LAKE MICHIGAN DIVERSION ACCOUNTING FOR WATER YEAR 1983

Prepared by

THE NORTHEASTERN ILLINOIS PLANNING COMMISSION

For

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LAKE MICHIGAN DIVERSION ACCOUNTING FOR WATER YEAR 1983

I. Introduction

The 1983 water year accounting for the State of Illinois' diversion of Lake Michigan water is the result of a major effort by the state to improve the accounting procedure. Previous accounting procedures had relied on estimation techniques which met the directives of the U.S. Supreme Court decree but did not attempt to cross check measured and estimated values. The new accounting procedure also meets the directives of the U.S. Supreme Court decree and at the same time, through a system of water budgets, checks whether the water entering key points in the diverted watershed system balances with the total water leaving those points.

A. Budgets

A total of 13 water budgets were prepared using both measured and estimated data, the latter obtained from simulation of the hydrologic response of the major sewer systems and ungaged watersheds. The water budgets are the starting point for the analysis of data collected to prepare the diversion accounting report. These budgets are discussed in detail in the Lake Michigan Diversion Accounting Manual of Procedures (NIPC, 1985). In balancing against the most important flow budget, Lockport Powerhouse and Controlling Works, over 85 percent of the flow data was measured and less than 15 percent estimated.

Table 1 shows the budgets used in the new accounting procedure. Budgets 1 through 3 are not true budgets, in the sense that inputs are measured against outputs, but rather are summations of critical water supply pumpage data by user. Further, Budgets 4,9,10, and 11 do not independently balance inputs versus outputs. These budgets are used to estimate stormwater runoff at stream gages by subtracting sanitary and point source flow from the streamflow record. Budgets 5,6,7,8,12 and 13 compare measured and estimated inputs against measured output. At the Metropolitan Sanitary District of Greater Chicago (MSDGC) treatment plants (Budgets 5,7,8 and 12) this is actually a balancing of estimated inputs versus measured inputs to the treatment plants, since plant effluent is not measured.

Table 1: Water Budgets

No.	Name	Tributary to Nos.
1	Lake Michigan Water Supply	4-11, 13
2	Groundwater Supply Lake Michigan Watershed	4-11, 13
3	Groundwater Supply Des Plaines Watershed	5-8, 12, 1
4	North Branch Chicago River at Touhy Avenue	13
5	Northside Treatment Plant	13
6	Upper Des Plaines Pumping Station	7
7	West-Southwest Treatment Plant	13
8	Calumet Treatment Plant	13
9	Little Calumet River at State Line	11
10	Thorn Creek at Thornton	11
11	Little Calumet River at South Holland	13
12	Lemont Treatment Plant	13
13	Lockport Powerhouse and Controlling Works	-

B. The Accounting Report

Following the preparation of these budgets, their components are used to compute the accounting report. Table 2 is the new accounting report for the 1983 water year. Table 3 shows the MSDGC hydraulic report format. Columns 1 through 6 of the MSDGC hydraulic report format have been condensed into a single Column 1, Total Measured Flow at Lockport. Eventually, this column will be reserved for total flow measured by the AVM station near Romeoville. Column 2 of the new report is the same as Column 7 of the MSDGC format, accounting for withdrawals above Lockport. Column 3 is the same as Column 8 of the MSDGC format and is the summation of total flow past Lockport plus canal water supply withdrawals. Column 4 (MSDGC Column 9) is groundwater pumpage from the Lake Michigan watershed by Illinois the sewage effluent derived from which reaches Lockport. Column 5 (MSDGC Column 10) is groundwater pumpage by Illinois outside the Lake Michigan watershed the effluent from which reaches Lockport. Column 6 (MSDGC Column 11) is all Indiana domestic pumpage the sewage effluent derived from which reaches Lockport.

Columns 7 and 9, sewer induced groundwater pumpage from Indiana and Illinois, respectively, have no equivalent in the MSDGC reports. The concept of sewer induced groundwater pumpage refers to subsurface runoff, or groundwater, which ordinarily would not reach a stream but because of the presence of sanitary or combined sewers, is "pumped" due to increased hydraulic efficiency to treatment plants as sewer infiltration and then

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
OR THE PERIOD FROM: OCTOBER, 1982 TO: SEPTEMBER, 1983
LL DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

Table 2

DATE	LOCK-PORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTABLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
OCT1982	2559.6	0.6	2560.1	50.2	55.2	26.4	0.0	43.2	1.8	175.0	23.3	2408.4	1539.8	95.9	695.6
NOV1982	3214.2	0.4	3214.8	50.2	54.8	26.2	0.3	255.2	42.3	386.5	23.3	2851.6	1478.3	985.6	157.1
DEC1982	6637.1	0.2	6637.3	50.2	54.7	27.1	1.7	542.4	239.0	674.3	22.2	5985.2	1449.9	2492.1	186.0
JAN1983	2198.1	0.2	2198.3	50.2	55.2	30.1	0.1	129.9	14.7	265.3	20.8	1953.7	1456.8	290.2	97.7
FEB1983	2815.3	0.2	2815.5	50.2	55.0	30.2	0.2	192.0	28.6	327.4	22.8	2511.0	1451.2	711.4	94.0
MAR1983	3156.8	0.3	3157.0	50.2	54.9	41.7	0.6	297.6	29.3	444.4	22.1	2734.7	1447.1	932.1	122.3
APR1983	5764.0	0.2	5764.2	50.2	54.5	45.1	1.3	651.5	79.8	801.3	25.9	4988.8	1447.8	2329.1	178.7
MAY1983	4277.5	0.4	4277.9	50.2	54.9	65.4	0.9	745.9	33.9	517.4	25.1	3785.6	1463.7	1220.9	310.5
JUN1983	3676.6	0.7	3677.3	50.2	55.1	81.6	0.1	130.9	-6.8	319.8	27.8	3385.2	1781.4	448.1	924.2
JUL1983	5459.0	0.9	5459.9	50.2	55.0	81.2	2.4	198.8	60.6	387.3	30.2	5102.8	2035.0	1080.3	1457.3
AUG1983	3963.3	1.0	3964.3	50.2	55.2	86.2	0.1	50.7	4.2	242.3	31.1	3753.1	2097.4	246.8	1478.5
SEP1983	4082.1	0.5	4082.6	50.2	55.0	61.2	0.3	113.4	25.9	299.8	26.1	3808.8	1699.8	531.7	1145.6
MEAN	3991.0	0.5	3991.5	50.2	55.0	50.7	0.7	247.6	46.4	403.5	25.1	3613.1	1613.7	940.8	574.2

(* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
(** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

STATUS OF ILLINOIS' LAKE MICHIGAN DIVERSION

UNDER 1980 AMENDED U.S. SUPREME COURT DECREE

Accounting Year	Annual Diversion (% of 3,200 cfs)	40 Year Running Avg.	CFS - Years Annual	CFS - Years Cumulative Sum
1981	3106 cfs (97)	3106	+ 94	+ 94
1982	3087 cfs (96.5)	3096	+113	+207
1983	3613 cfs (113)	3269	-413	-206

Table 3: MSDGC Hydraulic Report Format

Column Number	Entry
1	Turbines 1 & 2
2	Exciters
	Sluice Gates
3	Powerhouse
4	Controlling Works
5	Leakages
6	Lockages
7	Industrial and other Withdrawals
8	Total Flow at Lockport
	Domestic Pumpage
9	Groundwater Sources in the Lake Michigan Watershed
10	Groundwater Sources Outside the Lake Michigan Watershed
11	Indiana and Wisconsin
12	Storm Runoff and Infiltration from Illinois River Watershed
13	Diversions into Lake Michigan
14	Total Deductions
15	Total Diversion Entering Canal
16	Lake Michigan Pumpage Entering Canal
17	Direct Diversion and Storm Runoff from the Lake Michigan Watershed
18	Domestic Pumpage from Lake Michigan by Illinois Bypassing Canal
19	Total Diversion from Lake Michigan by Illinois

recorded at Lockport. Although this is essentially groundwater pumpage and does not represent a component of Lake Michigan diversion, the U.S. Dept. of Justice has issued an opinion that the current wording of the decree does not allow this to be included as a deduction to the Lockport record. Illinois disagrees with this interpretation, but has not included this component of groundwater as a deduction. Hence, this component of flow is included as part of Illinois' Lake Michigan diversion.

Column 8, (MSDGC Column 12) is runoff from the Des Plaines River watershed which reaches Lockport. Column 10 is the summation of Columns 4 through 9 and it is the same as MSDGC Column 14. It represents the total deductions from the record at Lockport. Column 11 (MSDGC Column 18) is Lake Michigan pumpage diverted past Lockport, and therefore not measured, which must be added to the record at Lockport. Included in the value of this column are Lake Michigan water supply pumpage to communities in the Des Plaines watershed, Lake Michigan pumpage diverted to the Des Plaines by the North Shore Sanitary District (NSSD) and the portions of the combined sewer overflows to the Des Plaines which are derived from Lake Michigan water supply pumpage. Adjustments are made in this column for pumpage by federal facilities which reaches Lockport. Column 12 is the same as Column 19 of the MSDGC report and it is the sum of Column 3 and Column 11 minus Column 10.

Columns 13 through 15 present additional information not actually used in the computation of Illinois diversion. Column 13 is total water supply pumpage from Lake Michigan by users in Illinois. Pumpage by federal facilities (Ft. Sheridan, Great Lakes Naval Training Center, Glenview Naval Air Station and Hines Veterans Hospital) is not included. This column is similar to MSDGC Column 16 except for the addition of Glenview Naval Air Station. Column 14 is stormwater runoff reaching Lockport from the diverted watershed. The MSDGC did not compute a separate stormwater number but rather computed a value by subtracting Lake Michigan domestic pumpage (MSDGC Column 16) from total diversions entering the canal (MSDGC Column 15) calling it stormwater and direct diversion (MSDGC Column 17). These values, given the MSDGC procedures, were sometimes negative. This seemingly anamolous result can be explained by residual error (resulting from computational procedures) and consumptive water supply losses (evaporation, transpiration, and industrial consumption above Lockport). The new Column 14 is the summation of direct runoff and treatment plant infiltration and inflow reaching Lockport from the diverted watershed. Thus it is an independent estimate of runoff. Direct diversions through lake controlling structures by Illinois are now covered separately by Column 15 of the new accounting format. Lockage, leakage, navigational makeup (including ice control), and discretionary diversion at Wilmette, O'Brien and the Chicago River Controlling Works as reported by MSDGC are included in this column.

The new accounting report simplifies the procedure specified in the U.S. Supreme Court decree and highlights Lake Michigan water supply pumpage diverted to the Des Plaines River. This will be an area of increased interest as more communities outside of the diverted watershed begin to use Lake Michigan water but do not return it past Lockport.

The decree states that total Lake Michigan pumpage by Illinois, the sewage effluent derived from which reaches Lockport, must first be subtracted from the record at Lockport. Later, the decree states that total Lake Michigan water supply pumpage, the sewage effluent derived from which reaches the Illinois waterway either above or below Lockport, must be added to the record at Lockport. This is the same quantity shown in Column 13 of the new accounting report. The difference between these two water supply pumpage numbers is Lake Michigan pumpage by Illinois, the sewage effluent from which is diverted to the Des Plaines River and reaches the Illinois waterway below Lockport. This quantity is the same as Column 11, Lake Michigan Domestic Pumpage Not Discharged to the canal, (allowing for adjustments for federal water supply pumpage from the lake).

II. Problems Encountered

Since this was the first year the new accounting report procedure was used it was anticipated that problems could be encountered in balancing flows. This was indeed the case as can be seen from the following discussions.

A. Record at Lockport

Perhaps the most significant question raised during the preparation of the 1983 accounting report was the accuracy of the record at Lockport. Upon completion of the initial estimate of total flow past Lockport (Budget 13) it was noted that the measured record was about 580 cfs higher than the sum of contributing flow components on an annual basis. This was of great concern since over 85 percent of the estimated record was measured data (i.e., direct diversion, treatment plant flows, etc.) An investigation into possible explanations for the difference focused on when the differences occurred. It was noted that the sum of contributing flow components was significantly lower than the measured record at Lockport during storm runoff periods and matched or was slightly higher (50-100 cfs) than the measured record during extended dry periods. Analysis of runoff in inches at Lockport and two other stream gages for the four largest storm events during the 1983 water year yielded the following data.

	Dec. 2-10, 1982		Dec. 23-29, 1982		April 1-6, 1983		July 1-6, 1983	
	Runoff	Precip.	Runoff	Precip.	Runoff	Precip.	Runoff	Precip.
CSSC subwatershed at Lockport (431 mi^2)	6.0	3.8	2.3	2.4	3.1	2.3	2.9	2.2
Little Calumet at South Holland (208 mi^2)	2.3	4.3	0.7	2.0	1.0	1.6	1.3	4.0
North Branch at Niles (100 mi^2)	2.4	4.1	0.8	1.2	1.4	3.0	0.3	1.9

Since snowmelt was not a factor in any of these events, more runoff than precipitation in the Sanitary and Ship Canal basin was an obvious impossibility.

The U.S. Army Corps of Engineers (COE) had recently completed an analysis of the sluice gate ratings at the Lockport Powerhouse and of the free flow and submerged weir ratings at the Controlling Works sluice gates about 2 miles upstream (COE, 1983; COE, 1983; COE, 1984). The conclusion of these studies was that significantly less flow could be expected through these structures using revised ratings developed by the COE. Of special interest was the submerged discharge rating for the Controlling Works and data obtained by the MSDGC during the 1983 water year which indicated tailwater head on the gate sills up to 92 percent of upstream head on the gate sills.

