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OPERATIONS AND MAINTENANCE SUMMARY REPORT SITE 6 NCBC GULFPORT MS  
11/27/1996  
MORRISON KNUDSEN CORPORATION

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**OPERATIONS AND MAINTENANCE  
SUMMARY REPORT**

**SITE 6**

**CBC GULFPORT  
GULFPORT, MISSISSIPPI**

CONTRACT N62467-93-D-1106  
DELIVERY ORDER #0002  
STATEMENT OF WORK #001

**REVISION 0**

**NOVEMBER 27, 1996**

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## EXECUTIVE SUMMARY

As part of an interim measure, a treatment system was constructed to remove free-phase floating subsurface product at a Former Fire Fighting Area of Construction Battalion Center (CBC) at Gulfport, Mississippi. This report summarizes the operations and maintenance (O&M) of the treatment system performed by Morrison-Knudsen Corporation (MK) from November 1995 to October 1996.

The O&M activities for the treatment system included daily monitoring through remote system, scheduled maintenance, repairs and replacement of parts, collection of influent and effluent liquid samples for laboratory testing, and adjustments to improve the efficiency of the treatment system. Several components of the treatment system were repaired or replaced during the O&M period including flowmeters, air compressor starter, modem and an effluent pump. Improvements and modifications instituted during the O&M period included replacement of well covers, upgrading of the sump pump controls, and optimization of the oil/water separator and recovery pump operations.

As of 08 November 1996, the treatment system has successfully processed 3,226,495 gallons of liquid. Although the quantity of product collected in the tank is 130 gallons, it is estimated that over 5,000 gallons of product was treated through the air stripper. Adjustments have been made to the treatment system to enhance collection of product in the tank. Monthly measurements of product and groundwater levels in the monitoring and recovery wells indicate that subsurface product thickness is decreasing at the site.

After successful completion of one year of O&M, the treatment system has been turned over to the Navy for further operations and maintenance.

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## ACRONYMS

BTEX	benzene, toluene, ethylbenzene, xylene
CBC	Construction Battalion Center
DMR	Discharge Monitor Report
EAC	Estimate at completion
gpm	gallons per minute
MDEQ	Mississippi Department of Environmental Quality
MK	Morrison-Knudsen Corporation
NAVFACENGCOM	Naval Facilities Engineering Command
NCF	Naval Construction Force
O&M	operations and maintenance
PC	personal computer
PE	Professional Engineer
P&ID	process and instrumentation diagram
POTW	Publicly Owned Treatment Works
SCADA	supervisory control and data acquisition
TPH	total petroleum hydrocarbon
VOC	volatile organic compound

## 1.0 INTRODUCTION

### 1.1 BACKGROUND AND OBJECTIVES

This summary report describes the Operations and Maintenance (O&M) actions performed from November 1995 to October 1996 at Site 6 - Former Fire-Fighting Training Area of Construction Battalion Center (CBC), Gulfport, Mississippi. This summary report was prepared by Morrison Knudsen Corporation (MK) for Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), pursuant to the scope of work defined in Delivery Order #0002, Statement of Work # 01, under Contract # N62467-93-D-1106.

The purpose of this report is to provide a summary of the O&M activities completed to date and to present the results, conclusions and recommendations for future work. Further details of O&M activities were presented to Southern Division and CBC in respective monthly reports.

The primary objectives of the O&M functions are to:

- ensure that the treatment system is operating efficiently,
- recover free-phase product and treat groundwater through the treatment system,
- ensure operation within environmental requirements,
- collect data and document operation and system performance,
- perform adjustments to the treatment system to maximize product recovery, and
- provide a rapid response and corrective action during system malfunction.

As shown on Figure 1, CBC Gulfport is located in the City of Gulfport, Harrison County, in of the State of Mississippi. CBC Gulfport supports four Naval Mobile Construction Battalions and serves as the focal point for deployment of Naval Construction Force (NCF) personnel for the Atlantic Fleet battalions.

The location of the project site is shown on Figure 2. The project site is designated as Site 6, a Former Fire-Fighting Training Area, located at the corner of Fifth Street and Colby Avenue. During the fire-fighting training activities from 1966 to 1975, waste liquids were drained and ignited in two pits. Various liquids are suspected to have been used at the site, including waste fuels, oils, solvents, paint thinners and cleaning compounds.

Site assessments [ABB, 1994a] indicated that a free-phase product consisting of dark brown oily liquid was floating on the water table. Based on MK's recommendation and groundwater modeling by ABB, an interceptor trench was recommended for product and groundwater recovery [ABB, 1994b]. The collected influent liquid would be treated through an oil/water separator and an air stripper.

The following activities had already been completed by MK as part of this free-phase removal project prior to undertaking the O&M responsibilities:

- Preparation a *Work Plan* [MK, 1994],
- Excavation of a recovery trench and installation of wells and a treatment system,

- Completion of a *Construction Completion Report* [MK, 1995a], and
- Completion of an *O&M Manual* [MK, 1995b].

The construction of the recovery and treatment system was completed in September 1995 and the O&M actions were initiated in November 1995.

## 1.2 TREATMENT SYSTEM DESCRIPTION

Figure 3 shows the layout of the remedial system including the locations of the recovery trench, concrete pad for treatment equipment, and monitoring wells. A process and instrumentation diagram (P&ID) of the recovery and treatment system is shown in Figure 4. The operations of groundwater treatment system are summarized below.

- Product and groundwater are collected using three pneumatic pumps installed in the recovery wells within the recovery trench;
- Product is separated from groundwater in an oil/water separator and collected in a storage tank;
- A low profile air stripper is used to remove the volatile organic compounds (VOC) from the remaining liquid;
- Treated water is discharged to the Publicly Owned Treatment Works (POTW) via sanitary sewer lines.

A detailed description of various equipment for the treatment system is provided in the *O&M Manual*.

A supervisory control and data acquisition (SCADA) system was also incorporated into the treatment system for remote monitoring and control. The operating parameters, including alarm conditions, influent and effluent flows and equipment status, can be accessed remotely using a personal computer (PC) with modem. The required equipment for remote access, including software, were provided to the base as part of the treatment system.

## 2.0 OPERATIONS AND MAINTENANCE

### 2.1 WORK ACCOMPLISHED

MK was responsible for providing one year of O&M services for the treatment system after construction and installation were completed. The details of the O&M activities were presented to Southern Division in the monthly reports from September 1995 to November 1996. A summary of these O&M activities is provided below.

- Monitoring of the treatment system was performed on a daily basis using the SCADA system.
- Routine inspection was performed once every two weeks. This activity included visual inspection of the treatment system, recording all indicators, gauges and meters and adjusting the recovery pumps.
- Scheduled maintenance of the treatment system equipment was performed per manufacturers' recommendations. This activity included changing of oil, lubricant and filters; adjusting of control valves and settings; minor piping modifications; and replacement of fuses.
- Sampling of liquid influent and effluent was performed twice every month as required by the permit issued by the Mississippi Department of Environmental Quality (MDEQ) for the treatment system. The liquid samples were tested for benzene, toluene, ethylbenzene, xylene (BTEX) and pH at an off-site laboratory.
- Product and water levels were measured from 17 monitoring and recovery wells at least once every month.
- Corrective actions were conducted when the treatment system malfunctioned or the operating parameters were exceeded. The activities for corrective action included repair and replacement of parts. New replacement parts were generally obtained under the vendor's or manufacturer's warranties.
- Actions to improve the efficiency of the recovery and treatment system were coordinated with ABB Environmental Services. These actions included adjusting the weir in the oil/water separator and cyclically lowering and raising the recovery pumps every two weeks.
- Revision 1 of the *O&M Manual* was prepared and distributed. This revision incorporated methods to measure product and water in the storage tank.
- Monthly reports were prepared and distributed to Southern Division. Each monthly report described the activities for the month and summarized the results of analytical laboratory testing.
- Each month a Discharge Monitor Report (DMR) form was completed and submitted to the base for signature and transmission to MDEQ as required by the permit.

### 2.2 PROBLEMS AND SOLUTIONS

Since the start-up of the treatment system in September 1995, there has been no major shutdown (greater a few days) due to equipment malfunction. Repairs and parts replacements were performed expeditiously to bring the system to operational condition whenever there was a shutdown. The

problems with each type of equipment and the corrective actions taken to mitigate the problems are discussed below.

### **2.2.1 Flowmeters**

Four flowmeters were installed in the piping of the treatment system to measure the rate and quantity of liquid flowing through the system. The signal from the flowmeters are transmitted to a programmable logic controller (PLC) provided in the control panel where the data are displayed. Flow data can also be accessed remotely via the SCADA system.

During the start-up of the treatment system in September 1995, the three flowmeters in the influent lines were not working. It was determined that metal shavings and debris had entered the influent piping causing the turbines to malfunction. The debris in the piping was removed and the flowmeters were calibrated by a representative from the equipment vendor.

In November 1995, two of the influent flowmeters were again not functioning. Vendor-supplied strainers were installed in the influent lines so that debris did not interfere with the turbines. The flowmeter problem was, however, not completely resolved. A vendor-supplied replacement flowmeter was installed in December 1995 that resulted in two of the three influent flowmeters in working condition. A replacement for the third flowmeter was delayed because the manufacturer was unable to supply the item for two months. The flowmeter was delivered and installed in March 1996 by the equipment vendor.

Although the flow meters were not fully operational till March 1996, the essential parts of the treatment system were operating normally during the period and groundwater was treated effectively through the treatment system.

### **2.2.2 Air Compressor**

An air compressor was installed to supply power to the pneumatic recovery pumps. Any malfunction of the air compressor generally results in treatment system shutdown. Therefore, every effort was made to expedite corrective actions when problems with the air compressor occurred or were anticipated. The problems and corrective actions taken are discussed below in a chronological order.

- November 1995 - The starter for the air compressor malfunctioned and it was repaired by the equipment manufacturer.
- January 1996 - The relief valve malfunctioned and it was replaced.
- July 1996 - A power surge, possibly caused by nearby construction activities at the site, damaged the contactor and it was replaced.
- August 1996 - The air compressor was not providing sufficient pressure and it was repaired.
- September 1996 - On two separate occasions, power surges caused by thunderstorms tripped the circuit breakers which were replaced each time.

### **2.2.3 Modem**

As part of the SCADA system, the base PC was provided with an internal modem to communicate with the modem at the treatment system. In November 1995, the modem of the PC was not functioning properly and a replacement was provided by the vendor. In June 1996, the new modem failed. This modem was replaced by a vendor-supplied external modem. An external modem was provided because internal modems had also malfunctioned at other sites where the vendor had

provided similar equipment.

#### **2.2.4 Effluent Pump**

The air stripper has a pump to discharge the treated effluent to the sewer line. The pump is coupled to an explosion-proof motor. The circuit breaker of the motor tripped in December 1995 and February 1996. Both times, the circuit breaker was reset and adjusted.

### **2.3 IMPROVEMENTS AND OTHER CHANGES**

Improvements and changes to the treatment system during the O&M period are discussed below.

#### **2.3.1 Well Covers**

A vault with a traffic bearing steel cover was constructed at each recovery well head and mounted flush with ground surface. The steel covers weigh about 400 lbs each.

To facilitate access to the recovery pumps, the original steel covers were replaced with lighter ones capable of being lifted by one person. The original steel covers are currently stored at site for later use, if required.

#### **2.3.2 Treatment Pad Sump Pump**

A sump was constructed at one corner of the reinforced concrete treatment pad to collect rain water and spills. The collected water was pumped to the oil/water separator by a 10-gallons per minute (gpm) sump pump.

During the O&M phase, electrical and control wires were installed so that the operation of the sump pump is connected to the control panel. When the treatment system is shut down, the sump pump is turned off automatically. Thus, potential flooding and overflowing of the oil/water separator is avoided. The sump pump also can be turned on and off remotely using the SCADA system. This allows the remote operator to turn the sump pump off during heavy rain.

A valve was installed in the piping from the sump pump to regulate the quantity of water flowing to the oil/water separator. The valve ensures that the capacity of the oil/water separator is not exceeded during sudden rain storms.

#### **2.3.3 Oil/Water Separator**

The treatment system includes an oil/water separator designed to remove suspended oil from the influent stream. The separator includes a separation chamber with coalescing media and an adjustable weir. The adjustable weir was set in the factory for oil recovery and directs the separated oil to a storage tank.

After a period of monitoring the treatment system, the oil and water levels were measured using an interface probe and it was determined that sufficient product was not collecting in the storage tank. Therefore, the weir in the oil/water separator was adjusted to increase product accumulation in the storage tank. Accumulation in the storage tank was monitored after each adjustment to maximize product recovery and at the same time minimize the volume of water collected. As stated in Section 2.4.2, product recovery has increased since adjustments to the weir were initiated.

### 2.3.4 Recovery Pumps

Pumps were installed in each of the three wells located within the recovery trench. Initially, the pumps were set at three feet below groundwater level as shown in the *Performance Specification, Site 6* [ABB, 1994b]. However, to maximize free-phase product recovery and to limit the quantity of groundwater being processed through the treatment system, the elevation of the pumps were adjusted to six inches below the groundwater level.

Later, in consultation with ABB Environmental Services, the recovery pumps were raised and lowered over a 2-foot interval during the bi-weekly maintenance site visits. When the pumps were lowered, the drawdown in the wells and the radius of influence increased. This allowed more free-phase product to enter the wells. Once the pumps were raised, the free-phase product was recovered.

### 2.3.5 Measurement of Oil and Water in the Product Tank

The quantity of liquid in the product tank can be determined using the pressure gauge at the site or remotely through the SCADA system. The equipment to perform this measurement was added to the treatment system during construction to avoid overflowing the product tank.

The pressure gauge and remote measurements did not differentiate between oil and water stored in the tank. Hence, during the initial monthly reports, the quantity of liquid in the tank was incorrectly reported as recovered product. To provide the correct quantity of product in the tank, measurement of the tank contents with an interface probe was instituted as part of the bi-weekly monitoring program. The interface probe measures the level of oil and water contained in the tank. This method is described in Revision # 1 of the O&M Manual. The correct quantity of product in the storage tank has been measured and reported since August 1996.

## 2.4 RESULTS

The performance of the treatment system was monitored by taking readings at the site, compiling data obtained through the SCADA system, and by laboratory testing of the influent and effluent samples. The results of this monitoring effort are presented below.

### 2.4.1 Effluent Quantities

As shown in Table 1 and Figure 5, a total of 3,226,495 gallons of groundwater and product have been processed through the system since start-up. The maximum quantity of effluent allowed by the MDEQ permit for discharge into the treatment system is 36,000 gallons per day. The average daily quantity of groundwater processed through the treatment system ranges from 5,505 to 12,947 gallons which is below the State criterion.

One of the objectives of the O&M is to minimize the volume of groundwater treated through the system. The low flow rate indicates that this objective was accomplished. In addition, as discussed in Section 2.3.4, moving the pumps over a two-foot interval near the water table reduced the quantity of groundwater pumped and increased the recovery of free-phase product.

### 2.4.2 Product Collected

Table 1 shows that 130 gallons of product have been collected in the product tank. However, it was estimated that over 5,000 gallons of product have been treated through the system based on laboratory analyses of influent and effluent samples. This indicates that, though the product was removed by the air stripper, product separation in the oil/water separator was not very effective.

To enhance the effectiveness of the oil/water separator and increase the accumulation of product in the tank, the weir of the oil/water separator was adjusted as discussed in Section 2.3.3. An increase in the product accumulation was recorded in the months of September and October 1996. Further adjustments were made in November 1996 to enhance product accumulation.

Although the product collected in the storage tank has so far been limited, the treatment system has successfully recovered and treated over 5,000 gallons of product as discussed in Section 2.4.4. By making adjustments to the weir of the oil/water separator, an increase in product collection was recorded. This trend is expected to continue in the future until the free-phase product is depleted.

#### **2.4.3 Measurements of Monitoring and Recovery Wells**

Product and water level measurements in the monitoring and recovery wells are shown in Tables 2 through 17 and summarized in Table 18 and Figure 6. The results indicate that, except for the months of April and May 1996, product thickness exhibited a decreasing trend.

The elevations of product and groundwater in selected wells are shown in Figures 7 through 11. In addition to a decrease in product thickness, these figures also show a seasonal variation in groundwater elevation of three feet.

Based on the above measurements, site maps showing product thickness contours were prepared (Figures 12 to 25). The contours are hour-glass shaped indicating areas of free-phase product in the northern and southern parts of the site. These maps show that the thickness and area of free-phase product is decreasing at the site. The northern part of the site showed a greater decrease than the southern part. This may be due to proximity of the drainage ditch near the southern part or product may be entering the southern area from nearby unidentified areas.

The gradual decrease in product thickness and extent, as measured from the monitoring and recovery wells, indicate that product recovery has been effective.

#### **2.4.4 Analytical/Laboratory Results**

The analytical laboratory results for influent and effluent samples are provided in Appendix A and summarized in Tables 19 and 20 respectively. The pH and concentration of BTEX in the influent are presented graphically in Figures 26 and 27. As shown in Figure 28, the pH of the effluent was below the allowable discharge criteria on several occasions. The low pH of the effluent is the result of low pH of the influent. The treatment system does not treat for pH. The concentrations of benzene and BTEX in the effluent were within the allowable discharge limits as presented in Figures 29 and 30.

On 15 October 1996, one influent and one effluent sample were collected and analyzed for Total Petroleum Hydrocarbon (TPH). The results indicated that the concentrations of TPH for influent and effluent were 1,660 ppm and < 1 ppm, respectively. Assuming an average influent TPH concentration of 1,660 ppm and 3,226,495 gallons of groundwater treated through the system, it is estimated ( $1,660 \times 10^{-6} \times 3,226,495 = 5,355$  gallons) that over 5,000 gallons of product have been recovered from the site.

The laboratory test results indicate the effectiveness of the treatment system to treat the product and groundwater recovered from the site. Except for pH, there were no excursions in any of the discharge criteria set by the MDEQ permit.

### 3.0 COST AND SCHEDULE

#### 3.1 COST

The O&M work has been completed under the established and negotiated budget. The approved budget for the O&M is \$127,439 and the work is expected to be completed within \$120,000 including the cost for an additional two months of O&M. The cost breakdown is provided below:

DESCRIPTION	BUDGET (\$)	ESTIMATE AT COMPLETION (\$) <sup>1</sup>
MK - Home Office Labor and other Charges	57,548	57,548
Subcontracts	66,265	56,258
Home Office G&A	2,780	4,894
Insurance Package Policy	846	808
TOTAL	127,439	119,508

#### 3.2 SCHEDULE

The treatment system was started on September 1995. MK's O&M period was extended by two months to 08 November 1996 to allow time for the Southern Division's subsequent O&M contract to be awarded. The base is responsible for O&M of the treatment system beginning 09 November 1996.

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<sup>1</sup> Estimate at Completion (EAC) is based on expenses to date plus planned future expenses.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 CONCLUSIONS

MK has completed over one year of O&M of the treatment system at Site 6, CBC Gulfport, Mississippi. The treatment system was started in September 1995 and the O&M was completed on 08 November 1996. During the start-up, the treatment system experienced some problems, particularly with the monitoring system. These problems have been corrected and adjustments and improvements were completed. The weir in the oil/water separator was one of the last adjustments completed to enhance the collection of product in the tank.

The results of O&M showed that 3,224,618 gallons of groundwater have been treated through the system. Although 130 gallons of product was collected in the tank, it is estimated that the treatment system has treated over 5,000 gallons of product. Analytical laboratory results indicate that except for the pH, there were no excursions of the discharge criteria set in the MDEQ permit. Monthly measurements of product and groundwater levels in the monitoring and recovery wells indicate that product thickness is decreasing significantly at the site.

The treatment system was turned over to the Navy on 09 November 1996 for further operations and maintenance.

### 4.2 RECOMMENDATIONS

The O&M of the treatment system should be continued and the established parameters monitored, with emphasis on the collection and interpretation of data. The measurement of product and water in the wells and the tank should be continued.

Lessons learned, which can be implemented for future treatment systems are outlined below:

- Allow sufficient equipment lead time (minimum of 12 weeks) for design and fabrication of the treatment system. The lead time should be increased when sophisticated monitoring and control systems are specified.
- Have the treatment system tested thoroughly in the factory prior to shipment to the site.
- Ensure that the equipment vendor is responsible for operations and maintenance for a break-in period of one month after initial startup and training.

## 5.0 REFERENCES

[ABB, 1994a] *Free-Phase Product Assessment Report Site 6, Fire-Fighting Training Area*. Prepared for Department of the Navy, Southern Division, Naval Facilities Engineering Command by ABB Environmental Services, Inc.

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[MK, 1995b] *Operations and Maintenance Manual, CBC Gulfport, Site 6*. Prepared for Department of the Navy, Southern Division, Naval Facilities Engineering Command by Morrison Knudsen Corporation.

## TABLES

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13	PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS (11 JULY 96)
14	PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS (27 AUGUST 96)
15	PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS (16 SEPTEMBER 96)
16	PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS (09 OCTOBER 96)
17	PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS (08 NOVEMBER 96)
18	PRODUCT THICKNESS
19	LABORATORY TEST RESULTS - INFLUENT SAMPLES
20	LABORATORY TEST RESULTS - EFFLUENT SAMPLES

CBC GULFPORT, SITE 6  
EFFLUENT QUANTITIES

DATE	Treated Effluent (gallons)			Product (gallons)		Efficiency		
	Monthly Total	Running Total	Average Per Day	Monthly Total	Running Total	Monthly (%)	Running (%)	Notes
Nov-95	387000	387000	12900					
Dec-95	253503	640503	8178					
Jan-96	140497	781000	4532					
Feb-96	186950	967950	6447					
Mar-96	170652	1138602	5505					
Apr-96	236903	1375505	7897					
May-96	285380	1660885	9206					
Jun-96	277258	1938143	9242					
Jul-96	370107	2308250	11939					
Aug-96	249863	2558113	8060	N/A	52	N/A	0.002	1
Sep-96	388411	2946524	12947	35	87	0.009	0.003	
Oct-96	236398	3182922	7626	20	107	0.008	0.003	
8-Nov-96	43573	3226495	5447	23	130	0.053	0.004	2

Notes:  
1. Product measured with oil/water interface probe. New baseline established.  
2. Measurements performed till 08 November, 1996, the end of MK's O&M period.

TABLE 1

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		14 September 95		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
				Measurements were taken prior to start-up.
GPT-6-PZ4		7.37		
WP-1		5.99		
WP-2		4.44		
GPT-6-3		5.62		
GPT-6-5		9.71		Blind casing to 27 ft depth
GPT-6-4	9.79	10.68	10.68	
GPT-6-PZ1	7.49	8.91	17.04	
GPT-6-PZ2		6.39		
GPT-6-2		8.99		
GPT-6-PZ3		6.15	5.00	
GPT-6-8	8.58	8.97	9.00	
GPT-6-1	8.79	10.06	15.24	
GPT-6-7		12.26		Blind casing to 40 ft depth
GPT-6-6	7.34	8.89	18.60	
RW-1		5.53		
RW-2		5.88		
RW-3	6.34	6.35	0.12	

Notes: bTOC = below Top Of Casing

TABLE 2

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		29 November 95		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		7.30		
WP-1		7.42		
WP-2		5.90		
GPT-6-3		6.90		
GPT-6-5		10.25		Blind casing to 27 ft depth
GPT-6-4	10.30	11.10	9.60	
GPT-6-PZ1	7.70	8.90	14.40	
GPT-6-PZ2		6.90		
GPT-6-2		9.05		
GPT-6-PZ3		6.40		
GPT-6-8	8.90	9.60	8.40	
GPT-6-1	9.38	9.98	7.20	
GPT-6-7		11.90		Blind casing to 40 ft depth
GPT-6-6	7.65	9.45	21.60	
RW-1		6.10		
RW-2		6.35		
RW-3		6.82		
Notes: bTOC = below Top Of Casing				

TABLE 3

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON 21 December 95				
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		7.60		
WP-1		7.72		
WP-2		6.60		
GPT-6-3		7.50		
GPT-6-5		8.30		Blind casing to 27 ft depth
GPT-6-4	8.41	9.01	7.20	
GPT-6-PZ1	6.46	7.56	13.20	
GPT-6-PZ2		6.05		
GPT-6-2		8.30		
GPT-6-PZ3		7.50		
GPT-6-8	10.20	10.90	8.40	
GPT-6-1	10.40	11.00	7.20	
GPT-6-7		12.10		Blind casing to 40 ft depth
GPT-6-6	7.82	9.52	20.40	
RW-1	5.90	6.10	2.40	Adjusted pump from 8.5 ft. to a depth of 7.0 ft.
RW-2	5.80	5.90	1.20	Adjusted pump from 8.5 ft to a depth of 7.0 ft.
RW-3	4.60	4.70	1.20	Adjusted pump from 8.5 ft. to a depth of 6.5 ft.

