

NEIC

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AN INVENTORY OF BRINE DISCHARGES FROM
THE PENNSYLVANIA OIL AND GAS INDUSTRY
PENNSYLVANIA DEPARTMENT OF
ENVIRONMENTAL RESOURCES

DECEMBER 1987

National Enforcement Investigations Center, Denver

U.S. Environmental Protection Agency



Office of Enforcement

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING

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Denver, Colorado

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EXECUTIVE SUMMARY

I. INTRODUCTION

This report summarizes the results of an EPA study to compile an inventory of both known and potential sources of wastewater discharges from the oil and gas industry in Pennsylvania. The study was conducted by the National Enforcement Investigations Center (NEIC) at the request of the Deputy Regional Administrator, EPA Region III, Philadelphia. The study provided technical assistance to, and was conducted with the cooperation of, the Pennsylvania Department of Environmental Resources, Bureau of Oil and Gas Management (DER). Study results will be used by both DER and EPA in the environmental regulation of the oil and gas industry.

A variety of pollutants can be released to both surface and groundwaters as a result of the production of oil and gas. These can include sediment laden stormwater runoff from construction of access roads and drilling sites, or the fluids used/produced during well drilling or development or oil and gas production. Both Pennsylvania and EPA statutes and regulations are applicable to these pollutant releases and their sources. This study focuses on sources of known and potential discharges of produced fluids commonly referred to in the industry as brine.

Discharges of brine to surface waters are subject to regulation by the National Pollutant Discharge Elimination System (NPDES) permit program which is administered by DER in Pennsylvania with EPA oversight. All discharges of wastewater to surface waters from all types of municipal and industrial sources are required to apply for an NPDES permit. Prior to 1978, these permits were issued by EPA but they are now issued by DER. Most discharges from the oil and gas industry are relatively small in volume (<1,000 to 10,000 gallons per day). For this reason, the brine discharges were considered minor relative to other types of industrial discharges and received low priority for permit issuance and compliance monitoring by both EPA and DER. Many discharges existing in the mid-1970s were never permitted. Permit applications were not submitted for most of the new discharges resulting from the increased oil and gas activity during the last decade. As a result, no inventory of brine discharges existed prior to this study.

The major expansion of the oil industry during the early 1980s coupled with EPA emphasis on control of toxic pollutants in wastewater discharges have focused new emphasis on the issuance of permits to brine discharges. Studies have demonstrated the environmental impacts that can occur from brine discharges to small high quality streams. DER has modified its organization to place all environmental regulation of the oil and gas industry in the Bureau of Oil and Gas Management which made additional

resources available to address the regulation of brine discharges. This study was designed to compile available information into a brine discharge inventory to assist in the development of a brine discharge management strategy.

The objectives of this study were to 1) compile an inventory of sources of known and suspected/potential discharges of produced waters (brine) to waters of the Commonwealth (surface and groundwater) subject to NPDES permit and DER water quality management requirements and 2) develop a database system for DER use in updating and maintaining the inventory.

The study was limited to the compilation of existing information in environmental agency files. No field studies, sampling, site inspections, aerial photography or other similar activities were conducted specifically as part of this study. However, information was obtained from activities of these types which were conducted by regulatory agencies during the course of the study. Data compiled from file searches primarily covered the 1980 to September 1986 period. However, some NPDES permit file information dated back to as early as 1971. NPDES permit issuance status data are current through July 1987.

Most file information was obtained from EPA Region III and Pennsylvania DER files. Other sources of information included the Pennsylvania Fish Commission, the U.S. Fish and Wildlife Service, the U.S. Forest Service and the U.S. Coast Guard.

Geographically, the study included the western 24 counties that encompass practically all oil and gas activity in Pennsylvania [Figure 1]. With the exception of data on a few scattered discharges in other counties, most of the data concerned discharges in only seven counties. Six of these were in counties administered by the DER Bureau of Oil and Gas Management regional office in Meadville and included Elk, Forest, Jefferson, McKean, Venango and Warren counties. Minor inventory entries were made for Clarion, Crawford and Potter counties. In the Pittsburgh DER regional office, the inventory focused primarily on Indiana County with minor entries for Armstrong, Cambria, Clearfield, Washington and Westmoreland Counties.

Most of the discharges are in the Allegheny River watershed. A few are in the drainage area of the West Branch Susquehanna River to the east and a few are on tributaries of the Ohio River main stem. Sub-watersheds are identified down to the nearest named stream. For discharges in Special Protection watersheds designated by water quality standards, receiving streams classified as High Quality or Exceptional Value are identified. Wastewater discharges from industrial sources are usually not permitted in these watersheds.

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF OIL AND GAS MANAGEMENT

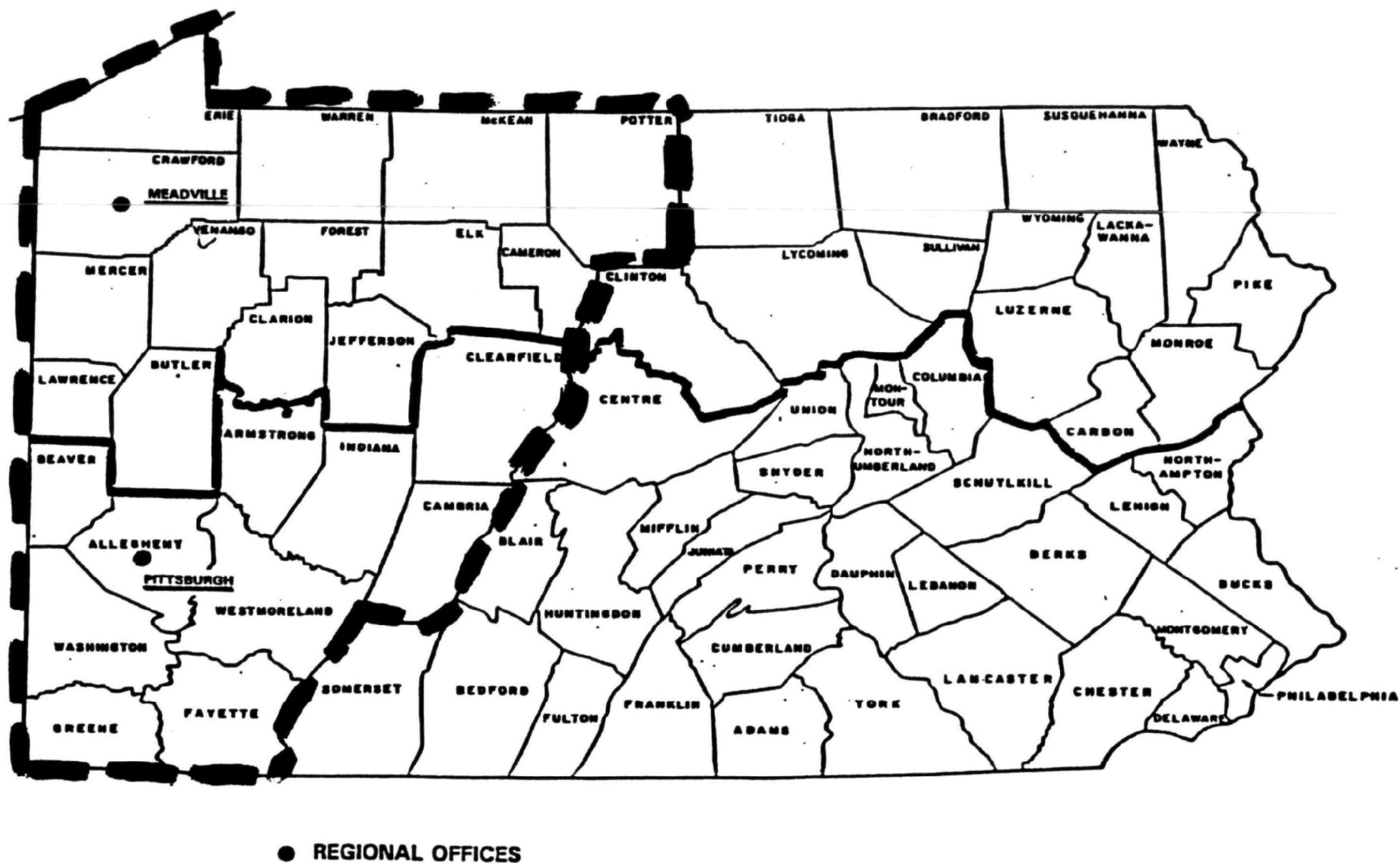


FIGURE 1. STUDY AREA

With the exception of Jefferson County, essentially all inventory entries in the Meadville Region reflect oil production activities. Jefferson County is essentially all gas production activity. In the Pittsburgh Region, oil activity occurs in Washington County and gas activity in the others.

This report summarizes the results of the study and discusses methodology, sources of information and briefly describes pertinent characteristics of the oil and gas industry. Ten appendices to this report contain a printed version of the inventory. Each appendix covers a county or portion of a county. It contains index tables similar to summary tables in this report, copies of USGS topographical map segments with locations of each known/potential discharge and a detailed information sheet for each discharge. The large appendices were produced in a limited number to assist field personnel in locating and verifying the status of each discharge. A User's Manual was prepared to provide instructions in the use of the computer database which is the electronic form of this inventory. Appendix titles are listed below:

- Appendix A. Eastern McKean County Brine Discharge Inventory
- Appendix B. Western McKean County Brine Discharge Inventory
- Appendix C. Eastern Warren County Brine Discharge Inventory
- Appendix D. Western Warren County Brine Discharge Inventory
- Appendix E. Northern Venango County Brine Discharge Inventory
- Appendix F. Southern Venango County Brine Discharge Inventory
- Appendix G. Forest County Brine Discharge Inventory
- Appendix H. Elk County Brine Discharge Inventory
- Appendix I. Jefferson County Brine Discharge Inventory
- Appendix J. Northern Indiana County Brine Discharge Inventory
- Appendix K. Southern Indiana County Brine Discharge Inventory

Section II of this report summarizes the results of this study. Information is presented on the statistics of the inventory, observations concerning the types of sources of discharges, brine disposal patterns and conclusions concerning follow-up actions.

Section III discusses study methods including sources of information, file search and data compilation procedures, development of index maps, development of the computer database system and preparation of summary tables. The reader is referred to the User's Manual for a detailed discussion of the computer database.

Section IV is a description of the pertinent characteristics of the oil and gas industry in Pennsylvania as they impact the scope and accuracy of the inventory. Sources of brine discharges such as stock tanks, tank batteries, and secondary recovery operations (water floods); brine disposal practices of both the oil and gas segments of the industry and other related factors are discussed.

A detailed discussion of each data element in the inventory is contained in Section V. Sources of each type of data, limitations on the use and reliability of data and interrelationships with other EPA and DER databases are explained.

Section VI contains detailed data summaries such as NPDES permit status, geographical distribution of discharges (county, township, farm, topographical map, watershed, etc.), lists of operators, types of discharge sources, etc. This section provides information of particular interest to program managers developing follow-up programs and environmental program oversight activities.

II. SUMMARY AND FINDINGS

SUMMARY

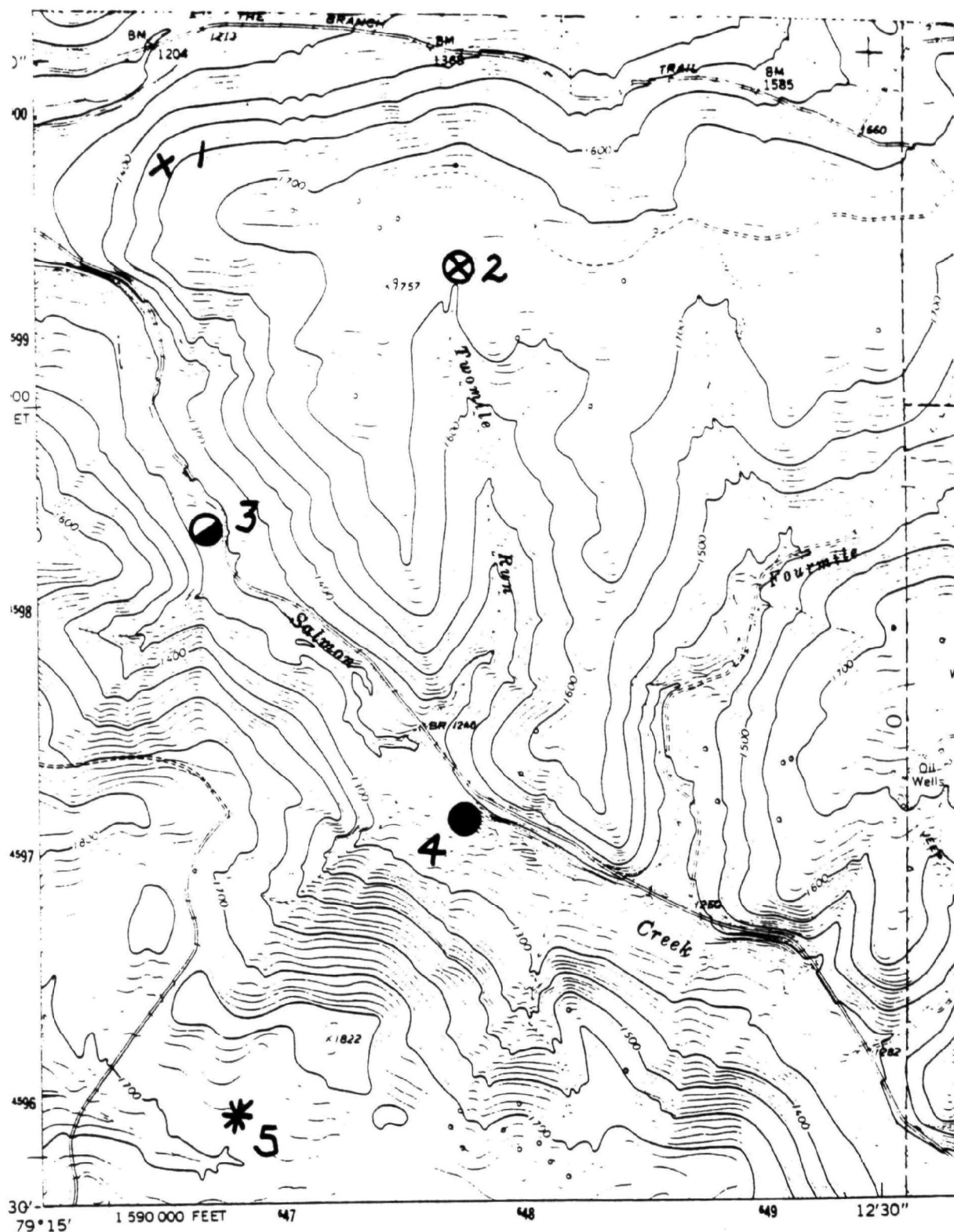
Study Methods

About 2,000 sources of known or potential discharges of brine from the oil and gas industry in Pennsylvania have been identified. Known discharges have been observed by regulatory agency personnel or are associated with facilities that have applied for NPDES permits. Potential discharges reflect the presence of the types of oil and gas facilities frequently associated with brine discharges.

This source inventory was compiled from information available in environmental/regulatory agency files through September 1986. This information consisted of NPDES applications and permits, DER enforcement files, DER well drilling permits, oil and gas company preparedness, prevention and contingency (PPC) plans, Pennsylvania Fish Commission maps and reports, EPA interpretations of aerial photographs of oil and gas fields, EPA emergency response field data, EPA blow box inventory field inspection data and EPA underground injection control (UIC) permits.

A comprehensive database system called "BRINE" was developed to assist in compilation of the discharge inventory and to assist DER in maintenance of the inventory. BRINE operates on IBM compatible personal computers using the commercial software "dBase III Plus". The data system is menu driven and requires no knowledge of dBase for normal use. A comprehensive User's Manual was also developed for system operators. The data system could easily be modified for use by other environmental agencies for maintenance of similar databases.

The discharge inventory exists in two forms, the computerized form contained in the database BRINE and a published form. About 2,000 sources of brine discharges were entered into BRINE. Each of the sources was plotted on standard 7.5 minute U.S. Geological Survey topographical maps (quads). The maps were divided into nine 2.5-minute sections for convenience in copying and locating discharges. Figure 2 is a sample map section showing discharge location map keys discussed in Section V. All discharges in the computer database are keyed to these map sections. All information on each source of discharge is compiled onto a single information sheet [Figure 3] keyed to the discharge location on the map section. The map sections and information sheets have been published in 11 appendices to this report totalling about 3,100 pages. Each appendix covers a county or about half a county in the case of Indiana, McKean, Venango and



Mapped, edited, and published by the Geological Survey
 Control by USGS and NOS/NOAA
 Topography by photogrammetric methods from aerial photographs



MAYBURG QUADRANGLE
 SECTION 7
 FIGURE 2. SAMPLE MAP SECTION

BRINE INVENTORY INFORMATION SHEET

07/29/87

DISCHARGE I.D. NUMBER: 614018

Geographical Area

County Code: 24 County Name: ELK
Township or Municipality Code: 907 Name: HIGHLAND TWP
USGS Quad Map Code: 614 Map Name: RUSSELL CITY Section: 9

Specific Location

Map Key No.: 18
Farm, Lease, Warrant or Lot: WT 2033
Latitude: 41-31-22 N Offset: 0 Feet South
Longitude: 78-55-03 W Offset: 0 Feet West

Oil and Gas Permit Information

Operator: PENNZOIL
Well Permit No.: Well Name:
Project No.: Project Name:
Well Type: OL Type of Operation: P

NPDES Permit Information

NPDES Permit No.: PA0105252
Facility Name: PENNZOIL
Address:
City: State: PA Zip:
Permit Status: CA Last Permitting Action Date: 08/27/86
Outfall No.: 001 Outfall Name: HIGHLAND PRESSURE PLANT
No. of Outfalls this Map Key No.: 1
Reported Discharge Volume: 13 Thousand Gallons per Day
Stream Receiving Discharge: HUNTER CREEK
Next Level Stream: SPRING CREEK
Special Protection Watershed Classification: HQ

Discharge Type and Source

Surface Discharge: X Groundwater Discharge:
Pit: 2 Tank: X Surface Impoundment: Blow Box:

Other Reference Information

EPA Emergency Response Identification No.:
Pennsylvania Fish Commission Identifier:
EPA Environm. Photo Interpr. Center (EPIC) Identifier:
EPA UIC Permit No.: PAS2R200ZELK
UIC Project Name: PENNZOIL-HIGHLAND PLANT
UIC Project Status: AC Last UIC Update: 02/18/86
A DER Enforcement Case File Exists:

Status of this Discharge Record: FR Last Record Update: 07/23/87

COMMENTS: HIGHLAND WATERFLOOD. BRINE REINJECTED. FILTER BACKWASH DISCHARGE.

Warren Counties. The appendix volumes are designed for field reference use and as index maps for locating each discharge.

The capabilities of BRINE assisted by some special programs were used to evaluate and summarize inventory data. Geographical distributions of discharges, watersheds receiving discharges, NPDES permit status, lists of operators, types of discharge sources and other data were extracted from the inventory. Most of these statistics and summary reports can be routinely generated by DER from BRINE as the inventory is periodically updated.

Oil and Gas Industry Characteristics

Traditional and historic characteristics of the oil and gas industry exert strong influences on current sources of brine discharges. Oil development in Pennsylvania began in 1859 in Venango County with major oil fields discovered and developed in McKean, Warren and Washington Counties in subsequent years. By 1970, oil development had spread through most of the areas currently producing oil but little new development was occurring. The oil price increases of the early 1970s resulted in major new oil development during the 1977-1984 period with the peak reached in 1984 when 12,000 well drilling permits were issued. This new activity was primarily in Elk, Forest, McKean, Venango and Warren Counties including portions of Allegheny National Forest. Very little new oil activity occurred in southwest Pennsylvania. Gas development was similar with most of the early development in the shallow gas fields of Indiana and Jefferson counties with some development also occurring in the oil fields. Newer activity has spread east and west of these areas as deeper gas fields have been developed.

Regulation of the environmental impacts of oil and gas development has occurred relatively recently in the history of the industry. Initial regulation focused on eliminating erosion and sediment discharge problems and containing oil spills and discharges. It has only been within the past five years that emphasis has been placed on controlling the disposal of brine.

The primary production of oil involves the pumping of oil and formation fluids to the surface, the separation of oil from the produced fluids (brine), the storage or transportation offsite of the oil and the subsequent disposal of the brine. Traditionally, the brine was discharged to "evaporation pits", unlined earthen pits adjacent to the wells or to the tank batteries receiving the oil. A tank battery is a cluster of storage tanks usually located near a group of wells on one oil lease. The evaporation pits usually allowed the brine to seep into the groundwater, discharge to surface streams or both.

This brine disposal method is still used by hundreds of tank batteries serving from 1 to 50 wells each. Discharges from

smaller leases with 10 or fewer wells frequently seep into the ground and do not directly reach surface waters and therefore are not subject to NPDES regulations. However, they are subject to DER regulations and DER has taken enforcement actions in the past five years at numerous tank batteries to require the pits to be lined and the brine to be disposed of in an approved manner. Discharges from some brine pits serving larger tank batteries received NPDES permits from EPA in the mid-1970s and some of these are still effective.

DER has initiated a program to eliminate brine discharges located in Special Protection watersheds. These watersheds have been classified by the Pennsylvania Water Quality Standards as warranting protection for their high water quality.

The DER regulation of brine discharges from pits has resulted in the use of other brine disposal methods involving the storage of brine at the tank battery in lined pits or storage tanks for subsequent offsite disposal or beneficial use. The brine may be hauled to a central facility for treatment and discharge to a larger surface stream. The central treatment facility may be Company owned or a commercial facility designed for this purpose. Some brine is also hauled to municipal wastewater treatment plants for co-treatment with municipal wastewaters. Beneficial off-site reuse of the brine includes spreading the brine on unpaved township roads for dust control or roadway stabilization or the mixing of the brine with road sand or cinders for deicing. Some brine is also disposed of by deep well injection.

Brine volumes from primary production are usually in the range of less than one barrel to 10 barrels of brine per barrel of oil. (A barrel is 42 gallons). Most tank batteries probably discharge less than 1,000 gallons of brine per day. Dissolved solids and chloride concentrations are in the range of 10,000 to 40,000 parts per million.

When primary production of oil is no longer economical, secondary recovery methods may be used to extract additional oil. This involves the injection of fluids into the production zone to increase pressure and force oil to the producing well. Oil and produced fluids are usually pumped from the producing wells although formation pressures may be adequate in some waterflood operations to flow oil and brine from the wells. Waterflood secondary recovery operations involve the injection of fresh water or recycled brine into the producing formation. This results in the production of large volumes of brine with the oil, sometimes as high as 10 to 100 barrels of brine per barrel of oil. If brine is reinjected, the characteristics of the produced fluid are similar to primary production brines. When fresh water is used, initial brine characteristics are similar to primary brines with concentrations decreasing with time. Some old water-

floods produce brine with dissolved solids concentrations less than 1,000 parts per million.

Because brine volumes from most waterflood operations are large (1,000 to 200,000 gallons per day), the traditional brine disposal method has been direct discharge to surface streams with minor treatment in several brine pits in series to remove floating oil and provide some settling. This disposal method is still predominant although some waterfloods recycle all produced fluids and have essentially no discharge. Most active waterfloods have applied for NPDES permits. Some have active permits and permit applications are under review by DER for others.

Gas flood operations involve the injection of natural gas into the oil producing formations. Brine volumes and characteristics are usually similar to primary production although brine concentrations may be lower. Brine disposal practices are essentially the same as for primary oil producers.

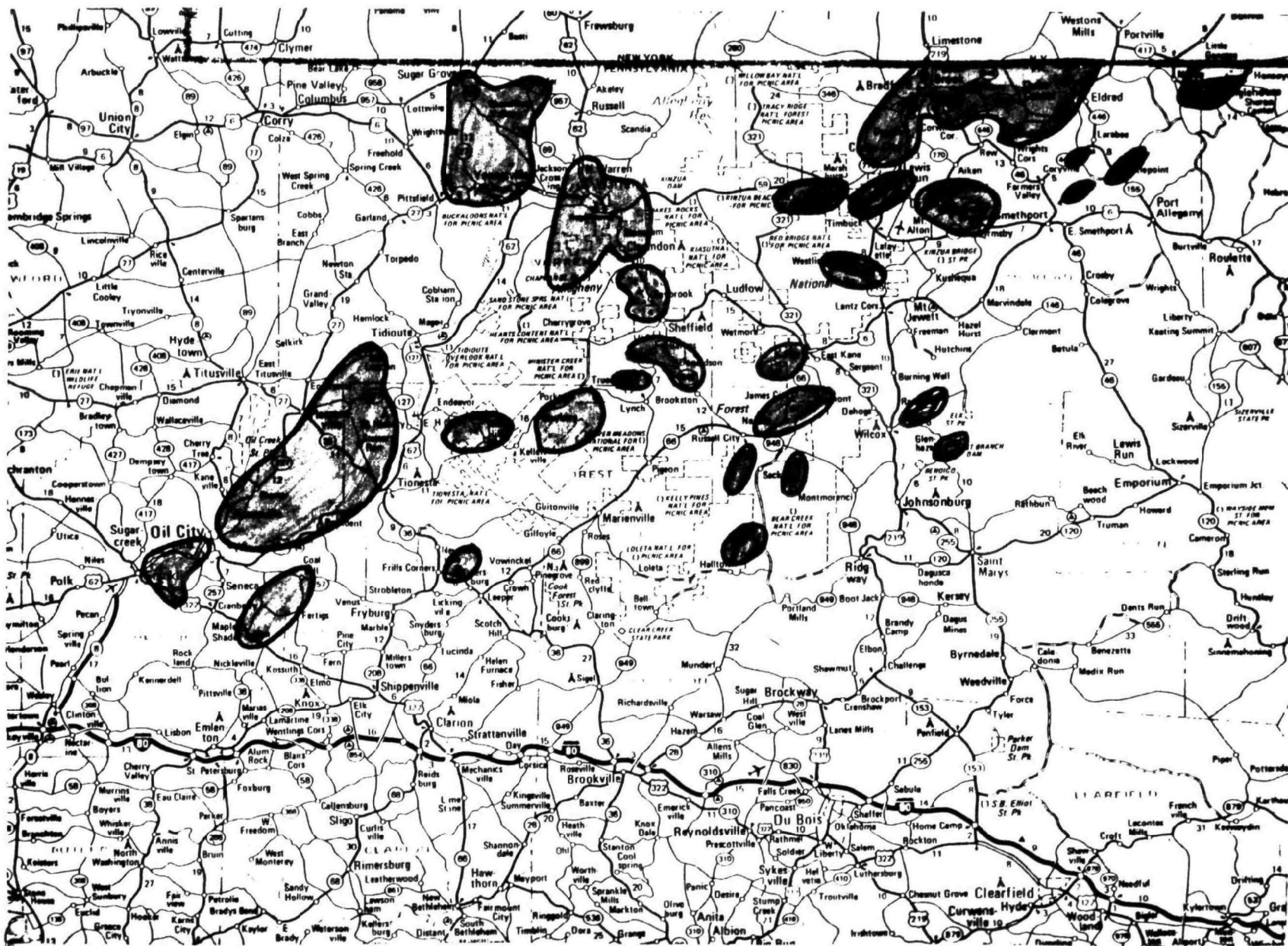
In contrast to the oil industry, gas wells are widely spaced and brine volumes per well are small, usually in the range of one to 100 barrels per well annually. This brine is highly concentrated, however, with dissolved solids and chloride concentrations usually in the range of 50,000 to 250,000 parts per million. The traditional brine disposal method at many gas wells was the "blow box", a bottomless concrete or wooden box in the ground. Brine was periodically blown out of the well into the blow box where it seeped into the groundwater or ran off over the ground surface. Sometimes wells were blown off directly into the air or onto the ground surface, a surface release. More recently, owners have been required to use a storage tank at the well site and haul brine offsite for treatment, disposal or beneficial reuse. Treatment may be at a Company-owned or commercial central facility with discharge to a surface stream or at a municipal wastewater treatment plant. Off-site reuse may be for dust control or roadbed stabilization on unpaved township roads or deicing of state highways. Some brine is disposed of in deep injection wells.

FINDINGS

Geographical Distribution of Brine Discharges

Brine discharges occur primarily in seven of the 30 western Pennsylvania counties with oil and gas developments. Oil brine discharges are mostly in McKean, Venango and Warren Counties with significant clusters in Elk and Forest Counties [Figure 4]. Gas brine discharges are more widely scattered and occur primarily in Indiana and Jefferson Counties. There are about 1,420 known/potential sources of oil brine discharges with all but 15 in the DER Meadville region. All but 125 of the about 580 known/potential sources of gas brine discharges are in the DER Pittsburgh

FIGURE 4. AREAS WITH OIL BRINE DISCHARGES



region. The inventory includes discharges in 15 counties and 106 townships [Table 1].

Oil and gas fields with brine discharges identified in this inventory cover about 10,000 square miles. Discharge density averages about one per five square miles but densities as high as five per square mile were observed. The highest discharge densities occurred near Bradford in McKean County, Pleasantville in Venango County, Sugar Grove/Chandlers Valley in Warren County and West Hickory in Forest County. The largest cluster of discharges was about 230 discharges concentrated in a 100 square mile area near Bradford.

Sources of brine discharge are distributed among more than 370 different receiving stream watersheds. Most of these are tributaries of the Allegheny River. The most discharges (241) occur in the Tunungwant Creek watershed surrounding Bradford. This watershed contains most of the waterflood activity. Other watersheds with numerous discharges include Brokenstraw (72) and Conewango (87) Creeks draining the Sugar Grove-Chandlers Valley-Youngsville areas of Warren County, Oil (40) and Pithole (127) Creeks in Venango County and Tionesta Creek (156) in Forest County. The Conemaugh River (157), Crooked Creek (127) and Mahoning Creek (220) drain the gas fields of Indiana and Jefferson Counties.

About 397 sources of brine discharge are located in Special Protection watersheds. Most are in High Quality watersheds with 27 in Exceptional Value watersheds. About 240 are oil field sources which are distributed among Elk (50), Forest (50), McKean (70), and Warren (70) Counties with none in Venango County. Gas well sources are mainly in Indiana County (131).

NPDES Permit Status

NPDES permit information (old or current permit applications, expired permits and effective permits) was available for 267 sources of oil brine discharges and two sources of gas brine discharges, about 13 percent of the inventory [Table 2]. These sources represent more than 338 individual outfalls with reported flow volumes of more than 3.3 mgd. About two-thirds of this flow was from waterflood operations.

About 225 sources of discharge with NPDES permit numbers were in McKean County, most in the Tunungwant Creek watershed. Warren County had 29 sources and the remaining 15 sources were in Forest, Jefferson and Venango Counties. With the exception of nine central brine treatment plants and two waterflood outfalls, all of these sources of discharge were in existence prior to 1978 and submitted their initial permit applications in the 1971-78 time period.

Table 1. Summary of Discharges by County and Township

<u>County</u>	<u>Township/Municipality</u>	<u>Discharges</u>
ARMSTRONG		(38)
	COWANSHANNOCK TWP	13
	PLUMCREEK TWP	7
	REDBANK TWP	11
	WAYNE TWP	7
CAMBRIA	BLACKLICK TWP	2
CLARION		(6)
	ASHLAND TWP	1
	FARMINGTON TWP	5
CLEARFIELD		(30)
	BELL TWP	16
	BRADY TWP	1
	BURNSIDE TWP	12
	SANDY TWP	1
CRAWFORD	OIL CREEK TWP	1
ELK		(68)
	HIGHLAND TWP	32
	JONES TWP	29
	RIDGWAY TWP	1
	SPRING CREEK TWP	6
FOREST		(198)
	GREEN TWP	2
	HARMONY TWP	125
	HICKORY TWP	9
	HOWE TWP	32
	KINGSLEY TWP	25
	TIONESTA TWP	5
INDIANA		(371)
	ARMSTRONG TWP	4
	BANKS TWP	23
	BLACK LICK	4
	BRUSHVALLEY TWP	22
	BUFFINGTON TWP	5
	BURRELL	1
	CANOE TWP	14
	CENTER TWP	9
	CHERRYHILL TWP	29
	CONEMAUGH	2
	EAST MAHONING TWP	30
	GRANT TWP	40

Table 1. (Cont.) Summary of Discharges by County and Township

<u>County</u>	<u>Township/Municipality</u>	<u>Discharges</u>
	GREEN TWP	7
	MONTGOMERY TWP	8
	NORTH MAHONING TWP	19
	PINE TWP	1
	RAYNE TWP	54
	SOUTH MAHONING TWP	39
	WASHINGTON TWP	14
	WEST MAHONING TWP	9
	WHITE TWP	31
	YOUNG TWP	6
	JEFFERSON	(125)
	BELL TWP	12
	CLOVER TWP	1
	ELDRED TWP	1
	GASKILL TWP	11
	HEATH TWP	4
	HENDERSON TWP	9
	KNOX TWP	2
	MCCALMONT TWP	14
	OLIVER TWP	7
	PERRY TWP	8
	PINECREEK TWP	2
	PORTER TWP	4
	RINGGOLD TWP	20
	ROSE TWP	4
	SNYDER TWP	1
	WARSAW TWP	1
	WASHINGTON TWP	1
	WINSLOW TWP	16
	YOUNG TWP	7
	MCKEAN	(432)
	BRADFORD BORO	45
	ANNIN TWP	8
	BRADFORD TWP	80
	CERES TWP	5
	CORYDON TWP	13
	ELDRED TWP	20
	FOSTER TWP	79
	HAMILTON TWP	10
	HAMLIN TWP	4
	KEATING TWP	43
	LAFAYETTE TWP	59
	OTTO TWP	51
	WETMORE TWP	15

Table 1. (Cont.) Summary of Discharges by County and Township

<u>County</u>	<u>Township/Municipality</u>	<u>Discharges</u>
POTTER	SHARON TWP	7
VENANGO		(334)
	ALLEGHENY TWP	88
	CHERRYTREE TWP	2
	CORNPLANTER TWP	66
	CRANBERRY TWP	49
	OIL CREEK TWP	20
	PINEGROVE TWP	14
	PRESIDENT TWP	60
	ROCKLAND TWP	1
	SANDYCREEK TWP	6
	SUGARCREEK TWP	28
WARREN		(359)
	BROKENSTRAW TWP	69
	CHERRY GROVE TWP	2
	CONEWANGO TWP	11
	DEERFIELD TWP	9
	ELDRED TWP	5
	FARMINGTON TWP	11
	GLADE TWP	20
	MEAD TWP	38
	PITTSFIELD TWP	1
	PLEASANT TWP	53
	SHEFFIELD TWP	35
	SOUTHWEST TWP	15
	SPRING CREEK TWP	1
	SUGAR GROVE TWP	65
	TIDIOUTE BORO	1
	TRIUMPH TWP	12
	WATSON TWP	11
WASHINGTON	CECIL TWP	15
WESTMORELAND	DERRY TWP	14
MEADVILLE REGION SUBTOTAL		1530
PITTSBURGH REGION SUBTOTAL		470
INVENTORY TOTAL		2000

Table 2 NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Key	Receiving Stream	
0002348	QUAKER STATE OIL REFINING CORP	AP	02/13/84	1	88	DERRICK CITY	4	68	KENDALL CREEK	
0002968	QUAKER STATE OIL REFINING CORP	OD	01/01/72	1	10	BRADFORD	8	72	Kissem Run	
0003263	Witco Chemical Corp	EX	03/28/77	5	170	BRADFORD		819	W BR TUNUNGWANT CREEK	HQ
0003271	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	39	ELDRED	1	1	KNAPP CREEK	HQ
0003280	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	14	DERRICK CITY	1	16	FOSTER BROOK	
0003298	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	1	15	FOSTER BROOK	
0003301	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	21	DERRICK CITY	2	28	PENNBROOK RUN	
0003310	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	54	DERRICK CITY	2	46	FOSTER BROOK	
0003328	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	54	DERRICK CITY	3	57	FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	67	DERRICK CITY	2	30	FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	2	33	FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	2	37	UNT FOSTER BROOK	
0003344	WITCO CHEMICAL CORPORATION	EX	03/28/77	4	55	BRADFORD	9	821	E BR TUNUNGWANT CREEK	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	60	BRADFORD	9	91	SHEPPARD RUN	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	18	BRADFORD	9	92	SHEPPARD RUN	
0003341	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	39	BRADFORD	9	93	SHEPPARD RUN	
0035840	MINARD RUN OIL COMPANY	OA	04/08/74	2	10	LEWIS RUN	2	8	LEWIS RUN	
0035858	MINARD RUN OIL COMPANY	OA	04/22/74	2	1	LEWIS RUN	5	31	LEWIS RUN	
0035866	MINARD RUN OIL COMPANY	EX	10/24/81	1	10	LEWIS RUN	5	28	LEWIS RUN	
0035874	MINARD RUN OIL COMPANY	OD	01/01/76	1	5	LEWIS RUN	2	7	LEWIS RUN	
0036510	MINARD RUN OIL COMPANY	EX	10/20/81	1	10	LEWIS RUN	5	27	LEWIS RUN	
0036528	MINARD RUN OIL COMPANY	EX	10/31/81	1	10	LEWIS RUN	5	23	LEWIS RUN	
0036536	MINARD RUN OIL COMPANY	EX	01/29/82	1	1	LEWIS RUN	2	10	LEWIS RUN	
0036544	MINARD RUN OIL COMPANY	EX	10/28/81	1	10	LEWIS RUN	5	50	LEWIS RUN	
0036552	MINARD RUN OIL COMPANY	EX	10/28/81	1	10	LEWIS RUN	5	49	LEWIS RUN	
0036838	HOWARD H HOLMES	OA	06/27/74	2	0	ELDRED	4	301	S BR KNAPP CREEK	
0036901	MINARD RUN OIL CO	OA	07/01/74	1	5	BRADFORD	6	48	E BR TUNUNGWANT CREEK	
0036919	MINARD RUN OIL CO	OA	07/01/74	1	5	BRADFORD	6	44	UNNAMED TRIB	
0036927	MINARD RUN OIL CO	EX	01/22/82	1	10	BRADFORD	6	47	E BR TUNUNGWANT CREEK	
0036935	MINARD RUN OIL CO	EX	01/22/82	1	5	BRADFORD	6	38	UNNAMED TRIB	
0036943	MINARD RUN OIL CO	OA	07/01/74	1	92	BRADFORD	6	40	UNNAMED TRIB	
0036951	MINARD RUN OIL CO	EX	01/22/82	1	5	BRADFORD	6	45	E BR TUNUNGWANT CREEK	
0037001	LOUIS ONOFRIO	OA	07/01/74	1	0	BRADFORD	6	23	W BR TUNUNGWANT CREEK	
0037001	LOUIS ONOFRIO	OA	07/01/74	1	0	BRADFORD	6	24	W BR TUNUNGWANT CREEK	
0037010	ROBERT P LEWIS	OA	07/01/74	1	0	ELDRED	9	802	POTATO CREEK	
0037029	MIDDLEBROUGH OIL COMPANY	EX	06/18/82	5	0	DERRICK CITY	5	77	UNT KENDALL CREEK	
0037036	BR/NER INTERESTS	AE	08/19/81	1	0	DERRICK CITY	1	8	FOSTER BROOK	
0037036	BR/NER INTERESTS	AE	08/19/81	1	0	DERRICK CITY	1	9	FOSTER BROOK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	90	E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	52	W BR TUNUNGWANT CREEK	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	53	W BR TUNUNGWANT CREEK	HQ
0037036	BR/NER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	55	CROOKER HOLLOW	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	8	60	CROOKER HOLLOW	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	77	E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	86	E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	87	E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	85	E BR TUNUNGWANT CREEK	
0037168	E E CARLSON OIL CO	OA	07/09/74	1	0	DERRICK CITY	1	1	TUNUNGWANT CREEK	
0037168	E E CARLSON OIL CO	OA	07/09/74	1	0	DERRICK CITY	1	2	TUNUNGWANT CREEK	
0037176	WEAVER OIL CO	EX	08/19/81	2	1	BRADFORD	3	1	BIERSLEY STREAM	
0037184	JOHN DOBSON OIL COMPANY	OA	07/04/74	1	0	DERRICK CITY	1	19	TUNUNGWANT CREEK	
0037184	JOHN DOBSON OIL COMPANY	OA	07/04/74	1	0	DERRICK CITY	1	11	TUNUNGWANT CREEK	
0037192	RONALD A DENNIS	OA	07/11/74	1	0	BRADFORD	6	817	E BR TUNUNGWANT CREEK	
0037192	RONALD A DENNIS	OA	07/11/74	1	0	BRADFORD	6	818	E BR TUNUNGWANT CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	108	N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	105	N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	104	N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	106	N BR COLE CREEK	
0037214	FRANCES D CROWLEY	OA	07/11/74	3	1	BULLIS MILLS	8	801	ROCK RUN	
0037222	PHILIP M ROSE	OA	07/11/74	1	4	BRADFORD	3	8	E BR TUNUNGWANT CREEK	
0037221	PHILIP M ROSE	AE	09/19/81	1	0	BRADFORD	9	820	E BR TUNUNGWANT CREEK	
0037249	PECORA ENTERPRISES	OD	05/17/78	1	0	DERRICK CITY	4	70	RUTHERFORD RUN	
0037257	JEEP OIL COMPANY	OD	07/11/74	1	0	ELDRED	4	29	S BR KNAPP CREEK	
0037257	JFEP OIL COMPANY	OD	07/11/74	1	0	ELDRED	7	32	S BR KNAPP CREEK	
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	2	BUCK LICK RUN	HQ
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	3	BUCK LICK RUN	HQ
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	1	BUCK LICK RUN	HQ
0037281	FLOR-PENN PETROLEUM CORP	CA	07/11/74	1	0	MAYBURG	3	9	HASTINGS RUN	

Table 2 (Cont) NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Key	Receiving Stream	
0037281	FLOR-PENN PETROLEUM CO	OA	07/11/74	1	1	LYNCH	4	3	WEST BRANCH	
0037281	FLOR-PENN PETROLEUM CORP	OA	07/11/74	0	1	MAYBURG	8	26	FOURMILE RUN	HQ
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	27	W BR TUNUNGWANT CREEK	EV
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	31	E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	32	E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	34	E BR TUNUNGWANT CREEK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	DERRICK CITY	2	38	FOSTER BROOK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	DERRICK CITY	8	96	S BR COLE CREEK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	CYCLONE	2	6	S BR COLE CREEK	
0037362	TYLER OIL CO	OA	07/15/74	1	0	DERRICK CITY	6	83	S BR KNAPP CREEK	
0037371	L E MALLORY & SON	OA	07/15/74	4	1	WESTLINE	2	801	SUGAR RUN	HQ
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	801	TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	802	TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	803	TUNUNGWANT CREEK	
0037339	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	804	TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	805	TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	806	TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	807	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	808	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	809	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	810	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	811	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	812	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	813	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	814	E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	815	E BR TUNUNGWANT CREEK	
0037401	THORTON CO	OA	07/15/74	3	0	LEWIS RUN	1	4	LEWIS RUN	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	4	20	KNAPP CREEK	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	4	21	KNAPP CREEK	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	5	31	KNAPP CREEK	
0037427	PHILIP E KAHLE	OA	07/15/74	6	17	DERRICK CITY	3	51	KNAPP CREEK	
0037435	KINLEY OIL & GAS CORPORATION	AE	08/19/81	1	10	BRADFORD	9	78	E BR TUNUNGWANT CREEK	
0037443	DONALD PETERSON	OA	07/16/74	6	0	DERRICK CITY	1	801	FOSTER BROOK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	103	N BR COLE CREEK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	101	N BR COLE CREEK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	102	BORDELL BROOK	
0037478	EDMONDS OIL CO	AE	08/19/81	1	0	BRADFORD	6	21	BENNETT BROOK	
0037478	EDMONDS OIL CO	AE	08/19/81	1	0	BRADFORD	6	22	BENNETT BROOK	
0037486	PHILIP M ROSE	AE	08/19/81	1	0	DERRICK CITY	7	87	MINARD RUN	
0037508	JACOB L FARRELL	OA	07/16/74	6	1	BRADFORD	8	73	KISSEM RUN	HQ
0037516	GARY ORA MORTON	OA	07/17/74	1	0	DERRICK CITY	0	802	TUNUNGWANT CREEK	
0037524	ROBERT J PURTLE	OA	07/18/74	2	0	BRADFORD	5	54	W BR TUNUNGWANT CREEK	HQ
0037567	RUSSEL A BRENNAN	OA	07/22/74	4	0	ELORED	1	2	KNAPP CREEK	
0037605	NORTH EAST NATURAL GAS CO	OA	07/15/74	1	1	LUOWLOW	9	1	E BR TIONESTA CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	2	W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	11	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	15	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	16	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	12	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	7	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	10	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	5	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	9	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	6	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	17	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	3	W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	37	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	43	RUTHERFORD RUN	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	46	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	DERRICK CITY	1	5	FOSTER BROOK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	DERRICK CITY	1	6	FOSTER BROOK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	7	58	W BR TUNUNGWANT CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	7	59	W BR TUNUNGWANT CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	4	W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	19	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	35	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	36	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	18	E BR TUNUNGWANT CREEK	

Table 2 (Cont) NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Key	Receiving Stream	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	13	E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	14	E BR TUNUNGWANT CREEK	
0037648	OIL VALLEY OIL CO	OD	07/21/74	2	0	ELDRED	1	804	KNAPP CREEK	
0037656	I L GEER OIL FIELD SERVICES	OD	07/19/74	1	0	SHEFFIELD	1	2	W BR TIONESTA CREEK	
0037656	I L GEER OIL FIELD SERVICES	OD	07/19/74	1	0	SHEFFIELD	1	10	ARNOT RUN	
0037656	I L GEER OIL FIELD SERVICES	OD	07/29/74	2	1	CLARENDON	4	10	DUTCHMAN RUN	EV
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	3	KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	1	KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	2	KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	4	PIERCE BROOK	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	5	KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	33	MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	34	MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	35	MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	36	MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	37	MOODY HOLLOW	
0037672	OAKES OIL COMPANY	EX	11/11/79	2	1	LYNCH	1	801	HASTINGS RUN	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	25	W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	26	W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	28	W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	29	W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	30	W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	33	E BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	20	E BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	DERRICK CITY	1	12	FOSTER BROOK	
0037826	ARTHUR E EKAS	OA	08/06/74	2	10	DERRICK CITY	9	805	N BR COLE CREEK	
0037877	G L NIPPERT EST	EX	10/30/81	2	0	BRADFORD	8	76	UNNAMED TRIB	
0037885	NORRIS FARM (MRS LEONARD JOHNS	OA	08/06/74	4	1	BRADFORD	9	822	SUGAR RUN	HQ
0037885	NORRIS FARM (MRS LEONARD JOHNS	OA	08/06/74	1	5	BRADFORD	9	823	E BR TUNUNGWANT CREEK	
0038059	ANNIN CREEK OIL CORP	OA	08/12/74	3	1	BULLIS MILLS	8	5	ANNIN CREEK	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	52	TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	53	TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	54	TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	55	TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	56	TRAM HOLLOW RUN	
0038334	RICHARD A MERRY	OD	08/26/74	2	0	DERRICK CITY	0	804	KENDALL CREEK	
0038342	D-Y-M CORP	OA	09/03/74	1	10	LEWIS RUN	8	37	PINE RUN	HQ
0038342	D-Y-M CORP	OA	09/03/74	1	10	LEWIS RUN	8	40	TOWN LINE RUN	HQ
0038377	HEIRS OIL CO		/ /	1	0	ELDRED	4	15	TRAM HOLLOW RUN	
0038423	MINARD RUN OIL COMPANY	EX	02/04/82	1	97	DERRICK CITY	7	90	FOSTER HOLLOW	
0038431	MINARD RUN OIL COMPANY	EX	01/29/82	1	0	DERRICK CITY	8	94	KENDALL CREEK	
0038440	LINDA & ROGER FARRELL	OA	02/13/75	2	0	DERRICK CITY	1	803	FOSTER BROOK	
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	BRADFORD	5	50	W BR TUNUNGWANT CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	2	WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	3	WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	4	WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	5	WILLOW CREEK	HQ
0038512	BOUQUIN, FRED C	OA	09/13/74	2	0	BRADFORD	6	816	E BR TUNUNGWANT CREEK	
0038521	D-Y-M CORPORATION	EX	10/30/81	1	0	CYCLONE	5	22	McQUEEN HOLLOW	
0038521	D-Y-M CORPORATION	EX	10/30/81	1	0	CYCLONE	2	14	McQUEEN HOLLOW	
0038539	DYM CORPORATION	OD	05/31/77	1	0	DERRICK CITY	9	107	N BR COLE CREEK	
0038636	TRAM HOLLOW OIL COMPANY	OA	09/24/74	3	0	DERRICK CITY	2	25	HARRISBURG RUN	
0038636	TRAM HOLLOW OIL COMPANY	OA	09/24/74	3	0	DERRICK CITY	3	111	TRAM HOLLOW RUN	
0038831	HAINES & MEACHAM	OA	10/21/74	2	1	SHINGLEHOUSE	2	7	HONEYOYE CREEK	
0038971	GEARY P MEAD	OA	10/31/74	2	5	WARREN	6	24	MORRISON RUN	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	1	1	GLADE RUN	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	2	3	ALLEGHENY RIVER	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	2	4	ALLEGHENY RIVER	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	4	5	ALLEGHENY RIVER	
0039047	W F DEVLIN & GENEVIVE DEVLIN	OA	11/11/74	2	0	DERRICK CITY	5	76	UNT KENDALL CREEK	
0039195	DAVID THELIN OIL CO	OA	11/14/74	1	1	WARREN	2	801	UNNAMED TRIBUTARY	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	7	32	BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	7	33	BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	8	34	BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	8	35	BUSH CREEK	
0039527	CURTIS OIL COMPANY	OA	12/20/74	2	0	ELDRED	4	803	KNAPP CREEK	
0039560	GEORGE W FOX	OA	12/20/74	2	1	YOUNGSVILLE	6	42	LENHART RUN	
0039616	L M LILL/ ESTATE	OA	12/18/74	1	1	LEWIS RUN	1	801	LEWIS RUN	

Table 2 (Cont) NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Key	Receiving Stream	
0039675	NEIL J SHARP	OA	01/07/75	2	1	CLARENDON	7	16	TIONESTA CREEK	
0039713	CHARLES G BENSON	OA	12/04/74	2	0	LEWIS RUN	2	13	LEWIS RUN	
0039713	CHARLES G BENSON	OA	12/04/74	1	0	LEWIS RUN	3	18	E BR TUNUNGWANT CREEK	
0039713	CHARLES G BENSON	OA	12/04/74	1	0	LEWIS RUN	3	19	E BR TUNUNGWANT CREEK	
0039773	KENNETH D SHERRY	OA	01/15/75	2	1	WARREN	5	54	MORRISON RUN	
0039781	CLARENDON PRODUCING CO	OA	01/15/75	1	0	CLARENDON	4	7	DUTCHMAN RUN	
0039781	CLARENDON PRODUCING CO	OA	01/15/75	1	0	CLARENDON	8	17	TIONESTA CREEK	
0039799	NORTH PENN PRODUCING CO	OA	01/15/75	2	1	SHEFFIELD	1	1	W BR TIONESTA CREEK	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	1	SHEFFIELD	2	13	WOLF RUN	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	0	CLARENDON	4	8	DUTCHMAN RUN	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	0	CLARENDON	8	19	TIONESTA CREEK	
0039811	J H GIBSON HEIRS	OA	01/13/75	4	0	DERRICK CITY	5	75	UNT KENDALL CREEK	
0040215	MOORE, BYERS & STOREY	OA	02/24/75	1	1	SUGAR GROVE	5	45	JACKSON RUN	
0041955	MINARD RUN OIL COMPANY	OA	09/24/75	1	0	LEWIS RUN	5	51	LEWIS RUN	
0041963	MINARD RUN OIL COMPANY	OA	09/24/75	1	0	LEWIS RUN	5	32	LEWIS RUN	
0041980	MINARD RUN OIL COMPANY	OA	05/10/74	1	151	LEWIS RUN	2	9	LEWIS RUN	
0041998	MINARD RUN OIL COMPANY	OA	09/24/75	1	50	LEWIS RUN	5	25	LEWIS RUN	
0042382	MINARD RUN OIL COMPANY	OA	12/02/75	1	60	LEWIS RUN	5	26	LEWIS RUN	
0042595	WITCO OIL COMPANY	CA	09/22/86	1	66	DERRICK CITY	5	74	KENDALL CREEK	
0042986	ALL'S WELL OIL WELLS LTD	OA	05/13/76	1	0	LEWIS RUN	1	5	BUCK LICK RUN	HQ
0043150	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	22	DERRICK CITY	6	79	BAKER RUN	
0043923	QUAKER STATE OIL REFINING CORP	OD	03/21/78	1	0	BRADFORD	5	51	W BR TUNUNGWANT CREEK	HQ
0044253	QUAKER STATE OIL REFINING CORP	AP	03/04/77	1	0	DERRICK CITY	4	61	KENDALL CREEK	
0044610	QUAKER STATE OIL REFINING CORP	OA	05/05/77	1	10	BRADFORD	5	57	NILES HOLLOW	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	95	BRADFORD	5	56	CROOKER HOLLOW	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	20	BRADFORD	8	70	SHEPPARD RUN	
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	37	BRADFORD	8	66	SHEPPARD RUN	
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	43	BRADFORD	8	63	TOME HOL	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	19	BRADFORD	8	68	SHEPPARD RUN	
0045454	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	13	DERRICK CITY	1	113	FOSTER BROOK	
0045462	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	1	112	FOSTER BROOK	
0045471	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	21	DERRICK CITY	2	114	PENNBROOK RUN	
0045489	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	2	116	FOSTER BROOK	
0045497	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	3	115	FOSTER BROOK	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	60	BRADFORD	9	79	SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	18	BRADFORD	9	80	SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	12	BRADFORD	9	89	E BR TUNUNGWANT CREEK	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	39	BRADFORD	9	84	SHEPPARD RUN	
0046035	BROKENSTRAW OIL CORP	OA	11/29/77	1	1	SUGAR GROVE	8	74	IRVINE RUN	
0046035	BROKENSTRAW OIL CORP	OA	11/29/77	1	1	SUGAR GROVE	8	802	IRVINE RUN	
0046051	ALCONQUIN #4	OA	11/29/77	1	0	WARREN	8	33	MORRISON RUN	
0101508	FRANKLIN BRINE TREATMENT CO	CP	11/24/82	1	205	KENNERDELL	2	3	ALLEGHENY RIVER	
0101656	CONSOLIDATED GAS TRANSP CORP	CP	04/21/83	1	10	MCGEES MILLS	1	27	STUMP CREEK	
0101958	J & J ENTERPRISES	CP	10/02/84	1	3	DUBOIS	5	4	SUGARCAMP RUN	HQ
0102776	PENNZOIL COMPANY	DP	10/20/86	1	299	LEWIS RUN	8	46	KINZUA CREEK	
0102784	ENVIRONMENTAL DEVELOPMENT CORP	CP	03/13/86	1	213	WARREN	3	78	ALLEGHENY RIVER	
0102806	PENNZOIL COMPANY	CA	06/07/85	1	147	CYCLONE	2	15	PANTHER RUN	
0102890	RETURN OIL CORPORATION	CP	08/27/86	1	50	TIDIOUTE	6	4	ALLEGHENY RIVER	
0102903	MOODY & ASSOCIATES	CP	01/26/87	1	42	KENNERDELL	2	2	ALLEGHENY RIVER	
0102989	QUAKER STATE OIL REFINING CORP	DP	12/05/86	1	42	WARREN	4	7	GRUNDER RUN	
0103001	QUAKER STATE OIL REFINING CORP	CP	01/14/87	1	42	PRESIDENT	3	49	ALLEGHENY RIVER	
0103012	QUAKER STATE OIL REFINING CORP	CP	02/10/87	1	42	PRESIDENT	4	50	ALLEGHENY RIVER	
0105198	RO WAY Oil & Gas, Inc	CP	01/20/87	1	200	KENNERDELL	2	1	ALLEGHENY RIVER	
0105201	PENNZOIL OIL CO	CA	08/18/86	1	52	DERRICK CITY	4	62	KENDALL CREEK	
0105210	PENNZOIL OIL COMPANY	CA	08/18/86	1	1	WESTLINE	2	2	N FORK CHAPPEL FORK	HQ
0105228	PENNZOIL	CA	08/18/86	1	28	DERRICK CITY	2	42	FOSTER BROOK	
0105236	PENNZOIL	CA	10/26/86	1	13	KANE	7	3	E BR TIONESTA CREEK	HQ
0105244	PENNZOIL	CA	10/20/86	1	14	ELDRED	4	16	TRAM HOLLOW RUN	
0105244	PENNZOIL	CA	10/20/86	1	3	ELDRED	4	39	S BR KNAPP CREEK	
0105244	PENNZOIL	CA	10/20/86	1	1	ELDRED	4	18	S BR KNAPP CREEK	
0105244	PENNZOIL	CA	10/20/86	1	3	ELDRED	4	40	BERGER HOL	
0105244	PENNZOIL	CA	10/20/86	1	1	ELDRED	4	25	BERGER HOL	
0105252	PENNZOIL	CA	08/27/86	1	13	RUSSELL CITY	8	18	HUNTER CREEK	HQ
0105252	PENNZOIL	CA	08/27/86	1	13	RUSSELL CITY	8	17	HUNTER CREEK	HQ
0112623	J J BUCHER PRODUCING CO	CP	06/13/85	1	15	SHINGLEHOUSE	2	10	OSWAYO CREEK	

*** Total ***

338 3264

DER has issued permits to 10 central brine treatment plants in the study area, most in the last two years. Permit applications for 20 sources of discharge are currently under review, 18 of which are waterflood operations. Two draft permits have been prepared, a large waterflood and a central brine treatment plant. DER administratively extended 9 expired EPA permits for 34 sources of discharge, all but one of which were primary producers. There are thus 19 active permits for 44 oil and gas facilities with applications in process for another 22.

Permits issued to 45 sources of discharge by EPA about 1974-77 expired in the 1977-82 time period and no renewal applications were submitted. These permits were for both waterfloods (27) and primary producers (18). The current status of these discharges is unknown.

Permit applications were submitted in the 1971-75 time frame for about 146 sources of discharge for which no permits were issued. Old draft permits were in the file for 20 of these sources. About 100 of these sources were primary producers with most indicating brines were discharged to "evaporation ponds". File data did not indicate why permits were not issued to these sources by EPA. Permit applications were received by EPA or DER in the 1977-78 time frame for 16 waterflood discharges but no permits were issued.

It is unknown how many of the 227 sources of discharge for which NPDES information was available represent discharges that should be regulated by a current NPDES permit. In addition to the 10 new permits and the 22 applications currently being processed, the 9 administratively extended permits and possibly the 16 applications received about 1978 are candidates for review. In addition, the 45 expired permits are also candidates. The universe for review is thus about 100 permits.

The number of old applications for which permits were never issued which may be discharges requiring permits is probably small. Most were discharges to evaporation pits which would likely elect alternate brine disposal methods rather than a direct discharge if required to obtain an NPDES permit. However, these potential discharges need to be verified.

Due to their larger discharge volumes and the requirement that injection wells be registered with EPA's underground injection control (UIC) program, it is likely that most active waterflood operations are known to DER and EPA. Therefore, it is likely that current permit applications have been received and are being reviewed for most active waterflood operations. Waterfloods are operated by only a handful of companies, most of which have been requested to submit current applications.

Table 2 shows that there are 136 separate permit numbers assigned to the 269 sources of discharge. The number of outfalls per permit ranged from one to 26. Permits with large numbers of outfalls were usually primary producers. Waterflood permits usually had from one up to five outfalls.

There were 81 different operators that had submitted permit applications or obtained permits. Witco Chemical Corporation had the most permits with 17.

Identification of Operator and Farm Names

Operator names were associated with each source of discharge whenever possible. If the operator name was not available from NPDES permit information or in the files, DER well permit files were reviewed and operator and farm names obtained if available. Changes in ownership of land and leases, multiple operators on the same farm or lease, differences between the operator and lease owner, etc. made identification of operators difficult. Operator names were obtained for about 66 percent of the discharges. Lack of well permit information for a specific map location was the most common reason for no operator identification. Recent well registrations may supply additional operator information.

About 250 different operators were identified. It is probable that many of these may no longer be in business or have changed names. The number of discharges per operator ranged up to more than 300 but most had less than five discharges and many only one. The 10 largest producers had about one-third of all discharges. Quaker State had the most potential sources of discharge (316) followed by Pennzoil (99), Compass Development (44) and Witco (43). Quaker State mainly has primary production tank batteries with brine treatment in central plants, Pennzoil is mainly a waterflood operator, Compass Development is mainly a gas flood operator and Witco a waterflood operator.

Farm names were identified for about 53 percent of the discharges. These were a combination of names from well drilling permits and from enforcement case files. They do not necessarily coincide with the farm names use by the DER well drilling permit files as the case files often referred to lease names and surface owners. Farm names are useful in field location of discharges.

Types of Discharge Sources

About 1,420 of the sources of discharge were associated with the oil industry. Most were from primary production facilities. There were 160 sources of discharge specifically identified with waterflood operations of which 87 were assigned NPDES permit numbers. All but nine of these waterflood secondary recovery operations were in McKean County. The 65 discharges originating from gas flood secondary recovery operations were divided among

Forest (35), Venango (22) and Warren (8) Counties.

About 500 of the oil brine discharges were specifically identified as having surface discharges. About half of these had NPDES permit numbers. The rest were mainly identified by the Pennsylvania Fish Commission and by DER enforcement case files.

Another third of the 1,420 sources were brine pits and tanks identified by the EPA surface impoundment assessment. These facilities might have been associated with drilling activities and may no longer exist. Field verification will be needed. Another 300 or more sources are probably tank batteries that are still in existence but may not have a brine discharge due to offsite disposal of brine. Field verification or oil company revision of PPC plans will be needed to verify the status of such facilities.

The inventory identified about 1,020 tank batteries and about 1,140 facilities with brine pits. Many had both present. This study clearly showed that brine discharges usually originate at tank batteries. No inventory of tank batteries exists although oil company PPC plans provide a partial inventory. It is clear that there is a need for a complete inventory of tank batteries to facilitate identification of brine discharge sites and assist in formulation of a brine management plan.

There are about 580 known/potential sources of brine discharges associated with gas wells included in this inventory. Known discharges are associated with the EPA blow box field survey that found various surface discharges from overflowing blow boxes, from brine pits, from storage tank drains and from surface releases, the blowing off of brine without blow boxes, tanks or pits. The potential discharges were identified by the EPIC surface impoundment assessment and blow box inventory aerial photography. Potential sources include brine pits (possibly drilling pits as well as disposal and storage pits), blow box overflows and surface releases. About 250 of the sources are associated with surface discharges detected by the blow box inventory and about 150 with brine pits identified by the surface impoundment assessment.

The combined EPA and DER enforcement efforts have resulted in the elimination of more than 2,000 blow boxes. Additional blow boxes are expected to be eliminated within the next year. Although the location of most of these blow boxes were known, they were not included in this inventory unless there was some file information that a discharge still existed. It is estimated that less than half of the 580 potential discharges identified by this study are active discharges not in compliance with regulations. It is probable that owners of most of the active discharges will choose to install storage tanks and haul brine offsite for disposal. Therefore, it is highly likely that none of the

580 gas well discharges identified in this inventory will require an NPDES permit for surface discharge. With the exception of two central brine treatment plants, none of the gas well sources have NPDES permits.

Field verification of the status of potential sources of gas well discharges identified in this inventory will require substantial resources. Gas wells are widely spaced and sometimes difficult to locate on the ground. New data which should be of major assistance to the follow up activities are the EPIC blow box map overlays showing the locations of all identified blow boxes and surface discharges with probable access roads. Field data sheets produced by EPA inspectors since the NEIC file review should also be of assistance.

TECHNICAL REPORT

III. STUDY METHODS

This section describes the methods used in this study to obtain, compile, evaluate, index and file inventory information. The study involved a series of activities including a reconnaissance trip to the study area, detailed searches of appropriate environmental agency files, review of available data, plotting of discharge locations on topographical maps, development of a database for use on DER personal computers and preparation of detailed inventory reports and a final report. Sources and types of information are discussed in general in this section. Section V discusses each type of information included in the inventory in detail. A general discussion of the development of the computer database "BRINE" is contained in this section. The reader is referred to the BRINE User's Manual for a more detailed discussion of the database.

RECONNAISSANCE TRIP

A reconnaissance trip was made in February 1986 to visit various offices believed to have information of interest, to interview appropriate staff and administrators and to view the oil and gas areas. This trip included EPA Region III program offices in Philadelphia, the US Fish and Wildlife Service in State College, the US Forest Service in Warren, and three Pennsylvania Department of Environmental Resources offices; the central office in Harrisburg and regional offices in Meadville and Pittsburgh. At each location, sample file information was reviewed and key personnel interviewed. The Forest Service and the Fish and Wildlife Service provided all appropriate data in their possession during the reconnaissance trip and were not revisited. Personnel from the Pennsylvania Fish Commission offices in Bellefonte and Lamar were interviewed in Pittsburgh and State College, respectively. A DER representative of the Williamsport regional office was interviewed in State College.

FILE SEARCHES

From the results of the reconnaissance trip, a study plan was developed and file searches scheduled. It was concluded that the file search should focus on the following agency and program offices. In addition to those offices visited in the reconnaissance trip, the Pennsylvania Fish Commission in Bellefonte, the US Coast Guard/EPA office in Bradford and the EPA Environmental Photographic Interpretation Center (EPIC) in Warrenton, Virginia were scheduled for visits. The following program offices were visited:

EPA Region III, Philadelphia
NPDES Permit Program
Underground Injection Control (UIC) Program
Emergency Response Program

Penn. Dept. of Environmental Resources, Harrisburg
Bureau of Oil and Gas Management
Bureau of Water Quality Management
Bureau of Waste Management

Pennsylvania Fish Commission, Bellefonte

EPA/US Coast Guard, Bradford
Emergency Response Program

Penn. Dept. of Environmental Resources, Meadville
Oil and Gas Management Program
Water Quality Management Program

Penn. Dept. of Environmental Resources, Pittsburgh
Oil and Gas Management Program
Water Quality Management Program

EPA Environmental Photographic Interpretation Center
Warrenton, Virginia

The main file searches were conducted in May 1986. At each office, pertinent file materials were reviewed and data of interest were microfilmed for further review at NEIC. Large documents such as topographical maps were photocopied. Where available, copies of reports and other multi-page documents were obtained.

The types of data available from each office varied significantly. Data of primary interest from the EPA Philadelphia office included old and current NPDES file information, information on UIC permits for secondary oil recovery projects, EPIC maps showing the location of potential surface discharges in gas fields and UIC inspector field data sheets from the blow box survey giving observations of additional surface discharges in the gas fields.

The NPDES data included microfiche copies of old permit application files that had not been turned over to DER when the NPDES program had been delegated to Pennsylvania, copies of some current permit applications, correspondence with various agencies concerning oil and gas discharges in western Pennsylvania and file data from the Forest Service and Pennsylvania Fish Commission. Additional data were later obtained from this office as several oil companies responded to specific requests for information on their discharges.

The UIC program provided two types of data. All secondary recovery operations that inject water or natural gas into producing formations are required to submit inventory information for injection wells. This program is administered by EPA. File information showed the location and status of all such operations. Detailed location maps were copied for correlation with NPDES and other program data. The second type of data were related to an ongoing program to eliminate brine discharges to groundwater from gas wells through "blow boxes" described in more detail in Section IV. EPIC maps were also available for part of the study area that showed the location of suspected blow boxes and suspected surface discharges not involving blow boxes. Field data sheets were available for several hundred blow box locations that had been visited by EPA inspectors. These sheets also identified additional surface discharges.

From DER's central office in Harrisburg, regulations applicable to oil and gas operations and an overview of the state regulatory program were obtained. A copy of the 1979-80 Surface Impoundment Assessment, an interpretation of aerial photographs completed by EPIC to provide an inventory of industrial surface impoundments, was obtained from the solid waste program office. This document contained the locations of numerous possible brine pits and tank batteries in oil and gas fields.

The Pennsylvania Fish Commission has conducted numerous stream surveys in oil and gas areas in cooperation with DER and the US Fish and Wildlife Service. Study reports containing discharge location and constituent data were copied. In addition, the PFC officers were familiar with the location of numerous brine discharges and had plotted their approximate locations on topographical maps. These maps were also copied.

An extensive effort to locate and clean up oil spills in the four-county area encompassing the Allegheny National Forest was in progress involving both EPA emergency response teams and the US Coast Guard. This effort included the reconnaissance of streams to locate sources of oil pollution. This effort had located a number of brine discharges. File material consisting of field inspectors report sheets and topographical map segments showing discharge locations were reviewed and copied at the Bradford office.

A majority of the data used to develop the inventory was obtained from the DER regional office files in Meadville and Pittsburgh. Files were available on all active NPDES permits. These were partially duplicative of EPA files but unique information was available in both EPA and DER permit files.

A major file search involved the enforcement and complaint case files. These files, arranged by oil and gas operators, contain inspection reports and correspondence related to investi-

gations of active oil and gas developments and pollution incidents. They contained numerous brine discharge cases over the last seven years. File data for some cases contained maps or other location information for the discharges. In many of the cases, however, the data referred only to lease and operator names or directions from landmarks. To locate these discharges, additional file searches were required as described below.

The case files also contained Pollution Prevention and Control (PPC) Plans for many of the larger operators. In some cases, erosion control plans for specific oil field developments were available. A few had Spill Prevention, Control and Countermeasure (SPCC) Plans required by EPA regulations for petroleum storage facilities. In most cases, these plans contained maps showing the locations of the leases or oil field operations of each operator. Some plans were very detailed showing the locations of tank batteries on topographical maps. These plans were usually present in the files only if problems had been experienced with a particular operator and a PPC plan had been requested. Many were three to five years old and their accuracy was uncertain. Some had been periodically updated.

A third type of information available in DER files was the oil and gas well drilling permits. Drilling permits were required from DER for all wells drilled in the last two decades. In addition, owners of active wells drilled prior to the permit program were required to register these wells in 1986. These well permits and registrations contain information on the location, owner and farm/lease name. Locations are shown on detailed lease maps which also are keyed to USGS topographical maps. DER has plotted permit locations on index maps maintained with the files. The files are arranged in four forms: geographically by county, township and farm; by owner, by operator and by permit number. When a group of wells are drilled on the same lease by the same operator, a project number is assigned by DER as well as individual well permit numbers. This project number is plotted on the index maps in lieu of the numerous individual well numbers. The well permit files are very large, covering in excess of 120,000 wells. These data were not copied during the initial file search but were selectively accessed as needed in a supplemental file search discussed below.

DATA REVIEW

The initial step in compilation and review of the data obtained in the main file search was to collate it by USGS topographical map name. This approach was used because in many cases the geographical location was the only common element among the various data types. Differences in data formats, different owner, operator, lease or other identifying names and other data peculiarities prevented any other logical data organization during the initial review stage.

The UIC permit information, the blow box inventory information and the surface impoundment assessment data were all keyed directly to the topographical maps. These data were plotted directly on overlays to maps with significant amounts of oil and gas activity. Outfall locations were given for most of the NPDES permits that had been issued. However, some permit applications indicated that brine was discharged to "evaporation pits". Some of the outfall locations were given for these discharges but for others, only a general location was given and locations could not be plotted.

For DER enforcement case file data, where locations were given or maps were provided with the PPC plans, these locations were also plotted on the study map overlays. For other cases, available location descriptions (usually operator and lease/farm names but also township and receiving water names) were compiled for use in the supplemental file search.

The emergency response program data also included location maps so these data were plotted directly on study maps. Operator information was available on many of these discharges. The Pennsylvania Fish Commission data included location maps in all cases but operator information on very few. Again, these data were plotted directly on study maps.

To provide the most useful data to DER and EPA, the inventory needed to contain owner/operator names, locations (physical locations on topographical maps as well as township, farm and lease names where available), NPDES permit numbers where applicable and sufficient information to make judgments on the need for follow up actions. Therefore, there was a need to obtain map location information on some discharges for which an operator and general location information had been given and, conversely, to obtain operator information on discharges for which map locations were known. A supplemental file search was then conducted as described below.

SUPPLEMENTAL FILE SEARCH

To obtain the additional owner or location information, the DER well permit files were reviewed in September 1986. When a map location was known, the DER index maps were reviewed to obtain a well permit number or a project number. In many cases, the appropriate number was readily available. In other cases, no permit number was shown. In some cases, several permit or project numbers were in the vicinity. The most likely one was selected and the permit map obtained from the file. The index map was compared to the permit map to verify if the proper permit number had been selected. In some cases, review of several permit maps was needed to select the appropriate one. In a few cases, there were multiple operators on the same lease and the operator responsible for the reported discharge indication was

not clear. Farm boundary maps were not used to facilitate this location vs. permit number matching process. In retrospect, use of such maps would probably have facilitated this process.

Well permit numbers were found for about 60 percent of the potential discharge locations identified by the surface impoundment assessment, Pennsylvania Fish Commission and blow box inventory data. The well registration program was in an early stage and well locations had only been plotted for a small fraction of the approximately 20,000 new well registrations. Therefore, registrations may now be plotted for a number of the potential discharges with unknown operators.

For reported discharges where the operator and lease information was available but not map locations, a different approach was used. The well permit files were searched by operator name and possible well/project numbers selected for the same or similar lease/farm names. These permits were then copied to give map locations. Approximately 80 percent of the case locations were found in this manner.

For NPDES permits without map locations, a similar approach was used. The well permit files were searched by operator names and other location information including township names, receiving stream names, township road numbers and other location data given in the permit application. These data were used in conjunction with well permit maps and index maps to identify the probable locations of discharges. About half of the NPDES discharges without map data in the permit files were located in this fashion.

MAP PLOTTING

A key part of the inventory is the index maps which show the location of all known and potential discharges. The maps are the standard US Geological Survey 7.5 minute topographical maps commonly known as "quad" maps. The quad maps are used by DER as index maps for the well permit program. They are also routinely used by oil and gas field personnel and regulatory agencies to locate specific activities because of the particular type of township and farm system used to describe locations rather than rectangular coordinates. Farm boundary maps are also routinely used by these personnel but were not used in this study due to the commonality of location information on the quad maps.

Overlays were used on the maps to plot discharge locations and notes associated with each type of data being plotted. Lease/farm boundaries were traced in some cases to facilitate location of multiple discharges and compiling of data on one discharge from the various data sources. Temporary map key numbers were assigned to each plotted discharge to facilitate entry into the data system and to help identify data copies in

the map file with the specific discharge points.

As discussed in Section V, each map was divided into nine 2.5 minute sections for ease in reproduction of printed copies of the inventory and to make location of map key numbers easier. When most data had been entered on a map, permanent map key numbers were assigned to each discharge point in a general left to right, top to bottom sequence by map section. This general sequence was not followed for addition of new data points, numbers were assigned in sequence without regard to location. Symbols described in Section V were used to indicate the status of each data point, such as active NPDES permit, potential discharge, etc. The permanent map key numbers and symbols were placed on a second map overlay and used to print copies of the map sections for use in the inventory reports. A sample copy of a map segment is shown in Figure 5.

DATABASE DEVELOPMENT

A computer database was developed to facilitate compilation of inventory data and to allow periodic updates to the inventory as new information became available. Initially the database "BRINE" was a simple flat file structure developed using dBase III software on an IBM XT personal computer. Fifty one data fields were used to store up to 629 characters of information for each data point as shown in Table 3. Data entry was made using the standard dBase screens. As data were compiled, they were recorded on a data sheet for subsequent batch key entry into BRINE.

As data compilation progressed, custom data entry screens and output reports were developed to facilitate database maintenance. Most inventory data were entered directly into the database rather than recorded on data sheets. A standard one page information sheet [Figure 6] was developed to contain all information in the database for each discharge point. Each element of this information sheet is discussed in detail in Section V.

A preliminary version of the information sheet and the database structure were presented to DER staff in September 1986 along with preliminary data on about half of McKean County. DER

comments were used in revising the information sheet and in adding features to the database.

Beginning in November 1986, the database programs were converted to the more powerful version of dBase, dBase III Plus. The database was also moved to an IBM AT personal computer, comparable to the Sperry ITT personal computers used by DER. This conversion resulted in quicker response times in locating discharge records and other features not previously available.

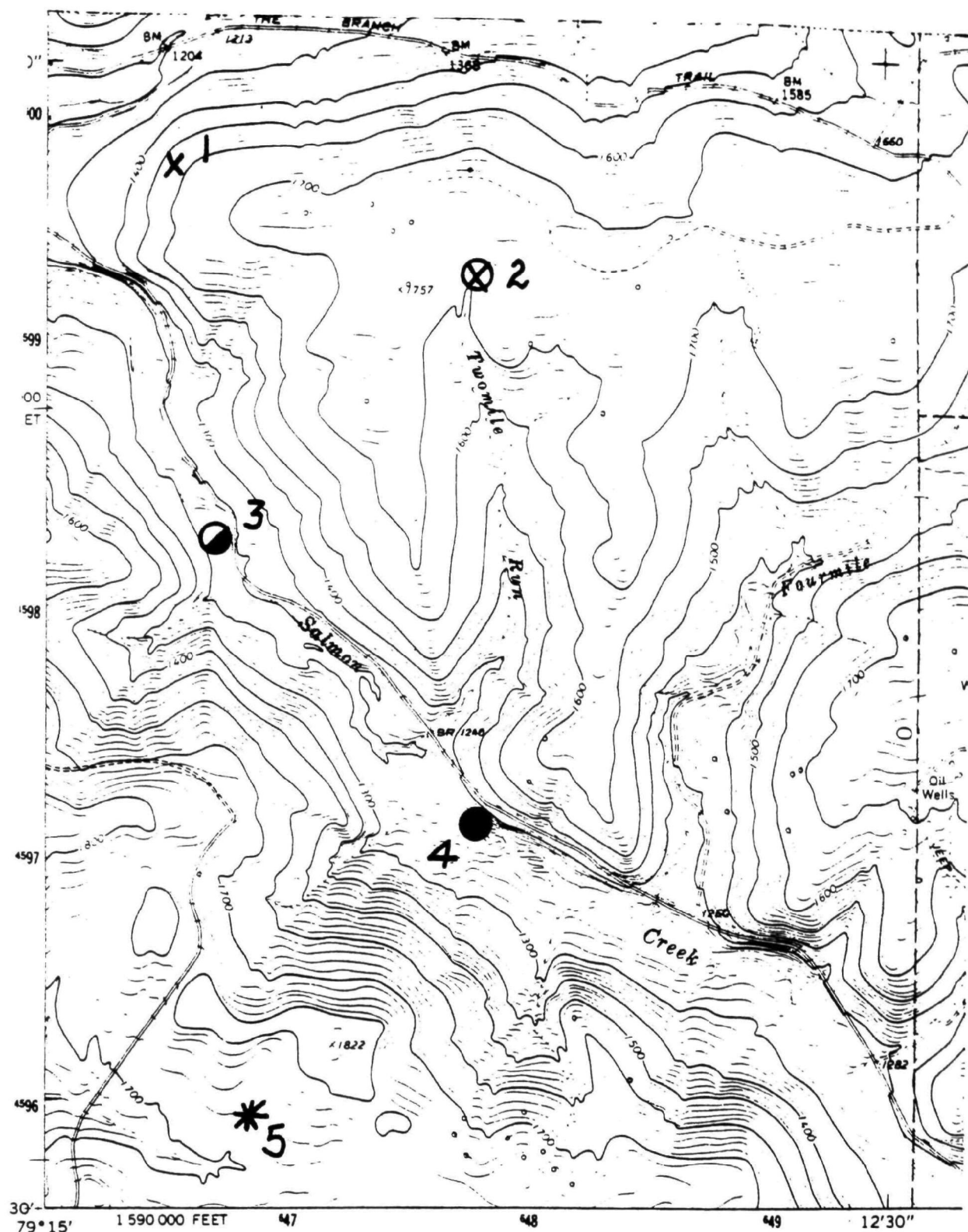


Table 3. BRINE Database Structure

Field	Field Name	Type	Width
1	MAP_NAME	Character	16
2	MAP_NO	Numeric	4
3	MAP_SECT	Character	1
4	MAP_KEY_NO	Character	3
5	CNTY_NAME	Character	12
6	MUNI_CODE	Character	5
7	MUNICIPAL	Character	20
8	FARM_LEASE	Character	30
9	LATITUDE	Character	6
10	LAT_OFFSET	Numeric	5
11	LONGITUDE	Character	6
12	LON_OFFSET	Numeric	5
13	NPDES_NO	Character	7
14	FACIL_NAME	Character	30
15	ADDRESS	Character	30
16	CITY	Character	15
17	STATE	Character	2
18	ZIP	Character	5
19	PERM_STAT	Character	2
20	LAST_DATE	Date	8
21	OUTFALL	Character	5
22	OUTF_NAME	Character	30
23	PIPES	Numeric	2
24	FLOW	Numeric	4
25	REC_STRM_1	Character	30
26	REC_STRM_2	Character	30
27	STRM_CLASS	Character	2
28	SURF_DISCH	Character	2
29	GW_DISCH	Character	2
30	PIT	Character	2
31	TANK	Character	2
32	SURF_IMP	Character	2
33	BLOW_BOX	Character	2
34	EMERRESPID	Character	10
35	PFC_ID	Character	5
36	EPIC_ID	Character	5
37	WELLPERMNO	Character	12
38	WELL_NAME	Character	20
39	PROJ_NAME	Character	20
40	PROJ_NO	Character	10
41	WELL_TYPE	Character	2
42	TYPE_OPER	Character	2
43	OPERATOR	Character	30
44	UIC_NO	Character	12
45	UIC_NAME	Character	30
46	UIC_STATUS	Character	2
47	UIC_DATE	Date	8
48	ENF_FILE	Character	3
49	STATUS	Character	2
50	LAST_ACTN	Date	8
51	COMMENTS	Character	120
** Total **			629

BRINE INVENTORY INFORMATION SHEET

07/29/87

DISCHARGE I.D. NUMBER: 614018

Geographical Area

County Code: 24 County Name: ELK
Township or Municipality Code: 907 Name: HIGHLAND TWP
USGS Quad Map Code: 614 Map Name: RUSSELL CITY Section: 9

Specific Location

Map Key No.: 18
Farm, Lease, Warrant or Lot: WT 2033
Latitude: 41-31-22 N Offset: 0 Feet South
Longitude: 78-55-03 W Offset: 0 Feet West

Oil and Gas Permit Information

Operator: PENNZOIL
Well Permit No.: Well Name:
Project No.: Project Name:
Well Type: OL Type of Operation: P

NPDES Permit Information

NPDES Permit No.: PA0105252
Facility Name: PENNZOIL
Address:
City: State: PA Zip:
Permit Status: CA Last Permitting Action Date: 08/27/86
Outfall No.: 001 Outfall Name: HIGHLAND PRESSURE PLANT
No. of Outfalls this Map Key No.: 1
Reported Discharge Volume: 13 Thousand Gallons per Day
Stream Receiving Discharge: HUNTER CREEK
Next Level Stream: SPRING CREEK
Special Protection Watershed Classification: HQ

Discharge Type and Source

Surface Discharge: X Groundwater Discharge:
Pit: 2 Tank: X Surface Impoundment: Blow Box:

Other Reference Information

EPA Emergency Response Identification No.:
Pennsylvania Fish Commission Identifier:
EPA Environm. Photo Interpr. Center (EPIC) Identifier:
EPA UIC Permit No.: PAS2R200ZELK
UIC Project Name: PENNZOIL-HIGHLAND PLANT
UIC Project Status: AC Last UIC Update: 02/18/86
A DER Enforcement Case File Exists:

Status of this Discharge Record: FR Last Record Update: 07/23/87

COMMENTS: HIGHLAND WATERFLOOD. BRINE REINJECTED. FILTER BACKWASH DISCHARGE.

A draft user's manual for the database system was prepared in March 1987. The database system was demonstrated for Region III EPA personnel and training in database use given to DER personnel from Harrisburg and Meadville on a DER computer in Harrisburg. DER requested additions and revisions to the data system based on this training. The database contained about 700 records at that time. The current version of BRINE reflects the DER requests and comments.

INVENTORY APPENDICES

In order to effectively use inventory information while in the field, inspectors need a copy of the applicable map section showing discharge locations and map key numbers and copies of applicable information sheets. To facilitate this use, appendices to this report were prepared containing compilations of map section copies and associated information sheets. As shown in Table 4, each appendix covers a county or part of a county. Some overlap of county boundaries occurs in some volumes because all discharges on a given map segment are included in the volume including any in adjacent counties covered by that segment. Table 4 lists the maps included in each volume.

The inventory appendices also contain several explanatory sections to facilitate locating specific discharge information and interpreting inventory data. Section V of this report is included to explain data elements. Several index tables specific to the area covered by each volume are presented. These include a list of all discharges arranged by map name and section (the order of presentation in the appendix), a list of all discharges arranged by township and farm (data frequently known by field inspectors), a list of discharges arranged by receiving watershed and an NPDES permit status report for discharges with NPDES permit numbers.

The Appendices were provided to DER and EPA Region III as they were completed beginning in June 1987.

Table 4.
List of Counties and USGS Maps Covered by Each Appendix

Appendix	Area/Maps Covered
A	<p>Eastern McKean County</p> <p>Bullis Mills Cyclone Derrick City Eldred Shinglehouse (Includes Potter County) Smethport</p>
B	<p>Western McKean County</p> <p>Bradford Kane Lewis Run Ludlow (Includes Warren County) Mt. Jewett Stickney Westline</p>
C	<p>Eastern Warren County</p> <p>Clarendon Ludlow (Includes McKean County) Sheffield Warren</p>
D	<p>Western Warren County</p> <p>Grand Valley (Includes Crawford County) Spring Creek (Includes Crawford County) Sugar Grove Tidioute Youngsville</p>
E	<p>Northern Venango County</p> <p>Pleasantville (Includes Forest County) Titusville South</p>

Table 4. (Cont.)
List of Counties and USGS Maps Covered by Each Appendix

Appendix	Area/Maps Covered
F	<p>Southern Venango County</p> <p>Cranberry Franklin Kennerdell Kossuth (Includes Clarion County) Oil City President (Includes Forest County)</p>
G	<p>Forest County</p> <p>Hallton (Includes Elk County) Kellettville Lynch Mayburg Russell City (Includes Elk County) Tionesta (Includes Clarion & Venango Counties) Tylersburg (Includes Clarion County) West Hickory</p>
H	<p>Elk County</p> <p>Glen Hazel Hallton (Includes Forest County) James City Ridgway Russell City (Includes Forest County) Wilcox</p>
I	<p>Jefferson County</p> <p>Coolspring Dayton (Includes Armstrong & Indiana Counties) Dubois (Includes Clearfield County) Hazen McGees Mills (Includes Clearfield & Indiana Counties) Punxsutawney (Includes Indiana County) Reynoldsville Sigel (Includes Elk County) Summerville (Includes Armstrong County) Valier (Includes Indiana County)</p>

Table 4. (Cont.)
List of Counties and USGS Maps Covered by Each Appendix

Appendix	Area/Maps Covered
J	Northern Indiana County <ul style="list-style-type: none"> Burnside (Includes Clearfield County) Dayton (Armstrong & Jefferson Counties) Dubois (Clearfield & Jefferson Counties) Marion Center McGees Mills (Includes Clearfield & Jefferson Counties) Plumville (Includes Armstrong County) Punxsutawney (Includes Jefferson County) Rochester Mills Rural Valley (Armstrong County) Summerville (Includes Armstrong & Jefferson Counties) Valier (Indiana & Jefferson Counties)
K	Southern Indiana County <ul style="list-style-type: none"> Blairsville (Includes Westmoreland County) Brush Valley Canonsburg (Washington County) Clymer Commodore Elderton (Includes Armstrong County) Ernest Indiana McIntyre Strongstown (Includes Cambria County) Vintondale (Includes Cambria & Westmoreland Counties)

IV. OVERVIEW OF THE PENNSYLVANIA OIL AND GAS INDUSTRY

This section provides a brief overview of the oil and gas industry in Pennsylvania and related environmental impacts. Industry characteristics as they relate to the discharge of brine are discussed in detail to provide a basis for interpretation of inventory data and study results.

HISTORY OF DEVELOPMENT

Oil development and production in Pennsylvania has occurred in two general time periods, both of which impact the distribution and nature of brine discharges. Commercial oil production in the United States began in Pennsylvania in 1859 with completion of the Col. Drake well near Titusville in Venango County. Rapid development of oil fields along Oil Creek followed. During the next 110 years, various oil fields were discovered and developed throughout western Pennsylvania. The Bradford Field near Bradford in McKean County and the McDonald Field in Washington County southwest of Pittsburgh were major developments. Many of these wells were depleted and abandoned with some oil fields periodically redrilled. Secondary recovery techniques described below were also used on some fields to recover additional oil, notably in the Bradford area. Until the mid-1970s, however, oil industry activity had reached a stable low level with relatively minor new drilling or production. There are still numerous oil wells in use from this earlier development period and they continue to produce brine requiring disposal.

