30	0.90	0.00	T	0.00	0.00	0.00	T
12	0.01	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	T	0.01	0.20	T	0.00	0.00	0.04	0.00	0.00	0.04	0.00	0.00
14	0.04	0.00	0.00	0.00	0.00	0.00	1.36	0.61	0.00	0.00	0.00	0.00
15	T	0.00	0.10	0.95	0.60	0.00	0.30	0.00	T	0.00	0.60	0.00
16	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.16	0.00
17	0.86	0.00	0.02	0.00	0.00	0.00	0.00	0.44	2.30	0.00	0.00	0.00
18	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	T	0.00	0.03
19	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
20	0.00	0.00	0.30	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.33	0.00
21	0.00	0.39	0.68	0.00	0.00	0.62	0.17	0.00	0.00	0.00	0.00	0.00
22	0.00	0.63	0.00	0.00	0.00	0.00	0.20	2.69	0.00	0.00	0.00	0.00
23	0.01	0.65	0.19	0.00	0.00	0.09	0.00	0.00	0.00	T	0.00	0.00
24	0.01	0.02	0.00	0.00	T	0.50	0.00	0.00	0.00	0.01	0.00	0.00
25	0.46	0.00	0.00	0.00	0.36	0.00	0.40	0.00	0.82	0.00	0.00	0.00
26	0.00	0.00	0.05	0.00	T	1.19	0.00	0.02	T	0.00	0.00	0.00
27	1.89	0.00	0.90	0.00	0.00	T	0.01	0.00	0.00	0.00	0.00	0.00
28	0.08	T	0.18	T	0.00	0.29	0.00	0.41	0.00	0.00	0.95	0.00
29	0.00		0.00	0.04	0.00	0.25	0.36	T	0.00	0.00	0.00	0.00
30	T		0.00	0.30	0.00	0.00	0.00	0.00	0.00	T	0.00	0.00
31	0.01		0.00		T		0.00	0.46		0.71		0.00
TOT.	5.39	2.51	5.31	4.08	2.34	4.17	3.68	6.28	3.12	1.16	2.73	2.09

T = TRACE

ANNUAL TOTAL: 42.86

THE OHIO VALLEY COAL COMPANY - POWHATAN NO. 6 MINE - PERMIT #-0360
WEEKLY MONITORING REPORT - 4TH QTR, 1994

OCTOBER									
PANEL BEING MINED		14 EAST		14 EAST		14 EAST		14 EAST	
DATE MEAS.	====>	10/07/94		10/11/94		10/19/94		10/26/94	
LW PLUS	====>	3682		3412		2735		2203	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-49	3330	75'	352	77'	82	84'	-595	92'	-1127
W-50	3720	DRY	-38	DRY	-308	DRY	-985	DRY	-1517
W-51	3845	67'	-163	67'	-433	80'	-1110	83'	-1642
W-70	4780	35'	-1098	36'	-1368	37'	-2045	U	-2577
W-71	4620	30'	-938	30'	-1208	49'	-1885	60'	-2417
W-107	4470	B	-788	B	-1058	D	-1735	D	-2267
W-108	4880	B	-1198	B	-1468	D	-2145	D	-2677
SP-35	3215	0 GPM	467	0 GPM	197	0 GPM	-480	0 GPM	-1012
SP-36	3525	0.003 GPM	157	0.76 GPM	-113	0 GPM	-790	0 GPM	-1322
SP-41	4915	0 GPM	-1233	0 GPM	-1503	0 GPM	-2180	U	-2712
SP-33	2060	U	1622	0.16 GPM	1352	0.13 GPM	675	0.09 GPM	143