Notes: bTOC = below Top Of Casing

TABLE 4

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON 29 December 95				
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		7.74		
WP-1		7.84		
WP-2		6.71		
GPT-6-3		7.65		
GPT-6-5		8.40		Blind casing to 27 ft depth
GPT-6-4	8.50	9.10	7.20	
GPT-6-PZ1	6.58	7.63	12.60	
GPT-6-PZ2		6.12		
GPT-6-2		8.40		
GPT-6-PZ3		7.60		
GPT-6-8	10.30	11.00	8.40	
GPT-6-1	10.50	11.00	6.00	
GPT-6-7		12.20		Blind casing to 40 ft depth
GPT-6-6	7.90	9.65	21.00	
RW-1		6.20		
RW-2		6.00		
RW-3		5.20		

Notes: bTOC = below Top Of Casing

TABLE 5

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		30 January 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		7.65		
WP-1		7.74		
WP-2		6.65		
GPT-6-3		7.52		
GPT-6-5		8.28		Blind casing to 27 ft depth
GPT-6-4	8.42	8.81	4.68	
GPT-6-PZ1	6.45	7.46	12.12	
GPT-6-PZ2		6.08		
GPT-6-2		8.30		
GPT-6-PZ3		7.52		
GPT-6-8	10.15	11.00	10.20	
GPT-6-1	10.45	11.12	8.04	
GPT-6-7		12.20		Blind casing to 40 ft depth
GPT-6-6	7.82	9.58	21.12	
RW-1		6.20		
RW-2		6.00		
RW-3		5.50		Well Pump Lowered by one foot on 1/11/96

Notes: bTOC = below Top Of Casing

TABLE 6

THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		07 February 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		7.81		
WP-1		7.90		
WP-2		6.82		
GPT-6-3		7.71		
GPT-6-5		8.52		Blind casing to 27 ft depth
GPT-6-4	8.61	9.20	7.08	
GPT-6-PZ1	6.62	7.72	13.20	
GPT-6-PZ2		6.22		
GPT-6-2		8.48		
GPT-6-PZ3		7.62		
GPT-6-8	10.20	10.95	9.00	
GPT-6-1	10.40	11.10	8.40	
GPT-6-7		12.00		Blind casing to 40 ft depth
GPT-6-6	7.95	9.70	21.00	
RW-1		6.20		
RW-2		6.00		
RW-3		6.20		

Notes: bTOC = below Top Of Casing

TABLE 7

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON 20 February 96				
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		8.10		
WP-1		8.20		
WP-2		7.30		
GPT-6-3		8.30		
GPT-6-5		11.35		Blind casing to 27 ft depth
GPT-6-4	8.30	8.50	2.40	
GPT-6-PZ1	6.50	7.30	9.60	
GPT-6-PZ2		6.15		
GPT-6-2		8.35		
GPT-6-PZ3		7.55		
GPT-6-8	7.20	8.35	13.80	
GPT-6-1	7.88	8.70	9.84	
GPT-6-7		10.88		Blind casing to 40 ft depth
GPT-6-6	6.20	6.90	8.40	
RW-1		6.20		Not measured, assumed same as previous
RW-2		6.00		Not measured, assumed same as previous
RW-3		6.20		Not measured, assumed same as previous

Notes: bTOC = below Top Of Casing

TABLE 8

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		19 March 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		4.80		
WP-1		4.90		
WP-2		3.90		
GPT-6-3		4.55		
GPT-6-5		8.75		Blind casing to 27 ft depth
GPT-6-4	8.75	9.50	9.00	
GPT-6-PZ1	6.60	6.95	4.20	
GPT-6-PZ2		5.50		
GPT-6-2		7.95		
GPT-6-PZ3		5.30		
GPT-6-8	7.85	8.10	3.00	
GPT-6-1	8.20	8.80	7.20	
GPT-6-7		11.15		Blind casing to 40 ft depth
GPT-6-6	6.50	7.50	12.00	
RW-1		5.30		
RW-2		5.00		
RW-3		4.75		

Notes: bTOC = below Top Of Casing

TABLE 9

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		19 April 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		3.10		
WP-1		3.20		
WP-2		2.30		
GPT-6-3		3.35		
GPT-6-5		6.70		Blind casing to 27 ft depth
GPT-6-4	7.35	9.25	22.80	
GPT-6-PZ1	5.20	6.20	12.00	
GPT-6-PZ2		4.25		
GPT-6-2		6.50		
GPT-6-PZ3		4.25		
GPT-6-8	6.20	8.15	23.40	
GPT-6-1	6.95	7.40	5.40	
GPT-6-7		10.60		Blind casing to 40 ft depth
GPT-6-6	5.45	6.20	9.00	
RW-1		5.30		No product
RW-2		5.00		No product
RW-3		4.75		No product
Notes: bTOC = below Top Of Casing				

TABLE 10

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		16 May 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.16		
WP-1		3.20		
WP-2		2.30		
GPT-6-3		4.60		
GPT-6-5		8.81		Blind casing to 27 ft depth
GPT-6-4	8.78	10.58	21.60	
GPT-6-PZ1	6.54	7.57	12.36	
GPT-6-PZ2		5.39		
GPT-6-2		7.89		
GPT-6-PZ3		5.05		
GPT-6-8	7.71	8.42	8.52	
GPT-6-1	8.08	8.49	4.92	
GPT-6-7		11.00		Blind casing to 40 ft depth
GPT-6-6	6.56	7.48	11.04	
RW-1		6.50		No product
RW-2		6.50		No product
RW-3		6.50		No product

Notes: bTOC = below Top Of Casing

TABLE 11

CBC GULFPORT, SITE 6  
 PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		13 June 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.28		
WP-1		N/A		No measurements taken, ditch filled with water
WP-2		N/A		No measurements taken, ditch filled with water
GPT-6-3		4.70		
GPT-6-5		8.91		Well with blind casing to a depth of 27 ft.
GPT-6-4	8.79	10.70	22.92	
GPT-6-PZ1	6.62	7.74	13.44	
GPT-6-PZ2		5.50		
GPT-6-2		7.96		
GPT-6-PZ3		5.15		
GPT-6-8	7.80	8.52	8.64	
GPT-6-1	8.16	8.58	5.04	
GPT-6-7		11.10		Well with blind casing to a depth of 40 ft.
GPT-6-6	6.70	7.60	10.80	
RW-1		N/A		No measurements taken, ABB adjusting pump
RW-2		N/A		No measurements taken, ABB adjusting pump
RW-3		N/A		No measurements taken, ABB adjusting pump

Notes: bTOC = below Top Of Casing

TABLE 12

CBC GULFPORT, SITE 6  
 PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		11 July 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.12		
WP-1		N/A		No measurements taken, ditch filled with water
WP-2		N/A		No measurements taken, ditch filled with water
GPT-6-3		4.58		
GPT-6-5		9.03		Well with blind casing to a depth of 27 ft.
GPT-6-4	9.05	10.45	16.80	
GPT-6-PZ1	6.72	6.84	1.44	
GPT-6-PZ2		5.60		
GPT-6-2		7.95		
GPT-6-PZ3		5.30		
GPT-6-8	7.82	8.56	8.88	
GPT-6-1	8.20	8.54	4.08	
GPT-6-7		11.45		Well with blind casing to a depth of 40 ft.
GPT-6-6	6.44	7.70	15.12	
RW-1	6.41	6.55	1.68	
RW-2	7.17	7.76	7.08	
RW-3		6.56		
Notes: bTOC = below Top Of Casing				

TABLE 13

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON 27 August 96				
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.45	0.00	
WP-1		N/A		No measurements taken, ditch filled with water
WP-2		N/A		No measurements taken, ditch filled with water
GPT-6-3		4.85	0.00	
GPT-6-5		9.35	0.00	Blind casing to 27 ft depth
GPT-6-4	9.35	10.60	15.00	
GPT-6-PZ1	8.55	9.00	5.40	
GPT-6-PZ2		5.70	0.00	
GPT-6-2		8.20	0.00	
GPT-6-PZ3		5.70	0.00	
GPT-6-8	8.10	8.90	9.60	
GPT-6-1	8.60	8.85	3.00	
GPT-6-7		11.70		Blind casing to 40 ft depth
GPT-6-6	6.80	7.90	13.20	
RW-1		6.55	0.00	No product -- lowered pump 2 ft.
RW-2		7.76	0.00	No product -- lowered pump 2 ft.
RW-3		6.56	0.00	No product -- lowered pump 2 ft.

Notes: bTOC = below Top Of Casing

TABLE 14

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		16 September 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.50	0.00	
WP-1		N/A		No measurements taken, ditch filled with water
WP-2		N/A		No measurements taken, ditch filled with water
GPT-6-3		4.85	0.00	
GPT-6-5		9.40		Blind casing to 27 ft depth
GPT-6-4	9.45	9.90	5.40	
GPT-6-PZ1	8.65	9.10	5.40	
GPT-6-PZ2		5.75	0.00	
GPT-6-2		8.25	0.00	
GPT-6-PZ3		5.80	0.00	
GPT-6-8	8.15	8.95	9.60	
GPT-6-1	8.70	8.85	1.80	
GPT-6-7		11.75		Blind casing to 40 ft depth
GPT-6-6	7.00	8.00	12.00	
RW-1		6.75	0.00	
RW-2		7.90	0.00	
RW-3		6.80	0.00	
Notes: bTOC = below Top Of Casing				

TABLE 15

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		09 October 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.35	0.00	
WP-1		N/A		No measurements taken, ditch filled with water
WP-2		N/A		No measurements taken, ditch filled with water
GPT-6-3		4.85	0.00	
GPT-6-5		9.30		Blind casing to 27 ft depth
GPT-6-4	9.30	9.75	5.40	
GPT-6-PZ1	8.55	9.05	6.00	
GPT-6-PZ2		5.70	0.00	
GPT-6-2		8.15	0.00	
GPT-6-PZ3		5.70	0.00	
GPT-6-8	8.05	8.80	9.00	
GPT-6-1	8.60	8.80	2.40	
GPT-6-7		11.75		Blind casing to 40 ft depth
GPT-6-6	6.95	7.90	11.40	
RW-1		6.80	0.00	
RW-2		7.80	0.00	
RW-3		6.80	0.00	
Notes: bTOC = below Top Of Casing				

TABLE 16

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS AND WATER LEVEL MEASUREMENTS

LEVELS MEASURED ON		08 November 96		
WELL	DEPTH TO PRODUCT (FT. bTOC)	DEPTH TO WATER (FT. bTOC)	PRODUCT THICKNESS (INCHES)	REMARKS
GPT-6-PZ4		6.35	0.00	
WP-1		6.50		
WP-2		5.01		
GPT-6-3		6.20	0.00	
GPT-6-5		10.35		Blind casing to 27 ft depth
GPT-6-4	10.47	10.97	6.00	
GPT-6-PZ1	9.07	9.25	2.16	
GPT-6-PZ2		7.00	0.00	
GPT-6-2		9.34	0.00	
GPT-6-PZ3		6.75	0.00	
GPT-6-8	9.15	9.95	9.60	
GPT-6-1	9.80	10.10	3.60	
GPT-6-7		12.60		Blind casing to 40 ft depth
GPT-6-6	7.90	8.80	10.80	
RW-1		6.80	0.00	
RW-2		7.80	0.00	
RW-3		6.80	0.00	

Notes: bTOC = below Top Of Casing

TABLE 17

CBC GULFPORT, SITE 6  
PRODUCT THICKNESS (INCHES)

WELL	09/14/95	11/29/95	12/21/95	12/29/95	01/30/96	02/07/96	02/20/96	03/19/96	04/19/96	05/16/96	06/13/96	07/11/96	08/27/96	09/16/96	10/09/96	11/08/96
GPT-6-PZ4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
WP-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
WP-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-4	10.7	9.6	7.2	7.2	4.7	7.1	2.4	9.0	22.8	21.6	22.9	16.8	15.0	5.40	5.40	6.00
GPT-6-PZ1	17.0	14.4	13.2	12.6	12.1	13.2	9.6	4.2	12.0	12.4	13.4	1.4	5.4	5.40	6.00	2.16
GPT-6-PZ2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-PZ3	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-8	9.0	8.4	8.4	8.4	10.2	9.0	13.8	3.0	23.4	8.5	8.6	8.9	9.6	9.60	9.00	9.60
GPT-6-1	15.2	7.2	7.2	6.0	8.0	8.4	9.8	7.2	5.4	4.9	5.0	4.1	3.0	1.80	2.40	3.60
GPT-6-7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
GPT-6-6	18.6	21.6	20.4	21.0	21.1	21.0	8.4	12.0	9.0	11.0	10.8	15.1	13.2	12.00	11.40	10.80
RW-1	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.00	0.00	0.00
RW-2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.00	0.00	0.00
RW-3	0.1	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00

TABLE 18

CBC GULFPORT, SITE 6  
LABORATORY TEST RESULTS

INFLUENT SAMPLES

SAMPLED DATE	TEST RESULTS					
	pH	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENE (PPM)	TOTAL BTEX (PPM)
09/14/95	6.3	0.02	0.06	0.01	0.15	0.24
11/20/95	6.7	0.01	0.02	BDL	0.04	0.07
11/29/95	6.4	0.01	0.03	0.05	0.13	0.22
12/07/95	6.1	BDL	0.01	BDL	0.01	0.02
12/29/95	6.6	BDL	0.02	0.02	0.08	0.12
01/11/96	6.3	BDL	0.03	BDL	0.03	0.06
01/29/96	6.2	BDL	BDL	0.01	0.03	0.04
02/07/96	5.3	BDL	0.01	0.01	0.06	0.08
02/21/96	5.5	0.01	0.02	BDL	0.04	0.07
03/12/96	6.9	BDL	BDL	BDL	BDL	0
03/19/96	7.2	BDL	BDL	BDL	BDL	0
04/12/96	5.9	BDL	0.03	BDL	BDL	0.03
04/19/96	5.4	BDL	BDL	BDL	BDL	0
05/16/96	5.9	BDL	BDL	BDL	0.01	0.01
05/22/96	6.2	0.01	0.02	0.01	0.04	0.08
06/07/96	6.5	0.01	0.03	0.02	0.06	0.12
06/11/96	6.6	BDL	BDL	BDL	BDL	0
07/11/96	5.1	BDL	BDL	BDL	BDL	0
07/25/96	5.9	BDL	BDL	BDL	BDL	0
08/12/96	5.7	BDL	0.05	BDL	0.06	0.11
08/27/96	5.6	BDL	BDL	BDL	BDL	0
09/09/96	6.4	BDL	0.03	0.01	0.07	0.11
09/16/96	4.5	BDL	BDL	BDL	BDL	0
10/09/96	6.4	BDL	BDL	BDL	BDL	0
11/08/96	6.4	BDL	0.06	BDL	0.01	0.07

TABLE 19

CBC GULFPORT, SITE 6  
LABORATORY TEST RESULTS

EFFLUENT SAMPLES

SAMPLED DATE	TEST RESULTS					
	pH	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENE (PPM)	TOTAL BTEX (PPM)
09/14/95	6.7	0.02	0.04	0.01	0.11	0.18
11/20/95	6.7	0.01	0.02	BDL	0.03	0.06
11/29/95	6.4	BDL	0.02	BDL	0.01	0.03
12/07/95	6.2	BDL	0.02	BDL	0.02	0.04
12/29/95	6.7	BDL	BDL	BDL	BDL	0
01/11/96	6.6	BDL	0.01	0.01	0.04	0.06
01/29/96	6.4	BDL	BDL	BDL	0.01	0.01
02/07/96	5.7	BDL	0.01	BDL	0.01	0.02
02/21/96	5.6	0.01	0.02	BDL	0.02	0.05
03/12/96	6.9	BDL	BDL	BDL	BDL	0
03/19/96	6.7	BDL	BDL	BDL	BDL	0
04/12/96	5.5	BDL	BDL	BDL	0.03	0.03
04/19/96	5.6	BDL	BDL	BDL	BDL	0
05/16/96	6.1	BDL	BDL	BDL	BDL	0
05/22/96	6.6	BDL	0.02	BDL	0.03	0.05
06/07/96	6.2	BDL	0.03	BDL	BDL	0.03
06/11/96	6.3	BDL	BDL	BDL	BDL	0
07/11/96	5	BDL	BDL	BDL	BDL	0
07/25/96	5.4	BDL	BDL	BDL	BDL	0
08/12/96	5.6	BDL	BDL	BDL	BDL	0
08/27/96	6.2	BDL	BDL	BDL	BDL	0
09/09/96	6.3	BDL	BDL	BDL	BDL	0
09/16/96	4.9	BDL	BDL	BDL	BDL	0
10/09/96	6.6	BDL	BDL	BDL	BDL	0
11/08/96	6.2	BDL	0.02	BDL	0.01	0.03

Note: BDL = <0.01 PPM

TABLE 20

## FIGURES

- 1 VICINITY MAP
- 2 SITE LOCATION MAP
- 3 REMEDIAL SYSTEM LAYOUT MAP
- 4 PROCESS AND INSTRUMENTATION DIAGRAM (P&ID)
- 5 TREATED EFFLUENT
- 6 PRODUCT THICKNESS
- 7 PRODUCT AND GROUND-WATER ELEVATIONS (GPT-6-PZ1)
- 8 PRODUCT AND GROUND-WATER ELEVATIONS (GPT-6-6)
- 9 PRODUCT AND GROUND-WATER ELEVATIONS (GPT-6-8)
- 10 PRODUCT AND GROUND-WATER ELEVATIONS (GPT-6-1)
- 11 PRODUCT AND GROUND-WATER ELEVATIONS (GPT-6-4)
- 12 PRODUCT THICKNESS ON 14 SEPTEMBER, 1995 (PRIOR TO TREATMENT SYSTEM START-UP)
- 13 PRODUCT THICKNESS ON 29 NOVEMBER, 1995
- 14 PRODUCT THICKNESS 21 DECEMBER, 1995
- 15 PRODUCT THICKNESS 30 JANUARY, 1996
- 16 PRODUCT THICKNESS 20 FEBRUARY, 1996
- 17 PRODUCT THICKNESS 19 MARCH, 1996
- 18 PRODUCT THICKNESS 19 APRIL, 1996
- 19 PRODUCT THICKNESS 16 MAY, 1996
- 20 PRODUCT THICKNESS 13 JUNE, 1996
- 21 PRODUCT THICKNESS 11 JULY, 1996
- 22 PRODUCT THICKNESS 27 AUGUST, 1996
- 23 PRODUCT THICKNESS 16 SEPTEMBER, 1996
- 24 PRODUCT THICKNESS 09 OCTOBER, 1996
- 25 PRODUCT THICKNESS 08 NOVEMBER, 1996
- 26 pH OF INFLUENT SAMPLES
- 27 BTEX OF INFLUENT SAMPLES
- 28 pH OF EFFLUENT SAMPLES
- 29 BENZENE IN EFFLUENT SAMPLES
- 30 TOTAL BTEX IN EFFLUENT SAMPLES

