

CANADA – ALBERTA

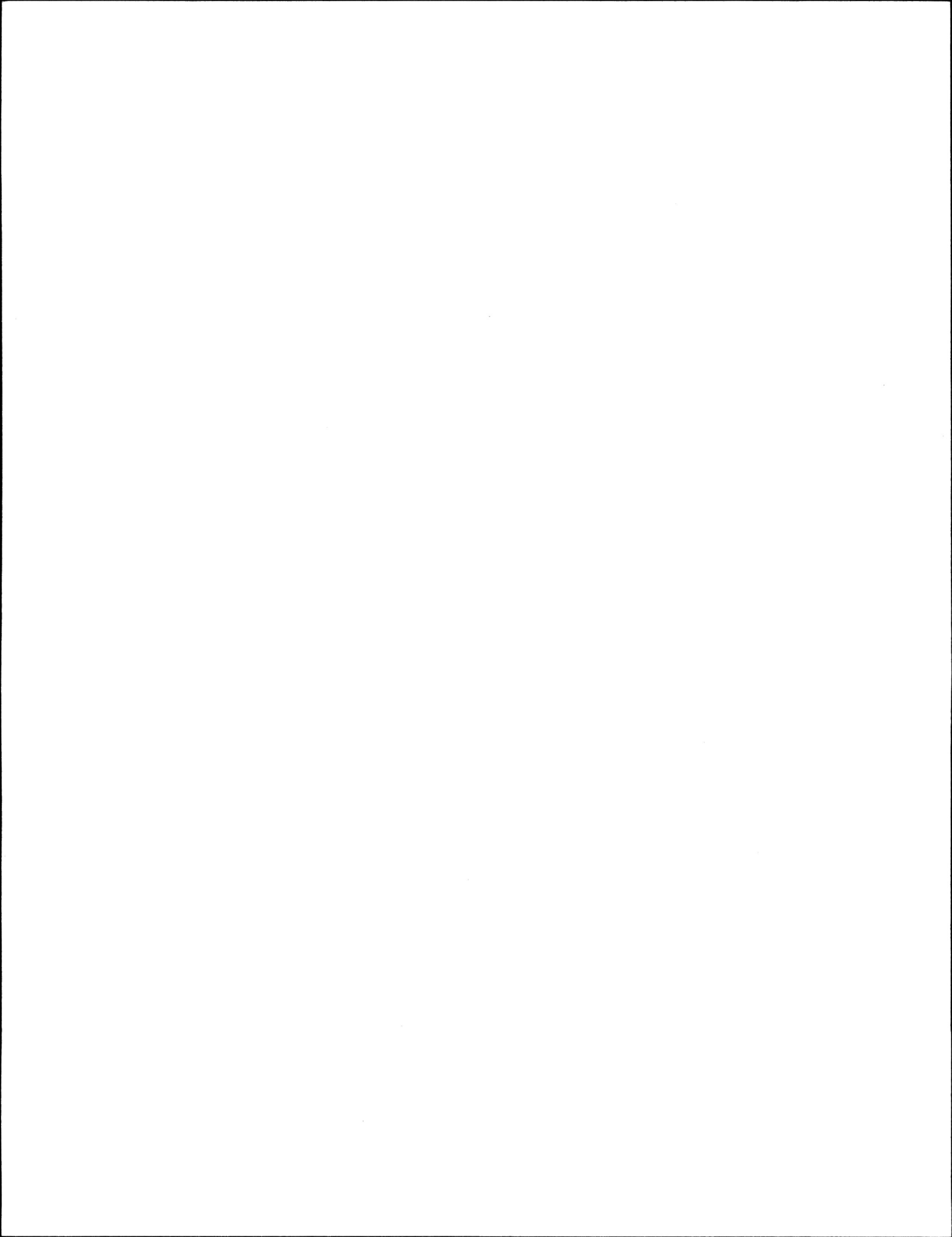
MEMORANDUM OF AGREEMENT

FOR

WATER QUANTITY SURVEYS

REPORT for FISCAL YEAR

2006 – 2007



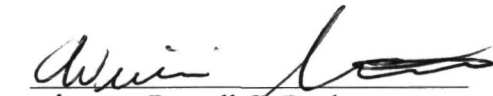
CANADA – ALBERTA
2006 – 2007 Memorandum of Agreement for Water Quantity Surveys

TO: Dr. Alain Pietroniro
Administrator for Canada

Mr. Tom Dickson
Administrator for Alberta

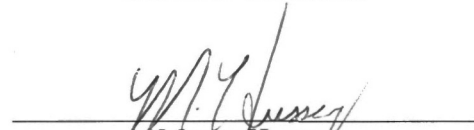
We hereby submit the annual report for the fiscal year 2006 – 2007 covering activities under the Memorandum of Agreement for Water Quantity Surveys for the Province of Alberta.

Government of Canada



Russell G. Boals
for Environment Canada

Province of Alberta



Morna Hussey
Alberta Environment

Members

Alberta Coordinating Committee

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1.0 INTRODUCTION

Twenty three reports summarizing the activities of the water quantity surveys in the Province of Alberta have been submitted to the Administrators of the Canada – Alberta Quantity Surveys in accordance with Article XII of the 1975 Memorandum of Agreement. The last report was submitted January 2007 for the fiscal years 2004 – 2006.

In 1975, Canada and Alberta signed the Canada – Alberta Memorandum of Agreement for Water Quantity Surveys thus harmonizing the collection, processing, publication and distribution of Hydrometric data for Alberta. In the same year, similar agreements were signed with all provinces and with Indian and Northern Affairs Canada on behalf of the Territories. These agreements have provided the basis for the development of a standardized national archive of data and information on the availability and variability of surface water within Canada.

The evolution of the needs of the parties and monitoring approaches since 1975 have created the need for the renewal of all of the 1975 agreements. This new Agreement provides the structure and flexibility to ensure that the parties are provided with an effective and efficient Hydrometric monitoring service that supports public health and safety, economic development and the sustainability of our natural environment.

As discussions continue on finalizing the new Agreement, the twenty fourth report for the fiscal year 2006 – 2007 has been prepared in accordance with the changes to Schedule B of the new Agreement that have been agreed to by the Administrators at national meetings. Schedule B of the new Agreement describes the procedures for determining and distributing shareable costs.

The 2006 – 2007 report contains a brief summary of the year in review and the highlights from the coordinator meetings held May 25, November 6, 2006 and March 8, 2007. Network status and operational costs for hydrometric and specific project activities are also discussed. A historical over and under cumulative summary and table of Alberta Environment payments is included at the end of Section 3.0, while the historical network development dating back to the early 1900's is illustrated in the final section of this report.

In addition, the Appendices to this report include Schedule C, a station listing for 2006 – 2007; Schedule D, Summary of Financial Considerations Details for 2006 – 2007; Schedule D, Summary of Financial Considerations Estimates 2006 – 2007; Schedule D, Summary of Financial Considerations Estimates 2007 – 2008; Project Details 2006 – 2007.

The 2006 – 2007 Alberta hydrometric program total expenditures were \$4,416,660. Canada's calculated share is \$1,835,334 while Alberta Environment's is \$2,581,326.

2.0 SUMMARY of OPERATIONAL CONSIDERATIONS

2.1 Year in Review

Mr. David Graham, after a long distinguished career with Alberta Environment and for the last ten years served as Alberta's Coordinator to the Water Quantity Program, retired in the spring of 2006.

The Hydrometric Renewal Agreement process is continuing with five jurisdictions, Northwest Territories - Nunavut, Manitoba, Alberta, Ontario and Quebec, having reached agreement and in the translation stage before final approval.

Alberta Environment's Monitoring Program (AENV), which encompasses a variety of environmental monitoring activities, was a year characterized by consolidation of effort and growth in their program in support of Alberta Environment's assurance function.