Beginning in the mid-1970s, rising oil prices resulted in major new oil development activity. New oil fields were developed and old fields redrilled. Much of this new activity was in northeastern Venango and northwestern Forest Counties and in the Allegheny National Forest areas of Elk, Forest, Warren and McKean Counties. There was very little new oil drilling activity in southwestern Pennsylvania. This activity peaked in 1984 when about 12,000 well drilling permits were issued to operators. Sharply declining oil prices then brought a halt to development and even the shut down of numerous active oil leases. This major expansion of the industry resulted in many new brine discharges and other environmental impacts.

Development of gas wells has had a similar history. Initially, shallow gas wells were developed primarily in Jefferson and Indiana Counties although there was significant gas well development in other areas intermixed with oil development. This shallow gas field development has continued to expand and includes Armstrong and Westmoreland Counties as well. Deeper gas wells were then developed in Crawford and Erie Counties to the

northwest and to the east of Indiana and Jefferson Counties. Gas development is continuing to spread as deeper wells are drilled.

PHASES OF OIL AND GAS DEVELOPMENT

For a given oil or gas field, development proceeds through a series of specific phases, each of which has related environmental impacts. These are site development, well drilling, well development, primary production, secondary recovery and well abandonment/plugging. Although potential environmental impacts of each phase are significant, the scope of this study was limited to consideration of the impacts of the primary production and secondary recovery phases.

Site development usually involves the construction of access roads, well and drilling sites, pipelines and storage tanks. This phase involves disturbing large areas of earth, sometimes in forested areas or on steep slopes. As a result, erosion and sediment discharges can be a major problem. These environmental problems are usually limited to the early part of the life span of an oil field. Various regulations and control programs are directed toward the environmental aspects of well field development and these aspects are not a part of this study.

The next phase is the actual drilling of the wells. A variety of drilling techniques may be used, all of which have some potential for releasing pollutants such as drilling fluids into the surface or subsurface environment. These impacts occur during a short time period during active drilling although some longer term impacts occur if drilling fluids are left on site or not properly disposed of. Again, there are regulatory programs in place to control environmental impacts of this phase and these aspects are not a part of this study.

For many wells, the third phase of development involves a process called well development in which some physical or chemical means is used to increase the permeability of the producing formation. This may involve injection of an acidic material into the well or, more commonly, injecting a fluid (mixed with sand or other propping media) at high pressure to fracture the formation (hydrofracing). This process may sometimes result in the release of pollutants (well development fluids or formation brines) into surface or subsurface environments including drinking water supplies. These potential environmental impacts are regulated in a manner similar to well drilling activities. The impacts generally occur over a short time period. Well development is also not a part of this study.

Once well development has been completed, the oil or gas field/well generally moves into the production phase. Prior phases are generally about the same for both oil and gas wells. The production phase is somewhat different.

Gas production involves connecting each well to a collection system which conveys the gas to commercial pipelines. The gas generally flows into the collection system using regulated formation pressure although subsequent gas compressors are needed to move the gas in pipelines. Some fluids may be produced with the gas and require disposal as discussed below. Production of gas from a well/gas field will usually continue as long as the volume produced results in an economic return to the owner. Temporary shutdowns may occur during periods of declining gas prices.

Oil production may be primary or secondary. Primary production occurs after initial well completion. Some form of pumping device is usually used to pump oil and formation fluids (brine) from the wells into a collection system or directly to storage tanks although some wells may initially flow to the surface from formation pressure alone. As discussed below, the oil and brine must be separated and the brine disposed of. Typically, primary production continues from a few months to a few years for a specific well or well field. However, primary production has continued at low levels for decades in some well fields. After the initial few months of production, most oil wells in Pennsylvania become stripper wells, producing less than 10 barrels of oil per day. (A barrel is 42 gallons.) Most wells produce less than two barrels per day and are economically marginal. Typically the wells are pumped intermittently, ranging from a few hours per day to a few hours per year. As in the case of gas wells, primary production usually continues as long as the well/field produces an economic return for its owner although periodic temporary shut downs may occur during price fluctuations.

Primary production removes only part of the oil in the producing zone. It may be economical to conduct secondary recovery operations in an oil field to recover additional oil. This involves injecting fluids into the producing zone to increase the formation pressure and move oil toward the producing wells. This involves the construction of injection wells. The fluid injected may be water (fresh groundwater or reinjected produced fluids) in a waterflood operation or natural gas in a gas flood operation. The producing wells may need to be pumped or in the case of some of the waterfloods, formation pressure may flow oil and brine out the producing well. The type of secondary recovery operation has a major impact on the characteristics and volumes of brine that must be disposed of as discussed below.

In a few cases, additional recoverable oil may remain in the producing zone following secondary recovery operations. This oil may sometimes be economically produced by tertiary recovery operations which are similar to secondary recovery but involve the injection of chemicals to aid in movement of oil. An added environmental concern with tertiary recovery is the presence of these chemicals in the brine requiring disposal.

The final phase of both oil and gas field activity is the abandonment and plugging of the wells. In the past prior to current laws and regulations, many wells were abandoned without proper plugging. The owner or operator simply stopped operation and walked away, leaving an abandoned open casing which could result in movement of fluids and oil between subsurface formations including drinking water supplies. Laws now require that any well not in production for a set period of time be properly plugged to prevent fluid migration. Many of the old wells have been plugged in recent years but others still remain as potential sources of pollutant movement into surface and subsurface fresh water supplies. The environmental impacts of well plugging activities are similar to the site development, well drilling and well development phases although to a smaller degree. Well plugging is regulated, environmental impacts are of short duration and this activity was not considered in this study. The inventory does include several abandoned wells that were discharging brine.

SOURCES OF BRINE DISCHARGES

This study was limited in scope to the consideration of brine discharges resulting from the production phases of oil and gas operations. Specific types of sources of brine discharges for oil and gas developments are discussed separately below.

Oil Production--Primary Production

The primary production of oil in Pennsylvania typically results in the production of from less than one to 10 barrels of brine for each barrel of oil produced. Concentrations of chlorides and dissolved solids in primary production brine are typically in the range of 10,000 to 40,000 parts per million. Both the volume and characteristics of the brine vary from formation to formation with lesser variations among well fields tapping the same formation.

When oil wells are pumped, the produced fluids consist of oil, brines and some emulsified oil and water. Typically, this mixture is first passed through a separator to remove the free water from the oil and oil/water mixture [Figure 7]. This separator is one source of brine requiring disposal. If a separator is not used, the oil/water mixture is usually discharged to a storage tank and allowed to stand for gravity separation of water and oil. The oil floats on top of the collected brine. The brine may then be drained out of the tank through a valve near the bottom of the tank. Water may be separated from the oil/water mixture exiting the separator in the same fashion. A single storage tank may be used or several in series to both increase storage capacity and increase the efficiency of oil recovery and water separation. This cluster of storage tanks is commonly referred to as a tank battery.

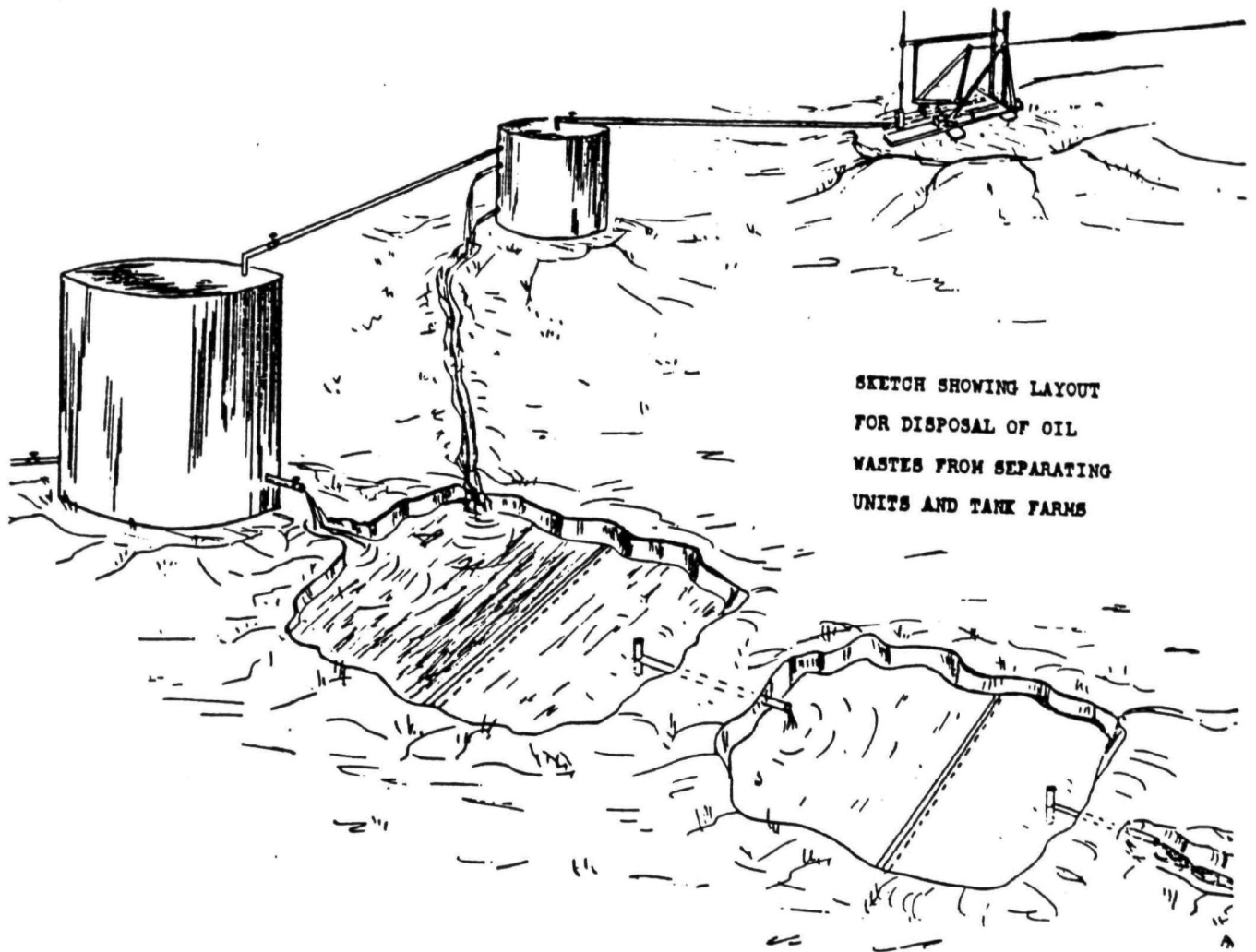


FIGURE 7. SCHEMATIC OF OIL WELL BRINE HANDLING/DISPOSAL

The brine discharge from the separator is usually continuous during well pumping operations. A single separator may serve a single well or many wells. Where numerous wells are connected to a single separator, the wells are frequently pumped in a sequential pattern with only part of the wells operating at any one time. The separator may be at the well location with the storage tank at a central location, both the tank and separator may be at the well or the separator may be at the central tank battery, the usual case. Thus, discharges from separators and storage tanks may occur at the same or separate locations. Most commonly, they are at the same location.

The brine from the separator may be discharged to the ground surface, to a surface stream, to a lined or unlined brine pit sometimes called an "evaporation pit", to a brine storage tank or to some form of wastewater treatment facility. Brine drained from storage tanks may also be discharged to the same types of facilities. All of these are subject to DER regulations with direct surface discharge also subject to EPA regulations.

A discharge to the ground surface can seep into the ground and possibly contaminate groundwater, kill vegetation and eventually reach surface waters. The intermittent discharges from single well separators and from storage tanks serving a few wells frequently soak into the ground and may be difficult to detect without detailed inspections of oil fields. This form of brine disposal has been used frequently for scattered marginal old stripper wells. Unless the discharge results in property damage or domestic water supply contamination, many of these old discharges have gone undetected or unreported for decades. The inventory contains a relative few of this type of discharge source although hundreds of such discharges may exist.

Discharges to brine pits may also result in surface discharges or seepage into groundwater. Except for limited dry periods, rainfall exceeds evaporation in Pennsylvania. Therefore, an "evaporation pit" will eventually overflow unless it seeps to groundwater or brines are periodically removed. DER regulations require that brine pits be impermeable which usually requires an artificial liner. However, many pits have been observed without liners or with poor plastic liners that have deteriorated or slipped down allowing brines to seep into the ground. Overflowing brine pits are also a common problem. However, some of the larger operators use impermeable pits to temporarily store brine which is then hauled offsite for disposal. Many of the brine discharges that have been issued NPDES permits are from brine pits that have baffled outlets (siphon pipes) to prevent oil discharges but provide little other wastewater treatment.

Brine pits are present at many tank batteries in Pennsylvania. Pits are also usually constructed at well sites for drilling operations. The inventory contains many potential dis-

charge points taken from the EPIC surface impoundment assessment. It is not clear whether many of these represent brine storage/ disposal pits or whether they were drilling pits that have since been closed.

Brine storage tanks are used at some locations to temporarily store brine for eventual offsite disposal. Tanks eliminate the pit seepage problem and have been installed at a number of locations where pit seepage had contaminated water supplies. Storage tanks are commonly used at gas wells as discussed below.

Because the discharges are larger in volume with greater potential environmental impacts and visibility, brine pits at multiple-tank storage batteries serving 10 to 100 wells are the most common source of discharges documented in case files. Pits are also common at single or dual tank storage facilities serving the small leases with 1-10 wells. Discharges from the larger installations are most likely to reach a surface waterway. Discharges from the smaller installations more likely will occur as pit seepage to groundwater or as a small surface discharge that seeps into the ground before reaching a stream.

For primary production facilities, there are essentially no wastewater treatment facilities provided on site other than settling tanks in a few cases and the much more common simple brine pit with baffled outlet.

A number of primary oil facilities haul brine off site for treatment and discharge, for disposal or for reuse. A few oil and gas companies have their own central brine treatment plants. These facilities commonly provide neutralization, flocculation and sedimentation. Sludges are dewatered and disposed of in solid waste landfills. The treated effluents are discharged to larger surface streams (usually the Allegheny River) with sufficient assimilative capacity for the dissolved solids load. Several commercial brine treatment plants are also in operation. They provide the same type of treatment as the company owned plants and accept brine from numerous operators. A few municipal wastewater treatment plants accept brine for treatment. The company owned and commercial treatment plants that have applied for or received NPDES permits are included in the inventory but the municipal plants are not since they are predominantly municipal discharges.

Some brine is disposed of into saline formations through injection wells. The few wells in Pennsylvania used for this purpose usually receive gas brines and are off site.

The means of off site reuse of brine include road spreading for dust control or roadbed stabilization and the mixing of brine with road sand or cinders for deicing uses. Brine may be spread on township dirt roads for dust control or stabilization with DER

approval provided appropriate controls on applications are followed including application rates, no applications near streams, etc. Reuse of brine in this manner is limited to warmer months. Road spreading is being used as an interim method of brine handling by many operators. Because the road spreading involves diffuse applications and not point discharges, the road spreading operations are not included in the inventory.

Oil Production--Secondary Recovery

In contrast to primary production, secondary recovery operations may produce much larger volumes of less concentrated brine although gas flood operations may produce relatively small volumes. Water flood operations function by injecting a fluid (fresh water or recycled produced fluids) into the producing formation at an elevated pressure. In some cases, this pressure is adequate to cause produced fluids to flow out producing wells carrying oil with it but most wells require pumping as in primary production. Because the produced fluid is used as a driving medium, large volumes may be produced per unit of oil. Brine production ratios in the range of 10-100 barrels of brine per barrel of oil are common.

The concentrations of chlorides and dissolved solids in waterflood brine are dependent upon the length of time the waterflood has been operated and the type of fluid injected as well as the formation characteristics. When waterflooding is begun, the concentration of the brine will be similar to that produced by primary operations. If produced fluids are reinjected, concentrations will remain similar. However, if fresh water is used the concentrations will decrease with time. Some of the old waterfloods in the Bradford area have dissolved solids concentrations less than 1,000 parts per million.

Although the volume of brine produced by a waterflood operation may be large relative to oil production, the actual discharge of brine may be small if recycling of produced fluids is practiced. Industry practices vary widely in this regard. Some companies have a central pressure plant on the lease where the water to be injected is treated and pressurized for distribution to injection wells. Produced fluids are collected and conveyed back to the pressure plant location. Separators are used as for primary production to remove free water. Tank settling may also be used for further oil/water separation. The brines are then recycled to the water treatment plant for reinjection. These types of injection operations may have no surface discharge although some minor discharge from water treatment filter backwash may occur. Some of these operations require some fresh water makeup.

In contrast to the complete recycle waterflood, some companies have water treatment and pressure plants at locations remote

to the waterflood location. Produced fluids are separated from the oil at the lease location and discharged to surface waters in the same manner as primary production facilities except that the volume is usually much larger. There is no recycle of produced fluids. A few facilities practice partial recycle of produced fluids.

There has been much debate among oil companies and regulatory agencies concerning the technical and economic feasibility of recycling produced fluids in waterfloods as a means of brine disposal. Direct underground injection of primary production brines has also been debated. It is clear that recycling has been proven technically feasible at some waterflood projects. However, at other locations, the formation may be too tight and plugging will occur if produced fluids are injected. High levels of water treatment are needed in these cases even when fresh water is used for injection. Some waterfloods have experienced reductions in oil production when produced fluids are injected.

Because of the large volume of brine produced by most waterfloods not recycling, several disposal options available to primary production facilities are not practical for most waterfloods. Storage of brine in tanks or pits and hauling to off site treatment plants are probably not practical. Likewise, road spreading is not practical because of volume considerations and the low salt concentrations which may not be suitable for dust control. Therefore, the most common brine disposal method for waterfloods is direct surface discharge. In some cases, treatment beyond brine pit settling may be provided such as cascade aeration of the discharge.

Waterflood operations have reported discharge volumes in the range of 1,000 to 200,000 gallons per day. Because these volumes are more readily detectable, it is likely that the inventory contains essentially all active waterflood operations. This is reinforced by the requirement that they comply with EPA UIC program regulations and are known to that program. Most waterflood operations have also applied for NPDES permits and most of the active ones in the Bradford area have active permits or have applied for new permits.

Gas Industry

In contrast to the oil industry, gas wells produce relatively small volumes of highly concentrated brine in most cases. The wells are also more widely spaced. Individual wells may be dry but usually produce from one to 100 barrels of brine per year. The brine is highly concentrated with chloride and dissolved solids levels in the range of 50,000 to 250,000 parts per million.

Gas wells do not usually produce a discharge of fluid with the produced gas. Instead, brine gradually accumulates in the well bore, eventually reaching a depth that increases pressure in the well and decreases gas production. To prevent this, the brine is periodically blown out of the well using formation pressure.

Disposal of this concentrated brine has changed substantially in recent years. A common disposal method in the past was to blow the brine off into a concrete or wooden box in the ground similar to a bottomless septic tank and known as a "blow box". From the blow box, the brine would either seep into the ground or, if brine volume or ground conditions were conducive, a surface discharge would result. Most of these blow boxes have been removed as a result of EPA and DER enforcement activity. Brine is now usually periodically blown off into either a tank truck or, most commonly, into a storage tank. From the storage tank the brine is hauled to central treatment plants (company owned or commercial) or it is used for road spreading. Other less common disposal methods included air blowoffs of small volumes and discharge to brine pits as for oil wells.

There are several thousand gas wells with storage tanks. About two thousand are tanks that have been recently installed to replace blow boxes removed as a result of the EPA UIC program regulations. Wells with storage tanks do not normally have a discharge and are not included in the inventory. In a few instances, inspectors investigated reports of discharges involving overflowing or leaking storage tanks or the deliberate opening of drain valves. These cases have been included in the inventory.

The EPIC surface impoundment assessment reported a number of brine pits in the gas field areas. As in the case of the oil areas, it is not clear if these were drill pits or brine pits. These pits were included in the inventory. The EPIC blow box inventory effort identified a number of surface discharge indications that may have been from overflowing blow boxes or pits. Follow up field verifications by EPA UIC inspectors detected additional surface discharges. These were included in the inventory.

V. DESCRIPTION OF INVENTORY DATA ELEMENTS

All information in the BRINE database for each known or potential source of brine discharge is contained in a single page information sheet which is identified by a unique discharge identification number displayed at the top. This identification number is composed of the USGS map code and the map key number discussed below. Each record is keyed to USGS topographical map segments. The key elements of each of these database components are summarized below.

Figure 8 is a sample information sheet. In general, fixed information titles are displayed in upper and lower case while the variable information for that record is displayed in upper case. The date of printing of the sheet is shown in the upper right hand corner.

GEOGRAPHICAL AREA INFORMATION

The geographical information is key to all data records and is used to sort and locate records by most BRINE data system programs. Five-digit municipality codes are used to identify counties and municipalities (townships or boroughs). The 5-digit code is stored in BRINE consistent with LUMIS format but the separate 2-digit county code and 3-digit municipality code are printed on the information sheet as shown in Figure 8.

The other key pieces of geographical area information are the USGS topographical map (quad) name and code. All database records are uniquely identified by the map name and the map key number discussed below. For ease in presentation and location of discharges, each 7.5 minute quad map is divided into nine 2.5 minute sections. A sample map section is shown in Figure 9. Map sections are numbered from 1 to 9 from left to right and top to bottom. The upper left hand corner is section 1, the middle right hand section is 6 and the lower right hand corner is section 9. All geographic area information was completed for all records.

SPECIFIC LOCATION INFORMATION

Specific location data include the map key number, the farm/lease name and the latitude/longitude coordinates. The map key is unique to each record and is a number from 1 to 3 digits. These numbers were initially assigned by numbering all discharge points in a map section in a general left to right, top to bottom fashion. As additional points were later added to each quad map sheet, some higher numbers out of the general sequence for the particular map section were added. In addition, some discharge points of interest could not be accurately located on the maps

BRINE INVENTORY INFORMATION SHEET

07/29/87

DISCHARGE I.D. NUMBER: 614018

Geographical Area

County Code: 24 County Name: ELK
Township or Municipality Code: 907 Name: HIGHLAND TWP
USGS Quad Map Code: 614 Map Name: RUSSELL CITY Section: 9

Specific Location

Map Key No.: 18
Farm, Lease, Warrant or Lot: WT 2033
Latitude: 41-31-22 N Offset: 0 Feet South
Longitude: 78-55-03 W Offset: 0 Feet West

Oil and Gas Permit Information

Operator: PENNZOIL
Well Permit No.: Well Name:
Project No.: Project Name:
Well Type: OL Type of Operation: P

NPDES Permit Information

NPDES Permit No.: PA0105252
Facility Name: PENNZOIL
Address:
City: State: PA Zip:
Permit Status: CA Last Permitting Action Date: 08/27/86
Outfall No.: 001 Outfall Name: HIGHLAND PRESSURE PLANT
No. of Outfalls this Map Key No.: 1
Reported Discharge Volume: 13 Thousand Gallons per Day
Stream Receiving Discharge: HUNTER CREEK
Next Level Stream: SPRING CREEK
Special Protection Watershed Classification: HQ

Discharge Type and Source

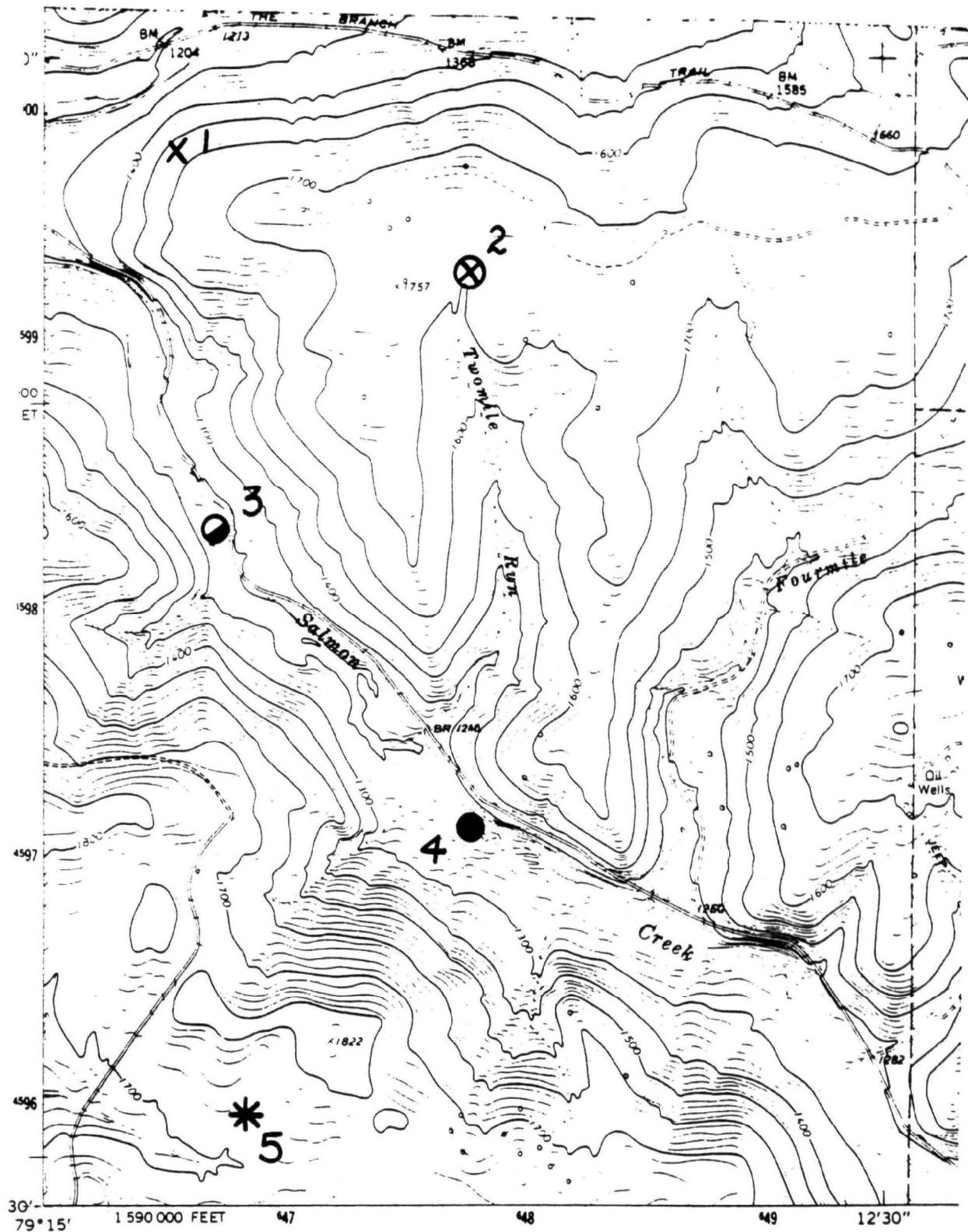
Surface Discharge: X Groundwater Discharge:
Pit: 2 Tank: X Surface Impoundment: Blow Box:

Other Reference Information

EPA Emergency Response Identification No.:
Pennsylvania Fish Commission Identifier:
EPA Environm. Photo Interpr. Center (EPIC) Identifier:
EPA UIC Permit No.: PAS2R200ZELK
UIC Project Name: PENNZOIL-HIGHLAND PLANT
UIC Project Status: AC Last UIC Update: 02/18/86
A DER Enforcement Case File Exists:

Status of this Discharge Record: FR Last Record Update: 07/23/87

COMMENTS: HIGHLAND WATERFLOOD. BRINE REINJECTED. FILTER BACKWASH DISCHARGE.



Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs

MAYBURG QUADRANGLE

SECTION 7

FIGURE 9. SAMPLE MAP SECTION

but were known to be within a given map or map segment. Information sheets for these discharges were assigned map key numbers of 801 or higher and all available location information given in the data fields and the comments. These 800 numbers do not appear on the maps.

Specific symbols have been used on the map sections as shown in Figure 9 to indicate the status of the specific record. An "X" is used when information in the database indicates that there is a potential or known source of brine discharge at that location. A circle around the X indicates that there is information in the NPDES file for that location. The information may be in the form of old permit applications for which permits were never issued or it may be an expired permit. If a current permit application exists for the discharge, the circle will be half filled in (a half black dot). If a current permit exists, the circle is filled in completely to form a large dot. If field verification has determined that no discharge exists at the location, an eight-point star is used, effectively a double X. These symbols were selected to allow maps to be revised as the discharge status changes by adding to the symbol rather than replacing the symbol entirely.

Farm and lease names in BRINE were taken from data source documents and may often represent the current owner of the property or an oil company lease name. They do not necessarily represent the Bureau of Oil and Gas Management well permit system farm names. Farm names were available for only about half of the records. The database can search for records by farm name but the above considerations must be kept in mind when performing such a search.

For the first approximately 300 records entered in BRINE, the latitude and longitude for each potential discharge point were scaled from the quad map. This proved to be a very time consuming process so for later record additions, the latitude and longitude were entered only if available from the data source document. Two forms of this information were used. When the latitude was scaled directly from the map, the actual latitude of the point was used. This was also the approach if the information came from a source document except when the document was a more recent DER oil or gas well permit. In that case, the new format of a major latitude coordinate with a measured offset was used.

OIL AND GAS PERMIT INFORMATION

Oil and gas permit information was entered for only a portion of the records. If the main source of discharge information was an NPDES permit or application, well permit information was usually not retrieved from DER files. Conversely, if the only information available on a discharge was it's location, well

permit information was retrieved whenever possible to identify possible responsible parties for the discharge. In as many cases as possible the operator was entered. This may have been the well driller in some cases, the lease operator in others and in some cases the actual owner. Well permit information was entered in some cases where only a single well was involved or was given as a reference point. In most cases, a project number and name were used as the tank battery or pits of interest were associated with numerous wells.

The well type refers to oil (OL), gas (GS) or combination oil and gas (OG). These are LUMIS codes. In most cases, wells were shown as OL or GS although some were probably combination wells in some of the oil fields. The type of operation refers to whether it was primary production (P), secondary recovery (WF for water flood or GF for gas flood) or tertiary (T) such as a micellar polymer waterflood.

NPDES PERMIT INFORMATION

NPDES information was taken directly from permit applications or permits when available. The facility name was usually an operator name and address. In the case of old applications (circa 1974), the names were sometimes changed in associated permit files. The permit status is used to indicate the type of latest permit information available. Codes used were OA (old application), OD (old draft permit), EX (expired permit), AE (administratively extended expired permit), CA (current permit application), DP (a current draft permit) and CP (current permit). The last permitting action date reflects the date of the last major action on the permit such as permit expiration or date of application. Where available, an outfall number or designation and name were entered. The number of outfalls was usually 1 or 0. Whenever possible, separate records were entered for each known outfall. Sometimes data were not adequate to locate multiple outfalls covered by one permit so the number of outfalls included were entered. Some of the old applications indicated 6+ outfalls. In these cases, a 6 was entered. The functioning of dBase for numerical fields enters a "0" whenever the field is left blank. Therefore, many records have zeros in the number of outfalls field when no information was available. Flow volumes were taken from permit applications when available and were entered to the nearest thousand gallons per day.

The stream receiving the discharge and next level stream were usually taken directly from the quad maps. In some cases the stream names were taken from PPC maps or enforcement case file reports or documents. The special protection watersheds refer to DER designations. They are high quality (HQ) and exceptional value (EV).

DISCHARGE TYPE AND SOURCE

Discharge type and source information summarizes available data. If file information indicated a surface discharge had existed, an X was entered. In some cases, the comments field will give additional information on the nature and date of discharge information. All NPDES permit applications were shown as having surface discharges even when "evaporation pits" were indicated in the application as the discharge point. If file information indicated that brine pits were not impermeable, a groundwater discharge indication was entered. In some cases, both surface and groundwater discharges were present.

An "X" was also used to indicate if file information showed that pits, tanks, surface impoundments or blow boxes were present. If the number at that location was described, the number was entered. Surface impoundments were used as a catch all description if it was clear that there was some form of impoundment and that it was probably larger than a typical brine pit.

OTHER REFERENCE INFORMATION

The last group of information was used to give references to other programs that had useful data for locating discharges and evaluating their nature and current status. The emergency response identification number refers to a file number assigned by the EPA spill control program office in Bradford. Entry of a number in this field indicates that the spill program observed some potential source of brine discharge at that location during detailed field surveys.

The Pennsylvania Fish Commission identifier was entered when data from the PFC indicated that a discharge had actually been observed at that location. An "X" was entered if only the discharge location was provided, often as an "X" on a quad map. If the discharge had been sampled or referenced in a study report, the sample number or site designation was entered in the database.

The EPIC identifier refers to input from two studies done by EPA's Environmental Photographic Interpretation Center. The first was the surface impoundment inventory done in 1979 and 1980. A number less than 50 indicates a map key from the 1979 study and a number of 50 or greater indicates a 1980 map key. For Jefferson county and further south, an aerial survey of possible gas well blow box locations was done in 1985-86 for EPA's UIC program. This photo survey also detected a number of potential surface discharges from gas wells. These are indicated by an "S" in the database.

In a number of cases, the sources of brine discharges were secondary recovery operations (water flood or gas flood) which

had permits for the injection wells from the EPA UIC program. Where available, permit numbers, project names and permit status were entered. For project status, an AC indicates active status, TA means temporarily abandoned (the project is inactive but injection wells have not been plugged) and PA means permanently abandoned. This status refers to the injection operations only. In some cases, the project had been converted back to primary production so the oil wells were still operating. The last UIC date refers to the date of last update of the UIC computer file information used as a data source.

Status of this discharge record is a field used to track progress in checking out and updating file information. All files were originally entered with an FR in this field to indicate the data were entered from a file review. Other codes such as IR can be used in this field to indicate inspector review of the data record, FC to indicate field check of the potential source, ND to indicate no discharge at this location and PC to indicate permitting complete. Codes can be invented as needed.

The last record update field is automatically replaced with the current date by the BRINE data system whenever a record is edited.

The comment field allows up to 120 characters of comments. This field was used for such information as tank battery and tank numbers, dates of discharge observations, relationships to other discharge points, etc.

VI. DISCUSSION OF STUDY RESULTS

The primary purpose of this study was to compile available information on known and potential sources of brine discharges from the oil and gas industry. The study was successful in meeting this objective. The 2,000 sources of brine discharges included in the inventory are believed to represent more than 95 percent of the discharges for which information was available. File information was available on less than 100 additional discharges, primarily from gas wells widely scattered across several counties, that were not entered into the inventory. Data are not adequate to reliably determine what percentage of the 2,000 sources represent currently active discharges or the extent to which the inventory reflects the overall status of discharges in Pennsylvania. The following sections provide information on the geographical and hydrological distribution of sources, the status of NPDES permitting actions and other information of interest to program managers and staff.

RELATIONSHIPS OF WELLS, TANK BATTERIES AND BRINE DISCHARGES

There are more than 100,000 oil and gas wells in Pennsylvania. The number that are currently active is unknown. There are more than 100,000 wells that have been permitted but many have been plugged or abandoned. An additional 20,000+ wells have been registered but other wells drilled prior to permit requirements have not yet been registered. As discussed in Section IV, every well is a potential source of brine discharge. However, because most oil wells are operated in groups by leases, produced fluids are conveyed to tank batteries for separation of oil and brine. The number of potential brine discharges is thus considerably less than the number of oil wells. This study found the number of wells ranged from one to more than 300 per discharge. The average is probably in the range of 10 to 30 oil wells per discharge.

This study clearly showed that most known brine discharges to surface waters occur from either water flood operations or from tank batteries. Tank batteries serve multiple wells, usually 10 to 50 wells per discharge. About 1020 tank batteries were identified by the study. Waterfloods typically had more than 50 wells per discharge. Tank batteries serving less than 10 wells on primary production usually discharged to "evaporation pits" which typically seeped to groundwater with little or no surface discharge. About 1,140 known or potential discharges were associated with brine pits including most of the tank batteries.

It is difficult to estimate what fraction of the approximately 1,420 potential or known sources of brine discharge from oil wells included in the inventory are active discharges.

Perhaps one-third of these are the types of sources such as brine pits, leaking wells, isolated tanks, etc. that may have existed as sources of discharges in the past but it is likely that discharges no longer exist. Field inspections of these sites will be necessary to eliminate them from the inventory. Perhaps another 200 to 300 potential sources are actual tank batteries which may be currently in operation but which have no discharge at the tank battery.

It is clear from this inventory that there is a need to be able to identify the location and brine disposal method for all active tank batteries. A complete inventory of tank batteries does not exist. Only partial listings exist for the larger operators that have submitted PPC plans. A complete tank battery inventory would aid greatly in follow up field investigations to verify which batteries have brine discharges. If this inventory also identified which wells are associated with each tank battery, this would greatly assist DER in other aspects of the oil well regulatory program such as bonding and well plugging permits.

For gas wells, brine discharges usually occur at each well. As discussed in Section IV, brine is usually stored in tanks at gas wells and hauled offsite for disposal. Numerous discharges were occurring in the past to blow boxes at well sites but the combination of DER and EPA enforcement activity against these disposal practices has eliminated more than 2,000 such discharges. The approximately 580 potential sources of brine discharges from gas wells included in this inventory are believed to reflect a relatively high percentage of the remaining potential or actual surface discharges from gas wells. About 170 of the potential sources are brine pits which may have been drilling pits present during the 1979-80 surface impoundment assessment but have since been closed. The others represent a mixture of surface discharges from overflowing blow boxes, surface releases, active blow boxes, discharges to brine pits and miscellaneous discharges such as drains from storage tanks or cases of overflowing storage tanks.

Gas wells are widely spaced over relatively large geographic areas. Most remaining discharges are relatively small in volume and occur periodically rather than continuously. Their detection is thus a difficult problem requiring relatively large field inspector resources. Most discharges are probably not reaching flowing streams and are therefore not NPDES permit cases. Gas well discharges would therefore appear to be of lower priority than oil well discharges with respect to environmental impacts and the NPDES permit program. The discharges are violations of EPA and DER regulations, however, and should continue to be abated, especially in special protection watersheds. Criminal violations, such as knowingly discharging brine from storage tanks installed as the result of DER or EPA orders, should be vigorously prosecuted.

GEOGRAPHICAL DISTRIBUTION OF SOURCES OF BRINE DISCHARGE

Oil and gas fields occur primarily in a wide band extending from north-central to southwestern Pennsylvania and including portions of about 30 counties [Figure 10]. This study found that known brine discharges occur in a much smaller area with most discharges occurring in relatively small portions of only seven counties. The oil discharges are primarily in McKean, Venango and Warren Counties with significant clusters of discharges also in Elk and Forest Counties. Areas of these five counties where most oil well discharges are grouped are shown in Figure 11. Gas well discharges are more widely scattered and are mostly in Indiana and Jefferson Counties. Armstrong, Crawford, Erie and Westmoreland Counties have significant gas well activities but most known discharges in these counties were widely scattered and are probably no longer in existence. For this reason, discharges in these counties were not included in the inventory unless they were on topographical maps for adjacent counties.

Table 5* summarizes the number of discharges by township/municipality for each county included in the inventory. Discharges occur in portions of about 106 townships and municipalities in 15 counties. Nearly one-fourth of the discharges (432) are in McKean County. Warren (359), Venango (334) and Forest (198) also have numerous oil field discharges while Indiana (371) and Jefferson (125) have most of the gas well discharges.

Figures 12 and 13 show the areas for which discharges were plotted on USGS maps for the Meadville and Pittsburgh DER regions, respectively. Map names are shown on the figures and listed in Table 6 which summarizes the distribution of discharges by map name and county. The 67 maps shown cover about 35,000 square miles. Oil and gas fields with potential discharges cover an average of only about one-third of the surface of a map or roughly 10,000 square miles. This reflects a discharge density of only about one per five square miles. In some locations, however, discharge density reached more than five discharges per square mile. The highest discharge densities observed occurred on the Bradford and Derrick City quads in McKean County, the Pleasantville quad in Venango County, the Sugar Grove quad in Warren County and the West Hickory quad in Forest County. These maps correspond to portions of the largest shaded areas on Figure 11.

Table 6 indicates that the number of discharges per map ranged from one to more than 150. Most maps have more than 10 discharges. There were several maps that had fewer discharges that were omitted from the inventory because the discharges were widely scattered and not near other clusters of discharges. The

* All tables in Section VI are placed at the end of the section.



OIL AND GAS FIELDS OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF RESOURCES MANAGEMENT
BUREAU OF
TOPOGRAPHIC AND GEOLOGIC SURVEY
Arthur A. Socolow, State Geologist

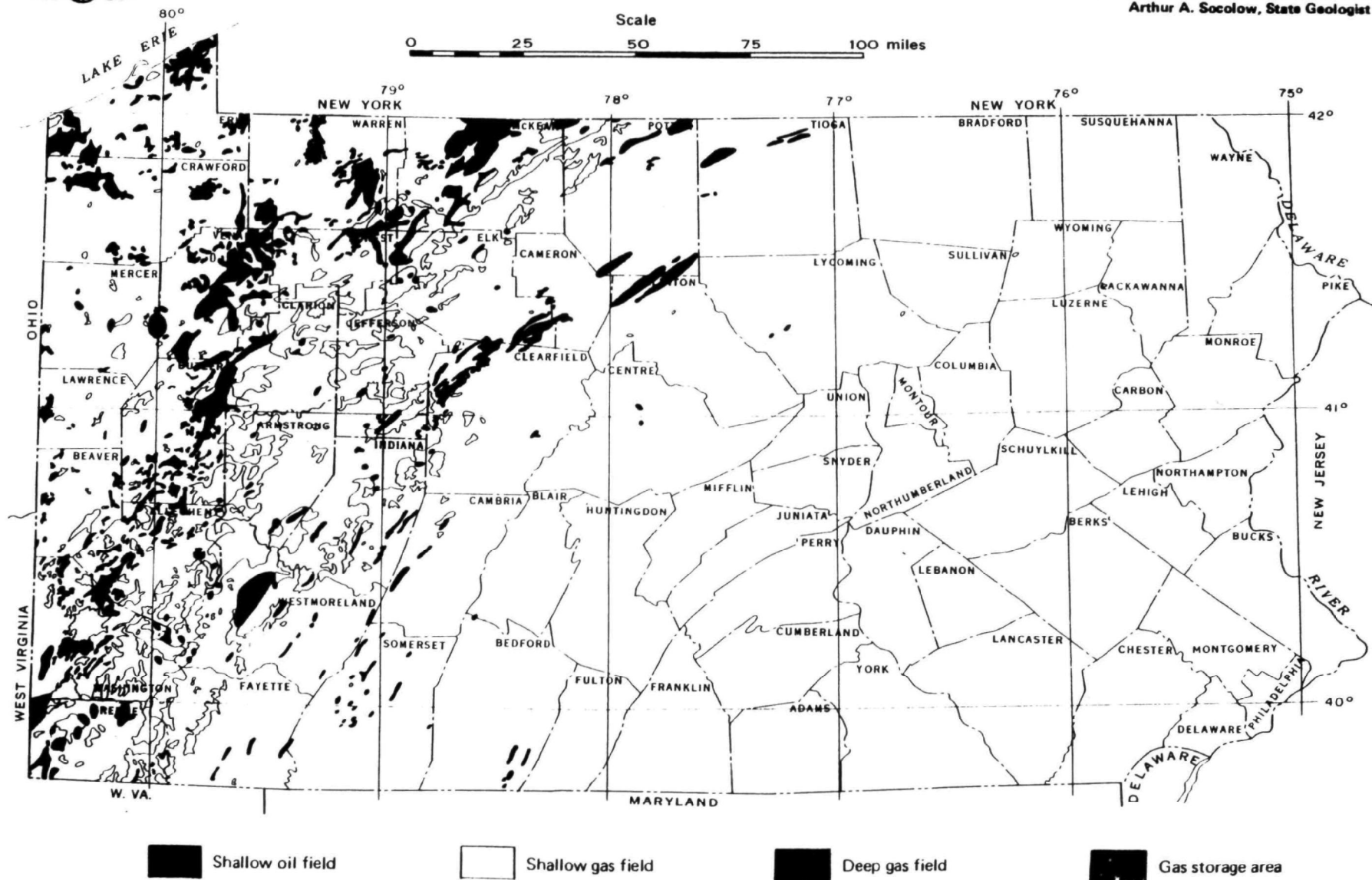
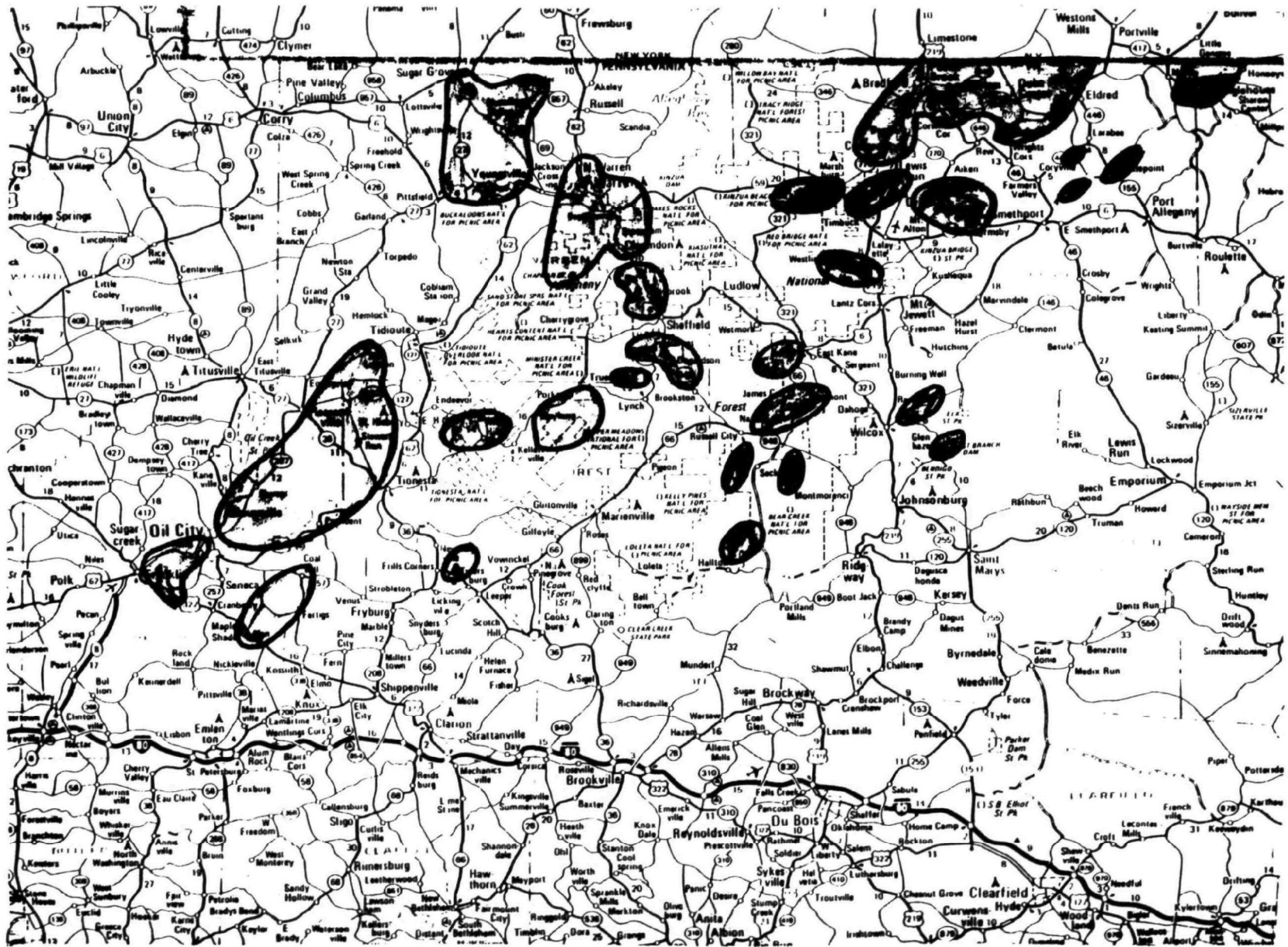


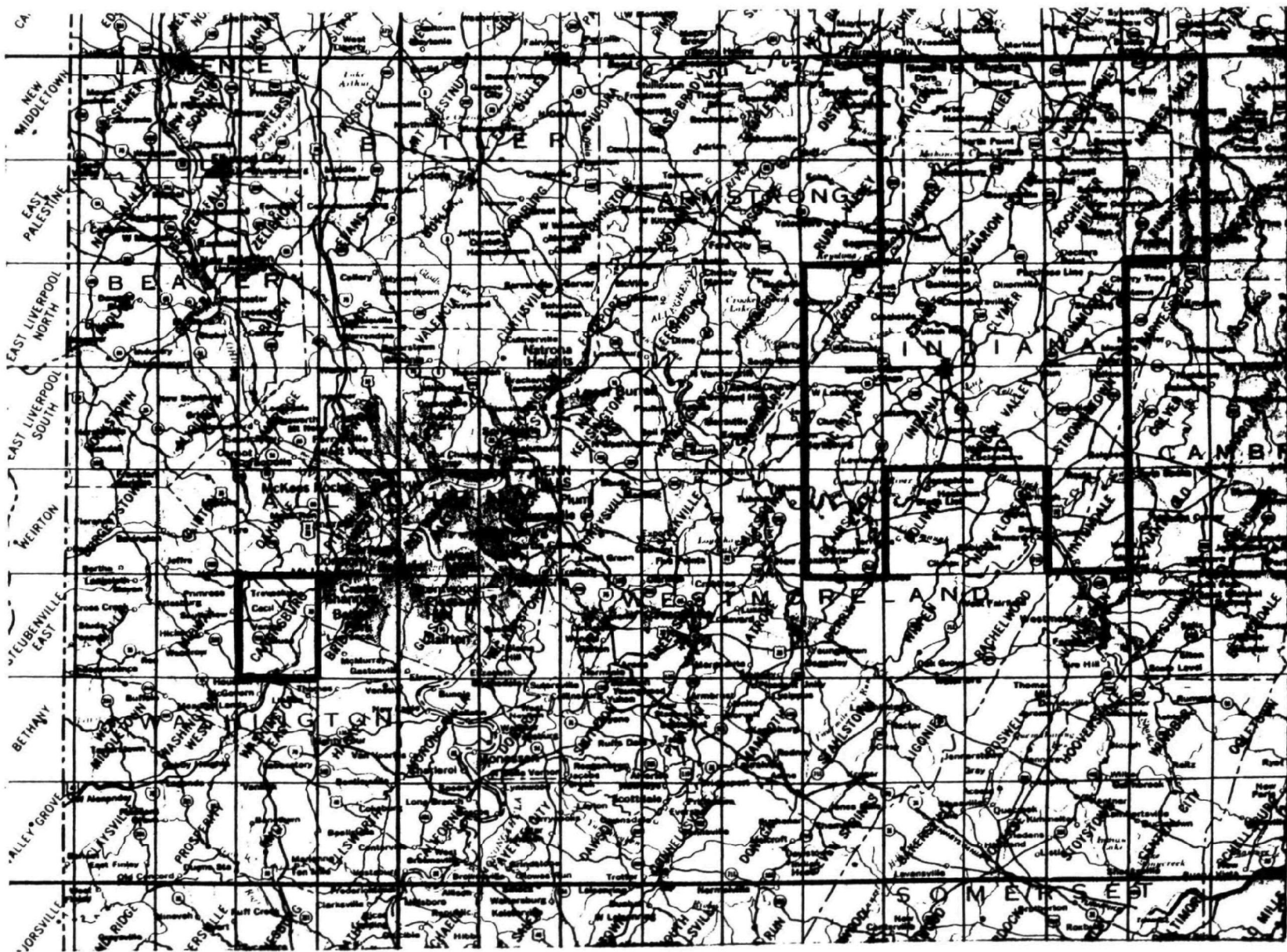
FIGURE 10. OIL AND GAS FIELDS OF PENNSYLVANIA

FIGURE 11. AREAS WITH OIL BRINE DISCHARGES



[illegible]

FIGURE 13. USGS MAP LOCATIONS, PITTSBURGH REGION



maps with a few discharges included in the inventory had discharges near clusters on other maps. Omitted maps totaled less than 50 discharges.

Specific information was not available to accurately locate about 65 sources of discharges listed in either old NPDES permit applications or enforcement case files. Information was adequate to locate these discharges within a map section. They were given map key numbers of 800 or higher and entered into the inventory but not plotted on the maps.

Table 7 is a listing of all discharges by map name and map section. It is the basic index to the appendix volumes as map sections and information sheets in the appendices are arranged by county in the same order as Table 7.

DISTRIBUTION OF DISCHARGES BY WATERSHED

Known or potential discharges occur directly to or in the drainages of about 370 named receiving streams. These receiving streams are tributary to a total of about 100 next level streams which may be either major streams such as the Allegheny River or simply the next waterway downstream. Table 8 summarizes the number of discharges for each receiving stream/second level stream pair. Table 9 lists all discharges by major stream and receiving stream watershed.

With the exception of about 50 discharges to the West Branch Susquehanna River and main stem Ohio River drainage areas, all of the discharges in the inventory occur in the Allegheny River watershed. There are additional discharges in this watershed from oil and gas operations in New York State.

There are about 56 discharges directly to the Allegheny River including six permitted large central brine treatment plants. Permit applications are pending for another three treatment plants on the Allegheny. Tributaries of the Allegheny River that receive numerous discharges directly or in their watersheds include Brokenstraw Creek (72), Conemaugh River (157), Conewango Creek (87), Crooked Creek (127), Dawson Run (33), Kinzua Creek (46), Knapp Creek (51), Mahoning Creek (220), Oil Creek (40), Pithole Creek (127), Redbank Creek (26), Stewart Run (83), Tionesta Creek (156), Tunungwant Creek (241) and West Hickory Creek (43).

The largest number of discharges (241) occurs in the Tunungwant Creek watershed surrounding Bradford in north-central McKean County. Tributaries in this drainage area that receive numerous discharges include the East Branch Tunungwant Creek (58), Foster Brook (44), Kendall Creek (24), Lewis Run (26), Sheppard Run (15) and West Branch Tunungwant Creek (33). Brokenstraw and Conewango Creeks are impacted by the clusters of discharges in the Chand-

lers Valley, Sugar Grove and Youngsville areas of Warren County. Oil and Pithole Creeks drain the major oil fields of Venango County between West Hickory and Oil City. Tionesta Creek drains Forest County oil fields. The Conemaugh River, Crooked Creek and Mahoning Creek drain the gas fields of Indiana and Jefferson Counties.

There are about 397 sources of discharges in special protection watersheds of which 27 are classified Exceptional Value and the remainder are High Quality watersheds. There are about 240 sources in oil field areas. McKean and Warren Counties have about 70 each and Elk and Forest Counties about 50 each. There are none in Venango County. Most of the gas well sources are in Indiana County (131).

NPDES PERMIT INFORMATION

A major starting point for development of the inventory was information from NPDES permit files including old 1971 to 1975 applications as well as active and expired permits and recent applications. NPDES information was available for a total of about 269 sources of discharge, about 13 percent of the total inventory. Because location information was inadequate to plot all discharge points covered by a single application, some sources actually involve multiple outfalls. A few applications reported 6+ discharges and are listed in the inventory as 6 outfalls. The 269 sources of discharge represent about 338+ outfall pipes with a total reported discharge of more than 3.3 mgd.

About 225 sources with NPDES numbers including most of the multiple discharge sources are located in McKean County, most in the Tunungwant Creek watershed. These are almost entirely discharges in existence prior to 1978 for which permit applications were submitted to EPA. They reflect a mixture of waterflood secondary recovery operations and primary production tank batteries. About 87 of the sources are waterfloods. Most of the waterfloods were issued permits by EPA while many of the primary producers were not issued permits, presumably because they reported discharges to "evaporation pits" although file information did not indicate the reasons for no permit issuance in most cases. DER administratively extended some permits, allowed others to expire or issued new permits based on renewal applications. Several active waterfloods have current permit applications under review by DER.

There are about 29 sources of discharge with NPDES permit numbers in Warren County. These are also discharges in existence prior to 1978 with the exception of two recent DER permits for brine treatment facilities. There are eight recent DER NPDES permits in Jefferson, Potter and Venango Counties for central brine treatment permits. Two active outfalls from a waterflood

in Elk County, and five old applications in Forest and Potter Counties complete the permit inventory.

Table 10 is a permit status report arranged by permit number that shows the operator, status, most recent permit action date, number of pipes at that location, reported discharge flow, map location and receiving stream. This status report shows that nearly half of the discharge points (126) were included in old permit applications but never received permits (OA). These were usually primary producers reporting evaporation pits. Old draft permits were found in the files for 20 discharge points for which permits were never issued (OD). Permits were issued to 45 sources of discharge which have since expired but were not renewed (EX). The files appeared to indicate some of these were inactive but most never submitted renewal applications. Renewal applications were received by EPA or DER from 16 discharge sources with expiring permits in the 1977-78 time frame for which permits were not reissued (AP). Current applications are under review by DER for 20 discharge sources, primarily waterflood operations (CA). Draft permits have been prepared for two discharges, a central brine treatment plant and a large waterflood (CA). DER permits have been issued to eight brine treatment plants (CP).

There are 136 separate NPDES permit numbers assigned to the 269 discharge points listed in Table 10. The number of outfalls per permit number range from one to more than 25. Permits with large numbers of outfalls were usually primary producers. Some waterflood operations had as many as five outfalls. Table 11 is a permit status report arranged alphabetically by operator name. There were 81 different operators for the 136 permits. Witco Chemical Corporation had the most permit numbers (17) although some of these appear to represent dual numbers for the same discharges.

Tables 10 and 11 show that most discharges with NPDES permit numbers are located on only a few USGS maps. About 60 sources of discharges with permit numbers were scattered among 21 maps with the remainder concentrated on only five maps. About 230 outfall pipes, two-thirds of those with permit numbers, are concentrated in an area of about 100 square miles in the Bradford, Derrick City and Lewis Run quad maps surrounding the City of Bradford. This corresponds to an area of numerous small primary production leases and most of the major waterflood operations.

OPERATOR AND FARM IDENTIFICATION

Operator names are key in follow up actions to determine if an actual discharge exists at each inventory point. Also key are farm names used to help find the discharge location. An attempt was made to include operator and farm names for every discharge. The specific nature of oil and gas operations and associated

legal records made assignment of current operator and farm names difficult. The operator field was used to record the person or company identified as responsible for oil or gas well operations whenever possible. Because the land surface and mineral rights are often in different ownerships, the operator was usually the mineral lease holder although this may sometimes have also been the land owner. In some cases, the operator may have been the name of an oil drilling company that installed the wells, the developer that secured the well drilling permits or some other third party associated with case files rather than the actual operator of the oil lease.

Farm names were also difficult to record accurately. Standard farm names are used by the DER well permit system. When data were obtained from well permits, this farm name was used. In other cases, farm names were taken from PPC plans or case reports and may have been a lease name, the current farm owner (possibly a different name than the DER well permit system) or some other identification information.

When NPDES permit data were available, the permit holder was recorded as the operator. If discharge locations were given in the permit file, no attempt was made to associate the discharge with well permits. In these cases, the farm names were often not known so no farm names were entered in the inventory. If discharge locations were not given, an attempt was made to match the discharge with well permits and farm names were entered when the match was successful.

Well permit data were sought for discharge sources identified by the EPIC surface impoundment assessment, the emergency response field activities and the Pennsylvania Fish Commission data. Where found, operator and farm names were entered from the well permits. For these types of data, well permits were found for about 60 percent of the discharges. A higher success rate would probably be possible now that well registrations have been plotted.

Operator names are present in the inventory for 66 percent of the discharges. As shown in Table 12, there are 250 different operator names. It is probable that some of these operators are no longer operating and others have changed their names. Revising these changes in the inventory will require a review by someone familiar with the history of recent name changes and business closings as many of the transfers of ownership of wells and changes in operators are not documented in DER files.

The number of discharges per operator ranged from one to more than 300 [Table 10] with the 10 largest producers accounting for about one-third of all discharge sources. Quaker State had the most potential sources of discharge (316) followed by Pennzoil (99), Compass Development (44) and Witco (43).

Farm names have been entered for 53 percent of the discharges. Table 13 shows the distribution of discharges by farm name, township and county. In this table, all discharges without farm names are displayed first for each township.

OIL AND GAS PERMIT INFORMATION

As discussed above, well permit data were obtained if available whenever operator names were not found. In most cases the well permit project number was entered in the inventory. This is usually an alphanumeric identifier incorporating the operators initials and a sequential project number assigned by DER. A project encompasses numerous wells on the same farm or lease. Usually discharges were associated with projects rather than single wells. In cases where discharges were associated with a well, the well permit number was entered. Well name and project names were entered infrequently.

Project numbers were entered for 15 percent of the database. Well numbers were entered for only 92 discharges. Only 70 and 104 well names and project names were entered, respectively.

The well type and type of operation were taken from the well permits when available and from other file information. Oil wells were designated by OL, gas wells by GS and combination wells by OG. Well type was entered whenever specifically indicated by file information or if the information was adequate to indicate clearly the type of operation. Most discharges in the inventory are from oil well operations. There were 1275 discharges, 64 percent of the total, specifically designated as originating from oil well operations. There were only 11 discharges reported as specifically originating from combination oil and gas well operations. It is probable that some of the operations designated as oil were actually oil and gas wells. There were 169 discharges specifically associated with gas fields. The remaining 27 percent of the discharges for which no type of operation was designated are most likely oil operations in all counties except Armstrong, Indiana, Jefferson and Westmoreland. No designations were made for these discharges because file information was not specific (i.e., brine pits in the EPIC inventory) but the probability is that they were from oil or gas operations.

The type of operation field was used to distinguish among primary production (P), secondary recovery (WF for waterflood and GF for gasflood) and tertiary recovery (T) oil field operations. There were 160 discharges specifically identified by file information as originating from waterflood secondary recovery operations. All but 9 of these were in McKean County. The 65 discharges originating from gas flood secondary recovery operations were divided among Forest (35), Venango (22) and Warren (8) Counties.

DISCHARGE TYPE AND SOURCE

An "x" was entered in the surface discharge field whenever file information specifically indicated that a surface discharge had existed at that location. A surface discharge indication was entered for all discharge locations with NPDES permit numbers even if the permit application indicated the discharge was to "evaporation" ponds. There were 794 discharge points with surface discharge information or NPDES numbers, 40 percent of the total.

A groundwater discharge indication was entered when file information indicated that seepage to groundwater was occurring or the discharge was to a blow box. Only 79 locations had reported groundwater discharges. It is probable that groundwater discharges were occurring at many other locations that had brine pits.

Whenever file information indicated that a pit or tank was probably present at a discharge location, an "x" was entered in the appropriate field. If the number of pits or tanks was given, it was entered in lieu of the x. There were 1144 discharge locations with pits and 1020 with tanks.

Surface impoundments were checked when file information indicated that something larger than a typical brine pit was the source of a discharge. There were only 26 sources of discharge of this type. The blow box field was used to indicate if a blow box was present at a gas well. There were 84 locations with blow boxes entered in the inventory. An additional 2,000 blow boxes closed by EPA and DER actions were not included in the inventory.

OTHER REFERENCE INFORMATION

File information on 65 discharges was obtained from the emergency response program. This information was compiled in May 1986. Additional field investigations have been conducted since that date that have probably identified additional discharges. These data could be compiled and added to the inventory. The sources of discharges identified by the emergency response program included various pits and tanks with poor housekeeping practices but also included a number of leaking or flowing wells. These were frequently improperly abandoned and were sometimes in the vicinity of active waterflood operations.

The Pennsylvania Fish Commission provided data on 129 surface discharges. These data reflect observations of actual discharges in the field since 1982 and are candidates for early review to verify the current status. Of the 129 discharges, NPDES permit numbers were assigned to nine, 11 were associated with emergency response identifiers, four with EPIC identifiers and 34 with DER enforcement case files.

A total of 758 potential sources of discharge were associated with EPIC surface impoundment assessment or blow box inventory data. Such discharge indications may reflect in part the presence of drilling pits that since have been closed.

UIC program permit information was available for about 214 discharges of which 120 were waterfloods, 63 were gas floods and 22 had returned to primary production. There were 40 discharges that file information (primarily old NPDES permit applications) indicated were waterflood operations but for which no UIC permit information was located. These may reflect old waterfloods no longer in operation or there may be some operations that should have UIC permits but do not now have them. The UIC information indicated that the waterflood injection well operations at 106 discharge locations were active (AC), 3 well operations were under construction (UC), 46 locations had wells temporarily abandoned (TA) and 38 locations had injection wells permanently abandoned (PA).

DER enforcement case files were associated with 386 discharge locations. These reflected locations covered by field inspection reports, correspondence and/or enforcement actions. The existence of an enforcement file indicates that the location was specifically addressed by DER but does not necessarily mean that enforcement action was taken against that location or that an environmental problem existed. The files contained PPC plans applicable to numerous additional locations for which the existence of an enforcement file was not shown in the inventory. When the discharge location was obtained from a PPC plan, this was usually indicated in the comments field.

Enforcement case files were associated with additional discharge locations included in the inventory but these were related to other problems such as erosion and sediment control, drilling violations, etc. and not to brine discharges.

Meadville case files associated with brine discharges were usually related to leaking or inadequate brine pit construction or unpermitted brine discharges at oil wells or to drinking water contamination problems resulting from brine discharges from both oil and gas wells. These were usually in the five major oil producing counties. Other case files were associated with leaking or overflowing brine storage tanks at gas wells in Crawford and Erie Counties. Sometimes this may have involved deliberate draining of brine tanks. In the Pittsburgh region, case files were most often associated with gas well brine discharges to blow boxes in Armstrong, Indiana and Westmoreland Counties. A few cases involved scattered unpermitted brine discharges from primary oil production facilities in Allegheny, Greene and Washington Counties. Both offices periodically investigated complaints and environmental problems related to road spreading of brine.

ACCURACY OF LOCATION INFORMATION

The accuracy of location information used in this study ranged from very accurate to very uncertain. Some discharges are probably plotted on the USGS topographical maps within 100 feet of their exact location. Such accuracy was possible when discharge locations were plotted on similar map copies in the files. At the opposite extreme, some location information was only adequate to determine that the discharge was located within the general boundaries of a 2.5 minute map segment, an area of roughly six square miles.

NPDES permit data often located the outfalls on map copies so these are accurate. In other cases, locations were given by latitude and longitude which is probably accurate within about 100-300 feet. When these locations were determined from farm name descriptions or well permit project numbers, the locations are "on the lease", which is within the farm or lease boundaries, sometimes an area of several hundred acres.

Most of the locations are within lease boundaries. This is the usual case when data came from enforcement files and from PPC maps although some PPC plans gave tank battery locations accurately. The PFC data, information from the emergency response program and the blow box inventory all provided close locations on map copies. The EPIC surface impoundment assessment data were plotted by latitude and longitude. Map overlays available from EPIC for the blow box inventory give access road paths that should be helpful in location of gas wells in the field.

Table 5. Summary of Discharges by County and Township

<u>County</u>	<u>Township/Municipality</u>	<u>Discharges</u>
ARMSTRONG		(38)
	COWANSHANNOCK TWP	13
	PLUMCREEK TWP	7
	REDBANK TWP	11
	WAYNE TWP	7
CAMBRIA	BLACKLICK TWP	2
CLARION		(6)
	ASHLAND TWP	1
	FARMINGTON TWP	5
CLEARFIELD		(30)
	BELL TWP	16
	BRADY TWP	1
	BURNSIDE TWP	12
	SANDY TWP	1
CRAWFORD	OIL CREEK TWP	1
ELK		(68)
	HIGHLAND TWP	32
	JONES TWP	29
	RIDGWAY TWP	1
	SPRING CREEK TWP	6
FOREST		(198)
	GREEN TWP	2
	HARMONY TWP	125
	HICKORY TWP	9
	HOWE TWP	32
	KINGSLEY TWP	25
	TIONESTA TWP	5
INDIANA		(371)
	ARMSTRONG TWP	4
	BANKS TWP	23
	BLACK LICK	4
	BRUSHVALLEY TWP	22
	BUFFINGTON TWP	5
	BURRELL	1
	CANOE TWP	14
	CENTER TWP	9
	CHERRYHILL TWP	29
	CONEMAUGH	2
	EAST MAHONING TWP	30
	GRANT TWP	40

Table 5. (Cont.) Summary of Discharges by County and Township

<u>County</u>	<u>Township/Municipality</u>	<u>Discharges</u>
	GREEN TWP	7
	MONTGOMERY TWP	8
	NORTH MAHONING TWP	19
	PINE TWP	1
	RAYNE TWP	54
	SOUTH MAHONING TWP	39
	WASHINGTON TWP	14
	WEST MAHONING TWP	9
	WHITE TWP	31
	YOUNG TWP	6
JEFFERSON		(125)
	BELL TWP	12
	CLOVER TWP	1
	ELDRED TWP	1
	GASKILL TWP	11
	HEATH TWP	4
	HENDERSON TWP	9
	KNOX TWP	2
	MCCALMONT TWP	14
	OLIVER TWP	7
	PERRY TWP	8
	PINECREEK TWP	2
	PORTER TWP	4
	RINGGOLD TWP	20
	ROSE TWP	4
	SNYDER TWP	1
	WARSAW TWP	1
	WASHINGTON TWP	1
	WINSLOW TWP	16
	YOUNG TWP	7
MCKEAN		(432)
	BRADFORD BORO	45
	ANNIN TWP	8
	BRADFORD TWP	80
	CERES TWP	5
	CORYDON TWP	13
	ELDRED TWP	20
	FOSTER TWP	79
	HAMILTON TWP	10
	HAMLIN TWP	4
	KEATING TWP	43
	LAFAYETTE TWP	59
	OTTO TWP	51
	WETMORE TWP	15

Table 5. (Cont.) Summary of Discharges by County and Township

<u>County</u>	<u>Township/Municipality</u>	<u>Discharges</u>
POTTER	SHARON TWP	7
VENANGO		(334)
	ALLEGHENY TWP	88
	CHERRYTREE TWP	2
	CORNPLANTER TWP	66
	CRANBERRY TWP	49
	OIL CREEK TWP	20
	PINEGROVE TWP	14
	PRESIDENT TWP	60
	ROCKLAND TWP	1
	SANDYCREEK TWP	6
	SUGARCREEK TWP	28
WARREN		(359)
	BROKENSTRAW TWP	69
	CHERRY GROVE TWP	2
	CONEWANGO TWP	11
	DEERFIELD TWP	9
	ELDRED TWP	5
	FARMINGTON TWP	11
	GLADE TWP	20
	MEAD TWP	38
	PITTSFIELD TWP	1
	PLEASANT TWP	53
	SHEFFIELD TWP	35
	SOUTHWEST TWP	15
	SPRING CREEK TWP	1
	SUGAR GROVE TWP	65
	TIDIOUTE BORO	1
	TRIUMPH TWP	12
	WATSON TWP	11
WASHINGTON	CECIL TWP	15
WESTMORELAND	DERRY TWP	14
MEADVILLE REGION SUBTOTAL		1530
PITTSBURGH REGION SUBTOTAL		470
INVENTORY TOTAL		2000

Table 6. Summary of Discharges by Map Name and County

<u>Map Name</u>	<u>County</u>	<u>Discharges</u>
BLAIRSVILLE	INDIANA	6
	WESTMORELAND	14
BRADFORD	McKEAN	116
BRUSH VALLEY	INDIANA	32
BULLIS MILLS	McKEAN	10
BURNSIDE	CLEARFIELD	14
	INDIANA	14
CANONSBURG	WASHINGTON	15
CLARENDON	WARREN	38
CLYMER	INDIANA	65
COMMODORE	INDIANA	21
COOLSPRING	JEFFERSON	8
CRANBERRY	VENANGO	9
CYCLONE	McKEAN	33
DAYTON	ARMSTRONG	7
	INDIANA	3
	JEFFERSON	17
DERRICK CITY	McKEAN	121
DUBOIS	CLEARFIELD	2
	JEFFERSON	2
ELDERTON	ARMSTRONG	5
	INDIANA	3
ELDRED	McKEAN	44
ERNEST	INDIANA	22
FRANKLIN	VENANGO	28
GLEN HAZEL	ELK	9
GRAND VALLEY	CRAWFORD	1
	WARREN	16
HALLTON	ELK	6
HAZEN	JEFFERSON	4
INDIANA	INDIANA	15
JAMES CITY	ELK	15
	McKEAN	1
KANE	McKEAN	11
KELLETTVILLE	FOREST	31
KENNERDELL	VENANGO	14
KOSSUTH	CLARION	1
	VENANGO	17
LEWIS RUN	McKEAN	55
LUDLOW	McKEAN	3
	WARREN	1
LYNCH	FOREST	7
MARION CENTER	INDIANA	40
MAYBURG	FOREST	26

Table 6. (Cont.) Summary of Discharges by Map Name and County

<u>Map Name</u>	<u>County</u>	<u>Discharges</u>
MCGEES MILLS	CLEARFIELD	14
	INDIANA	6
	JEFFERSON	15
MCINTYRE	INDIANA	7
MT. JEWETT	McKEAN	2
OIL CITY	VENANGO	56
PLEASANTVILLE	FOREST	19
	VENANGO	135
PLUMVILLE	ARMSTRONG	14
	INDIANA	47
PRESIDENT	FOREST	3
	VENANGO	59
PUNXSUTAWNEY	INDIANA	15
	JEFFERSON	20
REYNOLDSVILLE	JEFFERSON	32
RIDGWAY	ELK	1
ROCHESTER MILLS	INDIANA	54
RURAL VALLEY	ARMSTRONG	6
RUSSELL CITY	ELK	18
	FOREST	2
SHEFFIELD	WARREN	48
SHINGLEHOUSE	McKEAN	3
	POTTER	7
SIGEL	JEFFERSON	5
SMETHPORT	McKEAN	7
SPRING CREEK	WARREN	5
STICKNEY	McKEAN	10
STRONGSTOWN	CAMBRIA	2
	INDIANA	4
SUGAR GROVE	WARREN	104
SUMMERVILLE	ARMSTRONG	6
	JEFFERSON	8
TIDIOUTE	WARREN	14
TIONESTA	FOREST	1
TITUSVILLE SOUTH	VENANGO	16
TYLERSBURG	CLARION	5
	FOREST	2
VALIER	INDIANA	15
	JEFFERSON	14
VINTONDALE	INDIANA	3
WARREN	WARREN	79
WEST HICKORY	FOREST	107
WESTLINE	McKEAN	16
WILCOX	ELK	19
YOUNGSVILLE	WARREN	54

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
** Map Name: BLAIRSVILLE					
		1	1	CONEMAUGH RIVER	INDIANA
		2	2	AULTMANS RUN	INDIANA
		2	3	AULTMANS RUN	INDIANA
		3	4	BLACKLICK CREEK	INDIANA
		4	5	CONEMAUGH RIVER	INDIANA
		4	6	SPRUCE RUN	WESTMORELAN
		4	7	SPRUCE RUN	WESTMORELAN
		4	8	CONEMAUGH RIVER	WESTMORELAN
		4	9	SPRUCE RUN	WESTMORELAN
		5	10	SPRUCE RUN	WESTMORELAN
WILLIAM BORBONUS	PHILLIPS EXPLORATION INC	5	19	STONY RUN	WESTMORELAN
		6	11	CONEMAUGH RIVER	WESTMORELAN
		6	12	CONEMAUGH RIVER	INDIANA
ROBERT A PANIZZI	QUESTA PETROLEUM CO	7	20	MCCUNE RUN	WESTMORELAN
		8	13	STONY RUN	WESTMORELAN
		8	14	STONY RUN	WESTMORELAN
		8	15	STONY RUN	WESTMORELAN
		8	16	STONY RUN	WESTMORELAN
		8	17	STONY RUN	WESTMORELAN
		9	18	STONY RUN	WESTMORELAN
** Map Name: BRADFORD					
	WITCO CHEMICAL CORPORATION		819	W BR TUNUNGWANT CREEK	HQ MCKEAN
WT3427 LOT 114	WEAVER OIL CO.	3	1	BIERSLEY STREAM	MCKEAN
	W.M. KLINE OIL CO.	3	2	W BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	3	W BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	4	W BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	5	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	6	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	7	E BR TUNUNGWANT CREEK	MCKEAN
LINCOLN-ROSE OIL LEASE	PHILIP M. ROSE	3	8	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	9	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	3	10	E BR TUNUNGWANT CREEK	MCKEAN
EMERY	WITCO CHEMICAL CORPORATION	5	49	W BR TUNUNGWANT CREEK	MCKEAN
JACK	PECORA ENTERPRISES	5	50	W BR TUNUNGWANT CREEK	HQ MCKEAN
CRAFT LEASE	QUAKER STATE OIL REFINING CORP	5	51	W BR TUNUNGWANT CREEK	HQ MCKEAN
HARPER	BRYNER INTERESTS	5	52	W BR TUNUNGWANT CREEK	HQ MCKEAN
HUNTER & KNAPPENBERGER	BRYNER INTERESTS	5	53	W BR TUNUNGWANT CREEK	HQ MCKEAN
WT 3309	JOHN PURTLE	5	54	W BR TUNUNGWANT CREEK	HQ MCKEAN
ETNA	BRYNER INTERESTS	5	55	CROOKER HOLLOW	HQ MCKEAN
MULLHAUPT LEASE	WITCO CHEMICAL CORPORATION	5	56	CROOKER HOLLOW	HQ MCKEAN
BRINTON LEASE	QUAKER STATE	5	57	NILES HOLLOW	HQ MCKEAN
	W.M. KLINE OIL CO.	6	11	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	6	12	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	6	13	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	6	14	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	6	15	E BR TUNUNGWANT CREEK	MCKEAN
	W.M. KLINE OIL CO.	6	16	E BR TUNUNGWANT CREEK	MCKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
CATERINA ROSS FARM	W.M. KLINE OIL CO.	6	17	E BR TUNUNGWANT CREEK	McKEAN
	W.M. KLINE OIL CO.	6	18	E BR TUNUNGWANT CREEK	McKEAN
	W.M. KLINE OIL CO.	6	19	E BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	20	E BR TUNUNGWANT CREEK	McKEAN
	EDMONDS OIL CO.	6	21	BENNETT BROOK	McKEAN
	EDMONDS OIL CO.	6	22	BENNETT BROOK	McKEAN
	LOUIS ONOFRIO	6	23	W BR TUNUNGWANT CREEK	McKEAN
	LOUIS ONOFRIO	6	24	W BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	25	W BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	26	W BR TUNUNGWANT CREEK	McKEAN
	VAN TINE OIL CO.	6	27	W BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	28	W BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	29	W BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	30	W BR TUNUNGWANT CREEK	McKEAN
	VAN TINE OIL CO.	6	31	E BR TUNUNGWANT CREEK	McKEAN
	VAN TINE OIL CO.	6	32	E BR TUNUNGWANT CREEK	McKEAN
	GEORGE HANSON OIL CO.	6	33	E BR TUNUNGWANT CREEK	McKEAN
	VAN TINE OIL CO.	6	34	E BR TUNUNGWANT CREEK	McKEAN
	W.M. KLINE OIL CO.	6	35	E BR TUNUNGWANT CREEK	McKEAN
	W.M. KLINE OIL CO.	6	36	E BR TUNUNGWANT CREEK	McKEAN
STODDARD	W.M. KLINE OIL CO.	6	37	E BR TUNUNGWANT CREEK	McKEAN
	MINARD RUN OIL CO	6	38	UNNAMED TRIB	McKEAN
TIBBITTS		6	39	E BR TUNUNGWANT CREEK	McKEAN
	MINARD RUN OIL CO	6	40	UNNAMED TRIB	McKEAN
		6	41	E BR TUNUNGWANT CREEK	McKEAN
CRAM BELL	MINARD RUN OIL CO	6	42	E Br Tunungwant Creek	McKEAN
	W.M. KLINE OIL CO.	6	43	RUTHERFORD RUN	McKEAN
	MINARD RUN OIL CO	6	44	UNNAMED TRIB	McKEAN
BURTON HELENBROOK	MINARD RUN OIL CO	6	45	E BR TUNUNGWANT CREEK	McKEAN
	W.M. KLINE OIL CO.	6	46	E BR TUNUNGWANT CREEK	McKEAN
	MINARD RUN OIL CO	6	47	E BR TUNUNGWANT CREEK	McKEAN
	MINARD RUN OIL CO	6	48	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	801	TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	802	TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	803	TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	804	TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	805	TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	806	TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	807	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	808	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	809	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	810	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	6	811	E BR TUNUNGWANT CREEK	McKEAN
	BOUQUIN, FRED C.	6	816	E BR TUNUNGWANT CREEK	McKEAN
	RONALD A. DENNIS	6	817	E BR TUNUNGWANT CREEK	McKEAN
	RONALD A. DENNIS	6	818	E BR TUNUNGWANT CREEK	McKEAN
WOODWARD	W.M. KLINE OIL CO.	7	58	W BR TUNUNGWANT CREEK	HQ McKEAN
	W.M. KLINE OIL CO.	7	59	W BR TUNUNGWANT CREEK	HQ McKEAN
	BRYNER INTERESTS	8	60	CROOKER HOLLOW	HQ McKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
	Densmore?	8	61	Crooker Hollow	HQ McKEAN
		8	62	Crooker Hollow	HQ McKEAN
MULLHAUPT	WITCO CHEMICAL CORPORATION	8	63	TOME HOL	HQ McKEAN
	Densmore?	8	64	Tome Hol	HQ McKEAN
		8	65	SHEPPARD RUN	McKEAN
MULLHAUPT	WITCO CHEMICAL CORPORATION	8	66	SHEPPARD RUN	McKEAN
ENRIGHT, BERRY & QS	QUAKER STATE	8	67	KISSEM RUN	HQ McKEAN
MULLHAUPT	WITCO CHEMICAL CORPORATION	8	68	SHEPPARD RUN	McKEAN
ENRIGHT, BERRY & QS	QUAKER STATE	8	69	SHEPPARD RUN	McKEAN
MULLHAUPT LEASE	WITCO CHEMICAL CORPORATION	8	70	SHEPPARD RUN	McKEAN
	LEWIS HESS?	8	71	Sheppard Run	McKEAN
ENRIGHT LEASE	QUAKER STATE OIL REFINING CORP	8	72	Kissem Run	HQ McKEAN
CONKLIN	JACOB FARRELL	8	73	KISSEM RUN	HQ McKEAN
	MINARD RUN OIL CO	8	74	Unnamed Trib	McKEAN
		8	75	Unnamed Trib	McKEAN
	G.L. NIPPERT EST.	8	76	UNNAMED TRIB	McKEAN
HAFFESY	BRYNER INTERESTS	9	77	E BR TUNUNGWANT CREEK	McKEAN
	KINLEY OIL & GAS CORPORATION	9	78	E BR TUNUNGWANT CREEK	McKEAN
WT. 3905	WITCO CHEMICAL CORPORATION	9	79	SHEPPARD RUN	McKEAN
WT. 3905	WITCO CHEMICAL CORPORATION	9	80	SHEPPARD RUN	McKEAN
		9	81	SHEPPARD RUN	McKEAN
		9	82	SHEPPARD RUN	McKEAN
		9	83	Sheppard Run	McKEAN
WT. 3905	WITCO CHEMICAL CORPORATION	9	84	SHEPPARD RUN	McKEAN
"B" JEWETT	BRYNER INTERESTS	9	85	E BR TUNUNGWANT CREEK	McKEAN
STRIEK	BRYNER INTERESTS	9	86	E BR TUNUNGWANT CREEK	McKEAN
MARTIN	BRYNER INTERESTS	9	87	E BR TUNUNGWANT CREEK	McKEAN
	WITCO CHEMICAL CORPORATION	9	88	E Br Tunungwant Creek	McKEAN
	WITCO CHEMICAL CORPORATION	9	89	E BR TUNUNGWANT CREEK	McKEAN
FREEMAN	BRYNER INTERESTS	9	90	E BR TUNUNGWANT CREEK	McKEAN
CUSTER (3905)	WITCO CHEMICAL CORPORATION	9	91	SHEPPARD RUN	McKEAN
JEWETT (3905)	WITCO CHEMICAL CORPORATION	9	92	SHEPPARD RUN	McKEAN
JACKSON (3905)	WITCO CHEMICAL CORPORATION	9	93	SHEPPARD RUN	McKEAN
	BROWN & SON OIL CO.	9	812	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	9	813	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	9	814	E BR TUNUNGWANT CREEK	McKEAN
	BROWN & SON OIL CO.	9	815	E BR TUNUNGWANT CREEK	McKEAN
	PHILIP M. ROSE	9	820	E BR TUNUNGWANT CREEK	McKEAN
	WITCO CHEMICAL CORPORATION	9	821	E BR TUNUNGWANT CREEK	McKEAN
NORRIS FARM	NORRIS FARM (MRS. LEONARD JOHNS	9	822	SUGAR RUN	HQ McKEAN
NORRIS FARM	NORRIS FARM (MRS. LEONARD JOHNS	9	823	E BR TUNUNGWANT CREEK	McKEAN
** Map Name: BRUSH VALLEY					
THOMAS BONARRGIO	ADOBE OIL & GAS	1	1	YELLOW CREEK	INDIANA
		1	16	RAMSEY RUN	INDIANA
		1	17	RAMSEY RUN	INDIANA
		2	2	YELLOW CREEK	INDIANA
		2	18	TWO LICK CREEK	INDIANA
		2	19	TWO LICK CREEK	INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		2	20	TWO LICK CREEK	INDIANA
		3	21	YELLOW CREEK	INDIANA
		3	22	PENN RUN	INDIANA
		3	23	PENN RUN	INDIANA
JOHN H MILLER JR	UNION DRILLING INC	3	34	YELLOW CREEK	INDIANA
		4	3	YELLOW CREEK	INDIANA
		4	4	YELLOW CREEK	INDIANA
GLEN ELLISON	ADOBE OIL & GAS	4	5	YELLOW CREEK	INDIANA
		4	6	YELLOW CREEK	INDIANA
		4	7	YELLOW CREEK	INDIANA
		4	8	FERRIER RUN	INDIANA
		4	9	FERRIER RUN	INDIANA
		4	10	FERRIER RUN	INDIANA
		4	11	FERRIER RUN	INDIANA
		4	12	BRUSH CREEK	INDIANA
		5	13	FERRIER RUN	INDIANA
		6	29	LITTLE BRUSH CREEK	INDIANA
WILLIAM LEASURE	T.W. PHILLIPS GAS & OIL	7	14	BRUSH CREEK	INDIANA
		7	24	BRUSH CREEK	INDIANA
		7	25	BRUSH CREEK	INDIANA
		8	26	BRUSH CREEK	INDIANA
		9	15	BRUSH CREEK	INDIANA
		9	27	BRUSH CREEK	INDIANA
		9	28	BRUSH CREEK	INDIANA
		9	30	BRUSH CREEK	INDIANA
		9	31	BRUSH CREEK	INDIANA
BEN OLIVER	ENERGY PRODUCTION CO	9	32	BRUSH CREEK	INDIANA
BEN OLIVER	ENERGY PRODUCTION CO	9	33	BRUSH CREEK	INDIANA
		9	35	BRUSH CREEK	INDIANA
** Map Name: BULLIS MILLS					
CHAMPLIN LEASE	J. J. BUCHER	3	1	KINGS RUN	McKEAN
ROBERTS LEASE	J. J. BUCHER	3	2	KINGS RUN	McKEAN
HUGHES LEASE	MICON EXPLORATION	8	3	ANNIN CREEK	McKEAN
CROWLEY LEASE	MICON EXPLORATION	8	4	ANNIN CREEK	McKEAN
CROWLEY	ANNIN CREEK OIL CORP.	8	5	ANNIN CREEK	McKEAN
CROWLEY LEASE	MICON EXPLORATION	8	6	ANNIN CREEK	McKEAN
JOYCE-BENSON LEASE	KIMBERLY-AMERICAN RESOURCES	8	7	ANNIN CREEK	McKEAN
CARLSON LEASE	MICON EXPLORATION	8	8	ANNIN CREEK	McKEAN
CROWLEY	FRANCES D. CROWLEY	8	801	ROCK RUN	McKEAN
FRENCH LEASE	MICON EXPLORATION	9	9	ANNIN CREEK	McKEAN
** Map Name: BURNSIDE					
		1	1	S BR BEAR RUN	INDIANA
		1	2	S BR BEAR RUN	INDIANA
		1	3	S BR BEAR RUN	INDIANA
		1	4	S BR BEAR RUN	INDIANA
		2	5	S BR BEAR RUN	CLEARFIELD
		2	24	BEAR RUN	INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County		
DONALD L BURNS	ADOBE OIL & GAS	2	25 BEAR RUN	INDIANA		
		2	26 BEAR RUN	INDIANA		
		2	27 BEAR RUN	INDIANA		
		3	6 W BR SUSQUEHANNA RIVER	CLEARFIELD		
		3	7 W BR SUSQUEHANNA RIVER	CLEARFIELD		
		3	8 NORTH RUN	CLEARFIELD		
		4	9 CUSH CREEK	INDIANA		
		5	28 BRADY RUN	INDIANA		
		6	10 W BR SUSQUEHANNA RIVER	CLEARFIELD		
		6	11 W BR SUSQUEHANNA RIVER	CLEARFIELD		
RAYMOND BARRETT		6	12 W BR SUSQUEHANNA RIVER	CLEARFIELD		
		6	13 W BR SUSQUEHANNA RIVER	CLEARFIELD		
		6	14 SAWMILL RUN	CLEARFIELD		
		6	15 SAWMILL RUN	CLEARFIELD		
RORAHUGH		6	16 SAWMILL RUN	CLEARFIELD		
		6	17 SAWMILL RUN	CLEARFIELD		
		6	22 SAWMILL RUN	CLEARFIELD		
		7	18 CUSH CREEK	INDIANA		
		7	19 CUSH CREEK	INDIANA		
		7	20 CUSH CREEK	INDIANA		
		8	23 SHRYOCK RUN	INDIANA		
		9	21 SAWMILL RUN	CLEARFIELD		
		** Map Name: CANONSBURG				
				1	1 MILLER RUN	WASHINGTON
		1	2 MILLER RUN	WASHINGTON		
		1	3 MILLER RUN	WASHINGTON		
		1	4 MILLER RUN	WASHINGTON		
		1	5 MILLER RUN	WASHINGTON		
		1	6 MILLER RUN	WASHINGTON		
		1	7 MILLER RUN	WASHINGTON		
		1	8 MILLER RUN	WASHINGTON		
		1	9 MILLER RUN	WASHINGTON		
		1	10 MILLER RUN	WASHINGTON		
		4	11 MILLER RUN	WASHINGTON		
		4	12 MILLER RUN	WASHINGTON		
		4	13 MILLER RUN	WASHINGTON		
		4	14 MILLER RUN	WASHINGTON		
		4	15 MILLER RUN	WASHINGTON		
** Map Name: CLARENDON						
LUTZ	RAYMON & LAURIE BILLSTONE	1	1 GLADE RUN	WARREN		
THELIN	ELLINGTON HARDWOOD	1	21 GLADE RUN	WARREN		
CARL FREDRICK	WALTER HORNBERG	1	22 GLADE RUN	WARREN		
DONALDSON	P.E.M. ENTERPRISES	1	23 GLADE RUN	WARREN		
IRVINE	NED ZAFFINO	1	24 GLADE RUN	WARREN		
MYERS	SYNERGY CO	1	25 GLADE RUN	WARREN		
MAYBELL BAUER	ERICKSON, WELLS & OLSON OIL CO	1	26 GLADE RUN	WARREN		
GAFFNER	ELLINGTON HARDWOOD	1	802 GLADE RUN	WARREN		

