

APPENDIX D

SOURCE DESCRIPTIONS

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
P-1	4F	Originates as an artesian discharge from the Oliver Mine complex having an average flow of 4,500 gpm and contributing 15,400 lbs/day net acidity into Redstone Creek. It originates from the Pittsburgh Coal outcrop, has a low pH, is clear, and flows in a man-made channel approximately 50 ft. prior to entering Redstone Creek.
P-2	4F	Originates from the Oliver No. 3 deep mine complex. It is an artesian discharge which ponds temporarily and flows into Redstone Creek. Yellowboy covers the entire bottom of the ponded area (approximately two acres) located on the south and west side of Redstone Creek.
P-3 thru P-5	4F	Same as P-2.
P-6	4F	Originates as an artesian discharge from an old deep mine shaft approximately 200 ft. from Redstone Creek. It ponds in a one acre area before flowing into Redstone Creek. It is located on the east side of Redstone Creek.
P-7	5G	Originates as seepage from a backfilled drift mine entry (Waynesburg Coal outcrop).
P-8, P-9	5G	Same as P-7
P-10	4F	Originates from the Pittsburgh Coal outcrop and possibly a backfilled drift mine entry.
P-11	5G	Originates as a Pittsburgh seam deep mine artesian flow in a one-half acre ponded area.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
M-19	6C	Originates as an artesian discharge located approximately 2,000 ft. southwest of the town of Adelaide along the right-of-way of the Pittsburgh and Lake Erie Railroad. The discharge is located between the river and the tracks, it emerges from the ground and flows through a small channel and discharges directly into the Youghioghney River. A large seepage area (sources US-13 through US-21) is located to the west of major source M-19 which has created a swampy area. Iron precipitation is very evident in this seepage area. Major source M-19 is known as the Adelaide Mine discharge and is the lowest source in elevation which discharges from the Uniontown Syncline.
M-20	6B	Originates as a discharge which drains a portion of the underground mine complex east of Galley Run and north of the Youghioghney River. The source is located at Broadford where Galley Run crosses the Broadford-Owensdale Road. The discharges emerge from a pipe located about 50 ft. upstream of the bridge on Galley Run.
M-54, M-55	6C	Originates as pipe discharges from the south bank of the Youghioghney River, approximately 5,000 ft. downstream from the community of Adelaide. Sources are probably gravity drains for the Pittsburgh seam Adelaide Mine.
M-56	6B	Source M-56 is located approximately 400 ft. east of Broadford on the north side of the Baltimore and Ohio tracks. The source discharges from a 20 ft. by 20 ft. concrete shaft cover through a 3 ft. diameter pipe. The discharge flows parallel to the railroad tracks for 75 ft. and then is piped under the tracks to the river.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
M-57	7B	Originates as an artesian discharge from the abandoned mine complex on the east side of Galley Run. The flow is from a 12 in. diameter pipe mounted in a 4 ft. by 4 ft. concrete shaft cover. The source is located about .6 miles north of Bradford, 200 ft. east of the road.
M-58	7B	Originates as a deep mine discharge which is seeping through a reclaimed strip mine. The source is located approximately 4,000 ft. northeast of the road and 1.6 miles north of source M-57.
M-59	7B	Originates as a discharge which is located south of Owensdale. The source is located about 500 ft. northeast of the road and flows from a 12 in. pipe mounted in a 4 ft. by 4 ft. concrete cover.