The Alberta Environment Hydro-Meteorological Technical Team, a component of the above mentioned Monitoring Programs, has been working in partnership with the Water Survey of Canada (WSC) to help to both maintain and expand the existing hydrometric network. Expanding on their successful 30 plus year partnership with the WSC, AENV partnered with Alberta Agriculture and Food (AAF) in adding additional meteorological stations across southern Alberta. Building upon these successes, AENV continues to work towards partnerships both internal and external to government groups and in the future, the Hydrometric Team hopes to work with other provinces (British Columbia, Saskatchewan) and the United States (Montana).

In an effort to ensure monitoring equipment provides more reliable data during extreme runoff events, the Water Survey of Canada operations group installed secondary sensors at selected locations. In addition, the University of Calgary was commissioned and provided a design for an orifice block to better withstand the hydraulic forces that occur during these extreme events. As with the secondary sensor installations, orifice blocks were built and installed at selected stations.

2.2 Coordinator Meeting Highlights

The Canada – Alberta Coordinating Committee met on May 25, November 6, 2006 and March 8, 2007. Alberta was represented by David Graham (May 25), Kendall Tupker and Dave Ardell of Alberta Environment while Canada's representatives were Russell Boals and Mike Renouf of Environment Canada. Mr. Tom Dickson, Administrator for Alberta, addressed the coordinators at the November 6 coordinating committee meeting.

Schedule C changes approved by the Coordinating Committee were; addition of ten Provincial (P-1) network expansion stations built in 2005 – 2006; inclusion of five hydrometric - Fisher Porter work share stations to P-1 and one station was re-designated. A complete list of the changes and effective dates are included in Table 2.3

Coordinators were informed the station decommissioning continues with implementing plans. It was agreed that all sites discontinued prior to 1975 are considered to be a Federal responsibility. It is estimated that approximately 600 sites will be investigated.

Alberta Agriculture Food and Rural Development (AAFRD) Demonstration Farm representatives made a presentation to the Coordinating Committee on their hydrometric and climate programs. The presentation was part of an initiative in exploring hydrometric partnership opportunities for the Alberta Water Quantity Program. During the discussion that followed committee members were informed the Water Survey Division and AAFRD were planning a Stream Gauging Workshop and would provide an agenda to Alberta Environment. The conclusion to the presentation was a tour of the AAFRD Water Measurement and Testing Facility. The Committee and AAFRD were in agreement there was considerable potential for partnering.

Coordinators discussed respective parties' role and arrangements required in forming an effective partnership with the Regional Aquatics Monitoring Project (RAMP) or its consultants for operating current hydrometric stations and conducting required audits and for the supply, distribution and sharing of data.

Alberta Environment briefed the committee on the status of their Hydro-Meteorological database work. Alberta advised the goal is to share the resulting database with others including Environment Canada, however they cautioned the accuracy had not been verified and should be used accordingly.

Canada provided the committee with a fiscal update on the status of operational expenditures at the November 6 meeting. The Alberta Administrator requested they be kept informed on financial situation and that in the future the Coordinating Committee work to minimize the creation of future surplus or deficit situations. Ideally Alberta would like to use the 4th quarter billing as an adjustment to balancing with the estimates.

The coordinators agreed to 2006 – 2007 Schedule D Exchange of Resources Estimates (amended version dated March 17 2007) for a planned expenditure of **\$4,287,510**. Canada's share is estimated at **\$1,960,566** (includes Alberta net credits for program work) while Alberta Environment net share is **\$2,326,944**. Alberta net share includes credits (\$308,520) for operating the Federal network in the Peace Athabasca Delta, Direct Costs incurred for 2006 – 2007 hydrometric program operations, Christina Lake operations, an over recovering of funds for past years operations and a debit (\$73,848) for the variance of contaminated sites cleanup project.

Alberta requested Canada provide the final invoice related to the repairs as a result of the 2005 – 2006 flooding.

Canada reported they have hired a term employee to investigate shared network expansion opportunities with the Irrigation Districts. It was noted that this item is linked to the provision of return flow data to Prairie Province Water Board (PPWB).

Committee approved the 1999 – 2004 Canada – Alberta cost share report.

Coordinators were briefed on the work being conducted in conjunction with the University of Calgary into the design of an orifice anchor that will better withstand high water situations that come with steep hydraulic slopes. This design work is being carried out as part of the flood proofing and redundant sensor initiative to provide more reliable data during extreme events.

The Parties agreed it would be beneficial for the Water Survey Division Operation Manager be included as a member of the Alberta Environment Hydrometric - Meteorological Technical Team.

Coordinators were informed the process of updating the level of service information in Schedule C continues.

The contaminated sites project was completed in 2006 – 2007. The final accounting for this project is included with the Schedule D estimates 2006 – 2007. The Committee had previously requested that Alberta Environment regulators provide Reclamation Certificates for all sites that were cleaned. They were informed at the March 2007 meeting that certificates are not required.

2.3 Network

The Canada – Alberta Hydrometric Agreement includes three hundred and ninety four (394) hydrometric, four (4) sediment monitoring stations operated by the Water Survey Division and ten (10) hydrometric monitoring stations operated by Alberta Environment during 2006 – 2007. Two (2) of the Federal stations operated by Canada are located in Saskatchewan and four (4) international stations are located in Montana.

In addition to the stations operated by Canada and Alberta Environment, Water Survey Division Northwest Territories / Nunavut operated two (2) Federal stations in northern Alberta while Water Survey Division Saskatchewan operates nine (9) Federal stations in south eastern Alberta. Alberta Environment contributed data from forty (40) stations to the national archive while Trans Alta Utilities and the City of Calgary contributed eighteen (18) and one (1) respectively bringing the total network size to 474 hydrometric stations.

Ten provincial stations constructed in 2005 – 2006 were added to the network as P1. Canada and Alberta for a number of years cooperated in a work share project where Canada operated five Provincial hydrometric stations and in exchange, Alberta operated sixteen Federal fisher porter accumulator gauges. This arrangement was discontinued effective April 1 2006 and the five provincial hydrometric monitoring stations were added to Schedule C as P1 stations at the request of Alberta. In addition, one station was re-designated from F2 to P1. The above changes included in Table 2.3 are effective April 1 2006.

A detailed listing of the stations is included in Schedule C 2006 – 2007, Appendix A.

Table 2.3
 Schedule C changes for 2006 – 2007

Schedule C changes 2006 - 2007				
	<u>Designation Changes</u>	Designation 2006 -2007	From	To
05CA011	Bearberry Creek near Sundre	P1	Work-Share	WSD Operations
05CA012	Fallentimber Creek near Sundre	P1	Work-Share	WSD Operations
06AC001	Jackfish Creek near La Corey	P1	Work-Share	WSD Operations
07BF010	South Heart River near Peavine	P1	Work-Share	WSD Operations
05AA909	Todd Creek near Highway No.	P1	Work-Share	WSD Operations
05AA032	Oldman Reservoir near Pincher Creek	P1	F2	P1
<u>Network Additions</u>				
05FA011	Battle River at Duhamel	P1	NEW	WSD Operations
05FA025	Camrose Creek near Camrose	P1	NEW	WSD Operations
05BJ010	Elbow River at Sarcee Bridge	P1	NEW	WSD Operations
05CC013	Lasthill Creek near Eckville	P1	NEW	WSD Operations
07JC003	Loon River near the Mouth	P1	NEW	WSD Operations
05AA011	Mill Creek near the Mouth	P1	NEW	WSD Operations
07HF001	Peace River at Fort Vermillion	P1	NEW	WSD Operations
05BL012	Sheep River at Okotoks	P1	NEW	WSD Operations
05EE010	Vermillion River at Range Road 105	P1	NEW	WSD Operations
05EE011	Vermillion Lakes near Morecambe Structure	P1	NEW	WSD Operations

3.0 COST OF OPERATION

3.1 Operations

The 2006 – 2007 gross program expenditure shares for Canada were calculated at \$1,835,334 while the Alberta Environment's share is \$2,581,326. The calculated gross shares are 106.3% and 100.8% of the Schedule D estimates for Canada and Alberta Environment respectively.

Alberta's less than 1% over expenditure in gross share was the difference between a 3% over expenditure in the operation (direct and indirect) and a 6% less than the Schedule D estimated expenditure in the projects. Canada's 6.3% over expenditure in gross share is attributed to a 2% and 14% over estimated expenditure in the operation and projects respectively.