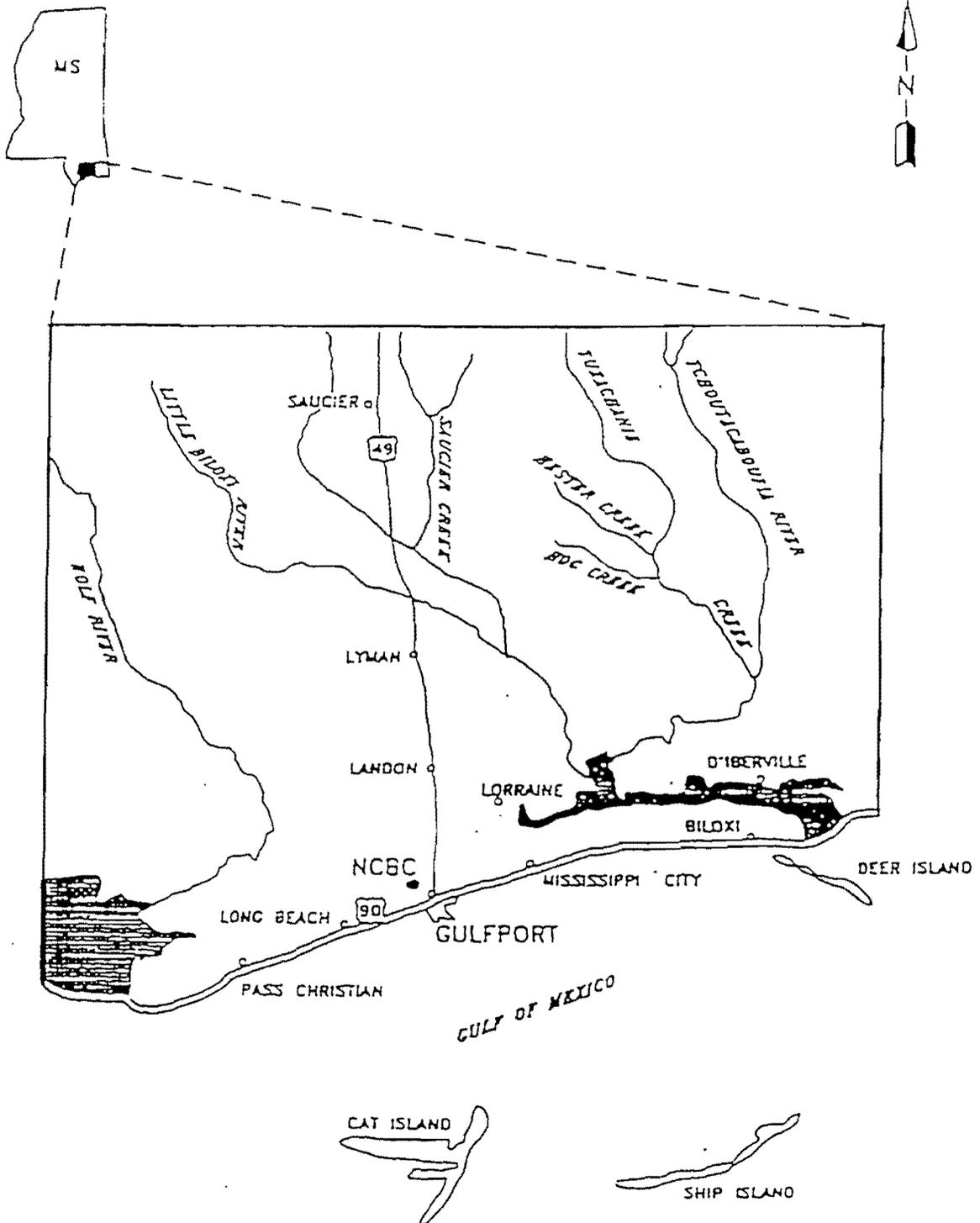


FIGURE 1  
VICINITY MAP

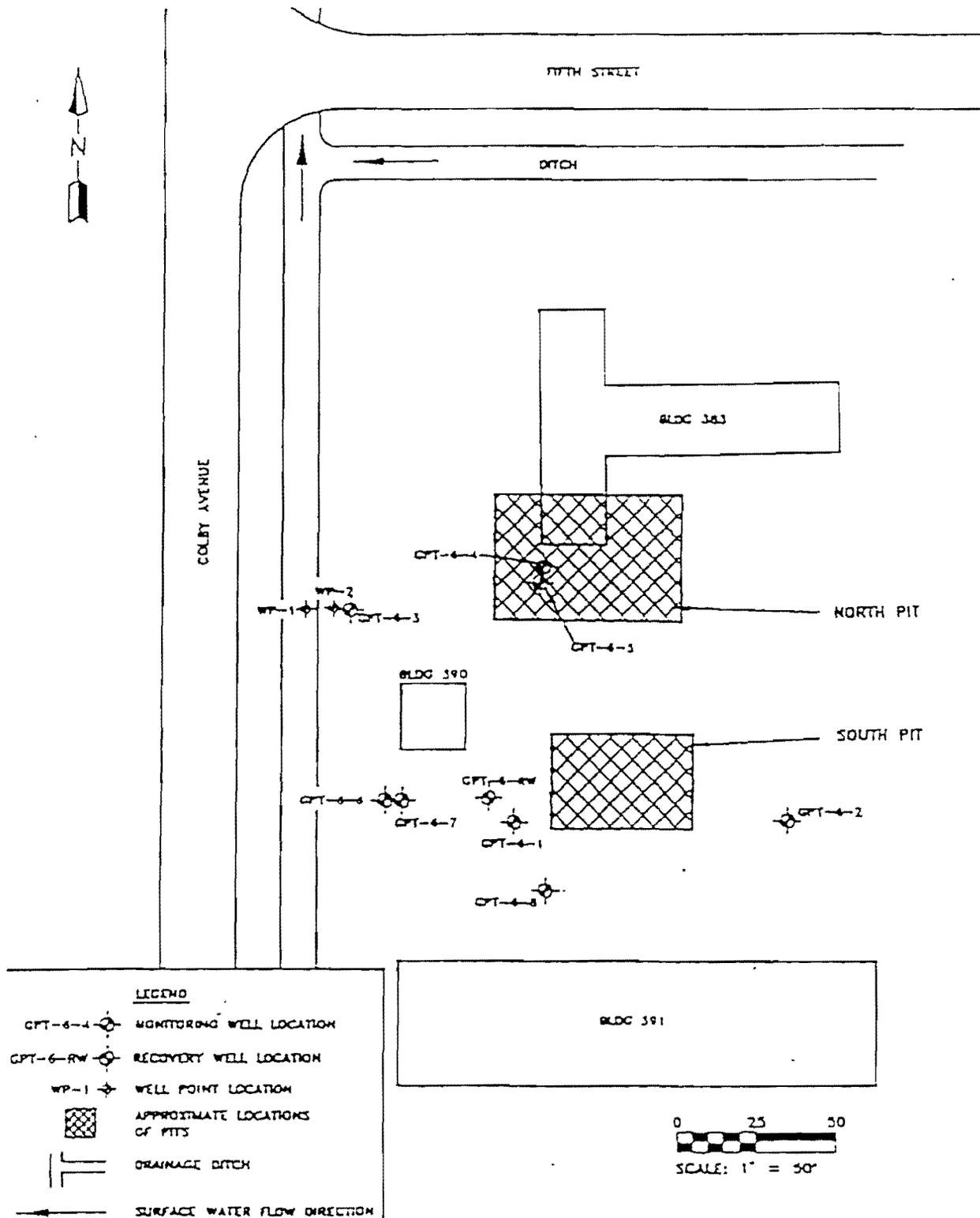


FIGURE 2  
SITE LOCATION MAP

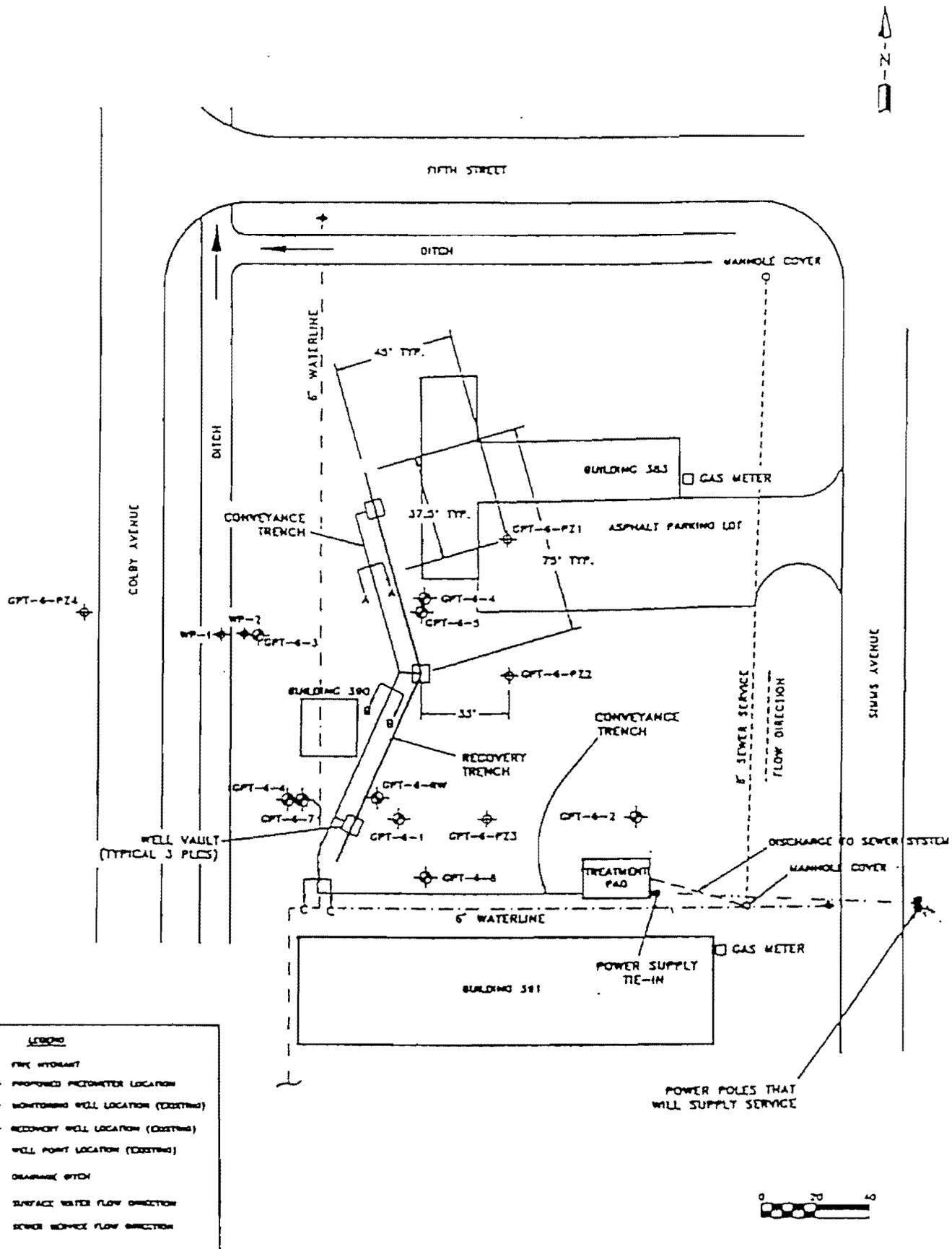
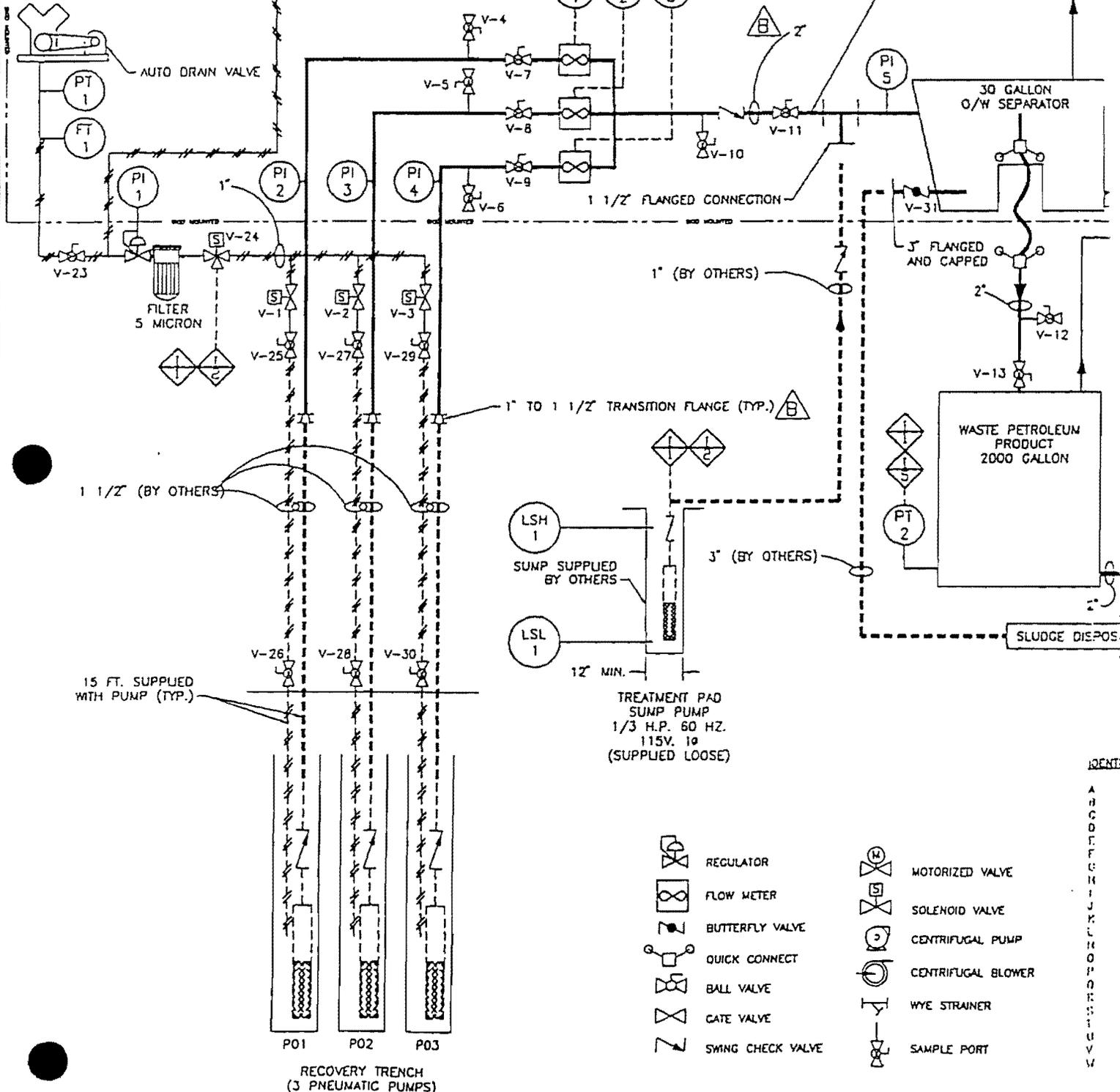


FIGURE 3  
REMEDIAL SYSTEM LAYOUT MAP

(SEE SHEET 14139702 FOR CONTROL PANEL LAYOUT)

10 H.P. 208VAC  
3Ø ODP MOTOR  
80 GALLON TANK



RAIN CAP (TYP.)

PVC SCH 40 VENT PIPE  
x 12' ABOVE GRADE  
w/SUPPORTS

25 GPM INFLUENT FLOW

VAPOR DISCHARGE  
ATMOSP.

30 GALLON  
O/W SEPARATOR

1 1/2" FLANGED CONNECTION

1" (BY OTHERS)

3" FLANGED AND CAPPED

2"

WASTE PETROLEUM  
PRODUCT  
2000 GALLON

SLUDGE DISPOS.

1 1/2" (BY OTHERS)

LSH 1

LSL 1

SUMP SUPPLIED  
BY OTHERS

3" (BY OTHERS)

15 FT. SUPPLIED  
WITH PUMP (TYP.)

TREATMENT PAD  
SUMP PUMP  
1/3 H.P. 60 HZ.  
115V. 1Ø  
(SUPPLIED LOOSE)

RECOVERY TRENCH  
(3 PNEUMATIC PUMPS)

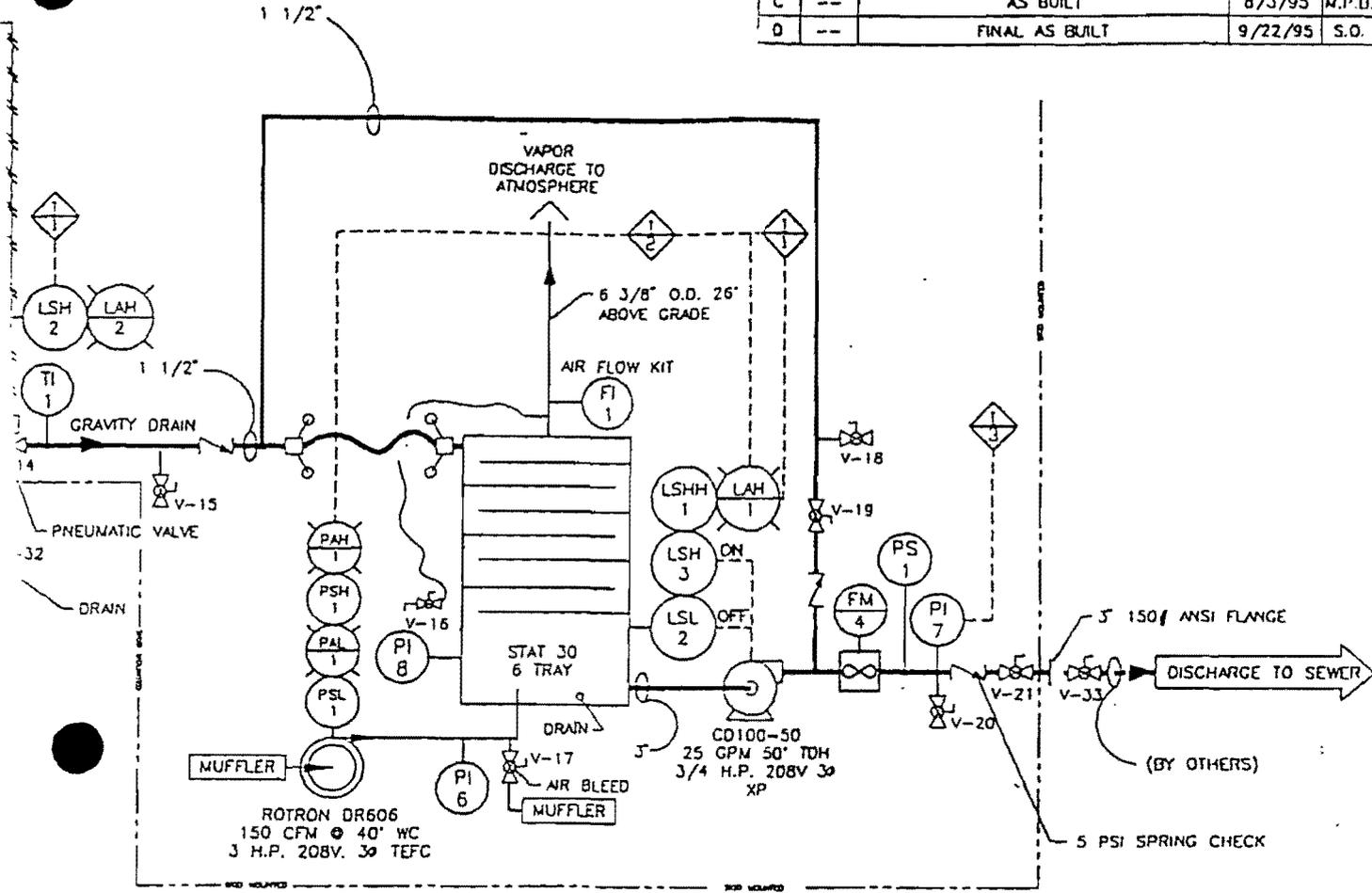
- |  |                   |  |                    |
|--|-------------------|--|--------------------|
|  | REGULATOR         |  | MOTORIZED VALVE    |
|  | FLOW METER        |  | SOLENOID VALVE     |
|  | BUTTERFLY VALVE   |  | CENTRIFUGAL PUMP   |
|  | QUICK CONNECT     |  | CENTRIFUGAL BLOWER |
|  | BALL VALVE        |  | WYE STRAINER       |
|  | GATE VALVE        |  | SAMPLE PORT        |
|  | SWING CHECK VALVE |  |                    |

IDENT:

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V

REVISIONS

REV	ECO	DESCRIPTION	DATE	OWN
A	---	REVISE AND REDRAW	6/30/95	S.O.
B	---	ADD TRANSITION & CHANGE LINE SIZE	7/19/95	S.O.
C	---	AS BUILT	8/3/95	M.P.O.
D	---	FINAL AS BUILT	9/22/95	S.O.



RECYCLING / DISPOSAL

-  HIGH LEVEL WILL DE-ENERGIZE P-01, P-02, P-03 AND SUMP PUMP, AND CLOSE V-14  
 LOW LEVEL WILL ENERGIZE P-01, P-02, P-03 AND SUMP PUMP, AND OPEN V-14
-  LOW AIR PRESSURE WILL DE-ENERGIZE P-01, P-02, P-03 AND SUMP PUMP, AND CLOSE V-14  
 HIGH AIR PRESSURE WILL DE-ENERGIZE P-01, P-02, P-03 AND SUMP PUMP, AND CLOSE V-14
-  HIGH PRESSURE WILL DE-ENERGIZE PUMP, V-14 WILL CLOSE AND DE-ENERGIZE  
 P-01, P-02, P-03 AND SUMP PUMP
-  ACTIVATE PETROLEUM TANK, HIGH ALARM AND ALARM STROBE

- LETTERS
- ALARM
  - COMBUSTION
  - CONTROL
  - DIFFERENTIAL ELEMENT
  - FLOW RATE
  - GLASS
  - HIGH INDICATOR
  - LOW
  - ORIFICE POINT
  - RECORDER SWITCH
  - TRANSMITTER
  - VALVE
  - WELL
- SUCCESSING LETTERS
- ALARM
  - CONTROL
  - DIFFERENTIAL ELEMENT
  - FLOW RATE
  - GLASS
  - HIGH INDICATOR
  - LOW
  - ORIFICE POINT
  - RECORDER SWITCH
  - TRANSMITTER
  - VALVE
  - WELL
- LETTERS
- ALARM
  - COMBUSTION
  - CONTROL
  - DIFFERENTIAL ELEMENT
  - FLOW RATE
  - GLASS
  - HIGH INDICATOR
  - LOW
  - ORIFICE POINT
  - RECORDER SWITCH
  - TRANSMITTER
  - VALVE
  - WELL

FIGURE 4

PROCESS AND INSTRUMENTATION DIAGRAM (P&ID)

MATERIAL	APPROVAL	DATE	 <b>CARBONAIR</b> WATER AND AIR DECONTAMINATION MINNEAPOLIS, MINNESOTA ©1995
	DRY S.C.	5/31/95	
TOLERANCES UNLESS NOTED OTHERWISE	SCALE	1	TITLE
	DECIMAL	FRACTIONAL	
DECIMAL .03 FRACTIONAL 1/32" ANGLES 1°	141380 PROJECT NO. 205484	P&ID MK / GULFPORT	SIZE B DWG. NO. 141397 REV D
THESE MATERIALS ARE CONFIDENTIAL AND ARE THE PROPRIETARY INFORMATION OF CARBONAIR SERVICES, INC. AND MAY NOT BE USED OR REPRODUCED WITHOUT THE CONSENT OF CARBONAIR SERVICES, INC.	THIRD ANGLE PROJECTION  UNLESS OTHERWISE SPECIFIED • DIMENSIONS ARE IN INCHES • DO NOT SCALE DRAWING	SCALE 1=2 COMP. NO.	SHEET 1 of 1