Using the COE ratings, discharge through the Lockport Powerhouse sluice gates was recomputed. This resulted in a 3.0 percent decrease in sluice gate discharge or 23.0 cfs. Next, free flow discharge through the Controlling Works was recomputed using COE ratings. Further, discharges through the Controlling Works were recomputed to account for submergence on days when actual MSDGC tailwater observations were available. Also, for hours when at least 5 gates were open (with gate 7 one of the five) but no tailwater data was available, an average submergence of 0.89, based on MSDGC observations for other days, was applied and the flows recomputed (NIPC, 1985). This analysis indicated that submergence could explain at least 148 cfs of the difference between the measured record at Lockport and the sum of contributing flow components. With these corrections to the Lockport record, the flow balance was improved. However, the

Lockport record remains 400 cfs greater than the sum of measured and estimated component flows as shown in Table 4.

Table 4: Summary of Flow Components above Lockport (Budget 13)
Water Year 1983 (cfs)

			* % of Lockport recorded flow
Lake Controlling Structures (Measured)			
Wilmette		63.6	1.6
CRCW		257.0	6.4
O'Brien		253.6	6.3
Backflows		-2.2	
	Sub	572.0	14.3
Stream Flows (Measured)			
North Branch at Touhy		156.1	3.9
Little Calumet at South Holland		274.0	6.9
		430.1	10.8
MSDGC Treatment Plants (Measured)			
Northside		448.8	
West-Southwest		1312.4	32.9
Calumet		336.7	8.4
Adjustment for Interlake-Riverdale		-4.4	
Lemont		2.0	
	SUBTOTAL	2095.5	52.5
Other Point Sources (Measured)		6.1	0.2
Summit Conduit (Measured)		15.8	0.4
Argonne Withdrawal (Measured)		-0.5	
Grand Calumet Stream Flow (Estimated)		50.3	1.3
Combined Sewer Overflows in Ungaged Watershed (Simulated)		255.2	
Direct Runoff in Ungaged Watershed (Simulated)		166.1	4.2
Total		3590.6	90.0
Lockport Recorded Flow (Revised)		3991.0	100
Difference		400.4	10

* Per NIPC chart 7/15 presentation Krumpt

B. Water Budgets at MSDGC Treatment Plants

The water budgets at the MSDGC Northside (Budget 5), Wes Southwest (Budget 7) and Calumet (Budget 8) treatment plants di not balance. Estimated inputs are from 10 to 13 percent bel measured inputs. This results in an overall difference of abou 240 cfs. The budgets for the MSDGC treatment plants a constructed by estimating an hourly sanitary return flow patte and quantity and then simulating infiltration, inflow an combined sewer overflows. Sanitary return flow to the MSD treatment plants was assumed to be 90 percent of service are water supply pumpage. Except for some revisions in t representation of separately sewered areas, model parameters us to govern infiltration, inflow, and combined sewer overflo quantities were those established during calibration in 1977 a modified by recalibration in 1979 (NIPC, 1977; NIPC, 1980) Since about 80 percent of simulated influent to these MSD treatment plants is sanitary flow, the estimation of influent highly sensitive to return flow assumptions and relativel insensitive to infiltration and inflow parameters. With a percent sanitary return flow assumption, simulated influen totals nearly match recorded flows, but are still slightly low

Possible reasons why these budgets did not balance, assumi plant influent records are accurate, include model assumptio recycle of river water through combined sewer overflo structures, and unreported discharges to the treatment plan An analysis of treatment plant influent components indicated t

infiltration and inflow would have to be increased 50 percent to balance the plant budgets since these sources account for only about 20 percent of the simulated plant influent. This appears to be an unreasonably large amount especially since this would place runoff yields at about 80 percent of rainfall. Also, based on observations from plots of simulated and measured treatment plant influent flows, it appears that the discrepancy in flow is in the dry weather flow component and could not be made up by an increase in simulated storm runoff. The correctness of model parameters, and the resultant infiltration and inflow components, will be re-evaluated as additional years of data become available.

Leakage through improperly seated gates on combined sewer overflows is another possible explanation for the difference between estimated and recorded treatment plant flows. The MSDGC feels that leakage to the plants through combined sewer overflow structures is minimal. But actual data on this phenomenon are not available. If leakage does occur, NIPC's estimate of influent does not account for it and so would be expected to be lower than the measured record.

Another possible explanation for the budget differences is unreported discharges to MSDGC plants. This explanation is unlikely because of the large difference of 240 cfs. However, if there are industries or commercial buildings using groundwater or river water whose water supply pumpage has not been counted and

who return the sewage effluent from these flows to MSDGC plants, NIPC's estimate of influent would not include them.

This is an important issue since accurate flow balances at treatment plants can assist in the verification of estimated infiltration and inflow components, which are used in the computation of deductions.

C. Upper Des Plaines Pumping Station

Problems were encountered in balancing Budget 5, the MSDGC Upper Des Plaines Pumping Station. From the measured record it appears that influent to the station does not respond to hydrologic conditions in the station's watershed. Several occasions were noted when heavy rainfall in the watershed produced no corresponding rise in pumping station inflow. Several occasions were also noted when pumping station inflows increased dramatically with no significant rainfall in the watershed. The pumping station flow also did not correspond with the West-Southwest flow record in terms of hydrograph peaks and dry periods.

Attempts to estimate pumping station inflow using NIPC's computer model resulted in a reasonable overall water balance. However, there was a prevailing inability to match the timing and volume of flow peaks and dry periods. In contrast, the simulation of the West-Southwest treatment plant watershed, of which the pumping station is a part, matched the shape of the measured plant influent hydrograph reasonably well.

Based on the inconsistencies between the Upper Des Plaines pumping station record and the record at West-Southwest, the fact that flow can bypass the pumps and not be recorded, the fact that flows can be recycled through the station, the fact that the orifice plates by which discharge is measured have not been inspected in 20 years, and the fact that the station is unmanned, it was concluded that the record at the station could not be used to balance simulated flows in the watershed.

D. Precipitation Gages

Thirteen hourly precipitation records are used to estimate flow components to MSDGC treatment plants and streamflow for ungaged watersheds. The average precipitation at these gages in the 1983 water year was 42.4 inches with a standard deviation of 6.5. The variability among the measured precipitation totals was substantial and the differences seemed to correlate with the reporter of the data. It was noted, for example, that the average for the four gages reported to the National Oceanic and Atmospheric Administration (NOAA) was 49.7 inches whereas the average for the five gages operated by the MSDGC was 37.5 inches. The average of the remaining four gages was quite close to the overall average.

Such a difference between gages is, in itself, not unusual since precipitation is highly variable spatially. However, the fact that four gages located some distance from one another are relatively similar to each other in total precipitation yet

substantially different from other gages in the same geographica area operated by other agencies, is cause for concern.

If precipitation is being undermeasured it would of course affec estimates of infiltration and inflow to MSDGC treatment plants and estimates of total runoff and flow passing Lockport. Thi would help to balance the estimates at the treatment plants (Budgets 5,7,8) and the total flow estimate past Lockport (Budge 13).

After discussion with MSDGC staff concerning these differences no explanation was apparent. Differences have been noted betwee records at the 95th Street pumping station which reports to th Calumet plant and the Calumet plant's raingage to Chicago at t MSDGC Waterways Control Center. No explanation for these differences is available.

The impact of these differences in terms of the total increase discharge passing Lockport is estimated to be 32 cfs if all t MSDGC gages were assumed to have undermeasured rainfall by 1 inches (NOAA 49.7 - MSDGC 37.5). However, the impact diversion for which Illinois is responsible is minor since onl the MSDGC west-southwest raingage was assigned to simulate a runoff from the Des Plaines watershed and its are representation was relatively minor. Changes in MSDGC rainfal amounts therefore would increase deductions for stormwater runc from the Des Plaines, but not to a substantial degree.

E. O'Hare Treatment Plant Watershed Transfers

Although the O'Hare Water Reclamation Plant is now fully on line, a significant quantity of flow is still being routed from its design watershed to the Northside plant. The MSDGC has estimated this quantity at 24.8 cfs but has not specified its origin within the O'Hare watershed (MSDGC, 1985). It is assumed that sewage effluent derived from groundwater supply in Des Plaines, Mt. Prospect, Prospect Heights, and Arlington Heights, along with infiltration and inflow, comprise this flow. However, the lack of any metering of this flow along with uncertainties about its origin or flow pattern suggest that further analysis of this source may be necessary.

F. Summit Conduit

The measured record at Summit Conduit contains many gaps due to gage malfunction. The location of this gage also has been criticized by previous investigators (Harza, 1981). As part of Budget 13 a balance was made between the measured record and the sum of measured point source inputs and runoff estimated using NIPC's computer model. In addition to problems with the measured record, the flow balance was made more difficult to achieve due to the hydrologic/hydraulic complexity of the 5.4 square mile watershed. Contributing to this complexity are quarry dewatering operations and the possible existence of combined sewer overflows. A flow record exists for the quarry dewatering operation (Material Service) and in water year 1983 it was

observed that this flow source contributed greater than 50 percent of the total Summit Conduit flow.

The quarry dewatering operation is somewhat confusing with respect to its implications on diversion accounting. A small portion of this pumpage, 0.15 cfs, was subtracted from the Summit Conduit flow in previous accounting years because this amount had been counted as a deduction (in Column 5) as non-public groundwater pumpage reported to the ISWS. The current report follows the same procedure. Though this flow is quite small, it should be verified that 0.15 cfs is still the amount reported to the ISWS by Material Service as groundwater pumpage.

III. Sewer Induced Groundwater Pumpage

Sewer induced groundwater pumpage refers to subsurface runoff (sometimes called groundwater flow or baseflow) which is induced to occur because of the presence of a very efficient underground collection system of sewers, and which would not have occurred in an unsewered, undeveloped watershed. In effect, the sewer system "pumps" this induced groundwater to wastewater treatment plants and to the river system. This is the first year in which this component has been computed and reported.

Sewer induced groundwater pumpage is determined by hydrologic simulation. Subsurface runoff from pervious areas in the combined sewer watershed was compared to subsurface runoff from a

pre-development pervious segment. A pre-development pervious segment could be characterized as relatively flat, poorly drained, woody and marshy. The expected hydrologic response of this pre-development "lowland/forest" segment was developed originally during a hydrologic study of the effects of urbanization (NIPC, 1976).

The estimating procedure for sewer induced groundwater pumpage is discussed in detail in the accounting manual of procedures. Very simply, the amount of induced infiltration is based on the difference in subsurface runoff between developed grassland and undeveloped lowland/forest segments.

The computation of sewer induced groundwater pumpage is performed for Columns 7 and 9. In water year 1983, 308 square miles of combined sewer area in the diverted watershed yielded 41.11 cfs of induced infiltration. Separately sewered areas in the diverted watershed in Illinois totalling 106 square miles, yielded an additional 5.26 cfs. Finally, sewered areas in the Indiana diverted watershed yielded 0.66 cfs. The total estimate for sewer induced groundwater pumpage is 47.03 cfs.

IV. Diversion Accounting Report Results For Water Year 1983

The accounting report for the 1983 water year by month was shown in Table 2. Monthly reports by day are shown in Appendix A. The monthly numbers in Table 2 reflect the dominant hydrologic

features of the 1983 water year, large runoff volume and high lake levels. Discussions of significant column results follow.

A. Column 1: The Record at Lockport

The 3991.0 cfs recorded at Lockport is the highest amount since 1957 and the second highest in the last 43 years. However, the 1957 discharge amount included a one year increased diversion authorization not to exceed 8500 cfs in addition to domestic pumpage, thus the 1983 water year is easily the highest discharge under modern diversion restrictions.

One indication of the frequency of large runoff events was the fact that the MSDGC opened the Controlling Works on 34 different days during the water year. There were backflow events at Wilmette on December 2 and 3, 1982 (143 million gallons) and August 17, 1983 (10.5 million gallons), and at the Chicago River Controlling Works (248 million gallons) and the O'Brien Locks (124 million gallons) on December 3, 1982. The December total Lockport discharge of 6637.1 cfs is the highest discharge for that month since 1938. In fact, excluding January and February of 1957, and an unusual March of 1979, December of 1982 is the highest monthly discharge recorded at Lockport since 1938. The discharges for other months in the 1983 water year also rank very high as shown below.

Top Ten Monthly Lockport Discharges, Excluding 1957 (1938-1983)
(cfs)

1.	8896	March, 1979	6.	5833	August, 1972
2.	**6637**	**December, 1982**	7.	5824	September, 1972
3.	6195	April, 1975	**8.**	**5764**	**April, 1983**
4.	6169	August, 1971	**9.**	**5459**	**July, 1983**
5.	6028	March, 1974	10.	5467	June, 1981

B. Column 2: Diversions Above Lockport Gage

Argonne Laboratories was the only diversion of Sanitary and Ship Canal water above the gage in the 1983 water year and its withdrawal averaged just 0.5 cfs.

C. Column 3: Total Flow through Canal

This column is the sum of columns 1 and 2. Its value for water year 1983 is 3991.5 cfs.

D. Column 4: Groundwater Pumpage From the Lake Michigan Watershed in Illinois Reaching the Canal

Water supply pumpage data for communities using groundwater were combined with groundwater pumpage data collected by the Illinois State Water Survey (ISWS) for industrial and other private users for the computation of this column. This column represents a deduction from the Lockport record. Its value in water year 1983 is 50.2 cfs.

E. Column 5: Groundwater Pumpage from the Des Plaines Watershed Reaching the Canal

Again, community groundwater pumpage records for the 1983 water year were combined with ISWS groundwater usage data for industrial and other private users to compute the values in this column. The average value of this column, also representing a deduction, is 55.0 cfs for the year.