The gross direct operations were 2.2% over estimates which can be considered within normal operating ranges while the indirect operations was 10.3% over the estimates. The majority of the indirect operations over expenditure can be attributed to the training costs ensuring new personnel meet basic skill and safety regulations associated with the hydrometric program.

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Projects as a whole were 2.2% above the estimates and from an overall program perspective this would be considered within normal operations. The individual projects are discussed later in this section.

Alberta's net share of the program expenditures was \$2,336,605 which is less than 1% over the Schedule D estimates of \$2,326,944

The Alberta Environment net share includes total credits (\$318,569) for operating the Federal network in the Peace Athabasca Delta (\$110,113), their Direct Costs incurred for 2006 – 2007 hydrometric program operations (\$39,094), Christina Lake operations (\$9,809), an over recovering of funds for past years operations (\$153,039), a project share 3rd party expenditure recovery (\$6,514) and a debit of (\$73,848) for the variance of contaminated sites cleanup project.

Alberta's net share credits for the March 2007 signed Schedule D estimates (\$2,326,944) and summarized in Table 3.1.2 below does not include the 2005 flood damage repairs of \$81,491 disbursed in LCM projects on this activity. The credit for payment of the 2005 flood work activities has been included with Alberta's Balance in Table 3.1.1, Schedule D Summary of Financial Considerations.

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Table 3.1.1
Schedule D 2006 – 2007
Summary of Financial Contributions

TYPE OF EXPENDITURE	Stations	Expenditure	SHARE	
			FEDERAL	PROVINCIAL
Direct Operations				
Hydrometric Network Operated by WSC	394	\$ 2,617,652	\$1,060,000	\$ 1,557,651
Hydrometric Equipment Depreciation		\$ 138,711	\$ 56,170	\$ 82,541
Full Program Sediment Stations	4	\$ 26,728	\$ 4,455	\$ 22,273
Sediment Equipment Depreciation		\$ -	\$ -	\$ -
Indirect Operations				
Hydrometric Network Operated by WSC	394	\$ 480,266	\$ 194,480	\$ 285,785
Full Program Sediment Stations	4	\$ 4,904	\$ 817	\$ 4,087
Projects				
Life Cycle Management	59	\$ 613,984	\$ 340,632	\$ 273,352
Contaminated Site Cleanup		\$ 74,112	\$ 41,258	\$ 32,854
Cableway Upgrades	12	\$ 103,570	\$ 38,870	\$ 64,700
Station Decommissioning		\$ 126,651	\$ 98,651	\$ 28,000
Network Expansion	4	\$ 230,083	\$ -	\$ 230,083
TOTAL		\$ 4,416,660	\$1,835,334	\$ 2,581,326

ALBERTA GROSS SHARE: \$ 2,581,326

ALBERTA CREDIT:

a) Direct Operation cost (PAD area)		
Hydrometric stations	\$ (89,093)	
Hydrometric Depreciation	\$ (4,673)	
b) Indirect Operation cost (PAD area)	\$ (16,346)	
c) Direct Costs Water Sciences (\$39,894 X 125.45 / 311.65)	\$ (16,059)	
d) Direct Costs Monitoring (\$57,225 X 125.45 / 311.65)	\$ (23,035)	
d) Christina Lake January -December	\$ (9,809)	
e) Variance of historic Contaminated Sites Cleanup costs	\$ 73,848	
f) Over recovery for past years hydrometric operations	\$ (153,039)	
g) LCM credit for Steepbank project charged to 3rd party	\$ (6,514)	
TOTAL CREDIT	\$ (244,721)	

ALBERTA NET SHARE: Alberta Gross Share + ALBERTA CREDIT \$ 2,336,605

Schedule D invoice 2006 - 2007 \$ 2,326,944

Flood Recovery Invoice \$ 81,491

BALANCE \$ 71,830

Table 3.1.2
 Alberta Environment Payments

2006 - 2007 Invoices				
Client	Invoice			
	Number	Date	Service	Total
Alberta Environment	80518987	November 22 2006	1st and 2nd Quarter billing	\$1,234,600.00
Alberta Environment	80519274	February 7 2007	3rd Quarter billing	\$617,300.25
Alberta Environment	80519337	March 16 2007	Flood Damage Repairs	\$81,491.00
Alberta Environment	80519338	March 16 2007	4th Quarter billing	\$475,043.25
				\$2,408,434.50

3.2 Projects

3.2.1 Life Cycle Management

There were fifty nine (59) Life Cycle Management (LCM) projects completed during 2006 – 2007 season. Included in the project activities were; heat tape replacements, bank and control stabilization, shelter replacements, electrical upgrades, temporary changes to gauging stations to accommodate bridge works, stilling well civil works for fall arrest systems and intake repairs, reconnaissance for future work along with minor maintenance at a number of other stations.

One project in the Ft McMurray area was funded by a third party. The expenditures are included in the FP share of LCM and Alberta's share of the fiscal recovery is included as a credit line in the Summary of Financial Contributions Table 3.1.1.

The repair works for damage to infrastructure and stream banks as a result of the 2005 flooding were completed.

Alberta's LCM share was approximately 6% under the estimates while Canada's share was significantly over the estimates. Canada's over expenditure is primarily attributed to equipment purchase (\$144,190) that was not part of the estimates. Late in the fiscal year there was an opportunity to take advantage of additional resources to acquire data loggers, sensors and peripheral support equipment as replacements for their aging equipment, of which some was installed in the mid nineties.

Additional details on the LCM construction projects are included in Appendix E, Project Details 2006 – 2007.

3.2.2 Contaminated Sites

The Canada – Alberta Water Quantity partners; Environment Canada, Water Survey Division (WSD) and Alberta Environment, undertook an assessment and remediation project to address potential mercury contamination at hydrometric stations in Alberta as a result of the use of mercury manometers in the data collection process.

A field protocol for the assessment and cleanup of the hydrometric stations was developed and tested by Environmental Services, Public Works and Government Services Canada (PWGSC) in 1998. This protocol was used as the foundation along with

the Canada Council Minister of Environment (CCME) guidelines for elemental mercury for the Alberta assessment and remediation.

Based on the success of the protocol in other jurisdictions throughout Canada, Water Survey Division retained Public Works and Government Services Canada (PWGSC) Environmental Services Branch, to conduct mercury assessment and cleanup activities during the life of the project at two hundred and twenty five (225) hydrometric sites throughout the Province of Alberta which included two hundred and ninety one station visits (291) from 2000 to 2007. In addition, Environment Canada warehouse facilities in Calgary, Peace River and Ft McMurray were assessed and cleaned to meet the criteria of the hydrometric gauging station sites.

Not all stations identified as requiring an assessment necessarily had a shelter on site nor was there soil but in the cases where shelters and soil required assessment and subsequent remediation, the field protocol successfully assessed and remediated 100% of the shelters and the soil at 100% of these stations. It should be noted that, although the sites have been cleaned to meet the Occupational Health and Safety criteria and the established cleanup criteria, mercury may remain between individual components of the structure and in soils below shelters for sites that are not fully decommissioned. When shelters are eventually decommissioned, further assessment and remediation may be required.

Table 3.2.2 includes a final project summary of the partner shares while the technical and cleanup details as they relate to the specific cleanup results are contained in the Public Works and Government Services' Canada two volume report produced for each year's activity. Volume I of these reports provide an annual summary of the work conducted and the overall project results. Volume II contains detailed site reports for each individual site addressed during the respective year of the Alberta project. These reports are retained in the Calgary Environment Canada regional office with copies provided to Alberta Environment.

It was determined that individual station Reclamation Certificates are not a requirement for this activity.