NOVEMBER											
PANEL BEING MINED		15 EAST	14 EAST	15 EAST	14 EAST	15 EAST		15 EAST		15 EAST	
DATE MEAS.	====>		11/03/94		11/09/94	11/18/94		11/18/94		11/30/94	
LW PLUS	====>	14283	1525	14283	1115	14283		14283		14173	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-49	3330	93'	-1805	U	-2215	U	10953	U	10953	U	10843
W-50	3720	DRY	-2195	U	-2605	U	10563	U	10563	U	10453
W-51	3845	86'	-2320	U	-2730	U	10438	U	10438	U	10328
SP-33	2060	0.14 GPM	-535	0.14 GPM	-945	0.14 GPM	12223	0.13 GPM	12223	U	12113
SP-35	3215	0 GPM	-1690	0 GPM	-2100	U	11068	U	11068	U	10958
SP-36	3525	0 GPM	-2000	U	-2410	U	10758	U	10758	U	10648
W-99	12985	U	1298	U	1298	B	1298	B	1298	B	1188
SP-63	12950	U	1333	U	1333	0.34 GPM	1333	0.36 GPM	1333	0.42 GPM	1223
SP-64	13020	U	1263	U	1263	0.03 GPM	1263	0 GPM	1263	0.03 GPM	1153
SP-179	13790	U	493	U	493	0.05 GPM	493	0.067 GPM	493	0.074 GPM	383

DECEMBER									
PANEL BEING MINED		15 EAST		15 EAST		15 EAST		15 EAST	
DATE MEAS.	====>	12/09/94		12/16/94		12/22/94		12/30/94	
LW PLUS	====>	13652		13174		12686		12316	
SOURCE	PLUS	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION	SWL OR FLOW	POSITION
W-99	12985	B	667	B	189	B	-299	B	-669
SP-63	12950	1.08 GPM	702	1.02 GPM	224	0.007 GPM	-264	0 GPM	-634
SP-64	13020	0.58 GPM	632	0.78 GPM	154	0 GPM	-334	0 GPM	-704
SP-179	13790	0.03 GPM	-138	0.34 GPM	-616	0.03 GPM	-1104	0 GPM	-1474

D = DRY, NO WATER IN WELL R = REFUSED TO ALLOW SAMPLING U = UNSCHEDULED FOR MONITORING
SWL = STATIC WATER LEVEL MEASURED IN FT. DOWN FROM SURFACE FOR WELLS
FLOW = MEASURED IN GPM
POSITION: POSITIVE VALUE INDICATES LONGWALL IS APPROACHING SOURCE, NEGATIVE VALUE INDICATES LONGWALL IS PAST SOURCE
LONGWALL PLUS IS RECORDED DAILY
*UM = NOT MEASURABLE - PROBE GETS STUCK IN WELL

TOVCC 10863

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-49 SURF ELEV 1300 STATE PLANE COORDINATES X 727149.64 Y 2434262.5

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED _____ LOCATION(*) ADJ COAL ELEV. 720 WELL DEPTH (ELEV) 1186

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/14/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1243	1244	1248	1249	1232	1221	1223	1221	1223	1223	1206	1218
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)												
TOTAL ACIDITY (mg/l CaCO3)												
TOTAL ALKALINITY(mg/l CaCO3)												
TOTAL IRON (mg/l)												
TOTAL MANGANESE (mg/l)												
TOTAL SUSPENDED SOLIDS (mg/l)												
TOTAL HARDNESS (mg/l CaCO3)												
TOTAL SULFATES (mg/l)												
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)												
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)												

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10864

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-50 SURF ELEV 1321 STATE PLANE COORDINATES X 725971.29 Y 2434628.8

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 5/5/94 LOCATION(*) PAN COAL ELEV. 738 WELL DEPTH (ELEV) 1277

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/14/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1280	1281	1282	1281	1277	1277	1277	1277	1277	1277	1277	1277
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING-,RETREATING+)												
pH (STANDARD UNITS)	7.3			7.7								
TOTAL ACIDITY (mg/l CaCO3)	9.60			26.4								
TOTAL ALKALINITY(mg/l CaCO3)	212.60			208.8								
TOTAL IRON (mg/l)	2.26			1.92								
TOTAL MANGANESE (mg/l)	0.15			0.05								
TOTAL SUSPENDED SOLIDS (mg/l)	15.0			10.0								
TOTAL HARDNESS (mg/l CaCO3)	272.0			336								
TOTAL SULFATES (mg/l)	61.0			117								
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	551			685								
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	1.73			3.43								