<u>Source</u>	<u>Project Area Map No.</u> <u>Area Location</u>	<u>Source Description</u>
WL-1	4E	Originates as seepage from a backfilled drift entry or contaminated ground water that flows into the south side of Rankin Run.
WL-2	4E	Originates as seepage or acidic ground water through a backfilled air shaft and flows into the south side of Rankin Run. Formed a small pond (10 ft. x 4 ft.).
WL-3	4E	Originates as seepage or polluted ground water through the backfilled deep mine into the south side of Rankin Run.
WL-4	4E	Same as WL-3
WL-5	4E	Same as WL-3
WL-6	4E	Originates from polluted ground water through several backfilled mine entries on the south side of Rankin Run and ponds prior to flowing into Rankin Run. The pond size is approximately 100 ft. x 25 ft. Yellowboy covers the area.
WL-7	4E	Originates from polluted ground water flowing through a mine air shaft on the north side of Rankin Run.
WL-8	4E	Originates from the north bank of Rankin Run approximately 2 ft. above the bottom of the stream channel, probably from the same shaft as WL-7.
WL-9	4E	Originates from polluted ground water along the south side of Rankin Run approximately 2.5 miles west of West Leisenring. Source WL-9 is a discharge contributing 300 gpm (.43 mgd) to Rankin Run.
WL-10 thru WL-14	4D	Originates from a stripped deep mine area on the west side of Bute Run. A strip mine, deep mine complex running the length of the opposite side of the hill (updip) permits surface water to infiltrate through the partially backfilled strip mine to the deep mine and emerge as the WL sources.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
WL-15	4D	Same as WL-10 through WL-14, with the addition of surface runoff.
WL-16	4D	Same as WL-10 through WL-14, with the addition of raw sewage.
WL-17	4D	Same as WL-10 through WL-14, with the addition of raw sewage.
WL-18	4E	Same as WL-10 through WL-14, with the addition of surface runoff.
WL-19	4E	Originates from strip mine spoils with the addition of raw sewage.
WL-20	4E	Originates as seepage from the Bitner Mine.
WL-21	4E	Same as WL-20.
WL-22	4E	Originates as seepage from a Pittsburgh seam mine complex with the addition of surface runoff.
WL-23	4E	Originates as seepage from a deep mine strip mine complex.
WL-24	4E	Originates as seepage from a deep mine strip mine complex with the addition of surface runoff.
WL-25	4D	Originates as seepage from a strip mine drift mine complex. The area is characterized by localized mine subsidence.
WL-26	4D	Originates as seepage from a small strip area.
WL-27	4E	Originates from a small, rock-covered, back-filled drift entry. This source only flowed for three sample pickups.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
US-1	6B	Originates as seepage through the backfilled drift mine entry along the north bank of the Youghioghney River from a Pittsburgh seam mine.
US-2	6B	Originates as AMD seepage from a backfilled drift mine area from the Pittsburgh seam along the north bank of the Youghioghney River. This source flows over some coke ovens prior to its entering the Youghioghney River.
US-3	6B	Originates as seepage from an abandoned Pittsburgh seam drift mine along the north bank of the Youghioghney River.
US-4	6B	Originates from a Pittsburgh seam drift mine along the north bank of the Youghioghney River.
US-5	6B	Originates from a Pittsburgh seam drift mine along the north bank of the Youghioghney River.
US-6	6B	Originates as seepage from a Pittsburgh seam drift mine entry area along the north bank of the Youghioghney River.
US-7	6B	Originates as flow from the Pittsburgh Coal outcrop along the north bank of the Youghioghney River.
US-8	6B	Originates as flow from the Pittsburgh Coal outcrop along the north bank of the Youghioghney River, probably originating from the drift-mined coke oven area.
US-9	6B	Originates as seepage from the Pittsburgh seam outcrop drift mine area along the north bank of the Youghioghney River.
US-10	6B	Originates as seepage from the Pittsburgh seam mine area along the north bank of the Youghioghney River.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
US-11	6B	Originates as flow from a 3-ft. diameter pipe from a Pittsburgh seam mine on the uphill side of the railroad tracks along the north bank of the Youghiogheny River.
US-12	6B	Originates as seepage from the Adelaide mine along the Pittsburgh coal outcrop.
US-13 thru US-21	6C	Originates from the Pittsburgh coal outcrop (Adelaide Mine). Coke ovens are prevalent in the area above the discharges. These sources are located in a swampy area just below the Pittsburgh outcrop.
US-22	6C	Originates as a deep mine discharge from the abandoned Fort Hill Mine. The Pittsburgh Coal outcrops along the south side of the Youghiogheny River. This source flows from a pipe that lies underneath the railroad tracks. The AMD flows approximately 15 ft. prior to entering the river.
US-24	6D	Originates near the town of Trotter and is the only source located in the study area that is believed to be acid pickling waste from cleaning steel wire. However, US-24 could be a flow from the old Trotter deep mine located in this area (Pittsburgh Coal).
US-25	5C	Originates from a collapsed drift mine entry approximately 6,000 ft. upstream from station location YR-7. The station was established at the east side of the ponded area.
US-26	5C	Source US-26 discharges from a collapsed drift entrance approximately 500 ft. upstream from Source US-25.
US-27	5C	Originates from a collapsed drift mine entry approximately 100 ft. upstream from the source US-26.