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
SHANSHALA	ELLINGTON HARDWOOD	1	803	GLADE RUN	WARREN
HORNBURG	ELLINGTON HARDWOOD	1	804	GLADE RUN	WARREN
FREDRICK	ELLINGTON HARDWOOD	1	805	GLADE RUN	WARREN
MORRISON	P & M ENTERPRISES, INC.	1	806	GLADE RUN	WARREN
CURTIS	COTTON WELL DRILLING CO	1	807	GLADE RUN	WARREN
ABBOT	COTTON WELL DRILLING CO	1	808	GLADE RUN	WARREN
		2	2	GLADE RUN	WARREN
BILLSTONE	RAYMON & LAURIE BILLSTONE	2	3	ALLEGHENY RIVER	WARREN
FERTIG & FROST	RAYMON & LAURIE BILLSTONE	2	4	ALLEGHENY RIVER	WARREN
	BRIGHT WELL OIL & GAS CO	2	5	ALLEGHENY RIVER	WARREN
HERTZEL	RAYMON & LAURIE BILLSTONE	4	6	ALLEGHENY RIVER	WARREN
WINGER	CLARENDON PRODUCING CO	4	7	DUTCHMAN RUN	WARREN
YOUNG	NORTH PENN PIPE & SUPPLY CO	4	8	DUTCHMAN RUN	WARREN
LOT 462	CARL STARR	4	9	DUTCHMAN RUN	WARREN
RUHLMAN	I.L. GEER & SONS	4	10	DUTCHMAN RUN	WARREN
WILEY 20	COOK ENERGY, INC.	4	11	BROWNS RUN	WARREN
WILEY	COOK ENERGY, INC.	4	12	BROWNS RUN	WARREN
WILEX (WT 2958)	COOK ENERGY, INC.	5	13	BROWNS RUN	WARREN
WILEY EAST	COOK ENERGY, INC.	5	14	BROWNS RUN	WARREN
STREICH	SIGMA ENERGY RESOURCES	5	31	DUTCHMAN RUN	WARREN
JOYCE BENSON	KIMBERLY OIL & GAS	6	15	BROWNS RUN	WARREN
WHITE	NEIL J. SHARP	7	16	TIONESTA CREEK	WARREN
BERRY (LOT 559)	GEARY P. MEAD	7	18	TIONESTA CREEK	WARREN
TR 497	SOUTH PENN OIL CO	7	27	W BR TIONESTA CREEK	WARREN
DAVIS	MCLAN ASSOCIATES	7	28	W BR TIONESTA CREEK	HQ WARREN
ROBINSON	CLARENDON PRODUCING CO	8	17	TIONESTA CREEK	WARREN
BENSON	NORTH PENN PIPE & SUPPLY CO	8	19	TIONESTA CREEK	WARREN
LOT 74	PENNZOIL	9	20	SIX MILE RUN	HQ WARREN
LOT 75	BLACK STALLION	9	29	NORTH FORK	HQ WARREN
LOT 75	BLACK STALLION	9	30	NORTH FORK	HQ WARREN
** Map Name: CLYMER					
		1	6	CROOKED CREEK	INDIANA
		1	22	PINE RUN	INDIANA
MAX C ALTMAN	THE PEOPLES NATURAL GAS CO	1	61	BRUSH RUN	INDIANA
		2	1	CROOKED CREEK	INDIANA
		2	2	RAYNE RUN	INDIANA
		2	3	RAYNE RUN	INDIANA
		2	4	RAYNE RUN	INDIANA
		2	5	RAYNE RUN	INDIANA
		2	23	CROOKED CREEK	INDIANA
		2	24	CROOKED CREEK	INDIANA
		2	25	RAYNE RUN	INDIANA
		2	26	RAYNE RUN	INDIANA
		2	27	RAYNE RUN	INDIANA
		2	28	RAYNE RUN	INDIANA
		3	29	CROOKED CREEK	INDIANA
		3	30	CROOKED CREEK	INDIANA
		3	31	RAYNE RUN	INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		3	32	RAYNE RUN	INDIANA
		3	33	RAYNE RUN	INDIANA
		3	34	RAYNE RUN	INDIANA
		3	35	DIXON RUN	INDIANA
		3	36	DIXON RUN	INDIANA
		4	7	CROOKED CREEK	INDIANA
SLEEP HOLLOW CLUB	UNION DRILLING INC	4	8	CROOKED CREEK	INDIANA
		4	37	MCKEE RUN	INDIANA
BYRON FRICK	TURM OIL INC.	4	65	CROOKED CREEK	INDIANA
		5	9	CROOKED CREEK	INDIANA
		5	10	CROOKED CREEK	INDIANA
		5	11	CROOKED CREEK	INDIANA
		5	12	CROOKED CREEK	INDIANA
		5	38	CROOKED CREEK	INDIANA
		5	39	CROOKED CREEK	INDIANA
ORD HOUCK	UNION DRILLING INC	5	62	CROOKED CREEK	INDIANA
ROBERT BARCLAY	UNION DRILLING INC	5	63	CROOKED CREEK	INDIANA
		6	40	TWO LICK CREEK	INDIANA
		6	41	CROOKED CREEK	INDIANA
		6	42	CROOKED CREEK	INDIANA
		6	43	DIXON RUN	INDIANA
		7	13	TWO LICK CREEK	INDIANA
		7	14	TWO LICK CREEK	INDIANA
		7	15	TWO LICK CREEK	INDIANA
		7	16	CROOKED CREEK	INDIANA
		7	17	CROOKED CREEK	INDIANA
		7	18	CROOKED CREEK	INDIANA
		7	44	RAMSEY RUN	INDIANA
		7	45	RAMSEY RUN	INDIANA
		7	46	RAMSEY RUN	INDIANA
		7	47	MCKEE RUN	INDIANA
		7	48	MCKEE RUN	INDIANA
		7	49	MCKEE RUN	INDIANA
		7	50	RAMSEY RUN	INDIANA
		7	51	TWO LICK CREEK	INDIANA
		7	52	CROOKED CREEK	INDIANA
		7	53	CROOKED CREEK	INDIANA
		8	19	CROOKED CREEK	INDIANA
		8	20	TWO LICK CREEK	INDIANA
		8	21	TWO LICK CREEK	INDIANA
		8	54	CROOKED CREEK	INDIANA
		8	55	CROOKED CREEK	INDIANA
		8	56	CROOKED CREEK	INDIANA
A C AND INEZ M HUGHMANICK	UNION DRILLING INC	8	64	CROOKED CREEK	INDIANA
		9	57	PENN RUN	INDIANA
		9	58	PENN RUN	INDIANA
		9	59	PENN RUN	INDIANA
		9	60	PENN RUN	INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
** Map Name: COMMODORE					
		1	1	LITTLE MAHONING CREEK	HQ INDIANA
		1	2	LITTLE MAHONING CREEK	HQ INDIANA
		2	3	EAST RUN	HQ INDIANA
		2	4	NORTH BRANCH	INDIANA
		2	5	EAST RUN	HQ INDIANA
JOHN C BUTERBAUGH	KRIEBEL WELLS	2	14	LITTLE MAHONING CREEK	HQ INDIANA
		4	6	BUCK RUN	INDIANA
		5	7	NORTH BRANCH	INDIANA
		5	8	SOUTH BRANCH	INDIANA
		5	9	SOUTH BRANCH	INDIANA
		6	10	POMPEY RUN	INDIANA
		7	11	TWO LICK CREEK	INDIANA
		7	12	BROWNS RUN	INDIANA
HARRY T LUCAS	UNION DRILLING INC	7	15	BROWNS RUN	INDIANA
HARRY T LUCAS	UNION DRILLING INC	7	16	PENN RUN	INDIANA
KENNETH ALSOP	UNION DRILLING INC	7	17	PENN RUN	INDIANA
KENNETH ALSOP	UNION DRILLING INC	7	18	ROSE RUN	INDIANA
HARVEY BROWN	UNION DRILLING INC	7	19	ROSE RUN	INDIANA
KENNETH ALSOP	UNION DRILLING INC	7	20	ROSE RUN	INDIANA
HARVEY BROWN	UNION DRILLING INC	7	21	ROSE RUN	INDIANA
		8	13	ROSE RUN	INDIANA
** Map Name: COOLSPRING					
		1	1	FIVEMILE RUN	JEFFERSON
		1	2	SMATHERS RUN	JEFFERSON
		1	3	SMATHERS RUN	JEFFERSON
		3	4	SANDY LICK CREEK	JEFFERSON
		4	5	SMATHERS RUN	JEFFERSON
		8	6	HADDEN RUN	JEFFERSON
		9	7	HADDEN RUN	JEFFERSON
		9	8	HADDEN RUN	JEFFERSON
** Map Name: CRANBERRY					
CLARK	PETRO TECH	2	1	HALLS RUN	VENANGO
JOHNSON	PETRO TECH	2	2	TARKILN RUN	VENANGO
RICE	MCLAN ASSOCIATES	3	3	HALLS RUN	VENANGO
MILLER	MCLAN ASSOCIATES	3	4	HALLS RUN	VENANGO
TRAX	OIL CREEK DRILLING CO.	3	5	TARKILN RUN	VENANGO
WEBSTER	PETRO TECH	3	6	TARKILN RUN	VENANGO
STATE GAME LANDS #45	RED VALLEY ENTERPRIZES	6	7	TARKILN RUN	VENANGO
STATE GAME LANDS #45	RED VALLEY ENTERPRIZES	6	8	TARKILN RUN	VENANGO
STATE GAME LANDS #45	TECHNOL ENERGY	6	9	EAST SANDY CREEK	VENANGO
** Map Name: CYCLONE					
		1	1	DRONEY RUN	McKEAN
GEORGE WARE PURCHASE	PENNZOIL	1	2	WOLF RUN	McKEAN
GEORGE WARE PURCHASE	PENNZOIL	1	3	WOLF RUN	McKEAN
GEORGE WARE PURCHASE	PENNZOIL	1	4	RAILROAD RUN	McKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
BYRON ROSE	PENNZOIL	1	5	RAILROAD RUN	McKEAN
BINGHAM LOTS 421, 422, 423	ALLEN OIL COMPANY	2	6	S BR COLE CREEK	McKEAN
BINGHAM-SATTERFIELD	PENNZOIL	2	7	PANTHER RUN	McKEAN
	PENNZOIL	2	8	PANTHER RUN	McKEAN
PROJECT 8	PENNZOIL	2	9	PANTHER RUN	McKEAN
	PENNZOIL	2	10	PANTHER RUN	McKEAN
	PENNZOIL	2	11	PANTHER RUN	McKEAN
BINGHAM 533	PENNZOIL	2	12	PANTHER RUN	McKEAN
BINGHAM-SATTERFIELD	PENNZOIL	2	13	McQUEEN HOLLOW	McKEAN
LOT 614	D-Y-M CORPORATION	2	14	McQUEEN HOLLOW	McKEAN
BINGHAM 533	PENNZOIL	2	15	PANTHER RUN	McKEAN
BINGHAM-CULBERTSON	PENNZOIL	3	16	PANTHER RUN	McKEAN
		3	17	S BR COLE CREEK	McKEAN
	PENNZOIL	3	18	S BR COLE CREEK	McKEAN
	PENNZOIL	3	19	S BR COLE CREEK	McKEAN
TIDEWATER-BINGHAM	RICHARD B. HERZOG	4	20	E BR TUNUNGWANT CREEK	McKEAN
BINGHAM-SATTERFIELD	PENNZOIL	5	21	McQUEEN HOLLOW	McKEAN
LOT 576	D-Y-M CORPORATION	5	22	McQUEEN HOLLOW	McKEAN
	PENNZOIL	5	23	McQUEEN HOLLOW	McKEAN
		5	24	McQUEEN HOLLOW	McKEAN
	PENNZOIL	5	25	McQUEEN HOLLOW	McKEAN
	PENNZOIL	5	26	McQUEEN HOLLOW	McKEAN
BINGHAM-DEVONIAN	PENNZOIL	5	27	KINZUA CREEK	McKEAN
	PENNZOIL	5	28	McQUEEN HOLLOW	McKEAN
	PENNZOIL	5	29	McQUEEN HOLLOW	McKEAN
	PENNZOIL	5	30	KINZUA CREEK	McKEAN
	PENNZOIL	6	31	McQUEEN HOLLOW	McKEAN
KANE ESTATES	EDGAR NEWMAN, JR.	7	32	KINZUA CREEK	McKEAN
KANE ESTATES	EDGAR NEWMAN, JR.	7	33	KINZUA CREEK	McKEAN
** Map Name: DAYTON					
CLEO BROCIUS	TEMPLETON ENERGY INC	1	1	PINE RUN	ARMSTRONG
		1	27	SUGARCAMP RUN	ARMSTRONG
		2	2	PAINTER RUN	JEFFERSON
		2	3	EAGLE RUN	JEFFERSON
		2	4	EAGLE RUN	JEFFERSON
		2	5	CAYLOR RUN	JEFFERSON
		2	6	CAYLOR RUN	JEFFERSON
		2	7	PINE RUN	JEFFERSON
		3	8	CAYLOR RUN	JEFFERSON
		3	9	CAYLOR RUN	JEFFERSON
		3	10	CAYLOR RUN	JEFFERSON
		3	11	CAYLOR RUN	JEFFERSON
		3	12	PINE RUN	JEFFERSON
		3	13	PINE RUN	JEFFERSON
		3	14	PINE RUN	JEFFERSON
		4	15	NYE BRANCH	ARMSTRONG
		4	16	PINE RUN	ARMSTRONG
		4	17	MAHONING CREEK	ARMSTRONG

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
		6	18 MIDDLE BRANCH	JEFFERSON
		6	19 HAMILTON RUN	JEFFERSON
		6	20 HAMILTON RUN	JEFFERSON
		7	21 GLADE RUN	ARMSTRONG
		7	22 GLADE RUN	ARMSTRONG
		8	23 SUGARCAMP RUN	INDIANA
		8	24 SUGARCAMP RUN	JEFFERSON
		8	25 MAHONING CREEK	INDIANA
		9	26 CARR RUN	INDIANA
** Map Name: DERRICK CITY				
	GARY ORA MORTON	0	802 TUNUNGWANT CREEK	McKEAN
	RICHARD A. MERRY	0	804 KENDALL CREEK	McKEAN
	E.E. CARLSON OIL CO.	1	1 TUNUNGWANT CREEK	McKEAN
	E.E. CARLSON OIL CO.	1	2 TUNUNGWANT CREEK	McKEAN
NEWELL	PENNZOIL	1	3 UNNAMED TRIB	McKEAN
CARLSON (219)	QUAKER STATE	1	4 TUNUNGWANT CREEK	McKEAN
	W.M. KLINE OIL CO.	1	5 FOSTER BROOK	McKEAN
	W.M. KLINE OIL CO.	1	6 FOSTER BROOK	McKEAN
NEWELL LEASE	PENNZOIL	1	7 UNNAMED TRIB	McKEAN
	BRYNER INTERESTS	1	8 FOSTER BROOK	McKEAN
HAMPSHIRE & EMERY	BRYNER INTERESTS	1	9 FOSTER BROOK	McKEAN
		1	10 TUNUNGWANT CREEK	McKEAN
	JOHN DOBSON OIL COMPANY	1	11 TUNUNGWANT CREEK	McKEAN
CLARK-HANNA	GEORGE HANSON OIL CO.	1	12 FOSTER BROOK	McKEAN
TATE FARM	L & J OIL COMPANY	1	13 FOSTER BROOK	McKEAN
	PENNZOIL	1	14 FOSTER BROOK	McKEAN
FOX	WITCO CHEMICAL CORPORATION	1	15 FOSTER BROOK	McKEAN
SHANNON	WITCO CHEMICAL CORPORATION	1	16 FOSTER BROOK	McKEAN
		1	17 FOSTER BROOK	McKEAN
KRANTZ SUBDIVISION	ALAN DOUGLAS	1	18 TUNUNGWANT CREEK	McKEAN
	JOHN DOBSON OIL COMPANY	1	19 TUNUNGWANT CREEK	McKEAN
MELVIN	PENNZOIL	1	20 KENDALL CREEK	McKEAN
MELVIN	PENNZOIL	1	21 KENDALL CREEK	McKEAN
MELVIN	PENNZOIL	1	22 KENDALL CREEK	McKEAN
FOX	WITCO CHEMICAL CORPORATION	1	112 FOSTER BROOK	McKEAN
SHANNON	WITCO CHEMICAL CORPORATION	1	113 FOSTER BROOK	McKEAN
	DONALD PETERSON	1	801 FOSTER BROOK	McKEAN
	LINDA & ROGER FARRELL	1	803 FOSTER BROOK	McKEAN
	QUAKER STATE	2	23 HARRISBURG RUN	McKEAN
	PENNZOIL	2	24 HARRISBURG RUN	McKEAN
LOTS 31 & 33	TRAM HOLLOW OIL COMPANY	2	25 HARRISBURG RUN	McKEAN
		2	26 PENNBROOK RUN	McKEAN
BOYER	WITCO CHEMICAL CORPORATION	2	27 PENNBROOK RUN	McKEAN
WATSON	WITCO CHEMICAL CORPORATION	2	28 PENNBROOK RUN	McKEAN
LAWRY	PENNZOIL	2	29 FOSTER BROOK	McKEAN
MCFADDEN	WITCO CHEMICAL CORPORATION	2	30 FOSTER BROOK	McKEAN
MCFADDEN	WITCO CHEMICAL CORPORATION	2	31 FOSTER BROOK	McKEAN
BARRY	WITCO CHEMICAL CORPORATION	2	32 FOSTER BROCK	McKEAN

Table 7. List of All Discharges
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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
BARRY	WITCO CHEMICAL CORPORATION	2	33	FOSTER BROOK	McKEAN
MAXWELL-JACKSON	QUAKER STATE	2	34	PENNBROOK RUN	McKEAN
MAXWELL JACKSON	QUAKER STATE	2	35	PENNBROOK RUN	McKEAN
ENTERPRISE DERRICK-WILLETS	PENNZOIL	2	36	LAFFERTY RUN	McKEAN
GREER & SAVERLINE	WITCO CHEMICAL CORPORATION	2	37	UNT FOSTER BROOK	McKEAN
J.A. WALTERS	ALLEN OIL COMPANY	2	38	FOSTER BROOK	McKEAN
SAGE	PENNZOIL	2	39	FOSTER BROOK	McKEAN
		2	40	FOSTER BROOK	McKEAN
	QUAKER STATE	2	41	FOSTER BROOK	McKEAN
SAGE/EMERSON	PENNZOIL	2	42	FOSTER BROOK	McKEAN
SAGE	PENNZOIL	2	43	FOSTER BROOK	McKEAN
SAGE	PENNZOIL	2	44	FOSTER BROOK	McKEAN
	+	2	45	FOSTER BROOK	McKEAN
NEATH	WITCO CHEMICAL CORPORATION	2	46	FOSTER BROOK	McKEAN
BOLTON	WITCO CHEMICAL CORPORATION	2	47	FOSTER BROOK	McKEAN
WATSON	WITCO CHEMICAL CORPORATION	2	114	PENNBROOK RUN	McKEAN
NEATH	WITCO CHEMICAL CORPORATION	2	116	FOSTER BROOK	McKEAN
BORDEN LEASE	PENNZOIL	3	48	PENNBROOK RUN	McKEAN
BORDEN LEASE	PENNZOIL	3	49	PENNBROOK RUN	McKEAN
FREEMAN LEASE		3	50	PENNBROOK RUN	McKEAN
BURNS	PHILIP E. KAHLE	3	51	KNAPP CREEK	McKEAN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	3	52	TRAM HOLLOW RUN	McKEAN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	3	53	TRAM HOLLOW RUN	McKEAN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	3	54	TRAM HOLLOW RUN	McKEAN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	3	55	TRAM HOLLOW RUN	McKEAN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	3	56	TRAM HOLLOW RUN	McKEAN
TIP TOP (GIBSON)	WITCO CHEMICAL CORPORATION	3	57	FOSTER BROOK	McKEAN
	PENNZOIL	3	58	TRAM HOLLOW RUN	McKEAN
	TRAM HOLLOW OIL COMPANY	3	111	TRAM HOLLOW RUN	McKEAN
TIP TOP (GIBSON)	WITCO CHEMICAL CORPORATION	3	115	FOSTER BROOK	McKEAN
	PENNZOIL	4	59	BUCHANAN HOLLOW	McKEAN
	PENNZOIL	4	60	BUCHANAN HOLLOW	McKEAN
CARLSON	QUAKER STATE	4	61	KENDALL CREEK	McKEAN
WHIPPLE	PENNZOIL	4	62	KENDALL CREEK	McKEAN
	PENNZOIL	4	63	KENDALL CREEK	McKEAN
LAFFERTY	PENNZOIL	4	64	LAFFERTY RUN	McKEAN
WEBB LEASE	QUAKER STATE	4	65	KENDALL CREEK	McKEAN
GEORGE	QUAKER STATE	4	66	LAFFERTY RUN	McKEAN
WHIPPLE	PENNZOIL	4	67	KENDALL CREEK	McKEAN
WEBB LEASE	QUAKER STATE	4	68	KENDALL CREEK	McKEAN
WEBB LEASE	QUAKER STATE	4	69	KENDALL CREEK	McKEAN
	PECORA ENTERPRISES	4	70	RUTHERFORD RUN	McKEAN
MIDLAND-TAYLOR	PENNZOIL	4	71	KENDALL CREEK	McKEAN
	PENNZOIL	4	72	KENDALL CREEK	McKEAN
	EDGAR NEWMAN, JR.	4	110	KENDALL CREEK	McKEAN
GERMER ROYALTY	WITCO CHEMICAL CORPORATION	5	73	UNT KENDALL CREEK	McKEAN
BOYD-GERMER	WITCO CHEMICAL CORPORATION	5	74	KENDALL CREEK	McKEAN
WILLETTTS	J.H. GIBSON HEIRS	5	75	UNT KENDALL CREEK	McKEAN
BISETT	W.F. DEVLIN & GENEVIVE DEVLIN	5	76	UNT KENDALL CREEK	McKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
	MIDDLEBROUGH OIL COMPANY	5	77	UNT KENDALL CREEK	McKEAN
	PENNZOIL	5	78	KENDALL CREEK	McKEAN
RIXFORD (3995)	WITCO CHEMICAL CORPORATION	6	79	BAKER RUN	McKEAN
WEST & CARPENTER	PENNZOIL	6	80	BAKER RUN	McKEAN
KENNEDY	EASTERN ROYALTIES	6	81	BAKER RUN	McKEAN
KENNEDY	EASTERN ROYALTIES	6	82	BAKER RUN	McKEAN
	TYLER OIL CO.	6	83	S BR KNAPP CREEK	McKEAN
		6	84	S BR KNAPP CREEK	McKEAN
KNOX & S. LOOKER	PENNZOIL	6	85	S BR KNAPP CREEK	McKEAN
	PENNZOIL	6	86	S BR KNAPP CREEK	McKEAN
COLE FARM	PHILIP M. ROSE	7	87	MINARD RUN	McKEAN
	FREDRICK J. YOUNG	7	88	MINARD RUN	McKEAN
	FREDRICK J. YOUNG	7	89	MINARD RUN	McKEAN
MOODY TRACT	MINARD RUN OIL CO	7	90	FOSTER HOLLOW	McKEAN
MOODY TRACT	MINARD RUN OIL CO	7	91	MINARD RUN	McKEAN
MOODY TRACT	MINARD RUN OIL CO	7	92	MINARD RUN	McKEAN
MOODY TRACT	MINARD RUN OIL CO	8	93	KENDALL CREEK	McKEAN
MOODY TRACT	MINARD RUN OIL CO	8	94	KENDALL CREEK	McKEAN
KNOX LEASE	KENDALL REFINING COMPANY	8	95	KENDALL CREEK	McKEAN
BINGHAM LOT 416	ALLEN OIL COMPANY	8	96	S BR COLE CREEK	McKEAN
	PENNZOIL	9	97	S BR KNAPP CREEK	McKEAN
	PENNZOIL	9	98	S BR KNAPP CREEK	McKEAN
	PENNZOIL	9	99	S BR KNAPP CREEK	McKEAN
	PENNZOIL	9	100	S BR KNAPP CREEK	McKEAN
	DePETRO & ENGEL OIL COMPANY	9	101	N BR COLE CREEK	McKEAN
	DePETRO & ENGEL OIL COMPANY	9	102	BORDELL BROOK	McKEAN
	DePETRO & ENGEL OIL COMPANY	9	103	N BR COLE CREEK	McKEAN
	S.H. ELDER & COMPANY	9	104	N BR COLE CREEK	McKEAN
	S.H. ELDER & COMPANY	9	105	N BR COLE CREEK	McKEAN
	S.H. ELDER & COMPANY	9	106	N BR COLE CREEK	McKEAN
HOWARD & MCCULLEN LEASE	D-Y-M CORPORATION	9	107	N BR COLE CREEK	McKEAN
BROWN	S.H. ELDER & COMPANY	9	108	N BR COLE CREEK	McKEAN
		9	109	N BR COLE CREEK	McKEAN
	ARTHUR E. EKAS	9	805	N BR COLE CREEK	McKEAN
** Map Name: DUBOIS					
		4	1	MCCREIGHT RUN	JEFFERSON
		5	2	SUGARCAMP RUN	HQ CLEARFIELD
	J & J ENTERPRISES	5	4	SUGARCAMP RUN	HQ JEFFERSON
		9	3	BEAVER RUN	HQ CLEARFIELD
** Map Name: ELDERTON					
W CARL CALHOUN	APPALACHIAN ENERGY INC	2	6	CESSNA RUN	ARMSTRONG
W CARL CALHOUN	APPALACHIAN ENERGY INC	2	7	CESSNA RUN	ARMSTRONG
MYRTLE A PENROASE	ADOBE OIL & GAS	2	8	CESSNA RUN	ARMSTRONG
		3	1	PLUM CREEK	ARMSTRONG
		5	2	PLUM CREEK	ARMSTRONG
		8	3	WALKER RUN	INDIANA
		8	4	WALKER RUN	INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		9		5 CURRY RUN	INDIANA
** Map Name: ELDRED					
	WITCO CHEMICAL CORPORATION	1		1 KNAPP CREEK	McKEAN
BRENAN	NE AND RA BRENAN	1		2 KNAPP CREEK	McKEAN
UNION-KEATING	PENNZOIL	1		3 KANSAS BRANCH	McKEAN
UNION-KEATING	PENNZOIL	1		4 KANSAS BRANCH	McKEAN
UNION-KEATING	PENNZOIL	1		5 KANSAS BRANCH	McKEAN
WHEELER-KANSAS	PENNZOIL	1		6 KANSAS BRANCH	McKEAN
HARPER	PENNZOIL	1		7 KNAPP CREEK	McKEAN
	OIL VALLEY OIL CO.	1		804 KNAPP CREEK	McKEAN
HEMLOCK, LOT 277	PENNZOIL	2		8 KANSAS BRANCH	McKEAN
ZIMMER	PENNZOIL	2		9 INDIAN CREEK	McKEAN
		2		10 INDIAN CREEK	McKEAN
	PENNZOIL	2		11 INDIAN CREEK	McKEAN
HAMLIN SMITH	PENNZOIL	2		12 DRAKE HOLLOW	McKEAN
	P M OIL CO.	3		13 INDIAN CREEK	McKEAN
		3		14 INDIAN CREEK	McKEAN
	HEIRS OIL CO.	4		15 TRAM HOLLOW RUN	McKEAN
DUKE & BUCK	PENNZOIL	4		16 TRAM HOLLOW RUN	McKEAN
		4		17 TRAM HOLLOW RUN	McKEAN
DUKE & BUCK	PENNZOIL	4		18 S BR KNAPP CREEK	McKEAN
		4		19 KNAPP CREEK	McKEAN
	THOMAS KERVIN, III OIL CO.	4		20 KNAPP CREEK	McKEAN
	THOMAS KERVIN, III OIL CO.	4		21 KNAPP CREEK	McKEAN
		4		22 S BR KNAPP CREEK	McKEAN
GROW	LANPHAR OIL & GAS CO	4		23 KNAPP CREEK	McKEAN
GROW	LANPHAR OIL & GAS CO	4		24 KNAPP CREEK	McKEAN
WEST & CARPENTER	PENNZOIL	4		25 BERGER HOL	McKEAN
	HUNGIVILLE OIL CO.	4		26 S BR KNAPP CREEK	McKEAN
		4		27 S BR KNAPP CREEK	McKEAN
		4		28 S BR KNAPP CREEK	McKEAN
	JEEP OIL CO	4		29 S BR KNAPP CREEK	McKEAN
	MESSER OIL CO	4		30 S BR KNAPP CREEK	McKEAN
DUKE & BUCK	PENNZOIL	4		39 S BR KNAPP CREEK	McKEAN
WEST & CARPENTER	PENNZOIL	4		40 BERGER HOL	McKEAN
	HOWARD H. HOLMES	4		801 S BR KNAPP CREEK	McKEAN
	CURTIS OIL COMPANY	4		803 KNAPP CREEK	McKEAN
	THOMAS KERVIN, III OIL CO.	5		31 KNAPP CREEK	McKEAN
MCKALIP, SHUMAN, LOVE	JEEP OIL CO	7		32 S BR KNAPP CREEK	McKEAN
		7		38 N BR COLE CREEK	McKEAN
SHICK	CUNNINGHAM NATURAL GAS CORP.	9		33 MOODY HOLLOW	McKEAN
GUENTER	CUNNINGHAM NATURAL GAS CORP.	9		34 MOODY HOLLOW	McKEAN
CORY-UNDERWOOD	CUNNINGHAM NATURAL GAS CORP.	9		35 MOODY HOLLOW	McKEAN
HOLMES	CUNNINGHAM NATURAL GAS CORP.	9		36 MOODY HOLLOW	McKEAN
HOLMES	CUNNINGHAM NATURAL GAS CORP.	9		37 MOODY HOLLOW	McKEAN
	ROBERT P. LEWIS	9		802 POTATO CREEK	McKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
** Map Name: ERNEST				
		1	1 SUGARCAMP RUN	HQ INDIANA
		1	2 S BR PLUM CREEK	HQ INDIANA
		4	3 CROOKED CREEK	INDIANA
		5	4 CROOKED CREEK	INDIANA
		5	5 CROOKED CREEK	INDIANA
		5	6 CROOKED CREEK	INDIANA
		5	7 MCKEE RUN	INDIANA
		5	8 CROOKED CREEK	INDIANA
		6	9 CROOKED CREEK	INDIANA
		6	10 MCKEE RUN	INDIANA
		6	11 MCKEE RUN	INDIANA
		6	12 CROOKED CREEK	INDIANA
		6	13 MCKEE RUN	INDIANA
		6	14 MCKEE RUN	INDIANA
		7	15 CROOKED CREEK	INDIANA
		8	16 FULTON RUN	INDIANA
		8	17 FULTON RUN	INDIANA
		8	18 FULTON RUN	INDIANA
		8	19 WHITES RUN	INDIANA
		8	22 WHITES RUN	INDIANA
		9	20 WHITES RUN	INDIANA
		9	21 MCKEE RUN	INDIANA
** Map Name: FRANKLIN				
RENO (LOWER FARM)	QUAKER STATE	6	1 ALLEGHENY RIVER	VENANGO
RENO	QUAKER STATE	6	2 BRANNON RUN	VENANGO
RENO	QUAKER STATE	6	3 BRANNON RUN	VENANGO
CUBBON	ADOBE OIL & GAS	6	27 TWOMILE RUN	VENANGO
MOYER	ADOBE OIL & GAS	6	28 TWOMILE RUN	VENANGO
PRITCHARD	WEAVER & PRESTON	8	5 ALLEGHENY RIVER	VENANGO
	WEAVER & PRESTON	8	6 ALLEGHENY RIVER	VENANGO
	WEAVER & PRESTON	8	7 ALLEGHENY RIVER	VENANGO
	WEAVER & PRESTON	8	8 ALLEGHENY RIVER	VENANGO
DALMASO	APEX RESOURCES	8	10 LOWER TWOMILE RUN	VENANGO
FRANK	APEX RESOURCES	8	11 LOWER TWOMILE RUN	VENANGO
BEST	APEX RESOURCES	8	12 LOWER TWOMILE RUN	VENANGO
		8	13 LOWER TWOMILE RUN	VENANGO
RENO	QUAKER STATE	9	4 BRANNON RUN	VENANGO
	RIVER RIDGE	9	9 ALLEGHENY RIVER	VENANGO
SOLLE	KAUFMAN ENTERPRIZES	9	14 LOWER TWOMILE RUN	VENANGO
TRACT 83	QUAKER STATE	9	15 LOWER TWOMILE RUN	VENANGO
TRACT 35	QUAKER STATE	9	16 LOWER TWOMILE RUN	VENANGO
TRACT 83	QUAKER STATE	9	17 LOWER TWOMILE RUN	VENANGO
TRACT 35	QUAKER STATE	9	18 LOWER TWOMILE RUN	VENANGO
TRACT 1 OR 82	QUAKER STATE	9	19 LOWER TWOMILE RUN	VENANGO
TRACT 1	QUAKER STATE	9	20 LOWER TWOMILE RUN	VENANGO
TRACT 1	QUAKER STATE	9	21 LOWER TWOMILE RUN	VENANGO
TRACT 82	QUAKER STATE	9	22 LOWER TWOMILE RUN	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
TRACT 82	QUAKER STATE	9	23 LOWER TWOMILE RUN	VENANGO
TRACT 81	QUAKER STATE	9	24 LOWER TWOMILE RUN	VENANGO
	PENNZOIL	9	25 LOWER TWOMILE RUN	VENANGO
TRACTS 81, 82, 83	QUAKER STATE	9	26 LOWER TWOMILE RUN	VENANGO
** Map Name: GLEN HAZEL				
	DERRICK EQUIPMENT	4	1 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	2 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	3 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	4 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	5 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	6 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	7 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	8 E BR CLARION RIVER	HQ ELK
	DERRICK EQUIPMENT	4	9 E BR CLARION RIVER	HQ ELK
** Map Name: GRAND VALLEY				
	QUAKER STATE	2	1 CALDWELL CREEK	HQ WARREN
	QUAKER STATE	4	2 CALDWELL CREEK	HQ WARREN
MARSH, COCHRAN & BROWN	MCCOUN CO.	4	17 CALDWELL CREEK	HQ CRAWFORD
TARBELL	QUAKER STATE	5	3 CALDWELL CREEK	HQ WARREN
TARBELL	QUAKER STATE	5	4 CALDWELL CREEK	HQ WARREN
TARBELL	QUAKER STATE	5	5 CALDWELL CREEK	HQ WARREN
		5	6 CALDWELL CREEK	HQ WARREN
PHILADELPHIA	QUAKER STATE	6	7 PINE CREEK	WARREN
BLOOM	PENN WEST MINERAL RESOURCES	6	8 PINE CREEK	WARREN
		7	9 PINE CREEK	WARREN
		8	10 PINE CREEK	WARREN
		9	11 PINE CREEK	WARREN
WAYNE VINCENT, JR.	KEY OIL CO.	9	12 GILSON RUN	WARREN
MANUELL	KEY OIL CO.	9	13 GILSON RUN	WARREN
JENKS	EAGLE LINE CORP.	9	14 GILSON RUN	WARREN
HUNTER	RETURN OIL CO.	9	15 GILSON RUN	WARREN
BLAINE LUKE	RETURN OIL CO.	9	16 GILSON RUN	WARREN
** Map Name: HALLTON				
WT 1566	PECORA ENTERPRISES	6	1 IRWIN RUN	ELK
WT 3737	PECORA ENTERPRISES	6	2 IRWIN RUN	ELK
WT 3737	PECORA ENTERPRISES	6	3 IRWIN RUN	ELK
HALLTON	PECORA ENTERPRISES	6	5 IRWIN RUN	ELK
WT 3737	PECORA ENTERPRISES	9	4 IRWIN RUN	ELK
HALLTON LEASE	PECORA ENTERPRISES	9	6 IRWIN RUN	ELK
** Map Name: HAZEN				
		1	1 NORTH FORK	HQ JEFFERSON
		3	2 MILL CREEK	JEFFERSON
		5	3 KEYS RUN	JEFFERSON
		8	4 FIVEMILE RUN	JEFFERSON

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
** Map Name: INDIANA					
		1	1	CURRY RUN	INDIANA
WILLIAM OR MARGARET LAZOR	ANGERMAN GAS VENTURE #6	2	801	MCCARTHY RUN	INDIANA
WILLIAM OR MARGARET LAZOR	ANGERMAN GAS VENTURE #6	2	802	MCCARTHY RUN	INDIANA
		4	2	STEWART RUN	INDIANA
		6	3	TWO LICK CREEK	INDIANA
		6	4	YELLOW CREEK	INDIANA
		6	5	YELLOW CREEK	INDIANA
		6	6	TWO LICK CREEK	INDIANA
		6	7	YELLOW CREEK	INDIANA
		6	8	YELLOW CREEK	INDIANA
		7	9	MUDDY RUN	INDIANA
		8	10	CHERRY RUN	INDIANA
		9	11	TEARING RUN	INDIANA
		9	12	TEARING RUN	INDIANA
		9	13	TEARING RUN	INDIANA
** Map Name: JAMES CITY					
	MCKENNA OIL CO.	1	1	MARTIN RUN	HQ MCKEAN
		1	2	MARTIN RUN	HQ ELK
		1	3	MARTIN RUN	HQ ELK
		1	4	MARTIN RUN	HQ ELK
		1	5	WOLF RUN	HQ ELK
		1	6	WOLF RUN	HQ ELK
		1	7	WOLF RUN	HQ ELK
		1	8	COON RUN	HQ ELK
		1	9	COON RUN	HQ ELK
		1	10	COON RUN	HQ ELK
J. RUSSELL THOMPSON	COLUMBIA GAS TRANSMISSION CORP	1	11	COON RUN	HQ ELK
		1	12	COON RUN	HQ ELK
LOT 4	VANDERBUILT RESOURCES	5	13	SLIDE RUN	HQ ELK
HANLEY & BIRD	PEN CAL CONTRACTORS	7	14	E BR SPRING CREEK	HQ ELK
		7	15	MAPLE RUN	HQ ELK
LOT #4	NATIONAL FUEL GAS	7	16	MAPLE RUN	HQ ELK
** Map Name: KANE					
DUTTER LEASE	MERIDIAN EXPLORATION	1	11	MUDLICK RUN	HQ MCKEAN
LOT 263	THRESHOLD DRILLING	5	1	S BR KINZUA CREEK	HQ MCKEAN
KANE OIL (LOT 426)	H. A. MCKENNA	7	2	E BR TIONESTA CREEK	HQ MCKEAN
MCDADE/WETMORE	PENNZOIL	7	3	E BR TIONESTA CREEK	HQ MCKEAN
WT 3767 (MOSER)	H. A. MCKENNA	7	4	MARTIN RUN	HQ MCKEAN
WT 3767 (MOSER)	H. A. MCKENNA	7	5	MARTIN RUN	HQ MCKEAN
WT 3767 (MOSER)	H. A. MCKENNA	7	6	MARTIN RUN	HQ MCKEAN
FINNESSY	WITCO CHEMICAL CORPORATION	7	10	WEST RUN	HQ MCKEAN
		8	7	WILSON RUN	MCKEAN
		8	8	WILSON RUN	MCKEAN
		8	9	WILSON RUN	MCKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
** Map Name: KELLETTVILLE					
LOT 5200	JOHN VERTULLO	1	1	BEAVER RUN	HQ FOREST
GUY HUNTER (WT 5199)	RALPH ALBRIGHT DRILLING CO.	2	2	BEAVER RUN	HQ FOREST
GAS FIELD	QUAKER STATE OIL CO	2	3	OTTER CREEK	HQ FOREST
GAS FIELD	QUAKER STATE OIL CO	2	4	BEAVER RUN	HQ FOREST
WT 5218	KELLEY-VERTULLO	3	5	BEAVER RUN	HQ FOREST
LOT 5201	RALPH ALBRIGHT DRILLING CO.	4	6	BEAVER RUN	HQ FOREST
MCCOY-SMALLWOOD	QUAKER STATE OIL CO	4	7	BEAVER RUN	HQ FOREST
WT 5200	ENDEAVOR VENTURES	4	8	CAMP RUN	HQ FOREST
POSEY FIELD-LITTLE HICKORY	QUAKER STATE	4	9	LITTLE HICKORY RUN	HQ FOREST
FLYNN	QUAKER STATE	5	10	WOLF RUN	HQ FOREST
FLYNN	QUAKER STATE	5	11	EAST BRANCH	HQ FOREST
STOBER	COMPASS DRILLING INC	5	12	EAST BRANCH	HQ FOREST
WT 5198	NORTHEAST ENERGY DEVELOPMENT	5	13	EAST BRANCH	HQ FOREST
WT 5198	NORTHEAST ENERGY DEVELOPMENT	5	14	EAST BRANCH	HQ FOREST
WT 5198	NORTHEAST ENERGY DEVELOPMENT	5	15	EAST BRANCH	HQ FOREST
WT 5198	NORTHEAST ENERGY DEVELOPMENT	5	16	EAST BRANCH	HQ FOREST
WT 5198	NORTHEAST ENERGY DEVELOPMENT	5	17	EAST BRANCH	HQ FOREST
SKALSKI LEASE (WT 5212)	MERIDIAN EXPLORATION	6	18	WEST FORK	HQ FOREST
GUNNISON LEASE (WT 5213)	MERIDIAN EXPLORATION	6	19	EAST FORK	HQ FOREST
WT 5213	QUAKER STATE	6	20	EAST FORK	HQ FOREST
WT 5213	QUAKER STATE	6	21	EAST FORK	HQ FOREST
WT 5213	QUAKER STATE	6	22	EAST FORK	HQ FOREST
WT 5217	MERIDIAN EXPLORATION	6	23	EAST FORK	HQ FOREST
WT 5213	QUAKER STATE	6	24	FORK RUN	HQ FOREST
WT 5213	QUAKER STATE	6	25	FORK RUN	HQ FOREST
VERTULLO DEV	QUAKER STATE	6	26	LITTLE MINISTER RUN	FOREST
VERTULLO DEV	QUAKER STATE	6	27	LITTLE MINISTER RUN	FOREST
VERTULLO DEV	QUAKER STATE	6	28	LITTLE MINISTER RUN	FOREST
WT 5213		6	29	BERLIN FORK	HQ FOREST
VERTULLO DEV	QUAKER STATE	6	30	FORK RUN	HQ FOREST
LOT 5214	J.E. KELLEY	6	31	FORK RUN	HQ FOREST
** Map Name: KENNERDELL					
	RO WAY OIL & GAS, INC.	2	1	ALLEGHENY RIVER	VENANGO
	MOODY & ASSOC	2	2	ALLEGHENY RIVER	VENANGO
	FRANKLIN BRINE TREATMENT CO.	2	3	ALLEGHENY RIVER	VENANGO
	NORWESCO	2	10	ALLEGHENY RIVER	VENANGO
SHILLADAY	MOODY & ASSOC	2	11	ALLEGHENY RIVER	VENANGO
HILL FARM	RO WAY OIL & GAS, INC.	2	12	ALLEGHENY RIVER	VENANGO
SHILLADAY	MOODY & ASSOC	2	14	ALLEGHENY RIVER	VENANGO
ED CULBERTSON	ED CULBERTSON	3	4	ALLEGHENY RIVER	VENANGO
DALE	QUAKER STATE OIL CO	3	5	ALLEGHENY RIVER	VENANGO
SMITH	QUAKER STATE OIL CO	3	6	ALLEGHENY RIVER	VENANGO
SMITH	QUAKER STATE OIL CO	3	7	ALLEGHENY RIVER	VENANGO
SMITH	QUAKER STATE OIL CO	3	8	ALLEGHENY RIVER	VENANGO
		3	9	ALLEGHENY RIVER	VENANGO
WASSON	QUAKER STATE	6	13	PORCUPINE RUN	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
** Map Name: KOSSUTH					
		1	1	TARKILN RUN	VENANGO
PERRY (HANBY LEASE)	RED VALLEY ENTERPRIZES	1	2	EAST SANDY CREEK	VENANGO
LOWERS	PETRO TECH	1	3	TARKILN RUN	VENANGO
LOWERS	TECHNOL ENERGY	1	4	TARKILN RUN	VENANGO
CUNNINGHAM	CRYSTAL SPRINGS OIL CO.	1	5	EAST SANDY CREEK	VENANGO
CUNNINGHAM	CRYSTAL SPRINGS OIL CO.	1	6	EAST SANDY CREEK	VENANGO
AUSEL	OIL CREEK DRILLING CO.	1	7	TARKILN RUN	VENANGO
KAVOURAS	MCLAN ASSOCIATES	1	17	TARKILN RUN	VENANGO
CUNNINGHAM	ADOBE OIL & GAS	1	18	TARKILN RUN	VENANGO
PERRY	OIL CREEK DRILLING CO.	2	8	TARKILN RUN	VENANGO
ROBERTS	PETRO TECH	2	9	EAST SANDY CREEK	VENANGO
LACY	H.M. WELLS	2	15	TARKILN RUN	VENANGO
PERRY	H.M. WELLS	2	16	TARKILN RUN	VENANGO
OSTRUSKE	STERLING KEYSTONE DEVELOPMENT	4	11	EAST SANDY CREEK	VENANGO
STATE GAME LANDS #45	OIL CREEK DRILLING CO.	4	12	EAST SANDY CREEK	VENANGO
STATE GAME LANDS #45	TECHNOL ENERGY	4	13	EAST SANDY CREEK	VENANGO
HILL	OIL CREEK DRILLING CO.	5	10	EAST SANDY CREEK	VENANGO
		8	14	BEAVER CREEK	HQ CLARION
** Map Name: LEWIS RUN					
	FREEMAN & FREEMAN	1	1	BUCK LICK RUN	HQ McKEAN
	FREEMAN & FREEMAN	1	2	BUCK LICK RUN	HQ McKEAN
	FREEMAN & FREEMAN	1	3	BUCK LICK RUN	HQ McKEAN
HAMLIN ESTATES	THORTON CO.	1	4	LEWIS RUN	McKEAN
ONOFRIO-WARRANT 3413	ALL'S WELL OIL CO	1	5	BUCK LICK RUN	HQ McKEAN
	TRISON PETROLEUM CORP.	1	6	LEWIS RUN	McKEAN
L. M. LILLY	L. M. LILLY ESTATE	1	801	LEWIS RUN	McKEAN
MUSIC MOUNTAIN	MINARD RUN OIL CO	2	7	LEWIS RUN	McKEAN
LADY BELL	MINARD RUN OIL CO	2	8	LEWIS RUN	McKEAN
DENT (FLOOD 4)	MINARD RUN OIL CO	2	9	LEWIS RUN	McKEAN
	MINARD RUN OIL CO	2	10	LEWIS RUN	McKEAN
	EASTERN ROYALTIES	2	11	LEWIS RUN	McKEAN
BIG SHANTY (488)	QUAKER STATE	2	12	LEWIS RUN	McKEAN
LOT 14	CHARLES BENSON	2	13	LEWIS RUN	McKEAN
DENT	LANPHAR'S INC.	2	14	BEAR RUN	HQ McKEAN
DENT	PENN RESOURCES INC.	2	15	BEAR RUN	HQ McKEAN
	HERBEL CO.	2	48	LEWIS RUN	McKEAN
BIG SHANTY 100	QUAKER STATE	3	16	E BR TUNUNGWANT CREEK	McKEAN
BIG SHANTY (488)	QUAKER STATE	3	17	E BR TUNUNGWANT CREEK	McKEAN
C.E. CANON	CHARLES BENSON	3	18	E BR TUNUNGWANT CREEK	McKEAN
HECKEL #2	CHARLES BENSON	3	19	E BR TUNUNGWANT CREEK	McKEAN
	PENNZOIL	4	20	TURNUP RUN	HQ McKEAN
	PENNZOIL	4	21	TURNUP RUN	HQ McKEAN
	PENNZOIL	4	22	LEWIS RUN	HQ McKEAN
FLOOD 3	MINARD RUN OIL CO	5	23	LEWIS RUN	McKEAN
FLOOD E	MINARD RUN OIL CO	5	24	LEWIS RUN	McKEAN
KENNEDY	MINARD RUN OIL CO	5	25	LEWIS RUN	McKEAN
KENNEDY-LEE	MINARD RUN OIL CO	5	26	LEWIS RUN	McKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
FLOOD 2	MINARD RUN OIL CO	5	27	LEWIS RUN	McKEAN
B TANK BATTERY	MINARD RUN OIL CO	5	28	LEWIS RUN	McKEAN
	MINARD RUN OIL CO	5	29	LEWIS RUN	McKEAN
	MINARD RUN OIL CO	5	30	LEWIS RUN	McKEAN
TEST AREA/MOODY PURCHASE	MINARD RUN OIL CO	5	31	LEWIS RUN	McKEAN
DENT W SPECIAL	MINARD RUN OIL CO	5	32	LEWIS RUN	McKEAN
FLOOD E	MINARD RUN OIL CO	5	49	LEWIS RUN	McKEAN
FLOOD F	MINARD RUN OIL CO	5	50	LEWIS RUN	McKEAN
LEE	MINARD RUN OIL CO	5	51	LEWIS RUN	McKEAN
KENNEDY	MINARD RUN OIL CO	5	54	LEWIS RUN	McKEAN
L.D. WILSON	PENNZOIL	7	33	KINZUA CREEK	McKEAN
		7	34	KINZUA CREEK	McKEAN
		7	35	KINZUA CREEK	McKEAN
GILL	PENNZOIL	7	36	KINZUA CREEK	McKEAN
	PENNZOIL	7	52	KINZUA CREEK	McKEAN
	PENNZOIL	7	53	KINZUA CREEK	McKEAN
EMERY & SIMPSON	D-Y-M CORPORATION	8	37	PINE RUN	HQ McKEAN
EMERY & SIMPSON	D-Y-M CORPORATION	8	38	PINE RUN	HQ McKEAN
	D-Y-M CORPORATION	8	39	PINE RUN	HQ McKEAN
	D-Y-M CORPORATION	8	40	TOWN LINE RUN	HQ McKEAN
	PENNZOIL	8	41	TOWN LINE RUN	HQ McKEAN
KINZUA WELLS	PENNZOIL	8	42	KINZUA CREEK	McKEAN
KINZUA WELLS	PENNZOIL	8	43	KINZUA CREEK	McKEAN
KINZUA WELLS	PENNZOIL	8	44	KINZUA CREEK	McKEAN
KINZUA WELLS	PENNZOIL	8	45	KINZUA CREEK	McKEAN
KINZUA WELLS	PENNZOIL	8	46	KINZUA CREEK	McKEAN
KINZUA WELLS	PENNZOIL	8	47	KINZUA CREEK	McKEAN
** Map Name: LUDLOW					
	PENNZOIL	7	3	ROCK RUN	HQ WARREN
KENDALL-EASTBRANCH (LOT 389)	NORTHEAST NATURAL GAS CO.	9	1	E BR TIONESTA CREEK	HQ McKEAN
		9	2	E BR TIONESTA CREEK	HQ McKEAN
	VAN OIL CO.	9	4	CRANE RUN	EV McKEAN
** Map Name: LYNCH					
FOREST (COOPER TRACT)	QUAKER STATE OIL CO	1	1	UPPER SHERIFF RUN	HQ FOREST
		1	4	HASTINGS RUN	HQ FOREST
		1	5	HASTINGS RUN	HQ FOREST
		1	6	HASTINGS RUN	HQ FOREST
	OAKES OIL COMPANY	1	801	HASTINGS RUN	FOREST
	QUAKER STATE OIL CO	3	2	THAD SHANTY RUN	FOREST
WT. 3188	FLOR-PENN PETROLEUM CORP.	4	3	WEST BRANCH	HQ FOREST
** Map Name: MARION CENTER					
		1	8	LITTLE MAHONING CREEK	HQ INDIANA
		3	9	MUDLICK RUN	HQ INDIANA
		3	10	LITTLE MAHONING CREEK	HQ INDIANA
		3	11	LITTLE MAHONING CREEK	HQ INDIANA
		3	12	LITTLE MAHONING CREEK	HQ INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County		
RUTH C FULTON	DORAN & ASSOCIATES	3	13	LITTLE MAHONING CREEK	HQ INDIANA		
		4	1	GOOSE RUN	HQ INDIANA		
		4	14	ROSS RUN	HQ INDIANA		
		4	15	GOOSE RUN	HQ INDIANA		
		5	16	LITTLE MAHONING CREEK	HQ INDIANA		
		5	17	PICKERING RUN	HQ INDIANA		
		5	18	LITTLE MAHONING CREEK	HQ INDIANA		
		5	19	PICKERING RUN	HQ INDIANA		
		5	20	PICKERING RUN	HQ INDIANA		
		5	21	LITTLE MAHONING CREEK	HQ INDIANA		
		5	22	PICKERING RUN	HQ INDIANA		
		5	25	LITTLE MAHONING CREEK	HQ INDIANA		
		6	23	LITTLE MAHONING CREEK	HQ INDIANA		
		6	24	LITTLE MAHONING CREEK	HQ INDIANA		
	6	801	LITTLE MAHONING CREEK	HQ INDIANA			
	MID-EAST OIL CO.	7	2	PINE RUN	INDIANA		
		7	3	PINE RUN	INDIANA		
		7	26	GOOSE RUN	HQ INDIANA		
		7	27	S BR PLUM CREEK	HQ INDIANA		
		7	28	GOOSE RUN	HQ INDIANA		
		8	4	PINE RUN	INDIANA		
		8	39	PINE RUN	INDIANA		
		9	5	PICKERING RUN	HQ INDIANA		
		9	6	PICKERING RUN	HQ INDIANA		
		9	7	PICKERING RUN	HQ INDIANA		
		9	29	PINE RUN	INDIANA		
		9	30	RAYNE RUN	INDIANA		
		9	31	LITTLE MAHONING CREEK	HQ INDIANA		
		9	32	PICKERING RUN	HQ INDIANA		
		9	33	PICKERING RUN	HQ INDIANA		
		9	34	PICKERING RUN	HQ INDIANA		
		9	35	PICKERING RUN	HQ INDIANA		
		9	36	DIXON RUN	INDIANA		
		9	37	RAYNE RUN	INDIANA		
		9	38	RAYNE RUN	INDIANA		
		** Map Name: MAYBURG					
		CLINGER LEASE	PENNZOIL	1	1	TIONESTA CREEK	FOREST
				1	2	TIONESTA CREEK	FOREST
2				3	TIONESTA CREEK	FOREST	
2	4			TIONESTA CREEK	FOREST		
PENNZOIL	3		5	MINISTER CREEK	HQ FOREST		
	3		6	WILDCAT RUN	FOREST		
	3		7	WILDCAT RUN	FOREST		
	3		8	LINDSEY HOLLOW	FOREST		
APEX RESOURCES FLOR-PENN PETROLEUM CORP. MERIDIAN EXPLORATION MERIDIAN EXPLORATION	3		9	HASTINGS RUN	FOREST		
	4		10	PANTHER RUN	FOREST		
	5		11	KINGSLEY RUN	FOREST		
	5		12	PHELPS RUN	FOREST		

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
	MERIDIAN EXPLORATION	5	13	THE BRANCH	HQ FOREST
	MERIDIAN EXPLORATION	5	14	COALBED RUN	HQ FOREST
	MERIDIAN EXPLORATION	6	15	COALBED RUN	HQ FOREST
	MERIDIAN EXPLORATION	6	16	COALBED RUN	HQ FOREST
	MERIDIAN EXPLORATION	6	17	COALBED RUN	HQ FOREST
COLLINS (WT 4790)	INTERNATIONAL PETROLEUM SERVIC	6	18	LOGAN RUN	FOREST
N F G (WT 3188)	INTERNATIONAL PETROLEUM SERVIC	6	19	LOGAN RUN	FOREST
		6	20	WEST BRANCH	HQ FOREST
PENNZOIL (WT 5102)	INTERNATIONAL PETROLEUM SERVIC	6	21	THE BRANCH	HQ FOREST
PENNZOIL (WT 5102)	INTERNATIONAL PETROLEUM SERVIC	6	22	THE BRANCH	HQ FOREST
		8	23	MUD LICK RUN	HQ FOREST
COLLINS PINE (WT5107)	ANTHONY COOK OIL & GAS CO.	8	24	FOURMILE RUN	EV FOREST
	ANTHONY COOK OIL & GAS CO.	8	25	FOURMILE RUN	EV FOREST
	FLOR-PENN PETROLEUM CORP.	8	26	FOURMILE RUN	EV FOREST
** Map Name: MCGEES MILLS					
RALPH KELLER	JAMES F SCOTT	1	1	MAHONING CREEK	JEFFERSON
		1	2	STUMP CREEK	JEFFERSON
		1	3	STUMP CREEK	JEFFERSON
		1	4	E BR MAHONING CREEK	HQ JEFFERSON
		1	5	E BR MAHONING CREEK	HQ JEFFERSON
	CONSOLIDATED GAS TRANSM. CORP.	1	27	STUMP CREEK	JEFFERSON
		2	6	E BR MAHONING CREEK	HQ JEFFERSON
		2	32	EAST BRANCH	HQ JEFFERSON
		2	33	EAST BRANCH	HQ JEFFERSON
		4	7	MAHONING CREEK	JEFFERSON
		4	8	CLOVER RUN	HQ JEFFERSON
	GULF (CHEVRON)	5	9	CLOVER RUN	HQ JEFFERSON
		5	10	EAST BRANCH	HQ JEFFERSON
		5	11	CLOVER RUN	HQ JEFFERSON
		5	12	CLOVER RUN	HQ JEFFERSON
		5	13	CLOVER RUN	HQ CLEARFIELD
		5	14	CLOVER RUN	HQ CLEARFIELD
		6	15	CLOVER RUN	HQ CLEARFIELD
		6	16	WHISKEY RUN	CLEARFIELD
		6	17	CLOVER RUN	HQ CLEARFIELD
		6	18	LOST RUN	HQ CLEARFIELD
		6	28	WHISKEY RUN	CLEARFIELD
		6	29	LAUREL RUN	CLEARFIELD
		6	34	CLOVER RUN	HQ CLEARFIELD
		7	19	BEAR RUN	INDIANA
		7	20	S BR BEAR RUN	INDIANA
		8	21	BEAR RUN	INDIANA
		8	22	BEAR RUN	CLEARFIELD
		8	30	BEAR RUN	INDIANA
		8	31	BEAR RUN	INDIANA
		9	23	WHISKEY RUN	CLEARFIELD
		9	24	BEAR RUN	CLEARFIELD
		9	25	BEAR RUN	CLEARFIELD

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		9	26	BEAR RUN	CLEARFIELD
** Map Name: MCINTYRE					
		1	1	BLACKLEGS CREEK	INDIANA
		4	2	BLACKLEGS CREEK	INDIANA
		4	3	BLACKLEGS CREEK	INDIANA
		7	4	BLACKLEGS CREEK	INDIANA
JOHN S STEWART	QUESTA PETROLEUM CO	7	6	MARSHALL RUN	INDIANA
JOHN S STEWART	QUESTA PETROLEUM CO	8	7	MARSHALL RUN	INDIANA
		9	5	STEWART RUN	INDIANA
** Map Name: MT. JEWETT					
GILL	PENNZOIL	1	1	WINDFALL RUN	HQ MCKEAN
KINZUA WELLS	PENNZOIL	2	2	WINDFALL RUN	HQ MCKEAN
** Map Name: OIL CITY					
PONTIAC	PYRAMID OIL CO.	2	1	CHERRY RUN	VENANGO
		2	2	MOODY RUN	VENANGO
AMES	QUAKER STATE	2	3	MOODY RUN	VENANGO
HEDLEY	QUAKER STATE	2	4	MOODY RUN	VENANGO
MOODY RUN OIL DUMP	QUAKER STATE	2	5	MOODY RUN	VENANGO
MCCCKINTOCK	QUAKER STATE	2	6	OIL CREEK	VENANGO
SCHRENCONGOST	J.M. COLVIN & ASSOCIATES	3	7	CHERRY RUN	VENANGO
HUBER	WILLIAM HUBER	3	8	CHERRY RUN	VENANGO
ALTERI	NATIONAL RESOURCES	3	9	CHERRY RUN	VENANGO
BERRY PLUMER	QUAKER STATE	3	10	CHERRY RUN	VENANGO
SCHWAB	QUAKER STATE	3	11	CHERRY RUN	VENANGO
HUBER	CONSOLIDATED/TECHNOL ENERGY	3	12	CHERRY RUN	VENANGO
WEBBER	QUAKER STATE	3	13	CHERRY RUN	VENANGO
HUBER	QUAKER STATE	3	14	CHERRY RUN	VENANGO
HUBER	QUAKER STATE	3	15	CHERRY RUN	VENANGO
WEBBER	QUAKER STATE	3	16	CHERRY RUN	VENANGO
LYLE	QUAKER STATE	3	17	CHERRY RUN	VENANGO
LYLE	QUAKER STATE	3	18	CHERRY RUN	VENANGO
PAUL THOMAS	S.G. THOMPSON	3	19	CHERRY RUN	VENANGO
MOYNIHAN	CARL H. WILLIAMS	3	20	ALLEGHENY RIVER	VENANGO
MOYNIHAN	CARL H. WILLIAMS	3	21	ALLEGHENY RIVER	VENANGO
M. GABRESKI	QUAKER STATE	3	22	LAMB RUN	VENANGO
T. GABRESKI	QUAKER STATE	3	23	LAMB RUN	VENANGO
T. GABRESKI (395)	QUAKER STATE	3	24	LAMB RUN	VENANGO
ANNABELLE SCHALL	QUAKER STATE	3	25	LAMB RUN	VENANGO
CONRAD	QUAKER STATE	3	26	LAMB RUN	VENANGO
CORSE	RETURN OIL CO.	3	56	CHERRY RUN	VENANGO
RENO	QUAKER STATE	4	29	BRANNON RUN	VENANGO
HASSON	QUAKER STATE	4	30	BRANNON RUN	VENANGO
RENO	QUAKER STATE	4	31	BRANNON RUN	VENANGO
RENO	QUAKER STATE	4	32	BRANNON RUN	VENANGO
RENO	QUAKER STATE	4	33	BRANNON RUN	VENANGO
RENO	QUAKER STATE	4	34	BRANNON RUN	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
RENO	QUAKER STATE	4	35	BRANNON RUN	VENANGO
BREENE WALNUT BEND #4	QUAKER STATE	6	27	ALLEGHENY RIVER	VENANGO
BREENE WALNUT BEND	QUAKER STATE	6	28	ALLEGHENY RIVER	VENANGO
RENO WANANGO	QUAKER STATE	7	36	BRANNON RUN	VENANGO
RENO WANANGO	QUAKER STATE	7	37	BRANNON RUN	VENANGO
RENO	QUAKER STATE	7	38	BRANNON RUN	VENANGO
RENO	QUAKER STATE	7	39	BRANNON RUN	VENANGO
RENO WANANGO	QUAKER STATE	7	40	BRANNON RUN	VENANGO
RENO WANANGO	QUAKER STATE	7	41	BRANNON RUN	VENANGO
RENO WANANGO	QUAKER STATE	7	42	BRANNON RUN	VENANGO
RENO	QUAKER STATE	7	43	ALLEGHENY RIVER	VENANGO
RENO (GOSS)	QUAKER STATE	7	44	ALLEGHENY RIVER	VENANGO
RENO	QUAKER STATE	7	45	ALLEGHENY RIVER	VENANGO
RENO	QUAKER STATE	7	46	ALLEGHENY RIVER	VENANGO
		7	47	ALLEGHENY RIVER	VENANGO
FISHER	QUAKER STATE	7	48	ALLEGHENY RIVER	VENANGO
	SUTWAY DEVELOPMENT CORP.	7	49	ALLEGHENY RIVER	VENANGO
MORRISON	MCCOON CO.	7	50	LOWER TWOMILE RUN	VENANGO
		8	51	SAGE RUN	VENANGO
CONN	APEX RESOURCES	8	52	SAGE RUN	VENANGO
OAKWOOD	PETRO TECH	9	53	SAGE RUN	VENANGO
STEWART	QUAKER STATE	9	54	HORSE CREEK	VENANGO
STEWART	QUAKER STATE	9	55	HALLS RUN	VENANGO
** Map Name: PLEASANTVILLE					
		1	1	W PITHOLE CREEK	VENANGO
SMITH	PETRO TECH	1	153	W PITHOLE CREEK	VENANGO
		2	2	PINE CREEK	VENANGO
NICHOLS & RENSEMA	J. L. BECK	2	3	OTTO RUN	VENANGO
KOOKOGEY	J. L. BECK	2	4	OTTO RUN	VENANGO
BAKER	UNIVERSAL RESOURCES HOLDING CO	2	5	GOLBY RUN	VENANGO
PRATT-WILSON (PRATT)	QUAKER STATE	2	6	SCHOOLHOUSE RUN	VENANGO
PRATT-WILSON (WILSON)	QUAKER STATE	2	7	SCHOOLHOUSE RUN	VENANGO
RALPH NICHOLS	J. L. BECK	3	8	PINE CREEK	VENANGO
HARRY CAVOULAS	RETURN OIL CO.	3	9	PINE CREEK	VENANGO
MCFATE	RETURN OIL CO.	3	10	PINE CREEK	FOREST
RYBKA-ZIMMERMAN	J. L. BECK	3	11	NEILLTOWN CREEK	FOREST
BAKER	J. L. BECK	3	12	NEILLTOWN CREEK	VENANGO
OTTO	RETURN OIL CO.	3	13	OTTO RUN	VENANGO
AUGUST	RETURN OIL CO.	3	14	NEILLTOWN CREEK	VENANGO
GUNNISON	RETURN OIL CO.	3	15	PITHOLE CREEK	VENANGO
		3	16	PITHOLE CREEK	FOREST
		3	17	PITHOLE CREEK	FOREST
ANDERSON	RETURN OIL CO.	3	18	PITHOLE CREEK	VENANGO
ANDERSON	RETURN OIL CO.	3	19	PITHOLE CREEK	VENANGO
ANDERSON	RETURN OIL CO.	3	20	PITHOLE CREEK	VENANGO
ANDERSON	RETURN OIL CO.	3	21	PITHOLE CREEK	VENANGO
ANDERSON	RETURN OIL CO.	3	22	PITHOLE CREEK	VENANGO
ANDERSON	RETURN OIL CO.	3	23	PITHOLE CREEK	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
H&R DEV.	RETURN OIL CO.	3	24 PITHOLE CREEK	FOREST
H&R DEV.	RETURN OIL CO.	3	25 PITHOLE CREEK	FOREST
		3	26 PITHOLE CREEK	FOREST
NICHOLS & RENSEMA	UNIVERSAL RESOURCES HOLDING CO	3	147 OTTO RUN	VENANGO
KOOKOGEY	UNIVERSAL RESOURCES HOLDING CO	3	148 OTTO RUN	VENANGO
TUCK-OTTO	INTERPEN DRILLING CO.	3	149 OTTO RUN	VENANGO
DUNN	UNIVERSAL RESOURCES HOLDING CO	5	49 PITHOLE CREEK	VENANGO
DUNN	J. L. BECK	5	50 PITHOLE CREEK	VENANGO
LAMB FARM (WITCO CORP.)	J. L. BECK	5	51 PITHOLE CREEK	VENANGO
J. L. BECK	J. L. BECK	5	52 PITHOLE CREEK	VENANGO
WITCO CORP.	J. L. BECK	5	53 PITHOLE CREEK	VENANGO
WILHELM-SIMPKINS-TWOMBLY	J. L. BECK	5	54 PITHOLE CREEK	VENANGO
		5	55 PITHOLE CREEK	VENANGO
		5	56 PITHOLE CREEK	VENANGO
		5	57 PITHOLE CREEK	VENANGO
J. BLANK	QUAKER STATE	5	58 PITHOLE CREEK	VENANGO
J. BLANK	QUAKER STATE	5	59 PITHOLE CREEK	VENANGO
J. BLANK	QUAKER STATE	5	60 PITHOLE CREEK	VENANGO
SLATER	QUAKER STATE	5	61 PITHOLE CREEK	VENANGO
SLATER	QUAKER STATE	5	62 PITHOLE CREEK	VENANGO
		5	63 PITHOLE CREEK	VENANGO
WEYMOUTH FIELD	WITCO CHEMICAL CORPORATION	5	144 PITHOLE CREEK	VENANGO
GRIFFIN	QUAKER STATE	6	27 PITHOLE CREEK	FOREST
DUNN	B & B OIL CO.	6	28 PITHOLE CREEK	VENANGO
GRIFFIN	QUAKER STATE	6	29 PITHOLE CREEK	FOREST
HUIDEKOPER PROJ. #2	QUAKER STATE	6	30 PITHOLE CREEK	FOREST
HUIDEKOPER PROJ. #2	QUAKER STATE	6	31 PITHOLE CREEK	FOREST
HUIDEKOPER #2	QUAKER STATE	6	32 PITHOLE CREEK	VENANGO
HUIDEKOPER #2	QUAKER STATE	6	33 PITHOLE CREEK	VENANGO
BAKER	QUAKER STATE	6	34 PITHOLE CREEK	VENANGO
BAKER	QUAKER STATE	6	35 PITHOLE CREEK	VENANGO
		6	36 PITHOLE CREEK	VENANGO
		6	37 PITHOLE CREEK	VENANGO
		6	38 PITHOLE CREEK	VENANGO
WILSON-SEATON	QUAKER STATE	6	39 PITHOLE CREEK	VENANGO
		6	40 PITHOLE CREEK	VENANGO
		6	41 PITHOLE CREEK	VENANGO
S. G. THOMPSON	PARTNERS PETROLEUM, INC.	6	42 PITHOLE CREEK	VENANGO
S. G. THOMPSON	PARTNERS PETROLEUM, INC.	6	43 PITHOLE CREEK	VENANGO
MEAD	QUAKER STATE	6	44 PITHOLE CREEK	VENANGO
		6	45 PITHOLE CREEK	VENANGO
A. HOOVIER	COMPASS DEVELOPMENT INC	6	46 STEWART RUN	FOREST
A. HOOVIER	COMPASS DEVELOPMENT INC	6	47 STEWART RUN	FOREST
CARSON	BAILEY OIL CO.	6	145 PITHOLE CREEK	VENANGO
	QUAKER STATE	7	66 CHERRY RUN	VENANGO
KINLEY	QUAKER STATE	7	67 CHERRY RUN	VENANGO
KINLEY	QUAKER STATE	7	68 CHERRY RUN	VENANGO
KINLEY	QUAKER STATE	7	69 CHERRY RUN	VENANGO
	QUAKER STATE	7	70 CHERRY RUN	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
KINLEY	QUAKER STATE	7	71	CHERRY RUN	VENANGO
KINLEY	QUAKER STATE	7	72	CHERRY RUN	VENANGO
	BLACK STALLION	7	73	ALLENDER RUN	VENANGO
CLEVER	QUAKER STATE	7	74	ALLENDER RUN	VENANGO
KINLEY	QUAKER STATE	7	75	ALLENDER RUN	VENANGO
KINLEY	QUAKER STATE	7	76	ALLENDER RUN	VENANGO
		7	77	ALLENDER RUN	VENANGO
KINLEY	QUAKER STATE	7	78	CHERRY RUN	VENANGO
	EAGLE LINE CORP.	7	79	PITHOLE CREEK	VENANGO
		7	80	ALLENDER RUN	VENANGO
E. HUNTER	QUAKER STATE	7	81	ALLENDER RUN	VENANGO
		7	82	PITHOLE CREEK	VENANGO
		7	83	PITHOLE CREEK	VENANGO
KINLEY	QUAKER STATE	7	143	ALLENDER RUN	VENANGO
	OLYMPIA OIL SERVICES INC.	7	151	PITHOLE CREEK	VENANGO
KIRVAN	BLACK STALLION	7	152	ALLENDER RUN	VENANGO
MEAD-GUILD	QUAKER STATE	8	64	PITHOLE CREEK	VENANGO
J. BLANK	QUAKER STATE	8	84	PITHOLE CREEK	VENANGO
		8	85	PITHOLE CREEK	VENANGO
MEAD-GUILD	QUAKER STATE	8	86	PITHOLE CREEK	VENANGO
S. BLANK	QUAKER STATE	8	87	PITHOLE CREEK	VENANGO
CINCINNATI	QUAKER STATE	8	88	PITHOLE CREEK	VENANGO
		8	89	PITHOLE CREEK	VENANGO
HOLMES-SULLIVAN	QUAKER STATE	8	90	PITHOLE CREEK	VENANGO
HUIDEKOPER	INTERPEN DRILLING CO.	8	91	PITHOLE CREEK	VENANGO
HUIDEKOPER	INTERPEN DRILLING CO.	8	92	PITHOLE CREEK	VENANGO
FIELDS	PENNZOIL	8	93	PITHOLE CREEK	VENANGO
FIELDS	PENNZOIL	8	94	PITHOLE CREEK	VENANGO
FIELDS	PENNZOIL	8	95	PITHOLE CREEK	VENANGO
ROBERTS	R & D OIL (VISCOUNT ASSOC.)	8	96	PITHOLE CREEK	VENANGO
WOLF'S HEAD	QUAKER STATE	8	97	PITHOLE CREEK	VENANGO
COOK-BISHOP-SPARKS	QUAKER STATE	8	98	PITHOLE CREEK	VENANGO
BORLAND	QUAKER STATE	8	99	PITHOLE CREEK	VENANGO
MOLYNEAUX	QUAKER STATE	8	100	PITHOLE CREEK	VENANGO
BREENE-EAGLE ROCK	QUAKER STATE	8	101	PITHOLE CREEK	VENANGO
		8	102	PITHOLE CREEK	VENANGO
		8	103	PITHOLE CREEK	VENANGO
LOCKWOOD	QUAKER STATE	8	104	PITHOLE CREEK	VENANGO
BREENE-EAGLE ROCK	QUAKER STATE	8	105	MUSKRAT RUN	VENANGO
REESER	QUAKER STATE	8	106	MUSKRAT RUN	VENANGO
		8	107	PINE RUN	VENANGO
REESER	QUAKER STATE	8	108	PINE RUN	VENANGO
PITHOLE OIL	QUAKER STATE	8	109	PINE RUN	VENANGO
PITHOLE OIL	QUAKER STATE	8	110	PINE RUN	VENANGO
BROWN	QUAKER STATE	8	111	PINE RUN	VENANGO
MCCALMONT	QUAKER STATE	8	112	PINE RUN	VENANGO
DEAN (EICHE)	QUAKER STATE	8	113	PINE RUN	VENANGO
DEAN (EICHE)	QUAKER STATE	8	114	PINE RUN	VENANGO
ROBERTS	INTERPEN DRILLING CO.	8	150	PITHOLE CREEK	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
A. HOOVIER	COMPASS DEVELOPMENT INC	9	48	STEWART RUN	FOREST
GUILD (366)	QUAKER STATE	9	65	PITHOLE CREEK	VENANGO
THOMPSON	QUAKER STATE	9	115	THOMPSON RUN	VENANGO
SHANNON-WILSON	QUAKER STATE	9	116	THOMPSON RUN	VENANGO
MCDONALD	QUAKER STATE	9	117	STEWART RUN	VENANGO
RUTH WOLFE	QUAKER STATE	9	118	STEWART RUN	VENANGO
WINDY HILLS #2	QUAKER STATE	9	119	STEWART RUN	VENANGO
CUNNINGHAM	J. L. BECK	9	120	STEWART RUN	VENANGO
WOIDECK	QUAKER STATE	9	121	THOMPSON RUN	VENANGO
STEWART	QUAKER STATE	9	122	SUGAR RUN	VENANGO
CORSE	QUAKER STATE	9	123	SUGAR RUN	VENANGO
STEWART	QUAKER STATE	9	124	SUGAR RUN	VENANGO
WOIDECK	QUAKER STATE	9	125	SUGAR RUN	VENANGO
LES WOIDECK	QUAKER STATE	9	126	STEWART RUN	VENANGO
CUNNINGHAM	QUAKER STATE	9	127	STEWART RUN	VENANGO
		9	128	STEWART RUN	VENANGO
MCCALMONT	QUAKER STATE	9	129	SUGAR RUN	VENANGO
NORTH EBERT	QUAKER STATE	9	130	SUGAR RUN	VENANGO
ROEDER	QUAKER STATE	9	131	SUGAR RUN	VENANGO
WOIDECK	QUAKER STATE	9	132	SUGAR RUN	VENANGO
SOUTH EBERT	QUAKER STATE	9	133	SUGAR RUN	VENANGO
ROEDER	QUAKER STATE	9	134	STEWART RUN	VENANGO
WOIDECK	QUAKER STATE	9	135	STEWART RUN	VENANGO
WOIDECK	QUAKER STATE	9	136	STEWART RUN	VENANGO
JENKS	QUAKER STATE	9	137	STEWART RUN	VENANGO
		9	138	STEWART RUN	VENANGO
WOIDECK	QUAKER STATE	9	139	STEWART RUN	VENANGO
JENKS	QUAKER STATE	9	140	PIERSON RUN	FOREST
JENKS	QUAKER STATE	9	141	PIERSON RUN	FOREST
		9	142	UNNAMED TRIB	FOREST
BUTTERFIELD	STERLING CONTRACTING	9	146	STEWART RUN	FOREST
KEATING	ROCKFORD ENERGY	9	154	STEWART RUN	FOREST
** Map Name: PLUMVILLE					
		1	1	GLADE RUN	ARMSTRONG
		1	2	GLADE RUN	ARMSTRONG
		1	3	GLADE RUN	ARMSTRONG
		1	4	GLADE RUN	ARMSTRONG
		2	5	LITTLE MAHONING CREEK	HQ INDIANA
J & J ENTERPRISES		3	6	LITTLE MAHONING CREEK	HQ INDIANA
J & J ENTERPRISES		3	7	LITTLE MAHONING CREEK	HQ INDIANA
MID-EAST OIL CO.		3	8	LITTLE MAHONING CREEK	HQ INDIANA
		3	9	LITTLE MAHONING CREEK	HQ INDIANA
J & J ENTERPRISES		3	10	LITTLE MAHONING CREEK	HQ INDIANA
		3	11	LITTLE MAHONING CREEK	HQ INDIANA
		4	12	N BR COWANSHANNOCK CREEK	ARMSTRONG
ALCOVE INVESTMENTS		4	13	S BR COWANSHANNOCK CREEK	ARMSTRONG
		4	14	N BR COWANSHANNOCK CREEK	ARMSTRONG
		4	15	N BR COWANSHANNOCK CREEK	ARMSTRONG

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		4	16	N BR COWANSHANNOCK CREEK	ARMSTRONG
		4	17	S BR COWANSHANNOCK CREEK	ARMSTRONG
		5	18	N BR PLUM CREEK	INDIANA
	J & J ENTERPRISES	5	19	N BR PLUM CREEK	INDIANA
	DORAN & ASSOCIATES	5	20	N BR PLUM CREEK	INDIANA
		5	21	LITTLE MAHONING CREEK	HQ INDIANA
		5	22	N BR PLUM CREEK	INDIANA
	J & J ENTERPRISES	6	23	LITTLE MAHONING CREEK	HQ INDIANA
		6	24	N BR PLUM CREEK	INDIANA
		6	25	N BR PLUM CREEK	INDIANA
	J & J ENTERPRISES	6	26	LEISURE RUN	HQ INDIANA
	J & J ENTERPRISES	6	27	LEISURE RUN	HQ INDIANA
		6	28	ROSS RUN	HQ INDIANA
		7	29	N BR PLUM CREEK	ARMSTRONG
		7	30	N BR PLUM CREEK	ARMSTRONG
		7	31	N BR PLUM CREEK	ARMSTRONG
		7	32	SUGARCAMP RUN	HQ INDIANA
WALTER MCCAUSLAND	WAGNER AND WAGNER	7	52	N BR PLUM CREEK	ARMSTRONG
E SCOTT DOUDS	KEYSTONE ENERGY OIL & GAS	7	801	SUGARCAMP RUN	HQ INDIANA
E SCOTT DOUDS	KEYSTONE ENERGY OIL & GAS	7	802	SUGARCAMP RUN	HQ INDIANA
	EQUITABLE OIL	8	33	SUGARCAMP RUN	HQ INDIANA
		8	34	S BR PLUM CREEK	HQ INDIANA
		8	35	N BR PLUM CREEK	INDIANA
		8	36	N BR PLUM CREEK	INDIANA
		8	37	N BR PLUM CREEK	INDIANA
	J & J ENTERPRISES	8	38	S BR PLUM CREEK	HQ INDIANA
	KEYSTONE ENERGY OIL & GAS	9	39	S BR PLUM CREEK	HQ INDIANA
		9	40	S BR PLUM CREEK	HQ INDIANA
		9	41	S BR PLUM CREEK	HQ INDIANA
	J & J ENTERPRISES	9	42	LEISURE RUN	HQ INDIANA
		9	43	LEISURE RUN	HQ INDIANA
		9	44	S BR PLUM CREEK	HQ INDIANA
		9	45	S BR PLUM CREEK	HQ INDIANA
		9	46	LEISURE RUN	HQ INDIANA
		9	47	S BR PLUM CREEK	HQ INDIANA
		9	48	S BR PLUM CREEK	HQ INDIANA
		9	49	LEISURE RUN	HQ INDIANA
		9	50	LEISURE RUN	HQ INDIANA
	J & J ENTERPRISES	9	51	LEISURE RUN	HQ INDIANA
JAMES SHELLHAMMER	ANGERMAN GAS VENTURE #3	9	803	LEISURE RUN	HQ INDIANA
ANITA SMITH	PENN WAYNE GAS CO	9	804	LEISURE RUN	HQ INDIANA
GEORGE DOUGLAS	ANGERMAN GAS VENTURE #3	9	805	S BR PLUM CREEK	HQ INDIANA
RALPH PINO	LOUDEN PROPERTIES	9	806	LEISURE RUN	HQ INDIANA
STANLEY ANDERSON	MID-EAST OIL CO.	9	807	LEISURE RUN	HQ INDIANA
MADELINE MARSHALL	MID-EAST OIL CO.	9	808	LEISURE RUN	HQ INDIANA
LESLIE BERESNYAK	MID-EAST OIL CO.	9	809	LEISURE RUN	HQ INDIANA
** Map Name: PRESIDENT					
EAGLE ROCK-WALTON	QUAKER STATE	1	1	PITHOLE CREEK	VENANGO

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
SUTTWAY #2	R & D OIL (VISCOUNT ASSOC.)	1	2	PITHOLE CREEK	VENANGO
EAGLE LINE	R & D OIL (VISCOUNT ASSOC.)	1	3	PITHOLE CREEK	VENANGO
ENSL	COMPASS DEVELOPMENT INC	1	4	PITHOLE CREEK	VENANGO
		1	5	PITHOLE CREEK	VENANGO
	CRYSTAL SPRINGS OIL CO.	1	6	PITHOLE CREEK	VENANGO
	CRYSTAL SPRINGS OIL CO.	1	7	PITHOLE CREEK	VENANGO
MORRISON (WALTON)	M. W. HOOVER	1	8	PITHOLE CREEK	VENANGO
PROPER-LERNER	QUAKER STATE	1	9	PITHOLE CREEK	VENANGO
PROPER-LERNER	QUAKER STATE	1	10	PITHOLE CREEK	VENANGO
		1	11	PITHOLE CREEK	VENANGO
BLAHO	QUAKER STATE	1	12	PITHOLE CREEK	VENANGO
BLAHO	QUAKER STATE	1	13	PITHOLE CREEK	VENANGO
PROPER LERNER	QUAKER STATE	1	14	ALLEGHENY RIVER	VENANGO
PROPER LERNER	QUAKER STATE	1	15	ALLEGHENY RIVER	VENANGO
PROPER LERNER	QUAKER STATE	1	16	ALLEGHENY RIVER	VENANGO
		1	54	PITHOLE CREEK	VENANGO
		1	55	PITHOLE CREEK	VENANGO
EAGLE ROCK-WALTON	QUAKER STATE	2	17	MUSKRAT RUN	VENANGO
EAGLE ROCK-WALTON	QUAKER STATE	2	18	MUSKRAT RUN	VENANGO
		2	19	PINE RUN	VENANGO
		2	20	PINE RUN	VENANGO
		2	21	PINE RUN	VENANGO
LONG	QUAKER STATE	2	22	MUSKRAT RUN	VENANGO
		2	23	MUSKRAT RUN	VENANGO
LONG	QUAKER STATE	2	24	MUSKRAT RUN	VENANGO
		2	25	JOHNSTON RUN	VENANGO
WISE	F. E. BILLS ENTERPRISES	2	26	MUSKRAT RUN	VENANGO
LONG	QUAKER STATE	2	27	MUSKRAT RUN	VENANGO
LONG	QUAKER STATE	2	28	CULVER RUN	VENANGO
		2	29	CULVER RUN	VENANGO
LONG	QUAKER STATE	2	30	JOHNSTON RUN	VENANGO
RODGERS	QUAKER STATE	2	31	JOHNSTON RUN	VENANGO
EAGLE ROCK (378)	QUAKER STATE	2	32	ALLEGHENY RIVER	VENANGO
EAGLE ROCK (378)	QUAKER STATE	2	33	ALLEGHENY RIVER	VENANGO
EMERALD	EMERALD RESOURCES	2	34	ALLEGHENY RIVER	VENANGO
JOHNSON	OIL CREEK DRILLING CO.	2	59	STEWART RUN	VENANGO
BILLS	PETRO TECH	2	61	STEWART RUN	VENANGO
BILLS	PETRO TECH	2	62	JOHNSON RUN	VENANGO
		3	35	PINE RUN	VENANGO
WOIDEK	QUAKER STATE	3	36	PINE RUN	VENANGO
BAUM	QUAKER STATE	3	37	STEWART RUN	VENANGO
BAUM	QUAKER STATE	3	38	STEWART RUN	VENANGO
WOIDEK	QUAKER STATE	3	39	STEWART RUN	VENANGO
BIG KORNMAN	QUAKER STATE	3	40	STEWART RUN	VENANGO
WOIDECK	QUAKER STATE	3	41	STEWART RUN	VENANGO
LES WOIDECK	QUAKER STATE	3	42	STEWART RUN	VENANGO
COLLINS-PINE	QUAKER STATE	3	43	STEWART RUN	VENANGO
WOIDECK	QUAKER STATE	3	44	STEWART RUN	VENANGO
EMICK (WAGNER) ?	QUAKER STATE	3	45	PIERSON RUN	FOREST

