



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

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## **2006 Annual Compliance/Summary Report**

**for the**

### **Virginatown Well Supply**



Prepared by the Ontario Clean Water Agency  
on behalf of the Township of McGarry

**Part III Form 2  
Section 11. ANNUAL REPORT.**

<b>Drinking-Water System Name:</b>	<b>McGARRY (VIRGINIATOWN) WELL SUPPLY</b>
<b>Drinking-Water System No.:</b>	<b>220000317</b>
<b>Drinking-Water System Owner:</b>	McGarry, The Corporation of the Township of
<b>Drinking-Water System Category:</b>	Large Municipal, Residential System
<b>Period being reported:</b>	January 1, 2006 to December 31, 2006

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people?</b>          Yes [ ]      No <b>X</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet?</b>          Yes [ ]      No <b>X</b></p> <p><b>Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">         McGarry Municipal Office          27 Webster Street,          Virginiatown ON P0K 1X0       </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b>  <input style="width: 100px; height: 20px;" type="text"/></p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve?</b>          Yes [ ]    No [ ]</p> <p><b>Number of Interested Authorities you report to:</b>  <input style="width: 100px; height: 20px;" type="text"/></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?</b>          Yes [ ]    No [ ]</p>
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**Drinking-Water Systems, which receive all of their drinking water from your system:**

Town of Virginiatown, North Virginitown and Kearns

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**

Yes **X**    No [ ]

**Indicate how you notified system users that your annual report is available, and is free of charge.**

- [ ] **Public access/notice via the web**
- [ ] **Public access/notice via Government Office**
- [ ] **Public access/notice via a newspaper**
- [ ] **Public access/notice via Public Request**
- [ ] **Public access/notice via a Public Library**
- X Public access/notice via other method – Newsletter**

**Description of the Drinking-Water System**

The McGarry Township water supply is a ground water system that draws its water from one production well with a permitted capacity of 1420 m<sup>3</sup>/d. The 26.2m deep drilled well is situated in the pumphouse building located approximately 500m east of Cheminis Road and 230m north of the Ontario Northland Railway tracks, adjacent to the Quebec border. The system provides water to approximately 840 people in the communities of Virginiatown, North Virginiatown and Kearns.

The raw water flow is measured at the pumphouse using a magnetic flow meter. Sodium hypochlorite is injected at the well site using two chemical metering pumps (one duty and one standby) to provide disinfection. Two sodium hypochlorite tanks equipped with spill containment are located inside the pumphouse.

A 56 kW diesel engine standby power generator set, complete with a fuel storage tank and spill containment is available in the event of a power failure.

The water is pumped from the pumphouse to an on-line elevated reservoir having a useable volume of 1300 m<sup>3</sup>. The water tower is located at the intersection of 27<sup>th</sup> Avenue and 27<sup>th</sup> Street in North Virginiatown. A feeder watermain, 6000 meter long and 200 mm in diameter, extends from the pumphouse, through Cheminis Road, Access Road, and Highway 66 to the tower.

The water tower is equipped with an overflow bypass valve, draining pipe, a pressure transmitter, an alarmed chlorine analyzer, chart recorder and an uninterrupted power source to ensure operation of the analyzer during a power interruption.

**A list of all water treatment chemicals used over this reporting period**

Sodium Hypochlorite - Disinfection

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Describe**

**May** - Installed new sodium hypochlorite pump.

**June** - Replaced singer valve with silent check valve at pump house.

**Details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre?**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
January 25	Total Coliforms	1	Counts/100 mL	<p>One total coliform was detected in a sample collected from Hydrant #13 located at 15 Cockram Street. The local Health Unit and MOE Spill's Action Center were notified.</p> <p>Re-samples were immediately collected upstream, downstream and at the site of the adverse result. All results indicated good quality water having no detectable total coliforms, <i>E. coli</i> or background bacteria.</p>	January 25  (AWQI resolved on January 27)

**Microbiological testing done under section 8(2) during this reporting period**

	Number of Samples	Range of <i>E.coli</i> Results (min# to max#)	Range of Total Coliform Results (min# to max#)	Number of HPC Samples/ Total Coliform Background Counts	Range of Background Colony Counts or HPC Results (min# to max#)
Raw	52	0 to 0	0 to 0	0	N/A
Treated	52	0 to 0	0 to 0	23 Background 29 HPC	0 to 0 (Background) <2 to <2 (HPC)
Distribution	111	0 to 0	1 to 0	26 Background 31 HPC	0 to 0 (Background) <2 to <2 (HPC)