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10865

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-51 SURF ELEV 1281 STATE PLANE COORDINATES X 725638.14 Y 2434749.8

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 5/4/94 LOCATION(*) PAN COAL ELEV. 722 WELL DEPTH (ELEV) 1172

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/19/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1253	1260	1261	1264	1191	1187	1192	1193	1208	1214	1197	1228
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.6			7.8			7.8			1.9		
TOTAL ACIDITY (mg/l CaCO3)	6.20			14.0			14.00			4.60		
TOTAL ALKALINITY(mg/l CaCO3)	205.60			158.2			286.20			277.80		
TOTAL IRON (mg/l)	0.19			0.08			0.77			1.09		
TOTAL MANGANESE (mg/l)	<0.02			<0.02			0.05			0.37		
TOTAL SUSPENDED SOLIDS (mg/l)	3.0			3.0			8.0			5.0		
TOTAL HARDNESS (mg/l CaCO3)	262.0			204.0			97.0			122.0		
TOTAL SULFATES (mg/l)	29.0			46.0			44.0			55.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)	330			417			621			645		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	2.68			1.91			0.83			0.58		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10866

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-52 SURF ELEV 1282 STATE PLANE COORDINATES X 725398.47 Y 2434911.6

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 12/3/93 LOCATION(*) PAN COAL ELEV. 720 WELL DEPTH (ELEV) 1203

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/12/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/19/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1228	1237	1241	1239	1203	1203	1203	1203	1203	1203	1203	1211
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.4			7.4								7.4
TOTAL ACIDITY (mg/l CaCO3)	10.60			20.0								9.80
TOTAL ALKALINITY(mg/l CaCO3)	213.20			210.4								217.60
TOTAL IRON (mg/l)	0.33			0.06								0.08
TOTAL MANGANESE (mg/l)	0.20			0.27								0.02
TOTAL SUSPENDED SOLIDS (mg/l)	4.0			12.0								51.0
TOTAL HARDNESS (mg/l CaCO3)	276.0			256								276.0
TOTAL SULFATES (mg/l)	47.0			52.								64.0
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	567			524								582
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	3.12			3.57								0.55

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10867

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-53 SURF ELEV 1292 STATE PLANE COORDINATES X 725073.29 Y 2435124.4

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 11/30/93 LOCATION(*) GTE COAL ELEV. 720 WELL DEPTH (ELEV) 1207

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/12/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/19/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1221	1225	1225	1229	1218	1216	1217	1217	1218	1217	1216	1228
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.4			7.4			7.8			7.9		
TOTAL ACIDITY (mg/l CaCO3)	8.20			16.6			14.60			1.0		
TOTAL ALKALINITY(mg/l CaCO3)	200.40			171.0			213.40			240.60		
TOTAL IRON (mg/l)	0.75			0.16			0.56			0.35		
TOTAL MANGANESE (mg/l)	0.12			0.06			0.08			0.02		
TOTAL SUSPENDED SOLIDS (mg/l)	6.0			10.0			12.0			7.0		
TOTAL HARDNESS (mg/l CaCO3)	242.0			228.0			236.0			94.0		
TOTAL SULFATES (mg/l)	35.0			42.0			49.0			31.0		
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	546			492			495			549		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	1.73			4.46			3.90			0.56		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10868

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-54 SURF ELEV 1245 STATE PLANE COORDINATES X 724888.98 Y 2434241.9

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 12/16/93 LOCATION(*) PAN COAL ELEV. 723 WELL DEPTH (ELEV) 1170