Table 3.2.2
Contaminated Sites Shares 2000 – 2007

Program Fiscal Year	Total Sites Remediated	Total Fiscal Cost	Share		Alberta Payments
			Federal	Alberta	
2006 - 2007	8	\$74,112	\$41,258	\$32,854	\$106,702
2005 - 2006	87	\$724,162	\$267,137	\$457,024	\$343,912
2004 - 2005	41	\$491,521	\$242,068	\$249,453	\$230,000
2003 - 2004	37	\$341,313	\$174,925	\$166,388	\$210,000
2002 - 2003	64	\$297,124	\$166,764	\$130,360	\$141,128
2001 - 2002	44	\$198,403	\$116,909	\$81,494	\$100,000
2000 - 2001	10	\$83,987	\$69,818	\$14,169	\$0
Total	291	\$2,210,621	\$1,078,879	\$1,131,742	\$1,131,742

3.2.3 Cableways

Cableway project expenditures in general were approximately 43% less than the Schedule D estimates.

After three years and with the exception of some minor outstanding work that will be completed in 2007 – 2008, the Red Deer River below Burnt Timber cableway was completed and put back into service in time for 2007 – 2008 field season.

The North Saskatchewan River at Whirlpool Point cableway retrofit met with some design issues and as a result no significant progress was made. This work was a significant portion of the Federal share of cableway projects and because of the lack of progress at this station, the Federal portion of their share of the cableway planned expenditures was 63% less than estimates. This work will be carried forward to 2007 - 2008.

The Berland River above the Mouth (P1) cableway tower design and fabrication was completed in 2006 – 2007. The re-build is schedule to occur in 2007 – 2008. With the Berland work progressing and some minor project re-profiling, the 2006 – 2007 Alberta Environment share of the cableway expenditures was 15% less than the estimates.

Additional details on the cableway projects are included in Appendix E, Project Details 2006 – 2007.

3.2.4 Decommission

The Alberta decommissioning project that started with the creation of a decommissioning work plan and policy statement in 2004 – 05, was developed into the National Hydrometric Program's POLICY AND DECOMMISSIONING GUIDELINES FOR INACTIVE HYDROMTRIC SITES (2006).

The Alberta 2005 – 2006 work commenced in early fall 2006 with the development and population of an access database including all hydrometric stations operated by the Federal and Provincial Governments. The file archive research identified 679 stations of which 110 had actual records of infrastructure removal of some sort albeit instruments and or civil works.

In 2006 – 2007, one hundred and thirty nine (139) station visits were conducted at one hundred and twenty six (126) stations. Included in the station visits were three major contracts issued to contractors to clean thirteen (13) stations and one (1) station was transferred to a 3rd party. There are an estimated fifteen stations at various stages in the station transfer queue and it is expected these will completed in 2007 – 2008. The major contract included cleanups and restoration to four (4) stations in the Ft McMurray area, five (5) stations in the Drumheller area and four (4) stations in the southern Alberta.

During the field activities it was found that in some cases the abandoned hydrometric infrastructure was in use by a third party as well some land owners where infrastructure was located on their land expressed interest in having the structures left with them. In

these situations a *Hydrometric Station Transfer* or *Land Owner Transfer* documents were prepared and a process put in place to make the appropriate transfer.

Table 3.2.4, Decommission Project Summary 2004 – 2007, reflects the total expenditures assigned to respective parties and not necessarily the share for respective years. Canada, as the project managers, expensed the total in respective years. Alberta share identified in the table is the estimate and the invoiced amount from the original signed Schedule D's. A full accounting with respective partner share will be provided once the project is completed.

Table 3.2.4
Decommission Project Summary
2006 – 2007

FISCAL YEAR	PROJECTS	SHARE		TOTAL
		FEDERAL	PROVINCIAL	
2004 - 2005		\$11,835	\$14,202	\$26,037
2005 - 2006	89	\$87,062	\$15,211	\$102,273
2006 - 2007	126	\$98,651	\$28,000	\$126,651
TOTAL	215	\$197,548	\$57,413	\$254,961

3.2.5 Network Expansion

Although long term operation and maintenance (O&M) resourcing for the network expansion initiative is a concern for Alberta Environment, they reaffirmed their plans to continue with the original goal of 120 to 150 new stations over a ten year period commencing in 2004.

Taking in the concerns for the on going operation and maintenance resourcing of the new stations, three of the six stations planned for 2006 – 2007 were deferred to 2007 – 2008. Equipment was purchased for the six stations with only three being constructed and prepared for operation in 2007 – 2008.

The three stations constructed and instrumented are; Peace River at Carcajou, North Saskatchewan River at Highway # 579 and Wolfe Creek at Lacombe.

Expansion resources were also expended on upgrading provincial network stations to real time.

3.3 Provincial Variance

At the fiscal year end 2005 – 2006, Alberta Environment had a cumulative credit balance of \$153,039. In order to zero the historical over and under cumulative balance, this cumulative credit to Alberta is included in Alberta Credit section f) over recovery for past years hydrometric operations of Table 3.1.1 2006 – 2007.

Table 3.3.1 includes the Alberta Environment historical summary of annual over and under contributions for their financial share of the hydrometric monitoring program. Ending fiscal year 2006 – 2007 Alberta Environment is carrying a surplus of \$71,830.

Table 3.3.1
Historical Provincial Variance
2006 – 2007
**CUMULATIVE PROVINCIAL OVER OR UNDERPAYMENT
OF AGREEMENT OPERATION COSTS**

Year	Share	Annual Payment	Overpayment (Underpayment)	Cumulative (under) / over	% of Annual Payment
1975-76	197,852	197,400	(452)	(452)	(0.23)
1976-77	231,000	231,000	-	(452)	-
1977-78	247,430	240,000	(7,430)	(7,882)	(3.10)
1978-79	267,055	260,000	(7,055)	(14,937)	(2.71)
1979-80	353,768	370,000	16,232	1,295	4.39
1980-81	423,906	390,000	(33,906)	(32,611)	(8.69)
1981-82	556,741	568,240	11,499	(21,112)	2.02
1982-83	747,352	747,352	-	(21,112)	-
1983-84	812,593	796,033	(16,560)	(37,672)	(2.08)
1984-85	935,664	933,500	(2,164)	(39,836)	(0.23)
1985-86	917,865	927,000	9,135	(30,701)	0.99
1986-87	962,413	962,700	287	(30,414)	0.03
1987-88	819,624	830,579	10,955	(19,459)	1.32
1988-89	868,131	856,000	(12,131)	(31,590)	(1.42)
1989-90	922,430	920,000	(2,430)	(34,020)	(0.26)
1990-91	1,002,759	1,008,350	5,591	(28,429)	0.55
1991-92	957,200	995,600	38,400	9,971	3.86
1992-93	1,030,991	1,062,600	31,609	41,580	2.97
*1993-94	-	(30,149)	(30,149)	11,431	-
1993-94	1,050,459	1,048,000	(2,459)	8,972	(0.23)
1994-95	956,377	964,400	8,023	16,995	0.83
1995-96	887,014	964,400	69,181	86,176	7.17
1996-97	925,700	940,000	30,202	116,378	3.21
**1997-98	971,691	940,000	(31,691)	116,378	(3.37)
**1998-99	950,484	940,000	(10,484)	116,378	(1.12)
**1999-00	943,647	943,943	296	116,378	0.03
2000-01	1,167,191	1,148,934	(18,257)	98,121	(1.59)
2001-02	1,174,758	1,181,417	6,659	104,780	0.56
2002-03	1,234,433	1,235,101	668	105,448	0.05
2003-04	1,870,602	1,862,243	(8,359)	97,089	(0.45)
2004-05	2,529,997	2,411,348	(118,649)	(21,560)	(4.92)
2005-06	2,598,177	2,772,776	174,599	153,039	6.30
***2006-07	2,336,605	2,408,435	71,830	71,830	2.98