# CBC GULFPORT SITE 6 TREATED EFFLUENT

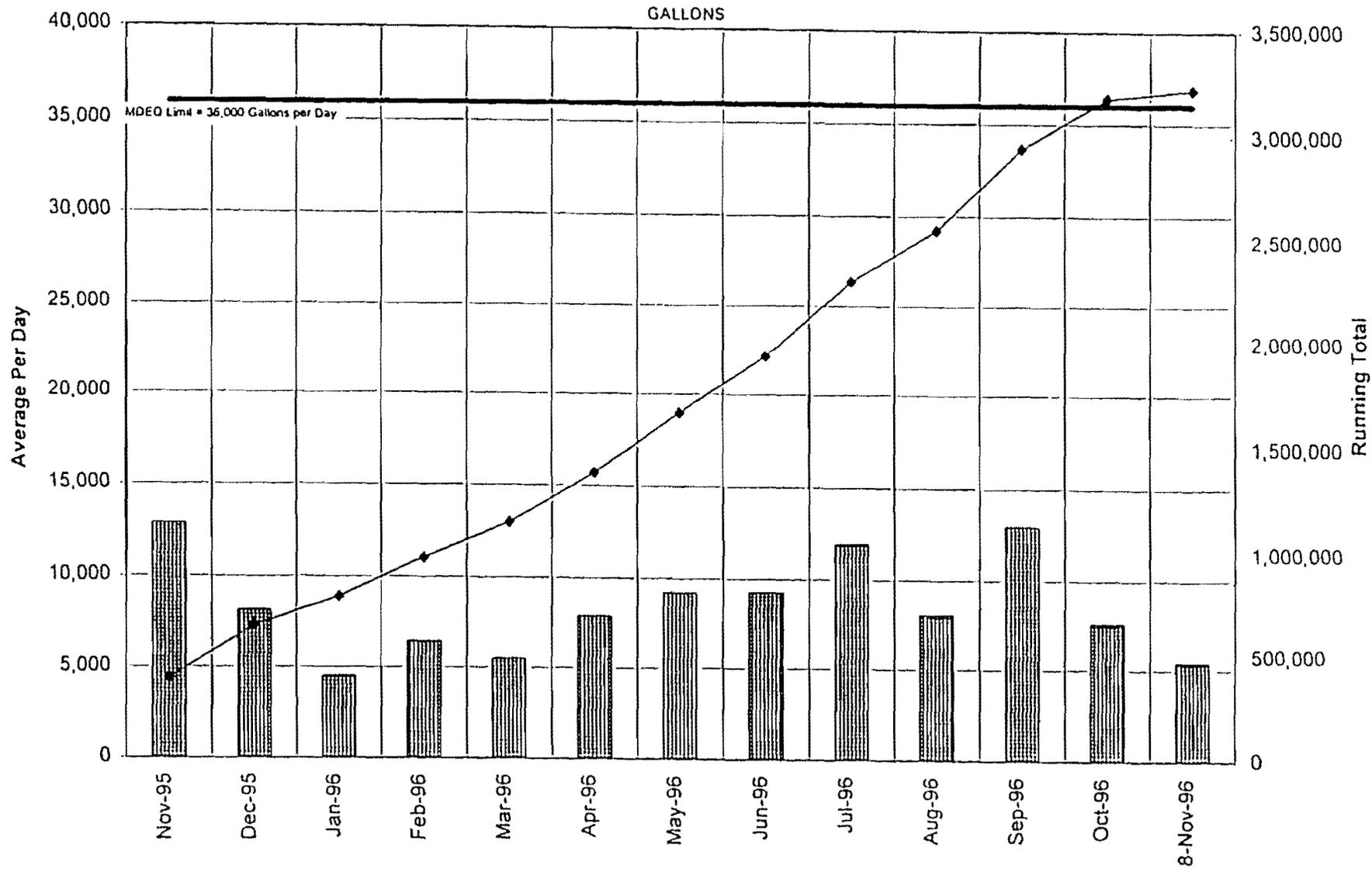


Figure 5

### CBC GULFPORT SITE 6 PRODUCT THICKNESS

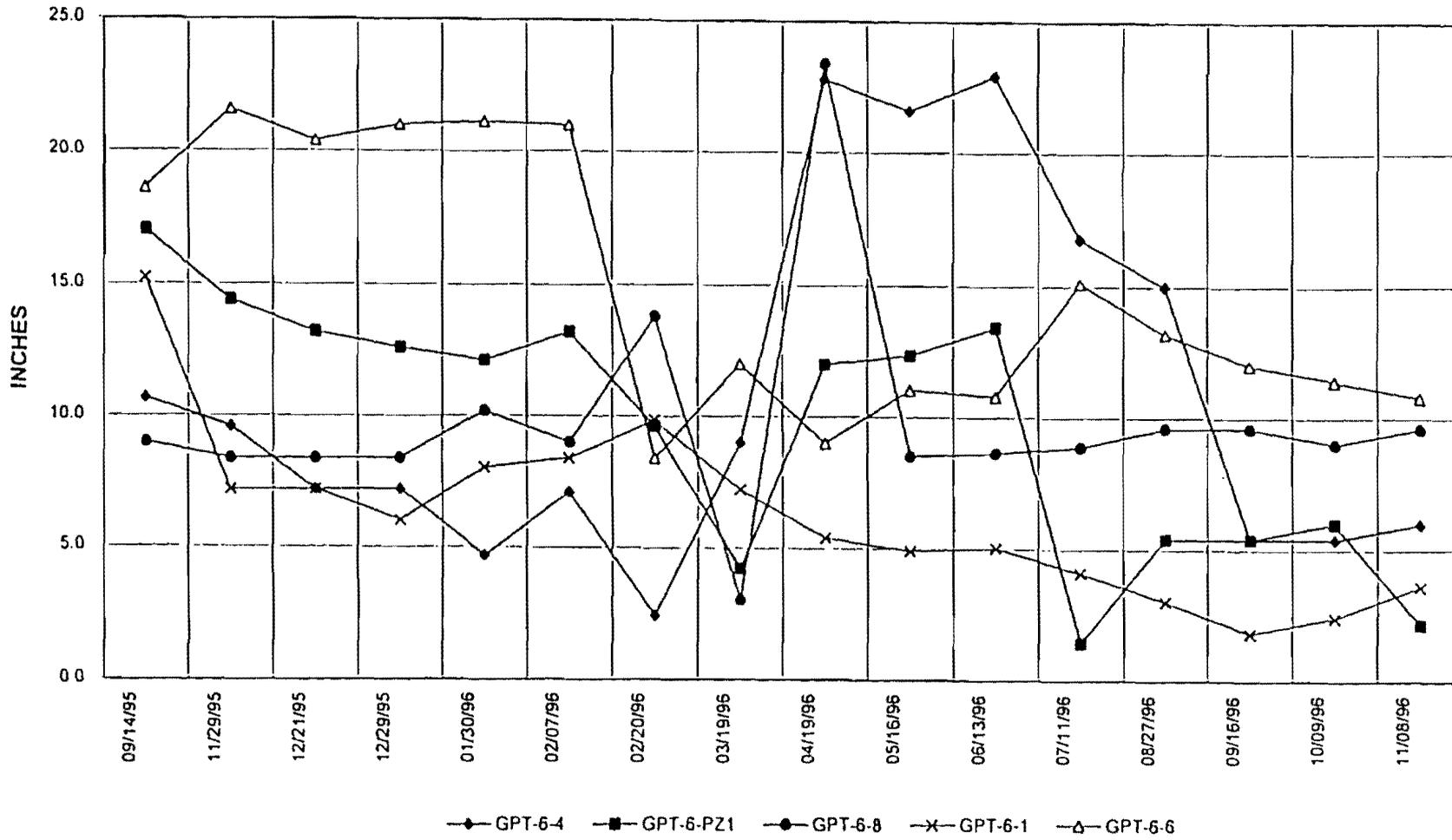
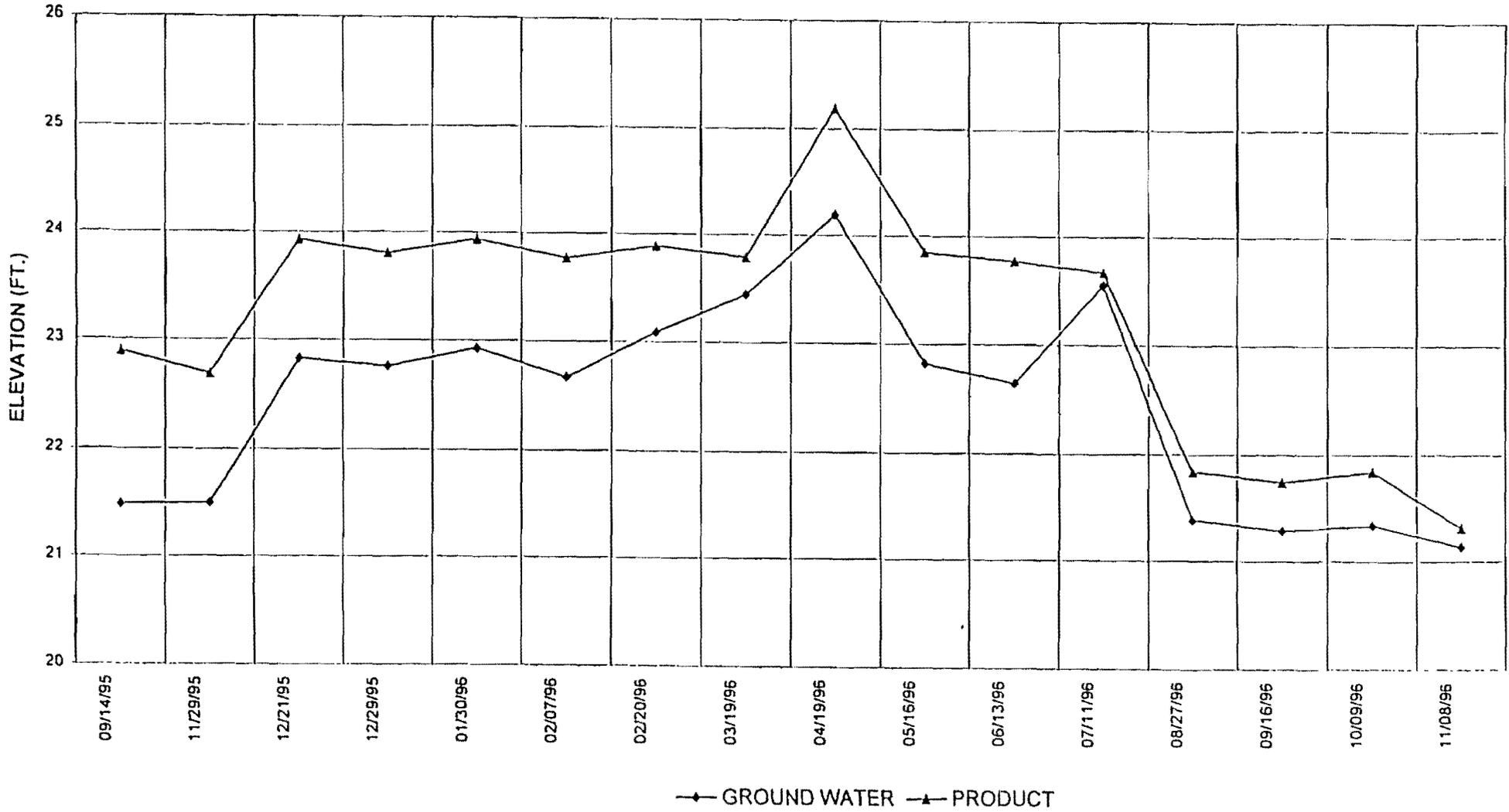


Figure 6

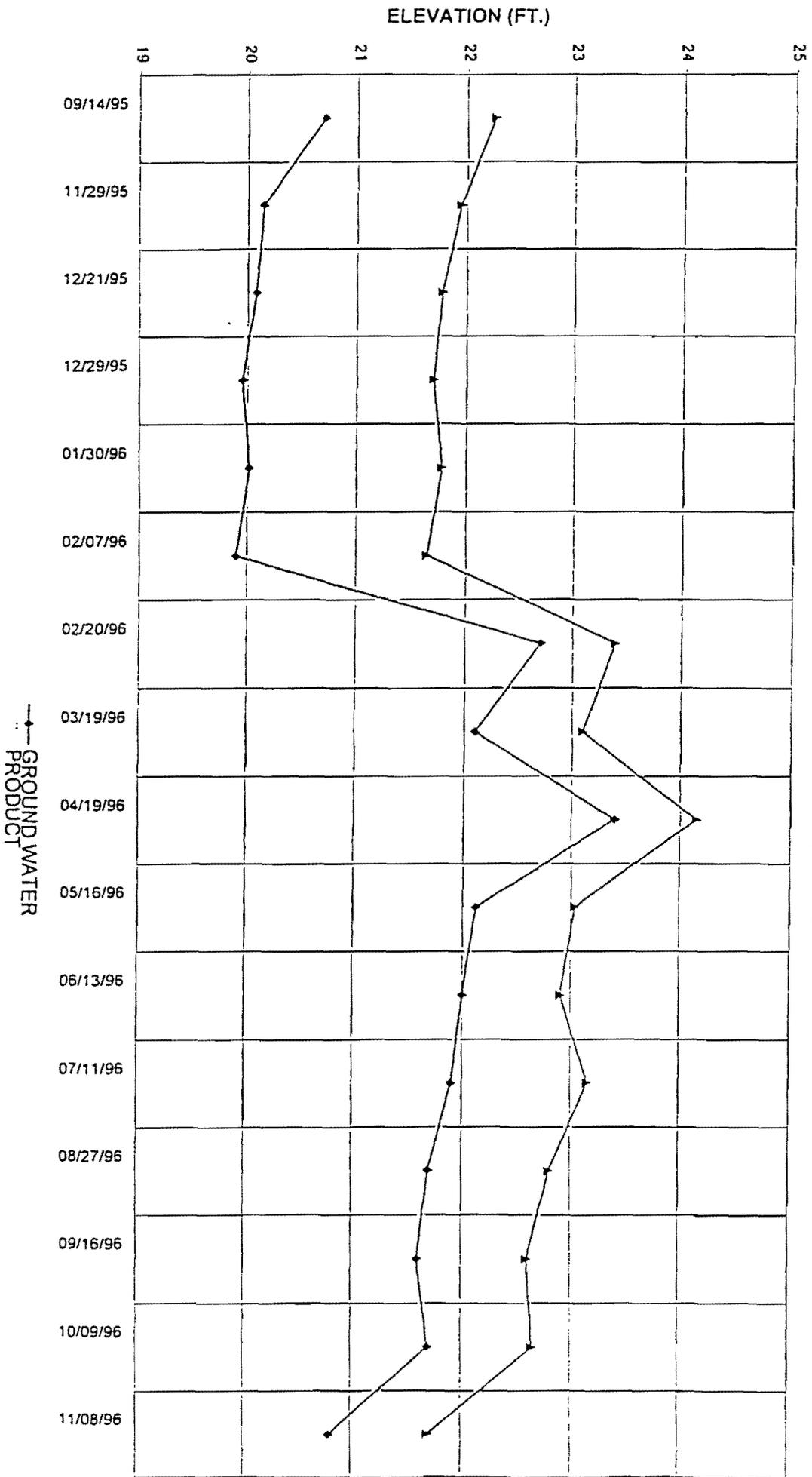
CBC GULFPORT SITE 6  
 PRODUCT AND GROUND-WATER ELEVATIONS  
 MONITORING WELL GPT-6-PZ1



GPT-6-PZ1

Figure 7

CBC GULFPORT SITE 6  
 PRODUCT AND GROUND-WATER ELEVATIONS  
 MONITORING WELL GPT-6-6



GPT-6-6

Figure 8

CBC GULFPORT SITE 6  
 PRODUCT AND GROUND-WATER ELEVATIONS  
 MONITORING WELL GPT-6-8

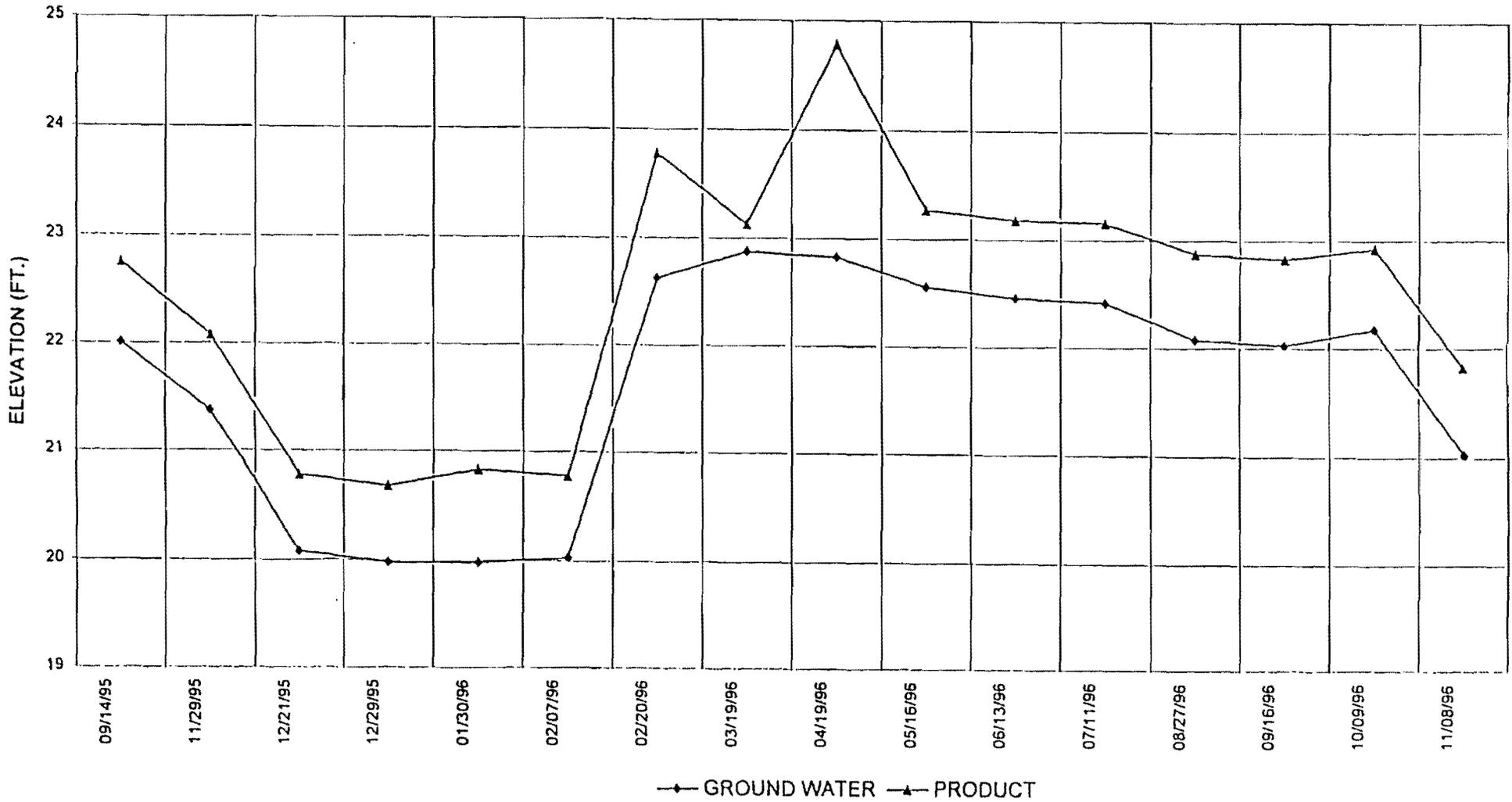
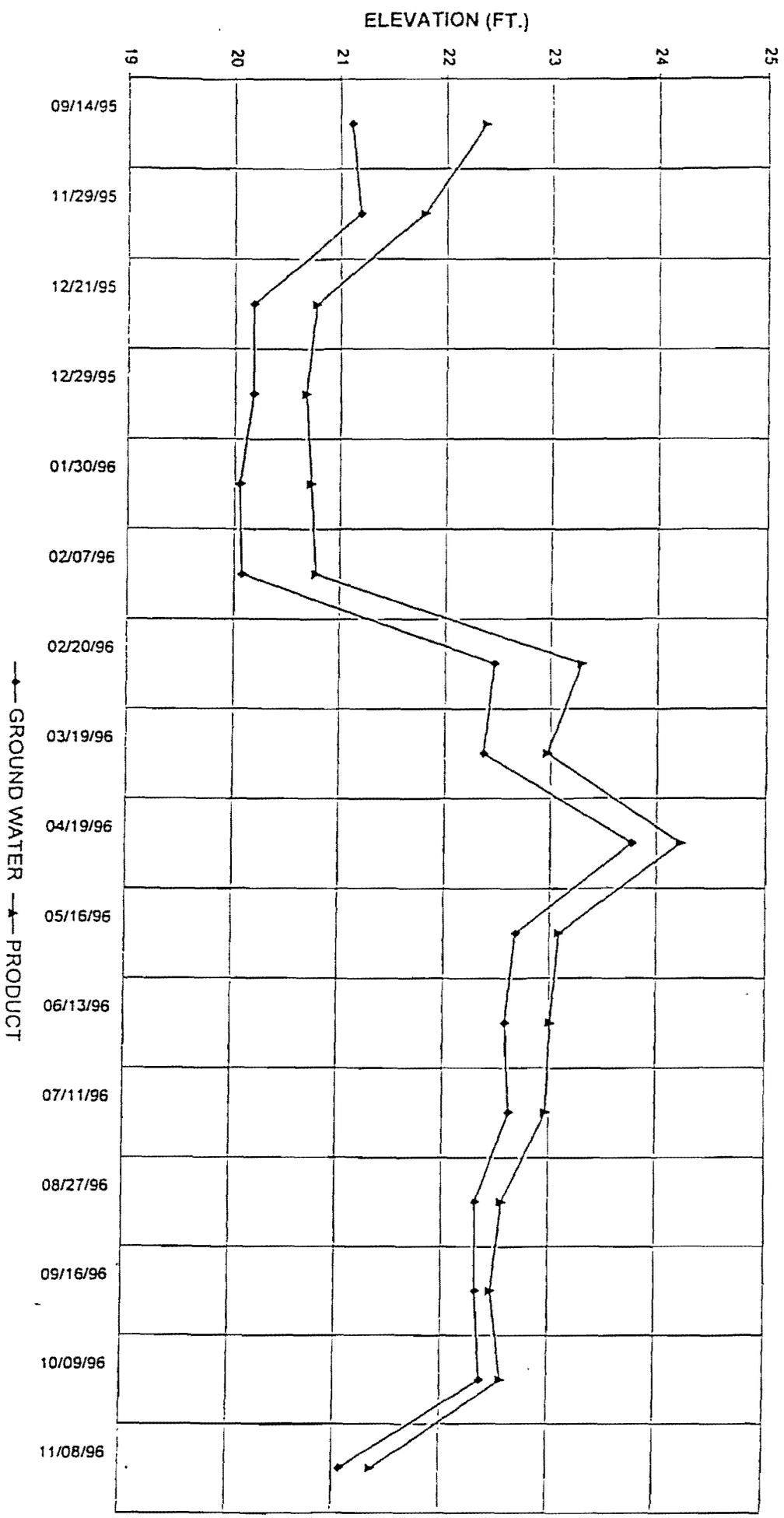