MAC for *E.coli* = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

MAC for Background Bacteria = 200 Counts/100 mL (June 5, 2006 amendment to O. Reg. 170/03, background testing has been eliminated)

MAC for HPC = 500 Counts/100 mL (June 5, 2006 amendment to O. Reg. 170/03, there is no longer a standard for HPC)

**Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**
**Continuous Monitoring in Treatment Process**

	Number of Samples	Range of Results (min# to max#)	Unit of Measure
Chlorine (free)	8760	0.363 to 1.97	mg/L

*NOTE: For continuous monitors use 8760 as the number of samples.*

**Summary of Turbidity Data in the Raw Water**

	Number of Samples	Range of Results (min# to max#)	Unit of Measure
Turbidity	35	0.0 to 0.46	NTU

**Summary of Chlorine Residual Data in the Distribution System**

	Number of Samples	Range of Results (min# to max#)	Unit of Measure	Standard
Free Chlorine (daily)	365	0.08 to 0.78	mg/L	0.05
Free Chlorine (weekly)	109	0.1 to 0.65	mg/L	0.05

Note: As of June 5th 2006, O. Reg. 170/03 was amended for Large Municipal Residential Systems such that a total of seven operational checks for chlorine residual in the distribution system are required each week. The owner/operating authority can continue to test one sample per day or test four (4) samples one day and three (3) on a second day. The sample sets must be collected at least 48-hours apart and samples collected on the same day must be from different locations.

Free chlorine residuals are collected daily in the distribution system by certified municipal employees. Free chlorine residuals are tested weekly by OCWA staff when collecting bacteriological samples.

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
No additional sampling and testing were required for the Virginiatown Water Treatment System during the 2006 reporting period due to an approval, order or other legal instrument.				

**Summary of Nitrates & Nitrites tested during this reporting period.**

Date of Sample	Nitrate Result Value	Nitrite Result Value	Unit of Measure	Exceedance
January 9	0.121	<0.1	mg/L	No
April 3	0.141	<0.1	mg/L	No
July 10	0.1	<0.01	mg/L	No
October 9	<0.1	<0.01	mg/L	No

MAC for Nitrate = 10 mg/L      MAC for Nitrite = 1.0 mg/L

### Summary of Total Trihalomethanes tested in the Distribution System during this reporting period

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 9	< 2.8	ug/L	2.15	No
April 3	1.4	ug/L		
July 10	2.1	ug/L		
October 9	2.3	ug/L		

MAC for Trihalomethanes = 100 ug/L (Running Average)

### Summary of Lead tested in the Distribution System

Date of Sample	Number of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 9	1	0.8	ug/L	10	No

### Summary of Most Recent Schedule 23 Inorganic parameters sampled at the Water Treatment Plant (sample required every 36 months)

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Antimony	October 11, 2005	<1	ug/L	6	No
Arsenic	October 11, 2005	<1	ug/L	25	No
Barium	October 11, 2005	7	ug/L	1000	No
Boron	October 11, 2005	<10	ug/L	5000	No
Cadmium	October 11, 2005	<0.1	ug/L	5	No
Chromium	October 11, 2005	<5	ug/L	50	No
Mercury	October 11, 2005	<0.0001	mg/L	0.001	No
Selenium	October 11, 2005	<2	ug/L	10	No
Uranium	October 11, 2005	<0.2	ug/L	20	No

### Summary of Most Recent Schedule 24 Organic parameters sampled at the Water Treatment Plant (sample required every 36 months)

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Alachlor	Oct. 11, 2005	<0.50	ug/L	5	No
Aldicarb	Oct. 11, 2005	<5.0	ug/L	9	No
Aldrin + Dieldrin	Oct. 11, 2005	<0.012	ug/L	0.7	No
Atrazine + N-dealkylated metabolites	Oct. 11, 2005	<1.0	ug/L	5	No
Azinphos-methyl	Oct. 11, 2005	<2	ug/L	20	No
Bendiocarb	Oct. 11, 2005	<2.0	ug/L	40	No
Benzene	Oct. 11, 2005	<0.1	ug/L	5	No
Benzo(a)pyrene	Oct. 11, 2005	<0.0090	ug/L	0.01	No