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/12/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/14/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1170	1172	1170	1176	1170	1170	1170	1170	1170	1170	1170	1172
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)		7.7		7.7								7.4
TOTAL ACIDITY (mg/l CaCO3)		7.40		14.0								11.00
TOTAL ALKALINITY(mg/l CaCO3)		244.20		205.6								220.20
TOTAL IRON (mg/l)		3.06		0.29								1.03
TOTAL MANGANESE (mg/l)		0.10		0.03								0.04
TOTAL SUSPENDED SOLIDS (mg/l)		111.0		6.0								99.0
TOTAL HARDNESS (mg/l CaCO3)		82.0		136.0								200.0
TOTAL SULFATES (mg/l)		42.0		71.0								87.0
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)		594		524								595
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)		1.12		2.13								<0.50

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DUB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10869

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-55 SURF ELEV 1290 STATE PLANE COORDINATES X 724472.22 Y 2435310.5

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 11/22/93 LOCATION(*) ADJ COAL ELEV. 721 WELL DEPTH (ELEV) 1211

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/12/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/15/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1226	1231	1230	1229	1225	1224	1225	1225	1225	1224	1225	1229
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–		–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.7			7.7			7.9			7.7		
TOTAL ACIDITY (mg/l CaCO3)	6.60			18.0			7.20			9.00		
TOTAL ALKALINITY(mg/l CaCO3)	205.00			177.60			182.40			222.00		
TOTAL IRON (mg/l)	0.59			1.44			0.08			0.35		
TOTAL MANGANESE (mg/l)	0.15			0.42			0.02			0.06		
TOTAL SUSPENDED SOLIDS (mg/l)	8.0			8.0			8.0			8.0		
TOTAL HARDNESS (mg/l CaCO3)	185.0			232.0			120.0			190.0		
TOTAL SULFATES (mg/l)	37.0			67.0			58.0			67.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)	525			481			476			594		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	0.84			1.32			1.07			0.63		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10870

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-57 SURF ELEV 1307 STATE PLANE COORDINATES X 724085.45 Y 2435743.3

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 10/12/93 LOCATION(*) PAN COAL ELEV. 720 WELL DEPTH (ELEV) 1169

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/12/94	02/24/94	03/18/94	04/13/94	05/17/94	06/15/94	07/15/94	08/16/94	09/13/94	10/11/94	11/09/94	12/16/94
STATIC WATER LEVEL (ELEV)	1218	1224	1222	1227	1169	1169	1169	1169	1169	1169	1169	1219
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.4			7.7								7.7
TOTAL ACIDITY (mg/l CaCO3)	9.60			17.40								9.80
TOTAL ALKALINITY(mg/l CaCO3)	208.40			183.40								204.40
TOTAL IRON (mg/l)	0.19			0.15								0.23
TOTAL MANGANESE (mg/l)	0.02			0.03								<0.02
TOTAL SUSPENDED SOLIDS (mg/l)	7.0			3.0								52.0
TOTAL HARDNESS (mg/l CaCO3)	247.0			220.0								269.0
TOTAL SULFATES (mg/l)	56.0			45.0								55.0
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	514			424								510
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	0.75			<0.50								<0.50

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DUB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10871

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D–0360 SITE I.D. W–69 SURF ELEV 1281 STATE PLANE COORDINATES X 727359.47 Y 2434983.4

QTR. (1–4) 3 YEAR 1994 DATE UNDERMINED _____ LOCATION(*) ADJ COAL ELEV. 725 WELL DEPTH (ELEV) 1247

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/24/94	03/24/94	04/13/94	05/17/94	06/15/94	07/19/94	08/16/94	09/13/94	10/14/94	11/10/94	12/16/94
STATIC WATER LEVEL (ELEV)	1257	1260	1259	1261	1256	1253	1257	1257	1255	1253	1255	1257
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.2			6.7			6.4			6.5		
TOTAL ACIDITY (mg/l CaCO3)	12.20			10.0			10.60			7.60		
TOTAL ALKALINITY(mg/l CaCO3)	51.00			47.20			94.60			100.80		
TOTAL IRON (mg/l)	0.08			0.20			0.39			0.26		
TOTAL MANGANESE (mg/l)	<0.02			0.02			0.02			0.04		
TOTAL SUSPENDED SOLIDS (mg/l)	6.0			4.0			11.0			4.0		
TOTAL HARDNESS (mg/l CaCO3)	456.0			124.0			168.0			152.0		
TOTAL SULFATES (mg/l)	15.0			46.0			52.0			75.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)	1144			572			796			763		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	3.32			2.16			3.97			1.80		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10872