Figure 9

CBC GULFPORT SITE 6  
 PRODUCT AND GROUND-WATER ELEVATIONS  
 MONITORING WELL GPT-6-1

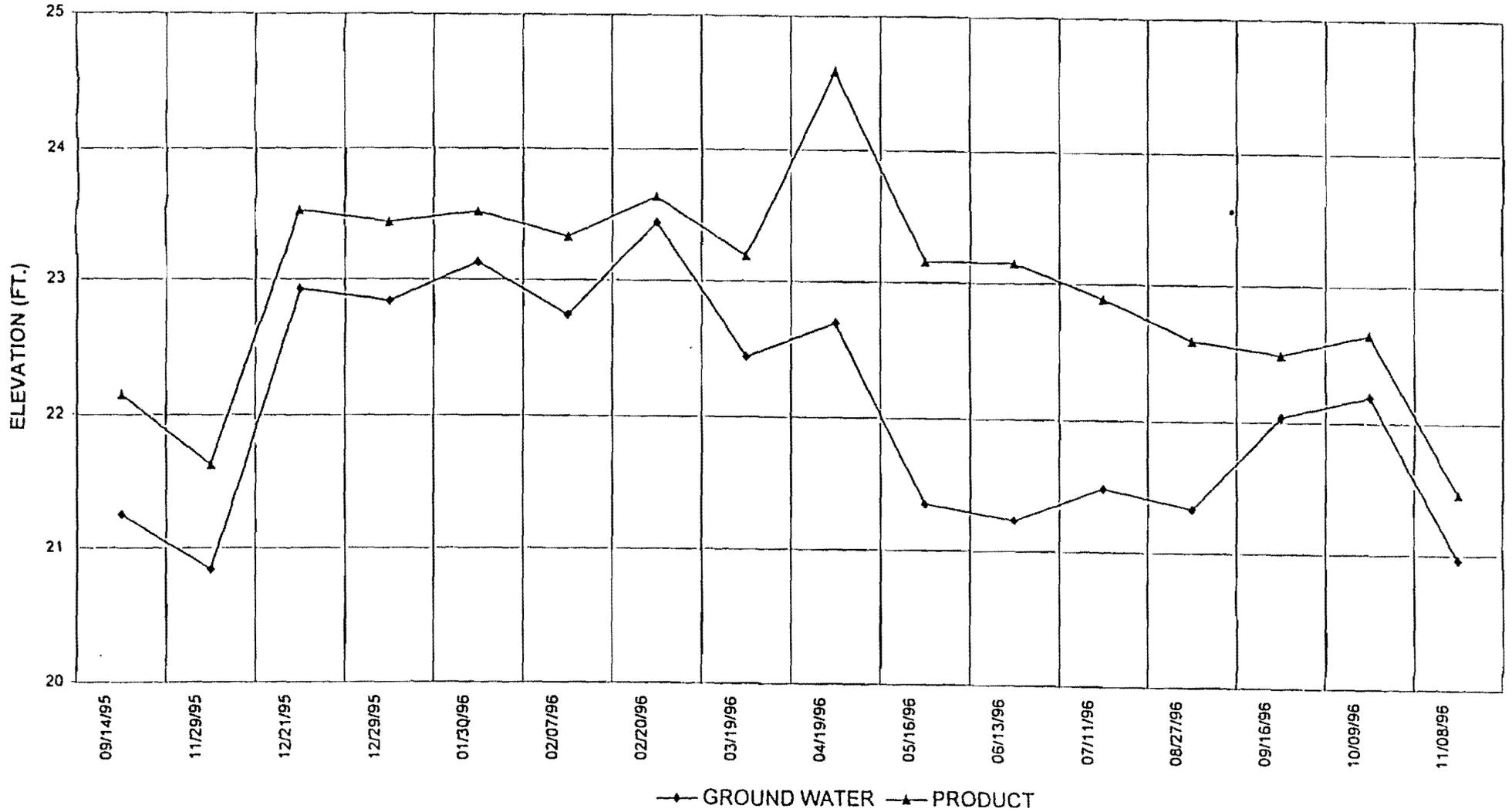


GPT-6

Fig 10

42

CBC GULFPORT SITE 6  
 PRODUCT AND GROUND-WATER ELEVATIONS  
 MONITORING WELL GPT-6-4



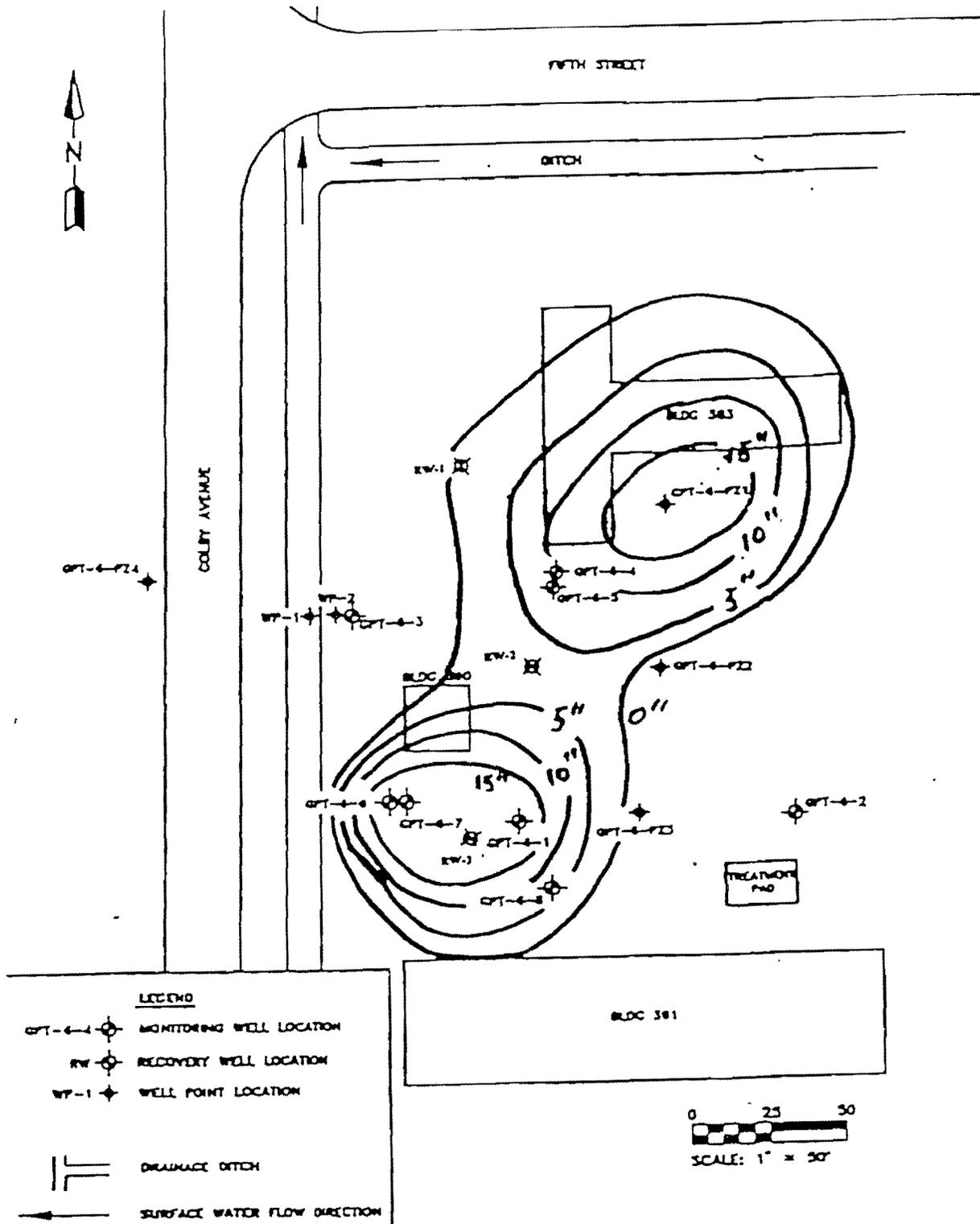
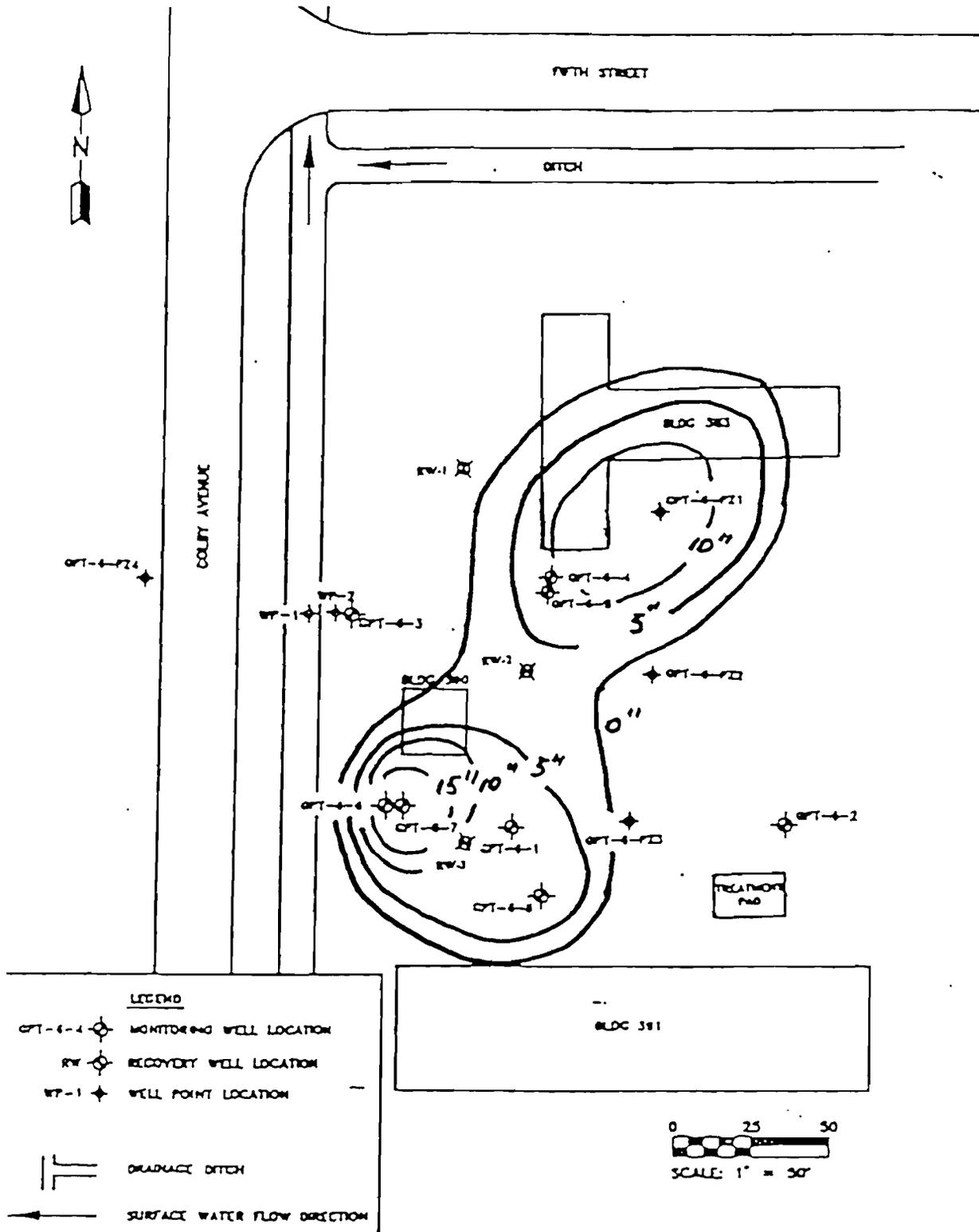


FIGURE 12  
 PRODUCT THICKNESS ON 14 SEPTEMBER, 1995  
 (PRIOR TO TREATMENT SYSTEM START-UP)



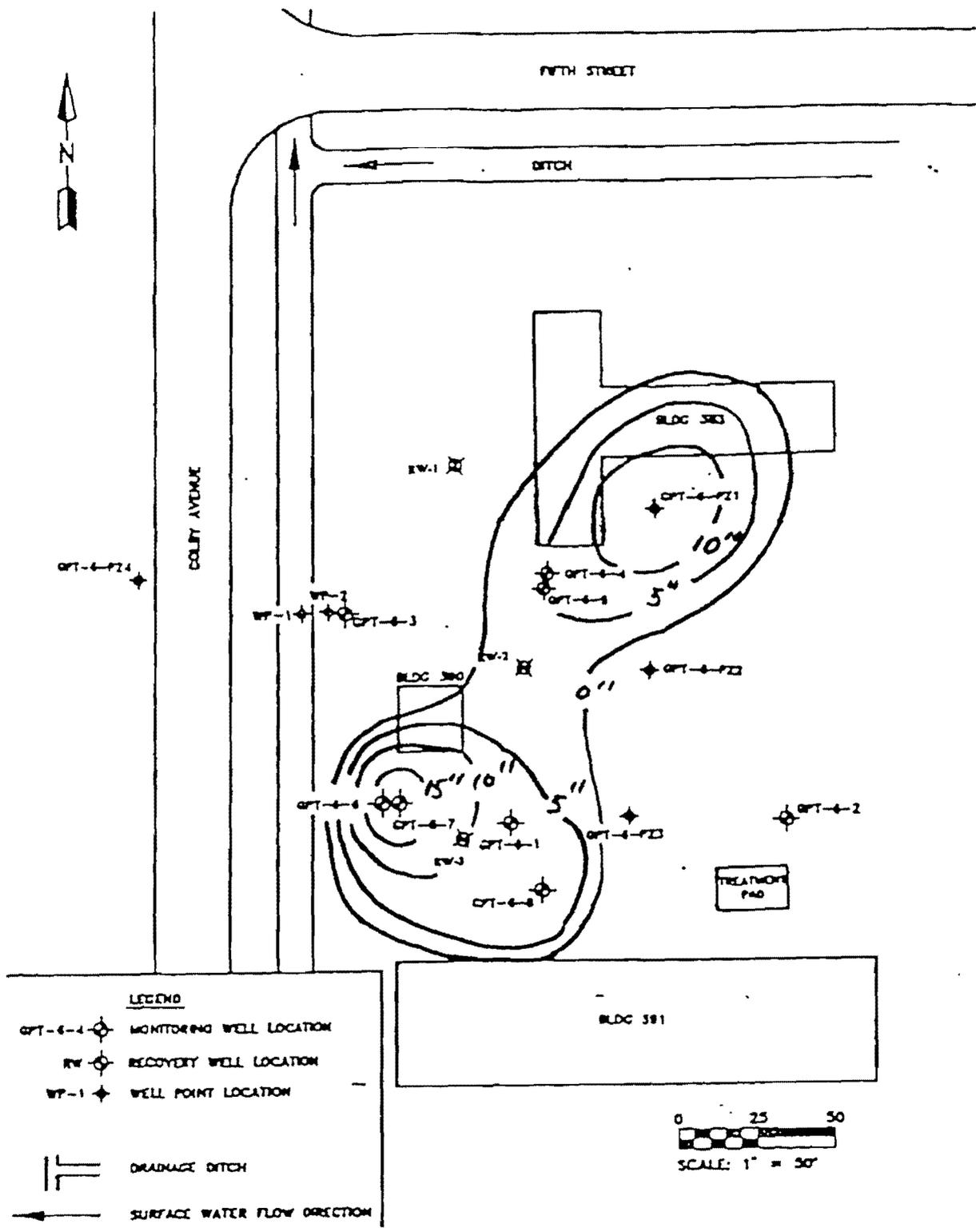


FIGURE 14  
 PRODUCT THICKNESS 21 DECEMBER, 1995

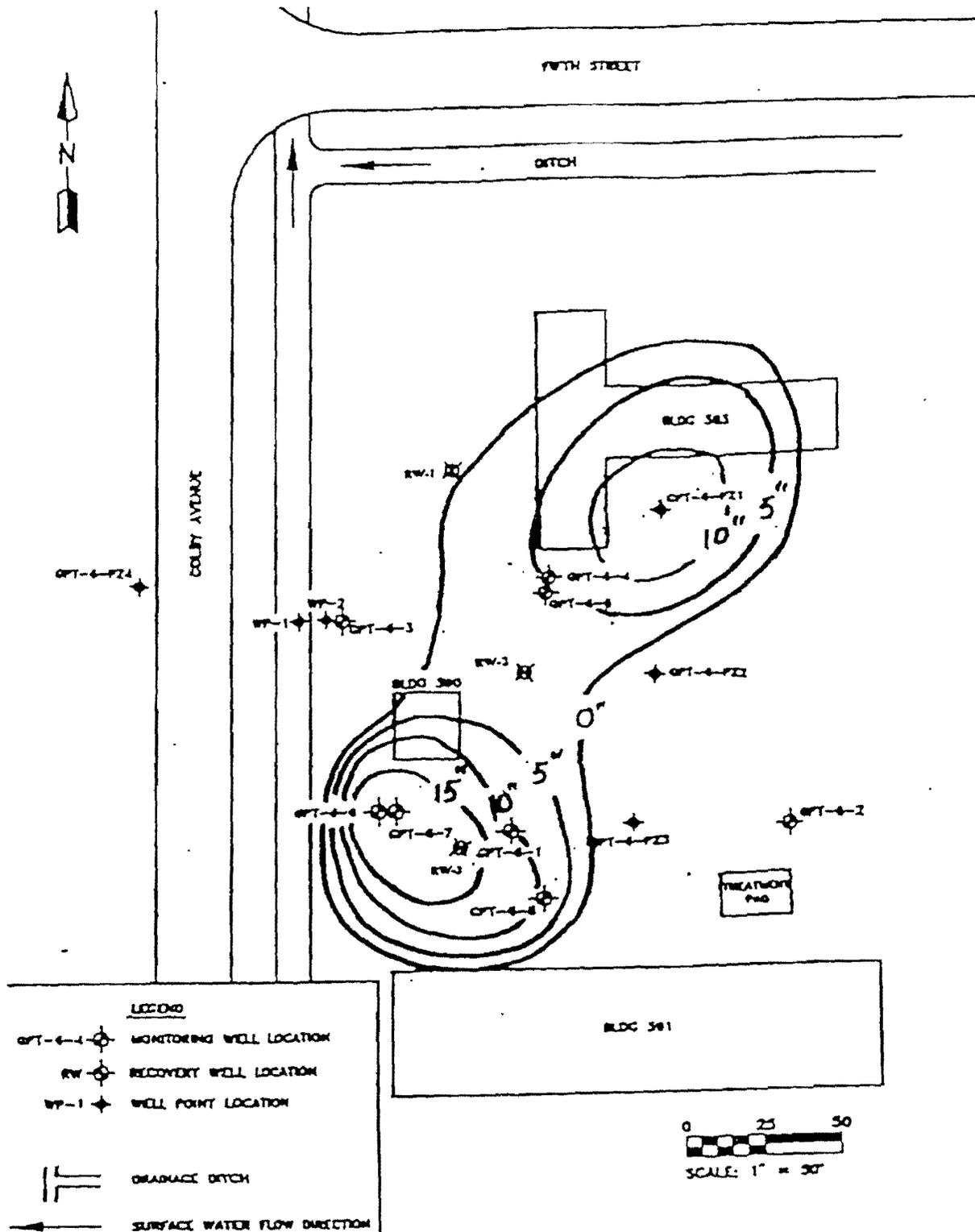


FIGURE 15  
 PRODUCT THICKNESS 30 JANUARY, 1996

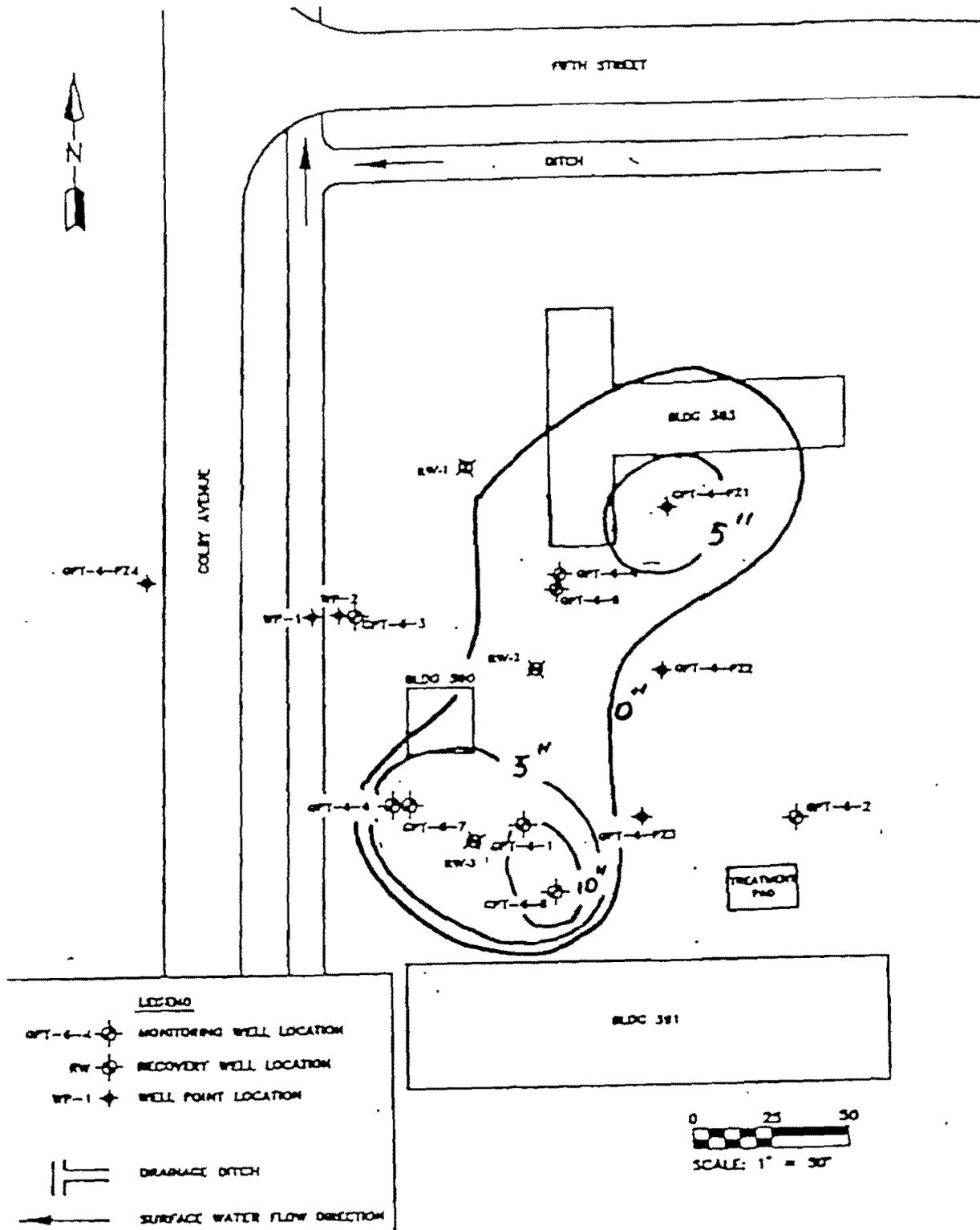
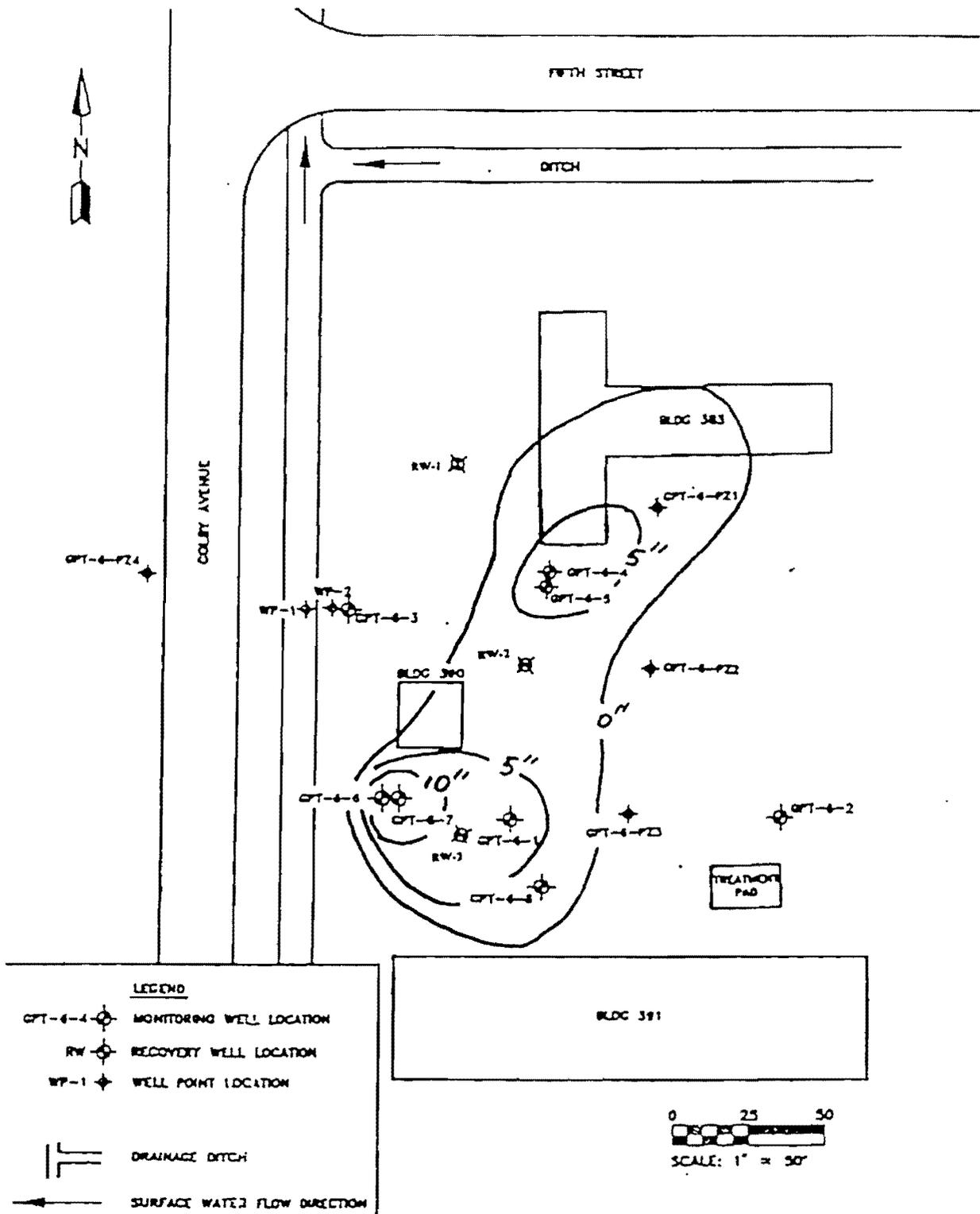