*Credit to Alberta for overpayment in 1992-93

**Letter of Agreement \$0 Balance

*** credit balance 2005 - 06 zeroed in Schedule D calculations

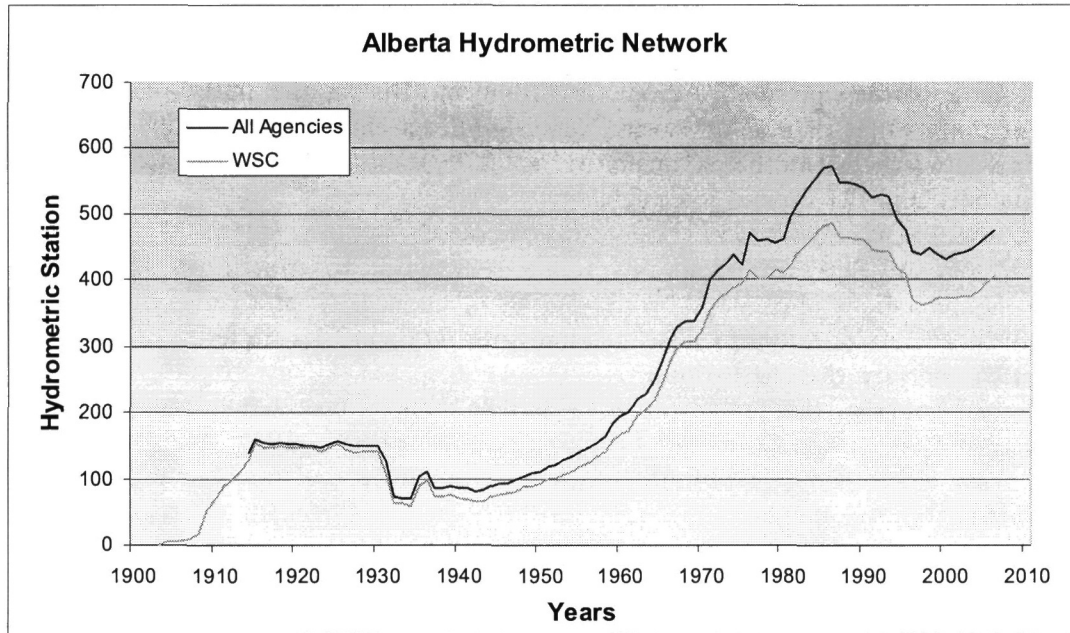
4.0 HISTORICAL NETWORK DEVELOPMENT

The Canada – Alberta Hydrometric Agreement was signed in 1975 – 1976 when four hundred and twenty three (423) hydrometric stations were assigned a designation and it was agreed the Water Survey of Canada would operate three hundred and eighty three (383) in a partnership with Alberta Environment. During the thirty plus years of cooperation of the Alberta Agreement, very significant changes to the Alberta network were made which can be summarized as; 279 stations established, 268 stations discontinued and 221 stations re-designated.

The history of the size of the hydrometric network in Alberta, which includes hydrometric stations operated by Water Survey of Canada, Alberta Environment, Trans Alta Utilities and the City of Calgary, is illustrated in Figure 4.1. In terms of the current era, it can be seen that the hydrometric network increased rapidly from the mid 1950's until the signing of the agreement in 1975. The stations operated in the hydrometric agreement steadily rose from 1975 to a peak of 573 in 1986 – 1987. After this point in time, resource problems, first by Alberta and then by the Federal Government, resulted in a reduction of the number of stations operated in the agreement. Particularly large numbers of stations were discontinued in 1990 – 1991 (17), 1993 – 1994 (26) and 1995 – 1996 (39), until the network bottomed out in 2000 at 432 stations. During the five year period from 1992 to 1997 the station designation changes almost doubled with 92 occurring from 1996 to 1997.

Since 2000 the partner's stabilization of resource bases and introduction of operational efficiencies has allowed for some growth in the network. The current network size has grown to 474 stations, the most significant occurring after 2003 – 2004 with the introduction of Alberta's capital investment plan included in their Water For Life Strategy.

Figure 4.1
Historical Hydrometric Development



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Legend

<u>Station Unit</u>	<u>Classification</u>	<u>Symbol</u>	<u>Station Unit Factor</u>
Normal Access		N	
Remote Access		R	
Flow Station		Q	
Water Level Station		H	
number of months of operation		Numeric	
	12QN		1.00
	12QR		1.80
	8QN		0.75
	8QR		1.50
	12HN		0.40
	12HR		1.10
	8HN		0.25
	8HR		0.95
<u>Designation and Operating Responsibilities</u>			
Federal Station		F	
Provincial Station		P	
Federal - Provincial Station		FP	
Contributed Alberta Environment		C-AENV	
Contributed Trans Alta Utilities		C-TAU	
Contributed City of Calgary		C-CITY	
Water Survey Division Alberta		WSCAB	
Water Survey Division Saskatchewan		WSCSK	
Alberta Environment		.AENV	
Trans Alta Utilities		TAU	
City of Calgary		. CITY	
Located in Saskatchewan operated by WSCAB		Station Name with *	
Located in Montana		Station Name with#	
Northwest Territories / Nunavut		NT/NU	

Schedule C Summary of Station Units

Water Survey Division Operated Units

	<u>Hydrometric</u>	<u>Sediment</u>	<u>Total</u>
Federal	124.925	0.525	125.450
Provincial	183.575	2.625	186.200
Total	308.500	3.150	311.650

Alberta Environment Operated Units

	<u>Hydrometric</u>	<u>Sediment</u>	<u>Total</u>
Federal	10.500	0.000	10.500
Provincial	23.650	0.000	23.650
Commercial	0.400	0.000	0.400
Total	34.550	0.000	34.550

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1.0 Operated by Calgary WSC

1.1 Hydrometric Units

1.1.1 Federal Hydrometric Units

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12QN	24	1.00	24.00
12QR	1	1.80	1.80
8QN	38	0.75	28.50
8QR	1	1.50	1.50
12HN	6	0.40	2.40
12HR	0	1.10	0.00
8HN	0	0.25	0.00
8HR	0	0.95	0.00
Total	70		58.20

1.1.2 Federal Provincial Hydrometric Units

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12QN	34	1.00	34.00
12QR	1	1.80	1.80
8QN	105	0.75	78.75
8QR	11	1.50	16.50
12HN	3	0.40	1.20
12HR	0	1.10	0.00
8HN	1	0.25	0.25
8HR	1	0.95	0.95
Total	156		133.45

1.1.3 Provincial Hydrometric Units

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12QN	33	1.00	33.00
12QR	0	1.80	0.00
8QN	92	0.75	69.00
8QR	2	1.50	3.00
12HN	6	0.40	2.40
12HR	0	1.10	0.00
8HN	34	0.25	8.50
8HR	1	0.95	0.95
Total	168		116.85

1.2 Sediment Units

	<u>Fed.</u>	<u>Prov.</u>
1 Federal-Provincial	0.525	0.525
2 Provincial @ 1.05		2.100
Total	0.525	2.625

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2.0 Operated by Alberta Environment

2.1 Hydrometric Units

2.1.1 Federal Hydrometric Units

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12HR	7	1.10	7.70
12HN	0	0.40	0.00
8QR	1	1.50	1.50
Total	8		9.20

2.1.2 Federal Provincial Hydrometric Units

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12HR	1	1.10	1.10
8QR	1	1.50	1.50
Total	2		2.60

2.1.3 Provincial Hydrometric Units (contributed stations)

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12QN	1	1.00	1.00
12QR	0	1.80	0.00
8QN	20	0.75	15.00
8QR	0	1.50	0.00
12HN	2	0.40	0.80
12HR	1	1.10	1.10
8HN	14	0.25	3.50
8HR	1	0.95	0.95
Total	39		22.35

2.2 Commercial Hydrometric Units (contributed stations)

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
8QN	1	0.40	0.40
Total	1		0.40

3.0 Operated by 3rd Parties

3.1 Hydrometric Units

3.1.1 Contributed Hydrometric Units

<u>Classification</u>	<u>Stations</u>	<u>Factor</u>	<u>Units</u>
12QN	10	1.00	10.00
12QR	0	1.80	0.00
8QN	1	0.75	0.75
8QR	0	1.50	0.00
12HN	8	0.40	3.20
12HR	0	1.10	0.00
8HN	0	0.25	0.00
8HR	0	0.95	0.00
Total	19		13.95

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Federal Departmental Programs (F1)