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D–0360 SITE I.D. W–70 SURF ELEV 1296 STATE PLANE COORDINATES X 727291.09 Y 2435712.0

QTR. (1–4) 3 YEAR 1994 DATE UNDERMINED _____ LOCATION(*) ADJ COAL ELEV. 732 WELL DEPTH (ELEV) 1255

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/22/94	02/25/94	03/24/94	04/14/94	05/17/94	06/24/94	07/19/94	08/18/94	09/15/94	10/14/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	1262	1263	1265	1266	1260	1260	1260	1260	1260	1260	1261	1262
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.3			6.8			6.9			6.8		
TOTAL ACIDITY (mg/l CaCO3)	6.40			9.20			11.60			10.0		
TOTAL ALKALINITY(mg/l CaCO3)	111.20			42.80			147.80			123.80		
TOTAL IRON (mg/l)	1.70			0.92			0.98			10.20		
TOTAL MANGANESE (mg/l)	0.09			0.20			0.05			1.43		
TOTAL SUSPENDED SOLIDS (mg/l)	133.0			38.0			17.0			313.0		
TOTAL HARDNESS (mg/l CaCO3)	216.0			113.0			245.0			244.0		
TOTAL SULFATES (mg/l)	45.0			74.0			79.0			77.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)	515			290			554			613		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	10.20			6.95			18.30			10.10		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10873

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-71 SURF ELEV 1299 STATE PLANE COORDINATES X 727144.35 Y 2435541.6

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 9/25/94 LOCATION(*) ADJ COAL ELEV. 732 WELL DEPTH (ELEV) 1240

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/28/94	02/28/94	03/30/94	04/19/94	05/27/94	06/24/94	07/29/94	08/18/94	09/15/94	10/14/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	1277	1274	1275	1275	1257	1255	1252	1262	1254	1249	1253	1253
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	6.4			6.9			7.6			7.3		
TOTAL ACIDITY (mg/l CaCO3)	8.60			5.40			16.40			7.60		
TOTAL ALKALINITY(mg/l CaCO3)	29.40			54.40			147.80			163.20		
TOTAL IRON (mg/l)	0.36			0.58			0.36			0.65		
TOTAL MANGANESE (mg/l)	0.03			0.06			<0.02			0.09		
TOTAL SUSPENDED SOLIDS (mg/l)	10.0			10.0			56.0			8.0		
TOTAL HARDNESS (mg/l CaCO3)	103.0			106.0			250.0			256.0		
TOTAL SULFATES (mg/l)	23.0			34.0			60.0			50.0		
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	250			270			564			588		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	10.60			0.65			10.26			6.90		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10874

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-72 SURF ELEV 1310 STATE PLANE COORDINATES X 727888.35 Y 2436123.6

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED _____ LOCATION(*) ADJ COAL ELEV. 732 WELL DEPTH (ELEV) 1271

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED							07/28/94	08/25/94	09/27/94	10/24/94	11/27/94	12/23/94
STATIC WATER LEVEL (ELEV)							1280	1282	1282	1280	1281	1282
STREAM/SPRING DISHCARGE (CFS or GPM)								–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)							7.2			6.9		
TOTAL ACIDITY (mg/l CaCO3)							28.40			19.00		
TOTAL ALKALINITY(mg/l CaCO3)							165.20			142.00		
TOTAL IRON (mg/l)							0.42			0.13		
TOTAL MANGANESE (mg/l)							<0.02			0.02		
TOTAL SUSPENDED SOLIDS (mg/l)							4.0			3.0		
TOTAL HARDNESS (mg/l CaCO3)							572.0			394.0		
TOTAL SULFATES (mg/l)							63.0			76.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)							1900			1416		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)							4.50			0.60		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DVB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10875