F. Column 6: Water Supply Pumpage from Indiana Reaching the Canal

This column is the computation of Indiana water supply reaching Illinois via the Grand Calumet and Little Calumet Rivers, which is deductible from the Lockport record. The influence of high Lake Michigan levels (annual average = 579.5 I.G.L.D. with over 80 percent of the levels above +1.0 C.C.D.) in the new computation procedure resulted in a relatively large estimate of 47 cfs for the Grand Calumet deduction. The total deduction computed for this column is 50.7 cfs.

G. Columns 7 and 9: Sewer Induced Groundwater Pumpage

As previously discussed, sewer induced groundwater pumpage is not included as a deduction even though it is a component of groundwater. Columns 7 and 9 report the quantities of sewer induced groundwater pumpage for Indiana and Illinois, respectively. They contribute a total flow to Lockport of about 47 cfs for this year.

Of interest is the -6.8 cfs value for June, 1983. As explained in Section III, the procedure for computing induced infiltration compares subsurface runoff from a typical post-development grassland area which is underlain with sewers to subsurface runoff from a typical pre-development, unsewered lowland/forest area. In the long run the post-development area yields significantly more subsurface runoff than the pre-development area as a result of increased drainage efficiency due to sewer installation; hence, "sewer induced groundwater pumpage". The presence of sewers in the post-development area causes not only more subsurface runoff but it also causes that runoff to reach a stream, or treatment plant, more quickly than under pre-development conditions. As a result during some periods of the year the pre-development area may have higher subsurface runoff yields than the post-development segment due to its slower release of subsurface runoff. To avoid biasing the computation of sewer induced groundwater pumpage, these "negative" flows are included in the computation of the final number. The negative value for June of 1983 is an example of this situation.

H. Column 8: Runoff from the Des Plaines Watershed Reaching the Canal

The runoff from the Des Plaines watershed can be separated into five categories: (1) infiltration and inflow from the upper Des Plaines watershed to separate and combined sewers tributary to the three major MSDGC treatment plants which discharge to the canal system; (2) total runoff, including infiltration and

inflow, from the lower Des Plaines watershed to the canal; (3) infiltration, inflow, and combined sewer overflow from the Lemont service area; (4) runoff from the Summit Conduit watershed; and (5) runoff pumped from 13A pumping station to the West-Southwest treatment plant. Total infiltration and inflow from the upper Des Plaines watershed was 109 cfs for the 1983 water year. Total runoff from the lower Des Plaines watershed was 123 cfs. Runoff from the Lemont service area was estimated at 1.4 cfs. Deductible runoff from Summit Conduit was estimated at 13.1 cfs. Finally, runoff from the 13A pumping station was determined to be 0.2 cfs, a nearly insignificant amount. Total 1983 water year runoff from the Des Plaines watershed was 247.6 cfs. Of this amount, about 233 cfs is determined by simulation.

I. Column 10: Total Deductions

Column 10 is the sum of columns 4, 5, 6, and 8. The total deduction from the Lockport record in water year 1983 is 403.1 cfs. The portion of this amount estimated by hydrologic simulation is about 233 cfs. An additional 47 cfs for the Grand Calumet pumpage deduction is estimated using methods described in the manual of procedures (NIPC, 1985).

J. Column 11: Domestic Pumpage from Lake Michigan Not Discharged to the Canal, With Adjustments

This column represents a slight modification to the accounting procedure outlined in the U.S. Supreme Court decree to adjust for pumpage by federal facilities, as discussed in Section I. The

total addition to the record at Lockport from Column 11 is 25.1 cfs. This is composed primarily of pumpage by primary diverters at Waukegan, North Chicago (minus Knollwood-Rondout), and Lake County Public Water District, and secondary diversions by Riverwoods and Lincolnshire. Also, the sanitary portion of Des Plaines River combined sewer overflows which is derived from Lake Michigan pumpage is added into the value of this column. As indicated, pumpage by federal facilities the sanitary effluent from which reaches Lockport, is subtracted from the above.

K. Column 12: Total Diversion

Column 12 is determined by subtracting Column 10 from Column 3 and adding Column 11. The total diversion for water year 1983 is 3613.1 cfs. This amount is substantially greater than Illinois' long term diversion allowance of 3200 cfs. However, it is less than the 3840 cfs allowed by the Supreme Court decree under extreme hydrologic conditions and less than the 3680 cfs maximum permitted annual diversion (U.S. Supreme Court, 1980).

L. Columns 13-15: Lake Michigan Water Supply Pumpage, Stormwater Runoff, and Direct Diversion at Lake Controlling Structures

Columns 13 through 15 are not used in the computation of diversion. However, these columns represent the actual categories of diversion for which Illinois is accountable: Lake Michigan water supply pumpage by non-federal entities in Illinois, runoff from the diverted watershed, and direct

diversion through lake controlling structures. The sum of Columns 13 through 15 is 3128.7 cfs. The difference between this amount and the total diversion determined in Column 12 is 430 cfs. Coincidentally, this amount is similar to the estimated 393 cfs difference in the Lockport flow balance.

Theoretically, the sum of Columns 13 through 15 should be close to the value of diversion. This assumes that measurements of major flow components, such as Lockport and the lake controlling structures, are accurate. One reason for expecting some difference in the two amounts is consumptive loss from water supply. The computation of diversion from the Lockport record does not charge Illinois for consumptive loss of pumpage whose sanitary effluent reaches Lockport; i.e., water which is withdrawn from the Lake and then consumed or lost before reaching the canal. However, this would suggest that Column 12 should be less, not greater, than the sum of Columns 13 through 15.

Pursuing the difference between Column 12 and the sum of Columns 13-15 further, one might conclude that error lies in one or more components. The Lockport measurement has already been discussed. If it is truly biased high, then Illinois is being charged for more diversion than it should. An error of 10-12 percent in the Lockport record could explain the observed difference. Error could lie in the estimate of runoff. However, to explain the observed difference, simulated runoff would have to increase nearly 50 percent. Based on the extensive

calibration to which the model has been subjected and the yields such an increase would represent, this seems particularly unlikely. The measurement of direct diversion at Lake controlling structures could also be in error. To account for the observed flow differences, however, this component would have to be increased nearly 80 percent, which also seems quite unlikely

The discrepancies observed in the comparisons between Column 12 and the sum of Columns 13-15 and in the flow balance at Lockport are reason for concern. If error lies in the Lockport record, then Illinois is being overcharged substantially for diversion. If error lies in the estimation of runoff components, the computation of diversion will be affected to a lesser extent. Runoff simulation accounts for a deduction of 233 cfs in water year 1983. A potential 50 percent increase in runoff could result in an additional 120 cfs deduction.

V. CONCLUSIONS

A. The total revised measured discharge of 3991.0 cfs is the largest recorded at Lockport since 1938. The December, 1982, April, 1983 and July, 1983 discharges are among the top ten monthly discharges recorded at Lockport since 1938, excluding two months in 1957 when increased diversion at the lakefront was allowed. Total diversion by Illinois was 3613.1 cfs for water year 1983.

B. The estimated record at Lockport, determined by the diversion accounting procedures, is 400 cfs lower (10 percent) then the record measured by MSDGC and revised using COE ratings and estimated and recorded submergence values.

C. Based on COE ratings, the record at the Lockport Powerhouse Sluice Gates was reduced by 23.0 cfs for the 1983 water year from a reported 774 cfs to a new value of 751 cfs.

D. Based on COE ratings under both free flow and submergence conditions and tailwater observations obtained by the MSDGC for several large runoff events, the record at the Controlling Works, was reduced by 148 cfs for the 1983 water year from a reported 369 cfs to a new value of 221 cfs.

E. The estimated influent to the three major MSDGC sewage treatment plants (Northside, West-Southwest, and Calumet) using the diversion accounting procedure is 243 cfs (12 percent) less than the amount recorded by the MSDGC.

F. Although a reasonable overall flow balance was obtained at the Upper Des Plaines Pumping Station between the estimated total influent and the MSDGC recorded total influent, severe problems in the timing of runoff flows prevents this budget from being used to check total infiltration and inflow estimates from the Des Plaines watershed.

G. Significant differences were noted among the average precipitation amounts recorded at the NOAA gages (49.7 inches), the MSDGC gages, (37.5 inches), and the City of Chicago gages (41.3 inches). It is unlikely that these differences can be explained by spatial variability. The MSDGC has noted differences in values recorded at their 95th Street pumping station and values recorded at the Calumet plant and telemetered to their downtown recording station. No explanation for these differences is apparent. Adjustment of MSDGC rainfall amounts to NOAA average amounts could result in an estimated 32 cfs of additional runoff from the ungaged diverted watershed. This would help only minimally to explain the current 400 cfs difference between estimated and recorded flow at Lockport. Increasing the rainfall at the MSDGC raingages would have only a minor impact on Illinois' diversion since the MSDGC gages were used for the simulation of runoff from only a small portion of the Des Plaines watershed.

H. Sanitary flow, infiltration, and inflow are still being sent from the design MSDGC O'Hare treatment plant service area to the MSDGC Northside treatment plant. These flows are not recorded, but were estimated by MSDGC to be about 25 cfs in the 1983 water year.

I. The Summit Conduit flow record is unreliable due to significant gage malfunctions. A balance was made between this record and estimated and measured flows in the Summit

Conduit watershed. Estimated runoff and measured quarry and industrial flows could be used to compute the Summit deduction in future accounting years, rather than relying on the Summit Conduit record.

J. The diversion accounting procedure estimated about 47 cfs of sewer induced groundwater pumpage for the 1983 water year. Since this is essentially groundwater pumpage which would not have reached Lockport except for the presence of sewers, this should be taken as a deduction by the State of Illinois. However, the U.S. Dept. of Justice has found that the wording of the current decree does not allow this. Hence, it has not been included as a deduction for the 1983 accounting year.

VII. RECOMMENDATIONS

IDOT's 1983 report

A. Further investigations into the accuracy of recorded flows at the Controlling Works and Powerhouse at Lockport are needed. Particular attention is needed to quantify submergence at the Controlling Works and its cause.

B. The MSDGC should incorporate the revised COE ratings for free flow discharge into their calculation of discharge for the Controlling Works and Powerhouse. The MSDGC should also establish a continuous record of tailwater elevations at a suitable location downstream of the Controlling Works.

C. Further investigation is needed to determine the reasons for imbalances between estimated and recorded flow at the three major MSDGC treatment plants. Areas for investigation include the following:

1. Model assumptions with respect to sanitary return flow and infiltration and inflow quantities.
2. Possible leakage from the Canal through combined sewer overflow structures.
3. Possible unreported major discharges to the plant from groundwater or surface water supply return flows.

D. The monitoring of flow at the Upper Des Plaines Pumping Station should be discontinued for diversion accounting purposes due to uncertainties in its record which cannot be resolved without significant increased maintenance and flow monitoring changes.

E. Investigations into the possibility of long-term biases among precipitation gages reporting to NOAA, MSDGC and the City of Chicago should be undertaken based on significant differences noted during the 1983 water year. Preliminary investigation into these differences has not yielded any explanations.

F. Flow monitoring at the Summit Conduit should be discontinued due to problems with frequent gage malfunctions, the relatively small amount of flow from this area, and the ability to reasonably estimate flows from this area using pumpage data and runoff simulation.

G. The flow transfers from the MSDGC's design O'Hare service area to the Northside treatment plant should be metered to provide a better estimate of quantity and flow variations.

check treatment if Had diverted at one time....