Bromoxynil	Oct. 11, 2005	<0.50	ug/L	5	No
Carbaryl	Oct. 11, 2005	<5.0	ug/L	90	No
Carbofuran	Oct. 11, 2005	<5.0	ug/L	90	No
Carbon Tetrachloride	Oct. 11, 2005	<0.1	ug/L	5	No
Chlordane (Total)	Oct. 11, 2005	<0.012	ug/L	7	No
Chlorpyrifos	Oct. 11, 2005	<1.0	ug/L	90	No
Cyanazine	Oct. 11, 2005	<1.0	ug/L	10	No
Diazinon	Oct. 11, 2005	<1.0	ug/L	20	No
Dicamba	Oct. 11, 2005	<1.0	ug/L	120	No
1,2-Dichlorobenzene	Oct. 11, 2005	<0.1	ug/L	200	No
1,4-Dichlorobenzene	Oct. 11, 2005	<0.1	ug/L	5	No
Dichlorodiphenyl trichloroethane (DDT) + metabolites	Oct. 11, 2005	<0.024	ug/L	30	No
1,2-Dichloroethane	Oct. 11, 2005	<0.1	ug/L	5	No
1,1-Dichloroethylene (vinylidene chloride)	Oct. 11, 2005	<0.1	ug/L	14	No
Dichloromethane	Oct. 11, 2005	<0.5	ug/L	50	No
2,4 Dichlorophenol	Oct. 11, 2005	<0.50	ug/L	900	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Oct. 11, 2005	<1.0	ug/L	100	No
Diclofop-methyl	Oct. 11, 2005	<0.90	ug/L	9	No
Dimethoate	Oct. 11, 2005	<2.5	ug/L	20	No
Dinoseb	Oct. 11, 2005	<1.0	ug/L	10	No
Diquat	Oct. 11, 2005	<7	ug/L	70	No
Diuron	Oct. 11, 2005	<10	ug/L	150	No
Glyphosate	Oct. 11, 2005	<10	ug/L	280	No
Heptachlor + Heptachlor Epoxide	Oct. 11, 2005	<0.012	ug/L	3	No
Lindane (Total)	Oct. 11, 2005	<0.006	ug/L	4	No
Malathion	Oct. 11, 2005	<5.0	ug/L	190	No
Methoxychlor	Oct. 11, 2005	<0.024	ug/L	900	No
Metolachlor	Oct. 11, 2005	<0.50	ug/L	50	No
Metribuzin	Oct. 11, 2005	<5.0	ug/L	80	No
Monochlorobenzene	Oct. 11, 2005	<0.1	ug/L	80	No
Paraquat	Oct. 11, 2005	<1	ug/L	10	No
Parathion	Oct. 11, 2005	<1.0	ug/L	50	No
Pentachlorophenol	Oct. 11, 2005	<0.50	ug/L	60	No
Phorate	Oct. 11, 2005	<0.50	ug/L	2	No
Picloram	Oct. 11, 2005	<5.0	ug/L	190	No
Polychlorinated Biphenyls (PCB)	Oct. 11, 2005	<0.05	ug/L	3	No
Prometryne	Oct. 11, 2005	<0.25	ug/L	1	No
Simazine	Oct. 11, 2005	<1.0	ug/L	10	No
Temephos	Oct. 11, 2005	<10	ug/L	280	No
Terbufos	Oct. 11, 2005	<0.70	ug/L	1	No
Tetrachloroethylene	Oct. 11, 2005	<0.1	ug/L	30	No
2,3,4,6-Tetrachlorophenol	Oct. 11, 2005	<0.50	ug/L	100	No
Triallate	Oct. 11, 2005	<1.0	ug/L	230	No
Trichloroethylene	Oct. 11, 2005	<0.1	ug/L	50	No
2,4,6-Trichlorophenol	Oct. 11, 2005	<0.50	ug/L	5	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Oct. 11, 2005	<1.0	ug/L	280	No
Trifluralin	Oct. 11, 2005	<1.0	ug/L	45	No

## Drinking-Water Systems Regulation O. Reg. 170/03

Vinyl Chloride	Oct. 11, 2005	<0.2	ug/L	2	No
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### Summary of Most Recent Sodium Data tested at the Water Treatment Plant (sample required every 60 months)

Date of Sample	Number of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 11, 2005	1	15000	ug/L	20000	No

### Summary of Most Recent Fluoride Data tested at the Water Treatment Plant (sample required every 60 months)

Date of Sample	Number of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 11, 2005	1	<0.1	mg/L	1.5	No

### Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
No inorganic or organic parameter(s) exceeded half the standard found in Schedule 2 of the ODWS during the reporting period.			