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-73 SURF ELEV 1264 STATE PLANE COORDINATES X 727087 Y 2438545.2

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 8/18/94 LOCATION(*) ADJ COAL ELEV. 733 WELL DEPTH (ELEV) U

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/24/94	03/24/94	04/14/94	05/17/94	06/16/94	07/19/94	08/20/94	09/15/94	10/19/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	–	–	–	–	–	–	–	1189	1226	1224	1224	1230
STREAM/SPRING DISHCARGE (CFS or GPM)	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.6			7.7			7.4			7.6		
TOTAL ACIDITY (mg/l CaCO3)	11.00			24.0			15.80			10.00		
TOTAL ALKALINITY(mg/l CaCO3)	219.20			208.40			231.20			205.40		
TOTAL IRON (mg/l)	0.25			0.37			0.40			0.26		
TOTAL MANGANESE (mg/l)	<0.02			0.02			<0.02			0.04		
TOTAL SUSPENDED SOLIDS (mg/l)	5.0			2.0			3.0			5.0		
TOTAL HARDNESS (mg/l CaCO3)	320.0			336.0			305.0			288.0		
TOTAL SULFATES (mg/l)	27.0			48.0			50.0			35.0		
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	848			657			651			653		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	1.39			0.80			1.45			0.71		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10876

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-74 SURF ELEV 1264 STATE PLANE COORDINATES X 727066.36 Y 2438623.4

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 8/17/94 LOCATION(*) ADJ COAL ELEV. 733 WELL DEPTH (ELEV) U

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/24/94	03/24/94	04/14/94	05/17/94	06/16/94	07/19/94	08/20/94	09/15/94	10/19/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	–	–	–	–	–	–	–	1214	1236	1224	1223	1256
STREAM/SPRING DISHCARGE (CFS or GPM)	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.2			7.7			6.8			7.4		
TOTAL ACIDITY (mg/l CaCO3)	12.40			16.60			10.20			12.00		
TOTAL ALKALINITY(mg/l CaCO3)	113.40			108.40			135.40			99.20		
TOTAL IRON (mg/l)	0.46			0.26			0.63			2.30		
TOTAL MANGANESE (mg/l)	0.03			0.04			<0.02			0.27		
TOTAL SUSPENDED SOLIDS (mg/l)	7.0			3.0			15.0			49.0		
TOTAL HARDNESS (mg/l CaCO3)	180.0			156.0			180.0			196.0		
TOTAL SULFATES (mg/l)	23.0			36.0			37.0			41.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)	403			371			381			517		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	9.02			6.52			3.80			15.20		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY.

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10877

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-75 SURF ELEV 1262 STATE PLANE COORDINATES X 727060.82 Y 2438765.9

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 8/16/94 LOCATION(*) ADJ COAL ELEV. 733 WELL DEPTH (ELEV) 1188

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/25/94	03/24/94	04/14/94	05/26/94	06/16/94	07/19/94	08/18/94	09/15/94	10/18/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	1230	1238	1235	1240	1226	1224	1226	1225	1217	1215	1209	1219
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.3			7.4			7.3			7.7		
TOTAL ACIDITY (mg/l CaCO3)	12.40			24.80			17.20			8.00		
TOTAL ALKALINITY(mg/l CaCO3)	238.20			231.0			231.20			212.20		
TOTAL IRON (mg/l)	0.14			3.40			0.13			0.09		
TOTAL MANGANESE (mg/l)	<0.02			0.21			<0.02			0.04		
TOTAL SUSPENDED SOLIDS (mg/l)	2.0			487.0			6.0			3.0		
TOTAL HARDNESS (mg/l CaCO3)	326.0			291.0			341.0			284.0		
TOTAL SULFATES (mg/l)	44.0			72.0			70.0			57.0		
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)	646			594			622			629		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	3.02			1.25			2.24			1.59		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLB DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10878