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APPENDIX

Monthly Accounting Reports

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
FOR THE MONTH OF: OCTOBER, 1982
ALL DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD 1	DIVERSN ABOVE GAGE 2	TOTAL FLOW THROUGH CANAL (1+2) 3	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS 4	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD 5	WATER SUPPLY PUMPAGE FROM INDIANA REACHING CANAL 6	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA 7	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL 8	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS 9	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD ** 10	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ) 11	TOTAL DIVERSN *** 12	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS 13	RUNOFF FROM DIVERTD WATRSHD 14	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS 15
1OCT1982	2612.1	1.0	2613.1	50.2	55.3	26.4	0.0	29.6	2.5	161.4	25.3	2477.1	1672.9	28.4	824.0
2OCT1982	2709.7	0.5	2701.2	50.2	55.3	26.4	0.0	29.3	2.4	161.1	22.0	2562.1	1611.4	26.4	824.0
3OCT1982	2626.0	0.9	2626.9	50.2	55.3	26.4	0.0	29.0	2.4	160.9	21.1	2487.2	1569.8	32.0	821.0
4OCT1982	2717.9	0.6	2718.5	50.2	55.3	26.4	0.0	28.7	2.4	160.5	25.1	2583.1	1666.4	31.2	1033.0
5OCT1982	2542.2	0.8	2543.0	50.2	55.3	26.4	0.0	28.5	2.3	160.3	24.6	2407.3	1702.2	34.5	935.0
6OCT1982	3660.0	0.8	3660.8	50.2	55.2	26.4	0.0	99.6	1.9	222.4	27.9	3466.3	1689.0	111.1	625.0
7OCT1982	2613.0	0.7	2613.7	50.2	55.2	26.4	0.0	52.3	1.2	184.1	23.0	2452.6	1579.2	108.9	737.0
8OCT1982	2588.0	0.7	2589.7	50.2	55.3	26.4	0.0	30.4	1.7	162.3	25.9	2452.4	1596.9	37.9	729.0
9OCT1982	4413.0	0.5	4413.5	50.2	54.9	26.4	0.0	98.4	0.4	229.9	22.3	4205.9	1485.2	437.6	1020.0
10OCT1982	2458.5	0.6	2459.1	50.2	55.3	26.2	0.0	30.8	1.1	162.4	18.0	2314.7	1440.0	149.9	1179.0
11OCT1982	2358.3	0.6	2358.9	50.2	55.3	26.4	0.0	30.8	1.7	162.6	22.7	2219.0	1537.4	85.1	615.0
12OCT1982	2739.0	0.5	2739.5	50.2	55.3	26.4	0.0	29.3	2.0	161.1	27.5	2605.8	1550.7	53.6	672.0
13OCT1982	2721.1	0.6	2721.7	50.2	55.3	26.4	0.0	30.0	2.1	161.8	25.6	2585.5	1540.4	46.5	774.0
14OCT1982	2731.6	0.5	2732.1	50.2	55.3	26.4	0.0	28.8	2.2	160.6	23.9	2595.4	1552.0	41.1	715.0
15OCT1982	2762.0	0.6	2762.6	50.2	55.3	26.4	0.0	27.7	2.1	159.5	24.7	2627.8	1525.8	36.0	929.0
16OCT1982	2236.2	0.3	2236.5	50.2	55.3	26.4	0.0	29.4	2.1	161.3	21.5	2096.7	1452.7	33.4	915.0
17OCT1982	2642.9	0.4	2643.3	50.2	55.3	26.4	0.0	28.7	2.1	160.6	21.7	2504.4	1418.1	31.1	923.0
18OCT1982	2592.7	0.7	2593.4	50.2	55.3	26.4	0.0	28.4	2.0	160.2	21.0	2454.2	1544.6	25.3	834.0
19OCT1982	2653.0	0.6	2653.6	50.2	54.8	26.4	0.0	152.7	1.6	284.1	27.9	2397.5	1533.9	321.4	738.0
20OCT1982	3545.0	0.4	3545.4	50.2	55.0	26.4	-0.0	182.9	-2.0	314.5	29.0	3259.9	1518.9	830.7	115.0
21OCT1982	2741.0	0.5	2741.5	50.2	55.3	26.4	0.0	36.0	0.3	167.8	24.3	2598.0	1521.0	104.8	1049.0
22OCT1982	2664.0	0.5	2664.5	50.2	55.3	26.4	0.0	30.0	1.4	161.8	21.5	2524.2	1509.9	63.4	1122.0
23OCT1982	2590.0	0.3	2590.3	50.2	55.3	26.4	0.0	28.7	1.9	160.6	22.6	2452.3	1459.3	46.2	980.0
24OCT1982	2706.6	0.4	2707.0	50.2	55.3	26.4	0.0	29.5	2.1	161.3	18.4	2564.1	1416.2	34.1	949.0
25OCT1982	2190.6	0.5	2191.1	50.2	55.3	26.4	0.0	28.3	2.2	160.1	25.1	2056.0	1521.0	30.2	555.0
26OCT1982	1149.4	0.4	1149.8	50.2	55.3	26.4	0.0	27.9	2.3	159.8	23.1	1013.1	1547.5	32.3	142.0
27OCT1982	2443.1	0.5	2443.6	50.2	55.3	26.4	0.0	29.1	2.3	160.9	22.1	2304.7	1542.8	26.6	112.0
28OCT1982	1749.6	0.5	1750.1	50.2	55.3	26.4	0.0	26.6	2.2	158.4	22.4	1614.1	1535.9	25.1	376.0
29OCT1982	1761.0	0.4	1761.4	50.2	55.3	26.4	0.0	27.7	2.2	159.5	22.2	1624.1	1525.8	25.7	84.0
30OCT1982	1604.0	0.5	1604.5	50.2	55.3	26.4	0.0	27.4	2.2	159.3	20.7	1466.0	1473.5	27.2	126.0
31OCT1982	1834.0	0.5	1834.5	50.2	55.3	26.4	0.0	31.1	2.1	162.9	18.8	1690.3	1468.8	55.1	113.0
MEAN	2559.6	0.6	2560.1	50.2	55.2	26.4	0.0	43.2	1.8	175.0	23.3	2408.4	1539.0	95.9	695.6

(* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
(** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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TYPE='DAILY'

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
FOR THE MONTH OF: NOVEMBER, 1982
ALL DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD 1	DIVERSN ABOVE GAGE 2	TOTAL FLOW THROUGH CANAL (1+2) 3	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS 4	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD 5	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL 6	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA 7	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL 8	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS 9	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD ** 10	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ) 11	TOTAL DIVERSN *** 12	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS 13	RUNOFF FROM DIVERTD WATRSHD 14	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS 15
NOV1982	8095.0	0.5	8095.5	50.2	52.2	26.2	0.0	1069.3	6.1	1197.9	40.5	6928.1	1508.1	5388.2	64.0
NOV1982	6849.0	0.6	6849.6	50.2	54.7	26.2	0.3	340.9	48.3	472.0	24.2	6401.8	1525.6	1502.2	257.0
NOV1982	2631.8	0.3	2632.1	50.2	55.3	26.2	0.2	131.5	27.6	263.1	22.7	2391.7	1508.0	537.0	77.0
NOV1982	2525.8	0.5	2526.3	50.2	55.3	26.2	0.1	83.8	16.2	215.4	20.2	2331.1	1518.9	242.8	73.0
NOV1982	1771.4	0.4	1771.9	50.2	55.3	26.2	0.1	58.3	10.6	189.9	19.6	1601.5	1512.6	147.5	78.0
NOV1982	1846.5	0.5	1847.0	50.2	55.3	26.2	0.1	46.1	7.8	177.8	19.2	1688.4	1465.1	111.0	83.0
NOV1982	1655.0	0.5	1655.5	50.2	55.3	26.2	0.0	40.0	6.3	171.7	19.3	1503.1	1422.9	92.6	93.0
NOV1982	1900.0	0.6	1900.6	50.2	55.3	26.2	0.0	37.3	5.4	168.9	21.1	1752.7	1515.4	76.4	81.0
NOV1982	3193.8	0.5	3194.3	50.2	53.6	26.2	0.2	356.5	24.0	486.4	32.8	2740.7	1505.0	1690.4	70.0
NOV1982	2531.5	0.6	2532.1	50.2	55.3	26.2	0.2	84.4	23.3	216.0	21.9	2338.0	1522.8	278.6	77.0
NOV1982	9972.0	0.6	9972.6	50.2	53.2	26.2	0.5	623.4	74.8	753.1	35.1	9254.6	1507.0	2700.5	1027.0
NOV1982	5339.0	0.7	5339.7	50.2	54.5	26.2	0.7	467.1	102.0	598.0	25.4	4767.2	1504.2	1679.4	1172.0
NOV1982	2638.0	0.4	2638.4	50.2	55.3	26.2	0.5	190.9	67.2	322.5	19.0	2334.8	1426.9	623.6	84.0
NOV1982	2419.3	0.4	2419.7	50.2	55.3	26.2	0.3	119.1	39.0	250.7	17.8	2186.8	1411.7	369.3	113.0
NOV1982	1968.9	0.5	1969.4	50.2	55.3	26.2	0.2	83.3	25.0	215.0	23.2	1777.7	1489.1	254.5	69.0
NOV1982	1941.2	0.5	1941.7	50.2	55.3	26.2	0.1	64.9	18.0	196.6	19.7	1764.8	1502.6	194.9	58.0
NOV1982	2201.8	0.5	2202.3	50.2	55.3	26.2	0.1	56.6	14.5	188.2	22.1	2036.1	1499.1	158.6	88.0
NOV1982	1691.9	0.5	1692.4	50.2	55.3	26.2	0.1	51.7	12.7	183.3	21.7	1530.8	1499.9	132.5	88.0
NOV1982	2878.1	0.5	2878.6	50.2	54.2	26.2	0.2	460.8	28.8	591.4	29.4	2316.5	1502.8	1482.6	74.0
NOV1982	4531.0	0.5	4531.5	50.2	54.0	26.2	0.7	556.1	98.6	686.5	27.6	3872.6	1446.2	1738.7	282.0
NOV1982	2303.8	0.4	2304.2	50.2	55.3	26.2	0.5	214.5	72.1	346.2	17.2	1975.3	1415.1	571.8	153.0
NOV1982	2485.0	0.6	2485.6	50.2	55.1	26.2	0.3	153.7	44.8	285.2	22.5	2222.8	1499.9	478.2	91.0
NOV1982	2558.1	0.4	2558.5	50.2	55.1	27.7	0.3	313.4	48.1	446.4	21.7	2133.8	1499.2	1129.5	67.0
NOV1982	2579.7	0.2	2579.9	50.2	55.3	26.2	0.3	140.2	42.1	271.9	23.8	2331.9	1516.5	514.4	49.0
NOV1982	2644.4	0.2	2644.6	50.2	55.2	26.2	0.2	113.3	30.9	244.9	19.8	2419.5	1433.8	377.3	48.0
NOV1982	2336.9	0.1	2337.0	50.2	55.2	26.2	0.2	104.7	26.2	236.3	16.1	2116.8	1409.3	324.1	66.0
NOV1982	1903.6	0.2	1903.8	50.2	55.2	26.2	0.2	99.9	23.9	231.5	17.6	1699.9	1417.0	286.9	80.0
NOV1982	4371.7	0.2	4371.9	50.2	52.6	26.2	0.8	982.1	114.1	1111.0	32.5	3293.4	1391.8	3884.4	57.0
NOV1982	3290.3	0.4	3290.7	50.2	54.6	26.2	0.9	391.7	129.6	522.7	23.4	2791.3	1489.1	1674.1	42.0
NOV1982	3385.6	0.2	3385.8	50.2	55.2	26.2	0.6	221.6	81.1	353.3	20.7	3053.2	1484.2	926.8	53.0
MEAN	3214.3	0.4	3214.8	50.2	54.8	26.2	0.3	255.2	42.3	386.5	23.3	2851.6	1478.3	985.6	157.1

(* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
(** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

**** THIS IS A JCL TO OUTPUT TABLES ****

MONTHLY
ARTY=1982 STARTMN-12)

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
FOR THE MONTH OF: DECEMBER, 1982
ALL DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD 1	DIVERSN ABOVE GAGE 2	TOTAL FLOW THROUGH CANAL (1+2) 3	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLINOIS 4	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD 5	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL 6	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA 7	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL 8	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLINOIS 9	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD ** 10	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ) 11	TOTAL DIVERSN *** 12	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLINOIS 13	RUNOFF FROM DIVERTD WATRSHD 14	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS 15
DEC1982	2567.9	0.3	2569.2	50.2	55.3	26.2	0.4	137.3	54.6	268.9	20.4	2319.8	1507.0	596.4	61.0
DEC1982	10060.0	0.5	10060.5	50.2	51.9	26.2	3.0	1702.1	422.1	1830.3	40.8	8271.0	1486.2	10947.1	1237.0
DEC1982	23720.0	0.4	23720.4	50.2	51.5	26.2	12.2	2282.8	1722.4	2410.7	41.4	20951.1	1477.9	10947.0	0.0
DEC1982	22502.0	0.1	22502.1	50.2	52.6	26.2	6.4	1389.1	907.1	1518.1	34.1	21018.1	1445.5	7285.5	35.0
DEC1982	21688.0	0.1	21688.1	50.2	52.8	37.3	4.6	1417.7	649.9	1558.0	30.0	20160.1	1407.9	6908.7	44.0
DEC1982	13425.0	0.3	13425.3	50.2	54.8	26.2	2.8	820.6	393.4	951.7	19.9	12493.5	1485.2	4333.4	638.0
DEC1982	9090.6	0.2	9090.8	50.2	55.3	26.2	1.6	512.1	230.4	643.7	20.0	8467.1	1495.5	2788.1	202.0
DEC1982	6221.5	0.5	6222.0	50.2	55.2	29.9	1.0	345.8	142.8	481.1	18.6	5759.5	1485.2	1863.2	88.0
DEC1982	6534.9	0.3	6535.2	50.2	55.3	26.2	0.7	243.3	97.8	374.9	20.9	6191.2	1480.1	1416.9	83.0
DEC1982	3777.8	0.2	3778.0	50.2	55.3	26.2	0.5	194.7	74.2	326.3	19.8	3471.5	1470.0	1057.3	82.0
DEC1982	2673.5	0.1	2673.6	50.2	55.3	26.2	0.4	168.7	61.0	300.3	18.4	2391.7	1416.9	950.3	69.0
DEC1982	2653.1	0.2	2653.3	50.2	55.3	26.2	0.4	154.1	53.0	285.7	17.3	2384.9	1402.1	834.7	65.0
DEC1982	2454.1	0.3	2454.4	50.2	55.3	26.2	0.3	145.6	47.6	277.2	20.2	2197.4	1482.6	660.3	50.0
DEC1982	3550.0	0.2	3550.2	50.2	55.2	26.2	0.3	179.3	43.6	310.9	21.2	3260.6	1472.3	615.8	53.0
DEC1982	2452.4	0.2	2452.6	50.2	55.3	26.2	0.3	176.3	40.0	307.9	20.4	2165.1	1476.3	553.8	85.0
DEC1982	2468.1	0.2	2468.3	50.2	55.3	37.3	0.3	146.9	37.7	289.6	23.3	2202.1	1476.4	531.0	96.0
DEC1982	2364.3	0.2	2364.5	50.2	55.3	26.2	0.3	136.2	35.5	267.8	19.0	2115.7	1488.1	442.4	70.0
DEC1982	2002.2	0.1	2002.3	50.2	55.1	26.2	0.3	231.9	37.8	363.4	18.1	1657.0	1440.5	615.3	61.0
DEC1982	2489.6	0.2	2489.8	50.2	55.2	26.2	0.3	212.6	37.2	344.1	17.9	2163.6	1395.7	509.2	60.0
DEC1982	1824.2	0.3	1824.5	50.2	55.3	26.2	0.2	153.9	33.3	285.5	16.7	1555.6	1471.4	408.4	70.0
DEC1982	2475.4	0.2	2475.6	50.2	55.3	26.2	0.2	135.3	30.6	267.0	19.6	2228.3	1470.8	354.2	75.0
DEC1982	2383.5	0.2	2383.7	50.2	55.3	26.2	0.2	124.0	28.4	255.6	19.4	2147.6	1474.2	305.5	77.0
DEC1982	2580.0	0.1	2580.0	50.2	55.0	26.2	0.3	245.4	40.2	376.7	20.3	2223.6	1429.0	763.1	89.0
DEC1982	7677.0	0.2	7677.2	50.2	54.3	26.4	0.6	641.3	86.6	772.1	23.4	6928.5	1426.2	3625.9	1762.0
DEC1982	18454.0	0.1	18454.1	50.2	52.5	26.2	6.6	2308.1	931.8	2437.0	32.7	16049.8	1351.5	8635.4	23.0
DEC1982	8552.0	0.2	8552.2	50.2	54.6	26.2	3.7	774.1	521.6	905.1	19.7	7666.8	1340.1	3062.0	262.0
DEC1982	9873.0	0.3	9873.3	50.2	54.7	28.6	2.0	572.3	278.7	705.8	20.5	8188.1	1433.4	1971.3	124.0
DEC1982	1706.0	0.2	1706.2	50.2	54.6	26.2	1.1	506.2	160.6	637.2	21.5	1090.6	1450.1	1770.1	58.0
DEC1982	2739.6	0.3	2739.9	50.2	55.3	26.2	0.7	325.8	97.1	457.4	17.4	2299.9	1455.4	1138.2	52.0
DEC1982	3455.0	0.2	3455.2	50.2	55.3	26.2	0.5	238.3	64.4	369.9	17.6	3102.9	1437.1	780.4	44.0
DEC1982	2726.9	0.2	2727.1	50.2	55.3	26.2	0.3	192.7	46.9	324.3	16.6	2419.4	1416.4	583.2	50.0
YEAR	6637.1	0.2	6637.3	50.2	54.7	27.1	1.7	542.4	239.0	674.3	22.2	5985.2	1449.9	2492.1	186.0