Site Identification			Responsibility				Operational Approach				Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
OPERATED BY - WATER SURVEY OF CANADA, ALBERTA DISTRICT															
BIRCH RIVER BELOW ALICE CREEK	07KE001	SW 35-107-19-4	F1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
BOW RIVER AT BANFF	05BB001	SE 35-25-12-W5	F1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BOW RIVER AT LAKE LOUISE	05BA001	NE 28-28-16-W5	F1	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
MISTAYA RIVER NEAR SASKATCHEWAN CROSSING	05DA007	SW 06-34-19-W5	F1	WSCAB	12QN	1.00	Normal	ANNUAL					No		
NORTH SASKATCHEWAN RIVER AT WHIRLPOOL POINT	05DA009	SW 14-35-18-W5	F1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PEKISKO CREEK NEAR LONGVIEW	05BL023	SW 34-17-02-W5	F1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PIPESTONE RIVER NEAR LAKE LOUISE	05BA002	SW 34-28-16-W5	F1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
SILVERHORN CREEK NEAR THE MOUTH	05DA010	SE 02-33-19 W5	F1	WSCAB	12QN	1.00	Normal	ANNUAL					No		
ST. MARY RIVER AT HIGHWAY NO. 501	05AE043	SW 01-02-25-W4	F1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WATERTON LAKE AT WATERTON PARK	05AD025	NW 23-01-30-W4	F1	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
WATERTON RIVER NEAR WATERTON PARK	05AD003	NE 08-02-29-W4	F1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
Stations Total	11					10.15									
OPERATED BY - ALBERTA ENVIRONMENT															
EMBARRAS RIVER BREAKTHROUGH TO MAMAWI LAKE	07KF015		F1	AENV	8QR	1.50	Remote	MAROCT		6			Yes		
LAKE ATHABASCA AT FORT CHIPEWYAN	07MD001	SEC. 9-112-7-4	F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
LAKE CLAIRE NEAR OUTLET TO PRAIRIE RIVER	07KF002	Lat. 58 38 00 Long. 111 41 50	F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
MAMAWI LAKE CHANNEL AT OLD DOG CAMP	07KF003		F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
PEACE RIVER BELOW CHENAL DES QUATRE FOURCHES	07KC005	SE 34-114-10-W4	F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
RIVIERE DES ROCHERS ABOVE SLAVE RIVER	07NA001		F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
RIVIERE DES ROCHERS EAST OF LITTLE RAPIDS	07NA007		F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
RIVIERE DES ROCHERS WEST OF LITTLE RAPIDS	07NA008		F1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
Total	8					9.20									

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Federal Interprovincial Waters (F2)

Site Identification			Responsibility				Operational Approach					Output Products			
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
BATTLE RIVER NEAR THE SASKATCHEWAN BOUNDARY	05FE004	SW 12-45-01-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BEAVER RIVER AT COLD LAKE RESERVE	06AD006	NE 10-62-02-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BOUNTIFUL COULEE INFLOW NEAR CRANFORD	05AG026	NE 36-9-18-W4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					No		
BOW RIVER AT CALGARY	05BH004	NE 15-24-01-W5	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BOW RIVER DEVELOPMENT DRAIN D NEAR VAUXHALL	05BN008	SW 30-14-15-4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					No		
BOW RIVER NEAR THE MOUTH	05BN012	NW 33-12-12-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BOXELDER CREEK AT HARGRAVE'S RANCH*	05AH050	NE 23-12-30-W3	F2	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
BOXELDER CREEK NEAR WALSH*	05AH001	SE 02-12-30-W3	F2	WSCAB	8QN	0.75	Normal	FEBOCT					No		
CANADIAN ST. MARY CANAL NEAR SPRING COULEE	05AE026	NW 33-4-23-W4	F2	WSCAB	8QN	0.75	Normal	APRNOV					Yes		
COLD LAKE AT COLD LAKE	06AF002	NW 24-63-02-W4	F2	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
COLD RIVER AT OUTLET OF COLD LAKE	06AF001	NE 27-64-26-W3	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
CROWFOOT CREEK NEAR CLUNY	05BM008	SE 06-22-20-W4	F2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
EASTERN IRRIGATION DISTRICT MAIN BRANCH CANAL NEAR HEADGATE	05BM020	NW 36-20-19-4	F2	WSCAB	8QN	0.75	Normal	APRNOV					Yes		
EXPANSE COULEE NEAR THE MOUTH	05AG003	NE 11-12-16-W4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
GLENIFFER RESERVOIR NEAR DICKSON	05CB006	SE 33-35-02-W5	F2	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
HIGHWOOD DIVERSION CANAL NEAR HEADGATES	05BL025	NE 25-18-30-W4	F2	WSCAB	8QN	0.75	Normal	APROCT					Yes		
LETHBRIDGE NORTHERN IRRIGATION DISTRICT CANAL ABOVE OLDMAN FLUME	05AB019	SE 34-8-27-W4	F2	WSCAB	8QN	0.75	Normal	APROCT					Yes		
LITTLE BOW CANAL AT HIGH RIVER	05BL015	NE 6-19-28-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
LITTLE BOW RIVER AT CARMANGAY	05AC003	SW 32-13-23-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
LITTLE BOW RIVER BELOW TRAVERS DAM	05AC012	NE 33-13-20-W4	F2	WSCAB	8QN	0.75	Normal	APROCT					No		
LITTLE BOW RIVER NEAR THE MOUTH	05AC023	NW 11-11-19-W4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
MAGRATH IRRIGATION DISTRICT CANAL NEAR SPRING COULEE	05AE021	SE 05-05-23-W4	F2	WSCAB	8QN	0.75	Normal	APROCT					No		
MATZHIWIN CREEK BELOW WARE COULEE	05CJ012	SE 35-21-14-W4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
MOUNTAIN VIEW IRRIGATION DISTRICT CANAL	05AD017	NW 4-2-28-W4	F2	WSCAB	8QN	0.75	Normal	APRNOV					Yes		
NEW WEST COULEE NEAR THE MOUTH	05BN006	NE 34-14-16-W4	F2	WSCAB	8QN	0.75	Normal	APROCT					Yes		
NORTH SASKATCHEWAN RIVER NEAR DEER CREEK	05EF001	SW 27-52-25-W3	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
OLDMAN RIVER NEAR LETHBRIDGE	05AD007	NW 01-09-22-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ONETREE CREEK NEAR PATRICIA	05CJ006	SW 36-20-13-W4	F2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PEACE RIVER AT PEACE POINT	07KC001	SE 35-116-15-W4	F2	NT/NU	12QR	NA	Remote	ANNUAL					NA		
PIYAMI DRAIN NEAR PICTURE BUTTE	05AD037	SE 22-10-21-W4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					No		

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Federal Interprovincial Waters (F2)

Site Identification			Responsibility		Operational Approach						Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
POTHOLE CREEK AT RUSSELL'S RANCH	05AE016	NE 18-07-21-W4	F2	WSCAB	8QN	0.75	Normal	MAYNOV					Yes		
RED DEER RIVER AT RED DEER	05CC002	SE 20-38-27-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
RED DEER RIVER NEAR BINDLOSS	05CK004	NW 25-22-3-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ROSEBUD RIVER AT REDLAND	05CE005	NE 10-27-22-W4	F2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
ROSS CREEK AT HIGHWAY 41	05AH052	SE 19-12-04-W4	F2	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
SEVEN PERSONS CREEK AT MEDICINE HAT	05AH005	SW 30-12-05-W4	F2	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
SLAVE RIVER AT FITZGERALD	07NB001	59 52 20 - 111 35 0	F2	NT/NU	12QR	NA	Remote	ANNUAL					NA		
SOUTH SASKATCHEWAN RIVER AT MEDICINE HAT	05AJ001	NW 31-12-05-W4	F2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ST. MARY RESERVOIR NEAR SPRING COULEE	05AE025	NW 01-05-24-W4	F2	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
TWELVE MILE CREEK NEAR CECIL	05BN002	NE 02-14-13-W4	F2	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
UNITED IRRIGATION DISTRICT CANAL NEAR HILL SPRING	05AD013	NW 18-3-27-W4	F2	WSCAB	8QN	0.75	Normal	APRNOV					Yes		
WATERTON RESERVOIR	05AD026	SE 27-04-28-W4	F2	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
Total	42					31.60									