FIGURE 16  
 PRODUCT THICKNESS 20 FEBRUARY, 1996



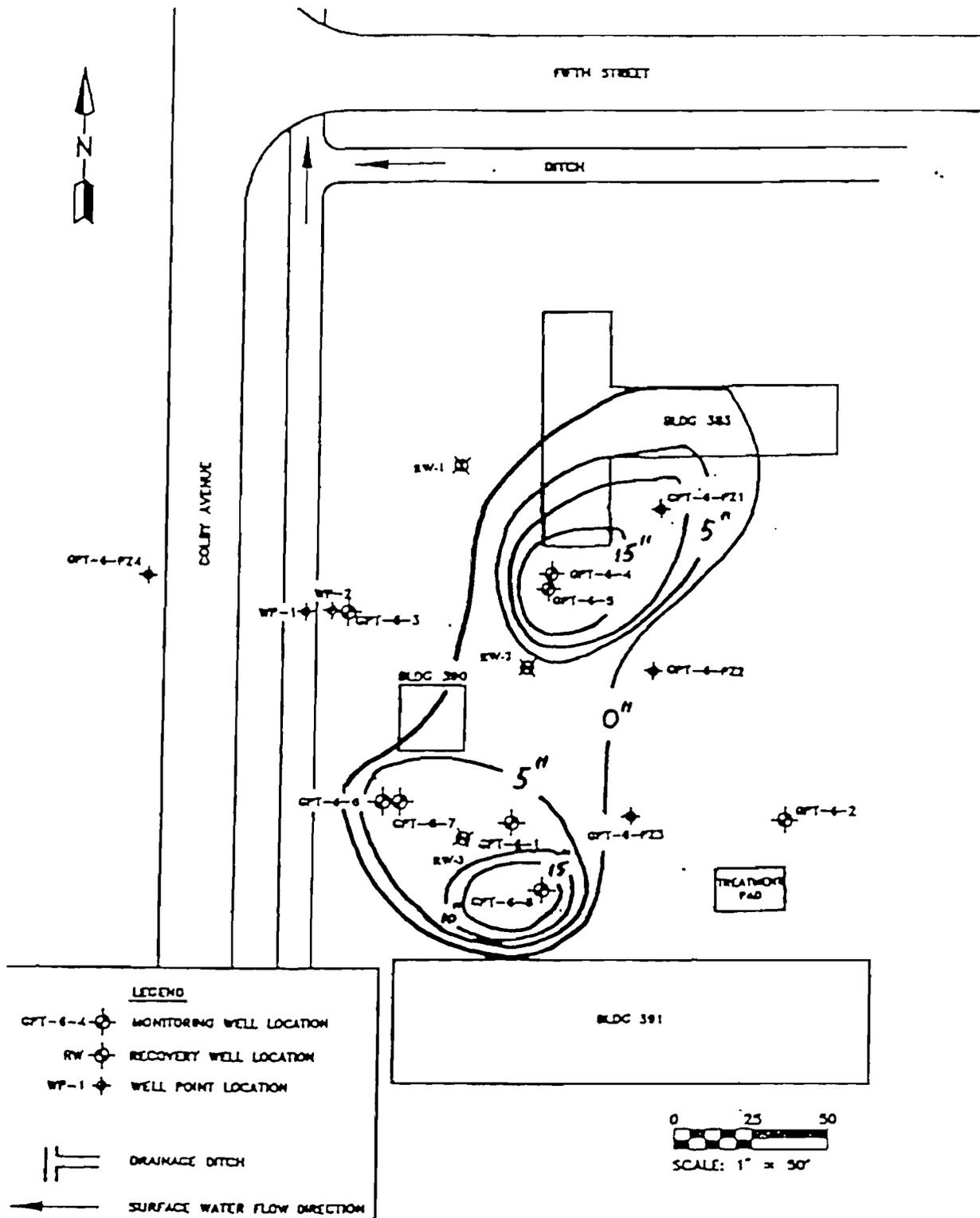


FIGURE 18  
 PRODUCT THICKNESS 19 APRIL, 1996

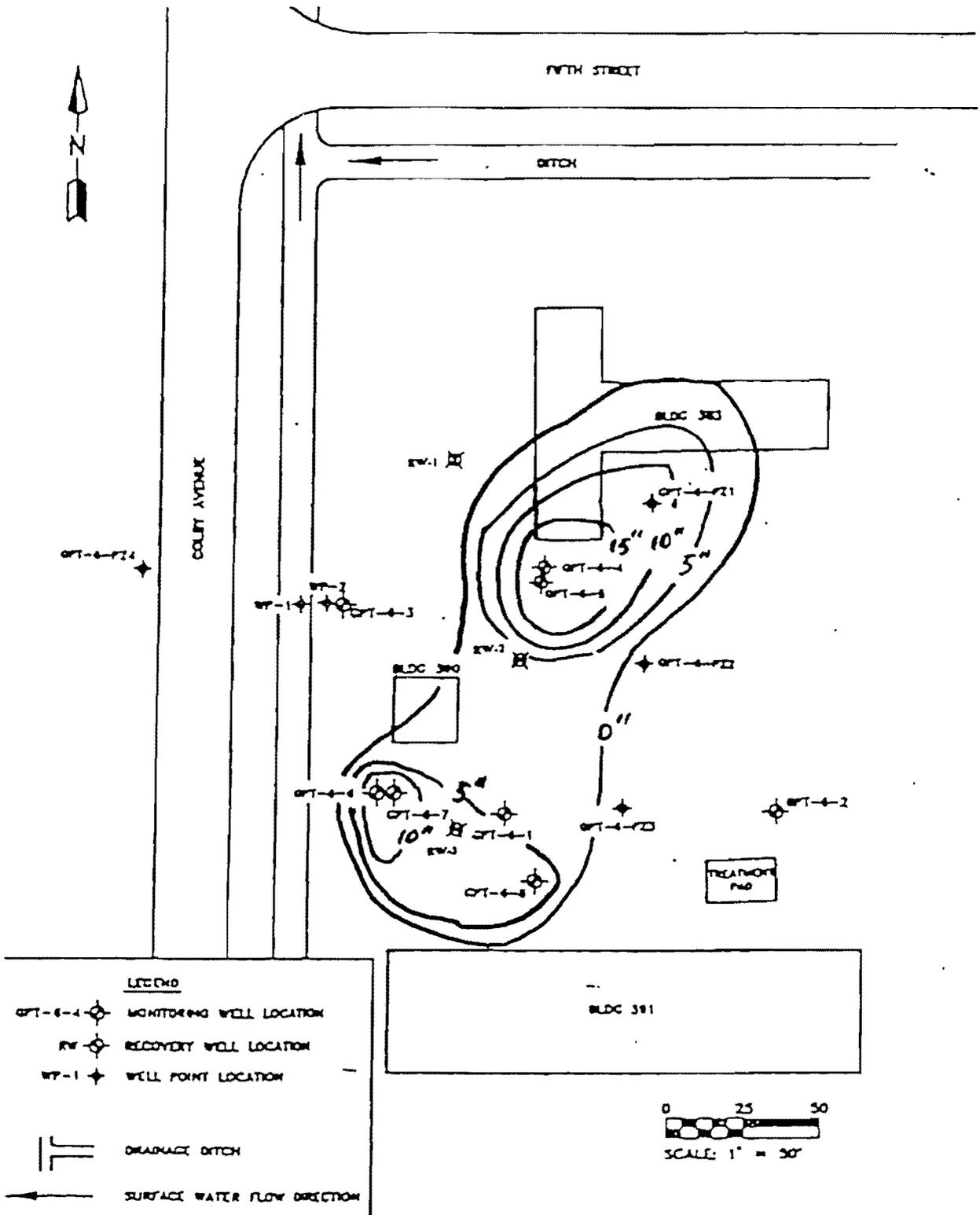


FIGURE 19  
 PRODUCT THICKNESS 16 MAY, 1996

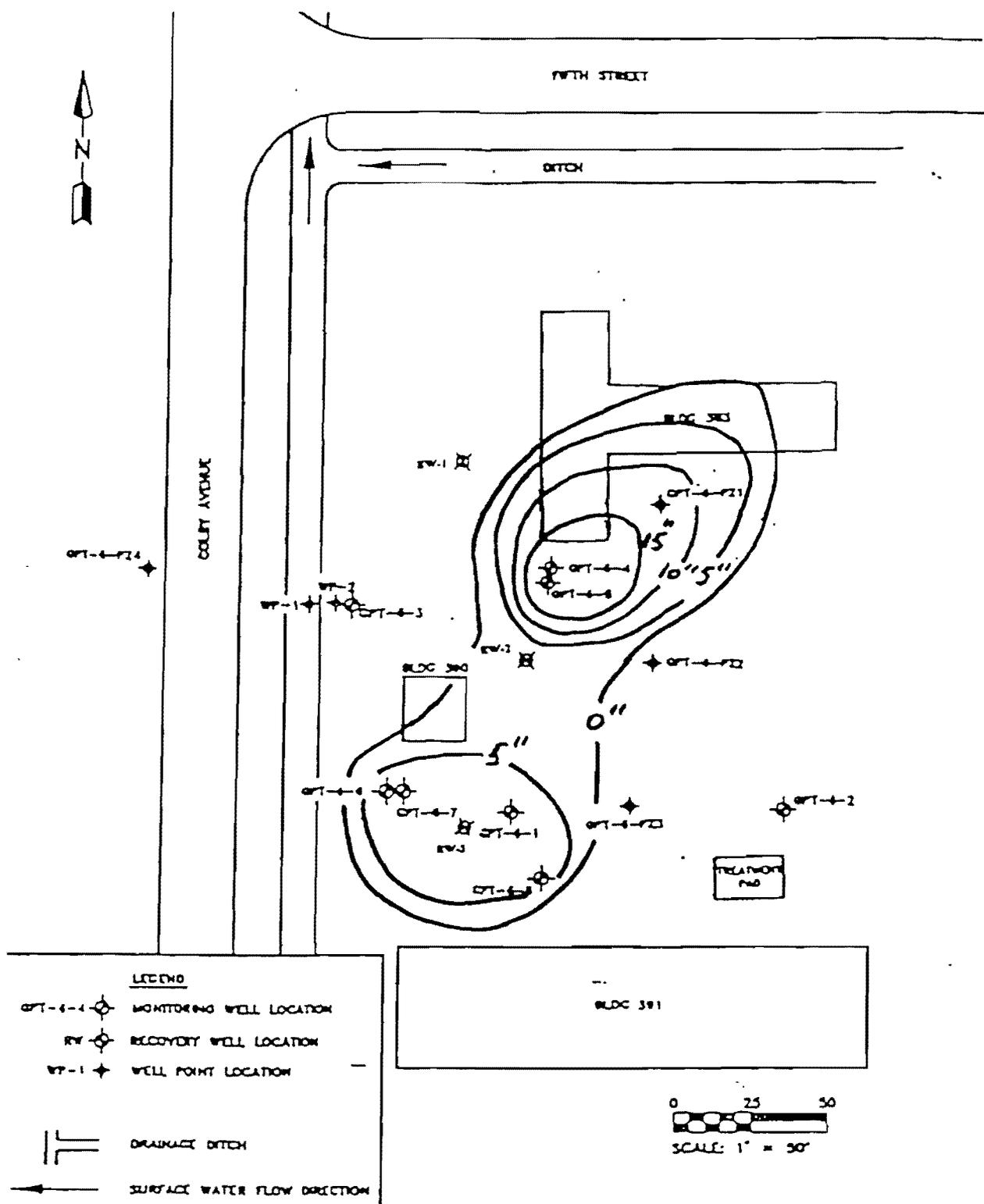


FIGURE 20  
 PRODUCT THICKNESS 13 JUNE, 1996

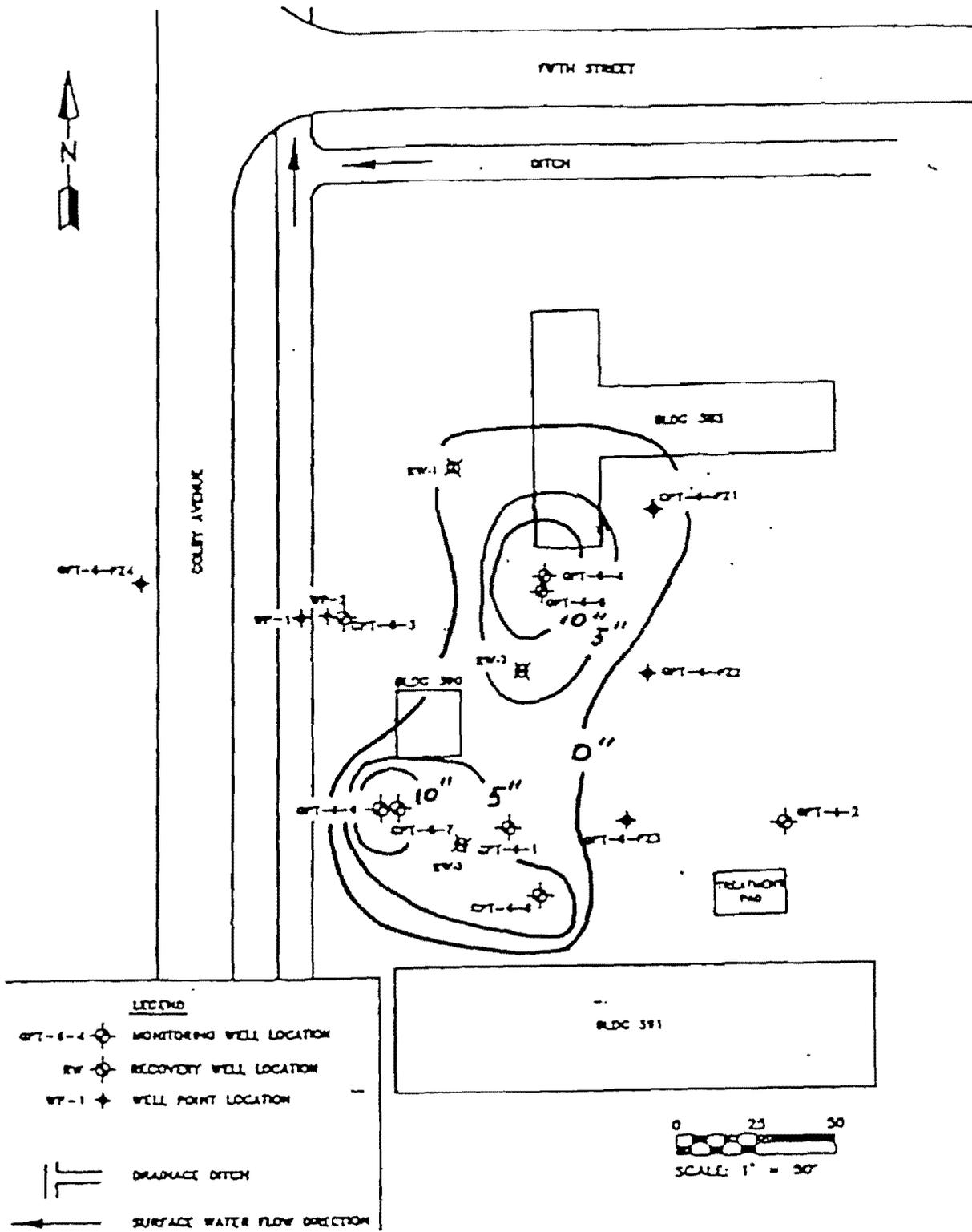


FIGURE 21  
 PRODUCT THICKNESS 11 JULY, 1996

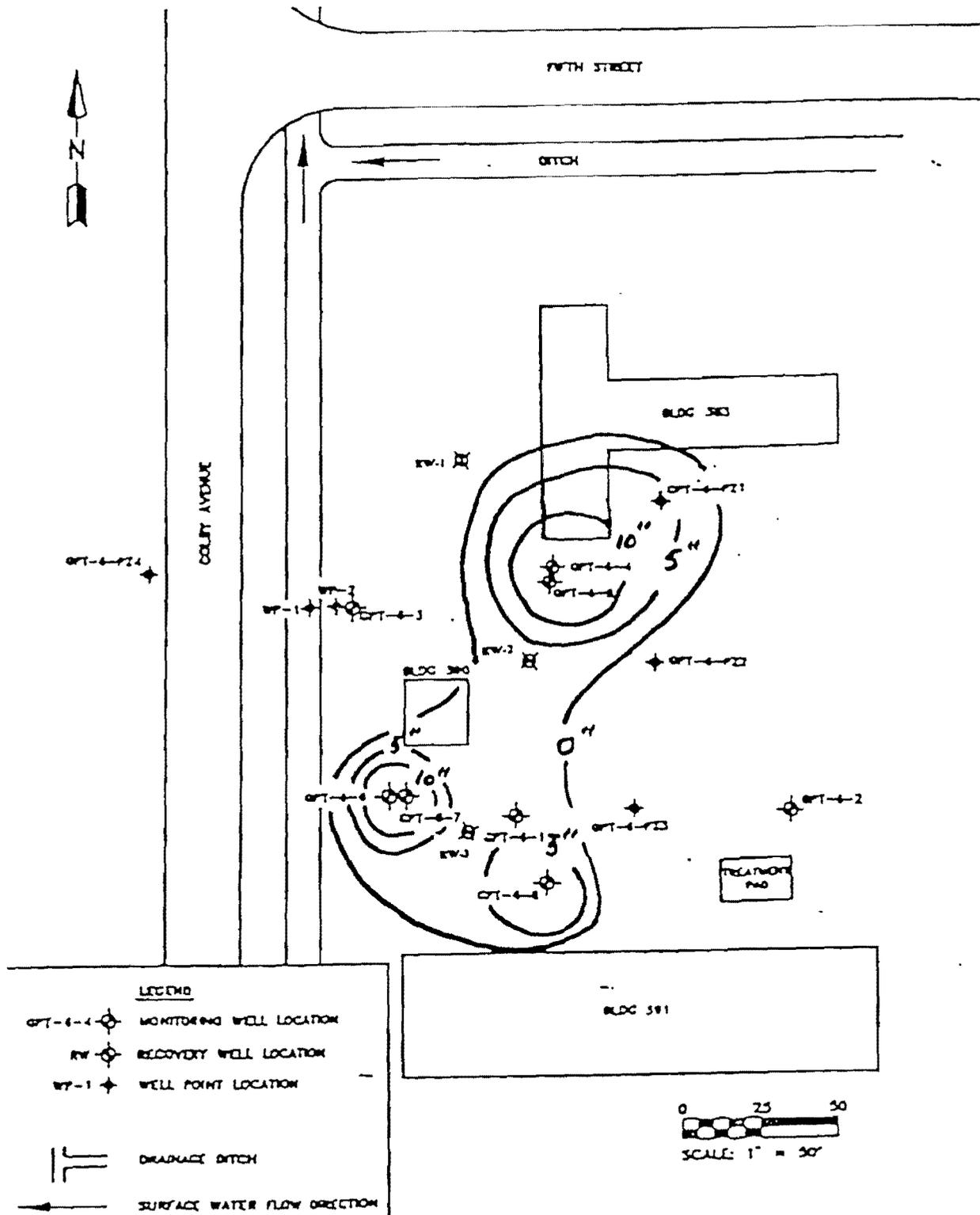


FIGURE 22  
 PRODUCT THICKNESS 27 AUGUST, 1996

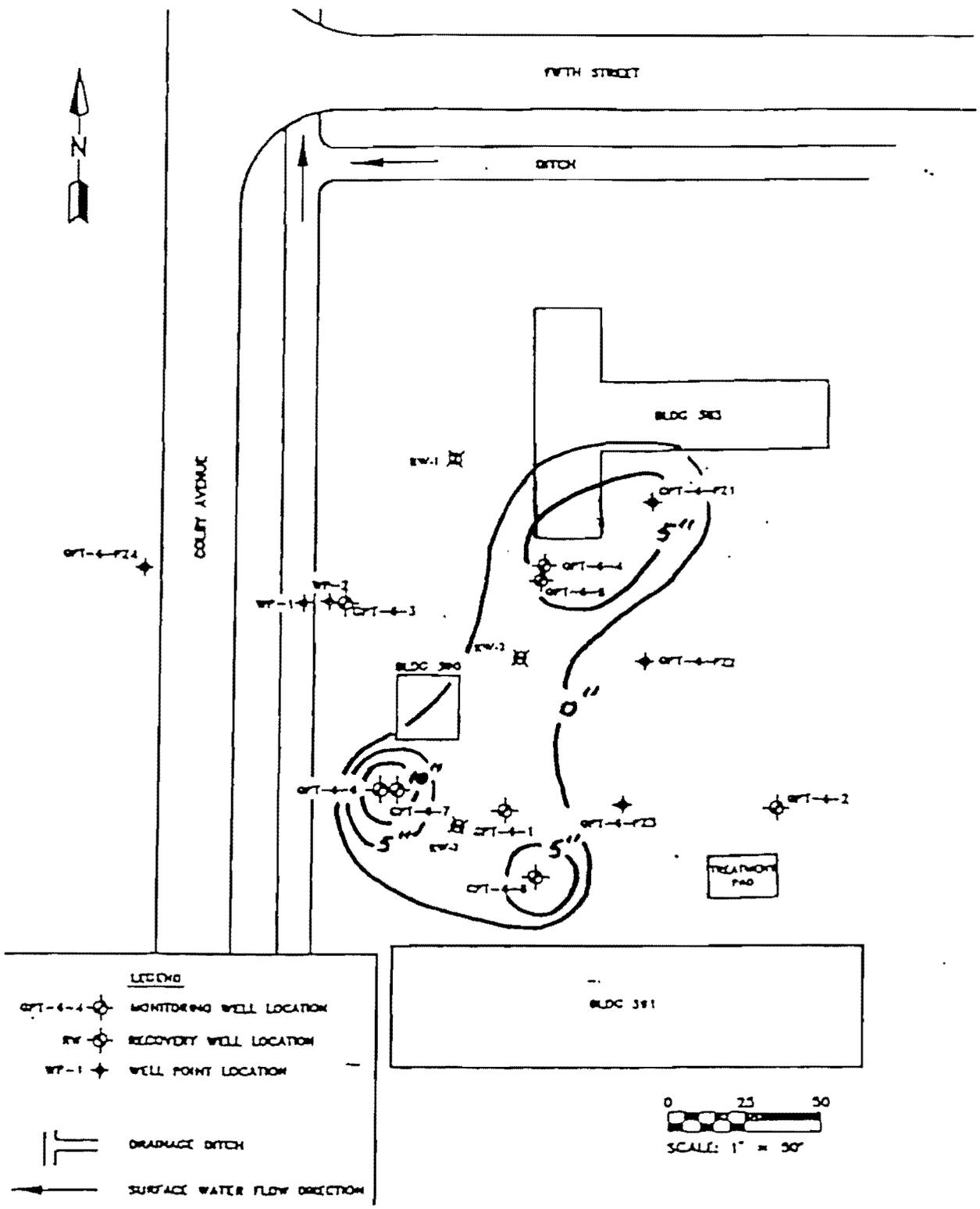


FIGURE 23  
 PRODUCT THICKNESS 16 SEPTEMBER, 1996

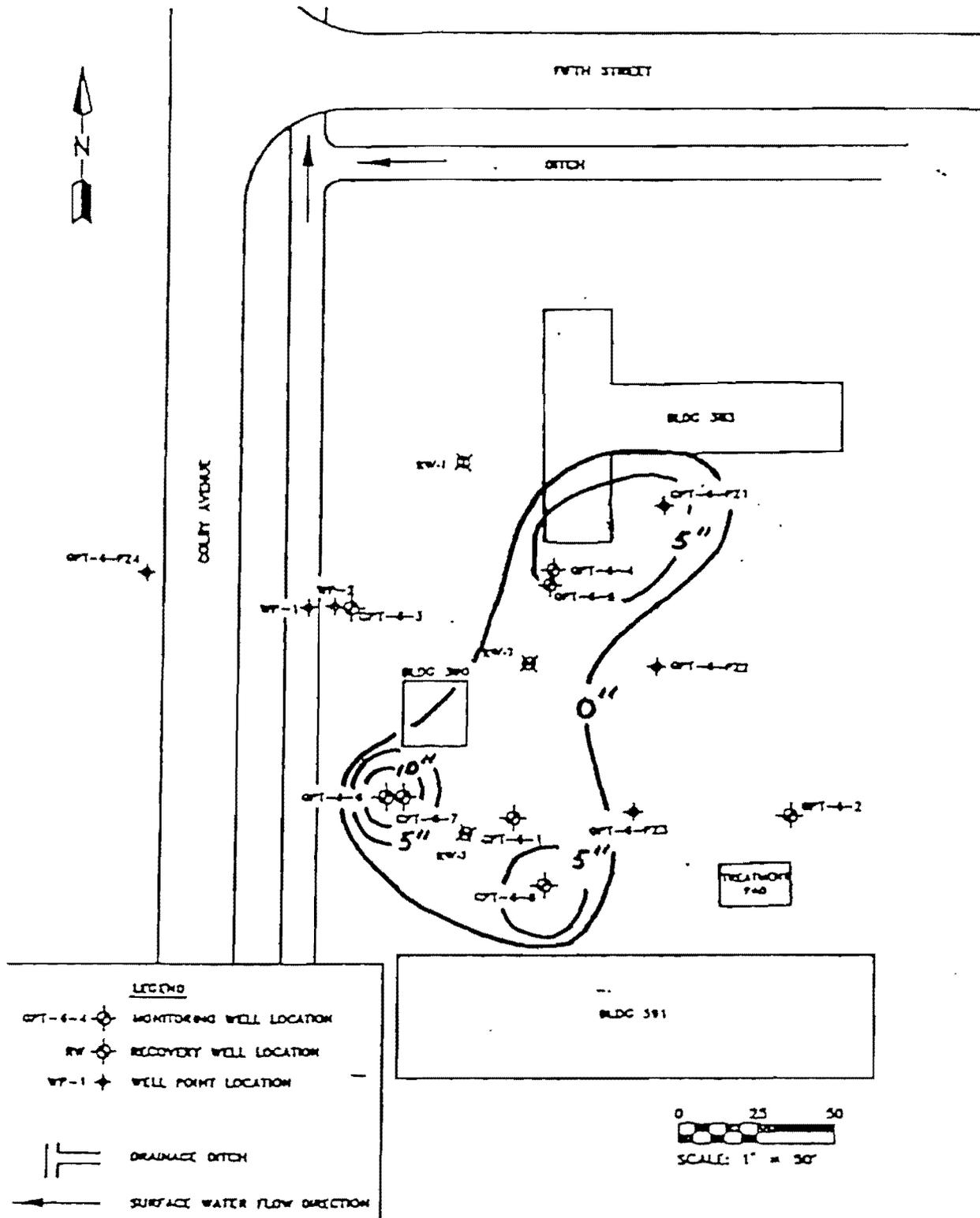


FIGURE 24  
 PRODUCT THICKNESS 09 OCTOBER, 1996

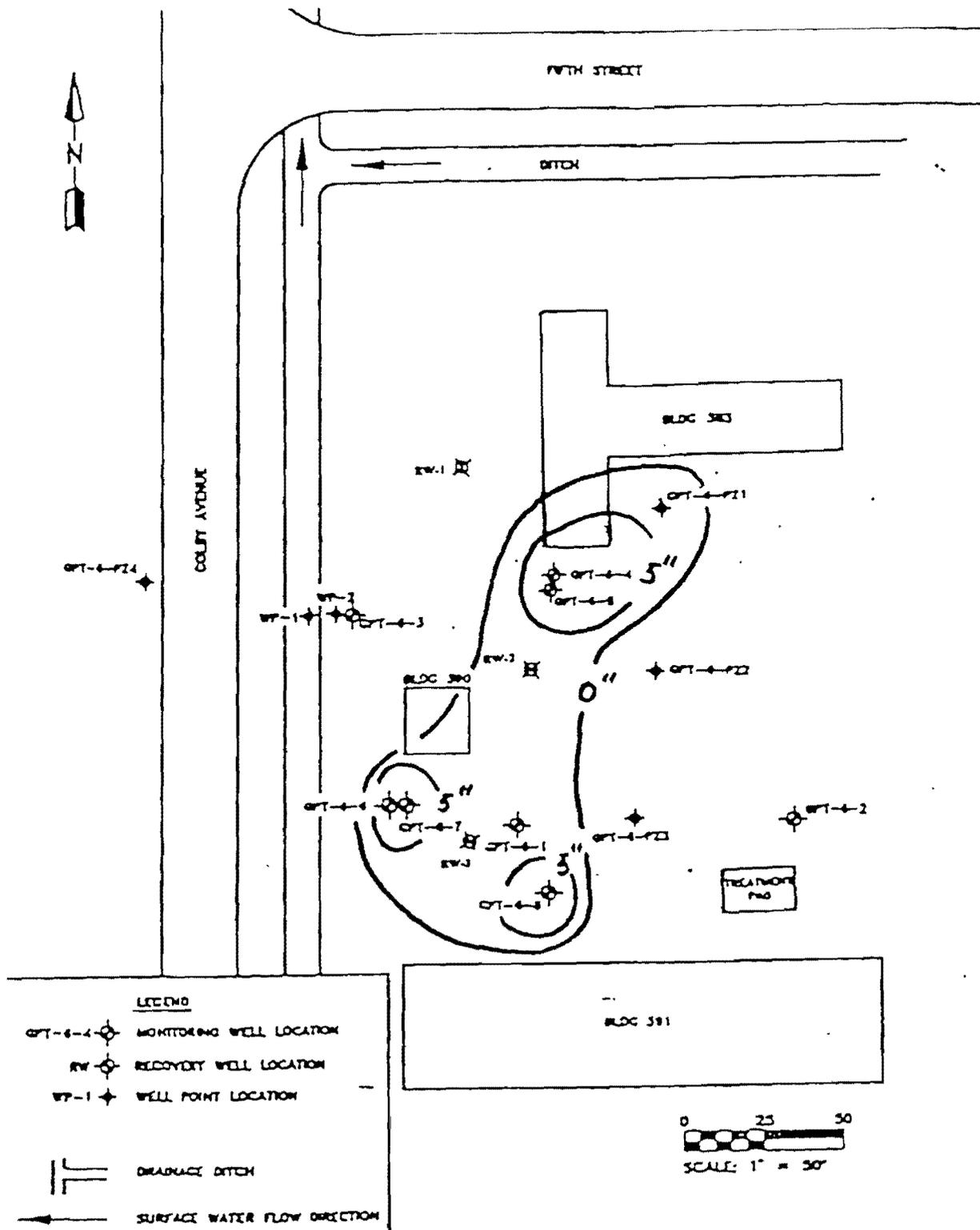
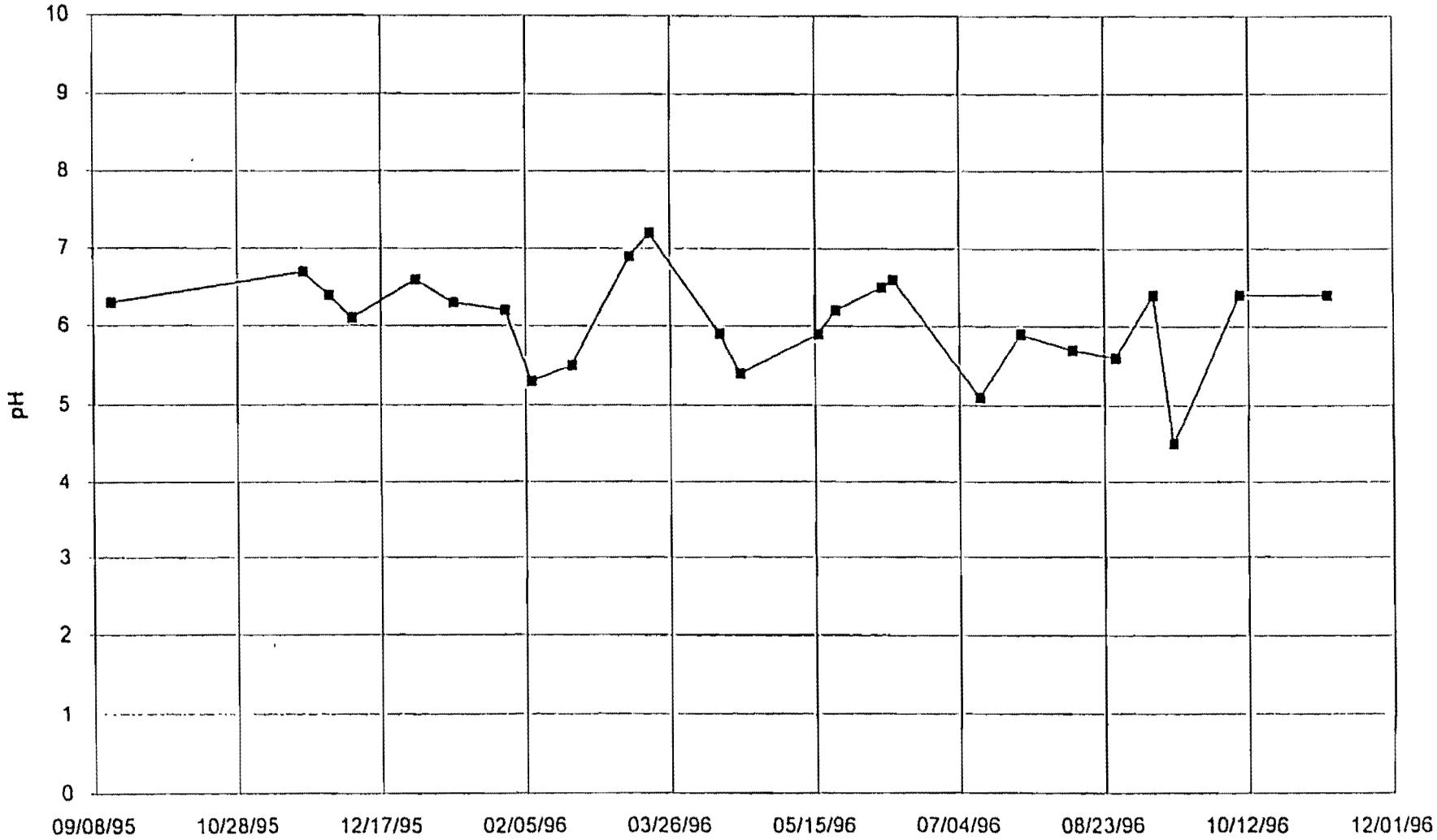


FIGURE 25  
 PRODUCT THICKNESS 08 NOVEMBER, 1996

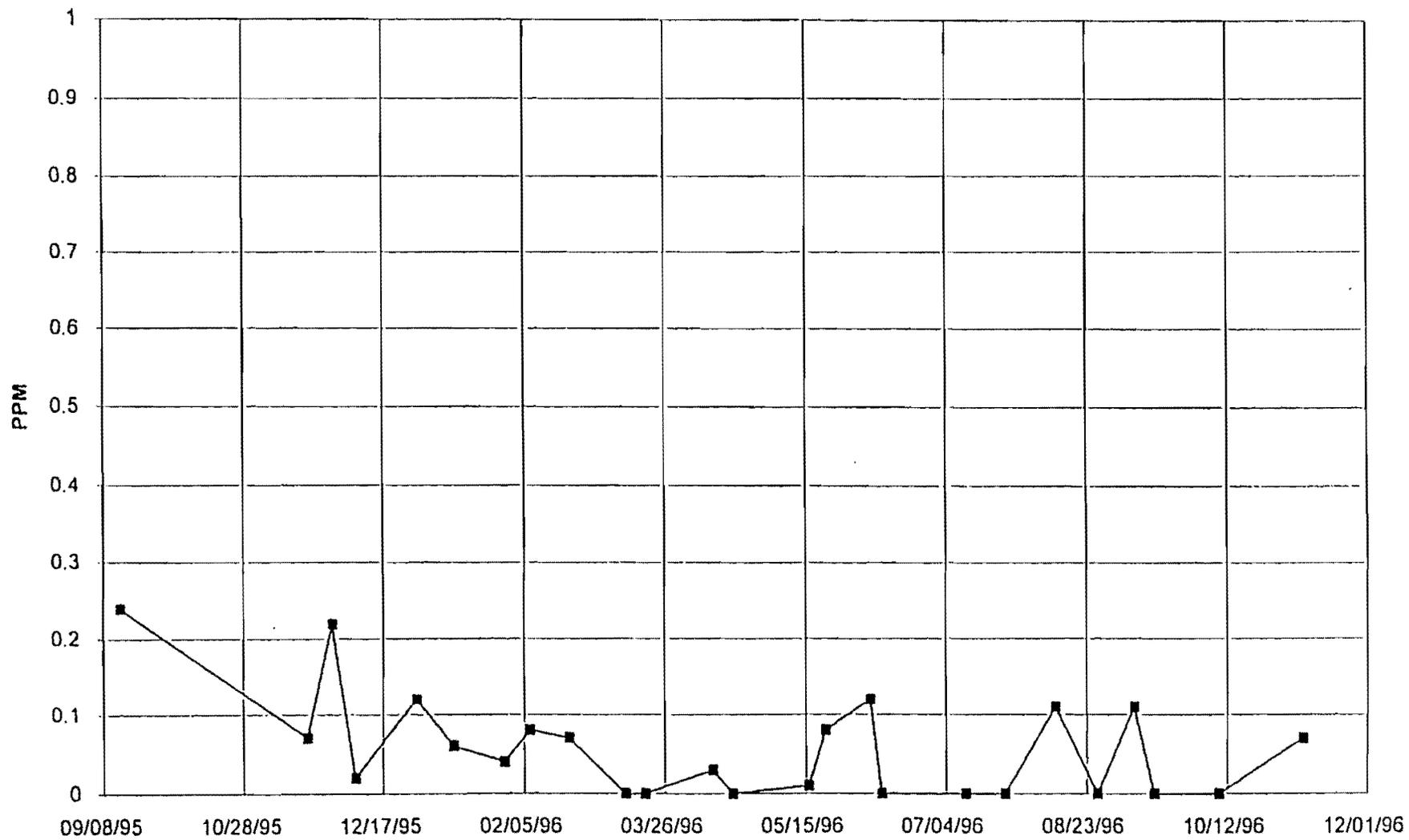
CBC GULFPORT SITE 6  
pH OF INFLUENT SAMPLES



i

Figure 26

CBC GULFPORT SITE 6  
BTEX OF INFLUENT SAMPLES



BTEX-INF

Figure 27

### CBC GULFPORT SITE 6 pH OF EFFLUENT SAMPLES

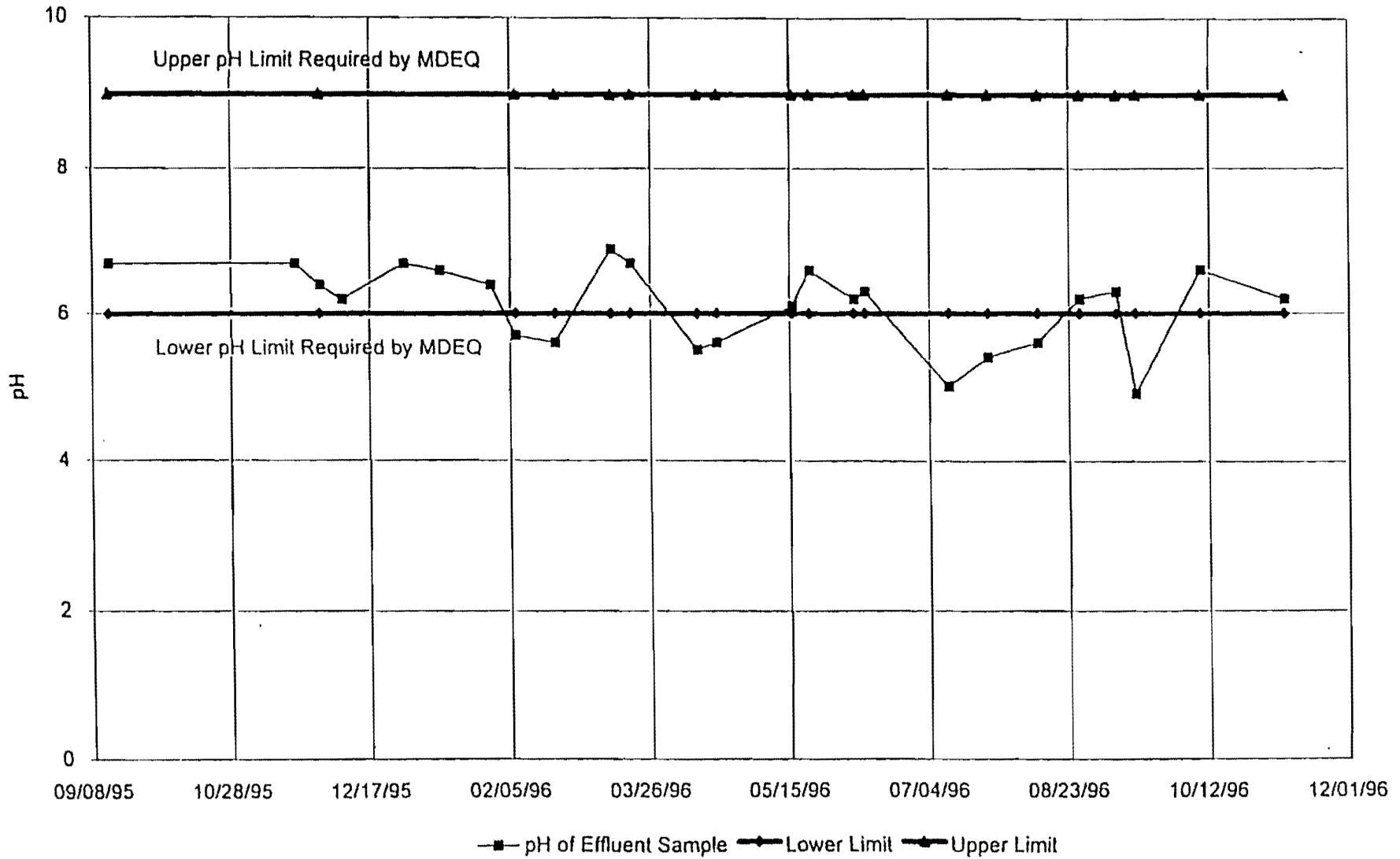
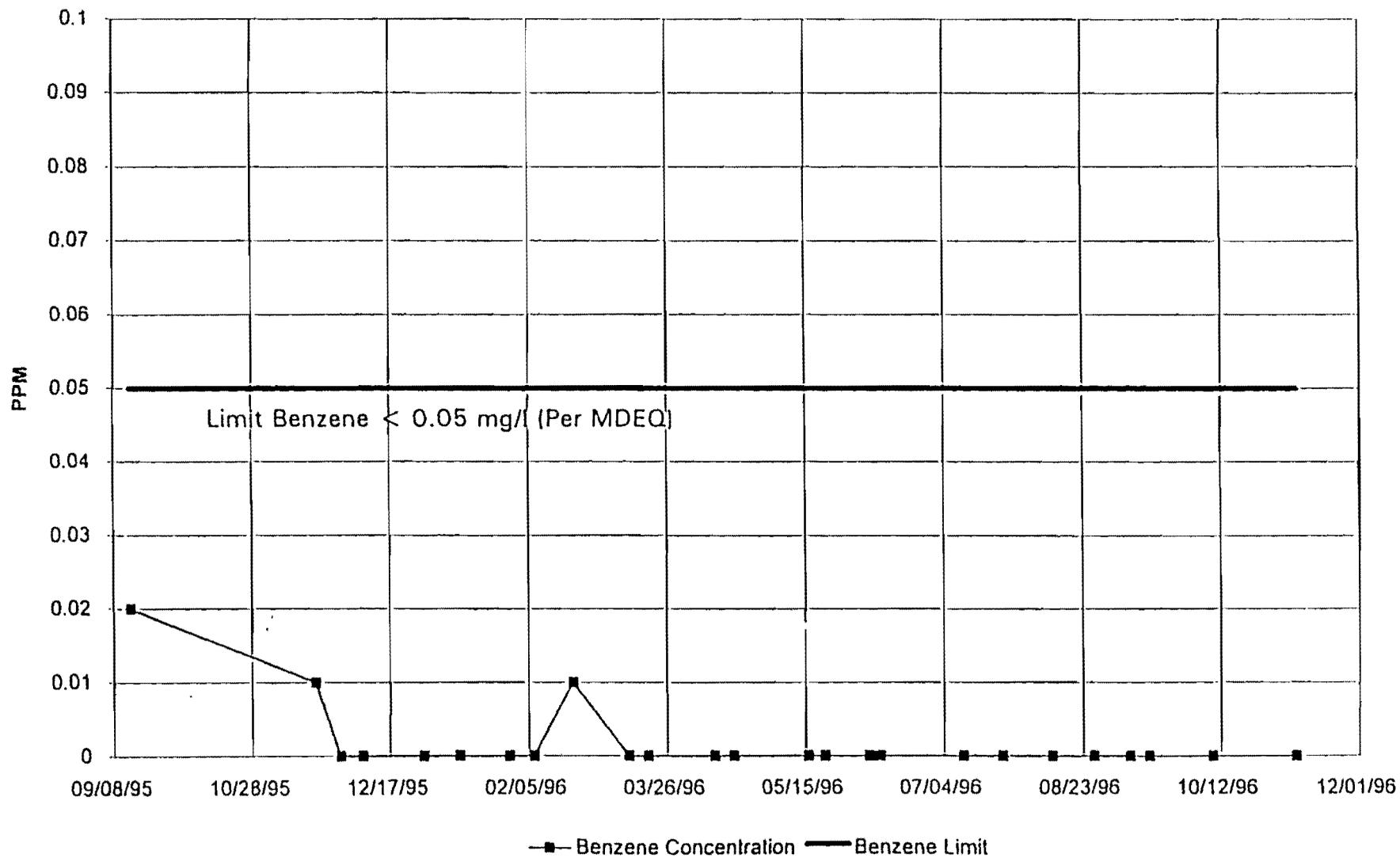


Figure 28

CBC GULFPORT SITE 6  
BENZENE IN EFFLUENT SAMPLES