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8) *** COLUMN 12=COLUMNS 3-10+11)

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** THIS IS A JOB TO OUTPUT TABLES ****
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DAILY

INDIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
THE MONTH OF: JANUARY, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD 1	DIVERSN ABOVE GAGE 2	TOTAL FLOW THROUGH CANAL (1+2) 3	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS 4	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD 5	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL 6	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA 7	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL 8	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS 9	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD ** 10	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ) 11	TOTAL DIVERSN *** 12	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS 13	RUNOFF FROM DIVERTD WATRSHD 14	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS 15
JAN1983	2836.4	0.2	2836.6	51.2	55.3	26.2	0.3	169.9	37.1	301.5	15.1	2550.2	1359.3	483.6	51.0
JAN1983	2702.4	0.2	2702.6	50.2	55.3	26.2	0.2	156.6	31.2	288.2	16.6	2431.1	1372.1	418.1	71.0
JAN1983	2269.9	0.4	2270.3	50.2	55.3	26.2	0.2	148.5	27.2	280.1	22.6	2012.8	1471.1	366.8	76.0
JAN1983	2251.5	0.3	2251.8	50.2	55.3	26.2	0.2	143.1	24.2	274.7	21.2	1998.3	1468.2	334.5	62.0
JAN1983	2337.7	0.4	2338.1	50.2	55.3	26.2	0.2	138.6	21.9	270.2	21.2	2089.1	1467.9	317.2	71.0
JAN1983	2147.4	0.3	2147.7	50.2	55.3	26.2	0.1	134.4	19.8	266.1	21.1	1902.7	1465.3	301.0	71.0
JAN1983	2170.0	0.3	2170.3	50.2	55.3	25.9	0.1	130.7	17.9	262.0	22.1	1930.4	1461.8	289.2	97.0
JAN1983	2028.3	0.2	2028.5	50.2	55.3	26.2	0.1	127.2	16.2	258.8	19.5	1789.1	1409.1	273.8	67.0
JAN1983	2222.6	0.3	2222.9	50.2	55.3	26.2	0.1	128.2	14.7	259.8	18.6	1981.6	1412.2	264.1	93.0
JAN1983	2153.0	0.3	2153.3	50.2	55.2	26.2	0.1	169.3	12.3	300.9	21.5	1873.9	1475.7	323.8	209.0
JAN1983	2096.0	0.2	2096.2	50.2	55.1	36.9	0.1	183.2	10.1	325.3	23.2	1794.1	1485.1	400.9	95.0
JAN1983	2315.3	0.2	2315.5	50.2	55.3	26.2	0.1	151.4	8.9	283.0	21.3	2053.8	1481.6	298.9	79.0
JAN1983	2206.8	0.2	2207.0	50.2	55.3	26.2	0.1	130.1	9.1	261.7	22.5	1967.8	1480.3	259.3	96.0
JAN1983	2233.2	0.2	2233.4	50.2	55.3	48.7	0.1	120.6	8.8	274.7	20.9	1979.5	1462.5	273.1	100.0
JAN1983	1944.3	0.1	1944.4	50.2	55.3	61.8	0.1	111.7	8.5	278.9	19.4	1684.9	1441.1	232.9	117.0
JAN1983	1942.3	0.1	1942.4	50.2	55.3	30.9	0.1	106.1	8.0	242.4	18.9	1718.9	1420.1	217.8	89.0
JAN1983	1751.2	0.3	1751.5	50.2	55.3	48.5	0.1	101.7	7.5	255.6	22.0	1517.8	1488.3	207.1	108.0
JAN1983	1473.0	0.2	1473.2	50.2	55.3	36.4	0.0	98.0	7.0	239.8	22.2	1255.6	1496.9	198.9	152.0
JAN1983	1492.0	0.2	1492.2	50.2	55.3	26.2	0.0	94.8	6.5	226.5	22.7	1288.4	1490.5	181.4	66.0
JAN1983	5121.1	0.2	5121.3	50.2	55.3	26.2	0.0	91.7	6.0	223.3	22.3	4920.3	1500.6	174.5	332.0
JAN1983	1877.3	0.2	1877.5	50.2	55.3	30.8	0.0	96.0	5.5	232.2	22.1	1667.4	1479.3	176.9	118.0
JAN1983	2145.9	0.1	2146.0	50.2	55.1	36.7	0.1	277.8	9.1	419.8	21.1	1747.3	1439.2	407.5	86.0
JAN1983	2659.9	0.1	2660.0	50.2	55.2	26.0	0.2	174.2	21.8	305.6	17.2	2371.6	1393.6	373.6	79.0
JAN1983	1827.7	0.1	1828.0	50.2	55.3	26.2	0.2	125.1	24.6	256.7	22.3	1593.6	1480.9	330.3	85.0
JAN1983	2159.1	0.2	2159.3	50.2	55.3	26.2	0.1	95.4	18.9	227.1	21.6	1953.8	1479.9	231.7	88.0
JAN1983	1949.9	0.3	1950.2	50.2	55.3	26.2	0.1	86.1	12.3	217.7	20.8	1753.3	1473.3	202.4	84.0
JAN1983	1726.5	0.2	1726.7	50.2	55.3	26.2	0.1	80.5	8.6	212.2	21.1	1535.6	1486.1	184.1	90.0
JAN1983	1961.8	0.2	1962.0	50.2	55.3	26.2	0.0	77.0	6.7	208.6	20.6	1774.0	1485.9	172.0	71.0
JAN1983	1832.1	0.1	1832.2	50.2	54.9	26.2	0.1	190.7	11.9	322.0	23.9	1534.0	1443.6	576.7	70.0
JAN1983	2385.3	0.2	2385.5	50.2	55.3	26.2	0.1	102.1	20.3	233.7	18.1	2169.9	1402.4	299.0	80.0
JAN1983	1920.0	0.3	1920.3	50.2	55.3	26.2	0.1	84.7	14.1	216.3	20.4	1724.4	1488.0	225.3	75.0
MEAN	2198.1	0.2	2198.3	50.2	55.2	30.1	0.1	129.9	14.7	265.3	20.8	1953.7	1456.8	290.2	97.7

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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** THIS IS A JCL TO OUTPUT TABLES ****
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OPT=DAILY

INOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
THE MONTH OF: FEBRUARY, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
FEB1983	1866.1	0.2	1866.3	50.2	55.3	26.2	0.1	90.0	10.2	221.7	20.4	1665.0	1478.5	215.7	113.0
FEB1983	9607.0	0.2	9607.2	50.2	53.7	53.7	0.1	489.6	17.9	647.2	30.5	8990.5	1481.7	2173.4	82.0
FEB1983	6496.5	0.3	6496.9	50.2	55.3	61.7	0.2	90.6	21.8	257.7	19.6	6258.6	1471.6	1830.7	87.0
FEB1983	4840.7	0.3	4841.0	50.2	55.3	34.8	0.1	72.9	14.7	213.2	22.5	4650.3	1472.0	830.7	78.0
FEB1983	3176.0	0.1	3176.1	50.2	55.3	26.2	0.1	65.9	9.8	197.6	18.5	2997.0	1421.1	563.8	85.0
FEB1983	2717.0	0.1	2717.1	50.2	55.3	26.2	0.1	61.5	7.3	193.2	19.2	2543.2	1396.6	453.9	72.0
FEB1983	2898.0	0.3	2898.3	50.2	55.3	27.0	0.1	59.4	8.2	191.9	20.0	2726.4	1453.6	493.0	102.0
FEB1983	2581.6	0.1	2581.7	50.2	55.3	26.2	0.1	75.6	10.9	207.3	20.9	2395.3	1476.5	340.3	96.0
FEB1983	2229.1	0.3	2229.4	50.2	55.3	31.8	0.1	100.7	16.0	238.0	21.2	2012.6	1474.1	359.0	112.0
FEB1983	2322.2	0.2	2322.4	50.2	55.3	31.7	0.2	163.3	24.4	300.5	21.1	2043.0	1465.2	508.9	105.0
FEB1983	2209.5	0.1	2209.6	50.2	55.2	31.6	0.3	253.5	36.4	390.4	22.2	1841.3	1472.4	740.7	120.0
FEB1983	2021.2	0.2	2021.4	50.2	54.9	26.2	0.3	293.1	41.8	424.3	21.7	1618.8	1425.2	682.7	100.0
FEB1983	1934.5	0.2	1934.7	50.2	53.8	26.2	0.4	586.7	49.5	717.0	29.7	1247.4	1390.9	1401.3	68.0
FEB1983	2146.0	0.3	2146.3	50.2	53.1	26.2	0.5	861.5	71.0	991.1	37.4	1192.6	1474.0	1952.3	78.0
FEB1983	2276.1	0.3	2276.4	50.2	54.6	26.2	0.6	332.9	83.0	463.9	26.7	1839.2	1454.1	1008.9	98.0
FEB1983	2148.3	0.2	2148.5	50.2	54.4	26.2	0.7	361.8	96.0	492.6	26.3	1682.2	1467.0	1089.0	77.0
FEB1983	2455.2	0.2	2455.4	50.2	55.1	26.2	0.6	220.5	84.1	352.1	22.6	2126.0	1469.0	663.6	72.0
FEB1983	2584.9	0.3	2585.2	50.2	54.9	26.2	0.4	201.0	62.0	332.4	25.4	2278.3	1472.0	691.6	62.0
FEB1983	2376.7	0.1	2376.8	50.2	55.1	26.2	0.3	179.3	46.9	310.9	20.0	2085.9	1426.6	662.1	269.0
FEB1983	2127.8	0.2	2128.0	50.2	55.3	26.2	0.2	107.8	27.6	239.4	18.7	1907.3	1385.9	522.5	79.0
FEB1983	2452.5	0.3	2452.8	50.2	55.3	26.2	0.1	89.1	18.6	220.8	22.0	2254.1	1473.3	461.9	77.0
FEB1983	2585.2	0.3	2585.5	50.2	55.3	27.0	0.1	82.9	11.3	215.3	23.8	2393.9	1469.1	415.0	89.0
FEB1983	2266.5	0.3	2266.8	50.2	55.3	26.2	0.1	83.2	7.4	214.8	20.6	2072.6	1458.8	370.3	89.0
FEB1983	2223.8	0.4	2224.2	50.2	55.3	37.4	0.0	84.9	6.7	227.8	22.0	2018.4	1461.6	335.9	56.0
FEB1983	2347.9	0.3	2348.2	50.2	55.3	37.2	0.0	93.4	5.5	236.0	22.4	2134.5	1456.6	345.9	90.0
FEB1983	2073.2	0.1	2073.3	50.2	55.3	26.2	0.0	90.5	5.6	222.1	20.3	1871.5	1432.4	287.6	89.0
FEB1983	2031.5	0.2	2031.7	50.2	55.3	26.2	0.0	91.4	4.7	223.1	19.7	1828.4	1391.4	265.0	68.0
FEB1983	1833.5	0.4	1833.9	50.2	55.3	26.2	0.0	92.7	3.1	224.3	23.3	1632.8	1463.4	252.3	88.0
MEAN	2815.3	0.2	2815.5	50.2	55.0	30.2	0.2	192.0	28.6	327.4	22.8	2511.0	1451.2	711.4	94.0

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8)   (*** COLUMN 12=COLUMNS 3-10+11)

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*** THIS IS A JOB TO OUTPUT TABLES ****
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[illegible]DAILY*
[illegible]=1983   STARTMN=3[illegible]