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
EMICK	QUAKER STATE	3	46	PIERSON RUN	FOREST
WOIDECK	QUAKER STATE	3	47	PIERSON RUN	VENANGO
WAGNER	QUAKER STATE	3	48	PIERSON RUN	FOREST
BAUM	QUAKER STATE	3	49	ALLEGHENY RIVER	VENANGO
BLAHO LERNER	QUAKER STATE	4	50	ALLEGHENY RIVER	VENANGO
STATE GAME LANDS #47	TECHNOL ENERGY	4	51	MCREA RUN	VENANGO
MCCALMONT 40	QUAKER STATE	4	52	NORWAY RUN	VENANGO
BAUA	OIL CREEK DRILLING CO.	4	60	PANTHER RUN	VENANGO
EAGLE ROCK	QUAKER STATE	5	53	ALLEGHENY RIVER	VENANGO
FIRSTER	OIL CREEK DRILLING CO.	8	56	PORCUPINE RUN	VENANGO
ANDERSON	OIL CREEK DRILLING CO.	8	57	PORCUPINE RUN	VENANGO
BICKEL	OIL CREEK DRILLING CO.	8	58	PORCUPINE RUN	VENANGO
** Map Name: PUNXSUTAWNEY					
		1	1	ELK RUN	JEFFERSON
		1	2	ELK RUN	JEFFERSON
		1	3	ELK RUN	JEFFERSON
		2	4	COLD SPRING RUN	JEFFERSON
		2	5	COLD SPRING RUN	JEFFERSON
		2	6	ROCK RUN	JEFFERSON
	ADOBE OIL & GAS	3	7	ROCK RUN	JEFFERSON
MCCLURE , HEIRS	JAMES F SCOTT	3	24	BIG RUN	JEFFERSON
	ADOBE OIL & GAS	3	28	MAHONING CREEK	JEFFERSON
		4	8	SAWMILL RUN	JEFFERSON
		5	9	CANOE CREEK	JEFFERSON
		5	10	CANOE CREEK	JEFFERSON
		5	27	PAINTER RUN	JEFFERSON
JOSEPH ZUFALL	MID-EAST OIL CO.	5	32	CANOE CREEK	JEFFERSON
	DORAN & ASSOCIATES	6	11	JACKSON RUN	JEFFERSON
		7	12	CANOE CREEK	INDIANA
		8	13	CANOE CREEK	INDIANA
		8	14	CANOE CREEK	INDIANA
		8	15	CANOE CREEK	INDIANA
		8	16	CANOE CREEK	INDIANA
		8	17	CANOE CREEK	INDIANA
		8	18	CANOE CREEK	INDIANA
		8	19	CANOE CREEK	INDIANA
		8	20	CANOE CREEK	JEFFERSON
		9	21	UGLY RUN	JEFFERSON
		9	22	CANOE CREEK	INDIANA
		9	23	STRAIGHT RUN	HQ INDIANA
		9	25	CANOE CREEK	INDIANA
		9	26	STRAIGHT RUN	HQ INDIANA
JOHN FIRMENT	BENNY KELLY ENTERPRISES	9	31	UGLY RUN	JEFFERSON
		9	33	UGLY RUN	JEFFERSON
		9	35	UGLY RUN	JEFFERSON
** Map Name: REYNOLDSVILLE					
		1	1	SANDY LICK CREEK	JEFFERSON

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		1	2	CAMP RUN	JEFFERSON
		2	3	SANDY LICK CREEK	JEFFERSON
		2	4	SCHOOLHOUSE RUN	JEFFERSON
		2	5	SANDY LICK CREEK	JEFFERSON
		2	6	SANDY LICK CREEK	JEFFERSON
		3	7	SCHOOLHOUSE RUN	HQ JEFFERSON
		3	32	SANDY LICK CREEK	JEFFERSON
		5	9	TROUT RUN	JEFFERSON
RENLOW PARK AUTHORITY	OLD MOUNTAIN GAS COMPANY	5	28	FRONT RUN	JEFFERSON
		5	8	TROUT RUN	JEFFERSON
		6	10	TROUT RUN	JEFFERSON
		6	11	TROUT RUN	JEFFERSON
		6	12	TROUT RUN	JEFFERSON
		6	13	TROUT RUN	JEFFERSON
RENLOW PARK AUTHORITY	OLD MOUNTAIN GAS COMPANY	6	29	TROUT RUN	JEFFERSON
		8	14	BIG RUN	JEFFERSON
		8	15	TURNIP RUN	JEFFERSON
		8	27	BIG RUN	JEFFERSON
DEVERE M BUHITE	OLD MOUNTAIN GAS COMPANY	8	30	BIG RUN	JEFFERSON
		9	16	TROUT RUN	JEFFERSON
		9	17	BIG RUN	JEFFERSON
		9	18	BIG RUN	JEFFERSON
		9	19	TURNIP RUN	JEFFERSON
		9	20	TURNIP RUN	JEFFERSON
		9	21	BIG RUN	JEFFERSON
		9	22	BIG RUN	JEFFERSON
		9	23	TURNIP RUN	JEFFERSON
		9	24	MCKEE RUN	JEFFERSON
		9	25	MCKEE RUN	JEFFERSON
		9	26	BIG RUN	JEFFERSON
CARMEN A PACHETTI	OLD MOUNTAIN GAS COMPANY	9	31	LAUREL RUN	JEFFERSON
** Map Name: RIDGWAY					
TONGREN	QUAKER STATE	4	1	MASON CREEK	ELK
** Map Name: ROCHESTER MILLS					
		1	1	LEASURE RUN	HQ INDIANA
		1	2	BROADHEAD RUN	HQ INDIANA
		1	3	BREWER RUN	HQ INDIANA
		1	36	BREWER RUN	HQ INDIANA
		2	37	NORTH BRANCH	HQ INDIANA
MARY JANE DEFRANK	J & J ENTERPRISES	2	801	NORTH BRANCH	HQ INDIANA
LOUIS J MANFREDO	J & J ENTERPRISES	2	802	NORTH BRANCH	HQ INDIANA
		3	4	STRAIGHT RUN	HQ INDIANA
		3	5	STRAIGHT RUN	HQ INDIANA
		3	6	STRAIGHT RUN	HQ INDIANA
		3	38	STRAIGHT RUN	HQ INDIANA
		4	7	CROOKED RUN	HQ INDIANA
		4	8	LITTLE MAHONING CREEK	HQ INDIANA

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
		4	9 CROOKED RUN	HQ INDIANA
		4	10 CROOKED RUN	HQ INDIANA
		4	11 CROOKED RUN	HQ INDIANA
		4	12 BEECH RUN	HQ INDIANA
		4	13 BEECH RUN	HQ INDIANA
		4	14 BEECH RUN	HQ INDIANA
		4	15 LITTLE MAHONING CREEK	HQ INDIANA
		4	16 BEECH RUN	HQ INDIANA
		4	17 BEECH RUN	HQ INDIANA
		4	39 CROOKED RUN	HQ INDIANA
CHARLES ADAM	ADOBE OIL & GAS	5	18 LITTLE MAHONING CREEK	HQ INDIANA
		5	19 LITTLE MAHONING CREEK	HQ INDIANA
GEORGE READE & DOROTHY STINEMAN	KEYSTATE ASSOC	5	35 LITTLE MAHONING CREEK	HQ INDIANA
		5	40 LITTLE MAHONING CREEK	HQ INDIANA
MARIA CICERO	J & J ENTERPRISES	5	803 LITTLE MAHONING CREEK	HQ INDIANA
		6	20 LITTLE MAHONING CREEK	HQ INDIANA
		6	21 SALSGIVER RUN	HQ INDIANA
		6	22 CUSH CREEK	INDIANA
		7	23 LITTLE MAHONING CREEK	HQ INDIANA
ELSIE OLP	J & J ENTERPRISES	7	24 LITTLE MAHONING CREEK	HQ INDIANA
		7	25 LITTLE MAHONING CREEK	HQ INDIANA
		7	41 CROOKED RUN	HQ INDIANA
		7	42 CROOKED RUN	HQ INDIANA
		7	43 LITTLE MAHONING CREEK	HQ INDIANA
		7	44 LITTLE MAHONING CREEK	HQ INDIANA
		7	45 LITTLE MAHONING CREEK	HQ INDIANA
PHILIP RICE	THE PEOPLES NATURAL GAS CO	7	804 LITTLE MAHONING CREEK	HQ INDIANA
W.E. GOSS	J & J ENTERPRISES	8	26 LITTLE MAHONING CREEK	HQ INDIANA
REGIS A MCKNICHT	KEYSTONE ENERGY OIL & GAS	8	27 LITTLE MAHONING CREEK	HQ INDIANA
	J & J ENTERPRISES	8	28 LITTLE MAHONING CREEK	HQ INDIANA
		8	29 LITTLE MAHONING CREEK	HQ INDIANA
		8	30 LITTLE MAHONING CREEK	HQ INDIANA
ALETHIE KNAPP	ATLAS RESOURCES INC.	8	31 RAIRIGH RUN	HQ INDIANA
		8	32 EAST RUN	HQ INDIANA
CLAIR & MARY BROWN	KRIEBEL WELLS	8	46 LITTLE MAHONING CREEK	HQ INDIANA
C EDWARD STUCHELL	ADOBE OIL & GAS	8	47 RAIRIGH RUN	HQ INDIANA
		8	49 LITTLE MAHONING CREEK	HQ INDIANA
ALETHIE KNAPP	ATLAS RESOURCES INC.	9	33 RAIRIGH RUN	HQ INDIANA
		9	34 CUSH CREEK	INDIANA
CLAIR AND MARY L BROWN	KRIEBEL WELLS	9	48 RAIRIGH RUN	HQ INDIANA
FRED A MUSSER	J & J ENTERPRISES	9	805 CUSH CREEK	INDIANA
** Map Name: RURAL VALLEY				
		3	1 NORTH BRANCH	ARMSTRONG
		5	2 COWANSHANNOCK CREEK	ARMSTRONG
		6	3 SOUTH BRANCH	ARMSTRONG
CORA COCHRAN	DORAN & ASSOCIATES	8	4 PLUM CREEK	ARMSTRONG
	ADOBE OIL & GAS	8	5 COWANSHANNOCK CREEK	ARMSTRONG
CORA COCHRAN	DORAN & ASSOCIATES	8	6 PLUM CREEK	ARMSTRONG

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
** Map Name: RUSSELL CITY					
		1	1 S BR TIONESTA CREEK		HQ FOREST
		1	2 S BR TIONESTA CREEK		HQ FOREST
	PENNZOIL	2	3 COON RUN		HQ ELK
	WITCO CHEMICAL CORPORATION	3	4 MARTIN RUN		HQ ELK
	WITCO CHEMICAL CORPORATION	3	5 MARTIN RUN		HQ ELK
		3	6 WOLF RUN		HQ ELK
		3	7 WOLF RUN		HQ ELK
		3	8 WOLF RUN		HQ ELK
		3	9 WOLF RUN		HQ ELK
		3	10 WOLF RUN		HQ ELK
		3	11 WOLF RUN		HQ ELK
		3	12 COON RUN		HQ ELK
		3	13 COON RUN		HQ ELK
		3	14 COON RUN		HQ ELK
		6	15 COON RUN		HQ ELK
		6	16 E BR SPRING CREEK		HQ ELK
WT 2020	PENNZOIL	8	17 HUNTER CREEK		HQ ELK
WT 2033	PENNZOIL	8	18 HUNTER CREEK		HQ ELK
		8	19 HUNTER CREEK		HQ ELK
		9	20 THREEMILE RUN		HQ ELK
** Map Name: SHEFFIELD					
NEIL SHARP (LOT 559)	NORTH PENN PRODUCING CO	1	1 W BR TIONESTA CREEK		WARREN
TIONA FARM (LOT 163)	I.L. GEER & SONS	1	2 W BR TIONESTA CREEK		WARREN
AUL (LOT 586)	QUAKER STATE	1	3 LITTLE ARNOT RUN		ZV WARREN
LOT 202	H.L. MURRY DRILLING CO	1	4 LITTLE ARNOT RUN		EV WARREN
LOT 202	H.L. MURRY DRILLING CO	1	5 LITTLE ARNOT RUN		EV WARREN
LOT 202	H.L. MURRY DRILLING CO	1	6 LITTLE ARNOT RUN		EV WARREN
LOT 202	H.L. MURRY DRILLING CO	1	7 LITTLE ARNOT RUN		EV WARREN
LOT 202	H.L. MURRY DRILLING CO	1	8 LITTLE ARNOT RUN		EV WARREN
ELDER (LOT 586)	GEARY P. MEAD	1	9 LITTLE ARNOT RUN		EV WARREN
LOT 615	I.L. GEER & SONS	1	10 ARNOT RUN		EV WARREN
LOT 243		1	11 ARNOT RUN		EV WARREN
LOT 163	KEYSTONE ENERGY	2	12 ARNOT RUN		EV WARREN
TIONA FARM	NORTH PENN PIPE & SUPPLY CO	2	13 WOLF RUN		WARREN
LOT 202	H.L. MURRY DRILLING CO	2	14 ARNOT RUN		EV WARREN
	MILL CREEK OIL & GAS	2	15 W BR TIONESTA CREEK		WARREN
	MILL CREEK OIL & GAS	2	16 W BR TIONESTA CREEK		WARREN
LOT 241	GEARY P. MEAD	2	17 ARNOT RUN		EV WARREN
GROSCH (LOT 244)	GEARY P. MEAD	2	18 ARNOT RUN		EV WARREN
LOT 244	GEARY P. MEAD	2	19 ARNOT RUN		EV WARREN
LOT 282	GEARY P. MEAD	2	20 ARNOT RUN		EV WARREN
LOT 362	R & R OIL & GAS CO	4	21 DUCK EDDY RUN		WARREN
LOT 362	R & R OIL & GAS CO	4	22 DUCK EDDY RUN		WARREN
BONANZA	QUAKER STATE	4	23 UPPER SHERIFF RUN		HQ WARREN
LOT 363	VIKING RESOURCES CORP	4	24 DUCK EDDY RUN		WARREN
LOT 363	VIKING RESOURCES CORP	5	25 DUCK EDDY RUN		WARREN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
NATIONAL FUEL GAS (LOT 364)	VIKING RESOURCES CORP	5	26	DUCK EDDY RUN	WARREN
NATIONAL FUEL GAS (LOT 364)	VIKING RESOURCES CORP	5	27	DUCK EDDY RUN	WARREN
NATIONAL FUEL GAS (LOT 361)	VIKING RESOURCES CORP	5	28	UNNAMED TRIB	WARREN
NATIONAL FUEL GAS (LOT 360)	VIKING RESOURCES CORP	5	29	UNNAMED TRIB	WARREN
	MILL CREEK OIL & GAS	6	30	S BR TIONESTA CREEK	HQ WARREN
	MILL CREEK OIL & GAS	6	31	S BR TIONESTA CREEK	HQ WARREN
HERRICK (TRACT 2877)	FOREST CHEMICAL CO	7	32	BUSH CREEK	WARREN
HERRICK (TRACT 2735)	FOREST CHEMICAL CO	7	33	BUSH CREEK	WARREN
HERRICK (TRACT 2735)	FOREST CHEMICAL CO	8	34	BUSH CREEK	WARREN
HERRICK (TRACT 2735)	FOREST CHEMICAL CO	8	35	BUSH CREEK	WARREN
	NOVOSEL	8	36	TIONESTA CREEK	WARREN
	CLARENDON PRODUCING CO	8	37	MESSINGER RUN	WARREN
COCHRAN (407)	QUAKER STATE	9	38	S BR TIONESTA CREEK	HQ WARREN
	QUAKER STATE	9	39	TIONESTA CREEK	WARREN
LOT 436	F.E. PETROLEUM INC.	9	40	S BR TIONESTA CREEK	HQ WARREN
CURTIN (LOT 409)	F.E. PETROLEUM INC.	9	41	S BR TIONESTA CREEK	HQ WARREN
CURTIN (LOT 409)	F.E. PETROLEUM INC.	9	42	S BR TIONESTA CREEK	HQ WARREN
	NOVOSEL	9	43	S BR TIONESTA CREEK	HQ WARREN
	NOVOSEL	9	44	S BR TIONESTA CREEK	HQ WARREN
BARNES	QUAKER STATE	9	45	S BR TIONESTA CREEK	HQ WARREN
ENTERPRISE TRACT	QUAKER STATE	9	46	MEAD RUN	WARREN
ENTERPRISE TRACT (018)	QUAKER STATE	9	47	MEAD RUN	WARREN
ENTERPRISE TRACT (03)	QUAKER STATE	9	48	TIONESTA CREEK	WARREN
** Map Name: SHINGLEHOUSE					
		1	1	BELL RUN	McKEAN
TERETTE	J. J. BUCHER	1	2	BELL RUN	McKEAN
	WILDCATTERS	1	3	HORSE RUN	McKEAN
PEARSALL LEASE	J. J. BUCHER	2	4	HORSE RUN	POTTER
	H. D. HOUGH	2	5	HORSE RUN	POTTER
	J. J. BUCHER	2	6	HORSE RUN	POTTER
	HAINES & MEACHAM	2	7	HONEYOYE CREEK	POTTER
	SUBSEA OIL & GAS	2	8	HORSE RUN	POTTER
	J. J. BUCHER	2	9	HORSE RUN	POTTER
	J. J. BUCHER	2	10	OSWAYO CREEK	POTTER
** Map Name: SIGEL					
PENNSYLVANIA STATE FOREST	O G M DEVELOPMENT CORPORATION	5	1	CLEAR CREEK	HQ JEFFERSON
SPENCE AND HARRIGER	O G M DEVELOPMENT CORPORATION	5	2	TRAP RUN	HQ JEFFERSON
KITTANNING STATE FOREST	O G M DEVELOPMENT CORPORATION	5	3	CLEAR CREEK	HQ JEFFERSON
PENNSYLVANIA STATE FOREST	O G M DEVELOPMENT CORPORATION	5	4	TRAP RUN	HQ JEFFERSON
		8	5	SHIPPEN RUN	HQ JEFFERSON
** Map Name: SMETHPORT					
	CUNNINGHAM NATURAL GAS CORP.	3	1	KENT HOLLOW RUN	McKEAN
	CUNNINGHAM NATURAL GAS CORP.	3	2	KENT HOLLOW RUN	McKEAN
	CUNNINGHAM NATURAL GAS CORP.	3	3	KENT HOLLOW RUN	McKEAN
	CUNNINGHAM NATURAL GAS CORP.	3	4	PIERCE BROOK	McKEAN
	CUNNINGHAM NATURAL GAS CORP.	3	5	KENT HOLLOW RUN	McKEAN

Table 7. List of All Discharges
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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
BOUDON LEASE	MICON EXPLORATION	7	6	MARVIN CREEK	McKEAN
AULTON GIBSON	SOUTHERN DRILLING & PRODUCTION	7	7	MARVIN CREEK	McKEAN
** Map Name: SPRING CREEK					
FRANK NICHOLS	BEREA OIL & GAS CORP.	7	1	SPRING CREEK	HQ WARREN
SANDFORD	EAGLE LINE CORP.	9	2	E BR SPRING CREEK	HQ WARREN
GATES & ALLEN	PENNSYLVANIA OIL PRODUCING CO.	9	3	MIDDLE BRANCH CALDWELL CREEK	HQ WARREN
GATES & ALLEN	PENNSYLVANIA OIL PRODUCING CO.	9	4	MIDDLE BRANCH CALDWELL CREEK	HQ WARREN
ALLEN	PENNSYLVANIA OIL PRODUCING CO.	9	5	MIDDLE BRANCH CALDWELL CREEK	HQ WARREN
** Map Name: STICKNEY					
TOME LEASE	ALLEGRO OIL & GAS INC.	1	1	WILLOW CREEK	HQ McKEAN
	PECORA ENTERPRISES	2	2	WILLOW CREEK	HQ McKEAN
	PECORA ENTERPRISES	2	3	WILLOW CREEK	HQ McKEAN
	PECORA ENTERPRISES	2	4	WILLOW CREEK	HQ McKEAN
	PECORA ENTERPRISES	2	5	WILLOW CREEK	HQ McKEAN
TRACY RIDGE (WT 3702)	NUCORP ENERGY CORP.	2	6	COFFEY RUN	HQ McKEAN
WT 4908	KALTSAS OIL CO.	8	7	BUCK LICK RUN	HQ McKEAN
WT 4908	COMMONWEALTH OIL & GAS CO.	8	8	BUCK LICK RUN	HQ McKEAN
WT 4908	COMMONWEALTH OIL & GAS CO.	8	9	BUCK LICK RUN	HQ McKEAN
EASTERN OVERTHRUST ENERGY	DUKE ENERGY, INC.	8	10	CONOVER HOLLOW	HQ McKEAN
** Map Name: STRONGSTOWN					
		1	1	YELLOW CREEK	INDIANA
		3	2	YELLOW CREEK	INDIANA
		7	3	GILLHOUSER RUN	HQ INDIANA
RICHARD W. OVERDORFF	MID-EAST OIL CO.	7	4	MARDIS RUN	INDIANA
		9	5	N BR BLACKLICK CREEK	CAMBRIA
		9	6	WALKER RUN	CAMBRIA
** Map Name: SUGAR GROVE					
M. CARLSON	SIGMA ENERGY RESOURCES	1	1	STILLWATER CREEK	WARREN
STAHLBERG	MARANATHA PARTNERSHIP	1	50	STILLWATER CREEK	WARREN
STAHLBERG	SIGMA ENERGY RESOURCES	1	51	STILLWATER CREEK	WARREN
JOSEPH CATALDO	VALLEY DRILLING CO.	2	52	STILLWATER CREEK	WARREN
JOSEPH CATALDO	VALLEY DRILLING CO.	2	2	STILLWATER CREEK	WARREN
ATKINS	QUAKER STATE	2	3	STILLWATER CREEK	WARREN
HAMILTON	MORRISON OIL CO.	2	4	STILLWATER CREEK	WARREN
HAMILTON	MORRISON OIL CO.	2	5	SAUNDERS RUN	WARREN
DURNELL/PIERCE	UNIVERSAL RESOURCES HOLDING CO	2	6	SAUNDERS RUN	WARREN
DETWEILER	MORRISON OIL CO.	2	7	SAUNDERS RUN	WARREN
ROBERT CHASE	SIGMA ENERGY RESOURCES	2	8	SAUNDERS RUN	WARREN
JENKS DEVELOPMENT	BLACK STALLION	2	53	STILLWATER CREEK	WARREN
JOHN NOBBS	SIGMA ENERGY RESOURCES	2	54	STILLWATER CREEK	WARREN
JENKS DEVELOPMENT	BLACK STALLION	2	55	STILLWATER CREEK	WARREN
		2	56	STILLWATER CREEK	WARREN
		2	83	STILLWATER CREEK	WARREN
		2	84	STILLWATER CREEK	WARREN
		2	85	STILLWATER CREEK	WARREN

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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
SCHLINING	MORRISON OIL CO.	3	9	SAUNDERS RUN	WARREN
STEWART	SIGMA ENERGY RESOURCES	3	62	KIANTONE CREEK	WARREN
MCKENNY	SIGMA ENERGY RESOURCES	3	63	KIANTONE CREEK	WARREN
LUDWICK/CARLSTROM	SIGMA ENERGY RESOURCES	3	64	KIANTONE CREEK	WARREN
MCINTYRE	HBC OIL CO	3	65	KIANTONE CREEK	WARREN
SOUTH KACZAR	SIGMA ENERGY RESOURCES	3	66	KIANTONE CREEK	WARREN
HIBNER	S& M RESOURCES INC.	3	76	KIANTONE CREEK	WARREN
CRISPIN	S& M RESOURCES INC.	3	77	KIANTONE CREEK	WARREN
MCKENNEY	S& M RESOURCES INC.	3	78	KIANTONE CREEK	WARREN
LUDWICK	S& M RESOURCES INC.	3	79	KIANTONE CREEK	WARREN
		3	86	KIANTONE CREEK	WARREN
		3	97	KIANTONE CREEK	WARREN
		3	98	KIANTONE CREEK	WARREN
FULLERTON	ADOBE OIL & GAS	3	101	KIANTONE CREEK	WARREN
		4	87	JACKSON RUN	WARREN
		4	88	PATCHEN RUN	WARREN
W. ADAMS	UNIVERSAL RESOURCES HOLDING CO	5	10	JACKSON RUN	WARREN
NOBBS	UNIVERSAL RESOURCES HOLDING CO	5	11	JACKSON RUN	WARREN
FALCONER	UNIVERSAL RESOURCES HOLDING CO	5	12	JACKSON RUN	WARREN
LABOWAK	UNIVERSAL RESOURCES HOLDING CO	5	13	JACKSON RUN	WARREN
RODNEY PETERS	UNIVERSAL RESOURCES HOLDING CO	5	14	JACKSON RUN	WARREN
ODONNELL	MORRISON OIL CO.	5	15	JACKSON RUN	WARREN
CHANDLER	MORRISON OIL CO.	5	16	JACKSON RUN	WARREN
ROBERT YOSHIDA	VALLEY DRILLING CO.	5	17	JACKSON RUN	WARREN
BOSKO	BLACK STALLION	5	18	JACKSON RUN	WARREN
BOSKO	BLACK STALLION	5	19	JACKSON RUN	WARREN
YNGVE HARNER	UNIVERSAL RESOURCES HOLDING CO	5	20	JACKSON RUN	WARREN
		5	21	JACKSON RUN	WARREN
ENGSTROM	FLOYD GEARHART	5	22	JACKSON RUN	WARREN
J. EGGLESTON	MOOR, BYERS & STOREY & KAUFMAN	5	45	JACKSON RUN	WARREN
J. FLASHER	MORRISON OIL CO.	5	47	JACKSON RUN	WARREN
JENKS DEVELOPMENT	BLACK STALLION	5	57	STILLWATER CREEK	WARREN
HOWARTH	OHIO LEASE OPERATING	5	58	STILLWATER CREEK	WARREN
DENDEL	SIGMA ENERGY RESOURCES	5	59	JACKSON RUN	WARREN
TUTMAHER	BLACK STALLION	5	60	JACKSON RUN	WARREN
WILMOUTH	BLACK STALLION	5	61	JACKSON RUN	WARREN
HAMMERMILL	S& M RESOURCES INC.	5	80	JACKSON RUN	WARREN
		5	89	JACKSON RUN	WARREN
		5	90	JACKSON RUN	WARREN
		5	91	JACKSON RUN	WARREN
		5	92	JACKSON RUN	WARREN
		5	93	JACKSON RUN	WARREN
		5	94	JACKSON RUN	WARREN
FALCONER	BROKENSTRAW OIL CO	6	23	JACKSON RUN	WARREN
J. FLASHER	MORRISON OIL CO.	6	24	JACKSON RUN	WARREN
JEWELL	DONNELL SERVICES, INC.	7	25	MATTHEWS RUN	WARREN
		7	26	MATTHEWS RUN	WARREN
EDWARD DAY	WITCO CHEMICAL CORPORATION	7	27	MATTHEWS RUN	WARREN
BISSELL	SIGMA ENERGY RESOURCES	7	67	MATTHEWS RUN	WARREN

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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
CARLSON	SIGMA ENERGY RESOURCES	7	68	MATTHEWS RUN	WARREN
TRASK	SIGMA ENERGY RESOURCES	7	69	MATTHEWS RUN	WARREN
DAY	SIGMA ENERGY RESOURCES	7	70	MATTHEWS RUN	WARREN
BARAN	DONNELL SERVICES, INC.	7	71	MATTHEWS RUN	WARREN
DARLING	S & M RESOURCES INC.	7	81	BROWNS RUN	WARREN
BARAN	S & M RESOURCES INC.	7	82	BROWNS RUN	WARREN
		7	96	TELICK RUN	WARREN
OBRIEN	ADOBE OIL & GAS	7	99	MATTHEWS RUN	WARREN
CLARKE	ADOBE OIL & GAS	7	100	MATTHEWS RUN	WARREN
KNAPP A	EASTERN STATES ENERGY	7	801	MATTHEWS RUN	WARREN
GRIFFIN	DONNELL SERVICES, INC.	7	803	MATTHEWS RUN	WARREN
BROWN HILL METHODIST CHURCH	UNIVERSAL RESOURCES HOLDING CO	8	28	INDIAN CAMP RUN	WARREN
ROBERT GIBSON	UNIVERSAL RESOURCES HOLDING CO	8	29	IRVINE RUN	WARREN
A. MCKINNEY	UNIVERSAL RESOURCES HOLDING CO	8	30	IRVINE RUN	WARREN
A. MCKINNEY	TROPIGAS	8	31	IRVINE RUN	WARREN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	8	32	IRVINE RUN	WARREN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	8	33	IRVINE RUN	WARREN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	8	34	IRVINE RUN	WARREN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	8	35	IRVINE RUN	WARREN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	8	36	IRVINE RUN	WARREN
DICKEY	TROPIGAS	8	37	IRVINE RUN	WARREN
		8	38	INDIAN CAMP RUN	WARREN
HENRY	MORRISON OIL CO.	8	39	INDIAN CAMP RUN	WARREN
VANCISE	QUAKER STATE	8	40	IRVINE RUN	WARREN
DICKEY	UNIVERSAL RESOURCES HOLDING CO	8	48	IRVINE RUN	WARREN
		8	49	IRVINE RUN	WARREN
HAGG-RENSMA	SIGMA ENERGY RESOURCES	8	72	IRVINE RUN	WARREN
E. DICKEY	QUAKER STATE	8	73	IRVINE RUN	WARREN
ALEXANDER	BROKENSTRAW OIL CO	8	74	IRVINE RUN	WARREN
		8	95	LANSING RUN	WARREN
MCKINNEY	BROKENSTRAW OIL CO	8	802	IRVINE RUN	WARREN
		9	41	IRVINE RUN	WARREN
		9	42	IRVINE RUN	WARREN
MORAVEK	JOHN ALLEN	9	43	IRVINE RUN	WARREN
HOPKINS	UNIVERSAL RESOURCES HOLDING CO	9	44	IRVINE RUN	WARREN
		9	46	JACKSON RUN	WARREN
THOMAS CARROLL	QUAKER STATE	9	75	IRVINE RUN	WARREN
** Map Name: SUMMERVILLE					
		2	1	REDBANK CREEK	JEFFERSON
		7	2	REDBANK CREEK	ARMSTRONG
		7	3	NOLF RUN	ARMSTRONG
		7	4	MUDLICK CREEK	ARMSTRONG
		7	5	MUDLICK CREEK	ARMSTRONG
S.R. AND MARY SHIREY	TEMPLETON ENERGY INC	7	11	MUDLICK CREEK	ARMSTRONG
W.P. MOWRY	TEMPLETON ENERGY INC	7	12	MUDLICK CREEK	ARMSTRONG
		8	6	NOLF RUN	JEFFERSON
		8	7	NOLF RUN	JEFFERSON
		8	8	CHERRY RUN	JEFFERSON

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
		8	9	CHERRY RUN	JEFFERSON
		8	10	CHERRY RUN	JEFFERSON
		8	11	CHERRY RUN	JEFFERSON
		8	12	NOLF RUN	JEFFERSON
** Map Name: TIDIOUTE					
		2	1	TIDIOUTE CREEK	WARREN
SIGGINS	QUAKER STATE	4	2	PINE CREEK	WARREN
BYERS	CABOT OIL & GAS CORP.	5	3	GORDON RUN	WARREN
	RETURN OIL CO.	6	4	ALLEGHENY RIVER	WARREN
ZEIGLER	MARRK OIL	7	5	LAMB RUN	WARREN
MCGRAW	RON BROWN	7	6	LAMB RUN	WARREN
ZEIGLER-MCGRAW	TURN OIL INC	7	7	LAMB RUN	WARREN
ZEIGLER-MCGRAW	TURN OIL INC	7	8	LAMB RUN	WARREN
ZEIGLER-MCGRAW	TURN OIL INC	7	9	LAMB RUN	WARREN
PENN-BAYLESS	RETURN OIL CO.	7	10	FUNK RUN	WARREN
PENN-BAYLESS	RETURN OIL CO.	7	11	FUNK RUN	WARREN
PENN-BAYLESS	KEY OIL CO.	7	12	FUNK RUN	WARREN
MARTIN	RETURN OIL CO.	7	13	MARTIN RUN	WARREN
MEAD	EAGLE LINE OIL CO.	7	14	MARTIN RUN	WARREN
** Map Name: TIONESTA					
FOREMAN-PROPER	QUAKER STATE OIL CO	1	1	BATES RUN	FOREST
** Map Name: TITUSVILLE SOUT					
		1	1	PRATHER CREEK	VENANGO
WEBER	APEX RESOURCES	2	2	PRATHER CREEK	VENANGO
HENDERSON	QUAKER STATE	3	3	OIL CREEK	VENANGO
TARR	HAMLIN OIL CO.	3	15	OIL CREEK	VENANGO
TARR	HAMLIN OIL CO.	3	16	OIL CREEK	VENANGO
		6	4	OIL CREEK	VENANGO
		6	5	OIL CREEK	VENANGO
KINLEY	QUAKER STATE	9	6	CHERRY RUN	VENANGO
KINLEY	QUAKER STATE	9	7	CHERRY RUN	VENANGO
		9	8	CHERRY RUN	VENANGO
KINLEY	QUAKER STATE	9	9	CHERRY RUN	VENANGO
		9	10	CHERRY RUN	VENANGO
CUBBON	PETRO TECH	9	11	CHERRY RUN	VENANGO
CUBBON	PETRO TECH	9	12	CHERRY RUN	VENANGO
MILLER	QUAKER STATE	9	13	CHERRY RUN	VENANGO
RYBAK	QUAKER STATE	9	14	CHERRY RUN	VENANGO
** Map Name: TYLERSBURG					
	MERIDIAN EXPLORATION	2	1	LITTLE COON CREEK	HQ FOREST
	MERIDIAN EXPLORATION	2	2	LITTLE COON CREEK	HQ FOREST
PARDEE	QUAKER STATE OIL CO	4	3	LITTLE COON RUN	CLARION
ZUPANCIC	QUAKER STATE OIL CO	4	4	LITTLE COON RUN	CLARION
ZUPANCIC	QUAKER STATE OIL CO	4	5	LITTLE COON RUN	CLARION
KAHLE	QUAKER STATE OIL CO	4	6	LITTLE COON RUN	CLARION

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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
KAHLE	QUAKER STATE OIL CO	7	7	LITTLE COON RUN	CLARION
** Map Name: VALIER					
		1	1	BIG RUN	JEFFERSON
		1	2	BIG RUN	JEFFERSON
		2	3	MCCRACKEN RUN	JEFFERSON
		2	4	HADDEN RUN	JEFFERSON
		2	25	BIG RUN	JEFFERSON
		3	5	LITTLE ELK RUN	JEFFERSON
		3	6	SAWMILL RUN	JEFFERSON
		6	7	ROSE RUN	JEFFERSON
		6	8	MAHONING CREEK	JEFFERSON
		6	9	MAHONING CREEK	JEFFERSON
		6	10	MAHONING CREEK	JEFFERSON
		6	11	MAHONING CREEK	JEFFERSON
		7	12	MAHONING CREEK	INDIANA
		8	13	MAHONING CREEK	JEFFERSON
		8	14	DUTCH RUN	INDIANA
		8	16	DUTCH RUN	INDIANA
		8	26	MUDLICK RUN	HQ INDIANA
		8	27	DUTCH RUN	INDIANA
		9	15	MAHONING CREEK	JEFFERSON
		9	17	DUTCH RUN	INDIANA
		9	18	DUTCH RUN	INDIANA
		9	19	DUTCH RUN	INDIANA
		9	20	DUTCH RUN	INDIANA
		9	21	CANOE CREEK	INDIANA
		9	22	CANOE CREEK	INDIANA
		9	23	CANOE CREEK	INDIANA
		9	24	CANOE CREEK	INDIANA
		9	28	DUTCH RUN	INDIANA
		9	29	DUTCH RUN	INDIANA
** Map Name: VINTONDALE					
	ENERGY PRODUCTION CO	1	1	MARDIS RUN	INDIANA
		1	2	MARDIS RUN	INDIANA
	ENERGY PRODUCTION CO	1	3	MARDIS RUN	INDIANA
** Map Name: WARREN					
BOWSER	SLAGLE & ALMENDINGER	1	56	ALLEGHENY RIVER	WARREN
BRANT	EXCHANGE OIL	1	57	ALLEGHENY RIVER	WARREN
SPERRY	SIGMA ENERGY RESOURCES	1	58	MORSE RUN	HQ WARREN
CLIFTON	MORRISON OIL CO.	2	1	ALLEGHENY RIVER	WARREN
MOYLAN	QUAKER STATE	2	2	UNNAMED TRIB	WARREN
NORDINE	STERLING ENERGY ASSOC.	2	59	ALLEGHENY RIVER	WARREN
FERVER	FLANNIGAN BROS.	2	60	ALLEGHENY RIVER	WARREN
	DAVID THELIN OIL CO.	2	801	UNNAMED TRIBUTARY	WARREN
SHRECK	UNIVERSAL RESOURCES HOLDING CO	3	3	UNNAMED TRIB	WARREN
FLADRY	SLAGLE & ALMENDINGER	3	61	FOLLETT RUN	WARREN

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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
ANTHONY & LARSEN	SLAGLE & ALMENDINGER	3	62 FOLLETT RUN	WARREN
GROSCH	WILLIAM SOUTHWELL	3	63 FOLLETT RUN	WARREN
ARCHIBALD	ELLINGTON HARDWOOD	3	64 UNNAMED TRIBUTARY	WARREN
CRAIG GREEN	SIGMA ENERGY RESOURCES	3	65 UNNAMED TRIBUTARY	WARREN
	ENVIRONMENTAL DEVELOPMENT CORP	3	78 ALLEGHENY RIVER	WARREN
PIERCE (01)	QUAKER STATE	4	4 GRUNDER RUN	WARREN
PIERCE	QUAKER STATE	4	5 GRUNDER RUN	WARREN
PAPALIA	QUAKER STATE	4	6 GRUNDER RUN	WARREN
JENKS, BRIGHT-WOLFE, PIERCE	QUAKER STATE	4	7 GRUNDER RUN	WARREN
BRIGHT-WOLFE (069)	QUAKER STATE	4	8 GRUNDER RUN	WARREN
ZORO	QUAKER STATE	4	9 GRUNDER RUN	WARREN
JENKS (452)	QUAKER STATE	4	10 GRUNDER RUN	WARREN
N & R	QUAKER STATE	4	11 GRUNDER RUN	WARREN
SAMUELSON	SIGMA ENERGY RESOURCES	4	66 GRUNDER RUN	WARREN
JENKS (LOT 476)	S & M RESOURCES INC.	4	77 SILL RUN	WARREN
DONAHUE & WHITE	QUAKER STATE	5	12 GRUNDER RUN	WARREN
HOWARD BILLMAN	HOWARD BILLMAN	5	13 ALLEGHENY RIVER	WARREN
WENTZ	QUAKER STATE	5	14 GRUNDER RUN	WARREN
		5	15 SILL RUN	WARREN
HAMILTON	QUAKER STATE	5	16 SILL RUN	WARREN
MIKULA	QUAKER STATE	5	17 SILL RUN	WARREN
PEARSON	QUAKER STATE	5	18 SILL RUN	WARREN
GRUNDER	QUAKER STATE	5	19 SILL RUN	WARREN
HIRTZEL	QUAKER STATE	5	52 SILL RUN	WARREN
LOT 473	KENNETH D. SHERRY	5	54 MORRISON RUN	WARREN
		6	20 OIL RUN	WARREN
ALGONQUIN TRUST #2	GAS & OIL MANAGEMENT ASSOC.	6	21 MORRISON RUN	WARREN
ALGONQUIN TRUST #2	GAS & OIL MANAGEMENT ASSOC.	6	22 MORRISON RUN	WARREN
ALGONQUIN TRUST #1	GAS & OIL MANAGEMENT ASSOC.	6	23 MORRISON RUN	WARREN
LOTS 459 & 460	GEARY P. MEAD	6	24 MORRISON RUN	WARREN
ALGONQUIN TRUST #3	GAS & OIL MANAGEMENT ASSOC.	6	25 MORRISON RUN	WARREN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	6	26 MORRISON RUN	WARREN
ALGONQUIN TRUST #5 (LOT 508)	GAS & OIL MANAGEMENT ASSOC.	7	27 ELKHORN RUN	HQ WARREN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	7	28 ELKHORN RUN	HQ WARREN
ARCHIE BUNKER	QUAKER STATE	7	29 ELKHORN RUN	HQ WARREN
GLASSMAN	QUAKER STATE	7	30 ELKHORN RUN	HQ WARREN
STATE GAME LANDS #29 (LOT 545)	ED JAMES WELL SERVICE.	7	31 SLATER RUN (WILDCAT RUN)	EV WARREN
GRUNDER (484)	QUAKER STATE	7	53 MORRISON RUN	WARREN
LOT 516	ALLEGHENY & WESTERN ENERGY	7	55 ELKHORN CREEK	HQ WARREN
LOT 514	QUAKER STATE	7	67 SLATER RUN	EV WARREN
LOT 514	QUAKER STATE	7	68 SLATER RUN	EV WARREN
DEFOREST	SHAWNEE-CLINGER OIL CO.	7	69 HEDGEHOG RUN	HQ WARREN
HORNICK	SHAWNEE-CLINGER OIL CO.	7	70 SLATER RUN	EV WARREN
DUNN	SHAWNEE-CLINGER OIL CO.	7	71 HEDGEHOG RUN	HQ WARREN
STONE	SHAWNEE-CLINGER OIL CO.	7	72 SLATER RUN	EV WARREN
LOT 542	QUAKER STATE	7	73 SLATER RUN	EV WARREN
LOT 542	QUAKER STATE	7	74 SLATER RUN	EV WARREN
ARCHIE BUNKER (LOT 541)	QUAKER STATE	7	75 SLATER RUN	EV WARREN
ALGONQUIN TRUST #7 (LOT 485)	GAS & OIL MANAGEMENT ASSOC.	8	32 MORRISON RUN	WARREN

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Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
ALGONQUIN TRUST #4 (LOT 486)	GAS & OIL MANAGEMENT ASSOC.	8	33 MORRISON RUN	WARREN
ALGONQUIN TRUST #9 (LOT 486)	GAS & OIL MANAGEMENT ASSOC.	8	34 MORRISON RUN	WARREN
ALGONQUIN TRUST #9 & SULLIVAN	GAS & OIL MANAGEMENT ASSOC.	8	35 MORRISON RUN	WARREN
MORRISON RUN TRUST	GAS & OIL MANAGEMENT ASSOC.	8	36 MORRISON RUN	WARREN
ALGONQUIN TRUST #8	GAS & OIL MANAGEMENT ASSOC.	8	37 MORRISON RUN	WARREN
ALGONQUIN TRUST #4 (LOT 508)	GAS & OIL MANAGEMENT ASSOC.	8	38 TROUT RUN	HQ WARREN
ALGONQUIN TRUST #5 (LOT 508)	GAS & OIL MANAGEMENT ASSOC.	8	39 TROUT RUN	HQ WARREN
ALGONQUIN TRUST #6 (LOT 507)	GAS & OIL MANAGEMENT ASSOC.	8	40 TROUT RUN	HQ WARREN
LOT 508	SULLIVAN & CLARK	8	41 MORRISON RUN	WARREN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	8	42 TROUT RUN	HQ WARREN
TROUT RUN TRUST #1	GAS & OIL MANAGEMENT ASSOC.	8	43 TROUT RUN	HQ WARREN
RENSMA	QUAKER STATE	8	44 ELKHORN RUN	HQ WARREN
TROUT RUN TRUST #3	GAS & OIL MANAGEMENT ASSOC.	8	45 ELKHORN RUN	HQ WARREN
TROUT RUN TRUST #4	GAS & OIL MANAGEMENT ASSOC.	8	46 ELKHORN RUN	HQ WARREN
JENKS (519)	QUAKER STATE	8	47 ELKHORN RUN	HQ WARREN
TROUT RUN TRUST #2	GAS & OIL MANAGEMENT ASSOC.	8	48 ELKHORN RUN	HQ WARREN
LOT 539	SHAWNEE-CLINGER OIL CO.	8	76 ADAMS RUN	HQ WARREN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	9	49 MEAD RUN	HQ WARREN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	9	50 MORRISON RUN	WARREN
GIBSON TRACT (LOT 500)	UNIVERSAL RESOURCES HOLDING CO	9	51 W BR TIONESTA CREEK	WARREN
** Map Name: WEST HICKORY				
HAMMERMILL	INTERPEN DRILLING CO.	1	1 PITHOLE CREEK	FOREST
KANE HARDWOOD	RETURN OIL CO.	1	2 GERMAN RUN	FOREST
		1	3 WEST HICKORY CREEK	FOREST
HAMMERMILL	RED VALLEY ENTERPRISES	1	4 PITHOLE CREEK	FOREST
J. HANDY	COMPASS DEVELOPMENT INC	1	5 PITHOLE CREEK	FOREST
HAMMERMILL	CRYSTAL SPRINGS OIL CO.	1	6 PITHOLE CREEK	FOREST
HAMMERMILL	CRYSTAL SPRINGS OIL CO.	1	7 PITHOLE CREEK	FOREST
FRANK WATSON	QUAKER STATE OIL CO	1	8 PITHOLE CREEK	FOREST
PROPER-MAXWELL (PATTERSON)	QUAKER STATE OIL CO	1	9 PITHOLE CREEK	FOREST
	RETURN OIL CO.	1	10 PITHOLE CREEK	FOREST
MCGARRELL 4B	QUAKER STATE OIL CO	1	11 PITHOLE CREEK	FOREST
MONROSS C	QUAKER STATE OIL CO	1	12 MCARTHUR RUN	FOREST
MONROSS C	QUAKER STATE OIL CO	1	13 MCARTHUR RUN	FOREST
MONROSS C	QUAKER STATE OIL CO	1	14 MCARTHUR RUN	FOREST
MONROSS C	QUAKER STATE OIL CO	1	15 MCARTHUR RUN	FOREST
HOLBROOK	QUAKER STATE OIL CO	1	16 MCARTHUR RUN	FOREST
MONROSS C	QUAKER STATE OIL CO	1	17 MCARTHUR RUN	FOREST
HAMMERMILL	QUAKER STATE	2	18 MCARTHUR RUN	FOREST
ANDERSON	COMPASS DEVELOPMENT INC	2	19 BUCKHORN RUN	FOREST
MONROSS B (374)	QUAKER STATE	2	20 MCARTHUR RUN	FOREST
WHITE	QUAKER STATE OIL CO	2	21 BUCHHORN RUN	FOREST
MONROSS B	QUAKER STATE OIL CO	2	22 BUCHHORN RUN	FOREST
WHITE	QUAKER STATE OIL CO	2	23 BUCHHORN RUN	FOREST
WHITE	QUAKER STATE	2	24 BUCHHORN RUN	FOREST
MILLIN	COMPASS DEVELOPMENT INC	2	96 ALLEGHENY RIVER	FOREST
MCCOY-BALL	QUAKER STATE OIL CO	3	25 EAST HICKORY CREEK	HQ FOREST
MCGARRELL 4A	QUAKER STATE OIL CO	4	26 PITHOLE CREEK	FOREST

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
MCGARRELL	QUAKER STATE	4	27	PITHOLE CREEK	FOREST
MCGARRELL 4B	QUAKER STATE OIL CO	4	28	MCARTHUR RUN	FOREST
MCGARRELL 4B	QUAKER STATE OIL CO	4	29	MCARTHUR RUN	FOREST
FOGLE PROJECT #7	QUAKER STATE OIL CO	4	30	MCARTHUR RUN	FOREST
FOGLE 4A	QUAKER STATE OIL CO	4	31	MCARTHUR RUN	FOREST
MCGARRELL 4A	QUAKER STATE OIL CO	4	32	MCARTHUR RUN	FOREST
STEFFELBEAM PROJECT #4A	QUAKER STATE OIL CO	4	33	MCARTHUR RUN	FOREST
MONROSS B	QUAKER STATE OIL CO	4	34	MCARTHUR RUN	FOREST
HOLBROOK	QUAKER STATE OIL CO	4	35	MCARTHUR RUN	FOREST
KELLER PROJECT #3	QUAKER STATE OIL CO	4	36	PITHOLE CREEK	FOREST
KELLER PROJECT #1	QUAKER STATE OIL CO	4	37	PITHOLE CREEK	FOREST
COPELAND	QUAKER STATE OIL CO	4	38	PITHOLE CREEK	FOREST
COPELAND	QUAKER STATE OIL CO	4	39	DAWSON RUN	FOREST
COPELAND	QUAKER STATE OIL CO	4	40	DAWSON RUN	FOREST
		4	41	DAWSON RUN	FOREST
COPELAND	QUAKER STATE OIL CO	4	42	DAWSON RUN	FOREST
GORMAN PROJECT #2	QUAKER STATE OIL CO	4	43	DAWSON RUN	FOREST
COPELAND	QUAKER STATE OIL CO	4	44	DAWSON RUN	FOREST
FOGLE PROJECT #7	QUAKER STATE OIL CO	4	45	DAWSON RUN	FOREST
		4	46	MCARTHUR RUN	FOREST
MONROSS C	QUAKER STATE OIL CO	4	47	DAWSON RUN	FOREST
HUIDEKOPER PROJECT #2	QUAKER STATE OIL CO	4	48	STEWART RUN	FOREST
KELLER PROJECT #1	QUAKER STATE OIL CO	4	49	STEWART RUN	FOREST
KELLER PROJECT #1	QUAKER STATE OIL CO	4	50	STEWART RUN	FOREST
GORMAN PROJECT #2	QUAKER STATE OIL CO	4	51	STEWART RUN	FOREST
GORMAN	QUAKER STATE	4	52	STEWART RUN	FOREST
GORMAN PROJECT #1	QUAKER STATE OIL CO	4	53	STEWART RUN	FOREST
GORMAN	QUAKER STATE	4	54	STEWART RUN	FOREST
GORMAN-VERTULLO	QUAKER STATE OIL CO	4	55	STEWART RUN	FOREST
ALLENDER	J. BOWMAN PROPER	4	56	DAWSON RUN	FOREST
MILFORD	QUAKER STATE OIL CO	4	57	DAWSON RUN	FOREST
NEELY	PENN ONE CO.	4	58	DAWSON RUN	FOREST
MILFORD	QUAKER STATE OIL CO	4	59	DAWSON RUN	FOREST
MILFORD	QUAKER STATE OIL CO	4	60	DAWSON RUN	FOREST
CONNALLY	J. L. BECK	4	61	DAWSON RUN	FOREST
BINGMAN	EAGLE LINE OIL CO.	4	62	DAWSON RUN	FOREST
WALTON-GLENN	QUAKER STATE OIL CO	4	63	DAWSON RUN	FOREST
WALTON-GLENN	QUAKER STATE	4	64	DAWSON RUN	FOREST
HANDY-WALTON	QUAKER STATE OIL CO	4	65	STEWART RUN	FOREST
CUBBON (OSTEN)	COMPASS DEVELOPMENT INC	4	66	MCCAFERDY RUN	FOREST
CUBBON	COMPASS DEVELOPMENT INC	4	67	MCCAFERDY RUN	FOREST
PASSEUR (GAMMA)	COMPASS DEVELOPMENT INC	4	69	DAWSON RUN	FOREST
PLEASANTVILLE	WITCO CHEMICAL CORPORATION	4	85	STEWART RUN	FOREST
HOMESTEAD	COMPASS DEVELOPMENT INC	4	87	HUNTER RUN	FOREST
HOMESTEAD	COMPASS DEVELOPMENT INC	4	88	HUNTER RUN	FOREST
BREDIN	COMPASS DEVELOPMENT INC	4	90	HUNTER RUN	FOREST
SCHALLENBERGER	COMPASS DEVELOPMENT INC	4	91	HUNTER RUN	FOREST
SCHALLENBERGER	COMPASS DEVELOPMENT INC	4	92	MCCAFERDY RUN	FOREST
BETA	COMPASS DEVELOPMENT INC	4	93	DAWSON RUN	FOREST

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
FIERY	COMPASS DEVELOPMENT INC	4	103	DAWSON RUN	FOREST
CRAWFORD (HOGAN)	COMPASS DEVELOPMENT INC	4	104	MCCAFERDY RUN	FOREST
BREDIN	COMPASS DEVELOPMENT INC	4	105	HUNTER RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	4	108	DAWSON RUN	FOREST
CUBBON	ZETTA ASSOCIATES	5	68	DAWSON RUN	FOREST
SHERMAC	COMPASS DEVELOPMENT INC	5	70	BURDICK RUN	FOREST
SHERMAC	COMPASS DEVELOPMENT INC	5	71	BURDICK RUN	FOREST
SHERMAC	COMPASS DEVELOPMENT INC	5	72	SIGGINS RUN	FOREST
SHERMAC	COMPASS DEVELOPMENT INC	5	73	WEST HICKORY CREEK	FOREST
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	5	74	WEST HICKORY CREEK	FOREST
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	5	75	ALLEGHENY RIVER	FOREST
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	5	76	ALLEGHENY RIVER	FOREST
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	5	77	WEST HICKORY CREEK	FOREST
PASSEUR-BAIRD	COMPASS DEVELOPMENT INC	5	78	DAWSON RUN	FOREST
GRANDIN	J. L. BECK	5	79	DAWSON RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	80	DAWSON RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	81	DAWSON RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	82	DAWSON RUN	FOREST
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	5	94	WEST HICKORY CREEK	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	97	DAWSON RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	98	DAWSON RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	99	DAWSON RUN	FOREST
MEL PASSEUR	COMPASS DEVELOPMENT INC	5	100	DAWSON RUN	FOREST
CUTTERMILL	COMPASS DEVELOPMENT INC	5	101	DAWSON RUN	FOREST
CUBBON (OSTEN)	COMPASS DEVELOPMENT INC	5	102	DAWSON RUN	FOREST
MELROSE	COMPASS DEVELOPMENT INC	5	106	WEST HICKORY CREEK	FOREST
SHERMAC	COMPASS DEVELOPMENT INC	5	107	WEST HICKORY CREEK	FOREST
DAUBENSPECK	COMPASS DEVELOPMENT INC	7	83	HUNTER RUN	FOREST
HOMESTEAD	COMPASS DEVELOPMENT INC	7	89	HUNTER RUN	FOREST
TIONESTA SAND	COMPASS DEVELOPMENT INC	7	95	HUNTER RUN	FOREST
		8	84	ALLEGHENY RIVER	FOREST
** Map Name: WESTLINE					
JULIE LEASE	THRESHOLD DRILLING	1	1	N FORK CHAPPEL FORK	HQ McKEAN
MALLORY LOT 6	PENNZOIL	2	2	N FORK CHAPPEL FORK	HQ McKEAN
		2	3	CRARY RUN	HQ McKEAN
VENTURE	MINARD RUN OIL CO	2	4	CRARY RUN	HQ McKEAN
VENTURE	MINARD RUN OIL CO	2	5	CRARY RUN	HQ McKEAN
LIMA	BRITISH AMERICAN PETROLEUM	2	6	CRARY RUN	HQ McKEAN
	L. E. MALLORY & SON	2	801	SUGAR RUN	HQ McKEAN
LOT 21	BRITISH AMERICAN PETROLEUM	3	7	CRARY RUN	HQ McKEAN
LOT 21	BRITISH AMERICAN PETROLEUM	3	8	CAMILLA RUN	HQ McKEAN
	BRITISH AMERICAN PETROLEUM	5	9	CRARY RUN	HQ McKEAN
	BRITISH AMERICAN PETROLEUM	5	10	CHAPPEL FORK	McKEAN
	BRITISH AMERICAN PETROLEUM	6	11	CHAPPEL FORK	McKEAN
	BRITISH AMERICAN PETROLEUM	6	12	CHAPPEL FORK	McKEAN
	BRITISH AMERICAN PETROLEUM	6	13	THUNDERSHOWER RUN	McKEAN
	KINZUA ENERGY DEVELOPMENT CO	6	14	THUNDERSHOWER RUN	McKEAN
KENDALL-EASTBRANCH 140 & 145	NORTHEAST NATURAL GAS CO.	7	15	S BR KINZUA CREEK	HQ McKEAN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Receiving Stream Key	County
** Map Name: WILCOX				
		3	1 JOHNSON RUN	HQ ELK
		3	2 JOHNSON RUN	HQ ELK
		3	3 JOHNSON RUN	HQ ELK
H & J HAIGHT	APETCO INTERNATIONAL	3	4 JOHNSON RUN	HQ ELK
H & J HAIGHT	APETCO INTERNATIONAL	3	5 JOHNSON RUN	HQ ELK
		3	6 ROCKY RUN	ELK
		3	7 ROCKY RUN	ELK
		3	8 ROCKY RUN	ELK
		3	9 ROCKY RUN	ELK
		3	10 OIL CREEK	ELK
		3	11 OIL CREEK	ELK
		3	12 OIL CREEK	ELK
		3	13 OIL CREEK	ELK
		3	14 OIL CREEK	ELK
		3	15 OIL CREEK	ELK
		3	16 OIL CREEK	ELK
		3	17 OIL CREEK	ELK
		3	18 OIL CREEK	ELK
		3	19 OIL CREEK	ELK
** Map Name: YOUNGSVILLE				
LAMB	MORRISON OIL CO.	1	1 MEAD RUN	WARREN
SIEMENS	MORRISON OIL CO.	1	2 MEAD RUN	WARREN
CARLETT	MORRISON OIL CO.	1	3 MEAD RUN	WARREN
AMENN	MORRISON OIL CO.	1	4 MEAD RUN	WARREN
PUSCHER	MORRISON OIL CO.	1	5 MEAD RUN	WARREN
DEVORE	SIGMA ENERGY RESOURCES	1	37 BROWNS RUN	WARREN
	FORCE PETROLEUM	1	38 BROKENSTRAW CREEK	WARREN
	FORCE PETROLEUM	1	39 BROKENSTRAW CREEK	WARREN
F.W. WOODARD	WHITTINGTON & WHITTINGTON	2	6 MATTHEWS RUN	WARREN
C. SULLIVAN LEASE	GAS & OIL MANAGEMENT ASSOC.	2	7 INDIAN CAMP RUN	WARREN
C. SULLIVAN LEASE	GAS & OIL MANAGEMENT ASSOC.	2	8 INDIAN CAMP RUN	WARREN
HUTCHINSON LEASE	GAS & OIL MANAGEMENT ASSOC.	2	9 INDIAN CAMP RUN	WARREN
STEVENSON LEASE	GAS & OIL MANAGEMENT ASSOC.	2	10 INDIAN CAMP RUN	WARREN
FLEMING LEASE	GAS & OIL MANAGEMENT ASSOC.	2	11 INDIAN CAMP RUN	WARREN
CHAMBERS LEASE	GAS & OIL MANAGEMENT ASSOC.	2	12 INDIAN CAMP RUN	WARREN
JOHNSON LEASE	GAS & OIL MANAGEMENT ASSOC.	2	13 INDIAN CAMP RUN	WARREN
PROBST LEASE	GAS & OIL MANAGEMENT ASSOC.	2	14 INDIAN CAMP RUN	WARREN
OLSON LEASE	GAS & OIL MANAGEMENT ASSOC.	2	15 INDIAN CAMP RUN	WARREN
BECKENBACH LEASE	GAS & OIL MANAGEMENT ASSOC.	2	16 INDIAN CAMP RUN	WARREN
J. YOUNGSVILLE LEASE	QUAKER STATE	2	17 BROKENSTRAW CREEK	WARREN
G. L. ANDERSON LEASE	QUAKER STATE	2	18 BROKENSTRAW CREEK	WARREN
HILL "B"	UNIVERSAL RESOURCES HOLDING CO	2	19 BROKENSTRAW CREEK	WARREN
HILL "A"	UNIVERSAL RESOURCES HOLDING CO	2	20 BROKENSTRAW CREEK	WARREN
	BROKENSTRAW OIL CO	2	21 BROKENSTRAW CREEK	WARREN
F. LORENZ	ART BURLEIGH	2	22 BROKENSTRAW CREEK	WARREN
SOWA	ANDREW DVJAK & ERNEST MCGRAW	2	23 BROKENSTRAW CREEK	WARREN

Table 7. List of All Discharges
Arranged by Map Name and Section

Farm/Lease/Warrant/Lot	Operator	Map Sect.	Map Key	Receiving Stream	County
MICHAEL STOCK	FREEMAN & COTTON & WASSON	2	24	BROKENSTRAW CREEK	WARREN
ROUSE	O. W. HOGSETT	2	25	BROKENSTRAW CREEK	WARREN
A. E. DILLON	A. E. DILLON	2	26	BROKENSTRAW CREEK	WARREN
KUZMINSKI	UNIVERSAL RESOURCES HOLDING CO	2	27	BROKENSTRAW CREEK	WARREN
MILLER	FORCE PETROLEUM	2	40	BROKENSTRAW CREEK	WARREN
MILLER	SIGMA ENERGY RESOURCES	2	41	BROKENSTRAW CREEK	WARREN
FISHER-YOUNG	H.L. MURRAY	2	801	UNNAMED TRIBUTARY	WARREN
NATIONAL FORGE	PENNSYLVANIA GENERAL ENERGY	3	28	BROKENSTRAW CREEK	WARREN
		3	29	BROKENSTRAW CREEK	WARREN
		3	30	IRVINE RUN	WARREN
		3	31	IRVINE RUN	WARREN
WEAVER	GAS & OIL LAND LEASING CORP	3	32	IRVINE RUN	WARREN
WEAVER	GAS & OIL LAND LEASING CORP	3	33	IRVINE RUN	WARREN
FOSTER WARRANT	FRANK CARVELLI	6	34	LENHART RUN	WARREN
	GEORGE W. FOX	6	42	LENHART RUN	WARREN
SUPPA	SLAGLE & ALMENDINGER	6	43	ALLEGHENY RIVER	WARREN
S. YUCHA	MORRISON OIL CO.	7	35	CONKLIN RUN	WARREN
W. FLASHER	MORRISON OIL CO.	7	36	CONKLIN RUN	WARREN
KUBECKI	M.A.T. OIL AND GAS	7	44	CONKLIN RUN	WARREN
BECKER	M.A.T. OIL AND GAS	7	45	CONKLIN RUN	WARREN
SVEDA	M.A.T. OIL AND GAS	7	46	CONKLIN RUN	WARREN
TORREY	VINEYARD OIL AND GAS	7	47	CONKLIN RUN	WARREN
PERNOSKY	VINEYARD OIL AND GAS	7	48	CONKLIN RUN	WARREN
W. FLASHER	S& M RESOURCES INC.	7	52	CONKLIN RUN	WARREN
RENSMA	S& M RESOURCES INC.	7	53	CONKLIN RUN	WARREN
TURNER	SHAWNEE-CLINGER OIL CO.	9	49	CLARK RUN	WARREN
WT 5249	SHAWNEE-CLINGER OIL CO.	9	50	HEDGEHOG RUN	HQ WARREN
WT 5249	SHAWNEE-CLINGER OIL CO.	9	51	HEDGEHOG RUN	HQ WARREN

Table 8. Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
ALLEGHENY RIVER		(524)
	ANNIN CREEK	7
	BATES RUN	1
	BRANNON RUN	17
	BROKENSTRAW CREEK	17
	BROWNS RUN	5
	CHAPPEL FORK	3
	CHERRY RUN	8
	CLARK RUN	1
	CONKLIN RUN	9
	COWANSHANNOCK CREEK	2
	CROOKED CREEK	37
	CULVER RUN	2
	DAWSON RUN	32
	DUTCHMAN RUN	5
	EAST HICKORY CREEK	1
	EAST SANDY CREEK	9
	GLADE RUN	15
	GORDON RUN	1
	GRUNDER RUN	11
	HEDGEHOG RUN	4
	HORSE CREEK	1
	HUNTER RUN	8
	INDIAN CREEK	5
	IRVINE RUN	4
	JOHNSON RUN	1
	JOHNSTON RUN	3
	KINZUA CREEK	16
	KNAPP CREEK	12
	LAMB RUN	5
	LENHART RUN	2
	LITTLE HICKORY RUN	1
	LOWER TWOMILE RUN	18
	MAHONING CREEK	12
	MCREA RUN	1
	MEAD RUN	1
	MORRISON RUN	16
	MORSE RUN	1
	MUSKRAT RUN	9
	OIL CREEK	6
	OIL RUN	1
	OSWAYO CREEK	1
	PANTHER RUN	1
	PIERSON RUN	6

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
	PITHOLE CREEK	105
	PORCUPINE RUN	3
	POTATO CREEK	1
	REDBANK CREEK	2
	ROCK RUN	1
	SAGE RUN	3
	SIGGINS RUN	1
	SILL RUN	7
	STEWART RUN	38
	SUGAR RUN	2
	TIDIOUTE CREEK	1
	TIONESTA CREEK	11
	TUNUNGWANT CREEK	14
	TWOMILE RUN	2
	UNNAMED TRIBUTARY	3
	WEST HICKORY CREEK	7
	WILLOW CREEK	5
ARNOT RUN	LITTLE ARNOT RUN	7
BEAR CREEK	MAPLE RUN	2
BEAR RUN	S BR BEAR RUN	6
BEAVER RUN	CAMP RUN	1
	WOLF RUN	1
BIG MILL CREEK	SLIDE RUN	1
BIG RUN	LAUREL RUN	1
	MCCRACKEN RUN	1
	MCKEE RUN	2
	TURNIP RUN	4
BLACKLICK CREEK	BRUSH CREEK	13
	MARDIS RUN	4
	MUDDY RUN	1
	N BR BLACKLICK CREEK	1
BLUEJAY CREEK	WEST BRANCH	2
BROKENSTRAW CREEK		(42)
	INDIAN CAMP RUN	13
	IRVINE RUN	18
	MATTHEWS RUN	4
	MEAD RUN	5
	SPRING CREEK	1
	UNNAMED TRIBUTARY	1
BRUSH CREEK	LITTLE BRUSH CREEK	1
CALDWELL CREEK	M BR CALDWELL CREEK	3

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
CANOE CREEK	PAINTER RUN	1
	UGLY RUN	4
CHAPPEL FORK	BUCK LICK RUN	4
	CAMILLA RUN	1
	CRARY RUN	6
	N FORK CHAPPEL FORK	2
CHARTIERS CREEK	MILLER RUN	15
CHERRY RUN	MOODY RUN	4
CLARION RIVER		(19)
	BEAVER CREEK	1
	CLEAR CREEK	2
	E BR CLARION RIVER	9
	IRWIN RUN	6
	MASON CREEK	1
CLEAR CREEK	TRAP RUN	2
CLOVER RUN	LOST RUN	1
COLE CREEK	N BR COLE CREEK	10
	S BR COLE CREEK	5
CONEMAUGH RIVER		(29)
	ALTMANS RUN	2
	BLACKLICK CREEK	1
	SPRUCE RUN	4
	STEWART RUN	2
	STONY RUN	7
	TWO LICK CREEK	13
CONEWANGO CREEK		(76)
	FOLLETT RUN	3
	IRVINE RUN	3
	JACKSON RUN	29
	KIANTONE CREEK	13
	MATTHEWS RUN	9
	STILLWATER CREEK	16
	UNNAMED TRIBUTARY	3
COON CREEK	LITTLE COON RUN	5
COWANSHANNOCK CREEK	N BR COWANSHANNOCK CK	4
	S BR COWANSHANNOCK CK	2

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
CROOKED CREEK		(51)
	BLACKLEGS CREEK	4
	BRUSH RUN	1
	CURRY RUN	2
	DIXON RUN	1
	FULTON RUN	3
	MCKEE RUN	10
	PINE RUN	6
	PLUM CREEK	4
	RAYNE RUN	15
	S BR PLUM CREEK	3
	WALKER RUN	2
CUSH CREEK	BRADY RUN	1
E BR CLARION RIVER	JOHNSON RUN	5
E BR MAHONING CREEK	BEAVER RUN	1
	CLOVER RUN	9
E BR SUGAR CREEK	PRATHER CREEK	2
E BR TIONESTA CREEK	WEST RUN	1
E BR TUNUNGWANT CREEK		(54)
	BEAR RUN	2
	BIERSLEY STREAM	1
	DRONEY RUN	1
	LEWIS RUN	26
	RAILROAD RUN	2
	RUTHERFORD RUN	1
	SHEPPARD RUN	15
	UNNAMED TRIBUTARY	6
EAST BRANCH	CLOVER RUN	1
EAST HICKORY CREEK	BEAVER RUN	6
	OTTER CREEK	1
EAST SANDY CREEK	HALLS RUN	4
	PORCUPINE RUN	1
	TARKILN RUN	14
ELK RUN	COLD SPRING RUN	2
	LITTLE ELK RUN	1
FIVEMILE RUN	SMATHERS RUN	3
FORK RUN	BERLIN FORK	1
	EAST FORK	5
	WEST FORK	1

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
FOSTER BROOK	HARRISBURG RUN	3
	PENNBROOK RUN	9
HOLM RUN	KEYS RUN	1
INDIAN CREEK	DRAKE HOLLOW	1
JAMISON RUN	MCCAFFERDY RUN	4
KENDALL CREEK	BUCHANAN HOLLOW	2
	LAFFERTY RUN	3
KINZUA CREEK		(13)
	PINE RUN	3
	S BR KINZUA CREEK	2
	THUNDERSHOWER RUN	2
	TOWN LINE RUN	2
	TURNUP RUN	2
	WINDFALL RUN	2
KISKIMENTAS RIVER	CONEMAUGH RIVER	5
KNAPP CREEK		(33)
	KANSAS BRANCH	5
	S BR KNAPP CREEK	18
	TRAM HOLLOW RUN	10
LITTLE MAHONING CREEK		(47)
	BEECH RUN	5
	BREWER RUN	2
	BROADHEAD RUN	1
	CROOKED RUN	7
	EAST RUN	3
	LEASURE RUN	1
	MUDLICK RUN	2
	NORTH BRANCH	2
	PICKERING RUN	11
	RAIRIGH RUN	4
	ROSS RUN	2
	SALSGIVER RUN	1
	STRAIGHT RUN	6
LITTLE SANDY CREEK	BIG RUN	3
	CHERRY RUN	4
	HADDEN RUN	4
	NOLF RUN	4

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
LITTLE YELLOW CREEK	GILLHOUSER RUN	1
LOYALHANNA CREEK	MCCUNE RUN	1
MAHONING CREEK		(118)
	BIG RUN	9
	CANOE CREEK	18
	CARR RUN	1
	DUTCH RUN	9
	E BR MAHONING CREEK	3
	EAST BRANCH	3
	ELK RUN	3
	GLADE RUN	6
	HAMILTON RUN	2
	JACKSON RUN	1
	LITTLE MAHONING CREEK	47
	PINE RUN	6
	ROCK RUN	2
	ROSE RUN	1
	SAWMILL RUN	2
	STUMP CREEK	3
	SUGARCAMP RUN	2
MARTIN RUN	COON RUN	5
	WOLF RUN	3
MATTHEWS RUN	BROWNS RUN	3
	LANSING RUN	1
	PATCHEN RUN	1
	TELICK RUN	1
MINARD RUN	FOSTER HOLLOW	1
N BR BLACKCLICK CREEK	WALKER RUN	1
NORTH BRANCH	POMPEY RUN	1
NORTH FORK	SHIPPEN RUN	1
OHIO RIVER	ALLEGHENY RIVER	56
OIL CREEK	CHERRY RUN	24
	PINE CREEK	10
OSWAYO CREEK	BELL RUN	2
	HONEYOYE CREEK	1
	HORSE RUN	6
	KINGS RUN	2
PINE CREEK	CALDWELL CREEK	7
	GILSON RUN	5
	GOLBY RUN	1
PINE RUN	CAYLOR RUN	6
	EAGLE RUN	2

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
	MIDDLE BRANCH	1
	MUDLICK CREEK	4
	NYE BRANCH	1
	PAINTER RUN	1
	SUGARCAMP RUN	1
PITHOLE CREEK	ALLENDER RUN	9
	NEILLTOWN CREEK	3
	OTTO RUN	6
	SCHOOLHOUSE RUN	2
	W PITHOLE CREEK	2
PORCUPINE CREEK	NORWAY RUN	1
POTATO CREEK	KENT HOLLOW RUN	4
	MARVIN CREEK	2
	MOODY HOLLOW	5
	PIERCE BROOK	1
REDBANK CREEK	FIVE MILE RUN	2
	MILL CREEK	1
	NORTH FORK	1
	SANDY LICK CREEK	6
ROSS RUN	EAST BRANCH	7
S BR COLE CREEK	BORDELL BROOK	1
	MCQUEEN HOLLOW	11
	PANTHER RUN	8
	WOLF RUN	2
S BR KINZUA CREEK	MUDLICK RUN	1
S BR KNAPP CREEK	BAKER RUN	4
	BERGER HOL	2
S BR PLUM CREEK	GOOSE RUN	1
	LEISURE RUN	14
	SUGARCAMP RUN	5
S BR SUSQUEHANNA RIVER	BEAR RUN	4
S BR TIONESTA CREEK	COON RUN	5
	CRANE RUN	1
	MARTIN RUN	9
	ROCK RUN	1
	WOLF RUN	6
SALMON CREEK	FOURMILE RUN	3
SANDY LICK CREEK	SCHOOLHOUSE RUN	2
	TROUT RUN	8
SANDY LICK RUN	CAMP RUN	1
SIX MILE RUN	NORTH FORK	2
SOLDIER RUN	MCCREIGHT RUN	1
SOUTH FORK PINE CRK	NORTH BRANCH	1
	SOUTH BRANCH	1
SPRING CREEK	E BR SPRING CREEK	3

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
STEWART RUN	HUNTER CREEK	3
	THREEMILE RUN	1
	PINE RUN	13
	SUGAR RUN	9
STILLWATER CREEK	THOMPSON RUN	3
	SAUNDERS RUN	5
	MCCARTHY RUN	2
STONEY RUN	WHITES RUN	3
STRAIGHT RUN	NORTH BRANCH	1
STUMP CREEK	SUGARCAMP RUN	2
SUGAR RUN	BUCK LICK RUN	3
	CONOVER HOLLOW	1
SUSQUEHANNA RIVER	W BR SUSQUEHANNA RIVER	6
THE BRANCH	COALBED RUN	4
	MUD LICK RUN	1
TIONESTA CREEK		(67)
	BUSH CREEK	4
	DUCK EDDY RUN	6
	E BR TIONESTA CREEK	4
	FORK RUN	4
	HASTINGS RUN	5
	KINGSLEY RUN	1
	LINDSEY HOLLOW	1
	LITTLE COON CREEK	2
	LITTLE MINISTER RUN	3
	LOGAN RUN	2
	MEAD RUN	2
	MESSENGER RUN	1
	MINISTER CREEK	1
	PANTHER RUN	1
	PHELPS RUN	1
	S BR TIONESTA CREEK	11
	SIX MILE RUN	1
	THAD SHANTY RUN	1
	THE BRANCH	3
	UNNAMED TRIBUTARY	2
	UPPER SHERIFF RUN	2
	W BR TIONESTA CREEK	7
	WILDCAT RUN	2
TROUT RUN	FRONT RUN	1

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
TUNUNGWANT CREEK		(142)
	E BR TUNUNGWANT CREEK	58
	FOSTER BROOK	32
	KENDALL CREEK	19
	MINARD RUN	5
	RUTHERFORD RUN	1
	UNNAMED TRIBUTRY	2
	UNT FOSTER BROOK	1
	UNT KENDALL CREEK	4
	W BR TUNUNGWANT CREEK	20
TWO LICK CREEK		(43)
	BROWNS RUN	2
	BUCK RUN	1
	CHERRY RUN	1
	DIXON RUN	3
	NORTH BRANCH	2
	PENN RUN	8
	RAMSEY RUN	6
	SOUTH BRANCH	2
	TEARING RUN	3
	YELLOW CREEK	15
W BR CLARION RIVER	OIL CREEK	10
	ROCKY RUN	4
	WILSON RUN	3
W BR SUSQUEHANNA RIVER		(27)
	BEAR RUN	8
	CUSH CREEK	7
	LAUREL RUN	1
	NORTH RUN	1
	SAWMILL RUN	6
	SHRYOCK RUN	1
	WHISKY RUN	3
W BR TIONESTA CREEK		(33)
	ADAMS RUN	1
	ARNOT RUN	8

Table 8. (Cont.) Summary of Discharges by Receiving Stream

<u>Major Stream</u>	<u>Receiving Stream</u>	<u>Discharges</u>
	ELKHORN CREEK	1
	ELKHORN RUN	9
	SLATER RUN	8
	TROUT RUN	5
	WOLF RUN	1
W BR TUNUNGWANT CREEK		(13)
	BENNETT BROOK	2
	CROOKER HOLLOW	5
	KISSEM RUN	3
	NILES HOLLOW	1
	TOME HOL	2
WEST HICKORY CREEK		(36)
	BUCHHORN RUN	4
	BUCKHORN RUN	1
	BURDICK RUN	2
	DAWSON RUN	1
	FUNK RUN	3
	GERMAN RUN	1
	LAMB RUN	5
	MARTIN RUN	2
	MCARTHUR RUN	17
WILLOW CREEK	COFFEY RUN	1
YELLOW CREEK	FERRIER RUN	5
	ROSE RUN	5

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
** Major Stream: ALLEGHENY RIVER				
* Stream Receiving Discharge: ANNIN CREEK				
BULLIS MILLS	8	3	MICON EXPLORATION	
BULLIS MILLS	8	4	MICON EXPLORATION	
BULLIS MILLS	8	6	MICON EXPLORATION	
BULLIS MILLS	8	8	MICON EXPLORATION	
BULLIS MILLS	9	9	MICON EXPLORATION	
BULLIS MILLS	8	7	KIMBERLY-AMERICAN RESOURCES	
BULLIS MILLS	8	5	ANNIN CREEK OIL CORP.	0038059
* Stream Receiving Discharge: BATES RUN				
TIONESTA	1	1	QUAKER STATE OIL CO	
* Stream Receiving Discharge: BRANNON RUN				
FRANKLIN	6	2	QUAKER STATE	
FRANKLIN	6	3	QUAKER STATE	
FRANKLIN	9	4	QUAKER STATE	
OIL CITY	4	29	QUAKER STATE	
OIL CITY	4	30	QUAKER STATE	
OIL CITY	4	31	QUAKER STATE	
OIL CITY	4	32	QUAKER STATE	
OIL CITY	4	33	QUAKER STATE	
OIL CITY	4	34	QUAKER STATE	
OIL CITY	4	35	QUAKER STATE	
OIL CITY	7	36	QUAKER STATE	
OIL CITY	7	37	QUAKER STATE	
OIL CITY	7	38	QUAKER STATE	
OIL CITY	7	39	QUAKER STATE	
OIL CITY	7	40	QUAKER STATE	
OIL CITY	7	41	QUAKER STATE	
OIL CITY	7	42	QUAKER STATE	
* Stream Receiving Discharge: BROKENSTRAW CREEK				
YOUNGSVILLE	2	17	QUAKER STATE	
YOUNGSVILLE	2	18	QUAKER STATE	
YOUNGSVILLE	2	19	UNIVERSAL RESOURCES HOLDING CO	
YOUNGSVILLE	2	20	UNIVERSAL RESOURCES HOLDING CO	
YOUNGSVILLE	2	21	BROKENSTRAW OIL CO	
YOUNGSVILLE	2	22	ART BURLEIGH	
YOUNGSVILLE	2	23	ANDREW DVJAK & ERNEST MCGRAW	
YOUNGSVILLE	2	24	FREEMAN & COTTON & WASSON	
YOUNGSVILLE	2	25	O. W. HOGSETT	
YOUNGSVILLE	2	26	A. E. DILLON	
YOUNGSVILLE	2	27	UNIVERSAL RESOURCES HOLDING CO	
YOUNGSVILLE	3	28	PENNSYLVANIA GENERAL ENERGY	
YOUNGSVILLE	3	29		
YOUNGSVILLE	1	38	FORCE PETROLEUM	
YOUNGSVILLE	1	39	FORCE PETROLEUM	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
YOUNGSVILLE	2	40	FORCE PETROLEUM	
YOUNGSVILLE	2	41	SIGMA ENERGY RESOURCES	
* Stream Receiving Discharge: BROWNS RUN				
CLARENDON	4	11	COOK ENERGY, INC.	
CLARENDON	4	12	COOK ENERGY, INC.	
CLARENDON	5	13	COOK ENERGY, INC.	
CLARENDON	5	14	COOK ENERGY, INC.	
CLARENDON	6	15	KIMBERLY OIL & GAS	
* Stream Receiving Discharge: CHAPPEL FORK				
WESTLINE	5	10	BRITISH AMERICAN PETROLEUM	
WESTLINE	6	11	BRITISH AMERICAN PETROLEUM	
WESTLINE	6	12	BRITISH AMERICAN PETROLEUM	
* Stream Receiving Discharge: CHERRY RUN				
PLEASANTVILLE	7	67	QUAKER STATE	
PLEASANTVILLE	7	71	QUAKER STATE	
PLEASANTVILLE	7	68	QUAKER STATE	
PLEASANTVILLE	7	69	QUAKER STATE	
PLEASANTVILLE	7	72	QUAKER STATE	
PLEASANTVILLE	7	78	QUAKER STATE	
PLEASANTVILLE	7	66	QUAKER STATE	
PLEASANTVILLE	7	70	QUAKER STATE	
* Stream Receiving Discharge: CLARK RUN				
YOUNGSVILLE	9	49	SHAWNEE-CLINGER OIL CO.	
* Stream Receiving Discharge: CONKLIN RUN				
YOUNGSVILLE	7	35	MORRISON OIL CO.	
YOUNGSVILLE	7	36	MORRISON OIL CO.	
YOUNGSVILLE	7	45	M.A.T. OIL AND GAS	
YOUNGSVILLE	7	44	M.A.T. OIL AND GAS	
YOUNGSVILLE	7	46	M.A.T. OIL AND GAS	
YOUNGSVILLE	7	47	VINEYARD OIL AND GAS	
YOUNGSVILLE	7	48	VINEYARD OIL AND GAS	
YOUNGSVILLE	7	52	S& M RESOURCES INC.	
YOUNGSVILLE	7	53	S& M RESOURCES INC.	
* Stream Receiving Discharge: COWANSHANNOCK CREEK				
RURAL VALLEY	5	2		
RURAL VALLEY	8	5	ADOBE OIL & GAS	
* Stream Receiving Discharge: CROOKED CREEK				
CLYMER	1	6		
CLYMER	4	7		
CLYMER	2	1		
CLYMER	5	9		
CLYMER	4	8	UNION DRILLING INC	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
CLYMER	5		10		
CLYMER	5		11		
CLYMER	5		12		
CLYMER	7		16		
CLYMER	7		17		
CLYMER	7		18		
CLYMER	8		19		
ERNEST	4		3		
ERNEST	5		5		
ERNEST	5		6		
ERNEST	5		8		
ERNEST	5		4		
ERNEST	7		15		
ERNEST	6		12		
ERNEST	6		9		
CLYMER	2		23		
CLYMER	2		24		
CLYMER	3		29		
CLYMER	3		30		
CLYMER	5		38		
CLYMER	5		39		
CLYMER	6		41		
CLYMER	6		42		
CLYMER	7		52		
CLYMER	7		53		
CLYMER	8		54		
CLYMER	8		55		
CLYMER	8		56		
CLYMER	5		62	UNION DRILLING INC	
CLYMER	5		63	UNION DRILLING INC	
CLYMER	8		64	UNION DRILLING INC	
CLYMER	4		65	TURM OIL INC.	