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential) **Small Municipal Non-Residential has been removed and Non Municipal Year Round Residential has been added.**

# **McGARRY (VIRGINIATOWN) WELL SUPPLY**

**Large Municipal Residential Drinking Water System**

## **SCHEDULE 22**

### **SUMMARY REPORT FOR MUNICIPALITIES**

For the period of

**JANUARY 2006 to DECEMBER 2006**

Prepared by: OCWA  
Prepared for: Township of McGarry

**Schedule 22.  
SUMMARY REPORTS FOR MUNICIPALITIES**

This report is a summary of water quality information for the **Virginatown Water Treatment System**. It is published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation 170/03 for the reporting period of January 1, 2006 to December 31, 2006 and must be submitted to members of council.

The report must list the requirements of the Safe Drinking Water Act (2002) and the drinking water regulations which can be viewed at the following website:  
<http://www.e-laws.gov.on.ca>.

***Requirements the System Failed to Meet***

Compliance with the Safe Drinking Water Act involves conforming to the system's approval and any order issued at any time during the period covered by this report. The duration of the failure and details of the actions that were taken to correct the failure must be described.

The following table lists, to my knowledge, the requirements of the Act, its Regulations, the system's Approvals and any Provincial Officer Order issued during the 2006 reporting period.

Drinking water Legislation	Requirement(s) the System Failed to Meet	Duration	Corrective Actions	Status
The Virginiatown Drinking Water System has complied with all the requirements set out in the system's Certificate of Approval # 9405-6BTJ8Q issued April 27, 2005, the Act and Regulations.				

***Summary of Flow Rates***

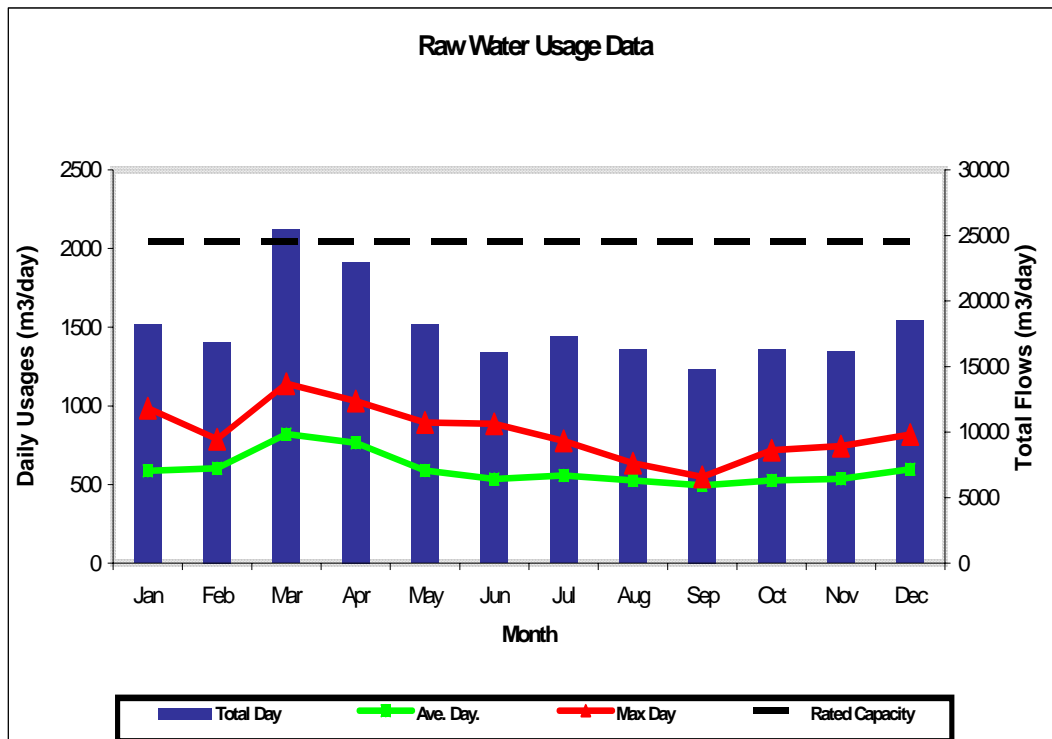
Under schedule 22-2(3) of Ontario Regulation 170/03, the Summary Report must include the following:

1. A summary of flow rates, including monthly average and maximum daily flows and daily instantaneous peak flow rates.
2. A comparison of the summary referred to in #1 to the rated capacity and flow rates approved in the system's approval and permit.

The following tables and graphs indicate the quantities and flow rates of water taken and produced during the reporting period, including monthly average flows, maximum daily flows and total monthly volumes. A comparison of the water data is made to the rated capacity and flow rates specified in the system's approval and permit.