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INOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
THE MONTH OF: MARCH, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD 1	DIVERSN ABOVE GAGE 2	TOTAL FLOW THROUGH CANAL (1+2) 3	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS 4	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD 5	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL 6	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA 7	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL 8	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS 9	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD ** 10	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ) 11	TOTAL DIVERSN *** 12	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS 13	RUNOFF FROM DIVERTD WATRSHD 14	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS 15
MAR1983	2237.5	0.4	2237.9	50.2	55.3	26.1	0.0	90.8	1.9	222.4	19.5	2035.0	1466.4	243.3	75.0
MAR1983	2023.4	0.3	2023.7	50.2	55.3	26.1	0.0	91.5	0.7	223.1	22.3	1822.9	1487.8	227.1	97.0
MAR1983	1812.6	0.3	1812.9	50.2	55.3	26.1	-0.0	91.9	-0.4	223.5	22.9	1612.4	1484.4	220.0	101.0
MAR1983	2311.7	0.3	2312.0	50.2	55.3	36.6	-0.0	91.7	-1.4	233.8	20.9	2099.1	1479.9	209.9	96.0
MAR1983	1873.7	0.1	1873.8	50.2	55.3	42.5	-0.0	92.9	-2.4	240.9	20.4	1653.3	1437.8	206.0	96.0
MAR1983	3306.8	0.4	3307.2	50.2	55.0	42.7	-0.1	256.0	-7.5	403.9	19.2	2922.5	1385.5	502.0	526.0
MAR1983	3281.5	0.4	3281.9	50.2	55.2	26.4	-0.2	274.7	-23.5	406.5	22.1	2897.5	1461.8	704.5	93.0
MAR1983	2523.6	0.3	2523.9	50.2	55.1	26.1	-0.1	274.0	-18.1	405.5	21.1	2139.6	1462.7	685.1	85.0
MAR1983	2353.4	0.5	2353.9	50.2	55.3	31.5	-0.1	165.1	-12.3	302.1	21.0	2072.8	1454.8	426.1	89.0
MAR1983	2151.5	0.2	2151.7	50.2	55.3	65.1	-0.1	124.5	-9.2	295.1	20.2	1876.8	1446.4	365.2	97.0
MAR1983	2433.3	0.2	2433.5	50.2	55.2	48.8	-0.0	180.5	-2.6	334.7	23.1	2121.9	1463.1	459.9	82.0
MAR1983	1951.6	0.1	1951.7	50.2	55.3	25.9	-0.0	114.9	-2.6	246.2	19.3	1724.7	1425.8	287.9	99.0
MAR1983	2148.7	0.2	2148.9	50.2	55.3	26.1	-0.1	101.5	-7.2	233.1	19.0	1934.8	1378.4	259.6	86.0
MAR1983	2003.8	0.3	2004.1	50.2	55.3	25.9	-0.0	93.1	-6.8	224.5	21.8	1801.4	1447.8	239.0	83.0
MAR1983	2011.5	0.5	2012.0	50.2	55.3	25.8	-0.0	88.2	-6.9	219.5	21.6	1814.1	1481.2	218.7	93.0
MAR1983	1995.6	0.3	1995.9	50.2	55.3	36.6	-0.1	85.1	-7.3	227.1	20.9	1789.7	1480.0	202.6	95.0
MAR1983	2253.5	0.2	2253.7	50.2	55.3	42.4	-0.1	84.1	-7.8	232.0	21.6	2043.3	1470.7	235.8	97.0
MAR1983	5698.0	0.3	5698.3	50.2	51.8	56.6	-0.1	949.1	-13.3	1107.7	41.5	4632.0	1446.3	2963.7	85.0
MAR1983	4170.3	0.1	4170.4	50.2	55.0	59.4	-0.0	598.2	-2.8	762.8	20.5	3428.1	1414.1	1858.4	221.0
MAR1983	3848.8	0.1	3848.9	50.2	55.1	61.2	0.0	446.1	1.1	612.6	18.0	3254.3	1381.9	1537.7	85.0
MAR1983	3327.3	0.3	3327.6	50.2	55.3	65.8	0.2	296.1	4.3	467.4	17.7	2877.9	1444.6	964.9	93.0
MAR1983	3412.5	0.2	3412.7	50.2	55.3	43.9	0.0	199.1	3.4	348.5	19.9	3084.1	1458.9	747.3	111.0
MAR1983	3182.7	0.2	3182.9	50.2	54.8	32.2	0.1	305.1	18.4	442.4	24.1	2764.7	1480.1	968.1	101.0
MAR1983	2664.2	0.2	2664.4	50.2	54.8	37.8	0.3	362.8	42.2	505.6	23.0	2181.7	1463.4	1008.5	94.0
MAR1983	2836.3	0.3	2836.6	50.2	55.2	43.6	0.3	309.5	46.2	458.6	22.1	2400.1	1457.1	798.1	107.0
MAR1983	3378.8	0.2	3378.0	50.2	54.6	67.0	2.0	518.8	49.1	690.7	22.3	2709.6	1415.8	1317.6	264.0
MAR1983	7190.3	0.2	7190.5	50.2	52.0	64.4	8.6	1211.5	203.5	1378.2	36.0	5848.4	1376.2	4316.3	269.0
MAR1983	7025.1	0.3	7025.4	50.2	55.3	66.1	5.4	704.4	331.8	876.0	18.6	6168.0	1457.5	2872.3	78.0
MAR1983	4879.4	0.3	4879.7	50.2	55.3	46.8	1.3	436.7	177.6	589.0	21.5	4312.1	1459.9	1784.6	86.0
MAR1983	4314.9	0.3	4315.2	50.2	55.3	33.7	0.7	310.3	102.7	449.4	20.2	3886.0	1452.9	1124.8	110.0
MAR1983	3258.4	0.2	3258.6	50.2	55.1	32.9	0.4	276.6	58.9	414.8	22.1	2865.9	1437.6	941.8	98.0
MEAN	3156.8	0.3	3157.0	50.2	54.9	41.7	0.6	297.6	29.3	444.4	22.1	2734.7	1447.1	932.1	122.3

(* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
(** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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LINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
THE MONTH OF: APRIL, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1APR1983	6485.4	0.1	6485.5	50.2	53.1	44.4	0.4	742.2	59.7	889.9	34.2	5629.8	1398.1	3048.1	436.0
2APR1983	23332.0	0.1	23332.1	50.2	49.7	63.6	13.3	2408.8	315.0	2572.3	51.5	20811.3	1362.3	9433.6	46.0
3APR1983	15592.0	0.4	15592.4	50.2	52.7	62.1	9.0	1506.3	212.3	1671.2	31.9	13953.1	1340.0	5719.4	49.0
4APR1983	6399.0	0.1	6399.1	50.2	54.8	38.5	0.9	952.5	122.5	1095.9	22.7	5325.9	1433.9	3394.0	65.0
5APR1983	9235.2	0.2	9235.4	50.2	54.1	46.7	0.5	824.9	75.3	975.9	29.0	8288.5	1448.2	2919.1	146.0
6APR1983	4213.4	0.3	4213.7	50.2	55.1	51.3	0.3	631.0	47.6	787.6	21.6	3447.8	1452.0	2037.4	177.0
7APR1983	4350.6	0.3	4350.9	50.2	55.3	33.1	0.3	407.3	36.7	545.8	22.7	3827.8	1445.8	1515.0	98.0
8APR1983	4371.4	0.1	4371.5	50.2	55.3	44.4	0.2	312.6	29.6	462.4	21.6	3930.7	1457.8	1201.4	373.0
9APR1983	10062.0	0.2	10062.2	50.2	52.1	64.2	3.7	1262.3	212.8	1428.7	38.6	8672.0	1386.9	5663.1	413.0
10APR1983	6522.0	0.1	6522.1	50.2	54.9	54.2	1.2	984.9	165.0	1144.2	18.6	5396.5	1364.8	3014.1	107.0
11APR1983	4635.3	0.2	4635.5	50.2	55.2	39.4	0.7	630.2	91.8	775.0	22.4	3882.9	1458.6	1943.1	90.0
12APR1983	4382.0	0.4	4382.4	50.2	55.3	51.0	0.4	432.3	54.1	588.7	22.4	3816.1	1464.9	1386.7	366.0
13APR1983	8123.0	0.1	8123.1	50.2	52.7	57.6	1.5	1642.0	207.7	1802.4	36.6	6357.3	1478.6	5805.0	258.0
14APR1983	11059.0	0.1	11059.1	50.2	52.5	26.3	3.0	1576.0	423.9	1705.0	38.3	9392.5	1474.9	5734.8	49.0
15APR1983	6852.0	0.2	6852.2	50.2	55.1	26.3	1.6	891.4	221.0	1022.9	22.5	5851.8	1465.6	3332.4	79.0
16APR1983	5151.4	0.1	5151.5	50.2	54.9	29.7	0.8	636.4	117.0	771.2	23.2	4403.5	1433.0	2067.3	130.0
17APR1983	3701.1	0.3	3701.4	50.2	55.2	33.7	0.4	446.1	63.2	585.2	17.7	3133.8	1383.9	1547.3	122.0
18APR1983	3297.0	0.1	3297.1	50.2	55.3	38.6	0.2	335.1	34.9	479.1	20.6	2838.6	1464.7	1132.8	88.0
19APR1983	3254.1	0.2	3254.3	50.2	55.3	43.9	0.1	272.5	19.5	421.8	21.2	2853.7	1486.9	906.5	126.0
20APR1983	2720.4	0.2	2720.6	50.2	55.3	37.7	0.1	237.0	10.2	380.1	23.0	2363.6	1488.1	776.3	124.0
21APR1983	2819.6	0.2	2819.8	50.2	55.3	32.0	0.0	216.1	4.2	353.5	22.9	2489.2	1481.3	685.5	140.0
22APR1983	2621.4	0.3	2621.7	50.2	55.3	49.5	0.0	201.9	0.2	356.8	21.9	2286.9	1488.2	617.7	173.0
23APR1983	2583.9	0.2	2584.1	50.2	55.3	62.5	-0.0	189.6	-2.9	357.5	21.4	2247.9	1428.2	551.5	199.0
24APR1983	2206.7	0.2	2206.9	50.2	55.3	55.7	-0.0	177.4	-5.6	338.5	17.6	1886.0	1333.5	504.2	132.0
25APR1983	2407.6	0.4	2408.0	50.2	55.3	37.1	-0.1	165.8	-7.8	308.3	22.8	2122.6	1512.9	455.0	159.0
26APR1983	2468.4	0.5	2468.9	50.2	55.3	31.5	-0.1	154.6	-9.4	291.5	25.3	2202.7	1546.2	391.8	154.0
27APR1983	2387.1	0.4	2397.5	50.2	55.3	42.8	-0.1	145.7	-10.4	293.9	25.3	2118.9	1556.5	354.3	175.0
28APR1983	4031.5	0.4	4031.9	50.2	54.6	49.4	-0.3	337.3	-36.7	491.4	28.7	3539.2	1501.1	918.7	518.0
29APR1983	2396.0	0.5	2396.5	50.2	54.8	43.2	-0.2	271.8	-28.1	419.9	25.5	2002.0	1478.5	821.3	169.0
30APR1983	5290.0	0.3	5290.3	50.2	54.6	63.7	-0.2	553.5	-29.3	721.9	24.0	4592.4	1418.3	1997.0	203.0
MEAN	5764.0	0.2	5764.2	50.2	54.5	45.1	1.3	651.5	79.8	801.3	25.9	4988.8	1447.8	2329.1	178.7

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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*** THIS IS A JOB TO OUTPUT TABLES ****
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ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
FOR THE MONTH OF: MAY, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MAY1983	9302.0	0.3	9302.3	50.2	53.5	63.8	3.6	1118.8	137.6	1286.3	30.2	8046.3	1367.8	5469.9	437.0
MAY1983	14759.0	0.5	14759.5	50.2	53.9	67.0	9.6	995.7	390.4	1166.8	31.0	13623.6	1456.6	4417.1	61.0
MAY1983	7298.0	0.4	7298.4	50.2	55.3	63.5	1.3	554.1	188.6	723.0	22.6	6597.9	1469.7	2412.7	108.0
MAY1983	5016.7	0.3	5017.0	50.2	55.3	53.4	0.6	347.6	87.2	506.4	26.0	4536.6	1473.0	1398.1	143.0
MAY1983	3149.6	0.4	3150.0	50.2	55.3	44.8	0.3	239.9	36.2	390.1	23.1	2783.1	1477.7	979.0	178.0
MAY1983	3660.7	0.4	3661.1	50.2	55.3	57.2	0.1	184.9	10.2	347.5	21.9	3335.5	1480.6	790.6	191.0
MAY1983	3805.7	0.4	3806.1	50.2	55.0	66.3	-0.1	315.0	-7.2	486.5	23.5	3343.1	1448.1	1044.6	439.0
MAY1983	2989.1	0.3	2989.4	50.2	55.3	63.9	-0.1	234.0	-20.7	403.3	19.0	2605.1	1379.0	896.1	106.0
MAY1983	2723.1	0.6	2723.7	50.2	55.3	69.5	-0.1	174.6	-20.1	349.5	22.8	2397.0	1485.9	595.7	163.0
MAY1983	2869.0	0.4	2869.4	50.2	55.3	63.2	-0.1	144.2	-20.1	312.8	23.2	2579.8	1500.7	476.3	209.0
MAY1983	2460.8	0.4	2461.2	50.2	55.3	70.0	-0.1	126.3	-20.1	301.7	24.0	2183.4	1529.2	405.7	250.0
MAY1983	2634.7	0.4	2635.1	50.2	55.3	68.9	-0.1	114.7	-20.1	289.0	23.1	2369.2	1529.8	366.8	219.0
MAY1983	3518.0	0.6	3518.6	50.2	54.5	69.5	0.0	736.5	0.9	910.7	28.9	2636.8	1541.3	2216.9	231.0
MAY1983	7741.0	0.4	7741.4	50.2	53.8	67.8	4.1	788.7	102.2	957.5	30.9	6814.9	1434.3	1596.3	701.0
MAY1983	3706.8	0.3	3706.1	50.2	55.3	65.1	1.7	405.3	38.5	575.8	19.7	3150.0	1390.9	871.5	180.0
MAY1983	3298.9	0.5	3299.4	50.2	55.3	69.4	0.4	275.2	9.8	450.0	22.8	2872.2	1461.6	675.8	186.0
MAY1983	2999.4	0.4	2999.8	50.2	55.3	69.1	-0.0	192.3	-4.6	366.8	23.6	2656.6	1503.6	487.1	222.0
MAY1983	3444.2	0.5	3444.7	50.2	55.3	68.0	-0.1	147.9	-11.8	321.3	27.2	3150.6	1488.2	393.8	440.0
MAY1983	4639.2	0.4	4639.6	50.2	54.3	69.7	-0.1	438.6	-10.7	612.8	30.6	4057.5	1487.3	1425.6	969.0
MAY1983	2459.9	0.4	2460.3	50.2	55.3	68.9	-0.1	235.8	-14.2	410.1	22.6	2072.8	1493.7	613.4	286.0
MAY1983	3576.9	0.3	3577.2	50.2	55.3	67.2	-0.1	167.0	-16.7	339.6	21.9	3259.5	1466.2	453.1	541.0
MAY1983	7567.0	0.3	7567.3	50.2	54.8	70.1	2.7	643.4	63.5	818.4	24.7	6773.6	1422.3	2737.2	1145.0
MAY1983	3335.9	0.5	3336.4	50.2	54.2	70.6	1.6	453.0	90.2	628.0	29.4	2737.8	1516.0	1702.4	205.0
MAY1983	3787.2	0.5	3787.7	50.2	55.0	70.4	0.3	286.5	42.2	462.1	32.4	3358.0	1555.3	759.5	228.0
MAY1983	2450.8	0.7	2451.5	50.2	55.2	72.6	0.7	223.8	15.8	401.7	27.8	2077.5	1513.3	580.3	241.0
MAY1983	2680.4	0.6	2681.0	50.2	55.3	69.6	-0.0	159.1	-1.1	334.1	28.0	2374.9	1510.8	396.8	213.0
MAY1983	2731.5	0.5	2732.0	50.2	55.3	71.5	-0.1	129.4	-9.6	306.3	29.2	2454.9	1499.5	329.5	247.0
MAY1983	2764.9	0.3	2765.2	50.2	55.3	67.8	-0.1	111.0	-13.9	284.2	20.7	2501.7	1371.3	314.8	298.0
MAY1983	8255.0	0.2	8255.2	50.2	54.1	67.5	0.8	357.0	19.6	528.8	27.5	4753.9	1337.2	1661.7	316.0
MAY1983	2576.3	0.3	2576.3	50.2	55.2	63.6	0.6	239.3	15.2	408.3	17.9	2185.9	1329.3	840.1	308.0
MAY1983	3403.4	0.1	3403.4	50.2	55.3	70.2	-0.0	185.4	-6.6	361.0	23.4	3065.8	1455.5	538.8	165.0
MEAN	4277.5	0.4	4277.9	50.2	54.9	66.4	0.9	345.9	33.9	517.4	25.1	3785.6	1463.7	1220.9	310.5