Note: Sources US-25, US-26 and US-27 were related acid mine drainage discharges from an isolated projection of the Pittsburgh Coal seam. These sources were located on the downdip side of the coal. A strip highwall area existed on the updip side of this area. There is no observed drainage from this updip side, so precipitation flows and seeps

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
		into the collapsed drift area and discharges downdip at these AMD sources. These sources have similar water quality characteristics. These three sources collect flow for 3,000 ft. and disappear into a ponded sinkhole.
US-28	6E	Originates on an unnamed tributary that flows into Gist Run approximately 700 ft. north of the Connellsville Airport. This stream becomes polluted with AMD beginning directly downstream from the golf course pond. This source could either be seepage from a covered deep mine shaft or from a higher coal seam, possibly the Sewickley or Waynesburg Coals.
US-29	6E	Source US-29, according to water quality data, was not a source of AMD.
US-31 thru US-41	6C	Sources US-31 through US-41 drain the isolated deep mine complex north of Hullton (H. C. Frick Coke) and flow into Hickman Run.
US-42	6B	Source US-42 is outcrop seepage from the northern portion of the H. C. Frick Coke Company Mine.
US-43	6A	Originates as seepage from a collapsed drift entry of the abandoned Franklin Mine. This mine area is located in an isolated hilltop area consisting of approximately 207 acres.
US-44	6A	Originates from a collapsed drift entry of the abandoned Franklin Mine. It temporarily ponds in four impoundment areas on the north side of the railroad tracks.
US-45	6A	Source US-45 is outcrop seepage from the northern portion of the H. C. Frick Coke Company Mine.
US-46	7B	Originates as seepage from the Pittsburgh Coal outcrop area of the White Mine located at Morgan along the west side of the Bradford-Owensdale Road.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
US-47	6B	Originates on the west side of Galley Run. It flows from a collapsed drift entry of the Foundry Mine (Pittsburgh seam).
US-48	6B	Originates as seepage from a highway construction breakthrough into the Henry Clay Mine. A culvert pipe is the origin of this source and is from the same mine as M-20 and possibly M-56. It is located on the east side of Galley Run approximately 40 ft. downstream from M-20 and 15 ft. upstream of the road bridge.
US-49	6B	Originates as seepage from the west side of the Galley Run stream bed and across the creek from US-48. It is located on the north side of the Broadford Bridge.
US-50	6B	Originates as a discharge from a collapsed drift entry of the Tyrone or Morgan Mine of the Pittsburgh seam.
US-51	6B	Originates as flow from a collapsed drift entry of the Pittsburgh seam. This source is northwest of Galley Run, prior to Galley Run's flowing beneath the Overholt Distillery.
US-52	6B	Originates from the Pittsburgh Coal outcrop north of the Youghioghney River and approximately 100 ft. north of where Galley Run flows through the culvert beneath the Overhold Distillery property.
US-53 thru US-57	6B	Originates as seepage from the steep north bank of the Youghioghney River approximately 5,000 ft. downstream from the community of Broadford. Their probable origin is from an abandoned Pittsburgh seam mine.
US-58	7B	Originates as seepage from a collapsed or backfilled drift entry of the Morgan Mine, along the west side of Galley Run.
US-59	7B	Originates from a collapsed drift entry of the Pittsburgh seam Foundry Mine.
US-60	7B	Originates as seepage from two collapsed drift mine entries of the White Mine located on the east side of Galley Run near Morgan.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
US-61	6B	Originates from a 4 ft. x 4 ft. concrete mine seal with a 12 in. pipe discharge from the Pittsburgh Coal seam, probably from the Morgan or Tyrone Mine. The source is located on the northwest side of Galley Run, approximately 25 ft. prior to Galley Run's piping underneath the railroad tracks and the Overholt Distillery property.
US-62	6B	Originates from a collapsed Pittsburgh seam drift entry of the H. C. Frick Coke Company Mine and is located approximately 1,000 ft. west of Galley Run, between Morgan and Owensdale.
US-63	5B	Originates from an exposed highwall area along the Pittsburgh outcrop, possibly some flow is coming through the H. C. Frick Coke Company Mine and is located approximately 1,000 ft. west of Galley Run.
US-64	6A	Originates from a collapsed drift entry of the Pittsburgh seam Franklin Mine.
US-65	6C	Originates near the south bank of the Youghiogheny River approximately one mile east of Liberty and 150 ft. west of Source M-55. This source occurs in a valley on the south side of the railroad tracks and flows down the steep hillside of the valley. Samples were collected and flow measured at a confluence of two contributing seeps.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
N-1	2H	Originates from a pipe, probably a gravity drain from a Pittsburgh seam mine.
N-2	2H	Originates as seepage from a drift entry of a Pittsburgh seam deep mine complex.
N-3	2H	Originates as seepage from a Pittsburgh deep mine, then through regraded spoils.
N-4	2H	Originates as seepage from backfilled drift entry of a Pittsburgh seam mine.
N-5	2H	Originates as seepage from a Pittsburgh deep mine through regraded spoils. The source ponds briefly, then overflows into a swampy area.
N-6	2H	Originates as seepage from the Pittsburgh outcrop, probably from a backfilled drift entry.
N-7	2G	Originates from a highwall of an unreclaimed strip mine. Several drift entries contribute AMD which ponds and flows into Browns Run.
N-8	2H	Originates as intermittent flow from a deep mine refuse pile.
N-9	2H	Same as N-8.
N-10	2H	Originates as seepage from a regraded strip mine. The source flows from a highwall through regraded spoils.
N-11	2H	Originates as a combination of seepages from regraded spoils and seepage from under a row of coke ovens.
N-12	2G	Originates as a gravity drain of an abandoned Pittsburgh seam mine. Flows through a cultivated field into a farm pond.
N-13	2G	Originates as deep mine seepage filtering through regraded spoil material and emerging along a roadside bank.