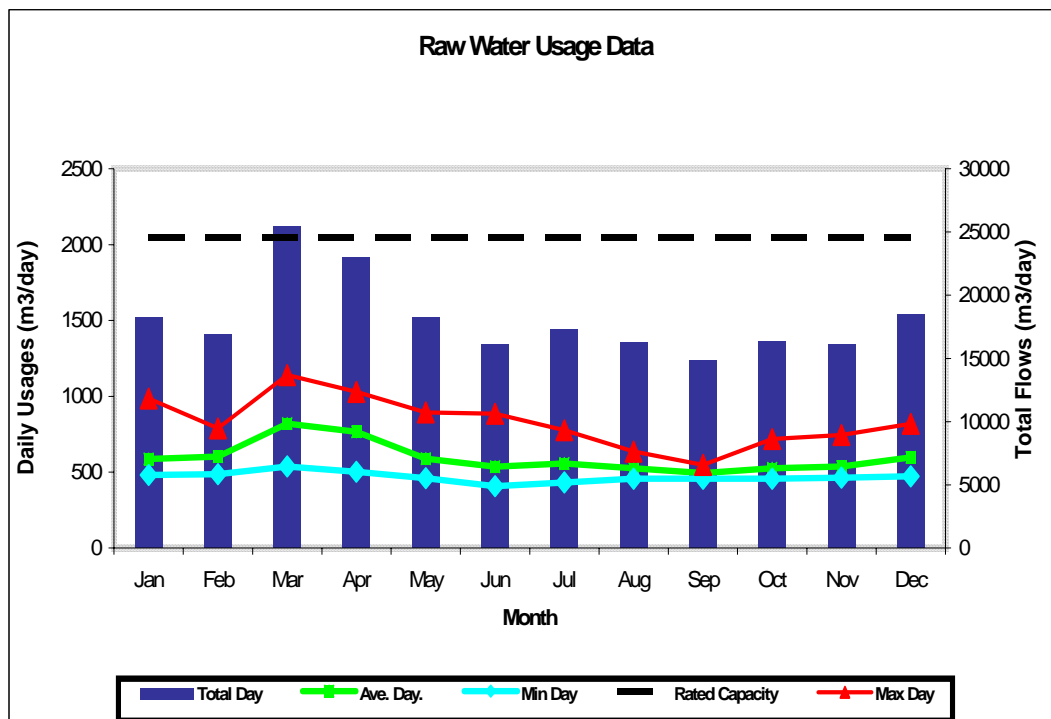
### Chemnis Well - 2006 Raw Water

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year To Date
<i>Volume (m3/d)</i>													
Ave. Day.	587	603	821	766	588	535	557	525	494	526	537	597	595
Total Day	18205	16876	25449	22973	18227	16059	17282	16283	14809	16308	16122	18507	217100
Max Day	986	788	1140	1030	894	886	777	636	548	718	745	818	548
Rated Capacity	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045
% Rated Capacity	48	39	56	50	44	43	38	31	27	35	36	40	56



## 2006 Treated Water

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year To Date
<i>Volume (m3/d)</i>													
Ave. Day.	587	603	821	766	588	535	557	525	494	526	537	597	585
Total Day	18205	16876	25449	22973	18227	16059	17282	16283	14809	16308	16122	18507	217100
Min Day	481	487	537	502	460	408	432	456	456	456	464	473	408
Max Day	986	788	1140	1030	894	886	777	636	548	718	745	818	1140
Rated Capacity	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045
% Rated Capacity	48	39	56	50	44	43	38	31	27	35	36	40	56



Treated water flow is equivalent to the raw water flow for this facility since there is no water loss from processes between the raw source and the point of discharge of treated water at the tower.

***Comparison of Flow Summary to System's Approval & Permit***

Certificate of Approval, #9405-6BTJ8Q specifies a maximum rated flow into the treatment system as 1420 L/minute or 2044.8 m<sup>3</sup>/day. The maximum flow rate for the reporting period did not exceed this limit. A maximum instantaneous peak flow rate of 1392 L/minute was recorded on January 30, 2006.

Permit to Take Water #01-P-6063 was issued on December 12, 2006, and authorizes the municipality to withdraw water from Cheminis Well at a maximum flow rate of 2044.8 m<sup>3</sup>/day. The rate of taking was not exceeded during the reporting period. The maximum daily volume of water taken in 2006 was 1140 m<sup>3</sup>/day on March 27<sup>th</sup>.