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

**** THIS IS A JOB TO OUTPUT TABLES ****

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
FOR THE MONTH OF: JUNE, 1983
ALL DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1JUN1983	2397.9	0.4	2398.3	50.2	55.3	77.7	-0.1	137.1	-12.4	320.2	24.0	2102.1	1496.2	351.0	254.0
2JUN1983	2774.0	0.5	2774.5	50.2	55.3	74.8	-0.1	112.2	-15.1	292.5	22.7	2504.8	1491.6	289.5	208.0
3JUN1983	2751.3	0.4	2751.7	50.2	55.3	74.9	-0.1	100.1	-16.3	280.4	24.2	2495.5	1479.4	347.7	246.0
4JUN1983	2729.9	0.4	2730.3	50.2	55.3	74.4	-0.1	93.0	-16.9	272.8	21.7	2479.2	1473.7	275.5	329.0
5JUN1983	2641.0	0.5	2641.5	50.2	55.3	72.4	-0.1	86.4	-17.0	264.2	22.2	2399.5	1407.4	233.1	292.0
6JUN1983	2369.5	0.4	2369.9	50.2	55.3	74.7	-0.1	82.5	-16.9	262.6	23.0	2130.2	1490.0	240.3	232.0
7JUN1983	2405.0	0.8	2405.8	50.2	55.3	77.1	-0.1	78.3	-16.7	260.8	23.7	2168.7	1529.4	211.9	269.0
8JUN1983	2551.4	0.9	2552.3	50.2	55.3	79.8	-0.1	74.3	-16.0	259.6	24.4	2317.1	1624.4	202.6	241.0
9JUN1983	2797.9	0.7	2798.6	50.2	55.3	77.0	-0.1	70.7	-15.2	253.1	26.4	2571.9	1573.9	175.1	638.0
10JUN1983	3071.3	1.1	3072.4	50.2	54.4	82.2	-0.1	164.6	-18.0	351.4	31.3	2752.3	1608.7	839.7	376.0
11JUN1983	2437.2	0.7	2437.9	50.2	55.3	83.5	-0.1	91.5	-16.4	280.5	25.3	2182.7	1700.7	193.5	353.0
12JUN1983	2362.2	0.2	2362.4	50.2	55.3	83.0	-0.1	76.4	-14.2	264.8	24.9	2122.5	1808.6	163.6	333.0
13JUN1983	2196.9	1.1	2198.0	50.2	55.3	91.2	-0.1	67.3	-12.4	263.9	30.4	1964.5	2034.0	134.6	351.0
14JUN1983	3905.1	0.7	3905.8	50.2	54.3	92.6	-0.1	287.6	-16.2	484.6	34.3	3455.5	1914.3	1000.1	596.0
15JUN1983	3817.7	1.4	3819.1	50.2	55.0	81.9	-0.3	133.8	-35.3	320.9	27.0	3524.1	1757.6	472.0	884.0
16JUN1983	3342.1	0.6	3342.7	50.2	55.3	84.8	-0.2	86.6	-21.5	276.8	28.3	3094.2	1782.2	191.1	1501.0
17JUN1983	3499.6	0.8	3500.4	50.2	55.3	85.1	-0.1	70.7	-13.9	261.2	26.9	3266.1	1737.5	149.0	1641.0
18JUN1983	4072.7	0.2	4072.9	50.2	55.3	83.8	-0.1	61.1	-9.9	250.3	24.9	3847.8	1656.2	134.8	1374.0
19JUN1983	3215.7	0.8	3216.5	50.2	55.3	90.6	-0.1	54.1	-7.5	240.2	23.2	2999.5	1576.9	122.6	1530.0
20JUN1983	3638.2	0.4	3638.6	50.2	55.3	93.5	-0.0	50.7	-6.0	249.6	27.8	3416.7	1934.6	100.3	1267.0
21JUN1983	3669.9	0.8	3670.7	50.2	55.3	100.5	-0.0	48.3	-4.7	254.3	30.5	3446.9	2150.7	83.4	1457.0
22JUN1983	3556.7	0.7	3557.4	50.2	55.3	92.3	-0.0	47.3	-3.7	245.0	33.0	3345.3	2219.5	83.7	1367.0
23JUN1983	3823.4	1.2	3824.6	50.2	55.3	92.3	-0.0	45.6	-2.8	243.3	36.3	3617.7	2329.3	83.1	1358.0
24JUN1983	3898.9	0.4	3899.3	50.2	55.3	92.3	-0.0	43.1	-2.0	240.9	34.6	3693.1	2145.1	78.3	1571.0
25JUN1983	4193.0	1.0	4194.0	50.2	55.3	92.3	-0.0	41.8	-1.4	239.5	30.2	3984.7	2196.7	74.9	1954.0
26JUN1983	4127.2	1.1	4128.3	50.2	55.3	84.5	-0.0	39.6	-0.8	229.5	29.9	3928.7	2307.6	70.4	1798.0
27JUN1983	10184.0	0.6	10184.6	50.2	52.9	90.4	0.8	929.6	19.4	1123.0	41.6	9103.2	1917.1	5108.7	777.0
28JUN1983	9926.0	0.8	9926.8	50.2	54.6	77.0	2.4	295.3	55.7	477.1	28.8	9478.5	1650.1	1040.8	1436.0
29JUN1983	3981.6	0.5	3982.1	50.2	55.1	81.9	1.4	269.3	33.0	456.5	24.7	3550.3	1670.3	477.1	1405.0
30JUN1983	3960.9	1.2	3961.9	50.2	55.1	81.1	0.7	187.9	16.6	374.2	26.6	3614.3	1777.4	515.1	1687.0
MEAN	3676.6	0.7	3677.3	50.2	55.1	83.6	0.1	130.9	-6.8	319.8	27.8	3385.2	1781.4	448.1	924.2

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION
** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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/* THIS IS A JOB TO OUTPUT TABLES ****
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PD='DAILY'
ATTR='1983  STARTMN=7;
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INOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
THE MONTH OF: JULY, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD 1	DIVERSN ABOVE GAGE 2	TOTAL FLOW THROUGH CANAL (1+2) 3	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS 4	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD 5	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL 6	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA 7	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL 8	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS 9	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD ** 10	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ) 11	TOTAL DIVERSN *** 12	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS 13	RUNOFF FROM DIVERTD WATRSHD 14	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS 15
JUL1983	5789.0	0.7	5789.7	50.2	54.4	78.8	0.2	562.4	32.5	745.8	30.4	5074.3	1711.3	2255.9	929.0
JUL1983	24278.0	0.6	24278.6	50.2	52.1	78.1	32.6	1952.2	798.7	2132.6	39.4	22185.4	1597.9	11389.6	77.0
JUL1983	16263.0	1.2	16264.2	50.2	55.2	76.6	18.4	692.1	444.0	874.1	24.3	15414.4	1628.3	4334.4	643.2
JUL1983	7054.0	0.5	7054.5	50.2	55.3	75.7	9.6	380.3	227.2	561.4	21.6	6514.7	1525.5	2282.5	1687.0
JUL1983	4747.6	0.7	4748.2	50.2	55.3	78.8	5.0	230.1	118.3	414.3	23.7	4357.6	1571.4	1220.4	824.0
JUL1983	4512.0	0.5	4512.5	50.2	55.3	81.8	2.6	150.4	63.2	337.6	23.4	4198.3	1628.1	764.2	1806.0
JUL1983	4529.3	0.7	4530.0	50.2	55.3	86.1	0.2	110.8	35.1	302.3	23.7	4251.4	1757.0	500.5	1771.0
JUL1983	4125.0	0.7	4125.7	50.2	55.3	70.9	0.1	88.0	20.5	264.3	26.9	3888.3	1843.6	373.5	1763.0
JUL1983	4181.7	0.5	4182.2	50.2	55.3	91.1	0.6	75.0	12.8	271.5	27.2	3937.9	1925.8	303.6	1872.0
JUL1983	4383.6	0.9	4384.5	50.2	55.3	84.6	0.4	69.9	8.7	259.9	27.4	4151.9	1901.0	264.3	1880.0
JUL1983	4164.6	0.9	4165.5	50.2	55.3	85.5	0.0	65.4	6.5	256.3	30.4	3939.6	2227.6	218.0	1768.0
JUL1983	4267.6	1.0	4268.6	50.2	55.3	85.3	0.0	61.0	5.4	251.7	32.5	4049.4	2146.5	178.3	1769.0
JUL1983	4049.5	1.0	4050.5	50.2	55.3	85.2	0.0	58.3	4.8	248.9	32.6	3834.2	2142.4	148.3	1829.0
JUL1983	3976.3	0.7	3977.0	50.2	55.3	85.1	0.0	56.1	4.6	246.6	33.9	3764.3	2456.9	136.1	1740.0
JUL1983	4163.0	1.3	4164.3	50.2	55.3	85.0	0.0	55.1	4.2	245.5	34.7	3953.5	2448.3	126.0	1692.0
JUL1983	4203.4	0.9	4204.3	50.2	55.3	85.0	0.0	52.5	4.1	242.9	30.2	3991.6	2377.4	122.8	1629.0
JUL1983	3780.8	0.9	3781.7	50.2	55.1	87.1	0.0	113.4	2.9	305.8	32.6	3508.5	2233.3	796.9	1254.0
JUL1983	5270.0	0.7	5270.7	50.2	53.9	85.1	-0.0	257.9	-1.7	447.1	38.3	4861.9	2007.6	1248.3	646.0
JUL1983	5628.0	0.8	5628.8	50.2	54.9	83.6	0.7	232.6	15.8	421.2	33.6	5241.2	2089.4	1171.7	1460.0
JUL1983	6436.0	1.1	6437.1	50.2	54.7	82.0	0.5	316.0	11.8	502.9	30.3	5964.6	2062.0	913.8	2134.0
JUL1983	4554.2	1.2	4555.4	50.2	55.3	78.0	0.1	104.5	11.3	287.9	31.7	4299.2	2349.7	343.7	1668.0
JUL1983	4856.6	1.3	4857.6	50.2	55.3	87.9	0.4	75.2	7.9	268.6	32.1	4621.1	2442.1	237.4	1646.0
JUL1983	4157.4	1.0	4158.4	50.2	55.3	94.2	0.2	59.2	6.3	248.9	27.0	3936.5	2022.1	241.3	2485.0
JUL1983	3945.1	1.2	3946.3	50.2	55.3	83.1	0.2	51.6	5.4	240.1	25.3	3731.4	1832.7	199.0	1620.0
JUL1983	3843.9	1.3	3845.2	50.2	55.3	90.9	0.2	47.3	4.7	243.6	30.4	3632.0	1912.4	151.5	1694.0
JUL1983	3948.5	1.0	3949.5	50.2	55.3	93.6	0.2	44.5	4.3	243.6	29.7	3735.7	2106.4	119.2	1825.0
JUL1983	4049.0	1.4	4050.4	50.2	55.3	85.0	0.0	42.7	4.2	233.1	33.0	3850.3	2227.3	101.4	1656.0
JUN1983	3727.8	1.0	3728.9	50.2	55.3	84.9	0.0	41.3	4.2	231.6	34.2	3531.4	2552.7	96.5	1747.0
JUL1983	3511.6	1.6	3513.2	50.2	55.3	85.1	0.0	41.9	4.0	232.4	36.4	3317.2	2415.4	362.9	439.0
JUL1983	4076.0	0.8	4076.8	50.2	56.3	79.7	0.1	39.0	3.0	224.2	32.9	3885.5	1987.4	224.6	621.0
JUL1983	2756.9	0.7	2757.6	50.2	56.3	77.0	0.1	37.4	3.4	219.8	25.9	2563.7	1955.0	181.7	602.0
MEAN	5459.0	0.9	5459.9	50.2	55.0	83.2	2.4	198.9	60.6	387.3	30.2	5102.8	2035.0	1000.3	1457.3