<u>Source</u>	Project Area Map No. <u>Area Location</u>	<u>Source Description</u>
N-14	2G	Originates as a collection of seepages filtering through regraded spoils, emerging at the base of spoils grid flowing toward the dirt road near N-13.
N-15	2G	Originates from Pittsburgh Coal outcrop and collects in an intermittent stream channel.
N-16	2G	Originates as deep mine discharge from a collapsed drift mine of the Pittsburgh seam

<u>Source</u>	Project Area Map No. <u>Area Location</u>	<u>Source Description</u>
G-1	1C	Source G-1 is a discharge from a backfilled drift entry adjacent to Redstone Creek.
G-2 thru G-6	1C	Same as G-1
G-7	1C	Source G-7 originates from a backfilled drift deep mine entry.

<u>Source</u>	<u>Project Area Map No. Area Location</u>	<u>Source Description</u>
UR-1	4H	Originates approximately 3,000 ft. south of Meadowbrook and about 3,000 ft. west of Hutchinson. This minor source is a composite of seepage resulting when stripping operations opened an abandoned deep mine complex in the Sewickley seam. The source is located approximately 1.5 miles south of Uniontown along Brownfield Road.
UR-2	4G	Originates approximately 1,500 ft. east of Uniontown and about 4,500 ft. north of Hopwood. Source UR-2 results when a stream flows into a subsidence area in an abandoned deep mine in the Sewickley seam and emerges 200 ft. downstream.
J-1	3G	Source J-1 is a composite of flow from an abandoned deep mine located north of Pennsylvania Route 21 and intermittent seepage through coal refuse sediments that have restricted drainage in Jennings Run.
UR-3	4G	Source UR-3 originates from a pipe which drains a Sewickley seam abandoned deep mine.

ESTIMATED AMD SOURCE ELEVATIONS

<u>Source</u>	<u>Estimated Elevation</u>	<u>Source</u>	<u>Estimated Elevation</u>
<u>GRINDSTONE SUBWATERSHED</u>		<u>PHILLIPS SUBWATERSHED</u>	
G 1	820	P 1	935
G 2	820	P 2	940
G 3	820	P 3	940
G 4	820	P 4	940
G 5	820	P 5	940
G 6	820	P 6	940
G 7	780	P 7	1160
		P 8	1160
		P 9	1160
		P 10	960
		P 11	1000
<u>JENNINGS RUN SUBWATERSHED</u>		<u>UPPER REDSTONE SUBWATERSHED</u>	
J 1	1120	UR 1	1060
		UR 2	1040
		UR 3	1000
<u>WEST LEISENRING SUBWATERSHED</u>		<u>BROWNS RUN SUBWATERSHED</u>	
WL 1	940	N 1	1220
WL 2	940	N 2	1180
WL 3	940	N 3	1140
WL 4	940	N 4	1160
WL 5	940	N 5	1160
WL 6	940	N 6	1140
WL 7	940	N 7	1180
WL 8	940	N 8	1140
WL 9	940	N 9	1120
WL 10	1080	N 10	1160
WL 11	1120	N 11	1140
WL 12	1100	N 12	1200
WL 13	1080	N 13	1240
WL 14	1080	N 14	1240
WL 15	1080	N 15	1240
WL 16	1080	N 16	1160
WL 17	1080		
WL 18	1090		
WL 19	1060		
WL 20	1060		
WL 21	1060		
WL 22	1060		
WL 23	1060		
WL 24	1060		
WL 25	1120		
WL 26	1220		
WL 27	980		