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-76 SURF ELEV 1262 STATE PLANE COORDINATES X 727057.38 Y 2439076.3

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 8/13/94 LOCATION(*) ADJ COAL ELEV. 733 WELL DEPTH (ELEV) 1172

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/25/94	03/24/94	04/14/94	05/26/94	06/16/94	07/19/94	08/18/94	09/15/94	10/18/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	–	–	–	–	–	–	–	–	–	–	–	–
STREAM/SPRING DISHCARGE (CFS or GPM)	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	BURIED	SEALED	SEALED	SEALED
FACE LOCATION (ADVANCING-,RETREATING+)												
pH (STANDARD UNITS)												
TOTAL ACIDITY (mg/l CaCO3)												
TOTAL ALKALINITY(mg/l CaCO3)												
TOTAL IRON (mg/l)												
TOTAL MANGANESE (mg/l)												
TOTAL SUSPENDED SOLIDS (mg/l)												
TOTAL HARDNESS (mg/l CaCO3)												
TOTAL SULFATES (mg/l)												
SPECIFIC CONDUCTANCE (at 25°C in µmhos/cm)												
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)												

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

U = UNABLE TO MEASURE

PERMITTEE'S SIGNATURE DUP DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10879

4/94

OHIO DEPARTMENT OF NATURAL RESOURCES – DIVISION OF RECLAMATION
UNDERGROUND MINING – SHADOW AREA – WATER MONITORING REPORT

PERMITTEE: THE OHIO VALLEY COAL CO. PERMIT NO. D-0360 SITE I.D. W-77 SURF ELEV 1255 STATE PLANE COORDINATES X 727084.93 Y 2439236.7

QTR. (1-4) 3 YEAR 1994 DATE UNDERMINED 8/11/94 LOCATION(*) ADJ COAL ELEV. 733 WELL DEPTH (ELEV) 1215

*PAN = ABOVE PANEL, GTE = ABOVE GATE, ADJ = WITHIN 500' OF PANEL

DATE MEASURED	01/21/94	02/25/94	03/24/94	04/14/94	05/26/94	06/16/94	07/19/94	08/18/94	09/15/94	10/18/94	11/10/94	12/21/94
STATIC WATER LEVEL (ELEV)	1239	1246	1245	1246	1238	1238	1239	1238	1238	1237	1238	1239
STREAM/SPRING DISHCARGE (CFS or GPM)	–	–	–	–	–	–	–	–	–	–	–	–
FACE LOCATION (ADVANCING–,RETREATING+)												
pH (STANDARD UNITS)	7.3			6.4			6.3			6.9		
TOTAL ACIDITY (mg/l CaCO3)	7.60			4.40			6.40			7.20		
TOTAL ALKALINITY(mg/l CaCO3)	51.20			30.60			76.20			101.20		
TOTAL IRON (mg/l)	0.25			0.33			0.67			0.82		
TOTAL MANGANESE (mg/l)	0.02			0.03			0.08			0.14		
TOTAL SUSPENDED SOLIDS (mg/l)	9.0			10.0			35.0			26.0		
TOTAL HARDNESS (mg/l CaCO3)	108.0			52.0			91.0			134.0		
TOTAL SULFATES (mg/l)	59.0			38.0			37.0			39.0		
SPECIFIC CONDUCTANCE (at 25°C in μmhos/cm)	283			150			226			325		
TOTAL DISOLVED SOLIDS (mg/l)	–	–	–	–	–	–	–	–	–	–	–	–
NITRATE – NO3 (mg/l)	3.24			0.42			4.03			2.65		

R = REFUSED; B = BURIED; NF = NO FLOW; D = DRY

U = UNABLE TO MEASURE

WELL SWL = FT;SPRING FLOW = GPM;STREAM FLOW = CFS

PERMITTEE'S SIGNATURE DLP DATE

LABORATORY NAME: INDUSTRIAL LAB ANALYSIS, INC.

TOVCC 10880