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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** THIS IS A JCL TO OUTPUT TABLES ***
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DAILY

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
FOR THE MONTH OF: AUGUST, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCK-PORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUC-TIONS FROM LOCK-PORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AUG1983	3460.0	1.5	3461.5	50.2	55.3	86.2	0.0	37.5	3.8	229.1	34.1	3266.5	2059.6	125.5	582.0
AUG1983	3576.7	1.5	3578.2	50.2	55.3	85.6	0.0	36.7	3.9	227.7	32.5	3383.0	2156.3	89.9	1769.0
AUG1983	4284.0	1.3	4285.3	50.2	55.3	70.4	0.0	36.9	4.0	212.7	35.4	4107.9	2161.9	66.7	1546.0
AUG1983	3611.0	1.5	3612.5	50.2	55.3	92.2	0.1	36.2	4.1	233.8	33.9	3412.6	2165.7	62.7	1453.0
AUG1983	3667.7	1.1	3668.8	50.2	55.3	91.7	0.1	35.6	4.1	232.7	33.6	3469.7	2131.2	77.0	1359.0
AUG1983	4039.8	0.9	4040.7	50.2	55.3	93.1	0.0	34.0	4.1	232.6	33.5	3841.7	2138.3	61.6	1962.0
AUG1983	3087.5	0.9	3088.4	50.2	55.3	85.2	0.0	33.1	4.1	223.7	30.8	2895.4	2148.1	55.2	1150.0
AUG1983	3240.0	1.4	3241.4	50.2	55.3	77.6	0.0	33.7	4.1	216.7	34.0	3058.7	2374.5	50.2	1329.0
AUG1983	4392.3	1.1	4393.4	50.2	55.3	93.0	0.0	33.0	4.1	231.4	37.0	4189.0	2259.0	46.5	1806.0
AUG1983	4263.6	1.1	4261.7	50.2	55.3	85.1	0.0	32.4	4.1	222.9	35.6	4074.4	2130.2	39.2	1888.0
AUG1983	3797.5	0.5	3798.0	50.2	55.3	87.6	0.1	32.0	4.0	225.0	27.3	3600.3	1816.5	217.9	1969.0
AUG1983	3869.1	1.3	3969.4	50.2	55.3	92.2	0.1	31.6	3.9	229.2	28.5	3668.6	2003.3	86.6	1880.0
AUG1983	4070.0	0.8	4070.8	50.2	55.3	92.9	0.0	31.1	3.9	229.4	28.3	3869.7	2019.9	45.8	1864.0
AUG1983	3873.9	0.2	3874.0	50.2	55.3	85.0	0.0	25.8	3.9	216.2	26.5	3684.2	1986.7	39.9	1833.0
AUG1983	3430.3	1.3	3431.3	50.2	55.3	92.8	0.0	29.4	3.8	227.6	30.9	3234.6	2253.1	34.6	1753.0
AUG1983	4027.3	1.1	4028.4	50.2	55.2	85.0	0.0	43.6	3.8	233.9	34.3	3828.8	2450.7	65.5	1677.0
AUG1983	9889.3	1.3	9890.3	50.2	52.8	80.1	0.0	594.7	6.3	777.8	46.0	9158.5	2056.5	4489.8	568.0
AUG1983	4163.3	1.2	4164.5	50.2	55.3	85.7	0.0	49.5	6.4	240.6	32.3	3956.2	2071.7	519.5	1677.0
AUG1983	3534.7	1.5	3536.2	50.2	55.3	70.5	0.0	38.2	5.3	214.1	30.6	3352.7	2458.7	180.5	595.0
AUG1983	3737.6	1.0	3738.6	50.2	55.3	85.2	0.0	33.7	4.8	224.3	29.3	3543.6	2168.3	122.8	1621.0
AUG1983	4304.5	1.2	4305.7	50.2	55.3	85.2	0.0	31.2	4.5	221.8	26.9	4110.9	2118.8	98.2	1679.0
AUG1983	3895.9	1.2	3897.1	50.2	55.3	90.2	0.2	29.8	4.3	225.4	31.2	3302.9	2057.2	77.7	1652.0
AUG1983	3826.0	0.6	3826.6	50.2	55.3	92.5	0.1	29.1	4.2	227.0	28.8	3628.4	2051.0	48.7	1437.0
AUG1983	3421.0	1.3	3422.3	50.2	55.3	93.0	0.0	28.4	4.0	226.8	29.6	3225.1	2144.7	38.0	1330.0
AUG1983	4301.5	0.9	4302.4	50.2	55.3	85.0	0.0	30.7	3.7	221.1	29.0	4110.3	1959.7	90.3	1504.0
AUG1983	3319.8	0.9	3319.7	50.2	55.3	84.8	0.1	28.1	3.5	218.3	29.5	3130.9	1946.6	156.3	987.0
AUG1983	4546.1	0.7	4546.8	50.2	55.3	85.3	0.0	28.5	3.6	219.2	26.8	4354.5	1785.0	110.9	2013.0
AUG1983	3291.8	0.7	3292.5	50.2	55.3	85.2	0.0	27.8	3.5	218.4	23.1	3097.2	1858.0	81.6	1323.0
AUG1983	3073.7	0.7	3074.4	50.2	55.3	85.1	0.0	27.3	3.5	217.8	27.6	2884.2	2166.9	46.7	843.0
AUG1983	4137.0	0.9	4137.9	50.2	55.3	77.5	0.0	27.0	3.8	209.9	29.1	3957.1	2003.4	279.6	1524.0
AUG1983	3145.1	0.7	3145.8	50.2	55.3	91.7	0.2	26.6	5.6	223.8	26.6	2948.6	1918.0	146.8	1260.0
MEAN	3963.3	1.0	3964.3	50.2	55.2	86.2	0.1	50.7	4.2	242.3	31.1	3753.1	2097.4	246.8	1478.5

* SEWER INDUCED GROUNDWATER PUMPAGE (COLUMNS 7 AND 9) NOT INCLUDED AS A DEDUCTION PER U.S. JUSTICE DEPT. OPINION)
** COLUMN 10=COLUMNS 4+5+6+8) (*** COLUMN 12=COLUMNS 3-10+11)

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* THIS IS A JOB TO OUTPUT TABLES ***
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DAILY

ILLINOIS DIVISION OF WATER RESOURCES DIVERSION ACCOUNTING REPORT
THE MONTH OF: SEPTEMBER, 1983
DATA ARE PRESENTED IN CUBIC FEET PER SECOND (CFS)

DATE	LOCKPORT RECORD	DIVERSN ABOVE GAGE	TOTAL FLOW THROUGH CANAL (1+2)	GRNDWTR PUMPAGE FROM LAKE MICH. WATRSHD IN ILLNOIS	GRNDWTR PUMPAGE FROM DES PLAINES WATRSHD	WATER SUPPLY PUMPAGE FROM INDIANA REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * INDIANA	RUNOFF FROM DES PLAINES WATRSHD REACHNG CANAL	SEWER INDUCED GRNDWTR PUMPAGE FROM DIVERTD WATRSHD IN * ILLNOIS	TOTAL DEDUCTIONS FROM LOCKPORT RECORD **	LAKE MICH. DOMEST. PUMPAGE NOT DISCHRG TO CANAL (W/ADJ)	TOTAL DIVERSN ***	PUMPAGE FROM LAKE MICH. ACCTBLE TO ILLNOIS	RUNOFF FROM DIVERTD WATRSHD	DIRECT DIVERSN THROUGH LAKE CONTROL STRCTRS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1SEP1983	2879.6	0.5	2880.1	50.2	55.3	84.0	0.0	26.5	4.5	216.0	28.7	2692.8	1973.8	41.8	767.0
2SEP1983	3119.6	0.6	3120.2	50.2	55.3	69.1	0.0	27.3	3.9	201.9	28.5	2946.8	2056.4	34.4	960.0
3SEP1983	3060.5	0.7	3061.2	50.2	55.3	69.0	0.0	26.1	3.6	200.6	25.3	2885.9	2007.0	30.9	996.0
4SEP1983	3274.0	0.9	3274.9	50.2	55.3	62.0	0.0	25.9	3.4	193.4	24.4	3105.9	1929.0	29.9	969.0
5SEP1983	3759.7	0.7	3760.4	50.2	54.7	48.8	0.0	112.9	3.9	266.6	26.9	3520.7	1902.9	896.3	954.0
6SEP1983	7496.1	0.7	7496.8	50.2	54.3	49.1	0.1	282.7	19.3	436.3	33.8	7094.3	1770.5	1919.9	1417.0
7SEP1983	3310.4	0.4	3310.8	50.2	55.3	62.0	0.1	40.8	12.4	208.3	25.2	3127.7	1727.7	225.9	843.0
8SEP1983	2881.2	1.0	2882.2	50.2	55.3	55.2	0.1	33.9	8.3	194.6	24.9	2712.5	1804.4	91.7	876.0
9SEP1983	2879.4	0.9	2880.3	50.2	55.3	48.8	0.0	29.7	6.2	184.0	26.9	2723.2	1977.8	54.4	872.0
10SEP1983	3500.0	0.7	3500.7	50.2	55.0	55.3	0.0	55.0	5.1	215.5	28.4	3313.6	2016.0	148.0	946.0
11SEP1983	3246.7	0.3	3247.0	50.2	55.3	62.4	0.0	30.4	4.7	198.3	21.7	3070.4	1611.1	156.1	1213.0
12SEP1983	3343.5	0.5	3344.0	50.2	55.3	76.4	0.0	28.2	4.3	210.1	24.3	3158.3	1675.5	72.6	1257.0
13SEP1983	4037.8	0.3	4038.1	50.2	55.3	77.0	0.2	27.4	6.5	209.9	23.8	3852.0	1649.5	425.1	397.0
14SEP1983	3745.4	0.3	3745.7	50.2	55.3	69.1	0.3	26.7	6.1	201.3	24.5	3568.9	1634.9	64.3	941.0
15SEP1983	4319.2	0.3	4319.5	50.2	55.0	55.5	0.0	194.7	4.6	355.4	27.2	3991.3	1613.3	357.4	1117.0
16SEP1983	4537.3	0.4	4537.7	50.2	55.2	69.3	0.0	94.5	3.9	269.2	24.2	4292.6	1580.7	304.1	1127.0
17SEP1983	5182.0	0.2	5182.2	50.2	54.4	69.2	0.0	168.7	6.3	342.5	27.8	4867.4	1548.9	892.1	1302.0
18SEP1983	5841.0	0.3	5841.3	50.2	53.9	62.6	0.2	787.6	31.6	954.4	29.1	4916.1	1529.6	3741.5	1632.0
19SEP1983	11691.0	1.1	11692.1	50.2	53.8	64.5	1.4	709.8	199.3	878.4	31.9	10845.6	1642.8	3222.6	253.0
20SEP1983	5511.0	0.4	5511.4	50.2	53.8	74.7	4.1	551.0	137.8	729.8	34.5	4816.1	1620.2	1684.5	1626.0
21SEP1983	4100.0	0.3	4100.3	50.2	55.3	62.7	0.7	199.4	96.4	367.6	25.9	3758.6	1568.6	601.9	1080.0
22SEP1983	3810.4	0.2	3810.6	50.2	55.3	62.5	0.4	121.3	55.3	289.3	25.8	3547.2	1532.7	276.6	1429.0
23SEP1983	3260.0	0.3	3260.3	50.2	55.3	55.6	0.2	81.5	34.8	242.6	23.9	3041.6	1546.4	167.4	1513.0
24SEP1983	3620.0	0.2	3620.2	50.2	55.3	42.9	0.2	60.9	24.6	209.3	21.7	3412.6	1501.6	116.3	1469.0
25SEP1983	3549.2	0.3	3549.5	50.2	55.3	42.9	0.1	50.7	19.3	199.1	18.9	3368.3	1436.1	91.4	1383.0
26SEP1983	3377.2	0.3	3377.5	50.2	55.3	49.1	0.1	45.9	16.6	200.5	24.9	3201.9	1559.1	85.2	1542.0
27SEP1983	3454.0	0.3	3454.3	50.2	55.3	49.0	0.1	43.3	15.1	197.8	22.7	3279.3	1624.0	66.5	1564.0
28SEP1983	3867.2	0.4	3867.6	50.2	55.3	62.2	0.1	38.8	14.1	206.5	24.7	3685.8	1645.1	55.7	1875.0
29SEP1983	3357.1	0.5	3357.6	50.2	55.3	62.1	0.1	39.7	13.2	207.3	24.6	3174.9	1660.8	49.1	1477.0
30SEP1983	2473.7	1.0	2474.7	50.2	55.3	62.1	0.1	40.0	12.6	207.6	26.5	2293.6	1646.5	46.3	571.0
MEAN	4082.1	0.5	4082.6	50.2	55.0	61.2	0.3	133.4	25.9	299.8	26.1	3808.8	1699.8	531.7	1145.6

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NORMAL END FOR THIS JOB***