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Federal- International Waters (F3)

Site Identification		Responsibility			Operational Approach					Output Products					
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
BARE CREEK RESERVOIR NEAR ELKWATER	11AB094	NE 31-05-03-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
BEAR CREEK NEAR INTERNATIONAL BOUNDARY	11AA028	NE 12-01-10-W4	F3	WSCAB	8QN	0.75	Normal	MAROCT					No		
CRESSDAY RESERVOIR NEAR CRESSDAY	11AB097	SE 30-03-02-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
GREASEWOOD RESERVOIR NEAR ELKWATER	11AB092	SE 19-06-03-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
JAYDOT RESERVOIR NEAR JAYDOT	11AB098	SW 01-03-01-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
LAKE SHERBURNE#	05AE036	SE 35-36-15WP	F3	WSCAB	12HN	0.4	Normal	ANNUAL					Yes		
MASSY RESERVOIR NEAR ELKWATER	11AB104	SE 17-06-03 W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
MICHEL RESERVOIR NEAR ELKWATER	11AB091	SE 05-07-03-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
MIDDLE CREEK NEAR THE SASKATCHEWAN BOUNDARY	11AB009	SE 34-05-01-W4	F3	WSCSK	8QN	NA	Normal	MAROCT					NA		
MILK RIVER AT EASTERN CROSSING OF INTERNATIONAL BOUNDARY#	11AA031	NW 07-37-10EP	F3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MILK RIVER AT MILK RIVER	11AA005	NE 21-02-16-W4	F3	WSCAB	12QN	1	Normal	ANNUAL					Yes		
MILK RIVER AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY	11AA025	NE 01-01-20-W4	F3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MINERS COULEE NEAR INTERNATIONAL BOUNDARY	11AA029	SW 10-01-11-W4	F3	WSCAB	8QN	0.75	Normal	MAROCT					No		
MITCHELL RESERVOIR NEAR ELKWATER	11AB099	NW 16-06-01-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
NORTH FORK MILK RIVER ABOVE ST. MARY CANAL#	11AA032	NE 16-37-11WP	F3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
NORTH MILK RIVER NEAR INTERNATIONAL BOUNDARY	11AA001	NE 11-01-23-W4	F3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
REESOR RESERVOIR NEAR ELKWATER	11AB090	SE 20-08-01-W4	F3	WSCSK	8HN	NA	Normal	MAROCT					NA		
ST. MARY CANAL AT ST. MARY CROSSING#	05AE029	SW 19-37-13WP	F3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
ST. MARY RIVER AT INTERNATIONAL BOUNDARY	05AE027	SW 05-01-25-W4	F3	WSCAB	12QN	1	Normal	ANNUAL					Yes		
VERDIGRIS COULEE NEAR THE MOUTH	11AA038	NW 12-02-14-W4	F3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
Total	20					8.40									

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Federal - National Water Quantity Inventory (F4)

Site Identification			Responsibility			Operational Approach					Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
ATHABASCA RIVER BELOW MCMURRAY	07DA001	NW 05-90-09-W4	F4	WSCAB	12QR	1.80	Remote	ANNUAL					Yes		
ATHABASCA RIVER NEAR JASPER	07AA002	NW 27-45-01-W6	F4	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
DEEP VALLEY CREEK NEAR VALLEYVIEW	07GF008	SW 09-63-25-W5	F4	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
MARMOT CREEK MAIN STEM NEAR SEEBE	05BF016	NE 11-23-09-W5	F4	WSCAB	8QN	0.75	Normal	MAYOCT					No		
MIETTE RIVER NEAR JASPER	07AA001	NW 08-45-01-W6	F4	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PEACE RIVER AT PEACE RIVER	07HA001	NW 31-83-21-W5	F4	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PRAIRIE BLOOD COULEE NEAR LETHBRIDGE	05AD035	NW 17-07-22-W4	F4	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WABASCA RIVER AT WADLIN LAKE ROAD	07JD002	NW 22-102-09-W5	F4	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
Total	8					8.05									

Federal - Provincial Agreements (FP1)

Site Identification			Responsibility			Operational Approach					Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
BEAVER RIVER ABOVE SYNCRUDE	07DA018	NE 32-91-10-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
CLEARWATER RIVER AT DRAPER	07CD001	SE 06-89-08-W4	FP1	WSCAB	12QR	1.80	Remote	ANNUAL					Yes		
FIREBAG RIVER NEAR THE MOUTH	07DC001	NW 36-99-08-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
HANGINGSTONE RIVER AT FORT MCMURRAY	07CD004	NW 10-89-09-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
MACKAY RIVER NEAR FORT MACKAY	07DB001	SE 03-95-11-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
MUSKEG RIVER NEAR FORT MACKAY	07DA008	NE 29-94-10-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
RICHARDSON RIVER NEAR THE MOUTH	07DD002	NE 10-108-8-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
STEEP BANK RIVER NEAR FORT MCMURRAY	07DA006	SW 29-92-09-W4	FP1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
WESTERN IRRIGATION DISTRICT CANAL NEAR HEADGATES	05BM015	SE 13-24-1-W5	FP1	WSCAB	8QN	0.75	Normal	APRNOV					Yes		
Total	9					13.05									
OPERATED BY - ALBERTA ENVIRONMENT															
ATHABASCA RIVER NEAR OLD FORT	07DD011	58 22 28 - 111 31 18	FP1	AENV	12HR	1.10	Remote	ANNUAL		10			Yes		
EMBARRAS RIVER BELOW DIVERGENCE	07DD003		FP1	AENV	8QR	1.50	Remote	MAROCT		6			Yes		
Total	2					2.60									

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Federal - Provincial - River Basin Management (FP2)

Site Identification			Responsibility				Operational Approach				Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
ATHABASCA RIVER AT HINTON	07AD002	NE 23-51-25-W5	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BELLY RIVER NEAR MOUNTAIN VIEW	05AD005	NE 05-02-28-W4	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BOW RIVER BELOW BASSANO DAM	05BM004	SW 02-21-19-W4	FP2	WSCAB	8QN	0.75	Normal	APROCT					Yes		
BOW RIVER BELOW CARSELAND DAM	05BM002	NW 33-21-25-W4	FP2	WSCAB	8QN	0.75	Normal	APROCT					Yes		
ETHEL LAKE NEAR COLD LAKE	06AC004	SE 23-64-03-W4	FP2	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
HAY RIVER NEAR MEANDER RIVER	07OB003	NW 11-117-22-W5	FP2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
HIGHWOOD RIVER NEAR THE MOUTH	05BL024	NE 16-21-28-W4	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
KAKWA RIVER AT HIGHWAY NO. 40	07GB003	SE 05-63-04-W6	FP2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LEE CREEK AT CARDSTON	05AE002	NW 10-03-25-W4	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
LUTOSE CREEK NEAR STEEN RIVER	07OB006	SW 07-120-19-W5	FP2	WSCAB	8QN	0.75	Normal	MAROCT					No		
MARIE LAKE NEAR COLD LAKE	06AC005	SW 06-65-02-W4	FP2	WSCAB	8HN	0.25	Normal	MAROCT					No		
MCLEOD RIVER NEAR ROSEVEAR	07AG007	NW 28-54-15-W5	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
NORTH SASKATCHEWAN RIVER AT EDMONTON	05DF001	NW 33-52-24-W4	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
OLDMAN RIVER NEAR BROCKET	05AA024	SE 14-07-29-W4	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PEMBINA RIVER AT JARVIE	07BC002	NE 15-63-27-W4	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ROLPH CREEK NEAR KIMBALL	05AE005	NE 16-02-24-W4	FP2	WSCAB	8QN	0.75	Normal	MAROCT					No		
SMOKY RIVER ABOVE HELLS CREEK	07GA001	NE 19-57-08-W6	FP2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SMOKY RIVER AT WATINO	07GJ001	SE 34-77-24-W5	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
STEEN RIVER NEAR STEEN RIVER	07OB004	NE 4-122-19-5	FP2	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SWAN RIVER NEAR KINUSO	07BJ001	NE 11-73-10-W5	FP2	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
Total	20					16.65									