* Stream Receiving Discharge: CULVER RUN

PRESIDENT	2	29	
PRESIDENT	2	28	QUAKER STATE

* Stream Receiving Discharge: DAWSON RUN

WEST HICKORY	4	39	QUAKER STATE OIL CO
WEST HICKORY	4	40	QUAKER STATE OIL CO
WEST HICKORY	4	41	
WEST HICKORY	4	42	QUAKER STATE OIL CO
WEST HICKORY	4	44	QUAKER STATE OIL CO
WEST HICKORY	4	43	QUAKER STATE OIL CO
WEST HICKORY	4	45	QUAKER STATE OIL CO
WEST HICKORY	4	47	QUAKER STATE OIL CO
WEST HICKORY	4	58	PENN ONE CO.
WEST HICKORY	4	59	QUAKER STATE OIL CO
WEST HICKORY	4	60	QUAKER STATE OIL CO

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
WEST HICKORY	4	63		QUAKER STATE OIL CO	
WEST HICKORY	5	68		ZETTA ASSOCIATES	
WEST HICKORY	5	78		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	81		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	82		COMPASS DEVELOPMENT INC	
WEST HICKORY	4	56		J. BOWMAN PROPER	
WEST HICKORY	4	61		J. L. BECK	
WEST HICKORY	5	79		J. L. BECK	
WEST HICKORY	4	62		EAGLE LINE OIL CO.	
WEST HICKORY	4	64		QUAKER STATE	
WEST HICKORY	4	69		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	80		COMPASS DEVELOPMENT INC	
WEST HICKORY	4	93		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	99		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	97		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	98		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	100		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	101		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	102		COMPASS DEVELOPMENT INC	
WEST HICKORY	4	103		COMPASS DEVELOPMENT INC	
WEST HICKORY	4	108		COMPASS DEVELOPMENT INC	
* Stream Receiving Discharge: DUTCHMAN RUN					
CLARENDON	4	7		CLARENDON PRODUCING CO	0039781
CLARENDON	4	8		NORTH PENN PIPE & SUPPLY CO	0039802
CLARENDON	4	9		CARL STARR	
CLARENDON	4	10		I.L. GEER & SONS	0037656
CLARENDON	5	31		SIGMA ENERGY RESOURCES	
* Stream Receiving Discharge: EAST HICKORY CREEK					
WEST HICKORY	3	25	HQ	QUAKER STATE OIL CO	
* Stream Receiving Discharge: EAST SANDY CREEK					
KOSSUTH	1	2		RED VALLEY ENTERPRIZES	
KOSSUTH	4	11		STERLING KEYSTONE DEVELOPMENT	
KOSSUTH	4	13		TECHNOL ENERGY	
KOSSUTH	4	12		OIL CREEK DRILLING CO.	
KOSSUTH	1	5		CRYSTAL SPRINGS OIL CO.	
KOSSUTH	1	6		CRYSTAL SPRINGS OIL CO.	
KOSSUTH	5	10		OIL CREEK DRILLING CO.	
KOSSUTH	2	9		PETRO TECH	
CRANBERRY	6	9		TECHNOL ENERGY	
* Stream Receiving Discharge: GLADE RUN					
CLARENDON	1	1		RAYMON & LAURIE BILLSTONE	0038997
CLARENDON	2	2			
CLARENDON	1	21		ELLINGTON HARDWOOD	
CLARENDON	1	802		ELLINGTON HARDWOOD	
CLARENDON	1	805		ELLINGTON HARDWOOD	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key Class	Operator	NPDES Number
CLARENDON	1	803	ELLINGTON HARDWOOD	
CLARENDON	1	804	ELLINGTON HARDWOOD	
CLARENDON	1	26	ERICKSON, WELLS & OLSON OIL CO	
CLARENDON	1	806	P & M ENTERPRISES, INC.	
CLARENDON	1	807	COTTON WELL DRILLING CO	
CLARENDON	1	808	COTTON WELL DRILLING CO	
CLARENDON	1	22	WALTER HORNBERG	
CLARENDON	1	23	P.E.M. ENTERPRISES	
CLARENDON	1	24	NED ZAFFINO	
CLARENDON	1	25	SYNERGY CO	
* Stream Receiving Discharge: GORDON RUN				
TIDIOUTE	5	3	CABOT OIL & GAS CORP.	
* Stream Receiving Discharge: GRUNDER RUN				
WARREN	4	4	QUAKER STATE	
WARREN	4	5	QUAKER STATE	
WARREN	4	6	QUAKER STATE	
WARREN	4	8	QUAKER STATE	
WARREN	4	9	QUAKER STATE	
WARREN	4	11	QUAKER STATE	
WARREN	4	10	QUAKER STATE	
WARREN	4	7	QUAKER STATE	0102989
WARREN	5	12	QUAKER STATE	
WARREN	5	14	QUAKER STATE	
WARREN	4	66	SIGMA ENERGY RESOURCES	
* Stream Receiving Discharge: HEDGEHOG RUN				
WARREN	7	69 HQ	SHAWNEE-CLINGER OIL CO.	
WARREN	7	71 HQ	SHAWNEE-CLINGER OIL CO.	
YOUNGSVILLE	9	50 HQ	SHAWNEE-CLINGER OIL CO.	
YOUNGSVILLE	9	51 HQ	SHAWNEE-CLINGER OIL CO.	
* Stream Receiving Discharge: HORSE CREEK				
OIL CITY	9	54	QUAKER STATE	
* Stream Receiving Discharge: HUNTER RUN				
WEST HICKORY	7	83	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	87	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	88	COMPASS DEVELOPMENT INC	
WEST HICKORY	7	89	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	90	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	91	COMPASS DEVELOPMENT INC	
WEST HICKORY	7	95	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	105	COMPASS DEVELOPMENT INC	
* Stream Receiving Discharge: INDIAN CREEK				
ELDRED	3	14		
ELDRED	2	10		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
ELDRED	2	9		PENNZOIL	
ELDRED	2	11		PENNZOIL	
ELDRED	3	13		P M OIL CO.	
* Stream Receiving Discharge: IRVINE RUN					
YOUNGSVILLE	3	30			
YOUNGSVILLE	3	31			
YOUNGSVILLE	3	32		GAS & OIL LAND LEASING CORP	
YOUNGSVILLE	3	33		GAS & OIL LAND LEASING CORP	
* Stream Receiving Discharge: JOHNSON RUN					
PRESIDENT	2	62		PETRO TECH	
* Stream Receiving Discharge: JOHNSTON RUN					
PRESIDENT	2	25			
PRESIDENT	2	30		QUAKER STATE	
PRESIDENT	2	31		QUAKER STATE	
* Stream Receiving Discharge: KINZUA CREEK					
CYCLONE	5	27		PENNZOIL	
CYCLONE	5	30		PENNZOIL	
LEWIS RUN	7	33		PENNZOIL	
LEWIS RUN	7	34			
LEWIS RUN	7	35			
LEWIS RUN	7	52		PENNZOIL	
LEWIS RUN	7	53		PENNZOIL	
LEWIS RUN	7	36		PENNZOIL	
LEWIS RUN	8	43		PENNZOIL	
LEWIS RUN	8	42		PENNZOIL	
LEWIS RUN	8	44		PENNZOIL	
LEWIS RUN	8	45		PENNZOIL	
LEWIS RUN	8	47		PENNZOIL	
LEWIS RUN	8	46		PENNZOIL	0102776
CYCLONE	7	32		EDGAR NEWMAN, JR.	
CYCLONE	7	33		EDGAR NEWMAN, JR.	
* Stream Receiving Discharge: KNAPP CREEK					
ELDRED	4	23		LANPHAR OIL & GAS CO	
ELDRED	4	24		LANPHAR OIL & GAS CO	
ELDRED	1	1		WITCO CHEMICAL CORPORATION	0003271
ELDRED	1	2		NE AND RA BRENNAN	0037567
ELDRED	1	7		PENNZOIL	
ELDRED	4	20		THOMAS KERVIN, III OIL CO.	0037419
ELDRED	4	19			
ELDRED	4	21		THOMAS KERVIN, III OIL CO.	0037419
ELDRED	5	31		THOMAS KERVIN, III OIL CO.	0037419
ELDRED	4	803		CURTIS OIL COMPANY	0039527
ELDRED	1	804		OIL VALLEY OIL CO.	0037648
DERRICK CITY	3	51		PHILIP E. KAHLE	0037427

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
* Stream Receiving Discharge: LAMB RUN					
OIL CITY	3	22		QUAKER STATE	
OIL CITY	3	23		QUAKER STATE	
OIL CITY	3	24		QUAKER STATE	
OIL CITY	3	25		QUAKER STATE	
OIL CITY	3	26		QUAKER STATE	
* Stream Receiving Discharge: LENHART RUN					
YOUNGSVILLE	6	34		FRANK CARVELLI	
YOUNGSVILLE	6	42		GEORGE W. FOX	0039560
* Stream Receiving Discharge: LITTLE HICKORY RUN					
KELLETTVILLE	4	9	HQ	QUAKER STATE	
* Stream Receiving Discharge: LOWER TWOMILE RUN					
FRANKLIN	8	10		APEX RESOURCES	
FRANKLIN	8	12		APEX RESOURCES	
FRANKLIN	8	11		APEX RESOURCES	
FRANKLIN	8	13			
FRANKLIN	9	14		KAUFMAN ENTERPRIZES	
FRANKLIN	9	15		QUAKER STATE	
FRANKLIN	9	16		QUAKER STATE	
FRANKLIN	9	17		QUAKER STATE	
FRANKLIN	9	18		QUAKER STATE	
FRANKLIN	9	19		QUAKER STATE	
FRANKLIN	9	20		QUAKER STATE	
FRANKLIN	9	21		QUAKER STATE	
FRANKLIN	9	22		QUAKER STATE	
FRANKLIN	9	23		QUAKER STATE	
FRANKLIN	9	24		QUAKER STATE	
FRANKLIN	9	26		QUAKER STATE	
FRANKLIN	9	25		PENNZOIL	
OIL CITY	7	50		MCCOUN CO.	
* Stream Receiving Discharge: MAHONING CREEK					
VALIER	7	12			
DAYTON	4	17			
DAYTON	8	25			
VALIER	6	8			
VALIER	6	9			
VALIER	6	10			
VALIER	6	11			
VALIER	8	13			
VALIER	9	15			
MCGEES MILLS	4	7			
MCGEES MILLS	1	1		JAMES F SCOTT	
PUNXSUTAWNEY	3	28		ADOBE OIL & GAS	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
* Stream Receiving Discharge: MCREA RUN					
PRESIDENT	4	51		TECHNOL ENERGY	
* Stream Receiving Discharge: MEAD RUN					
WARREN	9	49	HQ	GAS & OIL MANAGEMENT ASSOC.	
* Stream Receiving Discharge: MORRISON RUN					
WARREN	6	21		GAS & OIL MANAGEMENT ASSOC.	
WARREN	6	22		GAS & OIL MANAGEMENT ASSOC.	
WARREN	6	23		GAS & OIL MANAGEMENT ASSOC.	
WARREN	6	24		GEARY P. MEAD	0038971
WARREN	6	25		GAS & OIL MANAGEMENT ASSOC.	
WARREN	6	26		GAS & OIL MANAGEMENT ASSOC.	
WARREN	9	50		GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	36		GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	37		GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	35		GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	32		GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	34		GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	33		GAS & OIL MANAGEMENT ASSOC.	0046051
WARREN	7	53		QUAKER STATE	
WARREN	8	41		SULLIVAN & CLARK	
WARREN	5	54		KENNETH D. SHERRY	0039773
* Stream Receiving Discharge: MORSE RUN					
WARREN	1	58	HQ	SIGMA ENERGY RESOURCES	
* Stream Receiving Discharge: MUSKRAT RUN					
PLEASANTVILLE	8	105		QUAKER STATE	
PLEASANTVILLE	8	106		QUAKER STATE	
PRESIDENT	2	17		QUAKER STATE	
PRESIDENT	2	18		QUAKER STATE	
PRESIDENT	2	23			
PRESIDENT	2	24		QUAKER STATE	
PRESIDENT	2	22		QUAKER STATE	
PRESIDENT	2	27		QUAKER STATE	
PRESIDENT	2	26		F. E. BILLS ENTERPRISES	
* Stream Receiving Discharge: OIL CREEK					
OIL CITY	2	6		QUAKER STATE	
TITUSVILLE SOUT	3	3		QUAKER STATE	
TITUSVILLE SOUT	6	4			
TITUSVILLE SOUT	6	5			
TITUSVILLE SOUT	3	15		HAMLIN OIL CO.	
TITUSVILLE SOUT	3	16		HAMLIN OIL CO.	
* Stream Receiving Discharge: OIL RUN					
WARREN	6	20			

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: OSWAYO CREEK				
SHINGLEHOUSE	2	10	J. J. BUCHER	0112623
* Stream Receiving Discharge: PANTHER RUN				
PRESIDENT	4	60	OIL CREEK DRILLING CO.	
* Stream Receiving Discharge: PIERSON RUN				
PLEASANTVILLE	9	140	QUAKER STATE	
PLEASANTVILLE	9	141	QUAKER STATE	
PRESIDENT	3	45	QUAKER STATE	
PRESIDENT	3	46	QUAKER STATE	
PRESIDENT	3	48	QUAKER STATE	
PRESIDENT	3	47	QUAKER STATE	
* Stream Receiving Discharge: PITHOLE CREEK				
PLEASANTVILLE	6	27	QUAKER STATE	
PLEASANTVILLE	6	29	QUAKER STATE	
PLEASANTVILLE	6	30	QUAKER STATE	
PLEASANTVILLE	6	31	QUAKER STATE	
PLEASANTVILLE	6	32	QUAKER STATE	
PLEASANTVILLE	6	33	QUAKER STATE	
PLEASANTVILLE	6	34	QUAKER STATE	
PLEASANTVILLE	6	35	QUAKER STATE	
PLEASANTVILLE	6	39	QUAKER STATE	
PLEASANTVILLE	5	58	QUAKER STATE	
PLEASANTVILLE	8	84	QUAKER STATE	
PLEASANTVILLE	5	59	QUAKER STATE	
PLEASANTVILLE	5	60	QUAKER STATE	
PLEASANTVILLE	5	61	QUAKER STATE	
PLEASANTVILLE	5	62	QUAKER STATE	
PLEASANTVILLE	8	64	QUAKER STATE	
PLEASANTVILLE	8	86	QUAKER STATE	
PLEASANTVILLE	8	87	QUAKER STATE	
PLEASANTVILLE	8	88	QUAKER STATE	
PLEASANTVILLE	8	90	QUAKER STATE	
PLEASANTVILLE	8	97	QUAKER STATE	
PLEASANTVILLE	8	98	QUAKER STATE	
PLEASANTVILLE	8	99	QUAKER STATE	
PLEASANTVILLE	8	100	QUAKER STATE	
PLEASANTVILLE	8	101	QUAKER STATE	
PLEASANTVILLE	8	104	QUAKER STATE	
PLEASANTVILLE	3	15	RETURN OIL CO.	
PLEASANTVILLE	3	18	RETURN OIL CO.	
PLEASANTVILLE	3	19	RETURN OIL CO.	
PLEASANTVILLE	3	20	RETURN OIL CO.	
PLEASANTVILLE	3	21	RETURN OIL CO.	
PLEASANTVILLE	3	22	RETURN OIL CO.	
PLEASANTVILLE	3	23	RETURN OIL CO.	
PLEASANTVILLE	3	24	RETURN OIL CO.	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
PLEASANTVILLE	3	25		RETURN OIL CO.	
PLEASANTVILLE	3	26			
PLEASANTVILLE	3	16			
PLEASANTVILLE	3	17			
PLEASANTVILLE	6	28		B & B OIL CO.	
PLEASANTVILLE	5	49		UNIVERSAL RESOURCES HOLDING CO	
PLEASANTVILLE	5	50		J. L. BECK	
PLEASANTVILLE	5	51		J. L. BECK	
PLEASANTVILLE	5	52		J. L. BECK	
PLEASANTVILLE	5	53		J. L. BECK	
PLEASANTVILLE	5	54		J. L. BECK	
PLEASANTVILLE	5	144		WITCO CHEMICAL CORPORATION	
PLEASANTVILLE	6	145		BAILEY OIL CO.	
PLEASANTVILLE	6	36			
PLEASANTVILLE	6	37			
PLEASANTVILLE	6	42		PARTNERS PETROLEUM, INC.	
PLEASANTVILLE	6	43		PARTNERS PETROLEUM, INC.	
PLEASANTVILLE	6	38			
PLEASANTVILLE	6	40			
PLEASANTVILLE	6	41			
PLEASANTVILLE	6	44		QUAKER STATE	
PLEASANTVILLE	6	45			
PLEASANTVILLE	9	65		QUAKER STATE	
PLEASANTVILLE	5	63			
PLEASANTVILLE	5	55			
PLEASANTVILLE	5	56			
PLEASANTVILLE	5	57			
PLEASANTVILLE	8	85			
PLEASANTVILLE	8	89			
PLEASANTVILLE	8	91		INTERPEN DRILLING CO.	
PLEASANTVILLE	8	92		INTERPEN DRILLING CO.	
PLEASANTVILLE	8	93		PENNZOIL	
PLEASANTVILLE	8	94		PENNZOIL	
PLEASANTVILLE	8	95		PENNZOIL	
PLEASANTVILLE	8	96		R & D OIL (VISCOUNT ASSOC.)	
PLEASANTVILLE	7	82			
PLEASANTVILLE	7	83			
PLEASANTVILLE	8	103			
PLEASANTVILLE	8	102			
PLEASANTVILLE	7	79		EAGLE LINE CORP.	
PLEASANTVILLE	8	150		INTERPEN DRILLING CO.	
PRESIDENT	1	1		QUAKER STATE	
PRESIDENT	1	2		R & D OIL (VISCOUNT ASSOC.)	
PRESIDENT	1	3		R & D OIL (VISCOUNT ASSOC.)	
PRESIDENT	1	4		COMPASS DEVELOPMENT INC	
PRESIDENT	1	5			
PRESIDENT	1	54			
PRESIDENT	1	55			
PRESIDENT	1	6		CRYSTAL SPRINGS OIL CO.	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
PRESIDENT	1	7	CRYSTAL SPRINGS OIL CO.	
PRESIDENT	1	8	M. W. HOOVER	
PRESIDENT	1	9	QUAKER STATE	
PRESIDENT	1	10	QUAKER STATE	
PRESIDENT	1	11		
PRESIDENT	1	12	QUAKER STATE	
PRESIDENT	1	13	QUAKER STATE	
PLEASANTVILLE	7	151	OLYMPIA OIL SERVICES INC.	
WEST HICKORY	1	7	CRYSTAL SPRINGS OIL CO.	
WEST HICKORY	1	8	QUAKER STATE OIL CO	
WEST HICKORY	1	9	QUAKER STATE OIL CO	
WEST HICKORY	1	5	COMPASS DEVELOPMENT INC	
WEST HICKORY	1	11	QUAKER STATE OIL CO	
WEST HICKORY	4	26	QUAKER STATE OIL CO	
WEST HICKORY	4	27	QUAKER STATE	
WEST HICKORY	4	36	QUAKER STATE OIL CO	
WEST HICKORY	4	37	QUAKER STATE OIL CO	
WEST HICKORY	4	38	QUAKER STATE OIL CO	
WEST HICKORY	1	1	INTERPEN DRILLING CO.	
WEST HICKORY	1	4	RED VALLEY ENTERPRISES	
WEST HICKORY	1	6	CRYSTAL SPRINGS OIL CO.	
WEST HICKORY	1	10	RETURN OIL CO.	
* Stream Receiving Discharge: PORCUPINE RUN				
PRESIDENT	8	56	OIL CREEK DRILLING CO.	
PRESIDENT	8	57	OIL CREEK DRILLING CO.	
PRESIDENT	8	58	OIL CREEK DRILLING CO.	
* Stream Receiving Discharge: POTATO CREEK				
ELDRED	9	802	ROBERT P. LEWIS	0037010
* Stream Receiving Discharge: REDBANK CREEK				
SUMMERVILLE	7	2		
SUMMERVILLE	2	1		
* Stream Receiving Discharge: ROCK RUN				
BULLIS MILLS	8	801	FRANCES D. CROWLEY	0037214
* Stream Receiving Discharge: SAGE RUN				
OIL CITY	8	51		
OIL CITY	8	52	APEX RESOURCES	
OIL CITY	9	53	PETRO TECH	
* Stream Receiving Discharge: SIGGINS RUN				
WEST HICKORY	5	72	COMPASS DEVELOPMENT INC	
* Stream Receiving Discharge: SILL RUN				
WARREN	5	15		
WARREN	5	19	QUAKER STATE	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
WARREN	5	18	QUAKER STATE	
WARREN	5	17	QUAKER STATE	
WARREN	5	16	QUAKER STATE	
WARREN	5	52	QUAKER STATE	
WARREN	4	77	S & M RESOURCES INC.	
* Stream Receiving Discharge: STEWART RUN				
PLEASANTVILLE	9	117	QUAKER STATE	
PLEASANTVILLE	9	118	QUAKER STATE	
PLEASANTVILLE	9	119	QUAKER STATE	
PLEASANTVILLE	9	127	QUAKER STATE	
PLEASANTVILLE	9	126	QUAKER STATE	
PLEASANTVILLE	9	134	QUAKER STATE	
PLEASANTVILLE	9	135	QUAKER STATE	
PLEASANTVILLE	9	136	QUAKER STATE	
PLEASANTVILLE	9	137	QUAKER STATE	
PLEASANTVILLE	9	139	QUAKER STATE	
PLEASANTVILLE	6	46	COMPASS DEVELOPMENT INC	
PLEASANTVILLE	6	47	COMPASS DEVELOPMENT INC	
PLEASANTVILLE	9	48	COMPASS DEVELOPMENT INC	
PLEASANTVILLE	9	120	J. L. BECK	
PLEASANTVILLE	9	128		
PLEASANTVILLE	9	138		
PLEASANTVILLE	9	146	STERLING CONTRACTING	
PRESIDENT	3	39	QUAKER STATE	
PRESIDENT	3	38	QUAKER STATE	
PRESIDENT	3	37	QUAKER STATE	
PRESIDENT	3	40	QUAKER STATE	
PRESIDENT	3	43	QUAKER STATE	
PRESIDENT	3	41	QUAKER STATE	
PRESIDENT	3	44	QUAKER STATE	
PRESIDENT	3	42	QUAKER STATE	
PRESIDENT	2	59	OIL CREEK DRILLING CO.	
PLEASANTVILLE	9	154	ROCKFORD ENERGY	
PRESIDENT	2	61	PETRO TECH	
WEST HICKORY	4	48	QUAKER STATE OIL CO	
WEST HICKORY	4	49	QUAKER STATE OIL CO	
WEST HICKORY	4	50	QUAKER STATE OIL CO	
WEST HICKORY	4	51	QUAKER STATE OIL CO	
WEST HICKORY	4	52	QUAKER STATE	
WEST HICKORY	4	53	QUAKER STATE OIL CO	
WEST HICKORY	4	54	QUAKER STATE	
WEST HICKORY	4	55	QUAKER STATE OIL CO	
WEST HICKORY	4	65	QUAKER STATE OIL CO	
WEST HICKORY	4	85	WITCO CHEMICAL CORPORATION	
* Stream Receiving Discharge: SUGAR RUN				
WESTLINE	2	801 HQ	L. E. MALLORY & SON	0037371
BRADFORD	9	822 HQ	NORRIS FARM (MRS. LEONARD JOHNS	0037885

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
* Stream Receiving Discharge: TIDIOUTE CREEK				
TIDIOUTE	2	1		
* Stream Receiving Discharge: TIONESTA CREEK				
SHEFFIELD	9	39	QUAKER STATE	
SHEFFIELD	9	48	QUAKER STATE	
SHEFFIELD	8	36	NOVOSEL	
CLARENDON	8	17	CLARENDON PRODUCING CO	0039781
CLARENDON	8	19	NORTH PENN PIPE & SUPPLY CO	0039802
CLARENDON	7	16	NEIL J. SHARP	0039675
CLARENDON	7	18	GEARY P. MEAD	
MAYBURG	2	3		
MAYBURG	2	4		
MAYBURG	1	1		
MAYBURG	1	2	PENNZOIL	
* Stream Receiving Discharge: TUNUNGWANT CREEK				
DERRICK CITY	1	1	E.E. CARLSON OIL CO.	0037168
DERRICK CITY	1	2	E.E. CARLSON OIL CO.	0037168
DERRICK CITY	1	10		
DERRICK CITY	1	11	JOHN DOBSON OIL COMPANY	0037184
DERRICK CITY	1	18	ALAN DOUGLAS	
DERRICK CITY	1	19	JOHN DOBSON OIL COMPANY	0037184
DERRICK CITY	0	802	GARY ORA MORTON	0037516
BRADFORD	6	801	BROWN & SON OIL CO.	0037389
BRADFORD	6	802	BROWN & SON OIL CO.	0037389
BRADFORD	6	803	BROWN & SON OIL CO.	0037389
BRADFORD	6	804	BROWN & SON OIL CO.	0037389
BRADFORD	6	805	BROWN & SON OIL CO.	0037389
BRADFORD	6	806	BROWN & SON OIL CO.	0037389
DERRICK CITY	1	4	QUAKER STATE	
* Stream Receiving Discharge: TWOMILE RUN				
FRANKLIN	6	27	ADOBE OIL & GAS	
FRANKLIN	6	28	ADOBE OIL & GAS	
* Stream Receiving Discharge: UNNAMED TRIB				
PLEASANTVILLE	9	142		
WARREN	2	2	QUAKER STATE	
* Stream Receiving Discharge: UNNAMED TRIBUTARY				
WARREN	2	801	DAVID THELIN OIL CO.	0039195
* Stream Receiving Discharge: WEST HICKORY CREEK				
WEST HICKORY	1	3		
WEST HICKORY	5	74	COMPASS DEVELOPMENT INC	
WEST HICKORY	5	77	COMPASS DEVELOPMENT INC	
WEST HICKORY	5	73	COMPASS DEVELOPMENT INC	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
WEST HICKORY	5	94		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	106		COMPASS DEVELOPMENT INC	
WEST HICKORY	5	107		COMPASS DEVELOPMENT INC	
* Stream Receiving Discharge: WILLOW CREEK					
STICKNEY	1	1	HQ	ALLEGRO OIL & GAS INC.	
STICKNEY	2	2	HQ	PECORA ENTERPRISES	0038491
STICKNEY	2	3	HQ	PECORA ENTERPRISES	0038491
STICKNEY	2	4	HQ	PECORA ENTERPRISES	0038491
STICKNEY	2	5	HQ	PECORA ENTERPRISES	0038491
** Major Stream: ARNOT RUN					
* Stream Receiving Discharge: LITTLE ARNOT RUN					
SHEFFIELD	1	3	EV	QUAKER STATE	
SHEFFIELD	1	4	EV	H.L. MURRY DRILLING CO	
SHEFFIELD	1	5	EV	H.L. MURRY DRILLING CO	
SHEFFIELD	1	6	EV	H.L. MURRY DRILLING CO	
SHEFFIELD	1	7	EV	H.L. MURRY DRILLING CO	
SHEFFIELD	1	8	EV	H.L. MURRY DRILLING CO	
SHEFFIELD	1	9	EV	GEARY P. MEAD	
** Major Stream: BEAR CREEK					
* Stream Receiving Discharge: MAPLE RUN					
JAMES CITY	7	15	HQ		
JAMES CITY	7	16	HQ	NATIONAL FUEL GAS	
** Major Stream: BEAR RUN					
* Stream Receiving Discharge: S BR BEAR RUN					
MCGEES MILLS	7	20			
BURNSIDE	1	4			
BURNSIDE	1	3			
BURNSIDE	1	2			
BURNSIDE	1	1			
BURNSIDE	2	5			
** Major Stream: BEAVER RUN					
* Stream Receiving Discharge: CAMP RUN					
KELLETTVILLE	4	8	HQ	ENDEAVOR VENTURES	
* Stream Receiving Discharge: WOLF RUN					
KELLETTVILLE	5	10	HQ	QUAKER STATE	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
** Major Stream: BIG MILL CREEK					
* Stream Receiving Discharge: SLIDE RUN					
JAMES CITY	5	13	HQ	VANDERBUILT RESOURCES	
** Major Stream: BIG RUN					
* Stream Receiving Discharge: LAUREL RUN					
REYNOLDSVILLE	9	31		OLD MOUNTAIN GAS COMPANY	
* Stream Receiving Discharge: MCCracken Run					
VALIER	2	3			
* Stream Receiving Discharge: MCKEE RUN					
REYNOLDSVILLE	9	24			
REYNOLDSVILLE	9	25			
* Stream Receiving Discharge: TURNIP RUN					
REYNOLDSVILLE	9	19			
REYNOLDSVILLE	9	20			
REYNOLDSVILLE	9	23			
REYNOLDSVILLE	8	15			
** Major Stream: BLACKLEGS CREEK					
* Stream Receiving Discharge: MARSHALL RUN					
MCINTYRE	7	6		QUESTA PETROLEUM CO	
MCINTYRE	8	7		QUESTA PETROLEUM CO	
** Major Stream: BLACKLICK CREEK					
* Stream Receiving Discharge: BRUSH CREEK					
BRUSH VALLEY	4	12			
BRUSH VALLEY	9	15			
BRUSH VALLEY	7	14		T.W. PHILLIPS GAS & OIL	
BRUSH VALLEY	7	24			
BRUSH VALLEY	7	25			
BRUSH VALLEY	8	26			
BRUSH VALLEY	9	27			
BRUSH VALLEY	9	28			
BRUSH VALLEY	9	30			
BRUSH VALLEY	9	31			
BRUSH VALLEY	9	32		ENERGY PRODUCTION CO	
BRUSH VALLEY	9	33		ENERGY PRODUCTION CO	
BRUSH VALLEY	9	35			
* Stream Receiving Discharge: MARDIS RUN					
STRONGSTOWN	7	4		MID-EAST OIL CO.	
VINTONDALE	1	1		ENERGY PRODUCTION CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
VINTONDALE	1	2		
VINTONDALE	1	3	ENERGY PRODUCTION CO	
* Stream Receiving Discharge: MUDDY RUN				
INDIANA	7	9		
* Stream Receiving Discharge: N BR BLACKLICK CREEK				
STRONGSTOWN	9	5		
** Major Stream: BLUEJAY CREEK				
* Stream Receiving Discharge: WEST BRANCH				
MAYBURG	6	20 HQ		
LYNCH	4	3 HQ	FLOR-PENN PETROLEUM CORP.	0037281
** Major Stream: BROKENSTRAW CREEK				
* Stream Receiving Discharge: INDIAN CAMP RUN				
YOUNGSVILLE	2	7	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	8	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	9	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	10	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	11	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	12	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	13	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	14	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	15	GAS & OIL MANAGEMENT ASSOC.	
YOUNGSVILLE	2	16	GAS & OIL MANAGEMENT ASSOC.	
SUGAR GROVE	8	28	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	8	38		
SUGAR GROVE	8	39	MORRISON OIL CO.	
* Stream Receiving Discharge: IRVINE RUN				
SUGAR GROVE	8	29	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	8	30	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	8	31	TROPIGAS	
SUGAR GROVE	8	32	IRVINE RUN PARTNERSHIP	
SUGAR GROVE	8	33	IRVINE RUN PARTNERSHIP	
SUGAR GROVE	8	34	IRVINE RUN PARTNERSHIP	
SUGAR GROVE	8	35	IRVINE RUN PARTNERSHIP	
SUGAR GROVE	8	36	IRVINE RUN PARTNERSHIP	
SUGAR GROVE	8	48	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	8	37	TROPIGAS	
SUGAR GROVE	9	41		
SUGAR GROVE	9	42		
SUGAR GROVE	9	43	JOHN ALLEN	
SUGAR GROVE	8	40	QUAKER STATE	
SUGAR GROVE	8	49		
SUGAR GROVE	9	44	UNIVERSAL RESOURCES HOLDING CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
SUGAR GROVE	8	74		BROKENSTRAW OIL CO	0046035
SUGAR GROVE	8	802		BROKENSTRAW OIL CO	0046035
* Stream Receiving Discharge: MATTHEWS RUN					
YOUNGSVILLE	2	6		WHITTINGTON & WHITTINGTON	
SUGAR GROVE	7	25		DONNELL SERVICES, INC.	
SUGAR GROVE	7	26			
SUGAR GROVE	7	27		WITCO CHEMICAL CORPORATION	
* Stream Receiving Discharge: MEAD RUN					
YOUNGSVILLE	1	1		MORRISON OIL CO.	
YOUNGSVILLE	1	2		MORRISON OIL CO.	
YOUNGSVILLE	1	3		MORRISON OIL CO.	
YOUNGSVILLE	1	4		MORRISON OIL CO.	
YOUNGSVILLE	1	5		MORRISON OIL CO.	
* Stream Receiving Discharge: SPRING CREEK					
SPRING CREEK	7	1	HQ	BEREA OIL & GAS CORP.	
* Stream Receiving Discharge: UNNAMED TRIBUTARY					
YOUNGSVILLE	2	801		H.L. MURRAY	
** Major Stream: BRUSH CREEK					
* Stream Receiving Discharge: LITTLE BRUSH CREEK					
BRUSH VALLEY	6	29			
** Major Stream: CALDWELL CREEK					
* Stream Receiving Discharge: MIDDLE BRANCH CALDWELL CREEK					
SPRING CREEK	9	3	HQ	PENNSYLVANIA OIL PRODUCING CO.	
SPRING CREEK	9	4	HQ	PENNSYLVANIA OIL PRODUCING CO.	
SPRING CREEK	9	5	HQ	PENNSYLVANIA OIL PRODUCING CO.	
** Major Stream: CANOE CREEK					
* Stream Receiving Discharge: PAINTER RUN					
PUNXSUTAWNEY	5	27			
* Stream Receiving Discharge: UGLY RUN					
PUNXSUTAWNEY	9	21			
PUNXSUTAWNEY	9	31		BENNY KELLY ENTERPRISES	
PUNXSUTAWNEY	9	35			
PUNXSUTAWNEY	9	33			

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
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** Major Stream: CHAPPEL FORK

* Stream Receiving Discharge: BUCK LICK RUN

LEWIS RUN	1	2	HQ FREEMAN & FREEMAN	0037265
LEWIS RUN	1	3	HQ FREEMAN & FREEMAN	0037265
LEWIS RUN	1	1	HQ FREEMAN & FREEMAN	0037265
LEWIS RUN	1	5	HQ ALL'S WELL OIL CO	0042986

* Stream Receiving Discharge: CAMILLA RUN

WESTLINE	3	8	HQ BRITISH AMERICAN PETROLEUM	
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* Stream Receiving Discharge: CRARY RUN

WESTLINE	2	3	HQ	
WESTLINE	2	4	HQ MINARD RUN OIL CO	
WESTLINE	2	5	HQ MINARD RUN OIL CO	
WESTLINE	2	6	HQ BRITISH AMERICAN PETROLEUM	
WESTLINE	3	7	HQ BRITISH AMERICAN PETROLEUM	
WESTLINE	5	9	HQ BRITISH AMERICAN PETROLEUM	

* Stream Receiving Discharge: N FORK CHAPPEL FORK

WESTLINE	1	1	HQ THRESHOLD DRILLING	
WESTLINE	2	2	HQ PENNZOIL	0105210

** Major Stream: CHARTIERS CREEK

* Stream Receiving Discharge: MILLER RUN

CANONSBURG	1	1		
CANONSBURG	1	2		
CANONSBURG	1	3		
CANONSBURG	1	4		
CANONSBURG	1	5		
CANONSBURG	1	6		
CANONSBURG	1	7		
CANONSBURG	1	8		
CANONSBURG	1	9		
CANONSBURG	1	10		
CANONSBURG	4	11		
CANONSBURG	4	12		
CANONSBURG	4	13		
CANONSBURG	4	14		
CANONSBURG	4	15		

** Major Stream: CHERRY RUN

* Stream Receiving Discharge: MOODY RUN

OIL CITY	2	2		
OIL CITY	2	3	QUAKER STATE	
OIL CITY	2	4	QUAKER STATE	
OIL CITY	2	5	QUAKER STATE	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
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** Major Stream: CLARION RIVER

* Stream Receiving Discharge: BEAVER CREEK
KOSSUTH 8 14 HQ

* Stream Receiving Discharge: CLEAR CREEK
SIGEL 5 1 HQ O G M DEVELOPMENT CORPORATION
SIGEL 5 3 HQ O G M DEVELOPMENT CORPORATION

* Stream Receiving Discharge: E BR CLARION RIVER
GLEN HAZEL 4 1 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 2 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 3 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 4 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 5 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 6 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 7 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 8 HQ DERRICK EQUIPMENT
GLEN HAZEL 4 9 HQ DERRICK EQUIPMENT

* Stream Receiving Discharge: IRWIN RUN
HALLTON 6 1 PECORA ENTERPRISES
HALLTON 6 3 PECORA ENTERPRISES
HALLTON 6 2 PECORA ENTERPRISES
HALLTON 6 5 PECORA ENTERPRISES
HALLTON 9 6 PECORA ENTERPRISES
HALLTON 9 4 PECORA ENTERPRISES

* Stream Receiving Discharge: MASON CREEK
RIDGWAY 4 1 QUAKER STATE

** Major Stream: CLEAR CREEK

* Stream Receiving Discharge: TRAP RUN
SIGEL 5 2 HQ O G M DEVELOPMENT CORPORATION
SIGEL 5 4 HQ O G M DEVELOPMENT CORPORATION

** Major Stream: CLOVER RUN

* Stream Receiving Discharge: LOST RUN
MCGEES MILLS 6 18 HQ

** Major Stream: COLE CREEK

* Stream Receiving Discharge: N BR COLE CREEK
ELDRED 7 38
DERRICK CITY 9 109
DERRICK CITY 9 106 S.H. ELDER & COMPANY 0037206

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
DERRICK CITY	9	105	S.H. ELDER & COMPANY	0037206
DERRICK CITY	9	104	S.H. ELDER & COMPANY	0037206
DERRICK CITY	9	108	S.H. ELDER & COMPANY	0037206
DERRICK CITY	9	107	D-Y-M CORPORATION	0038539
DERRICK CITY	9	103	DePETRO & ENGEL OIL COMPANY	0037451
DERRICK CITY	9	101	DePETRO & ENGEL OIL COMPANY	0037451
DERRICK CITY	9	805	ARTHUR E. EKAS	0037826
* Stream Receiving Discharge: S BR COLE CREEK				
DERRICK CITY	8	96	ALLEN OIL COMPANY	0037354
CYCLONE	3	17		
CYCLONE	2	6	ALLEN OIL COMPANY	0037354
CYCLONE	3	18	PENNZOIL	
CYCLONE	3	19	PENNZOIL	
** Major Stream: CONEMAUGH RIVER				
* Stream Receiving Discharge: AULTMANS RUN				
BLAIRSVILLE	2	2		
BLAIRSVILLE	2	3		
* Stream Receiving Discharge: BLACKLICK CREEK				
BLAIRSVILLE	3	4		
* Stream Receiving Discharge: SPRUCE RUN				
BLAIRSVILLE	4	6		
BLAIRSVILLE	5	10		
BLAIRSVILLE	4	9		
BLAIRSVILLE	4	7		
* Stream Receiving Discharge: STEWART RUN				
INDIANA	4	2		
MCINTYRE	9	5		
* Stream Receiving Discharge: STONY RUN				
BLAIRSVILLE	8	13		
BLAIRSVILLE	8	14		
BLAIRSVILLE	8	15		
BLAIRSVILLE	8	16		
BLAIRSVILLE	8	17		
BLAIRSVILLE	9	18		
BLAIRSVILLE	5	19	PHILLIPS EXPLORATION INC	
* Stream Receiving Discharge: TWO LICK CREEK				
COMMODORE	7	11		
CLYMER	7	14		
CLYMER	7	15		
CLYMER	8	20		
CLYMER	8	21		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
CLYMER	7	13		
INDIANA	6	3		
INDIANA	6	6		
BRUSH VALLEY	2	18		
BRUSH VALLEY	2	19		
BRUSH VALLEY	2	20		
CLYMER	6	40		
CLYMER	7	51		
** Major Stream: CONEWANGO CREEK				
* Stream Receiving Discharge: FOLLETT RUN				
WARREN	3	61	SLAGLE & ALMENDINGER	
WARREN	3	62	SLAGLE & ALMENDINGER	
WARREN	3	63	WILLIAM SOUTHWELL	
* Stream Receiving Discharge: IRVINE RUN				
SUGAR GROVE	8	72	SIGMA ENERGY RESOURCES	
SUGAR GROVE	8	73	QUAKER STATE	
SUGAR GROVE	9	75	QUAKER STATE	
* Stream Receiving Discharge: JACKSON RUN				
SUGAR GROVE	5	10	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	5	11	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	5	12	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	5	13	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	5	14	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	5	20	UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	5	15	MORRISON OIL CO.	
SUGAR GROVE	5	16	MORRISON OIL CO.	
SUGAR GROVE	5	17	VALLEY DRILLING CO.	
SUGAR GROVE	5	18	BLACK STALLION	
SUGAR GROVE	5	19	BLACK STALLION	
SUGAR GROVE	5	47	MORRISON OIL CO.	
SUGAR GROVE	5	21		
SUGAR GROVE	5	22	FLOYD GEARHART	
SUGAR GROVE	6	23	BROKENSTRAW OIL CO	
SUGAR GROVE	6	24	MORRISON OIL CO.	
SUGAR GROVE	5	45	MOOR, BYERS & STOREY & KAUFMAN 0040215	
SUGAR GROVE	9	46		
SUGAR GROVE	5	59	SIGMA ENERGY RESOURCES	
SUGAR GROVE	5	60	BLACK STALLION	
SUGAR GROVE	5	61	BLACK STALLION	
SUGAR GROVE	5	80	S & M RESOURCES INC.	
SUGAR GROVE	4	87		
SUGAR GROVE	5	89		
SUGAR GROVE	5	90		
SUGAR GROVE	5	91		
SUGAR GROVE	5	92		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
SUGAR GROVE	5	93		
SUGAR GROVE	5	94		
* Stream Receiving Discharge: Kiantone Creek				
SUGAR GROVE	3	62	SIGMA ENERGY RESOURCES	
SUGAR GROVE	3	63	SIGMA ENERGY RESOURCES	
SUGAR GROVE	3	64	SIGMA ENERGY RESOURCES	
SUGAR GROVE	3	66	SIGMA ENERGY RESOURCES	
SUGAR GROVE	3	65	HBC OIL CO	
SUGAR GROVE	3	76	S& M RESOURCES INC.	
SUGAR GROVE	3	78	S& M RESOURCES INC.	
SUGAR GROVE	3	79	S& M RESOURCES INC.	
SUGAR GROVE	3	77	S& M RESOURCES INC.	
SUGAR GROVE	3	86		
SUGAR GROVE	3	97		
SUGAR GROVE	3	98		
SUGAR GROVE	3	101	ADOBE OIL & GAS	
* Stream Receiving Discharge: Matthews Run				
SUGAR GROVE	7	67	SIGMA ENERGY RESOURCES	
SUGAR GROVE	7	68	SIGMA ENERGY RESOURCES	
SUGAR GROVE	7	69	SIGMA ENERGY RESOURCES	
SUGAR GROVE	7	70	SIGMA ENERGY RESOURCES	
SUGAR GROVE	7	71	DONNELL SERVICES, INC.	
SUGAR GROVE	7	801	EASTERN STATES ENERGY	
SUGAR GROVE	7	803	DONNELL SERVICES, INC.	
SUGAR GROVE	7	99	ADOBE OIL & GAS	
SUGAR GROVE	7	100	ADOBE OIL & GAS	
* Stream Receiving Discharge: Stillwater Creek				
SUGAR GROVE	1	1		
SUGAR GROVE	2	2	VALLEY DRILLING CO.	
SUGAR GROVE	2	3	VALLEY DRILLING CO.	
SUGAR GROVE	2	4	QUAKER STATE	
SUGAR GROVE	1	50	SIGMA ENERGY RESOURCES	
SUGAR GROVE	1	52	SIGMA ENERGY RESOURCES	
SUGAR GROVE	1	51	MARANATHA PARTNERSHIP	
SUGAR GROVE	2	53	SIGMA ENERGY RESOURCES	
SUGAR GROVE	2	55	SIGMA ENERGY RESOURCES	
SUGAR GROVE	2	54	BLACK STALLION	
SUGAR GROVE	2	56	BLACK STALLION	
SUGAR GROVE	5	57	BLACK STALLION	
SUGAR GROVE	5	58	OHIO LEASE OPERATING	
SUGAR GROVE	2	83		
SUGAR GROVE	2	84		
SUGAR GROVE	2	85		
* Stream Receiving Discharge: Unnamed Trib				
WARREN	3	3	UNIVERSAL RESOURCES HOLDING CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: UNNAMED TRIBUTARY				
WARREN	3	64	ELLINGTON HARDWOOD	
WARREN	3	65	SIGMA ENERGY RESOURCES	
** Major Stream: COON CREEK				
* Stream Receiving Discharge: LITTLE COON RUN				
TYLERSBURG	4	4	QUAKER STATE OIL CO	
TYLERSBURG	4	3	QUAKER STATE OIL CO	
TYLERSBURG	4	6	QUAKER STATE OIL CO	
TYLERSBURG	4	5	QUAKER STATE OIL CO	
TYLERSBURG	7	7	QUAKER STATE OIL CO	
** Major Stream: COWANSHANNOCK CREEK				
* Stream Receiving Discharge: N BR COWANSHANNOCK CREEK				
PLUMVILLE	4	12		
PLUMVILLE	4	16		
PLUMVILLE	4	15		
PLUMVILLE	4	14		
* Stream Receiving Discharge: S BR COWANSHANNOCK CREEK				
PLUMVILLE	4	13	ALCOVE INVESTMENTS	
PLUMVILLE	4	17		
** Major Stream: CROOKED CREEK				
* Stream Receiving Discharge: BLACKLEGS CREEK				
MCINTYRE	7	4		
MCINTYRE	4	3		
MCINTYRE	1	1		
MCINTYRE	4	2		
* Stream Receiving Discharge: BRUSH RUN				
CLYMER	1	61	THE PEOPLES NATURAL GAS CO	
* Stream Receiving Discharge: CURRY RUN				
INDIANA	1	1		
ELDERTON	9	5		
* Stream Receiving Discharge: DIXON RUN				
MARION CENTER	9	36		
* Stream Receiving Discharge: FULTON RUN				
ERNEST	8	16		
ERNEST	8	17		
ERNEST	8	18		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
* Stream Receiving Discharge: MCKEE RUN				
ERNEST	5	7		
ERNEST	6	14		
ERNEST	9	21		
ERNEST	6	11		
ERNEST	6	10		
ERNEST	6	13		
CLYMER	4	37		
CLYMER	7	47		
CLYMER	7	49		
CLYMER	7	48		
* Stream Receiving Discharge: PINE RUN				
MARION CENTER	7	2		
MARION CENTER	7	3		
MARION CENTER	8	4		
MARION CENTER	9	29		
CLYMER	1	22		
MARION CENTER	8	39		
* Stream Receiving Discharge: PLUM CREEK				
ELDERTON	5	2		
ELDERTON	3	1		
RURAL VALLEY	8	4	DORAN & ASSOCIATES	
RURAL VALLEY	8	6	DORAN & ASSOCIATES	
* Stream Receiving Discharge: RAYNE RUN				
CLYMER	2	2		
CLYMER	2	3		
CLYMER	2	4		
CLYMER	2	5		
MARION CENTER	9	37		
MARION CENTER	9	30		
MARION CENTER	9	38		
CLYMER	2	25		
CLYMER	2	26		
CLYMER	2	27		
CLYMER	2	28		
CLYMER	3	31		
CLYMER	3	32		
CLYMER	3	33		
CLYMER	3	34		
* Stream Receiving Discharge: S BR PLUM CREEK				
ERNEST	1	2	HQ	
PLUMVILLE	9	39	HQ	KEYSTONE ENERGY OIL & GAS
PLUMVILLE	9	805	HQ	ANGERMAN GAS VENTURE #3

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
* Stream Receiving Discharge: WALKER RUN					
ELDERTON	8		3		
ELDERTON	8		4		
** Major Stream: CUSH CREEK					
* Stream Receiving Discharge: BRADY RUN					
BURNSIDE	5		28	ADOBE OIL & GAS	
** Major Stream: E BR CLARION RIVER					
* Stream Receiving Discharge: JOHNSON RUN					
WILCOX	3		5 HQ	APETCO INTERNATIONAL	
WILCOX	3		1 HQ		
WILCOX	3		2 HQ		
WILCOX	3		3 HQ		
WILCOX	3		4 HQ	APETCO INTERNATIONAL	
** Major Stream: E BR MAHONING CREEK					
* Stream Receiving Discharge: BEAVER RUN					
DUBOIS	9		3 HQ		
* Stream Receiving Discharge: CLOVER RUN					
MCGEES MILLS	6		15 HQ		
MCGEES MILLS	6		17 HQ		
MCGEES MILLS	5		13 HQ		
MCGEES MILLS	5		14 HQ		
MCGEES MILLS	6		34 HQ		
MCGEES MILLS	5		12 HQ		
MCGEES MILLS	5		11 HQ		
MCGEES MILLS	5		9 HQ	GULF (CHEVRON)	
MCGEES MILLS	4		8 HQ		
** Major Stream: E BR SUGAR CREEK					
* Stream Receiving Discharge: PRATHER CREEK					
TITUSVILLE SOUT	1		1		
TITUSVILLE SOUT	2		2	APEX RESOURCES	
** Major Stream: E BR TIONESTA CREEK					
* Stream Receiving Discharge: WEST RUN					
KANE	7		10 HQ	WITCO CHEMICAL CORPORATION	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
** Major Stream: E BR TUNUNGWANT CREEK					
* Stream Receiving Discharge: BEAR RUN					
LEWIS RUN	2	14	HQ	LANPHAR'S INC.	
LEWIS RUN	2	15	HQ	PENN RESOURCES INC.	
* Stream Receiving Discharge: BIRSLEY STREAM					
BRADFORD	3	1		WEAVER OIL CO.	0037176
* Stream Receiving Discharge: DRONEY RUN					
CYCLONE	1	1			
* Stream Receiving Discharge: LEWIS RUN					
LEWIS RUN	2	11		EASTERN ROYALTIES	
LEWIS RUN	2	48		HERBEL CO.	
LEWIS RUN	1	6		TRISON PETROLEUM CORP.	
LEWIS RUN	2	13		CHARLES BENSON	0039713
LEWIS RUN	2	12		QUAKER STATE	
LEWIS RUN	1	4		THORTON CO.	0037401
LEWIS RUN	2	7		MINARD RUN OIL CO	0035874
LEWIS RUN	2	8		MINARD RUN OIL CO	0035840
LEWIS RUN	2	9		MINARD RUN OIL CO	0041980
LEWIS RUN	2	10		MINARD RUN OIL CO	0036536
LEWIS RUN	4	22	HQ	PENNZOIL	
LEWIS RUN	5	23		MINARD RUN OIL CO	0036528
LEWIS RUN	5	49		MINARD RUN OIL CO	0036552
LEWIS RUN	5	50		MINARD RUN OIL CO	0036544
LEWIS RUN	5	25		MINARD RUN OIL CO	0041998
LEWIS RUN	5	26		MINARD RUN OIL CO	0042382
LEWIS RUN	5	51		MINARD RUN OIL CO	0041955
LEWIS RUN	5	27		MINARD RUN OIL CO	0036510
LEWIS RUN	5	28		MINARD RUN OIL CO	0035866
LEWIS RUN	5	31		MINARD RUN OIL CO	0035858
LEWIS RUN	5	32		MINARD RUN OIL CO	0041963
LEWIS RUN	5	24		MINARD RUN OIL CO	
LEWIS RUN	5	29		MINARD RUN OIL CO	
LEWIS RUN	5	30		MINARD RUN OIL CO	
LEWIS RUN	5	54		MINARD RUN OIL CO	
LEWIS RUN	1	801		L. M. LILLY ESTATE	0039616
* Stream Receiving Discharge: RAILROAD RUN					
CYCLONE	1	4		PENNZOIL	
CYCLONE	1	5		PENNZOIL	
* Stream Receiving Discharge: RUTHERFORD RUN					
BRADFORD	6	43		W.M. KLINE OIL CO.	0037630
* Stream Receiving Discharge: SHEPPARD RUN					
BRADFORD	8	71		LEWIS HESS?	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
BRADFORD	9	83			
BRADFORD	8	70		WITCO CHEMICAL CORPORATION	0045446
BRADFORD	8	66		WITCO CHEMICAL CORPORATION	0045446
BRADFORD	8	68		WITCO CHEMICAL CORPORATION	0045446
BRADFORD	9	79		WITCO CHEMICAL CORPORATION	0045519
BRADFORD	9	80		WITCO CHEMICAL CORPORATION	0045519
BRADFORD	9	84		WITCO CHEMICAL CORPORATION	0045519
BRADFORD	9	81			
BRADFORD	9	82			
BRADFORD	8	65			
BRADFORD	9	91		WITCO CHEMICAL CORPORATION	0003344
BRADFORD	9	92		WITCO CHEMICAL CORPORATION	0003344
BRADFORD	9	93		WITCO CHEMICAL CORPORATION	0003344
BRADFORD	8	69		QUAKER STATE	
* Stream Receiving Discharge: UNNAMED TRIB					
BRADFORD	6	40		MINARD RUN OIL CO	0036943
BRADFORD	6	38		MINARD RUN OIL CO	0036935
BRADFORD	6	44		MINARD RUN OIL CO	0036919
BRADFORD	8	74		MINARD RUN OIL CO	
BRADFORD	8	75			
BRADFORD	8	76		G.L. NIPPERT EST.	0037877
** Major Stream: EAST HICKORY CREEK					
* Stream Receiving Discharge: BEAVER RUN					
KELLETTVILLE	4	6	HQ	RALPH ALBRIGHT DRILLING CO.	
KELLETTVILLE	4	7	HQ	QUAKER STATE OIL CO	
KELLETTVILLE	2	4	HQ	QUAKER STATE OIL CO	
KELLETTVILLE	2	2	HQ	RALPH ALBRIGHT DRILLING CO.	
KELLETTVILLE	1	1	HQ	JOHN VERTULLO	
KELLETTVILLE	3	5	HQ	KELLEY-VERTULLO	
* Stream Receiving Discharge: OTTER CREEK					
KELLETTVILLE	2	3	HQ	QUAKER STATE OIL CO	
** Major Stream: EAST SANDY CREEK					
* Stream Receiving Discharge: HALLS RUN					
CRANBERRY	2	1		PETRO TECH	
CRANBERRY	3	4		MCLAN ASSOCIATES	
CRANBERRY	3	3		MCLAN ASSOCIATES	
OIL CITY	9	55		QUAKER STATE	
* Stream Receiving Discharge: PORCUPINE RUN					
KENNERDELL	6	13		QUAKER STATE	
* Stream Receiving Discharge: TARKILN RUN					
KOSSUTH	1	17		MCLAN ASSOCIATES	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
KOSSUTH	1	1		
KOSSUTH	2	8	OIL CREEK DRILLING CO.	
KOSSUTH	1	7	OIL CREEK DRILLING CO.	
KOSSUTH	1	3	PETRO TECH	
KOSSUTH	1	4	TECHNOL ENERGY	
KOSSUTH	2	15	H.M. WELLS	
KOSSUTH	2	16	H.M. WELLS	
CRANBERRY	2	2	PETRO TECH	
CRANBERRY	3	6	PETRO TECH	
CRANBERRY	3	5	OIL CREEK DRILLING CO.	
CRANBERRY	6	7	RED VALLEY ENTERPRIZES	
CRANBERRY	6	8	RED VALLEY ENTERPRIZES	
KOSSUTH	1	18	ADOBE OIL & GAS	

** Major Stream: ELK RUN

* Stream Receiving Discharge: COLD SPRING RUN

PUNXSUTAWNEY	2	5	
PUNXSUTAWNEY	2	4	

* Stream Receiving Discharge: LITTLE ELK RUN

VALIER	3	5	
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** Major Stream: FIVEMILE RUN

* Stream Receiving Discharge: SMATHERS RUN

COOLSPRING	1	2	
COOLSPRING	1	3	
COOLSPRING	4	5	

** Major Stream: FORK RUN

* Stream Receiving Discharge: BERLIN FORK

KELLETTVILLE	6	29 HQ	
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* Stream Receiving Discharge: EAST FORK

KELLETTVILLE	6	19 HQ	MERIDIAN EXPLORATION
KELLETTVILLE	6	20 HQ	QUAKER STATE
KELLETTVILLE	6	21 HQ	QUAKER STATE
KELLETTVILLE	6	22 HQ	QUAKER STATE
KELLETTVILLE	6	23 HQ	MERIDIAN EXPLORATION

* Stream Receiving Discharge: WEST FORK

KELLETTVILLE	6	18 HQ	MERIDIAN EXPLORATION
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Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
** Major Stream: FOSTER BROOK				
* Stream Receiving Discharge: HARRISBURG RUN				
DERRICK CITY	2	23	QUAKER STATE	
DERRICK CITY	2	25	TRAM HOLLOW OIL COMPANY	0038636
DERRICK CITY	2	24	PENNZOIL	
* Stream Receiving Discharge: PENNBROOK RUN				
DERRICK CITY	3	48	PENNZOIL	
DERRICK CITY	2	34	QUAKER STATE	
DERRICK CITY	2	27	WITCO CHEMICAL CORPORATION	
DERRICK CITY	2	28	WITCO CHEMICAL CORPORATION	0003301
DERRICK CITY	2	114	WITCO CHEMICAL CORPORATION	0045471
DERRICK CITY	2	26		
DERRICK CITY	3	49	PENNZOIL	
DERRICK CITY	3	50		
DERRICK CITY	2	35	QUAKER STATE	
** Major Stream: HOLM RUN				
* Stream Receiving Discharge: KEYS RUN				
HAZEN	5	3		
** Major Stream: INDIAN CREEK				
* Stream Receiving Discharge: DRAKE HOLLOW				
ELDRED	2	12	PENNZOIL	
** Major Stream: JAMISON RUN				
* Stream Receiving Discharge: MCCAFFERDY RUN				
WEST HICKORY	4	66	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	67	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	92	COMPASS DEVELOPMENT INC	
WEST HICKORY	4	104	COMPASS DEVELOPMENT INC	
** Major Stream: KENDALL CREEK				
* Stream Receiving Discharge: BUCHANAN HOLLOW				
DERRICK CITY	4	59	PENNZOIL	
DERRICK CITY	4	60	PENNZOIL	
* Stream Receiving Discharge: LAFFERTY RUN				
DERRICK CITY	4	64	PENNZOIL	
DERRICK CITY	4	66	QUAKER STATE	
DERRICK CITY	2	36	PENNZOIL	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
** Major Stream: KINZUA CREEK				
* Stream Receiving Discharge: PINE RUN				
LEWIS RUN	8	37 HQ	D-Y-M CORPORATION	0038342
LEWIS RUN	8	38 HQ	D-Y-M CORPORATION	
LEWIS RUN	8	39 HQ	D-Y-M CORPORATION	
* Stream Receiving Discharge: S BR KINZUA CREEK				
WESTLINE	7	15 HQ	NORTHEAST NATURAL GAS CO.	
KANE	5	1 HQ	THRESHOLD DRILLING	
* Stream Receiving Discharge: THUNDERSHOWER RUN				
WESTLINE	6	13	BRITISH AMERICAN PETROLEUM	
WESTLINE	6	14	KINZUA ENERGY DEVELOPMENT CO	
* Stream Receiving Discharge: TOWN LINE RUN				
LEWIS RUN	8	41 HQ	PENNZOIL	
LEWIS RUN	8	40 HQ	D-Y-M CORPORATION	0038342
* Stream Receiving Discharge: TURNUP RUN				
LEWIS RUN	4	20 HQ	PENNZOIL	
LEWIS RUN	4	21 HQ	PENNZOIL	
* Stream Receiving Discharge: WINDFALL RUN				
MT. JEWETT	1	1 HQ	PENNZOIL	
MT. JEWETT	2	2 HQ	PENNZOIL	
** Major Stream: KISKIMINETAS RIVER				
* Stream Receiving Discharge: CONEMAUGH RIVER				
BLAIRSVILLE	4	5		
BLAIRSVILLE	6	12		
BLAIRSVILLE	4	8		
BLAIRSVILLE	6	11		
BLAIRSVILLE	1	1		
** Major Stream: KNAPP CREEK				
* Stream Receiving Discharge: KANSAS BRANCH				
ELDRED	1	3	PENNZOIL	
ELDRED	1	4	PENNZOIL	
ELDRED	1	5	PENNZOIL	
ELDRED	1	6	PENNZOIL	
ELDRED	2	8	PENNZOIL	
* Stream Receiving Discharge: S BR KNAPP CREEK				
ELDRED	4	28		
ELDRED	4	22		
ELDRED	4	29	JEEP OIL CO	0037257

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
ELDRED	4	27		
ELDRED	4	30	MESSER OIL CO	
ELDRED	7	32	JEEP OIL CO	0037257
ELDRED	4	18	PENNZOIL	0105244
ELDRED	4	26	HUNGIVILLE OIL CO.	
ELDRED	4	801	HOWARD H. HOLMES	0036838
DERRICK CITY	6	84		
DERRICK CITY	6	83	TYLER OIL CO.	0037362
DERRICK CITY	6	85	PENNZOIL	
DERRICK CITY	6	86	PENNZOIL	
DERRICK CITY	9	100	PENNZOIL	
DERRICK CITY	9	98	PENNZOIL	
DERRICK CITY	9	97	PENNZOIL	
DERRICK CITY	9	99	PENNZOIL	
ELDRED	4	39	PENNZOIL	0105244
* Stream Receiving Discharge: TRAM HOLLOW RUN				
ELDRED	4	17		
ELDRED	4	15	HEIRS OIL CO.	0038377
ELDRED	4	16	PENNZOIL	0105244
DERRICK CITY	3	52	HARRIS HELENBROCK OIL CO.	0038091
DERRICK CITY	3	53	HARRIS HELENBROCK OIL CO.	0038091
DERRICK CITY	3	54	HARRIS HELENBROCK OIL CO.	0038091
DERRICK CITY	3	55	HARRIS HELENBROCK OIL CO.	0038091
DERRICK CITY	3	56	HARRIS HELENBROCK OIL CO.	0038091
DERRICK CITY	3	58	PENNZOIL	
DERRICK CITY	3	111	TRAM HOLLOW OIL COMPANY	0038636
** Major Stream: LITTLE MAHONING CREEK				
* Stream Receiving Discharge: BEECH RUN				
ROCHESTER MILLS	4	16 HQ		
ROCHESTER MILLS	4	17 HQ		
ROCHESTER MILLS	4	12 HQ		
ROCHESTER MILLS	4	14 HQ		
ROCHESTER MILLS	4	13 HQ		
* Stream Receiving Discharge: BREWER RUN				
ROCHESTER MILLS	1	3 HQ		
ROCHESTER MILLS	1	36 HQ		
* Stream Receiving Discharge: BROADHEAD RUN				
ROCHESTER MILLS	1	2 HQ		
* Stream Receiving Discharge: CROOKED RUN				
ROCHESTER MILLS	4	9 HQ		
ROCHESTER MILLS	4	10 HQ		
ROCHESTER MILLS	4	11 HQ		
ROCHESTER MILLS	4	7 HQ		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
ROCHESTER MILLS	7	41	HQ	
ROCHESTER MILLS	7	42	HQ	
ROCHESTER MILLS	4	39	HQ	
* Stream Receiving Discharge: EAST RUN				
ROCHESTER MILLS	8	32	HQ	
COMMODORE	2	5	HQ	
COMMODORE	2	3	HQ	
* Stream Receiving Discharge: LEASURE RUN				
ROCHESTER MILLS	1	1	HQ	
* Stream Receiving Discharge: MUDLICK RUN				
VALIER	8	26	HQ	
MARION CENTER	3	9	HQ	
* Stream Receiving Discharge: NORTH BRANCH				
ROCHESTER MILLS	2	801	HQ	J & J ENTERPRISES
ROCHESTER MILLS	2	802	HQ	J & J ENTERPRISES
* Stream Receiving Discharge: PICKERING RUN				
MARION CENTER	9	6	HQ	
MARION CENTER	9	7	HQ	
MARION CENTER	9	5	HQ	
MARION CENTER	5	19	HQ	
MARION CENTER	5	20	HQ	
MARION CENTER	5	22	HQ	
MARION CENTER	5	17	HQ	DORAN & ASSOCIATES
MARION CENTER	9	32	HQ	
MARION CENTER	9	33	HQ	
MARION CENTER	9	34	HQ	
MARION CENTER	9	35	HQ	
* Stream Receiving Discharge: RAIRIGH RUN				
ROCHESTER MILLS	8	31	HQ	ATLAS RESOURCES INC.
ROCHESTER MILLS	9	33	HQ	ATLAS RESOURCES INC.
ROCHESTER MILLS	9	48	HQ	KRIEBEL WELLS
ROCHESTER MILLS	8	47	HQ	ADOBE OIL & GAS
* Stream Receiving Discharge: ROSS RUN				
PLUMVILLE	6	28	HQ	
MARION CENTER	4	14	HQ	
* Stream Receiving Discharge: SALSGIVER RUN				
ROCHESTER MILLS	6	21	HQ	
* Stream Receiving Discharge: STRAIGHT RUN				
PUNXSUTAWNEY	9	23	HQ	
ROCHESTER MILLS	3	4	HQ	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
ROCHESTER MILLS	3	5	HQ	
ROCHESTER MILLS	3	6	HQ	
ROCHESTER MILLS	3	38	HQ	
PUNXSUTAWNEY	9	26	HQ	
** Major Stream: LITTLE SANDY CREEK				
* Stream Receiving Discharge: BIG RUN				
VALIER	1	1		
VALIER	1	2		
VALIER	2	25		
* Stream Receiving Discharge: CHERRY RUN				
SUMMERVILLE	8	9		
SUMMERVILLE	8	10		
SUMMERVILLE	8	11		
SUMMERVILLE	8	8		
* Stream Receiving Discharge: HADDEN RUN				
VALIER	2	4		
COOLSPRING	8	6		
COOLSPRING	9	7		
COOLSPRING	9	8		
* Stream Receiving Discharge: NOLF RUN				
SUMMERVILLE	7	3		
SUMMERVILLE	8	12		
SUMMERVILLE	8	6		
SUMMERVILLE	8	7		
** Major Stream: LITTLE YELLOW CREEK				
* Stream Receiving Discharge: GILLHOUSER RUN				
STRONGSTOWN	7	3	HQ	
** Major Stream: LOYALHANNA CREEK				
* Stream Receiving Discharge: MCCUNE RUN				
BLAIRSVILLE	7	20	QUESTA PETROLEUM CO	
** Major Stream: MAHONING CREEK				
* Stream Receiving Discharge: BIG RUN				
REYNOLDSVILLE	9	18		
REYNOLDSVILLE	9	21		
REYNOLDSVILLE	9	22		
REYNOLDSVILLE	9	26		
REYNOLDSVILLE	9	17		
REYNOLDSVILLE	8	27		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
REYNOLDSVILLE	8		14		
REYNOLDSVILLE	8		30	OLD MOUNTAIN GAS COMPANY	
PUNXSUTAWNEY	3		24	JAMES F SCOTT	
* Stream Receiving Discharge: CANOE CREEK					
VALIER	9		21		
VALIER	9		22		
VALIER	9		23		
VALIER	9		24		
PUNXSUTAWNEY	9		22		
PUNXSUTAWNEY	8		16		
PUNXSUTAWNEY	8		18		
PUNXSUTAWNEY	8		19		
PUNXSUTAWNEY	8		13		
PUNXSUTAWNEY	8		14		
PUNXSUTAWNEY	8		15		
PUNXSUTAWNEY	8		17		
PUNXSUTAWNEY	7		12		
PUNXSUTAWNEY	9		25		
PUNXSUTAWNEY	8		20		
PUNXSUTAWNEY	5		10		
PUNXSUTAWNEY	5		9		
PUNXSUTAWNEY	5		32	MID-EAST OIL CO.	
* Stream Receiving Discharge: CARR RUN					
DAYTON	9		26		
* Stream Receiving Discharge: DUTCH RUN					
VALIER	8		14		
VALIER	9		19		
VALIER	9		17		
VALIER	9		18		
VALIER	8		16		
VALIER	8		27		
VALIER	9		28		
VALIER	9		29		
VALIER	9		20		
* Stream Receiving Discharge: E BR MAHONING CREEK					
MCGEES MILLS	2		6 HQ		
MCGEES MILLS	1		5 HQ		
MCGEES MILLS	1		4 HQ		
* Stream Receiving Discharge: EAST BRANCH					
MCGEES MILLS	5		10 HQ		
MCGEES MILLS	2		32 HQ		
MCGEES MILLS	2		33 HQ		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: ELK RUN				
PUNXSUTAWNEY	1	2		
PUNXSUTAWNEY	1	3		
PUNXSUTAWNEY	1	1		
* Stream Receiving Discharge: GLADE RUN				
DAYTON	7	21		
DAYTON	7	22		
PLUMVILLE	1	3		
PLUMVILLE	1	4		
PLUMVILLE	1	2		
PLUMVILLE	1	1		
* Stream Receiving Discharge: HAMILTON RUN				
DAYTON	6	20		
DAYTON	6	19		
* Stream Receiving Discharge: JACKSON RUN				
PUNXSUTAWNEY	6	11	DORAN & ASSOCIATES	
* Stream Receiving Discharge: LITTLE MAHONING CREEK				
ROCHESTER MILLS	4	8	HQ	
ROCHESTER MILLS	4	15	HQ	
ROCHESTER MILLS	5	18	HQ	ADOBE OIL & GAS
ROCHESTER MILLS	5	19	HQ	
ROCHESTER MILLS	7	23	HQ	
ROCHESTER MILLS	7	25	HQ	
ROCHESTER MILLS	7	24	HQ	J & J ENTERPRISES
ROCHESTER MILLS	8	26	HQ	J & J ENTERPRISES
ROCHESTER MILLS	8	27	HQ	KEYSTONE ENERGY OIL & GAS
ROCHESTER MILLS	8	28	HQ	J & J ENTERPRISES
ROCHESTER MILLS	8	29	HQ	
ROCHESTER MILLS	8	30	HQ	
ROCHESTER MILLS	6	20	HQ	
COMMODORE	1	1	HQ	
COMMODORE	1	2	HQ	
ROCHESTER MILLS	7	43	HQ	
ROCHESTER MILLS	7	44	HQ	
ROCHESTER MILLS	7	45	HQ	
ROCHESTER MILLS	8	46	HQ	KRIEBEL WELLS
ROCHESTER MILLS	5	40	HQ	
PLUMVILLE	2	5	HQ	
PLUMVILLE	3	6	HQ	J & J ENTERPRISES
PLUMVILLE	3	7	HQ	J & J ENTERPRISES
PLUMVILLE	3	10	HQ	J & J ENTERPRISES
PLUMVILLE	3	9	HQ	
PLUMVILLE	3	8	HQ	MID-EAST OIL CO.
PLUMVILLE	6	23	HQ	J & J ENTERPRISES
PLUMVILLE	5	21	HQ	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
MARION CENTER	1	8	HQ		
MARION CENTER	3	13	HQ		
MARION CENTER	3	12	HQ		
MARION CENTER	5	25	HQ		
MARION CENTER	5	16	HQ		
MARION CENTER	5	21	HQ		
MARION CENTER	5	18	HQ		
MARION CENTER	6	23	HQ		
MARION CENTER	6	24	HQ		
MARION CENTER	9	31	HQ		
MARION CENTER	3	10	HQ		
MARION CENTER	3	11	HQ		
COMMODORE	2	14	HQ	KRIEBEL WELLS	
ROCHESTER MILLS	5	803	HQ	J & J ENTERPRISES	
ROCHESTER MILLS	7	804	HQ	THE PEOPLES NATURAL GAS CO	
ROCHESTER MILLS	5	35	HQ	KEYSTATE ASSOC	
MARION CENTER	6	801	HQ	MID-EAST OIL CO.	
PLUMVILLE	3	11	HQ		
ROCHESTER MILLS	8	49	HQ		
* Stream Receiving Discharge: PINE RUN					
DAYTON	1	1			
DAYTON	4	16			
DAYTON	3	14			
DAYTON	3	13			
DAYTON	3	12			
DAYTON	2	7			
* Stream Receiving Discharge: ROCK RUN					
PUNXSUTAWNEY	3	7		ADOBE OIL & GAS	
PUNXSUTAWNEY	2	6			
* Stream Receiving Discharge: ROSE RUN					
VALIER	6	7			
* Stream Receiving Discharge: SAWMILL RUN					
VALIER	3	6			
PUNXSUTAWNEY	4	8			
* Stream Receiving Discharge: STUMP CREEK					
MCGEES MILLS	1	2			
MCGEES MILLS	1	3			
MCGEES MILLS	1	27		CONSOLIDATED GAS TRANSM. CORP.	0101656
* Stream Receiving Discharge: SUGARCAMP RUN					
DAYTON	8	23			
DAYTON	8	24			

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
** Major Stream: MARTIN RUN				
* Stream Receiving Discharge: COON RUN				
JAMES CITY	1	8	HQ	
JAMES CITY	1	9	HQ	
JAMES CITY	1	10	HQ	
JAMES CITY	1	11	HQ	COLUMBIA GAS TRANSMISSION CORP
JAMES CITY	1	12	HQ	
* Stream Receiving Discharge: WOLF RUN				
JAMES CITY	1	5	HQ	
JAMES CITY	1	6	HQ	
JAMES CITY	1	7	HQ	
** Major Stream: MATTHEWS RUN				
* Stream Receiving Discharge: BROWNS RUN				
YOUNGSVILLE	1	37		SIGMA ENERGY RESOURCES
SUGAR GROVE	7	81		S & M RESOURCES INC.
SUGAR GROVE	7	82		S & M RESOURCES INC.
* Stream Receiving Discharge: LANSING RUN				
SUGAR GROVE	8	95		
* Stream Receiving Discharge: PATCHEN RUN				
SUGAR GROVE	4	88		
* Stream Receiving Discharge: TELICK RUN				
SUGAR GROVE	7	96		
** Major Stream: MINARD RUN				
* Stream Receiving Discharge: FOSTER HOLLOW				
DERRICK CITY	7	90		MINARD RUN OIL CO
** Major Stream: N BR BLACKLICK CREEK				
* Stream Receiving Discharge: WALKER RUN				
STRONGSTOWN	9	6		
** Major Stream: NORTH BRANCH				
* Stream Receiving Discharge: POMPEY RUN				
COMMODORE	6	10		

0038423

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
** Major Stream: NORTH FORK				
* Stream Receiving Discharge: SHIPPEN RUN				
SIGEL	8		5 HQ	
** Major Stream: OHIO RIVER				
* Stream Receiving Discharge: ALLEGHENY RIVER				
PRESIDENT	1	14	QUAKER STATE	
PRESIDENT	1	15	QUAKER STATE	
PRESIDENT	1	16	QUAKER STATE	
PRESIDENT	2	32	QUAKER STATE	
PRESIDENT	2	33	QUAKER STATE	
PRESIDENT	2	34	EMERALD RESOURCES	
PRESIDENT	5	53	QUAKER STATE	
PRESIDENT	4	50	QUAKER STATE	0103012
PRESIDENT	3	49	QUAKER STATE	0103004
KENNERDELL	2	14	MOODY & ASSOC	
WARREN	2	1	MORRISON OIL CO.	
WARREN	5	13	HOWARD BILLMAN	
CLARENDON	2	3	RAYMON & LAURIE BILLSTONE	0038997
CLARENDON	2	4	RAYMON & LAURIE BILLSTONE	0038997
CLARENDON	4	6	RAYMON & LAURIE BILLSTONE	0038997
CLARENDON	2	5	BRIGHT WELL OIL & GAS CO	
WARREN	1	56	SLAGLE & ALMENDINGER	
WARREN	2	59	STERLING ENERGY ASSOC.	
WARREN	2	60	FLANNIGAN BROS.	
WARREN	1	57	EXCHANGE OIL	
YOUNGSVILLE	6	43	SLAGLE & ALMENDINGER	
TIDIOUTE	6	4	RETURN OIL CO.	0102890
FRANKLIN	6	1	QUAKER STATE	
FRANKLIN	8	5	WEAVER & PRESTON	
FRANKLIN	8	6	WEAVER & PRESTON	
FRANKLIN	8	7	WEAVER & PRESTON	
FRANKLIN	8	8	WEAVER & PRESTON	
FRANKLIN	9	9	RIVER RIDGE	
OIL CITY	3	20	CARL H. WILLIAMS	
OIL CITY	3	21	CARL H. WILLIAMS	
OIL CITY	6	28	QUAKER STATE	
OIL CITY	6	27	QUAKER STATE	
OIL CITY	7	43	QUAKER STATE	
OIL CITY	7	44	QUAKER STATE	
OIL CITY	7	45	QUAKER STATE	
OIL CITY	7	46	QUAKER STATE	
OIL CITY	7	47		
OIL CITY	7	48	QUAKER STATE	
OIL CITY	7	49	SUTWAY DEVELOPMENT CORP.	
KENNERDELL	3	7	QUAKER STATE OIL CO	
KENNERDELL	3	5	QUAKER STATE OIL CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
KENNERDELL	3		6	QUAKER STATE OIL CO	
KENNERDELL	3		8	QUAKER STATE OIL CO	
KENNERDELL	2		1	RO WAY OIL & GAS, INC.	0105198
KENNERDELL	2		3	FRANKLIN BRINE TREATMENT CO.	0101508
KENNERDELL	2		2	MOODY & ASSOC	0102903
KENNERDELL	2		11	MOODY & ASSOC	
KENNERDELL	2		12	RO WAY OIL & GAS, INC.	
KENNERDELL	2		10	NORWESCO	
WEST HICKORY	5		76	COMPASS DEVELOPMENT INC	
WEST HICKORY	8		84		
WEST HICKORY	5		75	COMPASS DEVELOPMENT INC	
KENNERDELL	3		9		
KENNERDELL	3		4	ED CULBERTSON	
WARREN	3		78	ENVIRONMENTAL DEVELOPMENT CORP	0102784
WEST HICKORY	2		96	COMPASS DEVELOPMENT INC	

** Major Stream: OIL CREEK

* Stream Receiving Discharge: CHERRY RUN

OIL CITY	2		1	PYRAMID OIL CO.
OIL CITY	3		8	WILLIAM HUBER
OIL CITY	3		9	NATIONAL RESOURCES
OIL CITY	3		10	QUAKER STATE
OIL CITY	3		11	QUAKER STATE
OIL CITY	3		17	QUAKER STATE
OIL CITY	3		18	QUAKER STATE
OIL CITY	3		15	QUAKER STATE
OIL CITY	3		14	QUAKER STATE
OIL CITY	3		13	QUAKER STATE
OIL CITY	3		16	QUAKER STATE
OIL CITY	3		12	CONSOLIDATED/TECHNOL ENERGY
OIL CITY	3		19	S.G. THOMPSON
OIL CITY	3		56	RETURN OIL CO.
OIL CITY	3		7	J.M. COLVIN & ASSOCIATES
TITUSVILLE SOUT	9		6	QUAKER STATE
TITUSVILLE SOUT	9		7	QUAKER STATE
TITUSVILLE SOUT	9		8	
TITUSVILLE SOUT	9		10	
TITUSVILLE SOUT	9		9	QUAKER STATE
TITUSVILLE SOUT	9		11	PETRO TECH
TITUSVILLE SOUT	9		12	PETRO TECH
TITUSVILLE SOUT	9		13	QUAKER STATE
TITUSVILLE SOUT	9		14	QUAKER STATE

* Stream Receiving Discharge: PINE CREEK

PLEASANTVILLE	2		2	
PLEASANTVILLE	3		8	J. L. BECK
PLEASANTVILLE	3		9	RETURN OIL CO.
PLEASANTVILLE	3		10	RETURN OIL CO.

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
GRAND VALLEY	6	7	QUAKER STATE	
GRAND VALLEY	6	8	PENN WEST MINERAL RESOURCES	
GRAND VALLEY	7	9		
GRAND VALLEY	8	10		
GRAND VALLEY	9	11		
TIDIOUTE	4	2	QUAKER STATE	
** Major Stream: OSWAYO CREEK				
* Stream Receiving Discharge: BELL RUN				
SHINGLEHOUSE	1	1		
SHINGLEHOUSE	1	2	J. J. BUCHER	
* Stream Receiving Discharge: HONEYOYE CREEK				
SHINGLEHOUSE	2	7	HAINES & MEACHAM	0038831
* Stream Receiving Discharge: HORSE RUN				
SHINGLEHOUSE	1	3	WILDCATTERS	
SHINGLEHOUSE	2	4	J. J. BUCHER	
SHINGLEHOUSE	2	6	J. J. BUCHER	
SHINGLEHOUSE	2	5	H. D. HOUGH	
SHINGLEHOUSE	2	8	SUBSEA OIL & GAS	
SHINGLEHOUSE	2	9	J. J. BUCHER	
* Stream Receiving Discharge: KINGS RUN				
BULLIS MILLS	3	1	J. J. BUCHER	
BULLIS MILLS	3	2	J. J. BUCHER	
** Major Stream: PINE CREEK				
* Stream Receiving Discharge: CALDWELL CREEK				
GRAND VALLEY	2	1 HQ	QUAKER STATE	
GRAND VALLEY	4	2 HQ	QUAKER STATE	
GRAND VALLEY	5	3 HQ	QUAKER STATE	
GRAND VALLEY	5	4 HQ	QUAKER STATE	
GRAND VALLEY	5	5 HQ	QUAKER STATE	
GRAND VALLEY	5	6 HQ		
GRAND VALLEY	4	17 HQ	MCCOUN CO.	
* Stream Receiving Discharge: GILSON RUN				
GRAND VALLEY	9	12	KEY OIL CO.	
GRAND VALLEY	9	13	KEY OIL CO.	
GRAND VALLEY	9	14	EAGLE LINE CORP.	
GRAND VALLEY	9	15	RETURN OIL CO.	
GRAND VALLEY	9	16	RETURN OIL CO.	
* Stream Receiving Discharge: GOLBY RUN				
PLEASANTVILLE	2	5	UNIVERSAL RESOURCES HOLDING CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
** Major Stream: PINE RUN				
* Stream Receiving Discharge: CAYLOR RUN				
DAYTON	3	11		
DAYTON	3	10		
DAYTON	3	9		
DAYTON	3	8		
DAYTON	2	6		
DAYTON	2	5		
* Stream Receiving Discharge: EAGLE RUN				
DAYTON	2	3		
DAYTON	2	4		
* Stream Receiving Discharge: MIDDLE BRANCH				
DAYTON	6	18		
* Stream Receiving Discharge: MUDLICK CREEK				
SUMMERVILLE	7	4		
SUMMERVILLE	7	5		
SUMMERVILLE	7	11	TEMPLETON ENERGY INC	
SUMMERVILLE	7	12	TEMPLETON ENERGY INC	
* Stream Receiving Discharge: NYE BRANCH				
DAYTON	4	15		
* Stream Receiving Discharge: PAINTER RUN				
DAYTON	2	2		
* Stream Receiving Discharge: SUGARCAMP RUN				
DAYTON	1	27	TEMPLETON ENERGY INC	
** Major Stream: PITHOLE CREEK				
* Stream Receiving Discharge: ALLENDER RUN				
PLEASANTVILLE	7	143	QUAKER STATE	
PLEASANTVILLE	7	74	QUAKER STATE	
PLEASANTVILLE	7	152	BLACK STALLION	
PLEASANTVILLE	7	81	QUAKER STATE	
PLEASANTVILLE	7	75	QUAKER STATE	
PLEASANTVILLE	7	76	QUAKER STATE	
PLEASANTVILLE	7	73	BLACK STALLION	
PLEASANTVILLE	7	80		
PLEASANTVILLE	7	77		
* Stream Receiving Discharge: NEILLTOWN CREEK				
PLEASANTVILLE	3	11	J. L. BECK	
PLEASANTVILLE	3	12	J. L. BECK	
PLEASANTVILLE	3	14	RETURN OIL CO.	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: OTTO RUN				
PLEASANTVILLE	2	3	J. L. BECK	
PLEASANTVILLE	2	4	J. L. BECK	
PLEASANTVILLE	3	148	UNIVERSAL RESOURCES HOLDING CO	
PLEASANTVILLE	3	147	UNIVERSAL RESOURCES HOLDING CO	
PLEASANTVILLE	3	13	RETURN OIL CO.	
PLEASANTVILLE	3	149	INTERPEN DRILLING CO.	
* Stream Receiving Discharge: SCHOOLHOUSE RUN				
PLEASANTVILLE	2	6	QUAKER STATE	
PLEASANTVILLE	2	7	QUAKER STATE	
* Stream Receiving Discharge: W PITHOLE CREEK				
PLEASANTVILLE	1	1		
PLEASANTVILLE	1	153	PETRO TECH	
** Major Stream: PLUM CREEK				
* Stream Receiving Discharge: CESSNA RUN				
ELBERTON	2	6	APPALACHIAN ENERGY INC	
ELBERTON	2	7	APPALACHIAN ENERGY INC	
ELBERTON	2	8	ADOBE OIL & GAS	
* Stream Receiving Discharge: N BR PLUM CREEK				
PLUMVILLE	6	24		
PLUMVILLE	6	25		
PLUMVILLE	5	18		
PLUMVILLE	5	22		
PLUMVILLE	5	19	J & J ENTERPRISES	
PLUMVILLE	5	20	DORAN & ASSOCIATES	
PLUMVILLE	8	35		
PLUMVILLE	8	36		
PLUMVILLE	8	37		
PLUMVILLE	7	31		
PLUMVILLE	7	30		
PLUMVILLE	7	29		
PLUMVILLE	7	52	WAGNER AND WAGNER	
* Stream Receiving Discharge: S BR PLUM CREEK				
PLUMVILLE	9	45 HQ		
PLUMVILLE	9	47 HQ		
PLUMVILLE	9	41 HQ		
PLUMVILLE	9	40 HQ		
PLUMVILLE	9	44 HQ		
PLUMVILLE	9	48 HQ		
PLUMVILLE	8	38 HQ	J & J ENTERPRISES	
PLUMVILLE	8	34 HQ		
MARION CENTER	7	27 HQ		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
** Major Stream: PORCUPINE CREEK					
* Stream Receiving Discharge: NORWAY RUN					
PRESIDENT	4		52	QUAKER STATE	
** Major Stream: POTATO CREEK					
* Stream Receiving Discharge: KENT HOLLOW RUN					
SMETHPORT	3		1	CUNNINGHAM NATURAL GAS CORP.	0037664
SMETHPORT	3		2	CUNNINGHAM NATURAL GAS CORP.	0037664
SMETHPORT	3		3	CUNNINGHAM NATURAL GAS CORP.	0037664
SMETHPORT	3		5	CUNNINGHAM NATURAL GAS CORP.	0037664
* Stream Receiving Discharge: MARVIN CREEK					
SMETHPORT	7		6	MICON EXPLORATION	
SMETHPORT	7		7	SOUTHERN DRILLING & PRODUCTION	
* Stream Receiving Discharge: MOODY HOLLOW					
ELDRED	9		33	CUNNINGHAM NATURAL GAS CORP.	0037664
ELDRED	9		34	CUNNINGHAM NATURAL GAS CORP.	0037664
ELDRED	9		35	CUNNINGHAM NATURAL GAS CORP.	0037664
ELDRED	9		36	CUNNINGHAM NATURAL GAS CORP.	0037664
ELDRED	9		37	CUNNINGHAM NATURAL GAS CORP.	0037664
* Stream Receiving Discharge: PIERCE BROOK					
SMETHPORT	3		4	CUNNINGHAM NATURAL GAS CORP.	0037664
** Major Stream: REDBANK CREEK					
* Stream Receiving Discharge: FIVEMILE RUN					
HAZEN	8		4		
COOLSPRING	1		1		
* Stream Receiving Discharge: MILL CREEK					
HAZEN	3		2		
* Stream Receiving Discharge: NORTH FORK					
HAZEN	1		1 HQ		
* Stream Receiving Discharge: SANDY LICK CREEK					
REYNOLDSVILLE	1		1		
REYNOLDSVILLE	3		32		
REYNOLDSVILLE	2		3		
REYNOLDSVILLE	2		5		
REYNOLDSVILLE	2		6		
COOLSPRING	3		4		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
** Major Stream: ROSS RUN					
* Stream Receiving Discharge: EAST BRANCH					
KELLETTVILLE	5	12	HQ	COMPASS DRILLING INC	
KELLETTVILLE	5	11	HQ	QUAKER STATE	
KELLETTVILLE	5	13	HQ	NORTHEAST ENERGY DEVELOPMENT	
KELLETTVILLE	5	14	HQ	NORTHEAST ENERGY DEVELOPMENT	
KELLETTVILLE	5	15	HQ	NORTHEAST ENERGY DEVELOPMENT	
KELLETTVILLE	5	16	HQ	NORTHEAST ENERGY DEVELOPMENT	
KELLETTVILLE	5	17	HQ	NORTHEAST ENERGY DEVELOPMENT	
** Major Stream: S BR COLE CREEK					
* Stream Receiving Discharge: BORDELL BROOK					
DERRICK CITY	9	102		DePETRO & ENGEL OIL COMPANY	0037451
* Stream Receiving Discharge: MCQUEEN HOLLOW					
CYCLONE	6	31		PENNZOIL	
CYCLONE	5	25		PENNZOIL	
CYCLONE	5	24			
CYCLONE	5	23		PENNZOIL	
CYCLONE	2	14		D-Y-M CORPORATION	0038521
CYCLONE	2	13		PENNZOIL	
CYCLONE	5	21		PENNZOIL	
CYCLONE	5	22		D-Y-M CORPORATION	0038521
CYCLONE	5	26		PENNZOIL	
CYCLONE	5	28		PENNZOIL	
CYCLONE	5	29		PENNZOIL	
* Stream Receiving Discharge: PANTHER RUN					
CYCLONE	2	12		PENNZOIL	
CYCLONE	2	7		PENNZOIL	
CYCLONE	2	8		PENNZOIL	
CYCLONE	2	10		PENNZOIL	
CYCLONE	2	9		PENNZOIL	
CYCLONE	2	11		PENNZOIL	
CYCLONE	2	15		PENNZOIL	0102806
CYCLONE	3	16		PENNZOIL	
* Stream Receiving Discharge: WOLF RUN					
CYCLONE	1	2		PENNZOIL	
CYCLONE	1	3		PENNZOIL	
** Major Stream: S BR KINZUA CREEK					
* Stream Receiving Discharge: MUDLICK RUN					
KANE	1	11	HQ	MERIDIAN EXPLORATION	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
** Major Stream: S BR KNAPP CREEK					
* Stream Receiving Discharge: BAKER RUN					
DERRICK CITY	6	80		PENNZOIL	
DERRICK CITY	6	81		EASTERN ROYALTIES	
DERRICK CITY	6	82		EASTERN ROYALTIES	
DERRICK CITY	6	79		WITCO CHEMICAL CORPORATION	0043150
* Stream Receiving Discharge: BERGER HOL					
ELDRED	4	25		PENNZOIL	0105244
ELDRED	4	40		PENNZOIL	0105244
** Major Stream: S BR PLUM CREEK					
* Stream Receiving Discharge: GOOSE RUN					
MARION CENTER	4	1	HQ		
MARION CENTER	7	26	HQ		
MARION CENTER	4	15	HQ		
MARION CENTER	7	28	HQ		
* Stream Receiving Discharge: LEISURE RUN					
PLUMVILLE	6	26	HQ	J & J ENTERPRISES	
PLUMVILLE	6	27	HQ	J & J ENTERPRISES	
PLUMVILLE	9	42	HQ	J & J ENTERPRISES	
PLUMVILLE	9	51	HQ	J & J ENTERPRISES	
PLUMVILLE	9	46	HQ		
PLUMVILLE	9	49	HQ		
PLUMVILLE	9	50	HQ		
PLUMVILLE	9	43	HQ		
PLUMVILLE	9	803	HQ	ANGERMAN GAS VENTURE #3	
PLUMVILLE	9	804	HQ	PENN WAYNE GAS CO	
PLUMVILLE	9	806	HQ	LOUDEN PROPERTIES	
PLUMVILLE	9	807	HQ	MID-EAST OIL CO.	
PLUMVILLE	9	808	HQ	MID-EAST OIL CO.	
PLUMVILLE	9	809	HQ	MID-EAST OIL CO.	
* Stream Receiving Discharge: SUGARCAMP RUN					
ERNEST	1	1	HQ		
PLUMVILLE	8	33	HQ	EQUITABLE OIL	
PLUMVILLE	7	32	HQ		
PLUMVILLE	7	801	HQ	KEYSTONE ENERGY OIL & GAS	
PLUMVILLE	7	802	HQ	KEYSTONE ENERGY OIL & GAS	
** Major Stream: S BR SUSQUEHANNA RIVER					
* Stream Receiving Discharge: BEAR RUN					
BURNSIDE	2	24			
BURNSIDE	2	25			
BURNSIDE	2	26			

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
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BURNSIDE 2 27

**** Major Stream: S BR TIONESTA CREEK**

*** Stream Receiving Discharge: COON RUN**

RUSSELL CITY	2	3	HQ	PENNZOIL	
RUSSELL CITY	3	12	HQ		
RUSSELL CITY	3	13	HQ		
RUSSELL CITY	3	14	HQ		
RUSSELL CITY	6	15	HQ		

*** Stream Receiving Discharge: CRANE RUN**

LUDLOW	9	4	EV	VAN OIL CO.	
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*** Stream Receiving Discharge: MARTIN RUN**

KANE	7	4	HQ	H. A. MCKENNA	
KANE	7	5	HQ	H. A. MCKENNA	
KANE	7	6	HQ	H. A. MCKENNA	
JAMES CITY	1	1	HQ	MCKENNA OIL CO.	
JAMES CITY	1	2	HQ		
JAMES CITY	1	3	HQ		
JAMES CITY	1	4	HQ		
RUSSELL CITY	3	4	HQ	WITCO CHEMICAL CORPORATION	
RUSSELL CITY	3	5	HQ	WITCO CHEMICAL CORPORATION	

*** Stream Receiving Discharge: ROCK RUN**

LUDLOW	7	3	HQ	PENNZOIL	
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*** Stream Receiving Discharge: WOLF RUN**

RUSSELL CITY	3	6	HQ		
RUSSELL CITY	3	7	HQ		
RUSSELL CITY	3	8	HQ		
RUSSELL CITY	3	9	HQ		
RUSSELL CITY	3	10	HQ		
RUSSELL CITY	3	11	HQ		

**** Major Stream: SALMON CREEK**

*** Stream Receiving Discharge: FOURMILE RUN**

MAYBURG	8	24	EV	ANTHONY COOK OIL & GAS CO.	
MAYBURG	8	25	EV	ANTHONY COOK OIL & GAS CO.	
MAYBURG	8	26	EV	FLOR-PENN PETROLEUM CORP.	0037281

