

Industrial Water Survey: Mineral Extraction Industries, 2009

Collected under the authority of the *Statistics Act*,
Revised Statutes of Canada, 1985, Chapter S19.

This document is confidential when completed.

Version française disponible

Correct pre-printed information, if necessary,
using the corresponding boxes below:

0001 Legal name

0002 Business name

0021 C/O

0028 Last name of contact

0008 First name of contact

0004 Address

0005 City

0006 Province/Territory or State

0053 Country

0007 Postal code/Zip code

Please read before completing

Survey Purpose

This survey collects detailed information on water use in Canada by the manufacturing, mining and electrical power generating industries. The survey asks information on who uses water, how much, where and at what cost. This data will be used to track the state of stocks of water on a regional basis in Canada and will also be used in the development of environmental accounts and indicators.

Return of Questionnaire(s)

Please return the completed questionnaire(s) to Statistics Canada within 30 days of receipt by mail, using the enclosed envelope. **If you are unable to do so, call 1 866 855-8594** to inform us of the expected completion date. You can also fax it to 877 256-2370. Lost the return envelope, need help to complete your questionnaire(s)? Call us at 1 866 855-8594.

Fax or Other Electronic Transmission Disclosure

Statistics Canada advises you that there could be a risk of disclosure during the facsimile or other electronic transmission. However, upon receipt, Statistics Canada will provide the guaranteed level of protection afforded to all information collected under the authority of the *Statistics Act*.

Authority

This survey is conducted under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S19.

COMPLETION OF THIS QUESTIONNAIRE IS A LEGAL REQUIREMENT UNDER THE STATISTICS ACT.

Confidentiality

Statistics Canada is prohibited by law from publishing any statistics which would divulge information obtained from this survey that relates to any identifiable business. The data reported on this questionnaire will be treated in strict confidence.

Data-sharing Agreements

In an effort to reduce respondent burden, Statistics Canada has entered into an agreement with Environment Canada under **Section 12 of the *Statistics Act*** for sharing of data herein. Environment Canada has undertaken to keep the information confidential and to use it for statistical purposes only. This Section 12 agreement shall not apply if an authorized officer or person of your company objects **in writing to the Chief Statistician and mails that letter to the Operations and Integration Division of Statistics Canada** with the completed questionnaire.

Planned Data Linkage

In order to enhance the analytic possibilities of this survey, Statistics Canada intends to combine the information from the Industrial Water Survey with the information your company/business provided on the Annual Census of Mines.

Person primarily responsible for completing this questionnaire, if different from above:

0026 1 Mr. 2 Mrs. 3 Miss 4 Ms 5 Dr.

0054 Last name

0013 First name

0014 Title

0017 Telephone number () - extension 0027

0016 Fax number () -

0020 Website address

0018 E-mail address

For Statistics Canada use only

Rec.	Ed.	Kyd.	Bat.	Coll.	FSC
Y M D	Y M D	Y M D			

REPORTING YEAR: JANUARY 1, 2009 TO DECEMBER 31, 2009

NOTE i) Water volumes are to be reported in the units in use at this facility; please **mark only one selection** and use this unit of measure throughout the questionnaire.

Line
1

C0101

1 cubic metres

2 other – specify

IMPORTANT
If reporting in multiples of a unit of measure, please take care to enter the correct decimal values or number of zeros. (i.e., if *other*, above, is specified as *thousands* of litres, note that a reported quantity of 3 = 3,000 (*3 thousand*) litres, whereas a reported quantity of 3,000 = 3,000,000 (*3 million*) litres).
If reporting in gallons, please specify Imperial or U.S. gallons.

ii) Where data are not available, please estimate.

SECTION 1: MONTHLY AND ANNUAL TOTAL WATER INTAKE AND DISCHARGE

INSTRUCTIONS

- (i) In this section, under intake, please report by month the quantity of “new water” brought into your operation. For the purpose of this questionnaire “new water” is defined as water introduced for the first time into this mine **regardless of source or quality** (including sanitary/domestic water intake).
- (ii) Where you supply water to adjacent or tenant industry(ies) or municipality(ies), please report estimated water intake for your mine only.
- (iii) Under discharge, please report the quantity of water routed to its ultimate point of discharge (including sanitary/domestic discharge). In mining operations please include waste water pumped from the mine and not used for any other purpose, as discharge water only.
- (iv) Under discharge **do not report** the volume of water released to ponds, lagoons or basins and intended for recirculation or reuse until such water is actually discharged to a location beyond the control of the mine or plant.
- (v) Under discharge **do not include** any water lost in production through evaporation, permanently held in open or closed storage, or otherwise consumed (e.g. included in a final product or slurry), include such water only as intake.
- (vi) Annual total discharge may be greater than annual total intake as explained above in item (iii).

Month	Volume per month	
	Intake	Discharge
2 January	C1001	C1101
3 February	C1002	C1102
4 March	C1003	C1103
5 April	C1004	C1104
6 May	C1005	C1105
7 June	C1006	C1106
8 July	C1007	C1107
9 August	C1008	C1108
10 September	C1009	C1109
11 October	C1010	C1110
12 November	C1011	C1111
13 December	C1012	C1112
14 ANNUAL TOTAL	C1013	C1113
15 Of the annual volume of discharge water at Line 14, C1113, what volume originated as mine water (drainage of ground water) pumped from the mine?	<input type="text" value="C1301"/>	

SECTION 2: WATER INTAKE BY SOURCE AND KIND

INSTRUCTIONS

- (i) Please report your volumes of intake water by source and its usual characteristic.
- (ii) Freshwater is defined as water containing 900 parts per million, or less, of total dissolved solids.
- (iii) Saline / brackish water is defined as water containing more than 900 parts per million of total dissolved solids.