### CBC GULFPORT SITE 6 TOTAL BTEX IN EFFLUENT SAMPLES

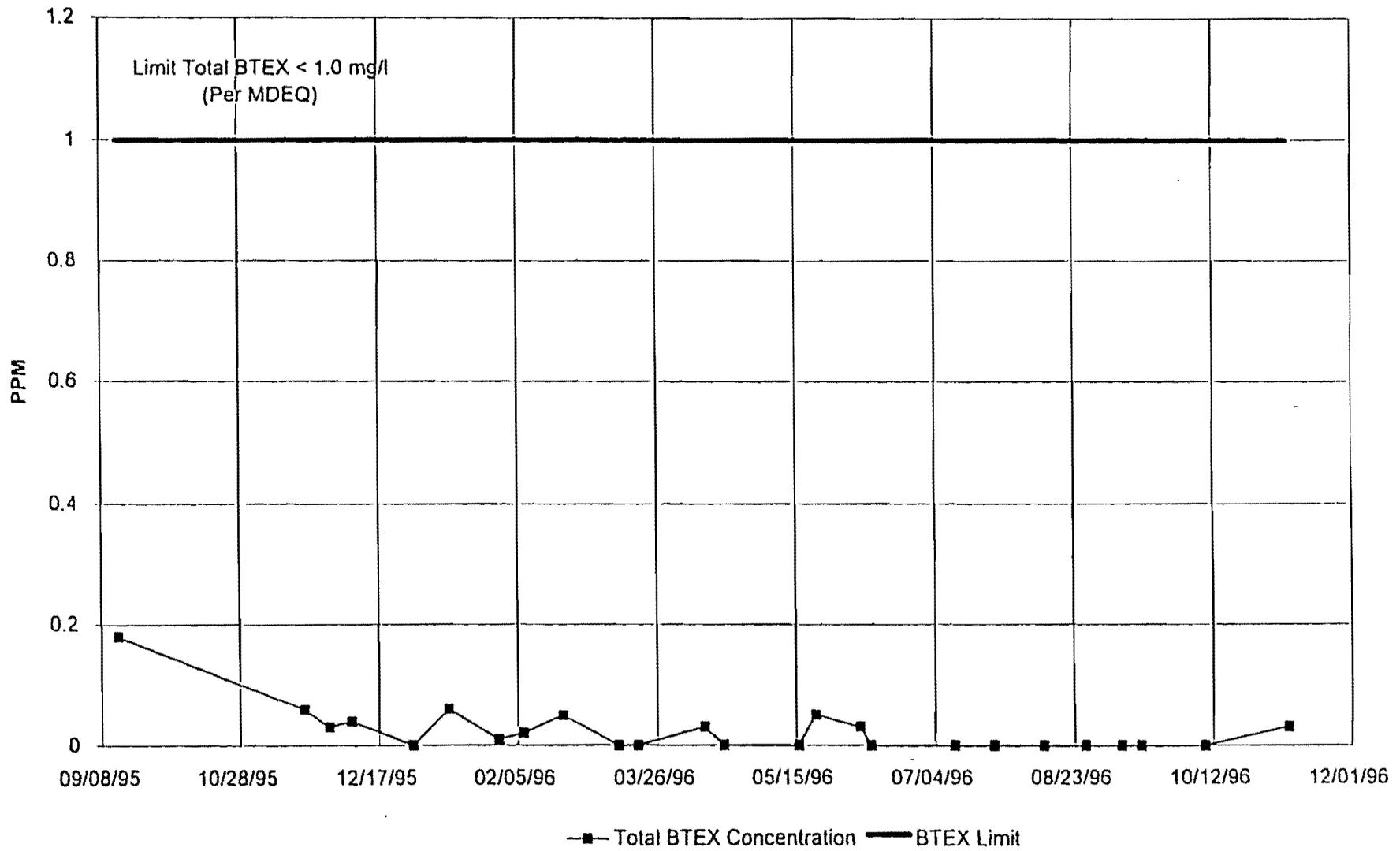


Figure 30

**APPENDIX - A**  
**ANALYTICAL LABORATORY RESULTS**

**INDEX OF TEST RESULTS**

SAMPLE ID	DATE*	SAMPLE ID	DATE*
GTG\EFF 01	09-15-95	GFT\INF 23 GFT\EFF 24	04-12-96
GTG\EFF 02	09-14-95		
GTG\INF 03	11-21-95	GFT\INF 25 GFT\EFF 26	04-22-96
GTG\EFF 04	11-21-95	GFT\INF 27 GFT\EFF 28	05-16-96
GTG\INF 05	11-30-95	GFT\INF 29 GFT\EFF 30	05-23-96
GTG\EFF 06	11-30-95	GFT\INF 31 GFT\EFF 32	06-10-96
GTG\INF 07	12-08-95	GFT\INF 33 GFT\EFF 34	06-14-96
GTG\EFF 08	12-08-95	GFT\INF 35 GFT\EFF 36	07-12-96
GTG\INF 09	12-15-95	GFT\INF 37 GFT\EFF 38	07-26-96
GTG\EFF 10	12-15-95	GFT\INF 39 GFT\EFF 40	08-13-96
GFT\INF 11 GFT\EFF 12	01-02-96	GFT\INF 41 GFT\EFF 42	08-28-96
GTG\INF 13 GTG\EFF 14	01-12-96	GFT\INF 43 GFT\EFF 44	09-10-96
GFT\INF 13 GFT\EFF 14	01-30-96	GFT\INF 45 GFT\EFF 46	09-17-96
GFT\INF 15 GFT\EFF 16	02-08-96	GFT\INF 47 GFT\EFF 48	10-10-96
GFT\INF 17 GFT\EFF 18	02-21-96	GFT\INF 49 GFT\EFF 50	10-17-96
GFT\INF 19 GFT\EFF 20	03-12-96	GFT\INF 51 GFT\EFF 52	11-01-96
GFT\INF 21 GFT\EFF 22	03-20-96	GFT\INF 53 GFT\EFF 54	11-11-96

Note: \* Date when samples were received at the laboratory.