**** Major Stream: SANDY LICK CREEK**

*** Stream Receiving Discharge: SCHOOLHOUSE RUN**

REYNOLDSVILLE	3	7	HQ		
REYNOLDSVILLE	2	4			

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
* Stream Receiving Discharge: TROUT RUN					
REYNOLDSVILLE	9		16		
REYNOLDSVILLE	5		8		
REYNOLDSVILLE	5		9		
REYNOLDSVILLE	6		11		
REYNOLDSVILLE	6		12		
REYNOLDSVILLE	6		13		
REYNOLDSVILLE	6		10		
REYNOLDSVILLE	6		29	OLD MOUNTAIN GAS COMPANY	
** Major Stream: SANDY LICK RUN					
* Stream Receiving Discharge: CAMP RUN					
REYNOLDSVILLE	1		2		
** Major Stream: SIX MILE RUN					
* Stream Receiving Discharge: NORTH FORK					
CLARENDON	9		29 HQ	BLACK STALLION	
CLARENDON	9		30 HQ	BLACK STALLION	
** Major Stream: SOLDIER RUN					
* Stream Receiving Discharge: MCCREIGHT RUN					
DUBOIS	4		1		
** Major Stream: SOUTH FORK PINE CREEK					
* Stream Receiving Discharge: NORTH BRANCH					
RURAL VALLEY	3		1		
* Stream Receiving Discharge: SOUTH BRANCH					
RURAL VALLEY	6		3		
** Major Stream: SPRING CREEK					
* Stream Receiving Discharge: E BR SPRING CREEK					
SPRING CREEK	9		2 HQ	EAGLE LINE CORP.	
JAMES CITY	7		14 HQ	PEN CAL CONTRACTORS	
RUSSELL CITY	6		16 HQ		
* Stream Receiving Discharge: HUNTER CREEK					
RUSSELL CITY	8		17 HQ	PENNZOIL	0105252
RUSSELL CITY	8		18 HQ	PENNZOIL	0105252
RUSSELL CITY	8		19 HQ		
* Stream Receiving Discharge: THREEMILE RUN					
RUSSELL CITY	9		20 HQ		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
** Major Stream: STEWART RUN					
* Stream Receiving Discharge: PINE RUN					
PLEASANTVILLE	8	110		QUAKER STATE	
PLEASANTVILLE	8	109		QUAKER STATE	
PLEASANTVILLE	8	111		QUAKER STATE	
PLEASANTVILLE	8	112		QUAKER STATE	
PLEASANTVILLE	8	113		QUAKER STATE	
PLEASANTVILLE	8	114		QUAKER STATE	
PLEASANTVILLE	8	108		QUAKER STATE	
PLEASANTVILLE	8	107			
PRESIDENT	2	19			
PRESIDENT	2	20			
PRESIDENT	2	21			
PRESIDENT	3	35			
PRESIDENT	3	36		QUAKER STATE	
* Stream Receiving Discharge: SUGAR RUN					
PLEASANTVILLE	9	122		QUAKER STATE	
PLEASANTVILLE	9	123		QUAKER STATE	
PLEASANTVILLE	9	124		QUAKER STATE	
PLEASANTVILLE	9	125		QUAKER STATE	
PLEASANTVILLE	9	129		QUAKER STATE	
PLEASANTVILLE	9	130		QUAKER STATE	
PLEASANTVILLE	9	131		QUAKER STATE	
PLEASANTVILLE	9	132		QUAKER STATE	
PLEASANTVILLE	9	133		QUAKER STATE	
* Stream Receiving Discharge: THOMPSON RUN					
PLEASANTVILLE	9	115		QUAKER STATE	
PLEASANTVILLE	9	116		QUAKER STATE	
PLEASANTVILLE	9	121		QUAKER STATE	
** Major Stream: STILLWATER CREEK					
* Stream Receiving Discharge: SAUNDERS RUN					
SUGAR GROVE	2	5		MORRISON OIL CO.	
SUGAR GROVE	2	6		MORRISON OIL CO.	
SUGAR GROVE	2	8		MORRISON OIL CO.	
SUGAR GROVE	2	7		UNIVERSAL RESOURCES HOLDING CO	
SUGAR GROVE	3	9		MORRISON OIL CO.	
** Major Stream: STONEY RUN					
* Stream Receiving Discharge: MCCARTHY RUN					
INDIANA	2	801		ANGERMAN GAS VENTURE #6	
INDIANA	2	802		ANGERMAN GAS VENTURE #6	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: WHITES RUN				
ERNEST	8	19		
ERNEST	8	22		
ERNEST	9	20		
** Major Stream: STRAIGHT RUN				
* Stream Receiving Discharge: NORTH BRANCH				
ROCHESTER MILLS	2	37	HQ	
** Major Stream: STUMP CREEK				
* Stream Receiving Discharge: SUGARCAMP RUN				
DUBOIS	5	2	HQ	
DUBOIS	5	4	HQ	J & J ENTERPRISES
				0101958
** Major Stream: SUGAR RUN				
* Stream Receiving Discharge: BUCK LICK RUN				
STICKNEY	8	7	HQ	KALTSAS OIL CO.
STICKNEY	8	8	HQ	COMMONWEALTH OIL & GAS CO.
STICKNEY	8	9	HQ	COMMONWEALTH OIL & GAS CO.
* Stream Receiving Discharge: CONOVER HOLLOW				
STICKNEY	8	10	HQ	DUKE ENERGY, INC.
** Major Stream: SUSQUEHANNA RIVER				
* Stream Receiving Discharge: W BR SUSQUEHANNA RIVER				
BURNSIDE	6	13		
BURNSIDE	6	12		
BURNSIDE	6	10		
BURNSIDE	6	11		
BURNSIDE	3	6		
BURNSIDE	3	7		
** Major Stream: THE BRANCH				
* Stream Receiving Discharge: COALBED RUN				
MAYBURG	5	14	HQ	MERIDIAN EXPLORATION
MAYBURG	6	15	HQ	MERIDIAN EXPLORATION
MAYBURG	6	16	HQ	MERIDIAN EXPLORATION
MAYBURG	6	17	HQ	MERIDIAN EXPLORATION
* Stream Receiving Discharge: MUD LICK RUN				
MAYBURG	8	23	HQ	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
** Major Stream: TIONESTA CREEK				
* Stream Receiving Discharge: BUSH CREEK				
SHEFFIELD	7	32	FOREST CHEMICAL CO	0039276
SHEFFIELD	7	33	FOREST CHEMICAL CO	0039276
SHEFFIELD	8	34	FOREST CHEMICAL CO	0039276
SHEFFIELD	8	35	FOREST CHEMICAL CO	0039276
* Stream Receiving Discharge: DUCK EDDY RUN				
SHEFFIELD	4	21	R & R OIL & GAS CO	
SHEFFIELD	4	22	R & R OIL & GAS CO	
SHEFFIELD	4	24	VIKING RESOURCES CORP	
SHEFFIELD	5	25	VIKING RESOURCES CORP	
SHEFFIELD	5	26	VIKING RESOURCES CORP	
SHEFFIELD	5	27	VIKING RESOURCES CORP	
* Stream Receiving Discharge: E BR TIONESTA CREEK				
KANE	7	2 HQ	H. A. MCKENNA	
KANE	7	3 HQ	PENNZOIL	0105236
LUDLOW	9	1 HQ	NORTHEAST NATURAL GAS CO.	0037605
LUDLOW	9	2 HQ	.	
* Stream Receiving Discharge: FORK RUN				
KELLETTVILLE	6	30 HQ	QUAKER STATE	
KELLETTVILLE	6	31 HQ	J.E. KELLEY	
KELLETTVILLE	6	24 HQ	QUAKER STATE	
KELLETTVILLE	6	25 HQ	QUAKER STATE	
* Stream Receiving Discharge: HASTINGS RUN				
MAYBURG	3	9	FLOR-PENN PETROLEUM CORP.	0037281
LYNCH	1	4 HQ		
LYNCH	1	5 HQ		
LYNCH	1	6 HQ		
LYNCH	1	801	OAKES OIL COMPANY	0037672
* Stream Receiving Discharge: KINGSLEY RUN				
MAYBURG	5	11	MERIDIAN EXPLORATION	
* Stream Receiving Discharge: LINDSEY HOLLOW				
MAYBURG	3	8	APEX RESOURCES	
* Stream Receiving Discharge: LITTLE COON CREEK				
TYLETSBURG	2	1 HQ	MERIDIAN EXPLORATION	
TYLETSBURG	2	2 HQ	MERIDIAN EXPLORATION	
* Stream Receiving Discharge: LITTLE MINISTER RUN				
KELLETTVILLE	6	26	QUAKER STATE	
KELLETTVILLE	6	27	QUAKER STATE	
KELLETTVILLE	6	28	QUAKER STATE	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: LOGAN RUN				
MAYBURG	6	18	INTERNATIONAL PETROLEUM SERVIC	
MAYBURG	6	19	INTERNATIONAL PETROLEUM SERVIC	
* Stream Receiving Discharge: MEAD RUN				
SHEFFIELD	9	46	QUAKER STATE	
SHEFFIELD	9	47	QUAKER STATE	
* Stream Receiving Discharge: MESSENGER RUN				
SHEFFIELD	8	37	CLARENDON PRODUCING CO	
* Stream Receiving Discharge: MINISTER CREEK				
MAYBURG	3	5 HQ	PENNZOIL	
* Stream Receiving Discharge: PANTHER RUN				
MAYBURG	4	10	MERIDIAN EXPLORATION	
* Stream Receiving Discharge: PHELPS RUN				
MAYBURG	5	12		
* Stream Receiving Discharge: S BR TIONESTA CREEK				
SHEFFIELD	6	30 HQ	MILL CREEK OIL & GAS	
SHEFFIELD	6	31 HQ	MILL CREEK OIL & GAS	
SHEFFIELD	9	41 HQ	F.E. PETROLEUM INC.	
SHEFFIELD	9	42 HQ	F.E. PETROLEUM INC.	
SHEFFIELD	9	40 HQ	F.E. PETROLEUM INC.	
SHEFFIELD	9	43 HQ	NOVOSEL	
SHEFFIELD	9	44 HQ	NOVOSEL	
SHEFFIELD	9	45 HQ	QUAKER STATE	
SHEFFIELD	9	38 HQ	QUAKER STATE	
RUSSELL CITY	1	1 HQ		
RUSSELL CITY	1	2 HQ		
* Stream Receiving Discharge: SIX MILE RUN				
CLARENDON	9	20 HQ	PENNZOIL	
* Stream Receiving Discharge: THAD SHANTY RUN				
LYNCH	3	2	QUAKER STATE OIL CO	
* Stream Receiving Discharge: THE BRANCH				
MAYBURG	5	13 HQ	MERIDIAN EXPLORATION	
MAYBURG	6	21 HQ	INTERNATIONAL PETROLEUM SERVIC	
MAYBURG	6	22 HQ	INTERNATIONAL PETROLEUM SERVIC	
* Stream Receiving Discharge: UNNAMED TRIB				
SHEFFIELD	5	28	VIKING RESOURCES CORP	
SHEFFIELD	5	29	VIKING RESOURCES CORP	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
* Stream Receiving Discharge: UPPER SHERIFF RUN				
SHEFFIELD	4	23	HQ QUAKER STATE	
LYNCH	1	1	HQ QUAKER STATE OIL CO	
* Stream Receiving Discharge: W BR TIONESTA CREEK				
WARREN	9	51	UNIVERSAL RESOURCES HOLDING CO	
SHEFFIELD	1	1	NORTH PENN PRODUCING CO	0039799
SHEFFIELD	1	2	I.L. GEER & SONS	0037656
SHEFFIELD	2	15	MILL CREEK OIL & GAS	
SHEFFIELD	2	16	MILL CREEK OIL & GAS	
CLARENDON	7	27	SOUTH PENN OIL CO	
CLARENDON	7	28	HQ MCLAN ASSOCIATES	
* Stream Receiving Discharge: WILDCAT RUN				
MAYBURG	3	6		
MAYBURG	3	7		
** Major Stream: TROUT RUN				
* Stream Receiving Discharge: FRONT RUN				
REYNOLDSVILLE	5	28	OLD MOUNTAIN GAS COMPANY	
** Major Stream: TUNUNGWANT CREEK				
* Stream Receiving Discharge: E BR TUNUNGWANT CREEK				
BRADFORD	6	48	MINARD RUN OIL CO	0036901
BRADFORD	6	47	MINARD RUN OIL CO	0036927
BRADFORD	6	45	MINARD RUN OIL CO	0036951
LEWIS RUN	3	16	QUAKER STATE	
LEWIS RUN	3	17	QUAKER STATE	
LEWIS RUN	3	18	CHARLES BENSON	0039713
LEWIS RUN	3	19	CHARLES BENSON	0039713
CYCLONE	4	20	RICHARD B. HERZOG	
BRADFORD	6	42	MINARD RUN OIL CO	
BRADFORD	6	39		
BRADFORD	9	88	WITCO CHEMICAL CORPORATION	
BRADFORD	6	31	VAN TINE OIL CO.	0037338
BRADFORD	6	32	VAN TINE OIL CO.	0037338
BRADFORD	6	34	VAN TINE OIL CO.	0037338
BRADFORD	3	8	PHILIP M. ROSE	0037222
BRADFORD	9	820	PHILIP M. ROSE	0037231
BRADFORD	9	78	KINLEY OIL & GAS CORPORATION	0037435
BRADFORD	6	41		
BRADFORD	9	821	WITCO CHEMICAL CORPORATION	0003344
BRADFORD	6	19	W.M. KLINE OIL CO.	0037630
BRADFORD	6	35	W.M. KLINE OIL CO.	0037630
BRADFORD	6	36	W.M. KLINE OIL CO.	0037630
BRADFORD	6	18	W.M. KLINE OIL CO.	0037630
BRADFORD	6	13	W.M. KLINE OIL CO.	0037630

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
BRADFORD	6	14	W.M. KLINE OIL CO.	0037630
BRADFORD	6	11	W.M. KLINE OIL CO.	0037630
BRADFORD	6	15	W.M. KLINE OIL CO.	0037630
BRADFORD	6	16	W.M. KLINE OIL CO.	0037630
BRADFORD	6	12	W.M. KLINE OIL CO.	0037630
BRADFORD	3	7	W.M. KLINE OIL CO.	0037630
BRADFORD	3	10	W.M. KLINE OIL CO.	0037630
BRADFORD	3	5	W.M. KLINE OIL CO.	0037630
BRADFORD	3	9	W.M. KLINE OIL CO.	0037630
BRADFORD	3	6	W.M. KLINE OIL CO.	0037630
BRADFORD	6	17	W.M. KLINE OIL CO.	0037630
BRADFORD	6	37	W.M. KLINE OIL CO.	0037630
BRADFORD	6	46	W.M. KLINE OIL CO.	0037630
BRADFORD	6	33	GEORGE HANSON OIL CO.	0037681
BRADFORD	6	20	GEORGE HANSON OIL CO.	0037681
BRADFORD	9	89	WITCO CHEMICAL CORPORATION	0045519
BRADFORD	9	77	BRYNER INTERESTS	0037036
BRADFORD	9	86	BRYNER INTERESTS	0037036
BRADFORD	9	87	BRYNER INTERESTS	0037036
BRADFORD	9	85	BRYNER INTERESTS	0037036
BRADFORD	9	90	BRYNER INTERESTS	0037036
BRADFORD	6	807	BROWN & SON OIL CO.	0037389
BRADFORD	6	808	BROWN & SON OIL CO.	0037389
BRADFORD	6	809	BROWN & SON OIL CO.	0037389
BRADFORD	6	810	BROWN & SON OIL CO.	0037389
BRADFORD	6	811	BROWN & SON OIL CO.	0037389
BRADFORD	9	812	BROWN & SON OIL CO.	0037389
BRADFORD	9	813	BROWN & SON OIL CO.	0037389
BRADFORD	9	814	BROWN & SON OIL CO.	0037389
BRADFORD	9	815	BROWN & SON OIL CO.	0037389
BRADFORD	6	816	BOUQUIN, FRED C.	0038512
BRADFORD	6	817	RONALD A. DENNIS	0037192
BRADFORD	6	818	RONALD A. DENNIS	0037192
BRADFORD	9	823	NORRIS FARM (MRS. LEONARD JOHNS	0037885
* Stream Receiving Discharge: FOSTER BROOK				
DERRICK CITY	1	9	BRYNER INTERESTS	0037036
DERRICK CITY	1	15	WITCO CHEMICAL CORPORATION	0003298
DERRICK CITY	1	112	WITCO CHEMICAL CORPORATION	0045462
DERRICK CITY	1	12	GEORGE HANSON OIL CO.	0037681
DERRICK CITY	1	13	L & J OIL COMPANY	
DERRICK CITY	1	17		
DERRICK CITY	1	16	WITCO CHEMICAL CORPORATION	0003280
DERRICK CITY	1	113	WITCO CHEMICAL CORPORATION	0045454
DERRICK CITY	2	29	PENNZOIL	
DERRICK CITY	2	31	WITCO CHEMICAL CORPORATION	
DERRICK CITY	2	30	WITCO CHEMICAL CORPORATION	0003336
DERRICK CITY	2	32	WITCO CHEMICAL CORPORATION	
DERRICK CITY	2	33	WITCO CHEMICAL CORPORATION	0003336

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
DERRICK CITY	2	43	PENNZOIL	
DERRICK CITY	2	44	PENNZOIL	
DERRICK CITY	2	39	PENNZOIL	
DERRICK CITY	2	47	WITCO CHEMICAL CORPORATION	
DERRICK CITY	1	14	PENNZOIL	
DERRICK CITY	1	8	BRYNER INTERESTS	0037036
DERRICK CITY	2	38	ALLEN OIL COMPANY	0037354
DERRICK CITY	2	42	PENNZOIL	0105228
DERRICK CITY	2	41	QUAKER STATE	
DERRICK CITY	2	40		
DERRICK CITY	2	45		
DERRICK CITY	2	46	WITCO CHEMICAL CORPORATION	0003310
DERRICK CITY	2	116	WITCO CHEMICAL CORPORATION	0045489
DERRICK CITY	3	57	WITCO CHEMICAL CORPORATION	0003328
DERRICK CITY	3	115	WITCO CHEMICAL CORPORATION	0045497
DERRICK CITY	1	801	DONALD PETERSON	0037443
DERRICK CITY	1	803	LINDA & ROGER FARRELL	0038440
DERRICK CITY	1	5	W.M. KLINE OIL CO.	0037630
DERRICK CITY	1	6	W.M. KLINE OIL CO.	0037630
* Stream Receiving Discharge: KENDALL CREEK				
DERRICK CITY	1	20	PENNZOIL	
DERRICK CITY	4	61	QUAKER STATE	0044253
DERRICK CITY	4	67	PENNZOIL	
DERRICK CITY	4	68	QUAKER STATE	0002348
DERRICK CITY	8	95	KENDALL REFINING COMPANY	
DERRICK CITY	8	93	MINARD RUN OIL CO	
DERRICK CITY	1	21	PENNZOIL	
DERRICK CITY	1	22	PENNZOIL	
DERRICK CITY	4	63	PENNZOIL	
DERRICK CITY	4	65	QUAKER STATE	
DERRICK CITY	4	69	QUAKER STATE	
DERRICK CITY	8	94	MINARD RUN OIL CO	0038431
DERRICK CITY	5	78	PENNZOIL	
DERRICK CITY	4	72	PENNZOIL	
DERRICK CITY	0	804	RICHARD A. MERRY	0038334
DERRICK CITY	4	71	PENNZOIL	
DERRICK CITY	5	74	WITCO CHEMICAL CORPORATION	0042595
DERRICK CITY	4	62	PENNZOIL	0105201
DERRICK CITY	4	110	EDGAR NEWMAN, JR.	
* Stream Receiving Discharge: MINARD RUN				
DERRICK CITY	7	88	FREDRICK J. YOUNG	
DERRICK CITY	7	89	FREDRICK J. YOUNG	
DERRICK CITY	7	87	PHILIP M. ROSE	0037486
DERRICK CITY	7	91	MINARD RUN OIL CO	
DERRICK CITY	7	92	MINARD RUN OIL CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
* Stream Receiving Discharge: RUTHERFORD RUN				
DERRICK CITY	4	70	PECORA ENTERPRISES	0037249
* Stream Receiving Discharge: UNNAMED TRIB				
DERRICK CITY	1	7	PENNZOIL	
DERRICK CITY	1	3	PENNZOIL	
* Stream Receiving Discharge: UNT FOSTER BROOK				
DERRICK CITY	2	37	WITCO CHEMICAL CORPORATION	0003336
* Stream Receiving Discharge: UNT KENDALL CREEK				
DERRICK CITY	5	73	WITCO CHEMICAL CORPORATION	
DERRICK CITY	5	76	W.F. DEVLIN & GENEVIVE DEVLIN	0039047
DERRICK CITY	5	77	MIDDLEBROUGH OIL COMPANY	0037028
DERRICK CITY	5	75	J.H. GIBSON HEIRS	0039811
* Stream Receiving Discharge: W BR TUNUNGWANT CREEK				
BRADFORD	6	23	LOUIS ONOFRIO	0037001
BRADFORD	6	24	LOUIS ONOFRIO	0037001
BRADFORD	5	49	WITCO CHEMICAL CORPORATION	
BRADFORD	5	54 HQ	JOHN PURTLE	0037524
BRADFORD		819 HQ	WITCO CHEMICAL CORPORATION	0003263
BRADFORD	5	50 HQ	PECORA ENTERPRISES	0038491
BRADFORD	6	27	VAN TINE OIL CO.	0037338
BRADFORD	5	51 HQ	QUAKER STATE OIL REFINING CORP	0043923
BRADFORD	3	2	W.M. KLINE OIL CO.	0037630
BRADFORD	3	3	W.M. KLINE OIL CO.	0037630
BRADFORD	3	4	W.M. KLINE OIL CO.	0037630
BRADFORD	7	58 HQ	W.M. KLINE OIL CO.	0037630
BRADFORD	7	59 HQ	W.M. KLINE OIL CO.	0037630
BRADFORD	6	25	GEORGE HANSON OIL CO.	0037681
BRADFORD	6	26	GEORGE HANSON OIL CO.	0037681
BRADFORD	6	28	GEORGE HANSON OIL CO.	0037681
BRADFORD	6	29	GEORGE HANSON OIL CO.	0037681
BRADFORD	6	30	GEORGE HANSON OIL CO.	0037681
BRADFORD	5	52 HQ	BRYNER INTERESTS	0037036
BRADFORD	5	53 HQ	BRYNER INTERESTS	0037036
** Major Stream: TWO LICK CREEK				
* Stream Receiving Discharge: BROWNS RUN				
COMMODORE	7	12		
COMMODORE	7	15	UNION DRILLING INC	
* Stream Receiving Discharge: BUCK RUN				
COMMODORE	4	6		
* Stream Receiving Discharge: CHERRY RUN				
INDIANA	8	10		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Key	Strm Class	Operator	NPDES Number
* Stream Receiving Discharge: DIXON RUN					
CLYMER	3		35		
CLYMER	3		36		
CLYMER	6		43		
* Stream Receiving Discharge: NORTH BRANCH					
COMMODORE	2		4		
COMMODORE	5		7		
* Stream Receiving Discharge: PENN RUN					
BRUSH VALLEY	3		22		
BRUSH VALLEY	3		23		
CLYMER	9		57		
CLYMER	9		58		
CLYMER	9		59		
CLYMER	9		60		
COMMODORE	7		16	UNION DRILLING INC	
COMMODORE	7		17	UNION DRILLING INC	
* Stream Receiving Discharge: RAMSEY RUN					
BRUSH VALLEY	1		16		
BRUSH VALLEY	1		17		
CLYMER	7		44		
CLYMER	7		45		
CLYMER	7		46		
CLYMER	7		50		
* Stream Receiving Discharge: SOUTH BRANCH					
COMMODORE	5		8		
COMMODORE	5		9		
* Stream Receiving Discharge: TEARING RUN					
INDIANA	9		12		
INDIANA	9		13		
INDIANA	9		11		
* Stream Receiving Discharge: YELLOW CREEK					
BRUSH VALLEY	1		1	ADOBE OIL & GAS	
BRUSH VALLEY	4		5	ADOBE OIL & GAS	
BRUSH VALLEY	4		4		
BRUSH VALLEY	4		3		
BRUSH VALLEY	4		6		
BRUSH VALLEY	4		7		
BRUSH VALLEY	2		2		
INDIANA	6		4		
INDIANA	6		5		
INDIANA	6		7		
INDIANA	6		8		

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
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BRUSH VALLEY	3	21		
STRONGSTOWN	1	1		
STRONGSTOWN	3	2		
BRUSH VALLEY	3	34	UNION DRILLING INC	

** Major Stream: W BR CLARION RIVER

* Stream Receiving Discharge: OIL CREEK

WILCOX	3	10
WILCOX	3	11
WILCOX	3	12
WILCOX	3	13
WILCOX	3	14
WILCOX	3	15
WILCOX	3	16
WILCOX	3	17
WILCOX	3	18
WILCOX	3	19

* Stream Receiving Discharge: ROCKY RUN

WILCOX	3	6
WILCOX	3	7
WILCOX	3	8
WILCOX	3	9

* Stream Receiving Discharge: WILSON RUN

KANE	8	7
KANE	8	8
KANE	8	9

** Major Stream: W BR SUSQUEHANNA RIVER

* Stream Receiving Discharge: BEAR RUN

MCGEES MILLS	9	26
MCGEES MILLS	9	25
MCGEES MILLS	9	24
MCGEES MILLS	8	22
MCGEES MILLS	8	21
MCGEES MILLS	7	19
MCGEES MILLS	8	30
MCGEES MILLS	8	31

* Stream Receiving Discharge: CUSH CREEK

ROCHESTER MILLS	9	34
ROCHESTER MILLS	6	22
BURNSIDE	4	9
BURNSIDE	7	18
BURNSIDE	7	19
BURNSIDE	7	20

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator	NPDES Number
ROCHESTER MILLS	9	805	J & J ENTERPRISES	
* Stream Receiving Discharge: LAUREL RUN				
MCGEES MILLS	6	29		
* Stream Receiving Discharge: NORTH RUN				
BURNSIDE	3	8		
* Stream Receiving Discharge: SAWMILL RUN				
BURNSIDE	9	21		
BURNSIDE	6	22		
BURNSIDE	6	16		
BURNSIDE	6	15		
BURNSIDE	6	14		
BURNSIDE	6	17		
* Stream Receiving Discharge: SHRYOCK RUN				
BURNSIDE	8	23		
* Stream Receiving Discharge: WHISKEY RUN				
MCGEES MILLS	9	23		
MCGEES MILLS	6	16		
MCGEES MILLS	6	28		
** Major Stream: W BR TIONESTA CREEK				
* Stream Receiving Discharge: ADAMS RUN				
WARREN	8	76 HQ	SHAWNEE-CLINGER OIL CO.	
* Stream Receiving Discharge: ARNOT RUN				
SHEFFIELD	2	12 EV	KEYSTONE ENERGY	
SHEFFIELD	2	14 EV	H.L. MURRY DRILLING CO	
SHEFFIELD	1	10 EV	I.L. GEER & SONS	0037656
SHEFFIELD	1	11 EV		
SHEFFIELD	2	17 EV	GEARY P. MEAD	
SHEFFIELD	2	18 EV	GEARY P. MEAD	
SHEFFIELD	2	19 EV	GEARY P. MEAD	
SHEFFIELD	2	20 EV	GEARY P. MEAD	
* Stream Receiving Discharge: ELKHORN CREEK				
WARREN	7	55 HQ	ALLEGHENY & WESTERN ENERGY	
* Stream Receiving Discharge: ELKHORN RUN				
WARREN	7	27 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	46 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	48 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	47 HQ	QUAKER STATE	
WARREN	7	30 HQ	QUAKER STATE	
WARREN	7	29 HQ	QUAKER STATE	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
WARREN	8	44 HQ	QUAKER STATE	
WARREN	7	28 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	45 HQ	GAS & OIL MANAGEMENT ASSOC.	
* Stream Receiving Discharge: SLATER RUN				
WARREN	7	67 EV	QUAKER STATE	
WARREN	7	68 EV	QUAKER STATE	
WARREN	7	73 EV	QUAKER STATE	
WARREN	7	74 EV	QUAKER STATE	
WARREN	7	75 EV	QUAKER STATE	
WARREN	7	70 EV	SHAWNEE-CLINGER OIL CO.	
WARREN	7	72 EV	SHAWNEE-CLINGER OIL CO.	
* Stream Receiving Discharge: SLATER RUN (WILDCAT RUN)				
WARREN	7	31 EV	ED JAMES WELL SERVICE.	
* Stream Receiving Discharge: TROUT RUN				
WARREN	8	38 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	39 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	40 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	42 HQ	GAS & OIL MANAGEMENT ASSOC.	
WARREN	8	43 HQ	GAS & OIL MANAGEMENT ASSOC.	
* Stream Receiving Discharge: WOLF RUN				
SHEFFIELD	2	13	NORTH PENN PIPE & SUPPLY CO	0039802
** Major Stream: W BR TUNUNGWANT CREEK				
* Stream Receiving Discharge: BENNETT BROOK				
BRADFORD	6	21	EDMONDS OIL CO.	0037478
BRADFORD	6	22	EDMONDS OIL CO.	0037478
* Stream Receiving Discharge: CROOKER HOLLOW				
BRADFORD	8	61 HQ	Densmore?	
BRADFORD	8	62 HQ		
BRADFORD	5	56 HQ	WITCO CHEMICAL CORPORATION	0045446
BRADFORD	5	55 HQ	BRYNER INTERESTS	0037036
BRADFORD	8	60 HQ	BRYNER INTERESTS	0037036
* Stream Receiving Discharge: KISSEM RUN				
BRADFORD	8	73 HQ	JACOB FARRELL	0037508
BRADFORD	8	72 HQ	QUAKER STATE OIL REFINING CORP	0002968
BRADFORD	8	67 HQ	QUAKER STATE	
* Stream Receiving Discharge: NILES HOLLOW				
BRADFORD	5	57 HQ	QUAKER STATE	0044610
* Stream Receiving Discharge: TOME HOL				
BRADFORD	8	64 HQ	Densmore?	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key	Operator Class	NPDES Number
BRADFORD	8	63 HQ	WITCO CHEMICAL CORPORATION	0045446
** Major Stream: WEST HICKORY CREEK				
* Stream Receiving Discharge: BUCHHORN RUN				
WEST HICKORY	2	21	QUAKER STATE OIL CO	
WEST HICKORY	2	22	QUAKER STATE OIL CO	
WEST HICKORY	2	23	QUAKER STATE OIL CO	
WEST HICKORY	2	24	QUAKER STATE	
* Stream Receiving Discharge: BUCKHORN RUN				
WEST HICKORY	2	19	COMPASS DEVELOPMENT INC	
* Stream Receiving Discharge: BURDICK RUN				
WEST HICKORY	5	70	COMPASS DEVELOPMENT INC	
WEST HICKORY	5	71	COMPASS DEVELOPMENT INC	
* Stream Receiving Discharge: DAWSON RUN				
WEST HICKORY	4	57	QUAKER STATE OIL CO	
* Stream Receiving Discharge: FUNK RUN				
TIDIOUTE	7	10	RETURN OIL CO.	
TIDIOUTE	7	11	RETURN OIL CO.	
TIDIOUTE	7	12	KEY OIL CO.	
* Stream Receiving Discharge: GERMAN RUN				
WEST HICKORY	1	2	RETURN OIL CO.	
* Stream Receiving Discharge: LAMB RUN				
TIDIOUTE	7	5	MARRK OIL	
TIDIOUTE	7	6	RON BROWN	
TIDIOUTE	7	7	TURN OIL INC	
TIDIOUTE	7	8	TURN OIL INC	
TIDIOUTE	7	9	TURN OIL INC	
* Stream Receiving Discharge: MARTIN RUN				
TIDIOUTE	7	13	RETURN OIL CO.	
TIDIOUTE	7	14	EAGLE LINE OIL CO.	
* Stream Receiving Discharge: MCARTHUR RUN				
WEST HICKORY	1	12	QUAKER STATE OIL CO	
WEST HICKORY	1	13	QUAKER STATE OIL CO	
WEST HICKORY	1	14	QUAKER STATE OIL CO	
WEST HICKORY	1	15	QUAKER STATE OIL CO	
WEST HICKORY	1	17	QUAKER STATE OIL CO	
WEST HICKORY	1	16	QUAKER STATE OIL CO	
WEST HICKORY	4	35	QUAKER STATE OIL CO	
WEST HICKORY	4	34	QUAKER STATE OIL CO	
WEST HICKORY	4	28	QUAKER STATE OIL CO	

Table 9. List of All Discharges
Arranged by Major Stream and Receiving Stream

Map Name	Map Sect	Map Strm Key Class	Operator	NPDES Number
WEST HICKORY	4	29	QUAKER STATE OIL CO	
WEST HICKORY	4	30	QUAKER STATE OIL CO	
WEST HICKORY	4	31	QUAKER STATE OIL CO	
WEST HICKORY	4	32	QUAKER STATE OIL CO	
WEST HICKORY	4	33	QUAKER STATE OIL CO	
WEST HICKORY	4	46		
WEST HICKORY	2	18	QUAKER STATE	
WEST HICKORY	2	20	QUAKER STATE	

** Major Stream: WILLOW CREEK

* Stream Receiving Discharge: COFFEY RUN
STICKNEY 2 6 HQ NUCORP ENERGY CORP.

** Major Stream: YELLOW CREEK

* Stream Receiving Discharge: FERRIER RUN

BRUSH VALLEY	4	8
BRUSH VALLEY	4	9
BRUSH VALLEY	4	10
BRUSH VALLEY	4	11
BRUSH VALLEY	5	13

* Stream Receiving Discharge: ROSE RUN

COMMODORE	8	13	
COMMODORE	7	18	UNION DRILLING INC
COMMODORE	7	19	UNION DRILLING INC
COMMODORE	7	20	UNION DRILLING INC
COMMODORE	7	21	UNION DRILLING INC

Table 10 NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0002348	QUAKER STATE OIL REFINING CORP	AP	02/13/84	1	88	DERRICK CITY	4	68 KENDALL CREEK	
0002968	QUAKER STATE OIL REFINING CORP	OD	01/01/72	1	10	BRADFORD	8	72 Kissen Run	
0003263	Witco Chemical Corp	EX	03/28/77	5	170	BRADFORD		819 W BR TUNUNGWANT CREEK	HQ
0003271	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	39	ELDRED	1	1 KNAPP CREEK	HQ
0003280	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	14	DERRICK CITY	1	16 FOSTER BROOK	
0003298	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	1	15 FOSTER BROOK	
0003301	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	71	DERRICK CITY	2	28 PENNBROOK RUN	
0003310	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	54	DERRICK CITY	2	46 FOSTER BROOK	
0003328	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	54	DERRICK CITY	3	57 FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	67	DERRICK CITY	2	30 FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	2	33 FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	2	37 UNT FOSTER BROOK	
0003344	WITCO CHEMICAL CORPORATION	EX	03/28/77	4	55	BRADFORD	9	821 E BR TUNUNGWANT CREEK	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	60	BRADFORD	9	91 SHEPPARD RUN	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	18	BRADFORD	9	92 SHEPPARD RUN	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	39	BRADFORD	9	93 SHEPPARD RUN	
0035840	MINARD RUN OIL COMPANY	OA	04/08/74	2	10	LEWIS RUN	2	8 LEWIS RUN	
0035858	MINARD RUN OIL COMPANY	OA	04/22/74	2	1	LEWIS RUN	5	31 LEWIS RUN	
0035866	MINARD RUN OIL COMPANY	EX	10/24/81	1	10	LEWIS RUN	5	28 LEWIS RUN	
0035874	MINARD RUN OIL COMPANY	OD	01/01/76	1	5	LEWIS RUN	2	7 LEWIS RUN	
0036510	MINARD RUN OIL COMPANY	EX	10/20/81	1	10	LEWIS RUN	5	27 LEWIS RUN	
0036528	MINARD RUN OIL COMPANY	EX	10/31/81	1	10	LEWIS RUN	5	23 LEWIS RUN	
0036536	MINARD RUN OIL COMPANY	EX	01/29/82	1	1	LEWIS RUN	2	10 LEWIS RUN	
0036544	MINARD RUN OIL COMPANY	EX	10/28/81	1	10	LEWIS RUN	5	50 LEWIS RUN	
0036552	MINARD RUN OIL COMPANY	EX	10/28/81	1	10	LEWIS RUN	5	49 LEWIS RUN	
0036838	HOWARD H HOLMES	OA	06/27/74	2	0	ELDRED	4	801 S BR KNAPP CREEK	
0036901	MINARD RUN OIL CO	OA	07/01/74	1	5	BRADFORD	6	48 E BR TUNUNGWANT CREEK	
0036919	MINARD RUN OIL CO	OA	07/01/74	1	5	BRADFORD	6	44 UNNAMED TRIB	
0036927	MINARD RUN OIL CO	EX	01/22/82	1	10	BRADFORD	6	47 E BR TUNUNGWANT CREEK	
0036935	MINARD RUN OIL CO	EX	01/22/82	1	5	BRADFORD	6	38 UNNAMED TRIB	
0036943	MINARD RUN OIL CO	OA	07/01/74	1	92	BRADFORD	6	40 UNNAMED TRIB	
0036951	MINARD RUN OIL CO	EX	01/22/82	1	5	BRADFORD	6	45 E BR TUNUNGWANT CREEK	
0037001	LOUIS ONOFRIO	OA	07/01/74	1	0	BRADFORD	6	23 W BR TUNUNGWANT CREEK	
0037001	LOUIS ONOFRIO	OA	07/01/74	1	0	BRADFORD	6	24 W BR TUNUNGWANT CREEK	
0037010	ROBERT P LEWIS	OA	07/01/74	1	0	ELDRED	9	802 POTATO CREEK	
0037028	MIDDLEBROUGH OIL COMPANY	EX	06/18/82	5	0	DERRICK CITY	5	77 UNT KENDALL CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	DERRICK CITY	1	8 FOSTER BROOK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	DERRICK CITY	1	9 FOSTER BROOK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	90 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	52 W BR TUNUNGWANT CREEK	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	53 W BR TUNUNGWANT CREEK	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	55 CROOKER HOLLOW	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	8	60 CROOKER HOLLOW	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	77 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	86 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	87 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	85 E BR TUNUNGWANT CREEK	
0037168	E E CARLSON OIL CO	OA	07/09/74	1	0	DERRICK CITY	1	1 TUNUNGWANT CREEK	
0037168	E E CARLSON OIL CO	OA	07/09/74	1	0	DERRICK CITY	1	2 TUNUNGWANT CREEK	
0037176	WEAVER OIL CO	EX	08/19/81	2	1	BRADFORD	3	1 BIERGLE/ STREAM	
0037184	JOHN DOBSON OIL COMPANY	OA	07/04/74	1	0	DERRICK CITY	1	19 TUNUNGWANT CREEK	
0037184	JOHN DOBSON OIL COMPANY	OA	07/04/74	1	0	DERRICK CITY	1	11 TUNUNGWANT CREEK	
0037192	RONALD A DENNIS	OA	07/11/74	1	0	BRADFORD	6	817 E BR TUNUNGWANT CREEK	
0037192	RONALD A DENNIS	OA	07/11/74	1	0	BRADFORD	6	818 E BR TUNUNGWANT CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	108 N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	105 N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	104 N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	106 N BR COLE CREEK	
0037214	FRANCES D CROWLEY	OA	07/11/74	3	1	BULLIS MILLS	8	801 ROCK RUN	
0037222	PHILIP M ROSE	OA	07/11/74	1	4	BRADFORD	3	8 E BR TUNUNGWANT CREEK	
0037231	PHILIP M ROSE	AE	09/19/81	1	0	BRADFORD	9	820 E BR TUNUNGWANT CREEK	
0037249	PECORA ENTERPRISES	OD	05/17/78	1	0	DERRICK CITY	4	70 RUTHERFORD RUN	
0037257	JEEP OIL COMPANY	OD	07/11/74	1	0	ELDRED	4	29 S BR KNAPP CREEK	
0037257	JEEP OIL COMPANY	OD	07/11/74	1	0	ELDRED	7	32 S BR KNAPP CREEK	
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	2 BUCK LICK RUN	HQ
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	3 BUCK LICK RUN	HQ
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	1 BUCK LICK RUN	HQ
0037281	FLOR-PENN PETROLEUM CORP	OA	07/11/74	1	0	MAYBURG	3	9 HASTINGS RUN	

Table 10 (Cont) NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0037281	FLOR-PENN PETROLEUM CO.	OA	07/11/74	1	1	LYNCH	4	3 WEST BRANCH	
0037281	FLOR-PENN PETROLEUM CORP	OA	07/11/74	0	1	MAYBURG	8	26 FOURMILE RUN	HQ
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	27 W BR TUNUNGWANT CREEK	EV
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	31 E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	32 E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	34 E BR TUNUNGWANT CREEK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	DERRICK CITY	2	38 FOSTER BROOK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	DERRICK CITY	8	96 S BR COLE CREEK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	CYCLONE	2	6 S BR COLE CREEK	
0037362	TYLER OIL CO	OA	07/15/74	1	0	DERRICK CITY	6	83 S BR KNAPP CREEK	
0037371	L E MALLORY & SON	OA	07/15/74	4	1	WESTLINE	2	801 SUGAR RUN	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	801 TUNUNGWANT CREEK	HQ
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	802 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	803 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	804 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	805 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	806 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	807 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	808 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	809 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	810 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	811 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	812 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	813 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	814 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	815 E BR TUNUNGWANT CREEK	
0037401	THORTON CO	OA	07/15/74	3	0	LEWIS RUN	1	4 LEWIS RUN	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	4	20 KNAPP CREEK	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	4	21 KNAPP CREEK	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	5	31 KNAPP CREEK	
0037427	PHILIP E KAHLE	OA	07/15/74	6	17	DERRICK CITY	3	51 KNAPP CREEK	
0037435	KINLEY OIL & GAS CORPORATION	AE	08/19/81	1	10	BRADFORD	9	78 E BR TUNUNGWANT CREEK	
0037443	DONALD PETERSON	OA	07/16/74	6	0	DERRICK CITY	1	801 FOSTER BROOK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	103 N BR COLE CREEK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	101 N BR COLE CREEK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	102 BORDELL BROOK	
0037478	EDMONDS OIL CO	AE	08/19/81	1	0	BRADFORD	6	21 BENNETT BROOK	
0037478	EDMONDS OIL CO	AE	08/19/81	1	0	BRADFORD	6	22 BENNETT BROOK	
0037486	PHILIP M ROSE	AE	08/19/81	1	0	DERRICK CITY	7	87 MINARD RUN	
0037508	JACOB L FARRELL	OA	07/16/74	6	1	BRADFORD	8	73 KISSEM RUN	
0037516	GARY ORA MORTON	OA	07/17/74	1	0	DERRICK CITY	0	802 TUNUNGWANT CREEK	HQ
0037524	ROBERT J PURTLE	OA	07/18/74	2	0	BRADFORD	5	54 W BR TUNUNGWANT CREEK	HQ
0037567	RUSSEL A BRENNAN	OA	07/22/74	4	0	ELDRED	1	2 KNAPP CREEK	HQ
0037605	NORTH EAST NATURAL GAS CO	OA	07/15/74	1	1	LUDLOW	9	1 E BR TIONESTA CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	2 W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	11 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	15 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	16 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	12 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	7 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	10 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	5 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	9 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	6 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	17 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	3 W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	37 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	43 RUTHERFORD RUN	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	46 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	DERRICK CITY	1	5 FOSTER BROOK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	DERRICK CITY	1	6 FOSTER BROOK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	7	58 W BR TUNUNGWANT CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	7	59 W BR TUNUNGWANT CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	4 W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	19 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	35 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	36 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	18 E BR TUNUNGWANT CREEK	

Table 10 (Cont) NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	13 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	14 E BR TUNUNGWANT CREEK	
0037648	OIL VALLEY OIL CO	OD	07/21/74	2	0	ELDRED	1	804 KNAPP CREEK	
0037656	I L GEER OIL FIELD SERVICES	OD	07/19/74	1	0	SHEFFIELD	1	2 W BR TIONESTA CREEK	
0037656	I L GEER OIL FIELD SERVICES	OD	07/19/74	1	0	SHEFFIELD	1	10 ARNOT RUN	
0037656	I L GEER OIL FIELD SERVICES	OD	07/29/74	2	1	CLARENDON	4	10 DUTCHMAN RUN	EV
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	3 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	1 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	2 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	4 PIERCE BROOK	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	5 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	33 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	34 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	35 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	36 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	37 MOODY HOLLOW	
0037672	OAKES OIL COMPANY	EX	11/11/79	2	1	LYNCH	1	801 HASTINGS RUN	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	25 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	26 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	28 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	29 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	30 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	33 E BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	20 E BR TUNUNGWANT CREEK	
0037826	ARTHUR E EKAS	OA	08/06/74	2	10	DERRICK CITY	9	12 FOSTER BROOK	
0037877	G L NIPPERT EST	EX	10/30/81	2	0	BRADFORD	8	805 N BR COLE CREEK	
0037885	NORRIS FARM (MRS LEONARD JOHNS	OA	08/06/74	4	1	BRADFORD	9	76 UNNAMED TRIB	
0037885	NORRIS FARM (MRS LEONARD JOHNS	OA	08/06/74	1	5	BRADFORD	9	822 SUGAR RUN	HQ
0038059	ANNIN CREEK OIL CORP	OA	08/12/74	3	1	BULLIS MILLS	8	823 E BR TUNUNGWANT CREEK	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	5 ANNIN CREEK	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	52 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	53 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	54 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	55 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	56 TRAM HOLLOW RUN	
0038334	RICHARD A MERRY	OD	08/26/74	2	0	DERRICK CITY	0	804 KENDALL CREEK	
0038342	D-Y-M CORP	OA	09/03/74	1	10	LEWIS RUN	8	37 PINE RUN	HQ
0038342	D-Y-M CORP	OA	09/03/74	1	10	LEWIS RUN	8	40 TOWN LINE RUN	HQ
0038377	HEIRS OIL CO	/	/	1	0	ELDRED	4	15 TRAM HOLLOW RUN	
0038423	MINARD RUN OIL COMPANY	EX	02/04/82	1	97	DERRICK CITY	7	90 FOSTER HOLLOW	
0038431	MINARD RUN OIL COMPANY	EX	01/29/82	1	0	DERRICK CITY	8	94 KENDALL CREEK	
0038440	LINDA & ROGER FARRELL	OA	02/13/75	2	0	DERRICK CITY	1	803 FOSTER BROOK	
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	BRADFORD	5	50 W BR TUNUNGWANT CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	2 WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	3 WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	4 WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	5 WILLOW CREEK	HQ
0038512	BOUQUIN, FRED C	OA	09/13/74	2	0	BRADFORD	6	816 E BR TUNUNGWANT CREEK	
0038521	D-Y-M CORPORATION	EX	10/30/81	1	0	CYCLONE	5	22 McQUEEN HOLLOW	
0038521	D-Y-M CORPORATION	EX	10/30/81	1	0	CYCLONE	2	14 McQUEEN HOLLOW	
0038539	DYM CORPORATION	OD	05/31/77	1	0	DERRICK CITY	9	107 N BR COLE CREEK	
0038636	TRAM HOLLOW OIL COMPANY	OA	09/24/74	3	0	DERRICK CITY	2	25 HARRISBURG RUN	
0038636	TRAM HOLLOW OIL COMPANY	OA	09/24/74	3	0	DERRICK CITY	3	111 TRAM HOLLOW RUN	
0038831	HAINES & MEACHAM	OA	10/21/74	2	1	SHINGLEHOUSE	2	7 HONEYOYE CREEK	
0038971	GEARY P MEAD	OA	10/31/74	2	5	WARREN	6	24 MORRISON RUN	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	1	1 GLADE RUN	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	2	3 ALLEGHENY RIVER	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	2	4 ALLEGHENY RIVER	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	4	6 ALLEGHENY RIVER	
0039047	W F DEVLIN & GENEVIVE DEVLIN	OA	11/11/74	2	0	DERRICK CITY	5	76 UNT KENDALL CREEK	
0039195	DAVID THELIN OIL CO	OA	11/14/74	1	1	WARREN	2	801 UNNAMED TRIBUTARY	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	7	32 BUSH CREEK	
0039276	FOREST CHEMICAL CO.	OA	11/27/74	1	1	SHEFFIELD	7	33 BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	8	34 BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	8	35 BUSH CREEK	
0039527	CURTIS OIL COMPANY	OA	12/20/74	2	0	ELDRED	4	803 KNAPP CREEK	
0039560	GEORGE W FOX	OA	12/20/74	2	1	YOUNGSVILLE	6	42 LENHART RUN	
0039616	L M LILLY ESTATE	OA	12/18/74	1	1	LEWIS RUN	1	801 LEWIS RUN	

Table 10 (Cont) NPDES Permit Status Report

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0039675	NEIL J SHARP	OA	01/07/75	2	1	CLARENDON	7	16 TIONESTA CREEK	
0039713	CHARLES G BENSON	OA	12/04/74	2	0	LEWIS RUN	2	13 LEWIS RUN	
0039713	CHARLES G BENSON	OA	12/04/74	1	0	LEWIS RUN	3	18 E BR TUNUNGWANT CREEK	
0039713	CHARLES G BENSON	OA	12/04/74	1	0	LEWIS RUN	3	19 E BR TUNUNGWANT CREEK	
0039773	KENNETH D SHERRY	OA	01/15/75	2	1	WARREN	5	54 MORRISON RUN	
0039781	CLARENDON PRODUCING CO	OA	01/15/75	1	0	CLARENDON	4	7 DUTCHMAN RUN	
0039781	CLARENDON PRODUCING CO	OA	01/15/75	1	0	CLARENDON	8	17 TIONESTA CREEK	
0039799	NORTH PENN PRODUCING CO	OA	01/15/75	2	1	SHEFFIELD	1	1 W BR TIONESTA CREEK	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	1	SHEFFIELD	2	13 WOLF RUN	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	0	CLARENDON	4	8 DUTCHMAN RUN	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	0	CLARENDON	8	19 TIONESTA CREEK	
0039811	J H GIBSON HEIRS	OA	01/13/75	4	0	DERRICK CITY	5	75 UNT KENDALL CREEK	
0040215	MOORE, BYERS & STOREY	OA	02/24/75	1	1	SUGAR GROVE	5	45 JACKSON RUN	
0041955	MINARD RUN OIL COMPANY	OA	09/24/75	1	0	LEWIS RUN	5	51 LEWIS RUN	
0041963	MINARD RUN OIL COMPANY	OA	09/24/75	1	0	LEWIS RUN	5	32 LEWIS RUN	
0041980	MINARD RUN OIL COMPANY	OA	05/10/74	1	151	LEWIS RUN	2	9 LEWIS RUN	
0041998	MINARD RUN OIL COMPANY	OA	09/24/75	1	50	LEWIS RUN	5	25 LEWIS RUN	
0042382	MINARD RUN OIL COMPANY	OA	12/02/75	1	60	LEWIS RUN	5	26 LEWIS RUN	
0042595	WITCO OIL COMPANY	CA	09/22/86	1	66	DERRICK CITY	5	74 KENDALL CREEK	
0042986	ALL'S WELL OIL WELLS LTD	OA	05/13/76	1	0	LEWIS RUN	1	5 BUCK LICK RUN	
0043150	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	22	DERRICK CITY	6	79 BAKER RUN	HQ
0043923	QUAKER STATE OIL REFINING CORP	OD	03/21/78	1	0	BRADFORD	5	51 W BR TUNUNGWANT CREEK	HQ
0044253	QUAKER STATE OIL REFINING CORP	AP	03/04/77	1	0	DERRICK CITY	4	61 KENDALL CREEK	
0044610	QUAKER STATE OIL REFINING CORP	OA	05/05/77	1	10	BRADFORD	5	57 NILES HOLLOW	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	95	BRADFORD	5	56 CROOKER HOLLOW	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	20	BRADFORD	8	70 SHEPPARD RUN	
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	37	BRADFORD	8	66 SHEPPARD RUN	
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	43	BRADFORD	8	63 TOME HOL	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	19	BRADFORD	8	68 SHEPPARD RUN	
0045454	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	13	DERRICK CITY	1	113 FOSTER BROOK	
0045462	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	1	112 FOSTER BROOK	
0045471	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	21	DERRICK CITY	2	114 PENNBROOK RUN	
0045489	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	2	116 FOSTER BROOK	
0045497	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	3	115 FOSTER BROOK	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	60	BRADFORD	9	79 SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	18	BRADFORD	9	80 SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	12	BRADFORD	9	89 E BR TUNUNGWANT CREEK	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	39	BRADFORD	9	84 SHEPPARD RUN	
0046035	BROKENSTRAW OIL CORP	OA	11/29/77	1	1	SUGAR GROVE	8	74 IRVINE RUN	
0046035	BROKENSTRAW OIL CORP	OA	11/29/77	1	1	SUGAR GROVE	8	802 IRVINE RUN	
0046051	ALGONQUIN #4	OA	11/29/77	1	0	WARREN	8	33 MORRISON RUN	
0101508	FRANKLIN BRINE TREATMENT CO	CP	11/24/82	1	205	KENNERDELL	2	3 ALLEGHENY RIVER	
0101656	CONSOLIDATED GAS TRANSM CORP	CP	04/21/83	1	10	MCGEES MILLS	1	27 STUMP CREEK	
0101958	J & J ENTERPRISES	CP	10/02/84	1	3	DUBOIS	5	4 SUGARCAMP RUN	HQ
0102776	PENNZOIL COMPANY	DP	10/20/86	1	299	LEWIS RUN	8	46 KINZUA CREEK	
0102784	ENVIRONMENTAL DEVELOPMENT CORP	CP	03/13/86	1	213	WARREN	3	78 ALLEGHENY RIVER	
0102806	PENNZOIL COMPANY	CA	06/07/85	1	147	CYCLONE	2	15 PANTHER RUN	
0102890	RETURN OIL CORPORATION	CP	08/27/86	1	50	TIDIOUTE	6	4 ALLEGHENY RIVER	
0102903	MOODY & ASSOCIATES	CP	01/26/87	1	42	KENNERDELL	2	2 ALLEGHENY RIVER	
0102989	QUAKER STATE OIL REFINING CORP	DP	12/05/86	1	42	WARREN	4	7 GRUNDER RUN	
0103004	QUAKER STATE OIL REFINING CORP	CP	01/14/87	1	42	PRESIDENT	3	49 ALLEGHENY RIVER	
0103012	QUAKER STATE OIL REFINING CORP	CP	02/10/87	1	42	PRESIDENT	4	50 ALLEGHENY RIVER	
0105198	RO WAY Oil & Gas, Inc	CP	01/20/87	1	200	KENNERDELL	2	1 ALLEGHENY RIVER	
0105201	PENNZOIL OIL CO	CA	08/18/86	1	52	DERRICK CITY	4	62 KENDALL CREEK	
0105210	PENNZOIL OIL COMPANY	CA	08/18/86	1	1	WESTLINE	2	2 N FORK CHAPPEL FORK	HQ
0105228	PENNZOIL	CA	08/18/86	1	28	DERRICK CITY	2	42 FOSTER BROOK	
0105236	PENNZOIL	CA	10/26/86	1	13	KANE	7	3 E BR TIONESTA CREEK	HQ
0105244	PENNZOIL	CA	10/20/86	1	14	ELDRED	4	16 TRAM HOLLOW RUN	
0105244	PENNZOIL	CA	10/20/86	1	3	ELDRED	4	39 S BR KNAPP CREEK	
0105244	PENNZOIL	CA	10/20/86	1	1	ELDRED	4	18 S BR KNAPP CREEK	
0105244	PENNZOIL	CA	10/20/86	1	3	ELDRED	4	40 BERGER HOL	
0105244	PENNZOIL	CA	10/20/86	1	1	ELDRED	4	25 BERGER HOL	
0105252	PENNZOIL	CA	08/27/86	1	13	RUSSELL CITY	8	18 HUNTER CREEK	HQ
0105252	PENNZOIL	CA	08/27/86	1	13	RUSSELL CITY	8	17 HUNTER CREEK	HQ
0112623	J J BUCHER PRODUCING CO	CP	06/13/85	1	15	SHINGLEHOUSE	2	10 OSWAYO CREEK	
*** Total ***									

Table 11 NPDES Permit Status Report
Arranged Alphabetically by Operator

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0042986	ALL'S WELL OIL WELLS LTD	OA	05/13/76	1	0	LEWIS RUN	1	5 BUCK LICK RUN	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	DERRICK CITY	2	38 FOSTER BROOK	HQ
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	CYCLONE	2	6 S BR COLE CREEK	
0037354	ALLEN OIL COMPANY	AE	08/19/81	1	0	DERRICK CITY	8	96 S BR COLE CREEK	
0038059	ANNIN CREEK OIL CORP	OA	08/12/74	3	1	BULLIS MILLS	8	5 ANNIN CREEK	
0037826	ARTHUR E EKAS	OA	08/06/74	2	10	DERRICK CITY	9	805 N BR COLE CREEK	
0038512	BOUQUIN, FRED C	OA	09/13/74	2	0	BRADFORD	6	816 E BR TUNUNGWANT CREEK	
0046035	BROKENSTRAW OIL CORP.	OA	11/29/77	1	1	SUGAR GROVE	8	74 IRVINE RUN	
0046035	BROKENSTRAW OIL CORP	OA	11/29/77	1	1	SUGAR GROVE	8	802 IRVINE RUN	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	801 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	802 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	803 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	804 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	805 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	806 TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	807 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	808 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	809 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	810 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	6	811 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	812 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	813 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	814 E BR TUNUNGWANT CREEK	
0037389	BROWN & SON OIL CO	OA	07/15/74	1	0	BRADFORD	9	815 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	52 W BR TUNUNGWANT CREEK	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	53 W BR TUNUNGWANT CREEK	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	5	55 CROOKER HOLLOW	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	8	60 CROOKER HOLLOW	HQ
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	77 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	85 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	86 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	87 E BR TUNUNGWANT CREEK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	BRADFORD	9	90 E BR TUNUNGWANT CREEK	
0037036	DRYNER INTERESTS	AE	08/19/81	1	0	DERRICK CITY	1	8 FOSTER BROOK	
0037036	BRYNER INTERESTS	AE	08/19/81	1	0	DERRICK CITY	1	9 FOSTER BROOK	
0039713	CHARLES G BENSON	OA	12/04/74	2	0	LEWIS RUN	2	13 LEWIS RUN	
0039713	CHARLES G BENSON	OA	12/04/74	1	0	LEWIS RUN	3	18 E BR TUNUNGWANT CREEK	
0039713	CHARLES G BENSON	OA	12/04/74	1	0	LEWIS RUN	3	19 E BR TUNUNGWANT CREEK	
0039781	CLARENDON PRODUCING CO	OA	01/15/75	1	0	CLARENDON	4	7 DUTCHMAN RUN	
0039781	CLARENDON PRODUCING CO	OA	01/15/75	1	0	CLARENDON	8	17 TIONESTA CREEK	
0101656	CONSOLIDATED GAS TRANSM CORP	CP	04/21/83	1	10	MCGEES MILLS	1	27 STUMP CREEK	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	33 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	34 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	35 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	36 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	ELDRED	9	37 MOODY HOLLOW	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	1 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	2 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	3 KENT HOLLOW RUN	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	4 PIERCE BROOK	
0037664	CUNNINGHAM NATURAL GAS CORP	AE	08/19/81	1	0	SMETHPORT	3	5 KENT HOLLOW RUN	
0039527	CURTIS OIL COMPANY	OA	12/20/74	2	0	ELDRED	4	803 KNAPP CREEK	
0038521	D-Y-M CORPORATION	EX	10/30/81	1	0	CYCLONE	2	14 McQUEEN HOLLOW	
0038521	D-Y-M CORPORATION	EX	10/30/81	1	0	CYCLONE	5	22 McQUEEN HOLLOW	
0038539	DYM CORPORATION	OD	05/31/77	1	0	DERRICK CITY	9	107 N BR COLE CREEK	
0038342	D-Y-M CORP	OA	09/03/74	1	10	LEWIS RUN	8	37 PINE RUN	HQ
0038342	D-Y-M CORP	OA	09/03/74	1	10	LEWIS RUN	8	40 TOWN LINE RUN	HQ
0039195	DAVID THELIN OIL CO	OA	11/14/74	1	1	WARREN	2	801 UNNAMED TRIBUTARY	
0037443	DONALD PETERSON	OA	07/16/74	6	0	DERRICK CITY	1	801 FOSTER BROOK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	102 BORDELL BROOK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	101 N BR COLE CREEK	
0037451	DePETRO & ENGEL OIL COMPANY	EX	07/28/82	1	0	DERRICK CITY	9	103 N BR COLE CREEK	
0037168	E E CARLSON OIL CO	OA	07/09/74	1	0	DERRICK CITY	1	1 TUNUNGWANT CREEK	
0037168	E E CARLSON OIL CO	OA	07/09/74	1	0	DERRICK CITY	1	2 TUNUNGWANT CREEK	
0037478	EDMONDS OIL CO	AE	08/19/81	1	0	BRADFORD	6	21 BENNETT BROOK	
0037478	EDMONDS OIL CO	AE	08/19/81	1	0	BRADFORD	6	22 BENNETT BROOK	
0102784	ENVIRONMENTAL DEVELOPMENT CORP	CP	03/13/86	1	213	WARREN	3	78 ALLEGHENY RIVER	
0037281	FLOR-PENN PETROLEUM CO	OA	07/11/74	1	1	LYNCH	4	3 WEST BRANCH	HQ

Table 11 (Cont) NPDES Permit Status Report
Arranged Alphabetically by Operator

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0037281	FLOR-PENN PETROLEUM CORP	OA	07/11/74	1	0	MAYBURG	3	9 HASTINGS RUN	
0037281	FLOR-PENN PETROLEUM CORP	OA	07/11/74	0	1	MAYBURG	8	26 FOURMILE RUN	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	7	32 BUSH CREEK	EV
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	7	33 BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	8	34 BUSH CREEK	
0039276	FOREST CHEMICAL CO	OA	11/27/74	1	1	SHEFFIELD	8	35 BUSH CREEK	
0037214	FRANCES D CROWLEY	OA	07/11/74	3	1	BULLIS MILLS	8	801 ROCK RUN	
0101508	FRANKLIN BRINE TREATMENT CO	CP	11/24/82	1	205	KENNERDELL	2	3 ALLEGHENY RIVER	
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	1 BUCK LICK RUN	
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	2 BUCK LICK RUN	HQ
0037265	FREEMAN & FREEMAN	OA	07/11/74	1	0	LEWIS RUN	1	3 BUCK LICK RUN	HQ
0037877	G L NIPPERT EST	EX	10/30/81	2	0	BRADFORD	8	76 UNNAMED TRIB	HQ
0037516	GARY ORA MORTON	OA	07/17/74	1	0	DERRICK CITY	0	802 TUNUNGWANT CREEK	
0046051	ALGONQUIN #4	OA	11/29/77	1	0	WARREN	8	33 MORRISON RUN	
0038971	GEARY P MEAD	OA	10/31/74	2	5	WARREN	6	24 MORRISON RUN	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	20 E BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	30 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	33 E BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	25 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	26 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	28 W BR TUNUNGWANT CREEK	
0037681	GEORGE HANSON OIL CO	EX	01/29/82	1	0	BRADFORD	6	29 W BR TUNUNGWANT CREEK	
0039560	GEORGE W FOX	OA	12/20/74	2	1	YOUNGSVILLE	6	12 FOSTER BROOK	
0038831	HAINES & MEACHAM	OA	10/21/74	2	1	SHINGLEHOUSE	2	42 LENHART RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	7 HONEYOYE CREEK	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	52 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	53 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	54 TRAM HOLLOW RUN	
0038091	HARRIS HELENBROCK OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	55 TRAM HOLLOW RUN	
0038377	HEIRS OIL CO	AE	08/19/81	1	0	DERRICK CITY	3	56 TRAM HOLLOW RUN	
0036838	HOWARD H HOLMES	OA	/ /	1	0	ELDRED	4	15 TRAM HOLLOW RUN	
0037656	I L GEER OIL FIELD SERVICES	OD	06/27/74	2	0	ELDRED	4	801 S BR KNAPP CREEK	
0037656	I L GEER OIL FIELD SERVICES	OD	07/19/74	1	0	SHEFFIELD	1	10 ARNOT RUN	EV
0037656	I L GEER OIL FIELD SERVICES	OD	07/29/74	2	1	CLARENDON	4	10 DUTCHMAN RUN	
0037656	I L GEER OIL FIELD SERVICES	OD	07/19/74	1	0	SHEFFIELD	1	2 W BR TIONESTA CREEK	
0101958	J & J ENTERPRISES	CP	10/02/84	1	3	DUBOIS	5	4 SUGARCAMP RUN	
0112623	J J BUCHER PRODUCING CO	CP	06/13/85	1	15	SHINGLEHOUSE	2	10 OSWAYO CREEK	HQ
0039811	J H GIBSON HEIRS	OA	01/13/75	4	0	DERRICK CITY	5	75 UNT KENDALL CREEK	
0037508	JACOB L FARRELL	OA	07/16/74	6	1	BRADFORD	8	73 KISSEM RUN	
0037257	JEEP OIL COMPANY	OD	07/11/74	1	0	ELDRED	4	29 S BR KNAPP CREEK	HQ
0037527	JEEP OIL COMPANY	OD	07/11/74	1	0	ELDRED	7	32 S BR KNAPP CREEK	
0037184	JOHN DOBSON OIL COMPANY	OA	07/04/74	1	0	DERRICK CITY	1	19 TUNUNGWANT CREEK	
0037184	JOHN DOBSON OIL COMPANY	OA	07/04/74	1	0	DERRICK CITY	1	11 TUNUNGWANT CREEK	
0037524	ROBERT J PURTLE	OA	07/18/74	2	0	BRADFORD	5	54 W BR TUNUNGWANT CREEK	
0039773	KENNETH D SHERRY	OA	01/15/75	2	1	WARREN	5	54 MORRISON RUN	HQ
0037435	KINLEY OIL & GAS CORPORATION	AE	08/19/81	1	10	BRADFORD	9	78 E BR TUNUNGWANT CREEK	
0037371	L E MALLORY & SON	OA	07/15/74	4	1	WESTLINE	2	801 SUGAR RUN	
0039616	L M LILLY ESTATE	OA	12/18/74	1	1	LEWIS RUN	1	801 LEWIS RUN	HQ
0038440	LINDA & ROGER FARRELL	OA	02/13/75	2	0	DERRICK CITY	1	803 FOSTER BROOK	
0037001	LOUIS ONOFRIO	OA	07/01/74	1	0	BRADFORD	6	23 W BR TUNUNGWANT CREEK	
0037001	LOUIS ONOFRIO	OA	07/01/74	1	0	BRADFORD	6	24 W BR TUNUNGWANT CREEK	
0037028	MIDDLEBROUGH OIL COMPANY	EX	06/18/82	5	0	DERRICK CITY	5	77 UNT KENDALL CREEK	
0036935	MINARD RUN OIL CO	EX	01/22/82	1	5	BRADFORD	6	38 UNNAMED TRIB	
0036943	MINARD RUN OIL CO	OA	07/01/74	1	92	BRADFORD	6	40 UNNAMED TRIB	
0036919	MINARD RUN OIL CO	OA	07/01/74	1	5	BRADFORD	6	44 UNNAMED TRIB	
0036951	MINARD RUN OIL CO	EX	01/22/82	1	5	BRADFORD	6	45 E BR TUNUNGWANT CREEK	
0036927	MINARD RUN OIL CO	EX	01/22/82	1	10	BRADFORD	6	47 E BR TUNUNGWANT CREEK	
0036901	MINARD RUN OIL CO	OA	07/01/74	1	5	BRADFORD	6	48 E BR TUNUNGWANT CREEK	
0038423	MINARD RUN OIL COMPANY	EX	02/04/82	1	97	DERRICK CITY	7	90 FOSTER HOLLOW	
0038431	MINARD RUN OIL COMPANY	EX	01/29/82	1	0	DERRICK CITY	8	94 KENDALL CREEK	
0035874	MINARD RUN OIL COMPANY	OD	01/01/76	1	5	LEWIS RUN	2	7 LEWIS RUN	
0035840	MINARD RUN OIL COMPANY	OA	04/08/74	2	10	LEWIS RUN	2	8 LEWIS RUN	
0041980	MINARD RUN OIL COMPANY	OA	05/10/74	1	151	LEWIS RUN	2	9 LEWIS RUN	
0036536	MINARD RUN OIL COMPANY	EX	01/29/82	1	1	LEWIS RUN	2	10 LEWIS RUN	
0036528	MINARD RUN OIL COMPANY	EX	10/31/81	1	10	LEWIS RUN	5	23 LEWIS RUN	
0041998	MINARD RUN OIL COMPANY	OA	09/24/75	1	50	LEWIS RUN	5	25 LEWIS RUN	
0042382	MINARD RUN OIL COMPANY	OA	12/02/75	1	60	LEWIS RUN	5	26 LEWIS RUN	
0036510	MINARD RUN OIL COMPANY	EX	10/20/81	1	10	LEWIS RUN	5	27 LEWIS RUN	

Table 11 (Cont) NPDES Permit Status Report
Arranged Alphabetically by Operator

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0035866	MINARD RUN OIL COMPANY	EX	10/24/81	1	10	LEWIS RUN	5	28 LEWIS RUN	
0035858	MINARD RUN OIL COMPANY	OA	04/22/74	2	1	LEWIS RUN	5	31 LEWIS RUN	
0041963	MINARD RUN OIL COMPANY	OA	09/24/75	1	0	LEWIS RUN	5	32 LEWIS RUN	
0036552	MINARD RUN OIL COMPANY	EX	10/28/81	1	10	LEWIS RUN	5	49 LEWIS RUN	
0036544	MINARD RUN OIL COMPANY	EX	10/28/81	1	10	LEWIS RUN	5	50 LEWIS RUN	
0041955	MINARD RUN OIL COMPANY	OA	09/24/75	1	0	LEWIS RUN	5	51 LEWIS RUN	
0102903	MOODY & ASSOCIATES	CP	01/26/87	1	42	KENNERDELL	2	2 ALLEGHENY RIVER	
0040215	MOORE, BYERS & STOREY	OA	02/24/75	1	1	SUGAR GROVE	5	45 JACKSON RUN	
0037567	RUSSEL A BRENNAN	OA	07/22/74	4	0	ELDRED	1	2 KNAPP CREEK	
0039675	NEIL J SHARP	OA	01/07/75	2	1	CLARENDON	7	16 TIONESTA CREEK	
0037885	NORRIS FARM MRS LEONARD JOHNS	OA	08/06/74	4	1	BRADFORD	9	822 SUGAR RUN	HQ
0037885	NORRIS FARM MRS LEONARD JOHNS	OA	08/06/74	1	5	BRADFORD	9	823 E BR TUNUNGWANT CREEK	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	0	CLARENDON	4	8 DUTCHMAN RUN	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	0	CLARENDON	8	19 TIONESTA CREEK	
0039802	NORTH PENN PIPE & SUPPLY CO	OA	01/15/75	1	1	SHEFFIELD	2	13 WOLF RUN	
0039799	NORTH PENN PRODUCING CO	OA	01/15/75	2	1	SHEFFIELD	1	1 W BR TIONESTA CREEK	
0037605	NORTH EAST NATURAL GAS CO	OA	07/15/74	1	1	LUDLOW	9	1 E BR TIONESTA CREEK	HQ
0037672	OAKES OIL COMPANY	EX	11/11/79	2	1	LYNCH	1	801 HASTINGS RUN	
0037648	OIL VALLEY OIL CO	OD	07/21/74	2	0	ELDRED	1	804 KNAPP CREEK	
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	BRADFORD	5	50 W BR TUNUNGWANT CREEK	HQ
0037249	PECORA ENTERPRISES	OD	05/17/78	1	0	DERRICK CITY	4	70 RUTHERFORD RUN	
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	2 WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	3 WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	4 WILLOW CREEK	HQ
0038491	PECORA ENTERPRISES	EX	02/12/82	1	0	STICKNEY	2	5 WILLOW CREEK	HQ
0105252	PENNZOIL	CA	08/27/86	1	13	RUSSELL CITY	8	17 HUNTER CREEK	HQ
0105252	PENNZOIL	CA	08/27/86	1	13	RUSSELL CITY	8	18 HUNTER CREEK	HQ
0105210	PENNZOIL OIL COMPANY	CA	08/18/86	1	1	WESTLINE	2	2 N FORK CHAPPEL FORK	HQ
0105244	PENNZOIL	CA	10/20/86	1	14	ELDRED	4	16 TRAM HOLLOW RUN	
0105228	PENNZOIL	CA	08/18/86	1	28	DERRICK CITY	2	42 FOSTER BROOK	
0105201	PENNZOIL OIL CO	CA	08/18/86	1	52	DERRICK CITY	4	62 KENDALL CREEK	
0102806	PENNZOIL COMPANY	CA	06/07/85	1	147	CYCLONE	2	15 PANTHER RUN	
0102776	PENNZOIL COMPANY	DP	10/20/86	1	299	LEWIS RUN	8	46 KINZUA CREEK	
0105244	PENNZOIL	CA	10/20/86	1	1	ELDRED	4	18 S BR KNAPP CREEK	
0105244	PENNZOIL	CA	10/20/86	1	1	ELDRED	4	25 BERGER HOL	
0105244	PENNZOIL	CA	10/20/86	1	3	ELDRED	4	39 S BR KNAPP CREEK	
0105244	PENNZOIL	CA	10/20/86	1	3	ELDRED	4	40 BERGER HOL	
0105236	PENNZOIL	CA	10/26/86	1	13	KANE	7	3 E BR TIONESTA CREEK	HQ
0037427	PHILIP E KAHLE	OA	07/15/74	6	17	DERRICK CITY	3	51 KNAPP CREEK	
0037222	PHILIP M ROSE	OA	07/11/74	1	4	BRADFORD	3	8 E BR TUNUNGWANT CREEK	
0037231	PHILIP M ROSE	AE	09/19/81	1	0	BRADFORD	9	820 E BR TUNUNGWANT CREEK	
0037486	PHILIP M ROSE	AE	08/19/81	1	0	DERRICK CITY	7	87 MINARD RUN	
0044610	QUAKER STATE OIL REFINING CORP	OA	05/05/77	1	10	BRADFORD	5	57 NILES HOLLOW	HQ
0044253	QUAKER STATE OIL REFINING CORP	AP	03/04/77	1	0	DERRICK CITY	4	61 KENDALL CREEK	
0002348	QUAKER STATE OIL REFINING CORP	AP	02/13/84	1	88	DERRICK CITY	4	68 KENDALL CREEK	
0103004	QUAKER STATE OIL REFINING CORP	CP	01/14/87	1	42	PRESIDENT	3	49 ALLEGHENY RIVER	
0103012	QUAKER STATE OIL REFINING CORP	CP	02/10/87	1	42	PRESIDENT	4	50 ALLEGHENY RIVER	
0102989	QUAKER STATE OIL REFINING CORP	DP	12/05/86	1	42	WARREN	4	7 GRUNDER RUN	
0043923	QUAKER STATE OIL REFINING CORP	OD	03/21/78	1	0	BRADFORD	5	51 W BR TUNUNGWANT CREEK	HQ
0002968	QUAKER STATE OIL REFINING CORP	OD	01/01/72	1	10	BRADFORD	8	72 Kissen Run	HQ
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	1	1 GLADE RUN	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	2	3 ALLEGHENY RIVER	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	2	4 ALLEGHENY RIVER	
0038997	RAYMON & LAURIE BILLSTONE	OA	11/07/74	1	1	CLARENDON	4	6 ALLEGHENY RIVER	
0102890	RETURN OIL CORPORATION	CP	08/27/86	1	50	TIDIOUTE	6	4 ALLEGHENY RIVER	
0038334	RICHARD A MERRY	OD	08/26/74	2	0	DERRICK CITY	0	804 KENDALL CREEK	
0105198	RO WAY Oil & Gas, Inc	CP	01/20/87	1	200	KENNERDELL	2	1 ALLEGHENY RIVER	
0037010	ROBERT P LEWIS	OA	07/01/74	1	0	ELDRED	9	802 POTATO CREEK	
0037192	RONALD A DENNIS	OA	07/11/74	1	0	BRADFORD	6	817 E BR TUNUNGWANT CREEK	
0037192	RONALD A DENNIS	OA	07/11/74	1	0	BRADFORD	6	818 E BR TUNUNGWANT CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	108 N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	104 N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	105 N BR COLE CREEK	
0037206	S H ELDER & COMPANY	OD	10/23/78	1	0	DERRICK CITY	9	106 N BR COLE CREEK	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	4	20 KNAPP CREEK	
0037419	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	4	21 KNAPP CREEK	
0037119	THOMAS KERVIN, III OIL CO	OD	06/30/78	1	0	ELDRED	5	31 KNAPP CREEK	
0037401	THORTON CO	OA	07/15/74	3	0	LEWIS RUN	1	4 LEWIS RUN	

Table 11 (Cont) NPDES Permit Status Report
Arranged Alphabetically by Operator

NPDES Number	Facility Name	Permit Status	Last Date	Pipes	Flow	Map Name	Map Sect	Map Receiving Key Stream	
0038636	TRAM HOLLOW OIL COMPANY	OA	09/24/74	3	0	DERRICK CITY	2	25 HARRISBURG RUN	
0038636	TRAM HOLLOW OIL COMPANY	OA	09/24/74	3	0	DERRICK CITY	3	111 TRAM HOLLOW RUN	
0037362	TYLER OIL CO.	OA	07/15/74	1	0	DERRICK CITY	6	83 S BR KNAPP CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	31 E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	32 E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	34 E BR TUNUNGWANT CREEK	
0037338	VAN TINE OIL CO	EX	07/28/82	1	0	BRADFORD	6	27 W BR TUNUNGWANT CREEK	
0039047	W F DEVLIN & GENEVIVE DEVLIN	OA	11/11/74	2	0	DERRICK CITY	5	76 UNT KENDALL CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	2 W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	3 W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	4 W BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	5 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	6 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	7 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	9 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	3	10 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	11 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	12 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	13 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	14 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	15 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	16 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	17 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	18 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	19 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	35 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	36 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	37 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	43 RUTHERFORD RUN	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	6	46 E BR TUNUNGWANT CREEK	
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	7	58 W BR TUNUNGWANT CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	BRADFORD	7	59 W BR TUNUNGWANT CREEK	HQ
0037630	W M KLINE OIL CO	OA	07/26/74	1	0	DERRICK CITY	1	6 FOSTER BROOK	
0037176	WEAVER OIL CO	EX	08/19/81	2	1	BRADFORD	3	5 FOSTER BROOK	
0003263	Witco Chemical Corp	EX	03/28/77	5	170	BRADFORD		1 BIERSELEY STREAM	
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	95	BRADFORD	5	819 W BR TUNUNGWANT CREEK	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	43	BRADFORD	8	56 CROOKER HOLLOW	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	37	BRADFORD	8	63 TOME HOL	HQ
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	19	BRADFORD	8	66 SHEPPARD RUN	
0045446	WITCO CHEMICAL CORPORATION	AP	03/09/78	1	20	BRADFORD	8	68 SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	60	BRADFORD	9	70 SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	18	BRADFORD	9	79 SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	39	BRADFORD	9	80 SHEPPARD RUN	
0045519	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	12	BRADFORD	9	84 SHEPPARD RUN	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	60	BRADFORD	9	89 E BR TUNUNGWANT CREEK	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	18	BRADFORD	9	91 SHEPPARD RUN	
0003344	WITCO CHEMICAL CORPORATION	CA	12/31/86	1	39	BRADFORD	9	92 SHEPPARD RUN	
0003344	WITCO CHEMICAL CORPORATION	EX	03/28/77	4	55	BRADFORD	9	93 SHEPPARD RUN	
0003298	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	1	821 E BR TUNUNGWANT CREEK	
0003280	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	14	DERRICK CITY	1	15 FOSTER BROOK	
0045462	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	1	16 FOSTER BROOK	
0045454	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	13	DERRICK CITY	1	112 FOSTER BROOK	
0003301	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	21	DERRICK CITY	2	113 FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	67	DERRICK CITY	2	28 PENNBROOK RUN	
0003336	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	2	30 FOSTER BROOK	
0003336	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	0	DERRICK CITY	2	33 FOSTER BROOK	
0003310	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	54	DERRICK CITY	2	37 UNT FOSTER BROOK	
0045471	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	21	DERRICK CITY	2	46 FOSTER BROOK	
0045489	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	2	114 PENNBROOK RUN	
0003328	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	54	DERRICK CITY	3	116 FOSTER BROOK	
0045497	WITCO CHEMICAL CORPORATION	AP	08/03/77	1	0	DERRICK CITY	3	57 FOSTER BROOK	
0042595	WITCO OIL COMPANY	CA	09/22/86	1	66	DERRICK CITY	5	115 FOSTER BROOK	
0043150	WITCO CHEMICAL CORPORATION	CA	09/22/86	1	22	DERRICK CITY	6	74 KENDALL CREEK	
0003271	WITCO CHEMICAL CORPORATION	EX	03/28/77	1	39	ELDRED	1	79 BAKER RUN	
								1 KNAPP CREEK	

*** Total ***

Table 12. Summary of Discharges by Operator

Operator	Number of Discharges
A. E. DILLON	1
ADOBE OIL & GAS	15
ALAN DOUGLAS	1
ALCOVE INVESTMENTS	1
ALL'S WELL OIL CO	1
ALLEGHENY & WESTERN ENERGY	1
ALLEGRO OIL & GAS INC.	1
ALLEN OIL COMPANY	3
ANDREW DVJAK & ERNEST MCGRAW	1
ANGERMAN GAS VENTURE #3	2
ANGERMAN GAS VENTURE #6	2
ANNIN CREEK OIL CORP.	1
ANTHONY COOK OIL & GAS CO.	2
APETCO INTERNATIONAL	2
APEX RESOURCES	6
APPALACHIAN ENERGY INC	2
ART BURLEIGH	1
ARTHUR E. EKAS	1
ATLAS RES INC	1
ATLAS RESOURCES INC.	2
B & B OIL CO.	1
BAILEY OIL CO.	1
BENNY KELLY ENTERPRISES	1
BEREA OIL & GAS CORP.	1
BLACK STALLION	11
BOUQUIN, FRED C.	1
BRIGHT WELL OIL & GAS CO	1
BRITISH AMERICAN PETROLEUM	8
BROKENSTRAW OIL CO	4
BROWN & SON OIL CO.	15
BRYNER INTERESTS	11
CABOT OIL & GAS CORP.	1
CARL H. WILLIAMS	2
CARL STARR	1
CHARLES BENSON	3
CLARENDON PRODUCING CO	3
COLUMBIA GAS TRANSMISSION CORP	1
COMMONWEALTH OIL & GAS CO.	2
COMPASS DEVELOPMENT INC	44
COMPASS DRILLING INC	1
CONSOLIDATED GAS TRANSM. CORP.	1
CONSOLIDATED/TECHNOL ENERGY	1
COOK ENERGY, INC.	4
COTTON WELL DRILLING CO	2
CRYSTAL SPRINGS OIL CO.	6
CUNNINGHAM NATURAL GAS CORP.	10

Table 12. (Cont.) Summary of Discharges by Operator

Operator	Number of Discharges
CURTIS OIL COMPANY	1
D-Y-M CORPORATION	7
DAVID THELIN OIL CO.	1
DERRICK EQUIPMENT	9
DONALD PETERSON	1
DONNELL SERVICES, INC.	3
DORAN & ASSOCIATES	5
DUKE ENERGY, INC.	1
DePETRO & ENGEL OIL COMPANY	3
DENSMORE	2
E.E. CARLSON OIL CO.	2
EAGLE LINE CORP.	3
EAGLE LINE OIL CO.	2
EASTERN ROYALTIES	3
EASTERN STATES ENERGY	1
ED CULBERTSON	1
ED JAMES WELL SERVICE.	1
EDGAR NEWMAN, JR.	3
EDMONDS OIL CO.	2
ELLINGTON HARDWOOD	6
EMERALD RESOURCES	1
ENDEAVOR VENTURES	1
ENERGY PRODUCTION CO	4
ENVIRONMENTAL DEVELOPMENT CORP	1
ERICKSON, WELLS & OLSON OIL CO	1
EXCHANGE OIL	1
F. E. BILLS ENTERPRISES	1
F.E. PETROLEUM INC.	3
FLANNIGAN BROS.	1
FLOR-PENN PETROLEUM CORP.	3
FLOYD GEARHART	1
FORCE PETROLEUM	3
FOREST CHEMICAL CO	4
FRANCES D. CROWLEY	1
FRANK CARVELLI	1
FRANKLIN BRINE TREATMENT CO.	1
FREDRICK J. YOUNG	2
FREEMAN & COTTON & WASSON	1
FREEMAN & FREEMAN	3
G.L. NIPPERT FST.	1
GARY ORA MORTON	1
GAS & OIL LAND LEASING CORP	2
GAS & OIL MANAGEMENT ASSOC.	33
GEARY P. MEAD	7
GEORGE HANSON OIL CO.	8
GEORGE W. FOX	1

Table 12. (Cont.) Summary of Discharges by Operator

Operator	Number of Discharges
GULF (CHEVRON)	1
H. A. MCKENNA	4
H. D. HOUGH	1
H.L. MURRAY	1
H.L. MURRY DRILLING CO	6
H.M. WELLS	2
HAINES & MEACHAM	1
HAMLIN OIL CO.	2
HARRIS HELENBROCK OIL CO.	5
HBC OIL CO	1
HEIRS OIL CO.	1
HERBEL CO.	1
HOWARD BILLMAN	1
HOWARD H. HOLMES	1
HUNGIVILLE OIL CO.	1
I.L. GEER & SONS	3
INTERNATIONAL PETROLEUM SERVIC	4
INTERPEN DRILLING CO.	5
IRVINE RUN PARTNERSHIP	5
J & J ENTERPRISES	18
J. BOWMAN PROPER	1
J. J. BUCHER	7
J. L. BECK	13
J.E. KELLEY	1
J.H. GIBSON HEIRS	1
J.M. COLVIN & ASSOCIATES	1
JACOB FARRELL	1
JAMES F SCOTT	2
JEEP OIL CO	2
JOHN ALLEN	1
JOHN DOBSON OIL COMPANY	2
JOHN PURTLE	1
JOHN VERTULLO	1
KALTSAS OIL CO.	1
KAUFMAN ENTERPRIZES	1
KELLEY-VERTULLO	1
KENDALL REFINING COMPANY	1
KENNETH D. SHERRY	1
KEY OIL CO.	3
KEYSTATE ASSOC	1
KEYSTONE ENERGY	1
KEYSTONE ENERGY OIL & GAS	4
KIMBERLY OIL & GAS	1
KIMBERLY-AMERICAN RESOURCES	1
KINLEY OIL & GAS CORPORATION	1

Table 12. (Cont.) Summary of Discharges by Operator

Operator	Number of Discharges
KINZUA ENERGY DEVELOPMENT CO	1
KRIEBEL WELLS	3
L & J OIL COMPANY	1
L. E. MALLORY & SON	1
L. M. LILLY ESTATE	1
LANPHAR OIL & GAS CO	2
LANPHAR'S INC.	1
LEWIS HESS	1
LINDA & ROGER FARRELL	1
LOUDEN PROPERTIES	1
LOUIS ONOFRIO	2
M. W. HOOVER	1
M.A.T. OIL AND GAS	3
MARANATHA PARTNERSHIP	1
MARRK OIL	1
MCCOUN CO.	2
MCKENNA OIL CO.	1
MCLAN ASSOCIATES	4
MERIDIAN EXPLORATION	13
MESSER OIL CO	1
MICON EXPLORATION	6
MID-EAST OIL CO.	7
MIDDLEBROUGH OIL COMPANY	1
MILL CREEK OIL & GAS	4
MINARD RUN OIL CO	33
MOODY & ASSOC	3
MOOR, BYERS & STOREY & KAUFMAN	1
MORRISON OIL CO.	17
NATIONAL FUEL GAS	1
NATIONAL RESOURCES	1
NE AND RA BRENAN	1
NED ZAFFINO	1
NEIL J. SHARP	1
NORRIS FARM (MRS. LEONARD JOHNS	2
NORTH PENN PIPE & SUPPLY CO	3
NORTH PENN PRODUCING CO	1
NORTHEAST ENERGY DEVELOPMENT	5
NORTHEAST NATURAL GAS CO.	2
NORWESCO	1
NOVOSEL	3
NUCORP ENERGY CORP.	1
O G M DEVELOPMENT CORPORATION	4
O. W. HOGSETT	1
OAKES OIL COMPANY	1
OHIO LEASE OPERATING	1
OIL CREEK DRILLING CO.	10

Table 12. (Cont.) Summary of Discharges by Operator

Operator	Number of Discharges
OIL VALLEY OIL CO.	1
OLD MOUNTAIN GAS COMPANY	4
OLYMPIA OIL SERVICES INC.	1
P & M ENTERPRISES, INC.	1
P M OIL CO.	1
P.E.M. ENTERPRISES	1
PARTNERS PETROLEUM, INC.	2
PECORA ENTERPRISES	12
PEN CAL CONTRACTORS	1
PENN ONE CO.	1
PENN RESOURCES INC.	1
PENN WAYNE GAS CO	1
PENN WEST MINERAL RESOURCES	1
PENNSYLVANIA GENERAL ENERGY	1
PENNSYLVANIA OIL PRODUCING CO.	3
PENNZOIL	99
PETRO TECH	11
PHILIP E. KAHLE	1
PHILIP M. ROSE	3
PYRAMID OIL CO.	1
QUAKER STATE	316
R & D OIL (VISCOUNT ASSOC.)	3
R & R OIL & GAS CO	2
RALPH ALBRIGHT DRILLING CO.	2
RAYMON & LAURIE BILLSTONE	4
RED VALLEY ENTERPRISES	4
RETURN OIL CO.	22
RICHARD A. MERRY	1
RICHARD B. HERZOG	1
RIVER RIDGE	1
RO WAY OIL & GAS, INC.	2
ROBERT P. LEWIS	1
ROCKFORD ENERGY	1
RON BROWN	1
RONALD A. DENNIS	2
S& M RESOURCES INC.	10
S.G. THOMPSON	1
S.H. ELDER & COMPANY	4
SHAWNEE-CLINGER OIL CO.	8
SIGMA ENERGY RESOURCES	20
SLAGLE & ALMENDINGER	4
SOUTH PENN OIL CO	1
SOUTHERN DRILLING & PRODUCTION	1