Where data are not available, please estimate.

Source	Volume per year	
	Freshwater	Saline / Brackish
16 Public water utility system	C2401	XXXX
17 Self-supplied surface water system (lake, river, etc.)	C2402	XXXX
18 Self-supplied groundwater system (well, spring, etc.)	C2403	C2203
19 Self-supplied tide water (salt water) body (estuary, bay, ocean, etc.)	XXXX	C2204
20 Other sources (<i>specify</i>) C2000	C2405	C2205
	C2406	C2206
21 TOTAL		

NOTE: The sum of C2406 and C2206 (line 21, above) should equal C1013 at line 14 on previous page.

Estimated annual cost of water acquisition:

22 Payment to public utility (for water volume at line 16, above)

C2301 \$, Millions , Thousands , Hundreds .00

23 Estimated annual operating and maintenance costs of intake water acquisition (excluding water treatment costs which are covered on the next page). Operating and maintenance costs should only include your material, labour and energy costs incurred to operate and maintain your systems that bring water into your facility.....

C2302 \$, Millions , Thousands , Hundreds .00

24 Cost of your annual intake licence (estimate if permit not purchased annually)

C2303 \$, Millions , Thousands , Hundreds .00

25 Payment for purchase of water from another operator / industrial supplier

C2304 \$, Millions , Thousands , Hundreds .00

SECTION 3: INTAKE WATER - TREATMENT

26 Did this establishment treat any **intake** water?

C3001 1 Yes

3 No → *If no, go to Section 4*

INSTRUCTIONS

- (i) Indicate the volume of intake **water treated** within your establishment prior to initial use. Do not include treatment of water for re-use.

Where data are not available, please estimate.

	Category of treatment	Volume per year
27	Screening	C3201
28	Filtration	C3202
29	Chlorination - disinfection (includes for process and for biological control)	C3203
30	Corrosion and slime control	C3204
31	Alkalinity control	C3205
32	Hardness (or water softening)	C3206
33	Coagulation / flocculation	C3207
34	Other (specify) <input type="text" value="C3213"/>	C3210
	Other (specify) <input type="text" value="C3.14"/>	C3211
	Other (specify) <input type="text" value="C3215"/>	C3212

35 Estimated annual operating and maintenance cost of your intake water treatment. Operating and maintenance costs should only include your material, labour and energy costs incurred to operate and maintain systems to treat water brought into your facility.....

C3101 \$, , , .00
 Millions Thousands Hundreds

SECTION 4: WATER INTAKE BY PURPOSE

INSTRUCTIONS

- (i) Report the amount of water within your establishment by **initial** use. This section should not include recirculated water except as stated in Line 36 (for a definition of “recirculated water”, see section 5).
- (ii) In Line 39 “Other uses” should not include water pumped by the establishment, and intended for initial use outside the establishment.

Where data are not available, please estimate.

	Purpose	Volume per year
36	Process water - This is water that serves in any level of the mining process. It includes all water which comes in direct contact with products and/or materials. It also includes water which is used in the sanitation of process equipment, water which is consumed in milling and special processes, water which is included in final output or water which has been used for another purpose, and is undergoing its final use as process water	C4101
37	Cooling, condensing and steam - This is water which does not come in direct contact with the products, materials or by-products of the processing operation. It includes pass-through water used in the operation of cooling or process equipment (including air conditioning) and water introduced into boilers for the production of steam for either process operations or electric power.....	C4102
38	Sanitary service/Domestic use - This is water used for toilets, janitorial services, lawn watering, washing of vehicles, etc.	C4103
39	Other uses (<i>specify</i>) <input type="text" value="C4000"/>	C4104
40	Total (Lines 36 to 39 should equal sum of figures reported in Line 14, C1013)	C4105
41	Of the annual volume of intake water for process reported in Line 36, what volume of water was consumed or lost (i.e. not returned to original source)?	C4301
42	Of the annual volume of intake water for cooling, condensing or steam production reported in Line 37, what volume of water was consumed or lost (i.e. not returned to original source)?	C4302
43	What volume of intake water was used as injected water or steam in the secondary recovery of oil or natural gas?	C4303

FOR INFORMATION ONLY

SECTION 5: WATER RECIRCULATED OR REUSED BY PURPOSE

Recirculated water refers to water used at least twice in an industrial facility. It is water that **leaves** a particular subsystem and **re-enters** it or is **used in another** subsystem. It does not refer to water that circulates many times within the same sub-system (i.e. it excludes closed-loop systems).

- 44 Did this mine recirculate or reuse water? C5001 1 Yes
3 No → *If no, go to Section 6*

INSTRUCTIONS

(i) Please report the volume of water recirculated or reused.

Where data are not available, please estimate.

Purpose	Volume per year
45 Process	C5101
46 Cooling, condensing and steam	C5102
47 Other uses (specify) <input type="text" value="C5000"/>	C5103
48 Total (Lines 45 to 47)	C5104

- 49 Does this operation have a tailings pond(s)? C5201 1 Yes 3 No



Volume per year
C5302

- 50 If yes, indicate the volume of water recirculated or re-used from the tailings pond(s).....

- 51 Does this operation inject water into an oil bearing formation? C5303 1 Yes 3 No



Volume per year
C5304

- 52 If yes, indicate the volume of water injected.....

- 53 Estimated annual operating and maintenance cost of water recirculation. Operating and maintenance costs should only include your material, labour and energy costs incurred to operate and maintain systems to recirculate water in your facility

C5201

\$, Millions , Thousands , Hundreds .00