**SOUTHERN TECHNICAL SERVICES INC.**  
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 BIOLOGISTS - ENVIRONMENTAL SCIENTISTS  
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A & S ENVIRONMENTAL SERVICES  
 3743 KIMBRELL ROAD  
 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WASTEWATER SAMPLE RECEIVED FROM YOU 09-15-95.

SAMPLE ID: GTG\EFF <sup>01</sup>~~02~~  
 09/14/95

STS LOG NO: 9509018

			<u>mg/L</u>
B.O.D <sub>5</sub>			9.8
TOTAL SUSPENDED SOLIDS			5.0
TOTAL KJELDHAL NITROGEN			18.11
OIL/GREASE			0.1
CYNAIDE,		CN <sup>-</sup>	<0.05
ARSENIC, TOTAL		As	<0.01
BARIUM, TOTAL		Ba	<1.00
BORON, TOTAL		B	<0.03
CADMIUM, TOTAL		Cd	<0.01
CHROMIUM, TOTAL		Cr	<0.01
COPPER, TOTAL		Cu	<0.01
LEAD, TOTAL		Pb	0.01
MANGANESE, TOTAL		Mn	0.02
MERCURY, TOTAL		Hg	<0.01
NICKEL, TOTAL		Ni	<0.01
SELENIUM, TOTAL		Se	<0.01
SILVER, TOTAL		Ag	<0.01
ZINC, TOTAL		Zn	1.60
pH,		SU	6.7

NR = NOT REQUESTED.

< = NONE FOUND, IF PRESENT, LESS THAN.

TEST PROCEDURES: Standard Methods, 5210B, 5520B, 2540D, 4500N,  
4500CN, 3113B, 3111D, 3111B, 3112B, 4500H.

DATE ANALYZED: 09-15,18-20-95 by GMC/JKB.



Gene M. Coxwell

National Registry of Environmental Professionals  
Registration No. 840

3/3

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BIOLOGISTS - ENVIRONMENTAL SCIENTISTS  
1627 WESTHAVEN BLVD.  
JACKSON, MS 39209  
(601) 922-8652

A & S ENVIRONMENTAL SERVICES  
3743 KIMBRELL ROAD  
TERRY, MS 39170-9705  
ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON <sup>WATER</sup> ~~SOIL~~ SAMPLE RECEIVED FROM YOU ~~02-03-94~~ 9-14-95

SAMPLE ID: GTG\EFF 02  
09/14/95

STS LOG NO: 9509018

	<u>PPM</u>
BENZENE	0.02
TOLUENE	0.04
ETHYLBENZENE	0.01
XYLENES	0.11
TOTAL (BTEX)	0.18
TOTAL PETROLEUM HYDROCARBONS	NR
m,p-XYLENE	0.06 PPM
o-XYLENE	0.05 "

Test procedure: SW-846 METHODS 5030, 8020, EPA 602.  
METHOD 418.1

Date Analyzed: 09-15-95 by GMC/JKB.

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ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 11-21-95.

SAMPLE ID: GTG\INF 03  
1120

STS LOG NO: 9511044

	<u>PPM</u>
BENZENE	0.01
TOLUENE	0.02
ETHYLBENZENE	<0.01
XYLENES	0.04
TOTAL (BTEX)	0.07
TOTAL PETROLEUM HYDROCARBONS	NR
pH, SU	6.7
m,p-XYLENE	0.03 PPM
o-XYLENE	0.01 "

Test procedure: SW-846 METHODS 5030, 8020.  
METHODS 418.1, 150.1

Date Analyzed: 11-22-95 by GMC/JKB.

  
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TERRY, MS 39170-9705  
ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 11-21-95.

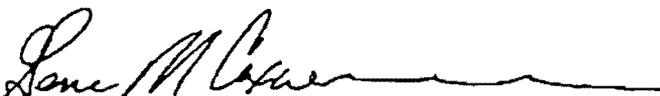
SAMPLE ID: GTG\EFF 04  
1120

STS LOG NO: 9511045

	<u>PPM</u>
BENZENE	0.01
TOLUENE	0.02
ETHYLBENZENE	<0.01
XYLENES	0.03
TOTAL (BTEX)	0.06
TOTAL PETROLEUM HYDROCARBONS	NR
pH, SU	6.7
m,p-XYLENE	0.03 PPM
o-XYLENE	<0.01 "

Test procedure: SW-846 METHODS 5030, 8020.  
METHODS 418.1, 150.1

Date Analyzed: 11-22-95 by GMC/JKB.

  
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 ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 11-30-95.

SAMPLE ID: GTC\INF 05 STS LOG NO: 9512001  
 1129

	<u>PPM</u>
BENZENE	0.01
TOLUENE	0.03
ETHYLBENZENE	0.05
XYLENES	0.13
TOTAL (BTEX)	0.22
TOTAL PETROLEUM HYDROCARBONS	NR
pH, SU	6.4
m,p-XYLENE	0.08 PPM
o-XYLENE	0.05 "

Test procedure: SW-846 METHODS 5030, 8020.  
 METHODS 418.1, 150.1

Date Analyzed: 11-30-95 by GMC/JKB.

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ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 11-30-95.

SAMPLE ID: GTG\EPF 06  
1129

STS LOG NO: 9512002

	<u>PPM</u>
BENZENE	<0.01
TOLUENE	0.02
ETHYLBENZENE	<0.01
XYLENES	0.01
TOTAL (BTEX)	0.03
TOTAL PETROLEUM HYDROCARBONS	NR
pH, SU	6.4
m,p-XYLENE	<0.01 PPM
o-XYLENE	0.01 "

Test procedure: SW-846 METHODS 5030, 8030.  
METHODS 418.1, 150.1

Date Analyzed: 11-30-95 by GMC/JKB.

  
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TERRY, MS 39170-9705  
ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 12-08-95.

SAMPLE ID: GTG\INF 07  
1207

STS LOG NO: 9512059

	<u>PPM</u>
BENZENE	<0.01
TOLUENE	0.01
ETHYLBENZENE	<0.01
XYLENES	0.01
TOTAL (BTEX)	0.02
TOTAL PETROLEUM HYDROCARBONS	NR
pH, SU	6.1
m,p-XYLENE	<0.01 PPM
o-XYLENE	0.01 "

Test procedure: SW-846 METHODS 5030, 8020.  
METHODS 418.1, 150.1

Date Analyzed: 12-08-95 by GMC/JKB.

  
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TERRY, MS 39170-9705  
ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 12-08-95.

SAMPLE ID: GTG/EPF 08  
1207

STS LOG NO: 9512060

	<u>PPM</u>
BENZENE	<0.01
TOLUENE	0.02
ETHYLBENZENE	<0.01
XYLENES	0.02
TOTAL (BTEX)	0.03
TOTAL PETROLEUM HYDROCARBONS	NR
pH, SU	6.2
m,p-XYLENE	0.01 PPM
o-XYLENE	0.01 "

Test procedure: SW-846 METHODS 5030, 8020.  
METHODS 418.1, 150.1

Date Analyzed: 12-08-95 by GMC/JKB.

  
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ATTN: MR. BILLY SULLIVAN

REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 12-15-95.

SAMPLE ID: GTG\INF <sup>09</sup>~~08~~  
1213

STS LOG NO: 9512075

	<u>PPM</u>
BENZENE	NR
TOLUENE	NR
ETHYLBENZENE	NR
XYLENES	NR
TOTAL (BTEX)	NR
TOTAL PETROLEUM HYDROCARBONS	392
pH, SU	5.5

Test procedure: SW-846 METHODS 5030, 8020.  
METHODS 418.1, 150.1

Date Analyzed: 12-15,18-19-95 by GMC/JKB.

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TERRY, MS 39170-9705  
ATTN: MR. BILLY SULLIVAN

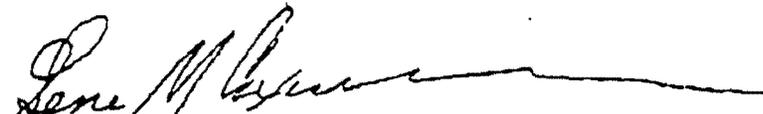
REPORT OF TEST ON WATER SAMPLE RECEIVED FROM YOU 12-15-95.

SAMPLE ID: GTC\EFF <sup>10</sup>~~09~~ 1213 STS LOG NO: 9512076

	<u>PPM</u>
BENZENE	NR
TOLUENE	NR
ETHYLBENZENE	NR
XYLENES	NR
TOTAL (BTEX)	NR
TOTAL PETROLEUM HYDROCARBONS	12.0
pH, SU	5.5

Test procedure: SW-846 METHODS 5030, 8020.  
METHODS 418.1, 150.1

Date Analyzed: 12-15,18-19-95 by GMC/JKB.

  
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 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 01-02-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9601010-11

	GFTVNF 10/11	GFTVEFF 11/12			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	0.02	<0.01			
ETHYLBENZENE	0.02	<0.01			
METHYLBENZENE	0.08	<0.01			
1,2-DICHLOROBENZENE	0.12	<0.01			
TRICHLOROBENZENE	NR	NR			
O-XYLENE	0.04	<0.01			
M,P-XYLENE	0.04	<0.01			
pH, SU	6.6	6.7			
MISS. DEQ ALLOWABLE LIMITS: SOIL 100 ppm; WATER 18 ppm					

TEST PROCEDURES: SW-846, METHODS 5030, 8020.  
Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 01-04-96 by GMC/JKB.

*Gene M. Coxwell*  
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SOUTHERN TECHNICAL SERVICES INC.



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 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 01-12-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9601037-38

!!					
SAMPLE ID	GFTVNF 13	GFTVEFF 14			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	0.03	0.01			
E. BENZENE	<0.01	0.01			
XYLENES	0.03	0.04			
TOT. BTEX	0.06	0.06			
TPH	NR	NR			
O-XYLENE	0.02	0.02			
M,P-XYLENE	0.01	0.02			
pH, SU	6.3	6.6			

TEST PROCEDURES: SW-846; METHODS: 5030, 8020. ....  
Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 01-15-96 by GMC/JKB.

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 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 01-30-96.**

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9601081-82

SAMPLE ID	GFTVNF 13	GFTVEFF 14			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	0.01	<0.01			
XYLENES	0.03	<0.01			
TOT. BTEX	0.04	<0.01			
TPH	NR	NR			
O-XYLENE	0.02	<0.01			
M,P-XYLENE	0.01	<0.01			
pH, SU	5.2	6.4			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.  
Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 01-31-96 by GMC/JKB.

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A & S ENVIRONMENTAL SERVICES  
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 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 02-08-96.

SAMPLE ID: CBC GULFPORT

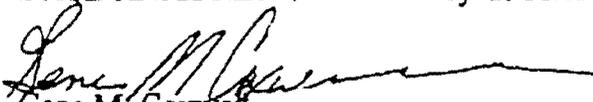
STS LOG NOS: 9602012-13

SAMPLE ID	GFTINF 15	GFTIEFF 16			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	0.01	0.01			
E. BENZENE	0.01	<0.01			
XYLENES	0.06	0.01			
TOT. BTEX	0.08	0.02			
TPH	NR	NR			
O-XYLENE	0.04	0.01			
M,P-XYLENE	0.02	<0.01			
pH, SU	5.3	5.7			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 02-09-96 by GMC/JKB.

  
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 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 02-21-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9602029-30

SAMPLE ID	GFTVNF 17	GFTVEFF 18			
PPM					
BENZENE	0.01	0.01			
TOLUENE	0.02	0.02			
E. BENZENE	<0.01	<0.01			
XYLENES	0.04	0.02			
TOT. BTEX	0.07	0.05			
TPH	NR	NR			
O-XYLENE	0.02	0.01			
M,P-XYLENE	0.02	0.01			
pH, SU	5.5	5.6			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.  
Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 02-22-96 by GMC/JKB.

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 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 03-12-96.**

SAMPLE ID: CBC GULFPORT

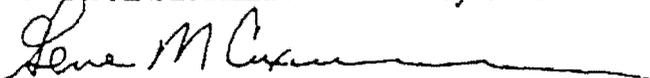
STS LOG NOS: 9603039-40

SAMPLE ID	GFT\INF 19	GFT\EFF 20			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	6.7	6.9			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 03-13-96 by GMC/JKB.



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 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 03-20-96.**

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9603049-50

SAMPLE ID	GFT\INF 21	GFT\EFF 22			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	7.2	7.9			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 03-20-96 by GMC/JKB.

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 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 04-12-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9604059-60

SAMPLE ID					
SAMPLE ID	GFT/NP	GFT/FF			
	23	24			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	0.03	<0.01			
TOT. BTEX	0.03	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	0.03	<0.01			
pH, SU	5.5	5.9			
MISS. DEQ ALLOWABLE LIMITS: SOIL 100 ppm; WATER 18 ppm					

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 04-12-96 by GMC/JKB.

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 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 04-22-96.**

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9604075-76

SAMPLE ID	GFTVNF 25	GFTVEFF 26			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	5.4	5.6			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 04-22-96 by GMC/JKB.

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3743 KIMBRELL RD  
TERRY, MS 39170-9705  
ATTN: MR. BILLY SULLIVAN

## REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 05-16-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9605062-63

SAMPLE ID	GFTUNF 27	GFTEFF 28			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	0.01	<0.01			
TOT. BTEX	0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	0.01	<0.01			
pH, SU	5.9	6.1			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 05-17-96 by GMC/JKB.

Gene M. Coxwell  
National Registry of Environmental Professionals  
Registration # 840

**SOUTHERN TECHNICAL SERVICES INC.**



CHEMISTS - BACTERIOLOGISTS  
BIOLOGISTS - ENVIRONMENTAL SCIENTISTS  
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(601) 922-8652

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ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 05-23-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9605104-05

SAMPLE ID	GFTVNF 29	GFTVEFF 30			
PPM					
BENZENE	0.01	<0.01			
TOLUENE	0.02	0.02			
E. BENZENE	0.01	<0.01			
XYLENES	0.04	0.03			
TOT. BTEX	0.08	0.05			
TPH	NR	NR			
O-XYLENE	0.02	0.02			
M,P-XYLENE	0.02	0.01			
pH, SU	6.2	6.6			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 05-24-96 by GMC/JKB.

  
Gene M. Coxwell  
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 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 06-10-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9606019-20

SAMPLE ID	GFT/INF 31	GFT/EFF 32			
PPM					
BENZENE	0.01	<0.01			
TOLUENE	0.03	0.03			
E. BENZENE	0.02	<0.01			
XYLENES	0.06	<0.01			
TOT. BTEX	0.12	0.03			
TPH	NR	NR			
O-XYLENE	0.04	<0.01			
M,P-XYLENE	0.02	<0.01			
pH, SU	6.5	6.2			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 06-11-96 by GMC/JKB.

*Jon K. Bernage for Gene M. Coxwell*

Gene M. Coxwell  
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 Registration # 840

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 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 06-14-96.**

**SAMPLE ID: CBC GULFPORT**

**STS LOG NOS: 9606026-27**

SAMPLE ID	GFTVNF 33	GFTVEFF 34			
<b>PPM</b>					
<b>BENZENE</b>	<0.01	<0.01			
<b>TOLUENE</b>	<0.01	<0.01			
<b>E. BENZENE</b>	<0.01	<0.01			
<b>XYLENES</b>	<0.01	<0.01			
<b>TOT. BTEX</b>	<0.01	<0.01			
<b>TPH</b>	NR	NR			
<b>O-XYLENE</b>	<0.01	<0.01			
<b>M,P-XYLENE</b>	<0.01	<0.01			
<b>pH, SU</b>	6.6	6.3			

**TEST PROCEDURES: SW-846, METHODS 5030, 8020.**

Methods for Chemical Analysis of Water and Wastes, 418.1.

**DATE ANALYZED: 06-17-96 by GMC/JKB.**

*Gene M. Coxwell for Gene M. Coxwell*

**Gene M. Coxwell**  
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 Registration # 840

**SOUTHERN TECHNICAL SERVICES INC.**



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 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 07-12-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9607029-30

SAMPLE ID	GFT/INF 35	GFT/EFF 36			
PPM					
BENZENE	<0.01	<0.01			
TOUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	5.1	5.0			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes 418.1.

DATE ANALYZED: 07-12-96 by GMC/JKB.

Gene M. Coxwell  
 National Registry of Environmental Professionals  
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 3743 KIMBRELL RD  
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 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 07-26-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS. 9607063-64

SAMPLE ID	GFTVNF 37	GFTVEFF 38			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	5.9	5.4			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 07-27-96 by GMC/JKB.

  
 Gene M. Coxwell

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 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 0813-96.**

SAMPLE ID: CBC GULFPORT

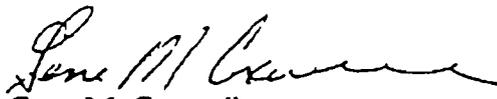
STS LOG NOS: 9608036-37

SAMPLE ID	GFTVNF 39	GFTVEFF 40			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	0.05	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	0.06	<0.01			
TOT. BTEX	0.11	<0.01			
TPH	NR	NR			
O-XYLENE	0.02	<0.01			
M,P-XYLENE	0.04	<0.01			
pH, SU	5.7	5.6			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 08-14-96 by GMC/JKB.

  
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**SOUTHERN TECHNICAL SERVICES INC.**



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A & S ENVIRONMENTAL SERVICES  
 3743 KIMBRELL RD  
 TERRY, MS 39170-9705  
 ATTN: MR BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 08-28-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9608086-87

SAMPLE ID	GFTVNF 41	GFTVEFF 42			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	5.6	6.2			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 08-28-96 by GMC/IKB.

  
 Gene M. Coxwell  
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**SOUTHERN TECHNICAL SERVICES INC.**



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 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 09-10-96.

SAMPLE ID: CBC GULFPORT

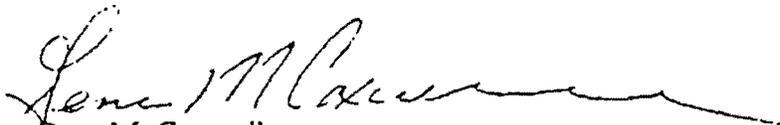
STS LOG NOS. 9609014-15

SAMPLE ID	GFTVNF 43	GFTVEFF 44			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	0.03	<0.01			
E. BENZENE	0.01	<0.01			
XYLENES	0.07	<0.01			
TOT. BTEX	0.11	0.01			
TPH	NR	NR			
O-XYLENE	0.04	<0.01			
M,P-XYLENE	0.03	0.01			
pH, SU	6.4	6.3			

TEST PROCEDURES. SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 09-11-96 by GMC/JKB.

  
 Gene M. Coxwell

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 ATTN: MR. BILLY SULLIVAN

**REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 09-17-96.**

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9609034-35

SAMPLE ID	GFTVNF 45	GFTVEFF 46			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	4.5	4.9			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418 1.

DATE ANALYZED: 09-18-96 by GMC/JKB.

Gene M. Coxwell

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A & S ENVIRONMENTAL SERVICES  
 3743 KIMBRILL RD  
 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

## REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 10-10-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9610022-23

SAMPLE ID	GFT/INF 47	GFT/EFF 48			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH	NR	NR			
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH, SU	6.4	6.6			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 10-10-96 by GMC/JKB.

Gene M. Coxwell

National Registry of Environmental Professionals  
 Registration # 840

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 3743 KIMBRELL RD  
 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 10-17-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9610033-34

SAMPLE ID	GFTVNF 49	GFTVEFF 50			
PPM					
BENZENE					
TOLUENE					
E. BENZENE					
XYLENES					
TOT. BTEX					
TPH	1660	<0.1			
O-XYLENE					
M,P-XYLENE					
pH, SU	5.5	5.7			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 10-18-96 by GMC/JKB.

Gene M. Coxwell  
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 Registration # 840



A & S ENVIRONMENTAL SERVICES  
 3743 KIMBRELL RD  
 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 11-01-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9611005-06

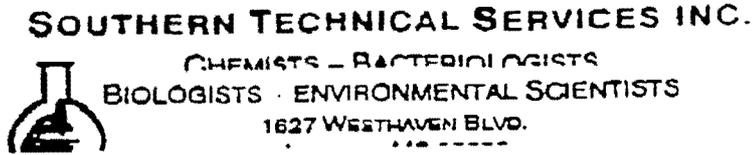
SAMPLE ID	GFT/INF 51	GFT/EFF 52			
PPM					
BENZENE	<0.01	<0.01			
TOLUENE	<0.01	<0.01			
E. BENZENE	<0.01	<0.01			
XYLENES	<0.01	<0.01			
TOT. BTEX	<0.01	<0.01			
TPH					
O-XYLENE	<0.01	<0.01			
M,P-XYLENE	<0.01	<0.01			
pH. SU	5.2	5.9			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 11-01-96 by GMC/JKB.

*Gene M. Coxwell*  
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 Registration # 840



A & S ENVIRONMENTAL SERVICES  
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 TERRY, MS 39170-9705  
 ATTN: MR. BILLY SULLIVAN

REPORT OF TESTS ON WATER SAMPLES RECEIVED FROM YOU 11-11-96.

SAMPLE ID: CBC GULFPORT

STS LOG NOS: 9611031-32

SAMPLE ID	GFTVNF 53	GFTVEFF 54			
<b>BENZENE</b>	<0.01	<0.01			
<b>TOLUENE</b>	0.06	0.02			
<b>E. BENZENE</b>	<0.01	<0.01			
<b>XYLENES</b>	0.01	0.01			
<b>TOT. BTEX</b>	0.07	0.03			
<b>TPH</b>					
<b>O-XYLENE</b>	0.01	0.01			
<b>M,P-XYLENE</b>	<0.01	<0.01			
<b>pH, SU</b>	3.4	6.2			

TEST PROCEDURES: SW-846, METHODS 5030, 8020.

Methods for Chemical Analysis of Water and Wastes, 418.1.

DATE ANALYZED: 11-12-96 by GMC/JKB.

*For K. Demage - for Gene M. Coxwell*  
 Gene M. Coxwell

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