Table 12. (Cont.) Summary of Discharges by Operator

Operator	Number of Discharges
STERLING CONTRACTING	1
STERLING ENERGY ASSOC.	1
STERLING KEYSTONE DEVELOPMENT	1
SUBSEA OIL & GAS	1
SULLIVAN & CLARK	1
SUTWAY DEVELOPMENT CORP.	1
SYNERGY CO	1
T W PHILLIPS O&G	1
TECHNOL ENERGY	4
TEMPLETON ENERGY INC	3
THE PEOPLES NATURAL GAS CO	2
THOMAS KERVIN, III OIL CO.	3
THORTON CO.	1
THRESHOLD DRILLING	2
TRAM HOLLOW OIL COMPANY	2
TRISON PETROLEUM CORP.	1
TROPIGAS	2
TURM OIL INC	1
TURN OIL INC	3
TYLER OIL CO.	1
UNION DRILLING CO INC	12
UNIVERSAL RESOURCES HOLDING CO	21
VALLEY DRILLING CO.	3
VAN OIL CO.	1
VAN TINE OIL CO.	4
VANDEBUILT RESOURCES	1
VIKING RESOURCES CORP	6
VINEYARD OIL AND GAS	2
W.F. DEVLIN & GENEVIVE DEVLIN	1
W.M. KLINE OIL CO.	26
WAGNER & WAGNER	1
WALTER HORNBERG	1
WEAVER & PRESTON	4
WEAVER OIL CO.	1
WHITTINGTON & WHITTINGTON	1
WILDCATTERS	1
WILLIAM HUBER	1
WILLIAM SOUTHWELL	1
WITCO CHEMICAL CORPORATION	43
ZETTA ASSOCIATES	1
NO OPERATOR NAME	674
TOTAL	2000

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect. Key	Map Receiving Stream
** County: ARMSTRONG				
* Township/Municipality: COWANSHANNOCK TWP				
ALCOVE INVESTMENTS		PLUMVILLE	4	12 N BR COWANSHANNOCK CREEK
		PLUMVILLE	4	13 S BR COWANSHANNOCK CREEK
		PLUMVILLE	4	14 N BR COWANSHANNOCK CREEK
		PLUMVILLE	4	15 N BR COWANSHANNOCK CREEK
		PLUMVILLE	4	16 N BR COWANSHANNOCK CREEK
		PLUMVILLE	4	17 S BR COWANSHANNOCK CREEK
		PLUMVILLE	7	29 N BR PLUM CREEK
		PLUMVILLE	7	30 N BR PLUM CREEK
		PLUMVILLE	7	31 N BR PLUM CREEK
		RURAL VALLEY	5	2 COWANSHANNOCK CREEK
		RURAL VALLEY	6	3 SOUTH BRANCH
		RURAL VALLEY	8	5 COWANSHANNOCK CREEK
		PLUMVILLE	7	52 N BR PLUM CREEK
WALTER MCCAUSLAND	ADOBE OIL & GAS WAGNER AND WAGNER			
* Township/Municipality: PLUMCREEK TWP				
CORA COCHRAN	DORAN & ASSOCIATES	RURAL VALLEY	8	4 PLUM CREEK
CORA COCHRAN	DORAN & ASSOCIATES	RURAL VALLEY	8	6 PLUM CREEK
		ELDERTON	3	1 PLUM CREEK
		ELDERTON	5	2 PLUM CREEK
MYRTLE A PENROASE	ADOBE OIL & GAS	ELDERTON	2	8 CESSNA RUN
W CARL CALHOUN	APPALACHIAN ENERGY INC	ELDERTON	2	6 CESSNA RUN
W CARL CALHOUN	APPALACHIAN ENERGY INC	ELDERTON	2	7 CESSNA RUN
* Township/Municipality: REDBANK TWP				
CLEO BROCIOS	TEMPLETON ENERGY INC	DAYTON	1	27 SUGARCAMP RUN
		DAYTON	1	1 PINE RUN
		DAYTON	4	15 NYE BRANCH
		DAYTON	4	16 PINE RUN
		DAYTON	4	17 MAHONING CREEK
S.R. AND MARY SHIREY	TEMPLETON ENERGY INC	SUMMERVILLE	7	11 MUDLICK CREEK
		SUMMERVILLE	7	2 REDBANK CREEK
		SUMMERVILLE	7	3 NOLF RUN
		SUMMERVILLE	7	4 MUDLICK CREEK
		SUMMERVILLE	7	5 MUDLICK CREEK
W.P. MOWRY	TEMPLETON ENERGY INC	SUMMERVILLE	7	12 MUDLICK CREEK
* Township/Municipality: WAYNE TWP				
		DAYTON	7	21 GLADE RUN
		DAYTON	7	22 GLADE RUN
		PLUMVILLE	1	1 GLADE RUN
		PLUMVILLE	1	2 GLADE RUN
		PLUMVILLE	1	3 GLADE RUN
		PLUMVILLE	1	4 GLADE RUN
		RURAL VALLEY	3	1 NORTH BRANCH

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
** County: CAMBRIA				
* Township/Municipality: BLACKLICK TWP				
		STRONGSTOWN	9	5 N BR BLACKLICK CREEK
		STRONGSTOWN	9	6 WALKER RUN
** County: CLARION				
* Township/Municipality: ASHLAND TWP				
		KOSSUTH	8	14 BEAVER CREEK
* Township/Municipality: FARMINGTON TWP				
KAHLE	QUAKER STATE OIL CO	TYLERSBURG	4	6 LITTLE COON RUN
KAHLE	QUAKER STATE OIL CO	TYLERSBURG	7	7 LITTLE COON RUN
PARDEE	QUAKER STATE OIL CO	TYLERSBURG	4	3 LITTLE COON RUN
ZUPANCIC	QUAKER STATE OIL CO	TYLERSBURG	4	4 LITTLE COON RUN
ZUPANCIC	QUAKER STATE OIL CO	TYLERSBURG	4	5 LITTLE COON RUN
** County: CLEARFIELD				
* Township/Municipality: BELL TWP				
		BURNSIDE	2	5 S BR BEAR RUN
		BURNSIDE	3	8 NORTH RUN
		MCGEES MILLS	5	13 CLOVER RUN
		MCGEES MILLS	5	14 CLOVER RUN
		MCGEES MILLS	6	15 CLOVER RUN
		MCGEES MILLS	6	16 WHISKEY RUN
		MCGEES MILLS	6	17 CLOVER RUN
		MCGEES MILLS	6	18 LOST RUN
		MCGEES MILLS	6	28 WHISKEY RUN
		MCGEES MILLS	6	29 LAUREL RUN
		MCGEES MILLS	6	34 CLOVER RUN
		MCGEES MILLS	8	22 BEAR RUN
		MCGEES MILLS	9	23 WHISKEY RUN
		MCGEES MILLS	9	24 BEAR RUN
		MCGEES MILLS	9	25 BEAR RUN
		MCGEES MILLS	9	26 BEAR RUN
* Township/Municipality: BRADY TWP				
		DUBOIS	9	3 BEAVER RUN
* Township/Municipality: BURNSIDE TWP				
		BURNSIDE	3	6 W BR SUSQUEHANNA RIVER
		BURNSIDE	3	7 W BR SUSQUEHANNA RIVER
		BURNSIDE	6	10 W BR SUSQUEHANNA RIVER
		BURNSIDE	6	12 W BR SUSQUEHANNA RIVER
		BURNSIDE	6	13 W BR SUSQUEHANNA RIVER
		BURNSIDE	6	14 SAWMILL RUN
		BURNSIDE	6	15 SAWMILL RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
RAYMOND BARRETT RORAHAUGH		BURNSIDE	6	16 SAWMILL RUN
		BURNSIDE	6	22 SAWMILL RUN
		BURNSIDE	9	21 SAWMILL RUN
		BURNSIDE	6	11 W BR SUSQUEHANNA RIVER
		BURNSIDE	6	17 SAWMILL RUN
* Township/Municipality: SANDY TWP				
		DUBOIS	5	2 SUGARCAMP RUN
** County: CRAWFORD				
* Township/Municipality: OIL CREEK TWP				
MARSH, COCHRAN & BROWN	MCCOUN CO.	GRAND VALLEY	4	17 CALDWELL CREEK
** County: ELK				
* Township/Municipality: HIGHLAND TWP				
HANLEY & BIRD	PEN CAL CONTRACTORS	JAMES CITY	7	14 E BR SPRING CREEK
J. RUSSELL THOMPSON	COLUMBIA GAS TRANSMISSION CORP	JAMES CITY	1	11 COON RUN
		JAMES CITY	1	2 MARTIN RUN
		JAMES CITY	1	3 MARTIN RUN
		JAMES CITY	1	4 MARTIN RUN
		JAMES CITY	1	5 WOLF RUN
		JAMES CITY	1	6 WOLF RUN
		JAMES CITY	1	7 WOLF RUN
		JAMES CITY	1	8 COON RUN
		JAMES CITY	1	9 COON RUN
		JAMES CITY	1	10 COON RUN
		JAMES CITY	1	12 COON RUN
		JAMES CITY	7	15 MAPLE RUN
LOT #4	NATIONAL FUEL GAS	JAMES CITY	7	16 MAPLE RUN
	PENNZOIL	RUSSELL CITY	2	3 COON RUN
	WITCO CHEMICAL CORPORATION	RUSSELL CITY	3	4 MARTIN RUN
	WITCO CHEMICAL CORPORATION	RUSSELL CITY	3	5 MARTIN RUN
		RUSSELL CITY	3	6 WOLF RUN
		RUSSELL CITY	3	7 WOLF RUN
		RUSSELL CITY	3	8 WOLF RUN
		RUSSELL CITY	3	9 WOLF RUN
		RUSSELL CITY	3	10 WOLF RUN
		RUSSELL CITY	3	11 WOLF RUN
		RUSSELL CITY	3	12 COON RUN
		RUSSELL CITY	3	13 COON RUN
		RUSSELL CITY	3	14 COON RUN
		RUSSELL CITY	6	15 COON RUN
		RUSSELL CITY	6	16 E BR SPRING CREEK
		RUSSELL CITY	8	19 HUNTER CREEK
		RUSSELL CITY	9	20 THREEMILE RUN
WT 2020	PENNZOIL	RUSSELL CITY	8	17 HUNTER CREEK
WT 2033	PENNZOIL	RUSSELL CITY	8	18 HUNTER CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
* Township/Municipality: JONES TWP					
	DERRICK EQUIPMENT	GLEN HAZEL	4	1 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	2 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	3 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	4 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	5 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	6 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	7 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	8 E BR	CLARION RIVER
	DERRICK EQUIPMENT	GLEN HAZEL	4	9 E BR	CLARION RIVER
H & J HAIGHT	APETCO INTERNATIONAL	WILCOX	3	4	JOHNSON RUN
H & J HAIGHT	APETCO INTERNATIONAL	WILCOX	3	5	JOHNSON RUN
LOT 4	VANDEBUILT RESOURCES	JAMES CITY	5	13	SLIDE RUN
		WILCOX	3	1	JOHNSON RUN
		WILCOX	3	2	JOHNSON RUN
		WILCOX	3	3	JOHNSON RUN
		WILCOX	3	6	ROCKY RUN
		WILCOX	3	7	ROCKY RUN
		WILCOX	3	8	ROCKY RUN
		WILCOX	3	9	ROCKY RUN
		WILCOX	3	10	OIL CREEK
		WILCOX	3	11	OIL CREEK
		WILCOX	3	12	OIL CREEK
		WILCOX	3	13	OIL CREEK
		WILCOX	3	14	OIL CREEK
		WILCOX	3	15	OIL CREEK
		WILCOX	3	16	OIL CREEK
		WILCOX	3	17	OIL CREEK
		WILCOX	3	18	OIL CREEK
		WILCOX	3	19	OIL CREEK
* Township/Municipality: RIDGWAY TWP					
TONGREN	QUAKER STATE	RIDGWAY	4	1	MASON CREEK
* Township/Municipality: SPRING CREEK TWP					
HALLTON LEASE	PECORA ENTERPRISES	HALLTON	9	6	IRWIN RUN
HALLTON	PECORA ENTERPRISES	HALLTON	6	5	IRWIN RUN
WT 1566	PECORA ENTERPRISES	HALLTON	6	1	IRWIN RUN
WT 3737	PECORA ENTERPRISES	HALLTON	6	2	IRWIN RUN
WT 3737	PECORA ENTERPRISES	HALLTON	6	3	IRWIN RUN
WT 3737	PECORA ENTERPRISES	HALLTON	9	4	IRWIN RUN
** County: FOREST					
* Township/Municipality: GREEN TWP					
	MERIDIAN EXPLORATION	TYLERSBURG	2	1	LITTLE COON CREEK
	MERIDIAN EXPLORATION	TYLERSBURG	2	2	LITTLE COON CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
* Township/Municipality: HARMONY TWP					
A. HOOVIER	COMPASS DEVELOPMENT INC	PLEASANTVILLE	6	46	STEWART RUN
A. HOOVIER	COMPASS DEVELOPMENT INC	PLEASANTVILLE	6	47	STEWART RUN
A. HOOVIER	COMPASS DEVELOPMENT INC	PLEASANTVILLE	9	48	STEWART RUN
ALLENDER	J. BOWMAN PROPER	WEST HICKORY	4	56	DAWSON RUN
ANDERSON	COMPASS DEVELOPMENT INC	WEST HICKORY	2	19	BUCKHORN RUN
BETA	COMPASS DEVELOPMENT INC	WEST HICKORY	4	93	DAWSON RUN
BINGMAN	EAGLE LINE OIL CO.	WEST HICKORY	4	62	DAWSON RUN
BREDIN	COMPASS DEVELOPMENT INC	WEST HICKORY	4	90	HUNTER RUN
BREDIN	COMPASS DEVELOPMENT INC	WEST HICKORY	4	105	HUNTER RUN
BUTTERFIELD	STERLING CONTRACTING	PLEASANTVILLE	9	146	STEWART RUN
CONNALLY	J. L. BECK	WEST HICKORY	4	61	DAWSON RUN
COPELAND	QUAKER STATE OIL CO	WEST HICKORY	4	38	PITHOLE CREEK
COPELAND	QUAKER STATE OIL CO	WEST HICKORY	4	39	DAWSON RUN
COPELAND	QUAKER STATE OIL CO	WEST HICKORY	4	40	DAWSON RUN
COPELAND	QUAKER STATE OIL CO	WEST HICKORY	4	42	DAWSON RUN
COPELAND	QUAKER STATE OIL CO	WEST HICKORY	4	44	DAWSON RUN
CRAWFORD (HOGAN)	COMPASS DEVELOPMENT INC	WEST HICKORY	4	104	MCCAFFERDY RUN
CUBBON (OSTEN)	COMPASS DEVELOPMENT INC	WEST HICKORY	4	66	MCCAFFERDY RUN
CUBBON (OSTEN)	COMPASS DEVELOPMENT INC	WEST HICKORY	5	102	DAWSON RUN
CUBBON	COMPASS DEVELOPMENT INC	WEST HICKORY	4	67	MCCAFFERDY RUN
CUBBON	ZETTA ASSOCIATES	WEST HICKORY	5	68	DAWSON RUN
CUTTERMILL	COMPASS DEVELOPMENT INC	WEST HICKORY	5	101	DAWSON RUN
EMICK (WAGNER)?	QUAKER STATE	PRESIDENT	3	45	PIERSON RUN
EMICK	QUAKER STATE	PRESIDENT	3	46	PIERSON RUN
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	WEST HICKORY	5	74	WEST HICKORY CREEK
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	WEST HICKORY	5	75	ALLEGHENY RIVER
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	WEST HICKORY	5	76	ALLEGHENY RIVER
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	WEST HICKORY	5	77	WEST HICKORY CREEK
ESTHER WILLIAMS	COMPASS DEVELOPMENT INC	WEST HICKORY	5	94	WEST HICKORY CREEK
FIERY	COMPASS DEVELOPMENT INC	WEST HICKORY	4	103	DAWSON RUN
FOGLE 4A	QUAKER STATE OIL CO	WEST HICKORY	4	31	MCARTHUR RUN
FOGLE PROJECT #7	QUAKER STATE OIL CO	WEST HICKORY	4	30	MCARTHUR RUN
FOGLE PROJECT #7	QUAKER STATE OIL CO	WEST HICKORY	4	45	DAWSON RUN
FRANK WATSON	QUAKER STATE OIL CO	WEST HICKORY	1	8	PITHOLE CREEK
GORMAN PROJECT #1	QUAKER STATE OIL CO	WEST HICKORY	4	53	STEWART RUN
GORMAN PROJECT #2	QUAKER STATE OIL CO	WEST HICKORY	4	43	DAWSON RUN
GORMAN PROJECT #2	QUAKER STATE OIL CO	WEST HICKORY	4	51	STEWART RUN
GORMAN-VERTULLO	QUAKER STATE OIL CO	WEST HICKORY	4	55	STEWART RUN
GORMAN	QUAKER STATE	WEST HICKORY	4	52	STEWART RUN
GORMAN	QUAKER STATE	WEST HICKORY	4	54	STEWART RUN
GRANDIN	J. L. BECK	WEST HICKORY	5	79	DAWSON RUN
GRIFFIN	QUAKER STATE	PLEASANTVILLE	6	27	PITHOLE CREEK
GRIFFIN	QUAKER STATE	PLEASANTVILLE	6	29	PITHOLE CREEK
H&R DEV.	RETURN OIL CO.	PLEASANTVILLE	3	24	PITHOLE CREEK
H&R DEV.	RETURN OIL CO.	PLEASANTVILLE	3	25	PITHOLE CREEK
HAMTERMILL	INTERPEN DRILLING CO.	WEST HICKORY	1	1	PITHOLE CREEK
HAMTERMILL	RED VALLEY ENTERPRISES	WEST HICKORY	1	4	PITHOLE CREEK
HAMTERMILL	CRYSTAL SPRINGS OIL CO.	WEST HICKORY	1	6	PITHOLE CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
HAMMERMILL	CRYSTAL SPRINGS OIL CO.	WEST HICKORY	1	7	PITHOLE CREEK
HAMMERMILL	QUAKER STATE	WEST HICKORY	2	18	MCARTHUR RUN
HANDY-WALTON	QUAKER STATE OIL CO	WEST HICKORY	4	65	STEWART RUN
HOLBROOK	QUAKER STATE OIL CO	WEST HICKORY	1	16	MCARTHUR RUN
HOLBROOK	QUAKER STATE OIL CO	WEST HICKORY	4	35	MCARTHUR RUN
HOMESTEAD	COMPASS DEVELOPMENT INC	WEST HICKORY	4	87	HUNTER RUN
HOMESTEAD	COMPASS DEVELOPMENT INC	WEST HICKORY	4	88	HUNTER RUN
HOMESTEAD	COMPASS DEVELOPMENT INC	WEST HICKORY	7	89	HUNTER RUN
HUIDEKOPER PROJ. #2	QUAKER STATE	PLEASANTVILLE	6	30	PITHOLE CREEK
HUIDEKOPER PROJ. #2	QUAKER STATE	PLEASANTVILLE	6	31	PITHOLE CREEK
HUIDEKOPER PROJECT #2	QUAKER STATE OIL CO	WEST HICKORY	4	48	STEWART RUN
J. HANDY	COMPASS DEVELOPMENT INC	WEST HICKORY	1	5	PITHOLE CREEK
JENKS	QUAKER STATE	PLEASANTVILLE	9	140	PIERSON RUN
JENKS	QUAKER STATE	PLEASANTVILLE	9	141	PIERSON RUN
KANE HARDWOOD	RETURN OIL CO.	WEST HICKORY	1	2	GERMAN RUN
KEATING	ROCKFORD ENERGY	PLEASANTVILLE	9	154	STEWART RUN
KELLER PROJECT #1	QUAKER STATE OIL CO	WEST HICKORY	4	37	PITHOLE CREEK
KELLER PROJECT #1	QUAKER STATE OIL CO	WEST HICKORY	4	49	STEWART RUN
KELLER PROJECT #1	QUAKER STATE OIL CO	WEST HICKORY	4	50	STEWART RUN
KELLER PROJECT #3	QUAKER STATE OIL CO	WEST HICKORY	4	36	PITHOLE CREEK
MCCOY-BALL	QUAKER STATE OIL CO	WEST HICKORY	3	25	EAST HICKORY CREEK
MCFATE	RETURN OIL CO.	PLEASANTVILLE	3	10	PINE CREEK
MCGARRELL 4A	QUAKER STATE OIL CO	WEST HICKORY	4	26	PITHOLE CREEK
MCGARRELL 4A	QUAKER STATE OIL CO	WEST HICKORY	4	32	MCARTHUR RUN
MCGARRELL 4B	QUAKER STATE OIL CO	WEST HICKORY	1	11	PITHOLE CREEK
MCGARRELL 4B	QUAKER STATE OIL CO	WEST HICKORY	4	28	MCARTHUR RUN
MCGARRELL 4B	QUAKER STATE OIL CO	WEST HICKORY	4	29	MCARTHUR RUN
MCGARRELL	QUAKER STATE	WEST HICKORY	4	27	PITHOLE CREEK
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	4	108	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	80	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	81	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	82	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	97	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	98	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	99	DAWSON RUN
MEL PASSEUR	COMPASS DEVELOPMENT INC	WEST HICKORY	5	100	DAWSON RUN
MELROSE	COMPASS DEVELOPMENT INC	WEST HICKORY	5	106	WEST HICKORY CREEK
MILFORD	QUAKER STATE OIL CO	WEST HICKORY	4	57	DAWSON RUN
MILFORD	QUAKER STATE OIL CO	WEST HICKORY	4	59	DAWSON RUN
MILFORD	QUAKER STATE OIL CO	WEST HICKORY	4	60	DAWSON RUN
MILLIN	COMPASS DEVELOPMENT INC	WEST HICKORY	2	96	ALLEGHENY RIVER
MONROSS B (374)	QUAKER STATE	WEST HICKORY	2	20	MCARTHUR RUN
MONROSS B	QUAKER STATE OIL CO	WEST HICKORY	2	22	BUCHHORN RUN
MONROSS B	QUAKER STATE OIL CO	WEST HICKORY	4	34	MCARTHUR RUN
MONROSS C	QUAKER STATE OIL CO	WEST HICKORY	1	12	MCARTHUR RUN
MONROSS C	QUAKER STATE OIL CO	WEST HICKORY	1	13	MCARTHUR RUN
MONROSS C	QUAKER STATE OIL CO	WEST HICKORY	1	14	MCARTHUR RUN
MONROSS C	QUAKER STATE OIL CO	WEST HICKORY	1	15	MCARTHUR RUN
MONROSS C	QUAKER STATE OIL CO	WEST HICKORY	1	17	MCARTHUR RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
MONROSS C	QUAKER STATE OIL CO	WEST HICKORY	4	47 DAWSON RUN
NEELY	PENN ONE CO.	WEST HICKORY	4	58 DAWSON RUN
PASSEUR (GAMMA)	COMPASS DEVELOPMENT INC	WEST HICKORY	4	69 DAWSON RUN
PASSEUR-BAIRD	COMPASS DEVELOPMENT INC	WEST HICKORY	5	78 DAWSON RUN
		PLEASANTVILLE	3	16 PITHOLE CREEK
		PLEASANTVILLE	3	17 PITHOLE CREEK
		PLEASANTVILLE	3	26 PITHOLE CREEK
		PLEASANTVILLE	9	142 UNNAMED TRIB
PLEASANTVILLE	WITCO CHEMICAL CORPORATION	WEST HICKORY	4	85 STEWART RUN
PROPER-MAXWELL (PATTERSON)	QUAKER STATE OIL CO	WEST HICKORY	1	9 PITHOLE CREEK
RYBKA-ZIMMERMAN	J. L. BECK	PLEASANTVILLE	3	11 NEILLTOWN CREEK
SCHALLENBERGER	COMPASS DEVELOPMENT INC	WEST HICKORY	4	91 HUNTER RUN
SCHALLENBERGER	COMPASS DEVELOPMENT INC	WEST HICKORY	4	92 MCCAFFERDY RUN
SHERMAC	COMPASS DEVELOPMENT INC	WEST HICKORY	5	70 BURDICK RUN
SHERMAC	COMPASS DEVELOPMENT INC	WEST HICKORY	5	71 BURDICK RUN
SHERMAC	COMPASS DEVELOPMENT INC	WEST HICKORY	5	72 SIGGINS RUN
SHERMAC	COMPASS DEVELOPMENT INC	WEST HICKORY	5	73 WEST HICKORY CREEK
SHERMAC	COMPASS DEVELOPMENT INC	WEST HICKORY	5	107 WEST HICKORY CREEK
STEFFELBEAM PROJECT #4A	QUAKER STATE OIL CO	WEST HICKORY	4	33 MCARTHUR RUN
WALTON-GLENN	QUAKER STATE OIL CO	WEST HICKORY	4	63 DAWSON RUN
WALTON-GLENN	QUAKER STATE	WEST HICKORY	4	64 DAWSON RUN
		WEST HICKORY	1	3 WEST HICKORY CREEK
	RETURN OIL CO.	WEST HICKORY	1	10 PITHOLE CREEK
		WEST HICKORY	4	41 DAWSON RUN
		WEST HICKORY	4	46 MCARTHUR RUN
WHITE	QUAKER STATE OIL CO	WEST HICKORY	2	21 BUCHHORN RUN
WHITE	QUAKER STATE OIL CO	WEST HICKORY	2	23 BUCHHORN RUN
WHITE	QUAKER STATE	WEST HICKORY	2	24 BUCHHORN RUN
* Township/Municipality: HICKORY TWP				
GAS FIELD	QUAKER STATE OIL CO	KELLETTVILLE	2	3 OTTER CREEK
GAS FIELD	QUAKER STATE OIL CO	KELLETTVILLE	2	4 BEAVER RUN
GUY HUNTER (WT 5199)	RALPH ALBRIGHT DRILLING CO.	KELLETTVILLE	2	2 BEAVER RUN
LOT 5200	JOHN VERTULLO	KELLETTVILLE	1	1 BEAVER RUN
LOT 5201	RALPH ALBRIGHT DRILLING CO.	KELLETTVILLE	4	6 BEAVER RUN
MCCOY-SMALLWOOD	QUAKER STATE OIL CO	KELLETTVILLE	4	7 BEAVER RUN
POSEY FIELD-LITTLE HICKORY	QUAKER STATE	KELLETTVILLE	4	9 LITTLE HICKORY RUN
WT 5200	ENDEAVOR VENTURES	KELLETTVILLE	4	8 CAMP RUN
WT 5218	KELLEY-VERTULLO	KELLETTVILLE	3	5 BEAVER RUN
* Township/Municipality: HOWE TWP				
COLLINS (WT 4790)	INTERNATIONAL PETROLEUM SERVIC	MAYBURG	6	18 LOGAN RUN
COLLINS PINE (WT5107)	ANTHONY COOK OIL & GAS CO.	MAYBURG	8	24 FOURMILE RUN
FOREST (COOPER TRACT)	QUAKER STATE OIL CO	LYNCH	1	1 UPPER SHERIFF RUN
		LYNCH	1	4 HASTINGS RUN
		LYNCH	1	5 HASTINGS RUN
		LYNCH	1	6 HASTINGS RUN
	OAKES OIL COMPANY	LYNCH	1	801 HASTINGS RUN
	QUAKER STATE OIL CO	LYNCH	3	2 THAD SHANTY RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
		MAYBURG	2	3 TIONESTA CREEK
		MAYBURG	2	4 TIONESTA CREEK
	PENNZOIL	MAYBURG	3	5 MINISTER CREEK
		MAYBURG	3	6 WILDCAT RUN
		MAYBURG	3	7 WILDCAT RUN
	APEX RESOURCES	MAYBURG	3	8 LINDSEY HOLLOW
	MERIDIAN EXPLORATION	MAYBURG	5	11 KINGSLEY RUN
		MAYBURG	5	12 PHELPS RUN
	MERIDIAN EXPLORATION	MAYBURG	5	13 THE BRANCH
	MERIDIAN EXPLORATION	MAYBURG	5	14 COALBED RUN
	MERIDIAN EXPLORATION	MAYBURG	6	15 COALBED RUN
	MERIDIAN EXPLORATION	MAYBURG	6	16 COALBED RUN
	MERIDIAN EXPLORATION	MAYBURG	6	17 COALBED RUN
		MAYBURG	6	20 WEST BRANCH
		MAYBURG	8	23 MUD LICK RUN
	ANTHONY COOK OIL & GAS CO.	MAYBURG	8	25 FOURMILE RUN
	FLOR-PENN PETROLEUM CORP.	MAYBURG	8	26 FOURMILE RUN
N F G (WT 3188)	INTERNATIONAL PETROLEUM SERVIC	MAYBURG	6	19 LOGAN RUN
PENNZOIL (WT 5102)	INTERNATIONAL PETROLEUM SERVIC	MAYBURG	6	21 THE BRANCH
PENNZOIL (WT 5102)	INTERNATIONAL PETROLEUM SERVIC	MAYBURG	6	22 THE BRANCH
		RUSSELL CITY	1	1 S BR TIONESTA CREEK
		RUSSELL CITY	1	2 S BR TIONESTA CREEK
WT 3192	FLOR-PENN PETROLEUM CORP.	MAYBURG	3	9 HASTINGS RUN
WT. 3188	FLOR-PENN PETROLEUM CORP.	LYNCH	4	3 WEST BRANCH
* Township/Municipality: KINGSLEY TWP				
CLINGER LEASE	PENNZOIL	MAYBURG	1	2 TIONESTA CREEK
FLYNN	QUAKER STATE	KELLETTVILLE	5	10 WOLF RUN
FLYNN	QUAKER STATE	KELLETTVILLE	5	11 EAST BRANCH
GUNNISON LEASE (WT 5213)	MERIDIAN EXPLORATION	KELLETTVILLE	6	19 EAST FORK
LOT 5214	J.E. KELLEY	KELLETTVILLE	6	31 FORK RUN
		MAYBURG	1	1 TIONESTA CREEK
	MERIDIAN EXPLORATION	MAYBURG	4	10 PANTHER RUN
SKALSKI LEASE (WT 5212)	MERIDIAN EXPLORATION	KELLETTVILLE	6	18 WEST FORK
STOBER	COMPASS DRILLING INC	KELLETTVILLE	5	12 EAST BRANCH
VERTULLO DEV	QUAKER STATE	KELLETTVILLE	6	26 LITTLE MINISTER RUN
VERTULLO DEV	QUAKER STATE	KELLETTVILLE	6	27 LITTLE MINISTER RUN
VERTULLO DEV	QUAKER STATE	KELLETTVILLE	6	28 LITTLE MINISTER RUN
VERTULLO DEV	QUAKER STATE	KELLETTVILLE	6	30 FORK RUN
WT 5198	NORTHEAST ENERGY DEVELOPMENT	KELLETTVILLE	5	13 EAST BRANCH
WT 5198	NORTHEAST ENERGY DEVELOPMENT	KELLETTVILLE	5	14 EAST BRANCH
WT 5198	NORTHEAST ENERGY DEVELOPMENT	KELLETTVILLE	5	15 EAST BRANCH
WT 5198	NORTHEAST ENERGY DEVELOPMENT	KELLETTVILLE	5	16 EAST BRANCH
WT 5198	NORTHEAST ENERGY DEVELOPMENT	KELLETTVILLE	5	17 EAST BRANCH
WT 5213	QUAKER STATE	KELLETTVILLE	6	20 EAST FORK
WT 5213	QUAKER STATE	KELLETTVILLE	6	21 EAST FORK
WT 5213	QUAKER STATE	KELLETTVILLE	6	22 EAST FORK
WT 5213	QUAKER STATE	KELLETTVILLE	6	24 FORK RUN
WT 5213	QUAKER STATE	KELLETTVILLE	6	25 FORK RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect. Key	Map Receiving Stream
WT 5213		KELLETTVILLE	6	29 BERLIN FORK
WT 5217	MERIDIAN EXPLORATION	KELLETTVILLE	6	23 EAST FORK
* Township/Municipality: TIONESTA TWP				
DAUBENSPECK	COMPASS DEVELOPMENT INC	WEST HICKORY	7	83 HUNTER RUN
FOREMAN-PROPER	QUAKER STATE OIL CO	TIONESTA	1	1 BATES RUN
TIONESTA SAND	COMPASS DEVELOPMENT INC	WEST HICKORY	7	95 HUNTER RUN
WAGNER	QUAKER STATE	PRESIDENT	3	48 PIERSON RUN
		WEST HICKORY	8	84 ALLEGHENY RIVER
** County: INDIANA				
* Township/Municipality: ARMSTRONG TWP				
		ELDERTON	8	3 WALKER RUN
		ELDERTON	8	4 WALKER RUN
		ELDERTON	9	5 CURRY RUN
		INDIANA	1	1 CURRY RUN
* Township/Municipality: BANKS TWP				
		BURNSIDE	1	1 S BR BEAR RUN
		BURNSIDE	1	2 S BR BEAR RUN
		BURNSIDE	1	3 S BR BEAR RUN
		BURNSIDE	1	4 S BR BEAR RUN
		BURNSIDE	2	24 BEAR RUN
		BURNSIDE	2	25 BEAR RUN
		BURNSIDE	2	26 BEAR RUN
		BURNSIDE	2	27 BEAR RUN
DONALD L BURNS	ADOBE OIL & GAS	BURNSIDE	5	28 BRADY RUN
		MCGEES MILLS	7	19 BEAR RUN
		MCGEES MILLS	7	20 S BR BEAR RUN
		MCGEES MILLS	8	21 BEAR RUN
		MCGEES MILLS	8	30 BEAR RUN
		MCGEES MILLS	8	31 BEAR RUN
		PUNXSUTAWNEY	9	22 CANOE CREEK
		PUNXSUTAWNEY	9	23 STRAIGHT RUN
		PUNXSUTAWNEY	9	25 CANOE CREEK
		PUNXSUTAWNEY	9	26 STRAIGHT RUN
		ROCHESTER MILLS	3	4 STRAIGHT RUN
		ROCHESTER MILLS	3	5 STRAIGHT RUN
		ROCHESTER MILLS	3	6 STRAIGHT RUN
		ROCHESTER MILLS	3	38 STRAIGHT RUN
		ROCHESTER MILLS	6	21 SALSGIVER RUN
* Township/Municipality: BLACK LICK TWP				
		BLAIRSVILLE	2	2 AULTMANS RUN
		BLAIRSVILLE	2	3 AULTMANS RUN
		BLAIRSVILLE	3	4 BLACKLICK CREEK
		MCINTYRE	9	5 STEWART RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
* Township/Municipality: BRUSHVALLEY TWP				
BEN OLIVER	ENERGY PRODUCTION CO	BRUSH VALLEY	9	32 BRUSH CREEK
BEN OLIVER	ENERGY PRODUCTION CO	BRUSH VALLEY	9	33 BRUSH CREEK
		BRUSH VALLEY	2	2 YELLOW CREEK
		BRUSH VALLEY	4	6 YELLOW CREEK
		BRUSH VALLEY	4	7 YELLOW CREEK
		BRUSH VALLEY	4	8 FERRIER RUN
		BRUSH VALLEY	4	9 FERRIER RUN
		BRUSH VALLEY	4	10 FERRIER RUN
		BRUSH VALLEY	4	11 FERRIER RUN
		BRUSH VALLEY	4	12 BRUSH CREEK
		BRUSH VALLEY	5	13 FERRIER RUN
		BRUSH VALLEY	6	29 LITTLE BRUSH CREEK
		BRUSH VALLEY	7	24 BRUSH CREEK
		BRUSH VALLEY	7	25 BRUSH CREEK
		BRUSH VALLEY	8	26 BRUSH CREEK
		BRUSH VALLEY	9	15 BRUSH CREEK
		BRUSH VALLEY	9	27 BRUSH CREEK
		BRUSH VALLEY	9	28 BRUSH CREEK
		BRUSH VALLEY	9	30 BRUSH CREEK
		BRUSH VALLEY	9	31 BRUSH CREEK
		BRUSH VALLEY	9	35 BRUSH CREEK
WILLIAM LEASURE	T.W. PHILLIPS GAS & OIL	BRUSH VALLEY	7	14 BRUSH CREEK
* Township/Municipality: BUFFINGTON TWP				
RICHARD W. OVERDORFF	MID-EAST OIL CO.	STRONGSTOWN	7	4 MARDIS RUN
		STRONGSTOWN	7	3 GILLHOUSER RUN
	ENERGY PRODUCTION CO	VINTONDALE	1	1 MARDIS RUN
		VINTONDALE	1	2 MARDIS RUN
	ENERGY PRODUCTION CO	VINTONDALE	1	3 MARDIS RUN
* Township/Municipality: BURRELL TWP				
		BLAIRSVILLE	6	12 CONEMAUGH RIVER
* Township/Municipality: CANOE TWP				
LOUIS J MANFREDO	J & J ENTERPRISES	ROCHESTER MILLS	2	802 NORTH BRANCH
MARY JANE DEFRANK	J & J ENTERPRISES	ROCHESTER MILLS	2	801 NORTH BRANCH
		PUNXSUTAWNEY	7	12 CANOE CREEK
		PUNXSUTAWNEY	8	13 CANOE CREEK
		PUNXSUTAWNEY	8	14 CANOE CREEK
		PUNXSUTAWNEY	8	15 CANOE CREEK
		PUNXSUTAWNEY	8	16 CANOE CREEK
		PUNXSUTAWNEY	8	17 CANOE CREEK
		PUNXSUTAWNEY	8	18 CANOE CREEK
		PUNXSUTAWNEY	8	19 CANOE CREEK
		ROCHESTER MILLS	1	2 BROADHEAD RUN
		ROCHESTER MILLS	1	3 BREWER RUN
		ROCHESTER MILLS	1	36 BREWER RUN
		ROCHESTER MILLS	2	37 NORTH BRANCH

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect. Key	Map Receiving Stream
* Township/Municipality: CENTER TWP				
		INDIANA	4	2 STEWART RUN
		INDIANA	6	6 TWO LICK CREEK
		INDIANA	6	7 YELLOW CREEK
		INDIANA	6	8 YELLOW CREEK
		INDIANA	7	9 MUDDY RUN
		INDIANA	8	10 CHERRY RUN
		INDIANA	9	11 TEARING RUN
		INDIANA	9	12 TEARING RUN
		INDIANA	9	13 TEARING RUN
* Township/Municipality: CHERRYHILL TWP				
A C AND INEZ M HUGHMANICK	UNION DRILLING INC	CLYMER	8	64 CROOKED CREEK
		BRUSH VALLEY	2	18 TWO LICK CREEK
		BRUSH VALLEY	2	19 TWO LICK CREEK
		BRUSH VALLEY	2	20 TWO LICK CREEK
		BRUSH VALLEY	3	21 YELLOW CREEK
		BRUSH VALLEY	3	22 PENN RUN
		BRUSH VALLEY	3	23 PENN RUN
		CLYMER	6	40 TWO LICK CREEK
		CLYMER	6	41 CROOKED CREEK
		CLYMER	6	42 CROOKED CREEK
		CLYMER	6	43 DIXON RUN
		CLYMER	8	20 TWO LICK CREEK
		CLYMER	8	21 TWO LICK CREEK
		CLYMER	9	57 PENN RUN
		CLYMER	9	58 PENN RUN
		CLYMER	9	59 PENN RUN
		CLYMER	9	60 PENN RUN
		COMMODORE	7	11 TWO LICK CREEK
		COMMODORE	7	12 BROWNS RUN
		COMMODORE	8	13 ROSE RUN
HARRY T LUCAS	UNION DRILLING INC	COMMODORE	7	15 BROWNS RUN
HARRY T LUCAS	UNION DRILLING INC	COMMODORE	7	16 PENN RUN
HARVEY BROWN	UNION DRILLING INC	COMMODORE	7	19 ROSE RUN
HARVEY BROWN	UNION DRILLING INC	COMMODORE	7	21 ROSE RUN
JOHN H MILLER JR	UNION DRILLING INC	BRUSH VALLEY	3	34 YELLOW CREEK
KENNETH ALSOP	UNION DRILLING INC	COMMODORE	7	17 PENN RUN
KENNETH ALSOP	UNION DRILLING INC	COMMODORE	7	18 ROSE RUN
KENNETH ALSOP	UNION DRILLING INC	COMMODORE	7	20 ROSE RUN
		STRONGSTOWN	1	1 YELLOW CREEK
* Township/Municipality: CONEMAUGH TWP				
		BLAIRSVILLE	1	1 CONEMAUGH RIVER
		BLAIRSVILLE	4	5 CONEMAUGH RIVER
* Township/Municipality: EAST MAHONING TWP				
		MARION CENTER	3	10 LITTLE MAHONING CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
	DORAN & ASSOCIATES	MARION CENTER	3	11 LITTLE MAHONING CREEK
		MARION CENTER	4	14 ROSS RUN
		MARION CENTER	5	16 LITTLE MAHONING CREEK
		MARION CENTER	5	17 PICKERING RUN
		MARION CENTER	5	18 LITTLE MAHONING CREEK
		MARION CENTER	5	19 PICKERING RUN
		MARION CENTER	5	20 PICKERING RUN
		MARION CENTER	5	21 LITTLE MAHONING CREEK
		MARION CENTER	5	22 PICKERING RUN
		MARION CENTER	5	25 LITTLE MAHONING CREEK
		MARION CENTER	6	23 LITTLE MAHONING CREEK
		MARION CENTER	6	24 LITTLE MAHONING CREEK
		MARION CENTER	7	28 GOOSE RUN
		MARION CENTER	9	5 PICKERING RUN
		MARION CENTER	9	6 PICKERING RUN
		MARION CENTER	9	7 PICKERING RUN
		MARION CENTER	9	29 PINE RUN
		MARION CENTER	9	30 RAYNE RUN
		MARION CENTER	9	31 LITTLE MAHONING CREEK
		MARION CENTER	9	32 PICKERING RUN
		MARION CENTER	9	33 PICKERING RUN
		MARION CENTER	9	34 PICKERING RUN
		MARION CENTER	9	35 PICKERING RUN
		MARION CENTER	9	36 DIXON RUN
		MARION CENTER	9	38 RAYNE RUN
		ROCHESTER MILLS	4	7 CROOKED RUN
		ROCHESTER MILLS	7	41 CROOKED RUN
		ROCHESTER MILLS	7	42 CROOKED RUN
RUTH C FULTON	MID-EAST OIL CO.	MARION CENTER	6	801 LITTLE MAHONING CREEK
* Township/Municipality: GRANT TWP				
ALETHIE KNAPP	ATLAS RESOURCES INC.	ROCHESTER MILLS	8	31 RAIRIGH RUN
ALETHIE KNAPP	ATLAS RESOURCES INC.	ROCHESTER MILLS	9	33 RAIRIGH RUN
C EDWARD STUCHELL	ADOBE OIL & GAS	ROCHESTER MILLS	8	47 RAIRIGH RUN
CHARLES ADAM	ADOBE OIL & GAS	ROCHESTER MILLS	5	18 LITTLE MAHONING CREEK
CLAIR & MARY BROWN	KRIEBEL WELLS	ROCHESTER MILLS	8	46 LITTLE MAHONING CREEK
CLAIR AND MARY L BROWN	KRIEBEL WELLS	ROCHESTER MILLS	9	48 RAIRIGH RUN
		COMMODORE	1	2 LITTLE MAHONING CREEK
		COMMODORE	2	3 EAST RUN
		COMMODORE	2	5 EAST RUN
ELSIE OLP	J & J ENTERPRISES	ROCHESTER MILLS	7	24 LITTLE MAHONING CREEK
GEORGE READE & DOROTHY STINEMAN	KEYSTATE ASSOC	ROCHESTER MILLS	5	35 LITTLE MAHONING CREEK
JOHN C BUTERBAUGH	KRIEBEL WELLS	COMMODORE	2	14 LITTLE MAHONING CREEK
MARIA CICERO	J & J ENTERPRISES	ROCHESTER MILLS	5	803 LITTLE MAHONING CREEK
PHILIP RICE	THE PEOPLES NATURAL GAS CO	ROCHESTER MILLS	7	804 LITTLE MAHONING CREEK
REGIS A MCKNIGHT	KEYSTONE ENERGY OIL & GAS	ROCHESTER MILLS	8	27 LITTLE MAHONING CREEK
		ROCHESTER MILLS	4	8 LITTLE MAHONING CREEK
		ROCHESTER MILLS	4	9 CROOKED RUN
		ROCHESTER MILLS	4	10 CROOKED RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect. Key	Map Receiving Stream
J & J ENTERPRISES		ROCHESTER MILLS 4	11	CROOKED RUN
		ROCHESTER MILLS 4	12	BEECH RUN
		ROCHESTER MILLS 4	13	BEECH RUN
		ROCHESTER MILLS 4	14	BEECH RUN
		ROCHESTER MILLS 4	15	LITTLE MAHONING CREEK
		ROCHESTER MILLS 4	16	BEECH RUN
		ROCHESTER MILLS 4	17	BEECH RUN
		ROCHESTER MILLS 4	39	CROOKED RUN
		ROCHESTER MILLS 5	19	LITTLE MAHONING CREEK
		ROCHESTER MILLS 5	40	LITTLE MAHONING CREEK
		ROCHESTER MILLS 6	20	LITTLE MAHONING CREEK
		ROCHESTER MILLS 7	23	LITTLE MAHONING CREEK
		ROCHESTER MILLS 7	25	LITTLE MAHONING CREEK
		ROCHESTER MILLS 7	43	LITTLE MAHONING CREEK
		ROCHESTER MILLS 7	44	LITTLE MAHONING CREEK
		ROCHESTER MILLS 7	45	LITTLE MAHONING CREEK
		ROCHESTER MILLS 8	28	LITTLE MAHONING CREEK
		ROCHESTER MILLS 8	29	LITTLE MAHONING CREEK
		ROCHESTER MILLS 8	30	LITTLE MAHONING CREEK
		ROCHESTER MILLS 8	32	EAST RUN
		ROCHESTER MILLS 8	49	LITTLE MAHONING CREEK
		ROCHESTER MILLS 8	26	LITTLE MAHONING CREEK
W.E. GOSS	J & J ENTERPRISES			
* Township/Municipality: GREEN TWP				
		COMMODORE	1	1 LITTLE MAHONING CREEK
		COMMODORE	2	4 NORTH BRANCH
		COMMODORE	4	6 BUCK RUN
		COMMODORE	5	7 NORTH BRANCH
		COMMODORE	5	8 SOUTH BRANCH
		COMMODORE	5	9 SOUTH BRANCH
		COMMODORE	6	10 POMPEY RUN
* Township/Municipality: MONTGOMERY TWP				
		BURNSIDE	4	9 CUSH CREEK
		BURNSIDE	7	18 CUSH CREEK
		BURNSIDE	7	19 CUSH CREEK
		BURNSIDE	7	20 CUSH CREEK
		BURNSIDE	8	23 SHRYOCK RUN
FRED A MUSSER	J & J ENTERPRISES	ROCHESTER MILLS 9	805	CUSH CREEK
		ROCHESTER MILLS 6	22	CUSH CREEK
		ROCHESTER MILLS 9	34	CUSH CREEK
* Township/Municipality: NORTH MAHONING TWP				
		MARION CENTER	3	9 MUDLICK RUN
		MARION CENTER	3	12 LITTLE MAHONING CREEK
		MARION CENTER	3	13 LITTLE MAHONING CREEK
		ROCHESTER MILLS 1	1	LEASURE RUN
		VALIER	7	12 MAHONING CREEK
		VALIER	8	14 DUTCH RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
		VALIER	8	16 DUTCH RUN
		VALIER	8	26 MUDLICK RUN
		VALIER	8	27 DUTCH RUN
		VALIER	9	17 DUTCH RUN
		VALIER	9	18 DUTCH RUN
		VALIER	9	19 DUTCH RUN
		VALIER	9	20 DUTCH RUN
		VALIER	9	21 CANOE CREEK
		VALIER	9	22 CANOE CREEK
		VALIER	9	23 CANOE CREEK
		VALIER	9	24 CANOE CREEK
		VALIER	9	28 DUTCH RUN
		VALIER	9	29 DUTCH RUN
* Township/Municipality: PINE TWP				
		STRONGSTOWN	3	2 YELLOW CREEK
* Township/Municipality: RAYNE TWP				
BYRON FRICK	TURM OIL INC.	CLYMER	4	65 CROOKED CREEK
		CLYMER	1	6 CROOKED CREEK
		CLYMER	1	22 PINE RUN
		CLYMER	2	1 CROOKED CREEK
		CLYMER	2	2 RAYNE RUN
		CLYMER	2	3 RAYNE RUN
		CLYMER	2	4 RAYNE RUN
		CLYMER	2	5 RAYNE RUN
		CLYMER	2	23 CROOKED CREEK
		CLYMER	2	24 CROOKED CREEK
		CLYMER	2	25 RAYNE RUN
		CLYMER	2	26 RAYNE RUN
		CLYMER	2	27 RAYNE RUN
		CLYMER	2	28 RAYNE RUN
		CLYMER	3	29 CROOKED CREEK
		CLYMER	3	30 CROOKED CREEK
		CLYMER	3	31 RAYNE RUN
		CLYMER	3	32 RAYNE RUN
		CLYMER	3	33 RAYNE RUN
		CLYMER	3	34 RAYNE RUN
		CLYMER	3	35 DIXON RUN
		CLYMER	3	36 DIXON RUN
		CLYMER	4	7 CROOKED CREEK
		CLYMER	5	9 CROOKED CREEK
		CLYMER	5	10 CROOKED CREEK
		CLYMER	5	11 CROOKED CREEK
		CLYMER	5	12 CROOKED CREEK
		CLYMER	5	38 CROOKED CREEK
		CLYMER	5	39 CROOKED CREEK
		CLYMER	7	14 TWO LICK CREEK
		CLYMER	7	15 TWO LICK CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
		CLYMER	7	16	CROOKED CREEK
		CLYMER	7	17	CROOKED CREEK
		CLYMER	7	18	CROOKED CREEK
		CLYMER	7	52	CROOKED CREEK
		CLYMER	7	53	CROOKED CREEK
		CLYMER	8	19	CROOKED CREEK
		CLYMER	8	54	CROOKED CREEK
		CLYMER	8	55	CROOKED CREEK
		CLYMER	8	56	CROOKED CREEK
		ERNEST	6	9	CROOKED CREEK
		ERNEST	6	10	MCKEE RUN
		ERNEST	6	11	MCKEE RUN
		ERNEST	6	12	CROOKED CREEK
		ERNEST	6	13	MCKEE RUN
		MARION CENTER	7	2	PINE RUN
		MARION CENTER	7	3	PINE RUN
		MARION CENTER	8	4	PINE RUN
		MARION CENTER	8	39	PINE RUN
		MARION CENTER	9	37	RAYNE RUN
MAX C ALTMAN	THE PEOPLES NATURAL GAS CO	CLYMER	1	61	BRUSH RUN
ORD HOUCK	UNION DRILLING INC	CLYMER	5	62	CROOKED CREEK
ROBERT BARCLAY	UNION DRILLING INC	CLYMER	5	63	CROOKED CREEK
SLEEP HOLLOW CLUB	UNION DRILLING INC	CLYMER	4	8	CROOKED CREEK
* Township/Municipality: SOUTH MAHONING TWP					
ANITA SMITH	PENN WAYNE GAS CO	PLUMVILLE	9	804	LEISURE RUN
GEORGE DOUGLAS	ANGERMAN GAS VENTURE #3	PLUMVILLE	9	805	S BR PLUM CREEK
JAMES SHELLHAMMER	ANGERMAN GAS VENTURE #3	PLUMVILLE	9	803	LEISURE RUN
LESLIE BERESNYAK	MID-EAST OIL CO.	PLUMVILLE	9	809	LEISURE RUN
MADELINE MARSHALL	MID-EAST OIL CO.	PLUMVILLE	9	808	LEISURE RUN
		MARION CENTER	4	1	GOOSE RUN
		MARION CENTER	4	15	GOOSE RUN
		MARION CENTER	7	26	GOOSE RUN
		MARION CENTER	7	27	S BR PLUM CREEK
	MID-EAST OIL CO.	PLUMVILLE	3	8	LITTLE MAHONING CREEK
		PLUMVILLE	3	11	LITTLE MAHONING CREEK
		PLUMVILLE	5	18	N BR PLUM CREEK
J & J ENTERPRISES		PLUMVILLE	5	19	N BR PLUM CREEK
DORAN & ASSOCIATES		PLUMVILLE	5	20	N BR PLUM CREEK
		PLUMVILLE	5	21	LITTLE MAHONING CREEK
		PLUMVILLE	5	22	N BR PLUM CREEK
J & J ENTERPRISES		PLUMVILLE	6	23	LITTLE MAHONING CREEK
		PLUMVILLE	6	24	N BR PLUM CREEK
		PLUMVILLE	6	25	N BR PLUM CREEK
J & J ENTERPRISES		PLUMVILLE	6	26	LEISURE RUN
J & J ENTERPRISES		PLUMVILLE	6	27	LEISURE RUN
		PLUMVILLE	6	28	ROSS RUN
		PLUMVILLE	8	35	N BR PLUM CREEK
		PLUMVILLE	8	36	N BR PLUM CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
		PLUMVILLE	8	37	N BR PLUM CREEK
	KEYSTONE ENERGY OIL & GAS	PLUMVILLE	9	39	S BR PLUM CREEK
		PLUMVILLE	9	40	S BR PLUM CREEK
	J & J ENTERPRISES	PLUMVILLE	9	41	S BR PLUM CREEK
		PLUMVILLE	9	42	LEISURE RUN
		PLUMVILLE	9	43	LEISURE RUN
		PLUMVILLE	9	44	S BR PLUM CREEK
		PLUMVILLE	9	45	S BR PLUM CREEK
		PLUMVILLE	9	46	LEISURE RUN
		PLUMVILLE	9	47	S BR PLUM CREEK
		PLUMVILLE	9	49	LEISURE RUN
		PLUMVILLE	9	50	LEISURE RUN
	J & J ENTERPRISES	PLUMVILLE	9	51	LEISURE RUN
RALPH PINO	LOUDEN PROPERTIES	PLUMVILLE	9	806	LEISURE RUN
STANLEY ANDERSON	MID-EAST OIL CO.	PLUMVILLE	9	807	LEISURE RUN
* Township/Municipality: WASHINGTON TWP					
E SCOTT DOUDS	KEYSTONE ENERGY OIL & GAS	PLUMVILLE	7	801	SUGARCAMP RUN
E SCOTT DOUDS	KEYSTONE ENERGY OIL & GAS	PLUMVILLE	7	802	SUGARCAMP RUN
		ERNEST	1	1	SUGARCAMP RUN
		ERNEST	1	2	S BR PLUM CREEK
		ERNEST	4	3	CROOKED CREEK
		ERNEST	5	5	CROOKED CREEK
		ERNEST	5	6	CROOKED CREEK
		ERNEST	5	7	MCKEE RUN
		ERNEST	5	8	CROOKED CREEK
	EQUITABLE OIL	PLUMVILLE	7	32	SUGARCAMP RUN
		PLUMVILLE	8	33	SUGARCAMP RUN
	J & J ENTERPRISES	PLUMVILLE	8	34	S BR PLUM CREEK
		PLUMVILLE	8	38	S BR PLUM CREEK
		PLUMVILLE	9	48	S BR PLUM CREEK
* Township/Municipality: WEST MAHONING TWP					
		DAYTON	8	23	SUGARCAMP RUN
		DAYTON	8	25	MAHONING CREEK
		DAYTON	9	26	CARR RUN
		MARION CENTER	1	8	LITTLE MAHONING CREEK
	J & J ENTERPRISES	PLUMVILLE	2	5	LITTLE MAHONING CREEK
	J & J ENTERPRISES	PLUMVILLE	3	6	LITTLE MAHONING CREEK
		PLUMVILLE	3	7	LITTLE MAHONING CREEK
		PLUMVILLE	3	9	LITTLE MAHONING CREEK
	J & J ENTERPRISES	PLUMVILLE	3	10	LITTLE MAHONING CREEK
* Township/Municipality: WHITE TWP					
		BRUSH VALLEY	1	16	RAMSEY RUN
		BRUSH VALLEY	1	17	RAMSEY RUN
		BRUSH VALLEY	4	3	YELLOW CREEK
		BRUSH VALLEY	4	4	YELLOW CREEK
		CLYMER	4	37	MCKEE RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
		CLYMER	7	13	TWO LICK CREEK
		CLYMER	7	44	RAMSEY RUN
		CLYMER	7	45	RAMSEY RUN
		CLYMER	7	46	RAMSEY RUN
		CLYMER	7	47	MCKEE RUN
		CLYMER	7	48	MCKEE RUN
		CLYMER	7	49	MCKEE RUN
		CLYMER	7	50	RAMSEY RUN
		CLYMER	7	51	TWO LICK CREEK
		ERNEST	5	4	CROOKED CREEK
		ERNEST	6	14	MCKEE RUN
		ERNEST	7	15	CROOKED CREEK
		ERNEST	8	16	FULTON RUN
		ERNEST	8	17	FULTON RUN
		ERNEST	8	18	FULTON RUN
		ERNEST	8	19	WHITES RUN
		ERNEST	8	22	WHITES RUN
		ERNEST	9	20	WHITES RUN
		ERNEST	9	21	MCKEE RUN
GLEN ELLISON	ADOBE OIL & GAS	BRUSH VALLEY	4	5	YELLOW CREEK
		INDIANA	6	3	TWO LICK CREEK
		INDIANA	6	4	YELLOW CREEK
		INDIANA	6	5	YELLOW CREEK
THOMAS BONARRGIO	ADOBE OIL & GAS	BRUSH VALLEY	1	1	YELLOW CREEK
WILLIAM OR MARGARET LAZOR	ANGERMAN GAS VENTURE #6	INDIANA	2	801	MCCARTHY RUN
WILLIAM OR MARGARET LAZOR	ANGERMAN GAS VENTURE #6	INDIANA	2	802	MCCARTHY RUN
* Township/Municipality: YOUNG TWP					
JOHN S STEWART	QUESTA PETROLEUM CO	MCINTYRE	7	6	MARSHALL RUN
JOHN S STEWART	QUESTA PETROLEUM CO	MCINTYRE	8	7	MARSHALL RUN
		MCINTYRE	1	1	BLACKLEGS CREEK
		MCINTYRE	4	2	BLACKLEGS CREEK
		MCINTYRE	4	3	BLACKLEGS CREEK
		MCINTYRE	7	4	BLACKLEGS CREEK
** County: JEFFERSON					
* Township/Municipality: BELL TWP					
JOHN FIRMENT	BENNY KELLY ENTERPRISES	PUNXSUTAWNEY	9	31	UGLY RUN
JOSEPH ZUFALL	MID-EAST OIL CO.	PUNXSUTAWNEY	5	32	CANOE CREEK
		PUNXSUTAWNEY	2	5	COLD SPRING RUN
		PUNXSUTAWNEY	2	6	ROCK RUN
	ADOBE OIL & GAS	PUNXSUTAWNEY	3	7	ROCK RUN
	ADOBE OIL & GAS	PUNXSUTAWNEY	3	28	MAHONING CREEK
		PUNXSUTAWNEY	5	9	CANOE CREEK
		PUNXSUTAWNEY	5	10	CANOE CREEK
	DORAN & ASSOCIATES	PUNXSUTAWNEY	6	11	JACKSON RUN
		PUNXSUTAWNEY	8	20	CANOE CREEK
		PUNXSUTAWNEY	9	21	UGLY RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
		PUNXSUTAWNEY	9	33 UGLY RUN
* Township/Municipality: CLOVER TWP				
		SUMMERVILLE	2	1 REDBANK CREEK
* Township/Municipality: ELDRED TWP				
		SIGEL	8	5 SHIPPEN RUN
* Township/Municipality: GASKILL TWP				
		MCGEES MILLS	1	4 E BR MAHONING CREEK
		MCGEES MILLS	1	5 E BR MAHONING CREEK
		MCGEES MILLS	2	6 E BR MAHONING CREEK
		MCGEES MILLS	4	7 MAHONING CREEK
		MCGEES MILLS	4	8 CLOVER RUN
		MCGEES MILLS	5	9 CLOVER RUN
		MCGEES MILLS	5	10 EAST BRANCH
		MCGEES MILLS	5	11 CLOVER RUN
		MCGEES MILLS	5	12 CLOVER RUN
		PUNXSUTAWNEY	9	35 UGLY RUN
		MCGEES MILLS	1	1 MAHONING CREEK
RALPH KELLER	JAMES F SCOTT			
* Township/Municipality: HEATH TWP				
KITTANNING STATE FOREST	O G M DEVELOPMENT CORPORATION	SIGEL	5	3 CLEAR CREEK
PENNSYLVANIA STATE FOREST	O G M DEVELOPMENT CORPORATION	SIGEL	5	1 CLEAR CREEK
PENNSYLVANIA STATE FOREST	O G M DEVELOPMENT CORPORATION	SIGEL	5	4 TRAP RUN
SPENCE AND HARRIGER	O G M DEVELOPMENT CORPORATION	SIGEL	5	2 TRAP RUN
* Township/Municipality: HENDERSON TWP				
MCCLURE , HEIRS	JAMES F SCOTT	PUNXSUTAWNEY	3	24 BIG RUN
		MCGEES MILLS	1	2 STUMP CREEK
		MCGEES MILLS	1	3 STUMP CREEK
	CONSOLIDATED GAS TRANSM. CORP.	MCGEES MILLS	1	27 STUMP CREEK
		MCGEES MILLS	2	32 EAST BRANCH
		MCGEES MILLS	2	33 EAST BRANCH
		REYNOLDSVILLE	9	16 TROUT RUN
		REYNOLDSVILLE	9	24 MCKEE RUN
		REYNOLDSVILLE	9	25 MCKEE RUN
* Township/Municipality: KNOX TWP				
		COOLSPRING	3	4 SANDY LICK CREEK
		REYNOLDSVILLE	1	2 CAMP RUN
* Township/Municipality: MCCALMONT TWP				
DEVERE M BUHITE	OLD MOUNTAIN GAS COMPANY	REYNOLDSVILLE	8	30 BIG RUN
		PUNXSUTAWNEY	1	1 ELK RUN
		REYNOLDSVILLE	5	8 TROUT RUN
		REYNOLDSVILLE	8	14 BIG RUN
		REYNOLDSVILLE	8	15 TURNIP RUN
		REYNOLDSVILLE	8	27 BIG RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
		REYNOLDSVILLE	9	17 BIG RUN
		REYNOLDSVILLE	9	18 BIG RUN
		REYNOLDSVILLE	9	19 TURNIP RUN
		REYNOLDSVILLE	9	20 TURNIP RUN
		REYNOLDSVILLE	9	21 BIG RUN
		REYNOLDSVILLE	9	22 BIG RUN
		REYNOLDSVILLE	9	23 TURNIP RUN
		REYNOLDSVILLE	9	26 BIG RUN
* Township/Municipality: OLIVER TWP				
		COOLSPRING	8	6 HADDEN RUN
		COOLSPRING	9	7 HADDEN RUN
		COOLSPRING	9	8 HADDEN RUN
		VALIER	1	1 BIG RUN
		VALIER	1	2 BIG RUN
		VALIER	2	4 HADDEN RUN
		VALIER	2	25 BIG RUN
* Township/Municipality: PERRY TWP				
		VALIER	2	3 MCCracken RUN
		VALIER	6	7 ROSE RUN
		VALIER	6	8 MAHONING CREEK
		VALIER	6	9 MAHONING CREEK
		VALIER	6	10 MAHONING CREEK
		VALIER	6	11 MAHONING CREEK
		VALIER	8	13 MAHONING CREEK
		VALIER	9	15 MAHONING CREEK
* Township/Municipality: PINECREEK TWP				
		HAZEN	8	4 FIVEMILE RUN
		REYNOLDSVILLE	1	1 SANDY LICK CREEK
* Township/Municipality: PORTER TWP				
		DAYTON	6	18 MIDDLE BRANCH
		DAYTON	6	19 HAMILTON RUN
		DAYTON	6	20 HAMILTON RUN
		DAYTON	8	24 SUGARCAMP RUN
* Township/Municipality: RINGGOLD TWP				
		DAYTON	2	2 PAINTER RUN
		DAYTON	2	3 EAGLE RUN
		DAYTON	2	4 EAGLE RUN
		DAYTON	2	5 CAYLOR RUN
		DAYTON	2	6 CAYLOR RUN
		DAYTON	2	7 PINE RUN
		DAYTON	3	8 CAYLOR RUN
		DAYTON	3	9 CAYLOR RUN
		DAYTON	3	10 CAYLOR RUN
		DAYTON	3	11 CAYLOR RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
		DAYTON	3	12 PINE RUN
		DAYTON	3	13 PINE RUN
		DAYTON	3	14 PINE RUN
		SUMMERVILLE	8	6 NOLF RUN
		SUMMERVILLE	8	7 NOLF RUN
		SUMMERVILLE	8	8 CHERRY RUN
		SUMMERVILLE	8	9 CHERRY RUN
		SUMMERVILLE	8	10 CHERRY RUN
		SUMMERVILLE	8	11 CHERRY RUN
		SUMMERVILLE	8	12 NOLF RUN
* Township/Municipality: ROSE TWP				
		COOLSPRING	1	1 FIVEMILE RUN
		COOLSPRING	1	2 SMATHERS RUN
		COOLSPRING	1	3 SMATHERS RUN
		COOLSPRING	4	5 SMATHERS RUN
* Township/Municipality: SNYDER TWP				
		HAZEN	3	2 MILL CREEK
* Township/Municipality: WARSAW TWP				
		HAZEN	1	1 NORTH FORK
* Township/Municipality: WASHINGTON TWP				
		HAZEN	5	3 KEYS RUN
* Township/Municipality: WINSLOW TWP				
CARMEN A PACHETTI	OLD MOUNTAIN GAS COMPANY	REYNOLDSVILLE	9	31 LAUREL RUN
		DUBOIS	4	1 MCCREIGHT RUN
	J & J ENTERPRISES	DUBOIS	5	4 SUGARCAMP RUN
RENLOW PARK AUTHORITY	OLD MOUNTAIN GAS COMPANY	REYNOLDSVILLE	5	28 FRONT RUN
RENLOW PARK AUTHORITY	OLD MOUNTAIN GAS COMPANY	REYNOLDSVILLE	6	29 TROUT RUN
		REYNOLDSVILLE	2	3 SANDY LICK CREEK
		REYNOLDSVILLE	2	4 SCHOOLHOUSE RUN
		REYNOLDSVILLE	2	5 SANDY LICK CREEK
		REYNOLDSVILLE	2	6 SANDY LICK CREEK
		REYNOLDSVILLE	3	7 SCHOOLHOUSE RUN
		REYNOLDSVILLE	3	32 SANDY LICK CREEK
		REYNOLDSVILLE	5	9 TROUT RUN
		REYNOLDSVILLE	6	10 TROUT RUN
		REYNOLDSVILLE	6	11 TROUT RUN
		REYNOLDSVILLE	6	12 TROUT RUN
		REYNOLDSVILLE	6	13 TROUT RUN
* Township/Municipality: YOUNG TWP				
		PUNXSUTAWNEY	1	2 ELK RUN
		PUNXSUTAWNEY	1	3 ELK RUN
		PUNXSUTAWNEY	2	4 COLD SPRING RUN
		PUNXSUTAWNEY	4	8 SAWMILL RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
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PUNXSUTAWNEY	5	27 PAINTER RUN
VALIER	3	5 LITTLE ELK RUN
VALIER	3	6 SAWMILL RUN

** County: MCKEAN

* Township/Municipality: ANNIN TWP

CARLSON LEASE	MICON EXPLORATION	BULLIS MILLS	8	8 ANNIN CREEK
CROWLEY LEASE	MICON EXPLORATION	BULLIS MILLS	8	4 ANNIN CREEK
CROWLEY LEASE	MICON EXPLORATION	BULLIS MILLS	8	6 ANNIN CREEK
CROWLEY	ANNIN CREEK OIL CORP.	BULLIS MILLS	8	5 ANNIN CREEK
CROWLEY	FRANCES D. CROWLEY	BULLIS MILLS	8	801 ROCK RUN
FRENCH LEASE	MICON EXPLORATION	BULLIS MILLS	9	9 ANNIN CREEK
HUGHES LEASE	MICON EXPLORATION	BULLIS MILLS	8	3 ANNIN CREEK
JOYCE-BENSON LEASE	KIMBERLY-AMERICAN RESOURCES	BULLIS MILLS	8	7 ANNIN CREEK

* Township/Municipality: BRADFORD BORO

BROWN & SON OIL CO.	BRADFORD	6	801 TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	802 TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	803 TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	804 TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	805 TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	806 TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	807 E BR TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	808 E BR TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	809 E BR TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	810 E BR TUNUNGWANT CREEK
BROWN & SON OIL CO.	BRADFORD	6	811 E BR TUNUNGWANT CREEK
BOUQUIN, FRED C.	BRADFORD	6	816 E BR TUNUNGWANT CREEK
RONALD A. DENNIS	BRADFORD	6	817 E BR TUNUNGWANT CREEK
RONALD A. DENNIS	BRADFORD	6	818 E BR TUNUNGWANT CREEK

* Township/Municipality: BRADFORD CITY

W.M. KLINE OIL CO.	BRADFORD	3	2 W BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	3 W BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	4 W BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	5 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	6 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	7 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	9 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	3	10 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	11 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	12 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	13 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	14 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	15 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	16 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	17 E BR TUNUNGWANT CREEK
W.M. KLINE OIL CO.	BRADFORD	6	18 E BR TUNUNGWANT CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
CATERINA	W.M. KLINE OIL CO.	BRADFORD	6	19 E BR	TUNUNGWANT CREEK
	GEORGE HANSON OIL CO.	BRADFORD	6	20 E BR	TUNUNGWANT CREEK
	EDMONDS OIL CO.	BRADFORD	6	21 BENNETT	BROOK
	EDMONDS OIL CO.	BRADFORD	6	22 BENNETT	BROOK
	GEORGE HANSON OIL CO.	BRADFORD	6	30 W BR	TUNUNGWANT CREEK
	VAN TINE OIL CO.	BRADFORD	6	31 E BR	TUNUNGWANT CREEK
	VAN TINE OIL CO.	BRADFORD	6	32 E BR	TUNUNGWANT CREEK
	GEORGE HANSON OIL CO.	BRADFORD	6	33 E BR	TUNUNGWANT CREEK
	VAN TINE OIL CO.	BRADFORD	6	34 E BR	TUNUNGWANT CREEK
	W.M. KLINE OIL CO.	BRADFORD	6	35 E BR	TUNUNGWANT CREEK
	W.M. KLINE OIL CO.	BRADFORD	6	36 E BR	TUNUNGWANT CREEK
	LOUIS ONOFRIO	BRADFORD	6	23 W BR	TUNUNGWANT CREEK
	JOHN DOBSON OIL COMPANY	DERRICK CITY	1	19 TUNUNGWANT	CREEK
	ALAN DOUGLAS	DERRICK CITY	1	18 TUNUNGWANT	CREEK
	PHILIP M. ROSE	BRADFORD	3	8 E BR	TUNUNGWANT CREEK
* Township/Municipality: BRADFORD TWP					
"B" JEWETT	BRYNER INTERESTS	BRADFORD	9	85 E BR	TUNUNGWANT CREEK
BELL	MINARD RUN OIL CO	BRADFORD	6	45 E BR	TUNUNGWANT CREEK
	WITCO CHEMICAL CORPORATION	BRADFORD		819 W BR	TUNUNGWANT CREEK
	GEORGE HANSON OIL CO.	BRADFORD	6	25 W BR	TUNUNGWANT CREEK
	GEORGE HANSON OIL CO.	BRADFORD	6	26 W BR	TUNUNGWANT CREEK
	VAN TINE OIL CO.	BRADFORD	6	27 W BR	TUNUNGWANT CREEK
	GEORGE HANSON OIL CO.	BRADFORD	6	28 W BR	TUNUNGWANT CREEK
	GEORGE HANSON OIL CO.	BRADFORD	6	29 W BR	TUNUNGWANT CREEK
	W.M. KLINE OIL CO.	BRADFORD	6	37 E BR	TUNUNGWANT CREEK
		BRADFORD	6	39 E BR	TUNUNGWANT CREEK
		BRADFORD	6	41 E BR	TUNUNGWANT CREEK
	MINARD RUN OIL CO	BRADFORD	6	42 E Br	Tunungwant Creek
	W.M. KLINE OIL CO.	BRADFORD	6	43 RUTHERFORD	RUN
	W.M. KLINE OIL CO.	BRADFORD	6	46 E BR	TUNUNGWANT CREEK
	W.M. KLINE OIL CO.	BRADFORD	7	58 W BR	TUNUNGWANT CREEK
	W.M. KLINE OIL CO.	BRADFORD	7	59 W BR	TUNUNGWANT CREEK
	Densmore?	BRADFORD	8	61 Crooker	Hollow
		BRADFORD	8	62 Crooker	Hollow
	Densmore?	BRADFORD	8	64 Tome	Hol
		BRADFORD	8	65 SHEPPARD	RUN
	LEWIS HESS?	BRADFORD	8	71 Sheppard	Run
	MINARD RUN OIL CO	BRADFORD	8	74 Unnamed	Trib
		BRADFORD	8	75 Unnamed	Trib
	G.L. NIPPERT EST.	BRADFORD	8	76 UNNAMED	TRIB
	KINLEY OIL & GAS CORPORATION	BRADFORD	9	78 E BR	TUNUNGWANT CREEK
		BRADFORD	9	81 SHEPPARD	RUN
		BRADFORD	9	82 SHEPPARD	RUN
		BRADFORD	9	83 Sheppard	Run
	WITCO CHEMICAL CORPORATION	BRADFORD	9	88 E Br	Tunungwant Creek
	WITCO CHEMICAL CORPORATION	BRADFORD	9	89 E BR	TUNUNGWANT CREEK
	BROWN & SON OIL CO.	BRADFORD	9	812 E BR	TUNUNGWANT CREEK
	BROWN & SON OIL CO.	BRADFORD	9	813 E BR	TUNUNGWANT CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
	BROWN & SON OIL CO.	BRADFORD	9	814 E BR TUNUNGWANT CREEK
	BROWN & SON OIL CO.	BRADFORD	9	815 E BR TUNUNGWANT CREEK
	PHILIP M. ROSE	BRADFORD	9	820 E BR TUNUNGWANT CREEK
	WITCO CHEMICAL CORPORATION	BRADFORD	9	821 E BR TUNUNGWANT CREEK
BRINTON LEASE	QUAKER STATE	BRADFORD	5	57 NILES HOLLOW
BURTON	MINARD RUN OIL CO	BRADFORD	6	47 E BR TUNUNGWANT CREEK
COLE FARM	PHILIP M. ROSE	DERRICK CITY	7	87 MINARD RUN
CONKLIN	JACOB FARRELL	BRADFORD	8	73 KISSEM RUN
CRAFT LEASE	QUAKER STATE OIL REFINING CORP	BRADFORD	5	51 W BR TUNUNGWANT CREEK
CRAM	MINARD RUN OIL CO	BRADFORD	6	44 UNNAMED TRIB
CUSTER (3905)	WITCO CHEMICAL CORPORATION	BRADFORD	9	91 SHEPPARD RUN
	W.M. KLINE OIL CO.	DERRICK CITY	1	6 FOSTER BROOK
	PECORA ENTERPRISES	DERRICK CITY	4	70 RUTHERFORD RUN
	FREDRICK J. YOUNG	DERRICK CITY	7	88 MINARD RUN
	FREDRICK J. YOUNG	DERRICK CITY	7	89 MINARD RUN
EMERY	WITCO CHEMICAL CORPORATION	BRADFORD	5	49 W BR TUNUNGWANT CREEK
ENRIGHT LEASE	QUAKER STATE OIL REFINING CORP	BRADFORD	8	72 Kisse Run
ENRIGHT, BERRY & QS	QUAKER STATE	BRADFORD	8	67 KISSEM RUN
ENRIGHT, BERRY & QS	QUAKER STATE	BRADFORD	8	69 SHEPPARD RUN
ETNA	BRYNER INTERESTS	BRADFORD	5	55 CROOKER HOLLOW
FREEMAN	BRYNER INTERESTS	BRADFORD	9	90 E BR TUNUNGWANT CREEK
HAFFESY	BRYNER INTERESTS	BRADFORD	9	77 E BR TUNUNGWANT CREEK
HARPER	BRYNER INTERESTS	BRADFORD	5	52 W BR TUNUNGWANT CREEK
HELENBROOK	MINARD RUN OIL CO	BRADFORD	6	48 E BR TUNUNGWANT CREEK
HUNTER & KNAPPENBERGER	BRYNER INTERESTS	BRADFORD	5	53 W BR TUNUNGWANT CREEK
JACK	PECORA ENTERPRISES	BRADFORD	5	50 W BR TUNUNGWANT CREEK
JACKSON (3905)	WITCO CHEMICAL CORPORATION	BRADFORD	9	93 SHEPPARD RUN
JEWETT (3905)	WITCO CHEMICAL CORPORATION	BRADFORD	9	92 SHEPPARD RUN
MARTIN	BRYNER INTERESTS	BRADFORD	9	87 E BR TUNUNGWANT CREEK
MOODY TRACT	MINARD RUN OIL CO	DERRICK CITY	7	90 FOSTER HOLLOW
MOODY TRACT	MINARD RUN OIL CO	DERRICK CITY	7	91 MINARD RUN
MOODY TRACT	MINARD RUN OIL CO	DERRICK CITY	7	92 MINARD RUN
MULLHAUPT LEASE	WITCO CHEMICAL CORPORATION	BRADFORD	5	56 CROOKER HOLLOW
MULLHAUPT LEASE	WITCO CHEMICAL CORPORATION	BRADFORD	8	70 SHEPPARD RUN
MULLHAUPT	WITCO CHEMICAL CORPORATION	BRADFORD	8	63 TOME HOL
MULLHAUPT	WITCO CHEMICAL CORPORATION	BRADFORD	8	66 SHEPPARD RUN
MULLHAUPT	WITCO CHEMICAL CORPORATION	BRADFORD	8	68 SHEPPARD RUN
NORRIS FARM	NORRIS FARM (MRS. LEONARD JOHNS)	BRADFORD	9	822 SUGAR RUN
NORRIS FARM	NORRIS FARM (MRS. LEONARD JOHNS)	BRADFORD	9	823 E BR TUNUNGWANT CREEK
ROSS FARM	LOUIS ONOFRIO	BRADFORD	6	24 W BR TUNUNGWANT CREEK
STODDARD	MINARD RUN OIL CO	BRADFORD	6	38 UNNAMED TRIB
STRIEK	BRYNER INTERESTS	BRADFORD	9	86 E BR TUNUNGWANT CREEK
TIBBITTS	MINARD RUN OIL CO	BRADFORD	6	40 UNNAMED TRIB
WOODWARD	BRYNER INTERESTS	BRADFORD	8	60 CROOKER HOLLOW
WT 3309	JOHN PURTLE	BRADFORD	5	54 W BR TUNUNGWANT CREEK
WT. 3905	WITCO CHEMICAL CORPORATION	BRADFORD	9	79 SHEPPARD RUN
WT. 3905	WITCO CHEMICAL CORPORATION	BRADFORD	9	80 SHEPPARD RUN
WT. 3905	WITCO CHEMICAL CORPORATION	BRADFORD	9	84 SHEPPARD RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
* Township/Municipality: CERES TWP				
CHAMPLIN LEASE	J. J. BUCHER	BULLIS MILLS	3	1 KINGS RUN
ROBERTS LEASE	J. J. BUCHER	BULLIS MILLS	3	2 KINGS RUN
		SHINGLEHOUSE	1	1 BELL RUN
	WILDCATTERS	SHINGLEHOUSE	1	3 HORSE RUN
TERETTE	J. J. BUCHER	SHINGLEHOUSE	1	2 BELL RUN
* Township/Municipality: CORYDON TWP				
EASTERN OVERTHRUST ENERGY	DUKE ENERGY, INC.	STICKNEY	8	10 CONOVER HOLLOW
MALLORY LOT 6	PENNZOIL	WESTLINE	2	2 N FORK CHAPPEL FORK
	PECORA ENTERPRISES	STICKNEY	2	2 WILLOW CREEK
	PECORA ENTERPRISES	STICKNEY	2	3 WILLOW CREEK
	PECORA ENTERPRISES	STICKNEY	2	4 WILLOW CREEK
	PECORA ENTERPRISES	STICKNEY	2	5 WILLOW CREEK
TOME LEASE	ALLEGRO OIL & GAS INC.	STICKNEY	1	1 WILLOW CREEK
TRACY RIDGE (WT 3702)	NUCORP ENERGY CORP.	STICKNEY	2	6 COFFEY RUN
		WESTLINE	2	3 CRARY RUN
	L. E. MALLORY & SON	WESTLINE	2	801 SUGAR RUN
WT 4908	KALTSAS OIL CO.	STICKNEY	8	7 BUCK LICK RUN
WT 4908	COMMONWEALTH OIL & GAS CO.	STICKNEY	8	8 BUCK LICK RUN
WT 4908	COMMONWEALTH OIL & GAS CO.	STICKNEY	8	9 BUCK LICK RUN
* Township/Municipality: ELDRED TWP				
CORY-UNDERWOOD	CUNNINGHAM NATURAL GAS CORP.	ELDRED	9	35 MOODY HOLLOW
DUKE & BUCK	PENNZOIL	ELDRED	4	16 TRAM HOLLOW RUN
		ELDRED	2	10 INDIAN CREEK
	PENNZOIL	ELDRED	2	11 INDIAN CREEK
	P M OIL CO.	ELDRED	3	13 INDIAN CREEK
		ELDRED	3	14 INDIAN CREEK
	HEIRS OIL CO.	ELDRED	4	15 TRAM HOLLOW RUN
		ELDRED	4	17 TRAM HOLLOW RUN
	THOMAS KERVIN, III OIL CO.	ELDRED	4	20 KNAPP CREEK
	THOMAS KERVIN, III OIL CO.	ELDRED	4	21 KNAPP CREEK
		ELDRED	4	22 S BR KNAPP CREEK
	THOMAS KERVIN, III OIL CO.	ELDRED	5	31 KNAPP CREEK
	ROBERT P. LEWIS	ELDRED	9	802 POTATO CREEK
GUENTER	CUNNINGHAM NATURAL GAS CORP.	ELDRED	9	34 MOODY HOLLOW
HAMLIN SMITH	PENNZOIL	ELDRED	2	12 DRAKE HOLLOW
HEMLOCK, LOT 277	PENNZOIL	ELDRED	2	8 KANSAS BRANCH
HOLMES	CUNNINGHAM NATURAL GAS CORP.	ELDRED	9	36 MOODY HOLLOW
HOLMES	CUNNINGHAM NATURAL GAS CORP.	ELDRED	9	37 MOODY HOLLOW
SHICK	CUNNINGHAM NATURAL GAS CORP.	ELDRED	9	33 MOODY HOLLOW
ZIMMER	PENNZOIL	ELDRED	2	9 INDIAN CREEK
* Township/Municipality: FOSTER TWP				
	+	DERRICK CITY	2	45 FOSTER BROOK
BARRY	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	32 FOSTER BROOK
BARRY	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	33 FOSTER BROOK
BISETT	W.F. DEVLIN & GENEVIVE DEVLIN	DERRICK CITY	5	76 UNT KENDALL CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
BOLTON	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	47	FOSTER BROOK
BOYD-GERMER	WITCO CHEMICAL CORPORATION	DERRICK CITY	5	74	KENDALL CREEK
BOYER	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	27	PENNBROOK RUN
CARLSON (219)	QUAKER STATE	DERRICK CITY	1	4	TUNUNGWANT CREEK
CARLSON	QUAKER STATE	DERRICK CITY	4	61	KENDALL CREEK
CLARK-HANNA	GEORGE HANSON OIL CO.	DERRICK CITY	1	12	FOSTER BROOK
	GARY ORA MORTON	DERRICK CITY	0	802	TUNUNGWANT CREEK
	RICHARD A. MERRY	DERRICK CITY	0	804	KENDALL CREEK
	E.E. CARLSON OIL CO.	DERRICK CITY	1	1	TUNUNGWANT CREEK
	E.E. CARLSON OIL CO.	DERRICK CITY	1	2	TUNUNGWANT CREEK
	W.M. KLINE OIL CO.	DERRICK CITY	1	5	FOSTER BROOK
	BRYNER INTERESTS	DERRICK CITY	1	8	FOSTER BROOK
		DERRICK CITY	1	10	TUNUNGWANT CREEK
	JOHN DOBSON OIL COMPANY	DERRICK CITY	1	11	TUNUNGWANT CREEK
	PENNZOIL	DERRICK CITY	1	14	FOSTER BROOK
		DERRICK CITY	1	17	FOSTER BROOK
	DONALD PETERSON	DERRICK CITY	1	801	FOSTER BROOK
	LINDA & ROGER FARRELL	DERRICK CITY	1	803	FOSTER BROOK
	QUAKER STATE	DERRICK CITY	2	23	HARRISBURG RUN
	PENNZOIL	DERRICK CITY	2	24	HARRISBURG RUN
		DERRICK CITY	2	26	PENNBROOK RUN
		DERRICK CITY	2	40	FOSTER BROOK
	QUAKER STATE	DERRICK CITY	2	41	FOSTER BROOK
	PENNZOIL	DERRICK CITY	4	59	BUCHANAN HOLLOW
	PENNZOIL	DERRICK CITY	4	60	BUCHANAN HOLLOW
	PENNZOIL	DERRICK CITY	4	63	KENDALL CREEK
	PENNZOIL	DERRICK CITY	4	72	KENDALL CREEK
	EDGAR NEWMAN, JR.	DERRICK CITY	4	110	KENDALL CREEK
	MIDDLEBROUGH OIL COMPANY	DERRICK CITY	5	77	UNT KENDALL CREEK
	PENNZOIL	DERRICK CITY	5	78	KENDALL CREEK
	DePETRO & ENGEL OIL COMPANY	DERRICK CITY	9	102	BORDELL BROOK
	PENNZOIL	DERRICK CITY	2	36	LAFFERTY RUN
ENTERPRISE DERRICK-WILLETS	WITCO CHEMICAL CORPORATION	DERRICK CITY	1	15	FOSTER BROOK
FOX	WITCO CHEMICAL CORPORATION	DERRICK CITY	1	112	FOSTER BROOK
FOX	QUAKER STATE	DERRICK CITY	4	66	LAFFERTY RUN
GEORGE	WITCO CHEMICAL CORPORATION	DERRICK CITY	5	73	UNT KENDALL CREEK
GERMER ROYALTY	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	37	UNT FOSTER BROOK
GREER & SAVERLINE	BRYNER INTERESTS	DERRICK CITY	1	9	FOSTER BROOK
HAMPSHIRE & EMERY	ALLEN OIL COMPANY	DERRICK CITY	2	38	FOSTER BROOK
J.A. WALTERS	KENDALL REFINING COMPANY	DERRICK CITY	8	95	KENDALL CREEK
KNOX LEASE	PENNZOIL	DERRICK CITY	4	64	LAFFERTY RUN
LAFFERTY	PENNZOIL	DERRICK CITY	2	29	FOSTER BROOK
LAWRY	PENNZOIL	DERRICK CITY	2	25	HARRISBURG RUN
LOTS 31 & 33	TRAM HOLLOW OIL COMPANY	DERRICK CITY	2	35	PENNBROOK RUN
MAXWELL JACKSON	QUAKER STATE	DERRICK CITY	2	34	PENNBROOK RUN
MAXWELL-JACKSON	QUAKER STATE	DERRICK CITY	2	30	FOSTER BROOK
MCFADDEN	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	31	FOSTER BROOK
MCFADDEN	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	20	KENDALL CREEK
MELVIN	PENNZOIL	DERRICK CITY	1	21	KENDALL CREEK
MELVIN	PENNZOIL	DERRICK CITY	1		

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
MELVIN	PENNZOIL	DERRICK CITY	1	22 KENDALL CREEK
MIDLAND-TAYLOR	PENNZOIL	DERRICK CITY	4	71 KENDALL CREEK
MOODY TRACT	MINARD RUN OIL CO	DERRICK CITY	8	93 KENDALL CREEK
MOODY TRACT	MINARD RUN OIL CO	DERRICK CITY	8	94 KENDALL CREEK
NEATH	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	46 FOSTER BROOK
NEATH	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	116 FOSTER BROOK
NEWELL LEASE	PENNZOIL	DERRICK CITY	1	7 UNNAMED TRIB
NEWELL	PENNZOIL	DERRICK CITY	1	3 UNNAMED TRIB
SAGE/EMERSON	PENNZOIL	DERRICK CITY	2	42 FOSTER BROOK
SAGE	PENNZOIL	DERRICK CITY	2	39 FOSTER BROOK
SAGE	PENNZOIL	DERRICK CITY	2	43 FOSTER BROOK
SAGE	PENNZOIL	DERRICK CITY	2	44 FOSTER BROOK
SHANNON	WITCO CHEMICAL CORPORATION	DERRICK CITY	1	16 FOSTER BROOK
SHANNON	WITCO CHEMICAL CORPORATION	DERRICK CITY	1	113 FOSTER BROOK
TATE FARM	L & J OIL COMPANY	DERRICK CITY	1	13 FOSTER BROOK
TIP TOP (GIBSON)	WITCO CHEMICAL CORPORATION	DERRICK CITY	3	57 FOSTER BROOK
TIP TOP (GIBSON)	WITCO CHEMICAL CORPORATION	DERRICK CITY	3	115 FOSTER BROOK
WATSON	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	28 PENNBROOK RUN
WATSON	WITCO CHEMICAL CORPORATION	DERRICK CITY	2	114 PENNBROOK RUN
WEBB LEASE	QUAKER STATE	DERRICK CITY	4	65 KENDALL CREEK
WEBB LEASE	QUAKER STATE	DERRICK CITY	4	68 KENDALL CREEK
WEBB LEASE	QUAKER STATE	DERRICK CITY	4	69 KENDALL CREEK
WHIPPLE	PENNZOIL	DERRICK CITY	4	62 KENDALL CREEK
WHIPPLE	PENNZOIL	DERRICK CITY	4	67 KENDALL CREEK
WILLETTTS	J.H. GIBSON HEIRS	DERRICK CITY	5	75 UNT KENDALL CREEK
WT3427 LOT 114	WEAVER OIL CO.	BRADFORD	3	1 BIRSLEY STREAM
* Township/Municipality: HAMILTON TWP				
JULIE LEASE	THRESHOLD DRILLING	WESTLINE	1	1 N FORK CHAPPEL FORK
KENDALL-EASTBRANCH 140 & 145	NORTHEAST NATURAL GAS CO.	WESTLINE	7	15 S BR KINZUA CREEK
LIMA	BRITISH AMERICAN PETROLEUM	WESTLINE	2	6 CRARY RUN
LOT 21	BRITISH AMERICAN PETROLEUM	WESTLINE	3	7 CRARY RUN
LOT 21	BRITISH AMERICAN PETROLEUM	WESTLINE	3	8 CAMILLA RUN
VENTURE	MINARD RUN OIL CO	WESTLINE	2	4 CRARY RUN
VENTURE	MINARD RUN OIL CO	WESTLINE	2	5 CRARY RUN
	BRITISH AMERICAN PETROLEUM	WESTLINE	5	9 CRARY RUN
	BRITISH AMERICAN PETROLEUM	WESTLINE	5	10 CHAPPEL FORK
	BRITISH AMERICAN PETROLEUM	WESTLINE	6	11 CHAPPEL FORK
* Township/Municipality: HAMLIN TWP				
GILL	PENNZOIL	MT. JEWETT	1	1 WINDFALL RUN
KANE ESTATES	EDGAR NEWMAN, JR.	CYCLONE	7	32 KINZUA CREEK
KANE ESTATES	EDGAR NEWMAN, JR.	CYCLONE	7	33 KINZUA CREEK
KINZUA WELLS	PENNZOIL	MT. JEWETT	2	2 WINDFALL RUN
* Township/Municipality: KEATING TWP				
AULTON GIBSON	SOUTHERN DRILLING & PRODUCTION	SMETHPORT	7	7 MARVIN CREEK
BINGHAM 533	PENNZOIL	CYCLONE	2	12 PANTHER RUN
BINGHAM 533	PENNZOIL	CYCLONE	2	15 PANTHER RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
BINGHAM LOT 416	ALLEN OIL COMPANY	DERRICK CITY	8	96	S BR COLE CREEK
BINGHAM LOTS 421, 422, 423	ALLEN OIL COMPANY	CYCLONE	2	6	S BR COLE CREEK
BINGHAM-CULBERTSON	PENNZOIL	CYCLONE	3	16	PANTHER RUN
BINGHAM-DEVONIAN	PENNZOIL	CYCLONE	5	27	KINZUA CREEK
BINGHAM-SATTERFIELD	PENNZOIL	CYCLONE	2	7	PANTHER RUN
BINGHAM-SATTERFIELD	PENNZOIL	CYCLONE	2	13	McQUEEN HOLLOW
BINGHAM-SATTERFIELD	PENNZOIL	CYCLONE	5	21	McQUEEN HOLLOW
BOUDON LEASE	MICON EXPLORATION	SMETHPORT	7	6	MARVIN CREEK
BROWN	S.H. ELDER & COMPANY	DERRICK CITY	9	108	N BR COLE CREEK
BYRON ROSE	PENNZOIL	CYCLONE	1	5	RAILROAD RUN
		CYCLONE	1	1	DRONEY RUN
	PENNZOIL	CYCLONE	2	8	PANTHER RUN
	PENNZOIL	CYCLONE	2	10	PANTHER RUN
	PENNZOIL	CYCLONE	2	11	PANTHER RUN
		CYCLONE	3	17	S BR COLE CREEK
	PENNZOIL	CYCLONE	3	18	S BR COLE CREEK
	PENNZOIL	CYCLONE	3	19	S BR COLE CREEK
	PENNZOIL	CYCLONE	5	23	McQUEEN HOLLOW
		CYCLONE	5	24	McQUEEN HOLLOW
	PENNZOIL	CYCLONE	5	25	McQUEEN HOLLOW
	PENNZOIL	CYCLONE	5	26	McQUEEN HOLLOW
	PENNZOIL	CYCLONE	5	28	McQUEEN HOLLOW
	PENNZOIL	CYCLONE	5	29	McQUEEN HOLLOW
	PENNZOIL	CYCLONE	5	30	KINZUA CREEK
	PENNZOIL	CYCLONE	6	31	McQUEEN HOLLOW
		DERRICK CITY	9	109	N BR COLE CREEK
	ARTHUR E. EKAS	DERRICK CITY	9	805	N BR COLE CREEK
		ELDRED	7	38	N BR COLE CREEK
GEORGE WARE PURCHASE	PENNZOIL	CYCLONE	1	2	WOLF RUN
GEORGE WARE PURCHASE	PENNZOIL	CYCLONE	1	3	WOLF RUN
GEORGE WARE PURCHASE	PENNZOIL	CYCLONE	1	4	RAILROAD RUN
HOWARD & MCCULLEN LEASE	D-Y-M CORPORATION	DERRICK CITY	9	107	N BR COLE CREEK
LOT 576	D-Y-M CORPORATION	CYCLONE	5	22	McQUEEN HOLLOW
LOT 614	D-Y-M CORPORATION	CYCLONE	2	14	McQUEEN HOLLOW
PROJECT 8	PENNZOIL	CYCLONE	2	9	PANTHER RUN
	CUNNINGHAM NATURAL GAS CORP.	SMETHPORT	3	1	KENT HOLLOW RUN
	CUNNINGHAM NATURAL GAS CORP.	SMETHPORT	3	2	KENT HOLLOW RUN
	CUNNINGHAM NATURAL GAS CORP.	SMETHPORT	3	3	KENT HOLLOW RUN
	CUNNINGHAM NATURAL GAS CORP.	SMETHPORT	3	4	PIERCE BROOK
	CUNNINGHAM NATURAL GAS CORP.	SMETHPORT	3	5	KENT HOLLOW RUN
* Township/Municipality: LAFAYETTE TWP					
B TANK BATTERY	MINARD RUN OIL CO	LEWIS RUN	5	28	LEWIS RUN
BIG SHANTY (488)	QUAKER STATE	LEWIS RUN	2	12	LEWIS RUN
BIG SHANTY (488)	QUAKER STATE	LEWIS RUN	3	17	E BR TUNUNGWANT CREEK
BIG SHANTY 100	QUAKER STATE	LEWIS RUN	3	16	E BR TUNUNGWANT CREEK
C.E. CANON	CHARLES BENSON	LEWIS RUN	3	18	E BR TUNUNGWANT CREEK
DENT (FLOOD 4)	MINARD RUN OIL CO	LEWIS RUN	2	9	LEWIS RUN
DENT W SPECIAL	MINARD RUN OIL CO	LEWIS RUN	5	32	LEWIS RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
DENT	LANPHAR'S INC.	LEWIS RUN	2	14 BEAR RUN
DENT	PENN RESOURCES INC.	LEWIS RUN	2	15 BEAR RUN
EMERY & SIMPSON	D-Y-M CORPORATION	LEWIS RUN	8	37 PINE RUN
EMERY & SIMPSON	D-Y-M CORPORATION	LEWIS RUN	8	38 PINE RUN
FLOOD 2	MINARD RUN OIL CO	LEWIS RUN	5	27 LEWIS RUN
FLOOD 3	MINARD RUN OIL CO	LEWIS RUN	5	23 LEWIS RUN
FLOOD E	MINARD RUN OIL CO	LEWIS RUN	5	24 LEWIS RUN
FLOOD E	MINARD RUN OIL CO	LEWIS RUN	5	49 LEWIS RUN
FLOOD F	MINARD RUN OIL CO	LEWIS RUN	5	50 LEWIS RUN
GILL	PENNZOIL	LEWIS RUN	7	36 KINZUA CREEK
HAMLIN ESTATES	THORTON CO.	LEWIS RUN	1	4 LEWIS RUN
HECKEL #2	CHARLES BENSON	LEWIS RUN	3	19 E BR TUNUNGWANT CREEK
KENNEDY-LEE	MINARD RUN OIL CO	LEWIS RUN	5	26 LEWIS RUN
KENNEDY	MINARD RUN OIL CO	LEWIS RUN	5	25 LEWIS RUN
KENNEDY	MINARD RUN OIL CO	LEWIS RUN	5	54 LEWIS RUN
KINZUA WELLS	PENNZOIL	LEWIS RUN	8	42 KINZUA CREEK
KINZUA WELLS	PENNZOIL	LEWIS RUN	8	43 KINZUA CREEK
KINZUA WELLS	PENNZOIL	LEWIS RUN	8	44 KINZUA CREEK
KINZUA WELLS	PENNZOIL	LEWIS RUN	8	45 KINZUA CREEK
KINZUA WELLS	PENNZOIL	LEWIS RUN	8	46 KINZUA CREEK
KINZUA WELLS	PENNZOIL	LEWIS RUN	8	47 KINZUA CREEK
L. M. LILLY	L. M. LILLY ESTATE	LEWIS RUN	1	801 LEWIS RUN
L.D. WILSON	PENNZOIL	LEWIS RUN	7	33 KINZUA CREEK
LADY BELL	MINARD RUN OIL CO	LEWIS RUN	2	8 LEWIS RUN
LEE	MINARD RUN OIL CO	LEWIS RUN	5	51 LEWIS RUN
	FREEMAN & FREEMAN	LEWIS RUN	1	1 BUCK LICK RUN
	FREEMAN & FREEMAN	LEWIS RUN	1	2 BUCK LICK RUN
	FREEMAN & FREEMAN	LEWIS RUN	1	3 BUCK LICK RUN
	TRISON PETROLEUM CORP.	LEWIS RUN	1	6 LEWIS RUN
	MINARD RUN OIL CO	LEWIS RUN	2	10 LEWIS RUN
	EASTERN ROYALTIES	LEWIS RUN	2	11 LEWIS RUN
	HERBEL CO.	LEWIS RUN	2	48 LEWIS RUN
	PENNZOIL	LEWIS RUN	4	20 TURNUP RUN
	PENNZOIL	LEWIS RUN	4	21 TURNUP RUN
	PENNZOIL	LEWIS RUN	4	22 LEWIS RUN
	MINARD RUN OIL CO	LEWIS RUN	5	29 LEWIS RUN
	MINARD RUN OIL CO	LEWIS RUN	5	30 LEWIS RUN
		LEWIS RUN	7	34 KINZUA CREEK
		LEWIS RUN	7	35 KINZUA CREEK
	PENNZOIL	LEWIS RUN	7	52 KINZUA CREEK
	PENNZOIL	LEWIS RUN	7	53 KINZUA CREEK
	D-Y-M CORPORATION	LEWIS RUN	8	39 PINE RUN
	D-Y-M CORPORATION	LEWIS RUN	8	40 TOWN LINE RUN
	PENNZOIL	LEWIS RUN	8	41 TOWN LINE RUN
LOT 14	CHARLES BENSON	LEWIS RUN	2	13 LEWIS RUN
MUSIC MOUNTAIN	MINARD RUN OIL CO	LEWIS RUN	2	7 LEWIS RUN
ONOFRIO-WARRANT 3413	ALL'S WELL OIL CO	LEWIS RUN	1	5 BUCK LICK RUN
TEST AREA/MOODY PURCHASE	MINARD RUN OIL CO	LEWIS RUN	5	31 LEWIS RUN
TIDEWATER-BINGHAM	RICHARD B. HERZOG	CYCLONE	4	20 E BR TUNUNGWANT CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
	BRITISH AMERICAN PETROLEUM	WESTLINE	6	12	CHAPPEL FORK
	BRITISH AMERICAN PETROLEUM	WESTLINE	6	13	THUNDERSHOWER RUN
	KINZUA ENERGY DEVELOPMENT CO	WESTLINE	6	14	THUNDERSHOWER RUN
* Township/Municipality: OTTO TWP					
BORDEN LEASE	PENNZOIL	DERRICK CITY	3	48	PENNBROOK RUN
BORDEN LEASE	PENNZOIL	DERRICK CITY	3	49	PENNBROOK RUN
BRENAN	NE AND RA BRENAN	ELDRED	1	2	KNAPP CREEK
BURNS	PHILIP E. KAHLE	DERRICK CITY	3	51	KNAPP CREEK
	PENNZOIL	DERRICK CITY	3	58	TRAM HOLLOW RUN
	TRAM HOLLOW OIL COMPANY	DERRICK CITY	3	111	TRAM HOLLOW RUN
	TYLER OIL CO.	DERRICK CITY	6	83	S BR KNAPP CREEK
		DERRICK CITY	6	84	S BR KNAPP CREEK
	PENNZOIL	DERRICK CITY	6	86	S BR KNAPP CREEK
	PENNZOIL	DERRICK CITY	9	97	S BR KNAPP CREEK
	PENNZOIL	DERRICK CITY	9	98	S BR KNAPP CREEK
	PENNZOIL	DERRICK CITY	9	99	S BR KNAPP CREEK
	PENNZOIL	DERRICK CITY	9	100	S BR KNAPP CREEK
	DePETRO & ENGEL OIL COMPANY	DERRICK CITY	9	101	N BR COLE CREEK
	DePETRO & ENGEL OIL COMPANY	DERRICK CITY	9	103	N BR COLE CREEK
	S.H. ELDER & COMPANY	DERRICK CITY	9	104	N BR COLE CREEK
	S.H. ELDER & COMPANY	DERRICK CITY	9	105	N BR COLE CREEK
	S.H. ELDER & COMPANY	DERRICK CITY	9	106	N BR COLE CREEK
DUKE & BUCK	PENNZOIL	ELDRED	4	18	S BR KNAPP CREEK
DUKE & BUCK	PENNZOIL	ELDRED	4	39	S BR KNAPP CREEK
	WITCO CHEMICAL CORPORATION	ELDRED	1	1	KNAPP CREEK
	OIL VALLEY OIL CO.	ELDRED	1	804	KNAPP CREEK
		ELDRED	4	19	KNAPP CREEK
	HUNGIVILLE OIL CO.	ELDRED	4	26	S BR KNAPP CREEK
		ELDRED	4	27	S BR KNAPP CREEK
		ELDRED	4	28	S BR KNAPP CREEK
	JEEP OIL CO	ELDRED	4	29	S BR KNAPP CREEK
	MESSER OIL CO	ELDRED	4	30	S BR KNAPP CREEK
	HOWARD H. HOLMES	ELDRED	4	801	S BR KNAPP CREEK
	CURTIS OIL COMPANY	ELDRED	4	803	KNAPP CREEK
FREEMAN LEASE		DERRICK CITY	3	50	PENNBROOK RUN
GROW	LANPHAR OIL & GAS CO	ELDRED	4	23	KNAPP CREEK
GROW	LANPHAR OIL & GAS CO	ELDRED	4	24	KNAPP CREEK
HARPER	PENNZOIL	ELDRED	1	7	KNAPP CREEK
KENNEDY	EASTERN ROYALTIES	DERRICK CITY	6	81	BAKER RUN
KENNEDY	EASTERN ROYALTIES	DERRICK CITY	6	82	BAKER RUN
KNOX & S. LOOKER	PENNZOIL	DERRICK CITY	6	85	S BR KNAPP CREEK
MCKALIP, SHUMAN, LOVE	JEEP OIL CO	ELDRED	7	32	S BR KNAPP CREEK
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	DERRICK CITY	3	52	TRAM HOLLOW RUN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	DERRICK CITY	3	53	TRAM HOLLOW RUN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	DERRICK CITY	3	54	TRAM HOLLOW RUN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	DERRICK CITY	3	55	TRAM HOLLOW RUN
OLIVER LEASE	HARRIS HELENBROCK OIL CO.	DERRICK CITY	3	56	TRAM HOLLOW RUN
RIXFORD (3995)	WITCO CHEMICAL CORPORATION	DERRICK CITY	6	79	BAKER RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
UNION-KEATING	PENNZOIL	ELDRED	1	3	KANSAS BRANCH
UNION-KEATING	PENNZOIL	ELDRED	1	4	KANSAS BRANCH
UNION-KEATING	PENNZOIL	ELDRED	1	5	KANSAS BRANCH
WEST & CARPENTER	PENNZOIL	DERRICK CITY	6	80	BAKER RUN
WEST & CARPENTER	PENNZOIL	ELDRED	4	25	BERGER HOL
WEST & CARPENTER	PENNZOIL	ELDRED	4	40	BERGER HOL
WHEELER-KANSAS	PENNZOIL	ELDRED	1	6	KANSAS BRANCH
* Township/Municipality: WESTMORE TWP					
	MCKENNA OIL CO.	JAMES CITY	1	1	MARTIN RUN
* Township/Municipality: WETMORE TWP					
DUTTER LEASE	MERIDIAN EXPLORATION	KANE	1	11	MUDLICK RUN
FINNESSY	WITCO CHEMICAL CORPORATION	KANE	7	10	WEST RUN
		KANE	8	7	WILSON RUN
		KANE	8	8	WILSON RUN
		KANE	8	9	WILSON RUN
KANE OIL (LOT 426)	H. A. MCKENNA	KANE	7	2	E BR TIONESTA CREEK
KENDALL-EASTBRANCH (LOT 389)	NORTHEAST NATURAL GAS CO.	LUDLOW	9	1	E BR TIONESTA CREEK
LOT 263	THRESHOLD DRILLING	KANE	5	1	S BR KINZUA CREEK
		LUDLOW	9	2	E BR TIONESTA CREEK
	VAN OIL CO.	LUDLOW	9	4	CRANE RUN
MCDADDE/WETMORE	PENNZOIL	KANE	7	3	E BR TIONESTA CREEK
WT 3767 (MOSER)	H. A. MCKENNA	KANE	7	4	MARTIN RUN
WT 3767 (MOSER)	H. A. MCKENNA	KANE	7	5	MARTIN RUN
WT 3767 (MOSER)	H. A. MCKENNA	KANE	7	6	MARTIN RUN
** County: POTTER					
* Township/Municipality: SHARON TWP					
PEARSALL LEASE	J. J. BUCHER	SHINGLEHOUSE	2	4	HORSE RUN
	H. D. HOUGH	SHINGLEHOUSE	2	5	HORSE RUN
	J. J. BUCHER	SHINGLEHOUSE	2	6	HORSE RUN
	HAINES & MEACHAM	SHINGLEHOUSE	2	7	HONEYOYE CREEK
	SUBSEA OIL & GAS	SHINGLEHOUSE	2	8	HORSE RUN
	J. J. BUCHER	SHINGLEHOUSE	2	9	HORSE RUN
	J. J. BUCHER	SHINGLEHOUSE	2	10	OSWAYO CREEK
** County: VENANGO					
* Township/Municipality: ALLEGHENY TWP					
ANDERSON	RETURN OIL CO.	PLEASANTVILLE	3	18	PITHOLE CREEK
ANDERSON	RETURN OIL CO.	PLEASANTVILLE	3	19	PITHOLE CREEK
ANDERSON	RETURN OIL CO.	PLEASANTVILLE	3	20	PITHOLE CREEK
ANDERSON	RETURN OIL CO.	PLEASANTVILLE	3	21	PITHOLE CREEK
ANDERSON	RETURN OIL CO.	PLEASANTVILLE	3	22	PITHOLE CREEK
ANDERSON	RETURN OIL CO.	PLEASANTVILLE	3	23	PITHOLE CREEK
AUGUST	RETURN OIL CO.	PLEASANTVILLE	3	14	NEILLTOWN CREEK
BAKER	UNIVERSAL RESOURCES HOLDING CO	PLEASANTVILLE	2	5	GOLBY RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
BAKER	J. L. BECK	PLEASANTVILLE	3	12	NEILLTOWN CREEK
BAKER	QUAKER STATE	PLEASANTVILLE	6	34	PITHOLE CREEK
BAKER	QUAKER STATE	PLEASANTVILLE	6	35	PITHOLE CREEK
BORLAND	QUAKER STATE	PLEASANTVILLE	8	99	PITHOLE CREEK
BREENE-EAGLE ROCK	QUAKER STATE	PLEASANTVILLE	8	101	PITHOLE CREEK
CARSON	BAILEY OIL CO.	PLEASANTVILLE	6	145	PITHOLE CREEK
CINCINNATI	QUAKER STATE	PLEASANTVILLE	8	88	PITHOLE CREEK
COOK-BISHOP-SPARKS	QUAKER STATE	PLEASANTVILLE	8	98	PITHOLE CREEK
CORSE	QUAKER STATE	PLEASANTVILLE	9	123	SUGAR RUN
CUNNINGHAM	J. L. BECK	PLEASANTVILLE	9	120	STEWART RUN
CUNNINGHAM	QUAKER STATE	PLEASANTVILLE	9	127	STEWART RUN
DUNN	UNIVERSAL RESOURCES HOLDING CO	PLEASANTVILLE	5	49	PITHOLE CREEK
DUNN	J. L. BECK	PLEASANTVILLE	5	50	PITHOLE CREEK
DUNN	B & B OIL CO.	PLEASANTVILLE	6	28	PITHOLE CREEK
GUILD (366)	QUAKER STATE	PLEASANTVILLE	9	65	PITHOLE CREEK
GUNNISON	RETURN OIL CO.	PLEASANTVILLE	3	15	PITHOLE CREEK
HARRY CAVOULAS	RETURN OIL CO.	PLEASANTVILLE	3	9	PINE CREEK
HOLMES-SULLIVAN	QUAKER STATE	PLEASANTVILLE	8	90	PITHOLE CREEK
HUIDEKOPER #2	QUAKER STATE	PLEASANTVILLE	6	32	PITHOLE CREEK
HUIDEKOPER #2	QUAKER STATE	PLEASANTVILLE	6	33	PITHOLE CREEK
J. BLANK	QUAKER STATE	PLEASANTVILLE	5	58	PITHOLE CREEK
J. BLANK	QUAKER STATE	PLEASANTVILLE	5	59	PITHOLE CREEK
J. BLANK	QUAKER STATE	PLEASANTVILLE	5	60	PITHOLE CREEK
J. BLANK	QUAKER STATE	PLEASANTVILLE	8	84	PITHOLE CREEK
J. L. BECK	J. L. BECK	PLEASANTVILLE	5	52	PITHOLE CREEK
JENKS	QUAKER STATE	PLEASANTVILLE	9	137	STEWART RUN
KOOKOGEY	J. L. BECK	PLEASANTVILLE	2	4	OTTO RUN
KOOKOGEY	UNIVERSAL RESOURCES HOLDING CO	PLEASANTVILLE	3	148	OTTO RUN
LAMB FARM (WITCO CORP.)	J. L. BECK	PLEASANTVILLE	5	51	PITHOLE CREEK
LES WOIDECK	QUAKER STATE	PLEASANTVILLE	9	126	STEWART RUN
MCCALMONT	QUAKER STATE	PLEASANTVILLE	9	129	SUGAR RUN
MCDONALD	QUAKER STATE	PLEASANTVILLE	9	117	STEWART RUN
MEAD-GUILD	QUAKER STATE	PLEASANTVILLE	8	64	PITHOLE CREEK
MEAD-GUILD	QUAKER STATE	PLEASANTVILLE	8	86	PITHOLE CREEK
MEAD	QUAKER STATE	PLEASANTVILLE	6	44	PITHOLE CREEK
MOLYNEAUX	QUAKER STATE	PLEASANTVILLE	8	100	PITHOLE CREEK
NICHOLS & RENSEMA	J. L. BECK	PLEASANTVILLE	2	3	OTTO RUN
NICHOLS & RENSEMA	UNIVERSAL RESOURCES HOLDING CO	PLEASANTVILLE	3	147	OTTO RUN
NORTH EBERT	QUAKER STATE	PLEASANTVILLE	9	130	SUGAR RUN
OTTO	RETURN OIL CO.	PLEASANTVILLE	3	13	OTTO RUN
PITHOLE OIL	QUAKER STATE	PLEASANTVILLE	8	109	PINE RUN
PITHOLE OIL	QUAKER STATE	PLEASANTVILLE	8	110	PINE RUN
		PLEASANTVILLE	2	2	PINE CREEK
		PLEASANTVILLE	5	57	PITHOLE CREEK
		PLEASANTVILLE	5	63	PITHOLE CREEK
		PLEASANTVILLE	6	36	PITHOLE CREEK
		PLEASANTVILLE	6	37	PITHOLE CREEK
		PLEASANTVILLE	6	38	PITHOLE CREEK
		PLEASANTVILLE	6	40	PITHOLE CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
		PLEASANTVILLE	6	41	PITHOLE CREEK
		PLEASANTVILLE	6	45	PITHOLE CREEK
		PLEASANTVILLE	8	85	PITHOLE CREEK
		PLEASANTVILLE	8	89	PITHOLE CREEK
		PLEASANTVILLE	9	128	STEWART RUN
PRATT-WILSON (PRATT)	QUAKER STATE	PLEASANTVILLE	2	6	SCHOOLHOUSE RUN
PRATT-WILSON (WILSON)	QUAKER STATE	PLEASANTVILLE	2	7	SCHOOLHOUSE RUN
RALPH NICHOLS	J. L. BECK	PLEASANTVILLE	3	8	PINE CREEK
ROEDER	QUAKER STATE	PLEASANTVILLE	9	131	SUGAR RUN
ROEDER	QUAKER STATE	PLEASANTVILLE	9	134	STEWART RUN
RUTH WOLFE	QUAKER STATE	PLEASANTVILLE	9	118	STEWART RUN
S. BLANK	QUAKER STATE	PLEASANTVILLE	8	87	PITHOLE CREEK
S. G. THOMPSON	PARTNERS PETROLEUM, INC.	PLEASANTVILLE	6	42	PITHOLE CREEK
S. G. THOMPSON	PARTNERS PETROLEUM, INC.	PLEASANTVILLE	6	43	PITHOLE CREEK
SHANNON-WILSON	QUAKER STATE	PLEASANTVILLE	9	116	THOMPSON RUN
SLATER	QUAKER STATE	PLEASANTVILLE	5	61	PITHOLE CREEK
SLATER	QUAKER STATE	PLEASANTVILLE	5	62	PITHOLE CREEK
STEWART	QUAKER STATE	PLEASANTVILLE	9	122	SUGAR RUN
STEWART	QUAKER STATE	PLEASANTVILLE	9	124	SUGAR RUN
THOMPSON	QUAKER STATE	PLEASANTVILLE	9	115	THOMPSON RUN
TUCK-OTTO	INTERPEN DRILLING CO.	PLEASANTVILLE	3	149	OTTO RUN
WEYMOUTH FIELD	WITCO CHEMICAL CORPORATION	PLEASANTVILLE	5	144	PITHOLE CREEK
WILHELM-SIMPKINS-TWOMBLY	J. L. BECK	PLEASANTVILLE	5	54	PITHOLE CREEK
WILSON-SEATON	QUAKER STATE	PLEASANTVILLE	6	39	PITHOLE CREEK
WINDY HILLS #2	QUAKER STATE	PLEASANTVILLE	9	119	STEWART RUN
WITCO CORP.	J. L. BECK	PLEASANTVILLE	5	53	PITHOLE CREEK
WOIDECK	QUAKER STATE	PLEASANTVILLE	9	121	THOMPSON RUN
WOIDECK	QUAKER STATE	PLEASANTVILLE	9	125	SUGAR RUN
WOIDECK	QUAKER STATE	PLEASANTVILLE	9	135	STEWART RUN
WOIDECK	QUAKER STATE	PLEASANTVILLE	9	136	STEWART RUN
WOLF'S HEAD	QUAKER STATE	PLEASANTVILLE	8	97	PITHOLE CREEK
* Township/Municipality: CHERRYTREE TWP					
WEBER	APEX RESOURCES	TITUSVILLE SOUT	1	1	PRATHER CREEK
		TITUSVILLE SOUT	2	2	PRATHER CREEK
* Township/Municipality: CORNPLANTER TWP					
ALTERI	NATIONAL RESOURCES	OIL CITY	3	9	CHERRY RUN
AMES	QUAKER STATE	OIL CITY	2	3	MOODY RUN
ANNABELLE SCHALL	QUAKER STATE	OIL CITY	3	25	LAMB RUN
BERRY PLUMER	QUAKER STATE	OIL CITY	3	10	CHERRY RUN
BREENE WALNUT BEND #4	QUAKER STATE	OIL CITY	6	27	ALLEGHENY RIVER
BREENE WALNUT BEND	QUAKER STATE	OIL CITY	6	28	ALLEGHENY RIVER
CLEVER	QUAKER STATE	PLEASANTVILLE	7	74	ALLENDER RUN
CONRAD	QUAKER STATE	OIL CITY	3	26	LAMB RUN
CORSE	RETURN OIL CO.	OIL CITY	3	56	CHERRY RUN
E. HUNTER	QUAKER STATE	PLEASANTVILLE	7	81	ALLENDER RUN
EAGLE LINE	R & D OIL (VISCOUNT ASSOC.)	PRESIDENT	1	3	PITHOLE CREEK
ENSLE	COMPASS DEVELOPMENT INC	PRESIDENT	1	4	PITHOLE CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
FIELDS	PENNZOIL	PLEASANTVILLE	8	93	PITHOLE CREEK
FIELDS	PENNZOIL	PLEASANTVILLE	8	94	PITHOLE CREEK
FIELDS	PENNZOIL	PLEASANTVILLE	8	95	PITHOLE CREEK
HEDLEY	QUAKER STATE	OIL CITY	2	4	MOODY RUN
HUBER	WILLIAM HUBER	OIL CITY	3	8	CHERRY RUN
HUBER	CONSOLIDATED/TECHNOL ENERGY	OIL CITY	3	12	CHERRY RUN
HUBER	QUAKER STATE	OIL CITY	3	14	CHERRY RUN
HUBER	QUAKER STATE	OIL CITY	3	15	CHERRY RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	67	CHERRY RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	68	CHERRY RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	69	CHERRY RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	71	CHERRY RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	72	CHERRY RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	75	ALLENDER RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	76	ALLENDER RUN
KINLEY	QUAKER STATE	PLEASANTVILLE	7	78	CHERRY RUN
KIRVAN	QUAKER STATE	PLEASANTVILLE	7	143	ALLENDER RUN
LOCKWOOD	BLACK STALLION	PLEASANTVILLE	7	152	ALLENDER RUN
LYLE	QUAKER STATE	PLEASANTVILLE	8	104	PITHOLE CREEK
LYLE	QUAKER STATE	OIL CITY	3	17	CHERRY RUN
LYLE	QUAKER STATE	OIL CITY	3	18	CHERRY RUN
M. GABRESKI	QUAKER STATE	OIL CITY	3	22	LAMB RUN
MCCCKINTOCK	QUAKER STATE	OIL CITY	2	6	OIL CREEK
MOODY RUN OIL DUMP	QUAKER STATE	OIL CITY	2	5	MOODY RUN
MOYNIHAN	CARL H. WILLIAMS	OIL CITY	3	20	ALLEGHENY RIVER
MOYNIHAN	CARL H. WILLIAMS	OIL CITY	3	21	ALLEGHENY RIVER
		OIL CITY	2	2	MOODY RUN
PAUL THOMAS	S.G. THOMPSON	OIL CITY	3	19	CHERRY RUN
	QUAKER STATE	PLEASANTVILLE	7	66	CHERRY RUN
	QUAKER STATE	PLEASANTVILLE	7	70	CHERRY RUN
	BLACK STALLION	PLEASANTVILLE	7	73	ALLENDER RUN
		PLEASANTVILLE	7	77	ALLENDER RUN
	EAGLE LINE CORP.	PLEASANTVILLE	7	79	PITHOLE CREEK
		PLEASANTVILLE	7	80	ALLENDER RUN
		PLEASANTVILLE	7	82	PITHOLE CREEK
		PLEASANTVILLE	7	83	PITHOLE CREEK
	OLYMPIA OIL SERVICES INC.	PLEASANTVILLE	7	151	PITHOLE CREEK
		PLEASANTVILLE	8	102	PITHOLE CREEK
		PLEASANTVILLE	8	103	PITHOLE CREEK
PONTIAC	PYRAMID OIL CO.	OIL CITY	2	1	CHERRY RUN
		PRESIDENT	1	5	PITHOLE CREEK
	CRYSTAL SPRINGS OIL CO.	PRESIDENT	1	6	PITHOLE CREEK
	CRYSTAL SPRINGS OIL CO.	PRESIDENT	1	7	PITHOLE CREEK
		PRESIDENT	1	54	PITHOLE CREEK
		PRESIDENT	1	55	PITHOLE CREEK
ROBERTS	R & D OIL (VISCOUNT ASSOC.)	PLEASANTVILLE	8	96	PITHOLE CREEK
ROBERTS	INTERPEN DRILLING CO.	PLEASANTVILLE	8	150	PITHOLE CREEK
SCHRENGOST	J.M. COLVIN & ASSOCIATES	OIL CITY	3	7	CHERRY RUN
SCHWAB	QUAKER STATE	OIL CITY	3	11	CHERRY RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
SUTTWAY #2	R & D OIL (VISCOUNT ASSOC.)	PRESIDENT	1	2	PITHOLE CREEK
T. GABRESKI (395)	QUAKER STATE	OIL CITY	3	24	LAMB RUN
T. GABRESKI	QUAKER STATE	OIL CITY	3	23	LAMB RUN
WEBBER	QUAKER STATE	OIL CITY	3	13	CHERRY RUN
WEBBER	QUAKER STATE	OIL CITY	3	16	CHERRY RUN
* Township/Municipality: CRANBERRY TWP					
BEST	APEX RESOURCES	FRANKLIN	8	12	LOWER TWOMILE RUN
CLARK	PETRO TECH	CRANBERRY	2	1	HALLS RUN
CONN	APEX RESOURCES	OIL CITY	8	52	SAGE RUN
DALE	QUAKER STATE OIL CO	KENNERDELL	3	5	ALLEGHENY RIVER
DALMASO	APEX RESOURCES	FRANKLIN	8	10	LOWER TWOMILE RUN
FISHER	QUAKER STATE	OIL CITY	7	48	ALLEGHENY RIVER
FRANK	APEX RESOURCES	FRANKLIN	8	11	LOWER TWOMILE RUN
		FRANKLIN	8	13	LOWER TWOMILE RUN
	RIVER RIDGE	FRANKLIN	9	9	ALLEGHENY RIVER
	PENNZOIL	FRANKLIN	9	25	LOWER TWOMILE RUN
JOHNSON	PETRO TECH	CRANBERRY	2	2	TARKILN RUN
KAVOURAS	MCLAN ASSOCIATES	KOSSUTH	1	17	TARKILN RUN
	RO WAY OIL & GAS, INC.	KENNERDELL	2	1	ALLEGHENY RIVER
	FRANKLIN BRINE TREATMENT CO.	KENNERDELL	2	3	ALLEGHENY RIVER
		KENNERDELL	3	9	ALLEGHENY RIVER
		KOSSUTH	1	1	TARKILN RUN
MILLER	MCLAN ASSOCIATES	CRANBERRY	3	4	HALLS RUN
MORRISON	MCCOUN CO.	OIL CITY	7	50	LOWER TWOMILE RUN
OAKWOOD	PETRO TECH	OIL CITY	9	53	SAGE RUN
		OIL CITY	7	47	ALLEGHENY RIVER
	SUTWAY DEVELOPMENT CORP.	OIL CITY	7	49	ALLEGHENY RIVER
		OIL CITY	8	51	SAGE RUN
OSTRUSKE	STERLING KEYSTONE DEVELOPMENT	KOSSUTH	4	11	EAST SANDY CREEK
PERRY (HANBY LEASE)	RED VALLEY ENTERPRIZES	KOSSUTH	1	2	EAST SANDY CREEK
RICE	MCLAN ASSOCIATES	CRANBERRY	3	3	HALLS RUN
SMITH	QUAKER STATE OIL CO	KENNERDELL	3	6	ALLEGHENY RIVER
SMITH	QUAKER STATE OIL CO	KENNERDELL	3	7	ALLEGHENY RIVER
SMITH	QUAKER STATE OIL CO	KENNERDELL	3	8	ALLEGHENY RIVER
SOLLE	KAUFMAN ENTERPRIZES	FRANKLIN	9	14	LOWER TWOMILE RUN
STATE GAME LANDS #45	RED VALLEY ENTERPRIZES	CRANBERRY	6	7	TARKILN RUN
STATE GAME LANDS #45	RED VALLEY ENTERPRIZES	CRANBERRY	6	8	TARKILN RUN
STATE GAME LANDS #45	TECHNOL ENERGY	CRANBERRY	6	9	EAST SANDY CREEK
STATE GAME LANDS #45	OIL CREEK DRILLING CO.	KOSSUTH	4	12	EAST SANDY CREEK
STATE GAME LANDS #45	TECHNOL ENERGY	KOSSUTH	4	13	EAST SANDY CREEK
STEWART	QUAKER STATE	OIL CITY	9	54	HORSE CREEK
STEWART	QUAKER STATE	OIL CITY	9	55	HALLS RUN
TRACT 1 OR 82	QUAKER STATE	FRANKLIN	9	19	LOWER TWOMILE RUN
TRACT 1	QUAKER STATE	FRANKLIN	9	20	LOWER TWOMILE RUN
TRACT 1	QUAKER STATE	FRANKLIN	9	21	LOWER TWOMILE RUN
TRACT 35	QUAKER STATE	FRANKLIN	9	16	LOWER TWOMILE RUN
TRACT 35	QUAKER STATE	FRANKLIN	9	18	LOWER TWOMILE RUN
TRACT 81	QUAKER STATE	FRANKLIN	9	24	LOWER TWOMILE RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
TRACT 82	QUAKER STATE	FRANKLIN	9	22	LOWER TWOMILE RUN
TRACT 82	QUAKER STATE	FRANKLIN	9	23	LOWER TWOMILE RUN
TRACT 83	QUAKER STATE	FRANKLIN	9	15	LOWER TWOMILE RUN
TRACT 83	QUAKER STATE	FRANKLIN	9	17	LOWER TWOMILE RUN
TRACTS 81, 82, 83	QUAKER STATE	FRANKLIN	9	26	LOWER TWOMILE RUN
TRAX	OIL CREEK DRILLING CO.	CRANBERRY	3	5	TARKILN RUN
WEBSTER	PETRO TECH	CRANBERRY	3	6	TARKILN RUN
* Township/Municipality: OIL CREEK TWP					
CUBBON	PETRO TECH	TITUSVILLE SOUT	9	11	CHERRY RUN
CUBBON	PETRO TECH	TITUSVILLE SOUT	9	12	CHERRY RUN
HENDERSON	QUAKER STATE	TITUSVILLE SOUT	3	3	OIL CREEK
HUIDEKOPER	INTERPEN DRILLING CO.	PLEASANTVILLE	8	91	PITHOLE CREEK
HUIDEKOPER	INTERPEN DRILLING CO.	PLEASANTVILLE	8	92	PITHOLE CREEK
KINLEY	QUAKER STATE	TITUSVILLE SOUT	9	6	CHERRY RUN
KINLEY	QUAKER STATE	TITUSVILLE SOUT	9	7	CHERRY RUN
KINLEY	QUAKER STATE	TITUSVILLE SOUT	9	9	CHERRY RUN
MILLER	QUAKER STATE	TITUSVILLE SOUT	9	13	CHERRY RUN
		PLEASANTVILLE	1	1	W PITHOLE CREEK
		PLEASANTVILLE	5	55	PITHOLE CREEK
		PLEASANTVILLE	5	56	PITHOLE CREEK
RYBAK	QUAKER STATE	TITUSVILLE SOUT	9	14	CHERRY RUN
SMITH	PETRO TECH	PLEASANTVILLE	1	153	W PITHOLE CREEK
TARR	HAMLIN OIL CO.	TITUSVILLE SOUT	3	15	OIL CREEK
TARR	HAMLIN OIL CO.	TITUSVILLE SOUT	3	16	OIL CREEK
		TITUSVILLE SOUT	6	4	OIL CREEK
		TITUSVILLE SOUT	6	5	OIL CREEK
		TITUSVILLE SOUT	9	8	CHERRY RUN
		TITUSVILLE SOUT	9	10	CHERRY RUN
* Township/Municipality: PINEGROVE TWP					
ANDERSON	OIL CREEK DRILLING CO.	PRESIDENT	8	57	PORCUPINE RUN
AUSEL	OIL CREEK DRILLING CO.	KOSSUTH	1	7	TARKILN RUN
BICKEL	OIL CREEK DRILLING CO.	PRESIDENT	8	58	PORCUPINE RUN
CUNNINGHAM	CRYSTAL SPRINGS OIL CO.	KOSSUTH	1	5	EAST SANDY CREEK
CUNNINGHAM	CRYSTAL SPRINGS OIL CO.	KOSSUTH	1	6	EAST SANDY CREEK
CUNNINGHAM	ADOBE OIL & GAS	KOSSUTH	1	18	TARKILN RUN
FIRSTER	OIL CREEK DRILLING CO.	PRESIDENT	8	56	PORCUPINE RUN
HILL	OIL CREEK DRILLING CO.	KOSSUTH	5	10	EAST SANDY CREEK
LACY	H.M. WELLS	KOSSUTH	2	15	TARKILN RUN
LOWERS	PETRO TECH	KOSSUTH	1	3	TARKILN RUN
LOWERS	TECHNOL ENERGY	KOSSUTH	1	4	TARKILN RUN
PERRY	OIL CREEK DRILLING CO.	KOSSUTH	2	8	TARKILN RUN
PERRY	H.M. WELLS	KOSSUTH	2	16	TARKILN RUN
ROBERTS	PETRO TECH	KOSSUTH	2	9	EAST SANDY CREEK
* Township/Municipality: PRESIDENT TWP					
BAUA	OIL CREEK DRILLING CO.	PRESIDENT	4	60	PANTHER RUN
BAUM	QUAKER STATE	PRESIDENT	3	37	STEWART RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
BAUM	QUAKER STATE	PRESIDENT	3	38	STEWART RUN
BAUM	QUAKER STATE	PRESIDENT	3	49	ALLEGHENY RIVER
BIG KORNMAN	QUAKER STATE	PRESIDENT	3	40	STEWART RUN
BILLS	PETRO TECH	PRESIDENT	2	61	STEWART RUN
BILLS	PETRO TECH	PRESIDENT	2	62	JOHNSON RUN
BLAHO LERNER	QUAKER STATE	PRESIDENT	4	50	ALLEGHENY RIVER
BLAHO	QUAKER STATE	PRESIDENT	1	12	PITHOLE CREEK
BLAHO	QUAKER STATE	PRESIDENT	1	13	PITHOLE CREEK
BREENE-EAGLE ROCK	QUAKER STATE	PLEASANTVILLE	8	105	MUSKRAT RUN
BROWN	QUAKER STATE	PLEASANTVILLE	8	111	PINE RUN
COLLINS-PINE	QUAKER STATE	PRESIDENT	3	43	STEWART RUN
DEAN (EICHE)	QUAKER STATE	PLEASANTVILLE	8	113	PINE RUN
DEAN (EICHE)	QUAKER STATE	PLEASANTVILLE	8	114	PINE RUN
EAGLE ROCK (378)	QUAKER STATE	PRESIDENT	2	32	ALLEGHENY RIVER
EAGLE ROCK (378)	QUAKER STATE	PRESIDENT	2	33	ALLEGHENY RIVER
EAGLE ROCK-WALTON	QUAKER STATE	PRESIDENT	1	1	PITHOLE CREEK
EAGLE ROCK-WALTON	QUAKER STATE	PRESIDENT	2	17	MUSKRAT RUN
EAGLE ROCK-WALTON	QUAKER STATE	PRESIDENT	2	18	MUSKRAT RUN
EAGLE ROCK	QUAKER STATE	PRESIDENT	5	53	ALLEGHENY RIVER
EMERALD	EMERALD RESOURCES	PRESIDENT	2	34	ALLEGHENY RIVER
JOHNSON	OIL CREEK DRILLING CO.	PRESIDENT	2	59	STEWART RUN
LES WOIDECK	QUAKER STATE	PRESIDENT	3	42	STEWART RUN
LONG	QUAKER STATE	PRESIDENT	2	22	MUSKRAT RUN
LONG	QUAKER STATE	PRESIDENT	2	24	MUSKRAT RUN
LONG	QUAKER STATE	PRESIDENT	2	27	MUSKRAT RUN
LONG	QUAKER STATE	PRESIDENT	2	28	CULVER RUN
LONG	QUAKER STATE	PRESIDENT	2	30	JOHNSTON RUN
MCCALMONT 40	QUAKER STATE	PRESIDENT	4	52	NORWAY RUN
MCCALMONT	QUAKER STATE	PLEASANTVILLE	8	112	PINE RUN
MORRISON (WALTON)	M. W. HOOVER	PRESIDENT	1	8	PITHOLE CREEK
		PLEASANTVILLE	8	107	PINE RUN
		PLEASANTVILLE	9	138	STEWART RUN
		PRESIDENT	1	11	PITHOLE CREEK
		PRESIDENT	2	19	PINE RUN
		PRESIDENT	2	20	PINE RUN
		PRESIDENT	2	21	PINE RUN
		PRESIDENT	2	23	MUSKRAT RUN
		PRESIDENT	2	25	JOHNSTON RUN
		PRESIDENT	2	29	CULVER RUN
		PRESIDENT	3	35	PINE RUN
PROPER LERNER	QUAKER STATE	PRESIDENT	1	14	ALLEGHENY RIVER
PROPER LERNER	QUAKER STATE	PRESIDENT	1	15	ALLEGHENY RIVER
PROPER LERNER	QUAKER STATE	PRESIDENT	1	16	ALLEGHENY RIVER
PROPER-LERNER	QUAKER STATE	PRESIDENT	1	9	PITHOLE CREEK
PROPER-LERNER	QUAKER STATE	PRESIDENT	1	10	PITHOLE CREEK
REESER	QUAKER STATE	PLEASANTVILLE	8	106	MUSKRAT RUN
REESER	QUAKER STATE	PLEASANTVILLE	8	108	PINE RUN
RODGERS	QUAKER STATE	PRESIDENT	2	31	JOHNSTON RUN
SOUTH EBERT	QUAKER STATE	PLEASANTVILLE	9	133	SUGAR RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
STATE GAME LANDS #47	TECHNOL ENERGY	PRESIDENT	4	51 MCREA RUN
WISE	F. E. BILLS ENTERPRISES	PRESIDENT	2	26 MUSKRAT RUN
WOIDECK	QUAKER STATE	PLEASANTVILLE	9	132 SUGAR RUN
WOIDECK	QUAKER STATE	PLEASANTVILLE	9	139 STEWART RUN
WOIDECK	QUAKER STATE	PRESIDENT	3	41 STEWART RUN
WOIDECK	QUAKER STATE	PRESIDENT	3	44 STEWART RUN
WOIDECK	QUAKER STATE	PRESIDENT	3	47 PIERSON RUN
WOIDEK	QUAKER STATE	PRESIDENT	3	36 PINE RUN
WOIDEK	QUAKER STATE	PRESIDENT	3	39 STEWART RUN
* Township/Municipality: ROCKLAND TWP				
WASSON	QUAKER STATE	KENNERDELL	6	13 PORCUPINE RUN
* Township/Municipality: SANDYCREEK TWP				
ED CULBERTSON	ED CULBERTSON	KENNERDELL	3	4 ALLEGHENY RIVER
HILL FARM	RO WAY OIL & GAS, INC.	KENNERDELL	2	12 ALLEGHENY RIVER
	MOODY & ASSOC	KENNERDELL	2	2 ALLEGHENY RIVER
	NORWESCO	KENNERDELL	2	10 ALLEGHENY RIVER
SHILLADAY	MOODY & ASSOC	KENNERDELL	2	11 ALLEGHENY RIVER
SHILLADAY	MOODY & ASSOC	KENNERDELL	2	14 ALLEGHENY RIVER
* Township/Municipality: SUGARCREEK TWP				
CUBBON	ADOBE OIL & GAS	FRANKLIN	6	27 TWOMILE RUN
	WEAVER & PRESTON	FRANKLIN	8	6 ALLEGHENY RIVER
	WEAVER & PRESTON	FRANKLIN	8	7 ALLEGHENY RIVER
	WEAVER & PRESTON	FRANKLIN	8	8 ALLEGHENY RIVER
HASSON	QUAKER STATE	OIL CITY	4	30 BRANNON RUN
MOYER	ADOBE OIL & GAS	FRANKLIN	6	28 TWOMILE RUN
PRITCHARD	WEAVER & PRESTON	FRANKLIN	8	5 ALLEGHENY RIVER
RENO (GOSS)	QUAKER STATE	OIL CITY	7	44 ALLEGHENY RIVER
RENO (LOWER FARM)	QUAKER STATE	FRANKLIN	6	1 ALLEGHENY RIVER
RENO WANANGO	QUAKER STATE	OIL CITY	7	36 BRANNON RUN
RENO WANANGO	QUAKER STATE	OIL CITY	7	37 BRANNON RUN
RENO WANANGO	QUAKER STATE	OIL CITY	7	40 BRANNON RUN
RENO WANANGO	QUAKER STATE	OIL CITY	7	41 BRANNON RUN
RENO WANANGO	QUAKER STATE	OIL CITY	7	42 BRANNON RUN
RENO	QUAKER STATE	FRANKLIN	6	2 BRANNON RUN
RENO	QUAKER STATE	FRANKLIN	6	3 BRANNON RUN
RENO	QUAKER STATE	FRANKLIN	9	4 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	4	29 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	4	31 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	4	32 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	4	33 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	4	34 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	4	35 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	7	38 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	7	39 BRANNON RUN
RENO	QUAKER STATE	OIL CITY	7	43 ALLEGHENY RIVER
RENO	QUAKER STATE	OIL CITY	7	45 ALLEGHENY RIVER

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
RENO	QUAKER STATE	OIL CITY	7	46	ALLEGHENY RIVER
** County: WARREN					
* Township/Municipality: BROKENSTRAW TWP					
A. E. DILLON	A. E. DILLON	YOUNGSVILLE	2	26	BROKENSTRAW CREEK
ALEXANDER	BROKENSTRAW OIL CO	SUGAR GROVE	8	74	IRVINE RUN
AMENN	MORRISON OIL CO.	YOUNGSVILLE	1	4	MEAD RUN
BARAN	S & M RESOURCES INC.	SUGAR GROVE	7	82	BROWNS RUN
BECKENBACH LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	16	INDIAN CAMP RUN
C. SULLIVAN LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	7	INDIAN CAMP RUN
C. SULLIVAN LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	8	INDIAN CAMP RUN
CARLETT	MORRISON OIL CO.	YOUNGSVILLE	1	3	MEAD RUN
CHAMBERS LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	12	INDIAN CAMP RUN
CLARKE	ADOBE OIL & GAS	SUGAR GROVE	7	100	MATTHEWS RUN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	SUGAR GROVE	8	32	IRVINE RUN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	SUGAR GROVE	8	33	IRVINE RUN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	SUGAR GROVE	8	34	IRVINE RUN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	SUGAR GROVE	8	35	IRVINE RUN
DALE MCKINNEY	IRVINE RUN PARTNERSHIP	SUGAR GROVE	8	36	IRVINE RUN
DARLING	S & M RESOURCES INC.	SUGAR GROVE	7	81	BROWNS RUN
DEVORE	SIGMA ENERGY RESOURCES	YOUNGSVILLE	1	37	BROWNS RUN
DICKEY	TROPIGAS	SUGAR GROVE	8	37	IRVINE RUN
DICKEY	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	8	48	IRVINE RUN
E. DICKEY	QUAKER STATE	SUGAR GROVE	8	73	IRVINE RUN
EDWARD DAY	WITCO CHEMICAL CORPORATION	SUGAR GROVE	7	27	MATTHEWS RUN
F. LORENZ	ART BURLEIGH	YOUNGSVILLE	2	22	BROKENSTRAW CREEK
F.W. WOODARD	WHITTINGTON & WHITTINGTON	YOUNGSVILLE	2	6	MATTHEWS RUN
FISHER-YOUNG	H.L. MURRAY	YOUNGSVILLE	2	801	UNNAMED TRIBUTARY
FLEMING LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	11	INDIAN CAMP RUN
G. L. ANDERSON LEASE	QUAKER STATE	YOUNGSVILLE	2	18	BROKENSTRAW CREEK
GRIFFIN	DONNELL SERVICES, INC.	SUGAR GROVE	7	803	MATTHEWS RUN
HENRY	MORRISON OIL CO.	SUGAR GROVE	8	39	INDIAN CAMP RUN
HILL "A"	UNIVERSAL RESOURCES HOLDING CO	YOUNGSVILLE	2	20	BROKENSTRAW CREEK
HILL "B"	UNIVERSAL RESOURCES HOLDING CO	YOUNGSVILLE	2	19	BROKENSTRAW CREEK
HOPKINS	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	9	44	IRVINE RUN
HUTCHINSON LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	9	INDIAN CAMP RUN
J. YOUNGSVILLE LEASE	QUAKER STATE	YOUNGSVILLE	2	17	BROKENSTRAW CREEK
JEWELL	DONNELL SERVICES, INC.	SUGAR GROVE	7	25	MATTHEWS RUN
JOHNSON LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	13	INDIAN CAMP RUN
KNAPP A	EASTERN STATES ENERGY	SUGAR GROVE	7	801	MATTHEWS RUN
KUZMINSKI	UNIVERSAL RESOURCES HOLDING CO	YOUNGSVILLE	2	27	BROKENSTRAW CREEK
LAMB	MORRISON OIL CO.	YOUNGSVILLE	1	1	MEAD RUN
MCKINNEY	BROKENSTRAW OIL CO	SUGAR GROVE	8	802	IRVINE RUN
MICHAEL STOCK	FREEMAN & COTTON & WASSON	YOUNGSVILLE	2	24	BROKENSTRAW CREEK
MILLER	FORCE PETROLEUM	YOUNGSVILLE	2	40	BROKENSTRAW CREEK
MILLER	SIGMA ENERGY RESOURCES	YOUNGSVILLE	2	41	BROKENSTRAW CREEK
MORAVEK	JOHN ALLEN	SUGAR GROVE	9	43	IRVINE RUN
NATIONAL FORGE	PENNSYLVANIA GENERAL ENERGY	YOUNGSVILLE	3	28	BROKENSTRAW CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
OLSON LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	15	INDIAN CAMP RUN
PROBST LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	14	INDIAN CAMP RUN
PUSCHER	MORRISON OIL CO.	YOUNGSVILLE	1	5	MEAD RUN
ROUSE	O. W. HOGSETT	YOUNGSVILLE	2	25	BROKENSTRAW CREEK
SIEMENS	MORRISON OIL CO.	YOUNGSVILLE	1	2	MEAD RUN
SOWA	ANDREW DVJAK & ERNEST MCGRAW	YOUNGSVILLE	2	23	BROKENSTRAW CREEK
STEVENSON LEASE	GAS & OIL MANAGEMENT ASSOC.	YOUNGSVILLE	2	10	INDIAN CAMP RUN
		SUGAR GROVE	7	26	MATTHEWS RUN
		SUGAR GROVE	7	96	TELICK RUN
		SUGAR GROVE	8	38	INDIAN CAMP RUN
		SUGAR GROVE	8	49	IRVINE RUN
		SUGAR GROVE	9	41	IRVINE RUN
		SUGAR GROVE	9	42	IRVINE RUN
SUPPA	SLAGLE & ALMENDINGER	YOUNGSVILLE	6	43	ALLEGHENY RIVER
THOMAS CARROLL	QUAKER STATE	SUGAR GROVE	9	75	IRVINE RUN
VANCISE	QUAKER STATE	SUGAR GROVE	8	40	IRVINE RUN
WEAVER	GAS & OIL LAND LEASING CORP	YOUNGSVILLE	3	32	IRVINE RUN
WEAVER	GAS & OIL LAND LEASING CORP	YOUNGSVILLE	3	33	IRVINE RUN
	FORCE PETROLEUM	YOUNGSVILLE	1	38	BROKENSTRAW CREEK
	FORCE PETROLEUM	YOUNGSVILLE	1	39	BROKENSTRAW CREEK
	BROKENSTRAW OIL CO	YOUNGSVILLE	2	21	BROKENSTRAW CREEK
		YOUNGSVILLE	3	29	BROKENSTRAW CREEK
		YOUNGSVILLE	3	30	IRVINE RUN
		YOUNGSVILLE	3	31	IRVINE RUN
	GEORGE W. FOX	YOUNGSVILLE	6	42	LENHART RUN
* Township/Municipality: CHERRY GROVE TWP					
BONANZA	QUAKER STATE	SHEFFIELD	4	23	UPPER SHERIFF RUN
LOT 615	I.L. GEER & SONS	SHEFFIELD	1	10	ARNOT RUN
* Township/Municipality: CONEWANGO TWP					
ANTHONY & LARSEN	SLAGLE & ALMENDINGER	WARREN	3	62	FOLLETT RUN
BOWSER	SLAGLE & ALMENDINGER	WARREN	1	56	ALLEGHENY RIVER
CLIFTON	MORRISON OIL CO.	WARREN	2	1	ALLEGHENY RIVER
FERVER	FLANNIGAN BROS.	WARREN	2	60	ALLEGHENY RIVER
FLADRY	SLAGLE & ALMENDINGER	WARREN	3	61	FOLLETT RUN
GROSCHE	WILLIAM SOUTHWELL	WARREN	3	63	FOLLETT RUN
MOYLAN	QUAKER STATE	WARREN	2	2	UNNAMED TRIB
NORDINE	STERLING ENERGY ASSOC.	WARREN	2	59	ALLEGHENY RIVER
SHRECK	UNIVERSAL RESOURCES HOLDING CO	WARREN	3	3	UNNAMED TRIB
SPERRY	SIGMA ENERGY RESOURCES	WARREN	1	58	MORSE RUN
	DAVID THELIN OIL CO.	WARREN	2	801	UNNAMED TRIBUTARY
* Township/Municipality: DEERFIELD TWP					
KUBECKI	M.A.T. OIL AND GAS	YOUNGSVILLE	7	44	CONKLIN RUN
PERNOSKY	VINEYARD OIL AND GAS	YOUNGSVILLE	7	48	CONKLIN RUN
RENSMA	S & M RESOURCES INC.	YOUNGSVILLE	7	53	CONKLIN RUN
S. YUCHA	MORRISON OIL CO.	YOUNGSVILLE	7	35	CONKLIN RUN
SVEDA	M.A.T. OIL AND GAS	YOUNGSVILLE	7	46	CONKLIN RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
TORREY	VINEYARD OIL AND GAS	TIDIOUTE	2	1	TIDIOUTE CREEK
W. FLASHER	MORRISON OIL CO.	YOUNGSVILLE	7	47	CONKLIN RUN
W. FLASHER	S& M RESOURCES INC.	YOUNGSVILLE	7	36	CONKLIN RUN
		YOUNGSVILLE	7	52	CONKLIN RUN
* Township/Municipality: ELDRED TWP					
ALLEN	PENNSYLVANIA OIL PRODUCING CO.	SPRING CREEK	9	5	MIDDLE BRANCH CALDWELL CREEK
FRANK NICHOLS	BEREA OIL & GAS CORP.	SPRING CREEK	7	1	SPRING CREEK
GATES & ALLEN	PENNSYLVANIA OIL PRODUCING CO.	SPRING CREEK	9	3	MIDDLE BRANCH CALDWELL CREEK
GATES & ALLEN	PENNSYLVANIA OIL PRODUCING CO.	SPRING CREEK	9	4	MIDDLE BRANCH CALDWELL CREEK
	QUAKER STATE	GRAND VALLEY	2	1	CALDWELL CREEK
* Township/Municipality: FARMINGTON TWP					
HIBNER	S& M RESOURCES INC.	SUGAR GROVE	3	76	KIANTONE CREEK
LUDWICK/CARLSTROM	SIGMA ENERGY RESOURCES	SUGAR GROVE	3	64	KIANTONE CREEK
LUDWICK	S& M RESOURCES INC.	SUGAR GROVE	3	79	KIANTONE CREEK
MCINTYRE	HBC OIL CO	SUGAR GROVE	3	65	KIANTONE CREEK
MCKENNEY	S& M RESOURCES INC.	SUGAR GROVE	3	78	KIANTONE CREEK
MCKENNY	SIGMA ENERGY RESOURCES	SUGAR GROVE	3	63	KIANTONE CREEK
SOUTH KACZAR	SIGMA ENERGY RESOURCES	SUGAR GROVE	3	66	KIANTONE CREEK
STEWART	SIGMA ENERGY RESOURCES	SUGAR GROVE	3	62	KIANTONE CREEK
		SUGAR GROVE	3	86	KIANTONE CREEK
		SUGAR GROVE	3	97	KIANTONE CREEK
		SUGAR GROVE	3	98	KIANTONE CREEK
* Township/Municipality: GLADE TWP					
ABBOT	COTTON WELL DRILLING CO	CLARENDON	1	808	GLADE RUN
ARCHIBALD	ELLINGTON HARDWOOD	WARREN	3	64	UNNAMED TRIBUTARY
BILLSTONE	RAYMON & LAURIE BILLSTONE	CLARENDON	2	3	ALLEGHENY RIVER
CARL FREDRICK	WALTER HORNBERG	CLARENDON	1	22	GLADE RUN
		CLARENDON	2	2	GLADE RUN
	BRIGHT WELL OIL & GAS CO	CLARENDON	2	5	ALLEGHENY RIVER
CRAIG GREEN	SIGMA ENERGY RESOURCES	WARREN	3	65	UNNAMED TRIBUTARY
CURTIS	COTTON WELL DRILLING CO	CLARENDON	1	807	GLADE RUN
DONALDSON	P.E.M. ENTERPRISES	CLARENDON	1	23	GLADE RUN
FERTIG & FROST	RAYMON & LAURIE BILLSTONE	CLARENDON	2	4	ALLEGHENY RIVER
FREDRICK	ELLINGTON HARDWOOD	CLARENDON	1	805	GLADE RUN
GAFFNER	ELLINGTON HARDWOOD	CLARENDON	1	802	GLADE RUN
HORNBURG	ELLINGTON HARDWOOD	CLARENDON	1	804	GLADE RUN
IRVINE	NED ZAFFINO	CLARENDON	1	24	GLADE RUN
LUTZ	RAYMON & LAURIE BILLSTONE	CLARENDON	1	1	GLADE RUN
MAYBELL BAUER	ERICKSON, WELLS & OLSON OIL CO	CLARENDON	1	26	GLADE RUN
MORRISON	P & M ENTERPRISES, INC.	CLARENDON	1	806	GLADE RUN
MYERS	SYNERGY CO	CLARENDON	1	25	GLADE RUN
SHANSHALA	ELLINGTON HARDWOOD	CLARENDON	1	803	GLADE RUN
THELIN	ELLINGTON HARDWOOD	CLARENDON	1	21	GLADE RUN
* Township/Municipality: MEAD TWP					
ALGONQUIN TRUST #1	GAS & OIL MANAGEMENT ASSOC.	WARREN	6	23	MORRISON RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
ALGONQUIN TRUST #2	GAS & OIL MANAGEMENT ASSOC.	WARREN	6	21 MORRISON RUN
ALGONQUIN TRUST #2	GAS & OIL MANAGEMENT ASSOC.	WARREN	6	22 MORRISON RUN
AUL (LOT 586)	QUAKER STATE	SHEFFIELD	1	3 LITTLE ARNOT RUN
BENSON	NORTH PENN PIPE & SUPPLY CO	CLARENDON	8	19 TIONESTA CREEK
BERRY (LOT 559)	GEARY P. MEAD	CLARENDON	7	18 TIONESTA CREEK
DAVIS	MCLAN ASSOCIATES	CLARENDON	7	28 W BR TIONESTA CREEK
ELDER (LOT 586)	GEARY P. MEAD	SHEFFIELD	1	9 LITTLE ARNOT RUN
GIBSON TRACT (LOT 500)	UNIVERSAL RESOURCES HOLDING CO	WARREN	9	51 W BR TIONESTA CREEK
HERTZEL	RAYMON & LAURIE BILLSTONE	CLARENDON	4	6 ALLEGHENY RIVER
JOYCE BENSON	KIMBERLY OIL & GAS	CLARENDON	6	15 BROWNS RUN
LOT 163	KEYSTONE ENERGY	SHEFFIELD	2	12 ARNOT RUN
LOT 202	H.L. MURRY DRILLING CO	SHEFFIELD	1	4 LITTLE ARNOT RUN
LOT 202	H.L. MURRY DRILLING CO	SHEFFIELD	1	5 LITTLE ARNOT RUN
LOT 202	H.L. MURRY DRILLING CO	SHEFFIELD	1	6 LITTLE ARNOT RUN
LOT 202	H.L. MURRY DRILLING CO	SHEFFIELD	1	7 LITTLE ARNOT RUN
LOT 202	H.L. MURRY DRILLING CO	SHEFFIELD	1	8 LITTLE ARNOT RUN
LOT 202	H.L. MURRY DRILLING CO	SHEFFIELD	2	14 ARNOT RUN
LOT 462	CARL STARR	CLARENDON	4	9 DUTCHMAN RUN
LOT 74	PENNZOIL	CLARENDON	9	20 SIX MILE RUN
LOT 75	BLACK STALLION	CLARENDON	9	29 NORTH FORK
LOT 75	BLACK STALLION	CLARENDON	9	30 NORTH FORK
LOTS 459 & 460	GEARY P. MEAD	WARREN	6	24 MORRISON RUN
NEIL SHARP (LOT 559)	NORTH PENN PRODUCING CO	SHEFFIELD	1	1 W BR TIONESTA CREEK
ROBINSON	CLARENDON PRODUCING CO	CLARENDON	8	17 TIONESTA CREEK
RUHLMAN	I.L. GEER & SONS	CLARENDON	4	10 DUTCHMAN RUN
STREICH	SIGMA ENERGY RESOURCES	CLARENDON	5	31 DUTCHMAN RUN
TIONA FARM (LOT 163)	I.L. GEER & SONS	SHEFFIELD	1	2 W BR TIONESTA CREEK
TIONA FARM	NORTH PENN PIPE & SUPPLY CO	SHEFFIELD	2	13 WOLF RUN
TR 497	SOUTH PENN OIL CO	CLARENDON	7	27 W BR TIONESTA CREEK
WHITE	NEIL J. SHARP	WARREN	6	20 OIL RUN
WILLEX (WT 2958)	COOK ENERGY, INC.	CLARENDON	7	16 TIONESTA CREEK
WILLEY 20	COOK ENERGY, INC.	CLARENDON	5	13 BROWNS RUN
WILLEY EAST	COOK ENERGY, INC.	CLARENDON	4	11 BROWNS RUN
WILLEY	COOK ENERGY, INC.	CLARENDON	5	14 BROWNS RUN
WINGER	COOK ENERGY, INC.	CLARENDON	4	12 BROWNS RUN
YOUNG	CLARENDON PRODUCING CO	CLARENDON	4	7 DUTCHMAN RUN
	NORTH PENN PIPE & SUPPLY CO	CLARENDON	4	8 DUTCHMAN RUN
* Township/Municipality: PITTSFIELD TWP				
BECKER	M.A.T. OIL AND GAS	YOUNGSVILLE	7	45 CONKLIN RUN
* Township/Municipality: PLEASANT TWP				
ALGONQUIN TRUST #3	GAS & OIL MANAGEMENT ASSOC.	WARREN	6	25 MORRISON RUN
ALGONQUIN TRUST #4 (LOT 486)	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	33 MORRISON RUN
ALGONQUIN TRUST #4 (LOT 508)	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	38 TROUT RUN
ALGONQUIN TRUST #5 (LOT 508)	GAS & OIL MANAGEMENT ASSOC.	WARREN	7	27 ELKHORN RUN
ALGONQUIN TRUST #5 (LOT 508)	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	39 TROUT RUN
ALGONQUIN TRUST #6 (LOT 507)	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	40 TROUT RUN
ALGONQUIN TRUST #7 (LOT 485)	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	32 MORRISON RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
ALGONQUIN TRUST #8	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	37	MORRISON RUN
ALGONQUIN TRUST #9 & SULLIVAN	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	35	MORRISON RUN
ALGONQUIN TRUST #9 (LOT 486)	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	34	MORRISON RUN
ARCHIE BUNKER (LOT 541)	QUAKER STATE	WARREN	7	75	SLATER RUN
BRANT	EXCHANGE OIL	WARREN	1	57	ALLEGHENY RIVER
BRIGHT-WOLFE (069)	QUAKER STATE	WARREN	4	8	GRUNDER RUN
DEFOREST	SHAWNEE-CLINGER OIL CO.	WARREN	7	69	HEDGEHOG RUN
DONAHUE & WHITE	QUAKER STATE	WARREN	5	12	GRUNDER RUN
DUNN	SHAWNEE-CLINGER OIL CO.	WARREN	7	71	HEDGEHOG RUN
FOSTER WARRANT	FRANK CARVELLI	YOUNGSVILLE	6	34	LENHART RUN
GRUNDER (484)	QUAKER STATE	WARREN	7	53	MORRISON RUN
GRUNDER	QUAKER STATE	WARREN	5	19	SILL RUN
HAMILTON	QUAKER STATE	WARREN	5	16	SILL RUN
HIRTZEL	QUAKER STATE	WARREN	5	52	SILL RUN
HORNICK	SHAWNEE-CLINGER OIL CO.	WARREN	7	70	SLATER RUN
HOWARD BILLMAN	HOWARD BILLMAN	WARREN	5	13	ALLEGHENY RIVER
JENKS (452)	QUAKER STATE	WARREN	4	10	GRUNDER RUN
JENKS (519)	QUAKER STATE	WARREN	8	47	ELKHORN RUN
JENKS (LOT 476)	S & M RESOURCES INC.	WARREN	4	77	SILL RUN
JENKS, BRIGHT-WOLFE, PIERCE	QUAKER STATE	WARREN	4	7	GRUNDER RUN
LOT 473	KENNETH D. SHERRY	WARREN	5	54	MORRISON RUN
LOT 508	SULLIVAN & CLARK	WARREN	8	41	MORRISON RUN
LOT 514	QUAKER STATE	WARREN	7	67	SLATER RUN
LOT 514	QUAKER STATE	WARREN	7	68	SLATER RUN
LOT 539	SHAWNEE-CLINGER OIL CO.	WARREN	8	76	ADAMS RUN
LOT 542	QUAKER STATE	WARREN	7	73	SLATER RUN
LOT 542	QUAKER STATE	WARREN	7	74	SLATER RUN
MIKULA	QUAKER STATE	WARREN	5	17	SILL RUN
MORRISON RUN TRUST	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	36	MORRISON RUN
N & R	QUAKER STATE	WARREN	4	11	GRUNDER RUN
PAPALIA	QUAKER STATE	WARREN	4	6	GRUNDER RUN
PEARSON	QUAKER STATE	WARREN	5	18	SILL RUN
PIERCE (01)	QUAKER STATE	WARREN	4	4	GRUNDER RUN
PIERCE	QUAKER STATE	WARREN	4	5	GRUNDER RUN
SAMUELSON	SIGMA ENERGY RESOURCES	WARREN	4	66	GRUNDER RUN
STONE	SHAWNEE-CLINGER OIL CO.	WARREN	7	72	SLATER RUN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	WARREN	6	26	MORRISON RUN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	42	TROUT RUN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	WARREN	9	49	MEAD RUN
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	WARREN	9	50	MORRISON RUN
TROUT RUN TRUST #2	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	48	ELKHORN RUN
TROUT RUN TRUST #4	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	46	ELKHORN RUN
	ENVIRONMENTAL DEVELOPMENT CORP	WARREN	3	78	ALLEGHENY RIVER
		WARREN	5	15	SILL RUN
WENTZ	QUAKER STATE	WARREN	5	14	GRUNDER RUN
ZORO	QUAKER STATE	WARREN	4	9	GRUNDER RUN
* Township/Municipality: SHEFFIELD TWP					
BARNES	QUAKER STATE	SHEFFIELD	9	45	S BR TIONESTA CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Receiving Stream Key
COCHRAN (407)	QUAKER STATE	SHEFFIELD	9	38 S BR TIONESTA CREEK
CURTIN (LOT 409)	F.E. PETROLEUM INC.	SHEFFIELD	9	41 S BR TIONESTA CREEK
CURTIN (LOT 409)	F.E. PETROLEUM INC.	SHEFFIELD	9	42 S BR TIONESTA CREEK
ENTERPRISE TRACT (018)	QUAKER STATE	SHEFFIELD	9	47 MEAD RUN
ENTERPRISE TRACT (03)	QUAKER STATE	SHEFFIELD	9	48 TIONESTA CREEK
ENTERPRISE TRACT	QUAKER STATE	SHEFFIELD	9	46 MEAD RUN
GROSCH (LOT 244)	GEARY P. MEAD	SHEFFIELD	2	18 ARNOT RUN
HERRICK (TRACT 2735)	FOREST CHEMICAL CO	SHEFFIELD	7	33 BUSH CREEK
HERRICK (TRACT 2735)	FOREST CHEMICAL CO	SHEFFIELD	8	34 BUSH CREEK
HERRICK (TRACT 2735)	FOREST CHEMICAL CO	SHEFFIELD	8	35 BUSH CREEK
HERRICK (TRACT 2877)	FOREST CHEMICAL CO	SHEFFIELD	7	32 BUSH CREEK
LOT 241	GEARY P. MEAD	SHEFFIELD	2	17 ARNOT RUN
LOT 243		SHEFFIELD	1	11 ARNOT RUN
LOT 244	GEARY P. MEAD	SHEFFIELD	2	19 ARNOT RUN
LOT 282	GEARY P. MEAD	SHEFFIELD	2	20 ARNOT RUN
LOT 362	R & R OIL & GAS CO	SHEFFIELD	4	21 DUCK EDDY RUN
LOT 362	R & R OIL & GAS CO	SHEFFIELD	4	22 DUCK EDDY RUN
LOT 363	VIKING RESOURCES CORP	SHEFFIELD	4	24 DUCK EDDY RUN
LOT 363	VIKING RESOURCES CORP	SHEFFIELD	5	25 DUCK EDDY RUN
LOT 436	F.E. PETROLEUM INC.	SHEFFIELD	9	40 S BR TIONESTA CREEK
	PENNZOIL	LUDLOW	7	3 ROCK RUN
NATIONAL FUEL GAS (LOT 360)	VIKING RESOURCES CORP	SHEFFIELD	5	29 UNNAMED TRIB
NATIONAL FUEL GAS (LOT 361)	VIKING RESOURCES CORP	SHEFFIELD	5	28 UNNAMED TRIB
NATIONAL FUEL GAS (LOT 364)	VIKING RESOURCES CORP	SHEFFIELD	5	26 DUCK EDDY RUN
NATIONAL FUEL GAS (LOT 364)	VIKING RESOURCES CORP	SHEFFIELD	5	27 DUCK EDDY RUN
	MILL CREEK OIL & GAS	SHEFFIELD	2	15 W BR TIONESTA CREEK
	MILL CREEK OIL & GAS	SHEFFIELD	2	16 W BR TIONESTA CREEK
	MILL CREEK OIL & GAS	SHEFFIELD	6	30 S BR TIONESTA CREEK
	MILL CREEK OIL & GAS	SHEFFIELD	6	31 S BR TIONESTA CREEK
	NOVOSEL	SHEFFIELD	8	36 TIONESTA CREEK
	CLARENDON PRODUCING CO	SHEFFIELD	8	37 MESSENGER RUN
	QUAKER STATE	SHEFFIELD	9	39 TIONESTA CREEK
	NOVOSEL	SHEFFIELD	9	43 S BR TIONESTA CREEK
	NOVOSEL	SHEFFIELD	9	44 S BR TIONESTA CREEK
* Township/Municipality: SOUTHWEST TWP				
BLAINE LUKE	RETURN OIL CO.	GRAND VALLEY	9	16 GILSON RUN
BLOOM	PENN WEST MINERAL RESOURCES	GRAND VALLEY	6	8 PINE CREEK
	QUAKER STATE	GRAND VALLEY	4	2 CALDWELL CREEK
		GRAND VALLEY	5	6 CALDWELL CREEK
		GRAND VALLEY	7	9 PINE CREEK
		GRAND VALLEY	8	10 PINE CREEK
		GRAND VALLEY	9	11 PINE CREEK
HUNTER	RETURN OIL CO.	GRAND VALLEY	9	15 GILSON RUN
JENKS	EAGLE LINE CORP.	GRAND VALLEY	9	14 GILSON RUN
MANUELL	KEY OIL CO.	GRAND VALLEY	9	13 GILSON RUN
PHILADELPHIA	QUAKER STATE	GRAND VALLEY	6	7 PINE CREEK
TARBELL	QUAKER STATE	GRAND VALLEY	5	3 CALDWELL CREEK
TARBELL	QUAKER STATE	GRAND VALLEY	5	4 CALDWELL CREEK

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
TARBELL	QUAKER STATE	GRAND VALLEY	5		5 CALDWELL CREEK
WAYNE VINCENT, JR.	KEY OIL CO.	GRAND VALLEY	9		12 GILSON RUN
* Township/Municipality: SPRING CREEK TWP					
SANDFORD	EAGLE LINE CORP.	SPRING CREEK	9		2 E BR SPRING CREEK
* Township/Municipality: SUGAR GROVE TWP					
A. MCKINNEY	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	8		30 IRVINE RUN
A. MCKINNEY	TROPIGAS	SUGAR GROVE	8		31 IRVINE RUN
ATKINS	QUAKER STATE	SUGAR GROVE	2		4 STILLWATER CREEK
BARAN	DONNELL SERVICES, INC.	SUGAR GROVE	7		71 MATTHEWS RUN
BISSELL	SIGMA ENERGY RESOURCES	SUGAR GROVE	7		67 MATTHEWS RUN
BOSKO	BLACK STALLION	SUGAR GROVE	5		18 JACKSON RUN
BOSKO	BLACK STALLION	SUGAR GROVE	5		19 JACKSON RUN
BROWN HILL METHODIST CHURCH	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	8		28 INDIAN CAMP RUN
CARLSON	SIGMA ENERGY RESOURCES	SUGAR GROVE	7		68 MATTHEWS RUN
CHANDLER	MORRISON OIL CO.	SUGAR GROVE	5		16 JACKSON RUN
CRISPIN	S & M RESOURCES INC.	SUGAR GROVE	3		77 KIANTONE CREEK
DAY	SIGMA ENERGY RESOURCES	SUGAR GROVE	7		70 MATTHEWS RUN
DENDEL	SIGMA ENERGY RESOURCES	SUGAR GROVE	5		59 JACKSON RUN
DETWEILER	MORRISON OIL CO.	SUGAR GROVE	2		8 SAUNDERS RUN
DURNELL/PIERCE	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	2		7 SAUNDERS RUN
ENGSTROM	FLOYD GEARHART	SUGAR GROVE	5		22 JACKSON RUN
FALCONER	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	5		12 JACKSON RUN
FALCONER	BROKENSTRAW OIL CO	SUGAR GROVE	6		23 JACKSON RUN
FULLERTON	ADOBE OIL & GAS	SUGAR GROVE	3		101 KIANTONE CREEK
HAGG-RENSMA	SIGMA ENERGY RESOURCES	SUGAR GROVE	8		72 IRVINE RUN
HAMILTON	MORRISON OIL CO.	SUGAR GROVE	2		5 SAUNDERS RUN
HAMILTON	MORRISON OIL CO.	SUGAR GROVE	2		6 SAUNDERS RUN
HAMMERMILL	S & M RESOURCES INC.	SUGAR GROVE	5		80 JACKSON RUN
HOWARTH	OHIO LEASE OPERATING	SUGAR GROVE	5		58 STILLWATER CREEK
J. EGGLESTON	MOOR, BYERS & STOREY & KAUFMAN	SUGAR GROVE	5		45 JACKSON RUN
J. FLASHER	MORRISON OIL CO.	SUGAR GROVE	5		47 JACKSON RUN
J. FLASHER	MORRISON OIL CO.	SUGAR GROVE	6		24 JACKSON RUN
JENKS DEVELOPMENT	BLACK STALLION	SUGAR GROVE	2		54 STILLWATER CREEK
JENKS DEVELOPMENT	BLACK STALLION	SUGAR GROVE	2		56 STILLWATER CREEK
JENKS DEVELOPMENT	BLACK STALLION	SUGAR GROVE	5		57 STILLWATER CREEK
JOHN NOBBS	SIGMA ENERGY RESOURCES	SUGAR GROVE	2		55 STILLWATER CREEK
JOSEPH CATALDO	VALLEY DRILLING CO.	SUGAR GROVE	2		2 STILLWATER CREEK
JOSEPH CATALDO	VALLEY DRILLING CO.	SUGAR GROVE	2		3 STILLWATER CREEK
LABOWAK	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	5		13 JACKSON RUN
M. CARLSON	SIGMA ENERGY RESOURCES	SUGAR GROVE	1		50 STILLWATER CREEK
NOBBS	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	5		11 JACKSON RUN
OBRIEN	ADOBE OIL & GAS	SUGAR GROVE	7		99 MATTHEWS RUN
ODONNELL	MORRISON OIL CO.	SUGAR GROVE	5		15 JACKSON RUN
ROBERT CHASE	SIGMA ENERGY RESOURCES	SUGAR GROVE	2		53 STILLWATER CREEK
ROBERT GIBSON	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	8		29 IRVINE RUN
ROBERT YOSHIDA	VALLEY DRILLING CO.	SUGAR GROVE	5		17 JACKSON RUN
RODNEY PETERS	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	5		14 JACKSON RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
SCHLINING	MORRISON OIL CO.	SUGAR GROVE	3	9	SAUNDERS RUN
STAHLBERG	MARANATHA PARTNERSHIP	SUGAR GROVE	1	51	STILLWATER CREEK
STAHLBERG	SIGMA ENERGY RESOURCES	SUGAR GROVE	1	52	STILLWATER CREEK
		SUGAR GROVE	1	1	STILLWATER CREEK
		SUGAR GROVE	2	83	STILLWATER CREEK
		SUGAR GROVE	2	84	STILLWATER CREEK
		SUGAR GROVE	2	85	STILLWATER CREEK
		SUGAR GROVE	4	87	JACKSON RUN
		SUGAR GROVE	4	88	PATCHEN RUN
		SUGAR GROVE	5	21	JACKSON RUN
		SUGAR GROVE	5	89	JACKSON RUN
		SUGAR GROVE	5	90	JACKSON RUN
		SUGAR GROVE	5	91	JACKSON RUN
		SUGAR GROVE	5	92	JACKSON RUN
		SUGAR GROVE	5	93	JACKSON RUN
		SUGAR GROVE	5	94	JACKSON RUN
		SUGAR GROVE	8	95	LANSING RUN
		SUGAR GROVE	9	46	JACKSON RUN
TRASK	SIGMA ENERGY RESOURCES	SUGAR GROVE	7	69	MATTHEWS RUN
TUTMAHER	BLACK STALLION	SUGAR GROVE	5	60	JACKSON RUN
W. ADAMS	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	5	10	JACKSON RUN
WILMOUTH	BLACK STALLION	SUGAR GROVE	5	61	JACKSON RUN
YNGVE HARNER	UNIVERSAL RESOURCES HOLDING CO	SUGAR GROVE	5	20	JACKSON RUN
* Township/Municipality: TIDIOUTE BORO					
	RETURN OIL CO.	TIDIOUTE	6	4	ALLEGHENY RIVER
* Township/Municipality: TRIUMPH TWP					
BYERS	CABOT OIL & GAS CORP.	TIDIOUTE	5	3	GORDON RUN
MARTIN	RETURN OIL CO.	TIDIOUTE	7	13	MARTIN RUN
MCGRAW	RON BROWN	TIDIOUTE	7	6	LAMB RUN
MEAD	EAGLE LINE OIL CO.	TIDIOUTE	7	14	MARTIN RUN
PENN-BAYLESS	RETURN OIL CO.	TIDIOUTE	7	10	FUNK RUN
PENN-BAYLESS	RETURN OIL CO.	TIDIOUTE	7	11	FUNK RUN
PENN-BAYLESS	KEY OIL CO.	TIDIOUTE	7	12	FUNK RUN
SIGGINS	QUAKER STATE	TIDIOUTE	4	2	PINE CREEK
ZEIGLER-MCGRAW	TURN OIL INC	TIDIOUTE	7	7	LAMB RUN
ZEIGLER-MCGRAW	TURN OIL INC	TIDIOUTE	7	8	LAMB RUN
ZEIGLER-MCGRAW	TURN OIL INC	TIDIOUTE	7	9	LAMB RUN
ZEIGLER	MARRK OIL	TIDIOUTE	7	5	LAMB RUN
* Township/Municipality: WATSON TWP					
ARCHIE BUNKER	QUAKER STATE	WARREN	7	29	ELKHORN RUN
GLASSMAN	QUAKER STATE	WARREN	7	30	ELKHORN RUN
LOT 516	ALLEGHENY & WESTERN ENERGY	WARREN	7	55	ELKHORN CREEK
RENSMA	QUAKER STATE	WARREN	8	44	ELKHORN RUN
STATE GAME LANDS #29 (LOT 545)	ED JAMES WELL SERVICE.	WARREN	7	31	SLATER RUN (WILDCAT RUN)
SULLIVAN & CLARK	GAS & OIL MANAGEMENT ASSOC.	WARREN	7	28	ELKHORN RUN
TROUT RUN TRUST #1	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	43	TROUT RUN

Table 13. List of All Discharges
Arranged by Township and Farm

Farm/Lease/Warrant/Lot	Operator	Map Name	Map Sect.	Map Key	Receiving Stream
TROUT RUN TRUST #3	GAS & OIL MANAGEMENT ASSOC.	WARREN	8	45	ELKHORN RUN
TURNER	SHAWNEE-CLINGER OIL CO.	YOUNGSVILLE	9	49	CLARK RUN
WT 5249	SHAWNEE-CLINGER OIL CO.	YOUNGSVILLE	9	50	HEDGEHOG RUN
WT 5249	SHAWNEE-CLINGER OIL CO.	YOUNGSVILLE	9	51	HEDGEHOG RUN
** County: WASHINGTON					
* Township/Municipality: CECIL TWP					
		CANONSBURG	1	1	MILLER RUN
		CANONSBURG	1	2	MILLER RUN
		CANONSBURG	1	3	MILLER RUN
		CANONSBURG	1	4	MILLER RUN
		CANONSBURG	1	5	MILLER RUN
		CANONSBURG	1	6	MILLER RUN
		CANONSBURG	1	7	MILLER RUN
		CANONSBURG	1	8	MILLER RUN
		CANONSBURG	1	9	MILLER RUN
		CANONSBURG	1	10	MILLER RUN
		CANONSBURG	4	11	MILLER RUN
		CANONSBURG	4	12	MILLER RUN
		CANONSBURG	4	13	MILLER RUN
		CANONSBURG	4	14	MILLER RUN
		CANONSBURG	4	15	MILLER RUN
** County: WESTMORELAND					
* Township/Municipality: DERRY TWP					
		BLAIRSVILLE	4	6	SPRUCE RUN
		BLAIRSVILLE	4	7	SPRUCE RUN
		BLAIRSVILLE	4	8	CONEMAUGH RIVER
		BLAIRSVILLE	4	9	SPRUCE RUN
		BLAIRSVILLE	5	10	SPRUCE RUN
		BLAIRSVILLE	6	11	CONEMAUGH RIVER
		BLAIRSVILLE	8	13	STONY RUN
		BLAIRSVILLE	8	14	STONY RUN
		BLAIRSVILLE	8	15	STONY RUN
		BLAIRSVILLE	8	16	STONY RUN
		BLAIRSVILLE	8	17	STONY RUN
		BLAIRSVILLE	9	18	STONY RUN
ROBERT A PANIZZII	QUESTA PETROLEUM CO	BLAIRSVILLE	7	20	MCCUNE RUN
WILLIAM BORBONUS	PHILLIPS EXPLORATION INC	BLAIRSVILLE	5	19	STONY RUN