Federal - Provincial - Regional Water Quantity Inventory (FP3)

ALKALI CREEK NEAR THE MOUTH	05CK005	SW 28-22-04-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
AMISK RIVER AT HIGHWAY NO. 36	06AA002	SE 26-63-14-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
ATIMOSWE CREEK NEAR ELK POINT	05ED002	NW 36-56-07-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BATTLE RIVER NEAR PONOKA	05FA001	NE 31-42-25-W4	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BEAVER RIVER NEAR GOODRIDGE	06AA001	NE 12-63-10-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BERRY CREEK NEAR ROSE LYNN	05CH008	NW 21-28-11-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BIGKNIFE CREEK NEAR GADSBY	05FC002	NW 11-41-17-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BLINDMAN RIVER NEAR BLUFFTON	05CC008	NE 31-43-02-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BLOCK CREEK NEAR LEEDALE	05CC010	SE 35-41-05-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BOYER RIVER NEAR PADDLE PRAIRIE	07JF004	SW 05-103-22-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BRAZEAU RIVER BELOW CARDINAL RIVER	05DD007	NW 16-45-18-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
BROWN CREEK AT FORESTRY ROAD	05DD004	NW 02-44-17-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
BUCHANAN CREEK NEAR MANNING	07HC002	NW 16-91-22-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BUFFALO CREEK AT HIGHWAY NO. 41	05FE002	SW 31-46-06-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
BULLPOUND CREEK NEAR WATTS	05CG004	NW 16-31-15-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		

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Federal - Provincial - Regional Water Quantity Inventory (FP3)

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Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
CADOTTE RIVER AT OUTLET CADOTTE LAKE	07HB001	SE 27-86-16-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
CASTLE RIVER AT RANGER STATION	05AA028	SE 21-05-03-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
CATARACT CREEK NEAR FORESTRY ROAD	05BL022	SW 26-15-05-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
CHINCHAGA RIVER NEAR HIGH LEVEL	07OC001	NW 31-110-02-W6	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
CHRISTINA RIVER NEAR CHARD	07CE002	NW 09-79-06-W4	FP3	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
CHRISTMAS CREEK NEAR BLUE RIDGE	07AH002	SE 31-60-09-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
CLEAR RIVER NEAR BEAR CANYON	07FD009	SW 28-84-11-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
CLEARWATER RIVER NEAR DOVERCOURT	05DB006	SW 07-38-06-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
COYOTE CREEK NEAR CHERHILL	07BB014	NW 27-56-05-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
CROWSNEST RIVER AT FRANK	05AA008	SE 36-07-04-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
CUTBANK RIVER NEAR GRANDE PRAIRIE	07GB001	SE 10-64-07-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
DAPP CREEK AT HIGHWAY NO. 44	07BC006	NW 28-61-26-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
DRIFTWOOD RIVER NEAR THE MOUTH	07BK007	NW 22-72-02-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					No		
DRYWOOD CREEK NEAR THE MOUTH	05AD010	SE 14-04-29-W4	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ELBOW RIVER AT BRAGG CREEK	05BJ004	NE 12-23-05-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
EUREKA RIVER NEAR WORTSLEY	07FD013	SW 13-86-08-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
FISH CREEK ABOVE LITTLE FISH LAKE	05CG006	SW 16-28-16-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
FISH CREEK NEAR PRIDDIS	05BK001	NE 22-22-03-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
FLAT CREEK NEAR BOYLE	07CA003	SE 02-65-20-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
FREEMAN RIVER NEAR FORT ASSINIBOINE	07AH001	NE 13-62-07-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
GRANDE PRAIRIE CREEK NEAR SEXSMITH	07GE003	SW 6-74-06-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
GROS VENTRE CREEK NEAR DUNMORE	05AH037	SE 08-11-04-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
HEART RIVER NEAR NAMP	07HA003	NW 30-81-20-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
HIGHWOOD RIVER AT DIEBEL'S RANCH	05BL019	NW 4-17-04-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
HINES CREEK ABOVE GERRY LAKE	07FD011	NE 32-84-02-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
HOUSE RIVER AT HIGHWAY NO. 63	07CB002	NW 05-77-14-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
IOSEGUN RIVER NEAR LITTLE SMOKY	07GG003	NW 29-66-21-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
IRON CREEK NEAR HARDISTY	05FB002	NE 13-43-10-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
JAMES RIVER NEAR SUNDRE	05CA002	SW 20-34-05-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
JUMPINGPOUND CREEK NEAR COX HILL	05BH013	NE 32-23-07-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					No		
KEG RIVER AT HIGHWAY NO. 35	07HF002	SW 12-101-23-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LAC LA BICHE AT LAC LA BICHE	07CA004	NW 06-67-13-W4	FP3	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
LAFOND CREEK NEAR RED EARTH CREEK	07JC001	NW17-93-07-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LESSER SLAVE LAKE AT SLAVE LAKE	07BJ006	SE 12-73-06-W5	FP3	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
LESSER SLAVE RIVER AT SLAVE LAKE	07BK001	SE 07-73-05-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
LITTLE BERLAND RIVER AT HIGHWAY NO. 40	07AC008	SE 21-54-02-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		

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Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
LITTLE PADDLE RIVER NEAR MAYERTHORPE	07BB005	SE 31-57-08-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LITTLE RED DEER RIVER NEAR WATER VALLEY	05CB002	NW 29-29-05-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LITTLE SMOKY RIVER AT LITTLE SMOKY	07GG002	SE 25-66-22-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
LOGAN RIVER NEAR THE MOUTH	07CA012	NE 26-71-12-W4	FP3	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
LOVETT RIVER NEAR THE MOUTH	07BA003	NW 26-46-19-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					No		
MACKAY CREEK AT WALSH	05AH002	NW 26-11-01-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					No		
MANYBERRIES CREEK AT BRODIN'S FARM	05AF010	NE 03-05-06-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
MASKWA CREEK NO. 1 ABOVE BEARHILLS LAKE	05FA014	SW 18-44-25-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
MCLEOD RIVER ABOVE EMBARRAS RIVER	07AF002	SE 07-52-18-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
MEDICINE RIVER NEAR ECKVILLE	05CC007	SE 03-39-03-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
MONTAGNEUSE RIVER NEAR HINES CREEK	07FD012	SW 22-85-05-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
MUSKEG RIVER NEAR GRANDE CACHE	07GA002	SW 15-57-06-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
NORDEGG RIVER AT SUNCHILD ROAD	05DD009	SW 27-44-11-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
NORTH RAM RIVER AT FORESTRY ROAD	05DC011	SE 19-38-14-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
NOTIKEWIN RIVER AT MANNING	07HC001	SW 27-91-23-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
OLDMAN RIVER NEAR WALDRON'S CORNER	05AA023	NE 10-10-02-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
OWL RIVER BELOW PICHE RIVER	07CA013	SW 36-69-13-W4	FP3	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
PADDLE RIVER NEAR ANSELMO	07BB011	NW 24-56-10-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PEACE RIVER AT DUNVEGAN BRIDGE	07FD003	SE07-80-04-W6	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PEAVINE CREEK NEAR FALHER	07GH004	NW 31-76-21-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
PEIGAN CREEK NEAR PAKOWKI ROAD	05AH041	NW 19-07-07-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
PINCHER CREEK AT PINCHER CREEK	05AA004	SW 23-06-30-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PINE CREEK NEAR GRASSLAND	07CA005	SE 26-67-19-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
PIPESTONE CREEK NEAR WETASKIWIN	05FA012	SE 08-47-23-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
PONTON RIVER ABOVE BOYER RIVER	07JF003	NW 15-109-14-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
PRAIRIE CREEK BELOW LICK CREEK	05DB005	SE 12-38-10-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
RACEHORSE CREEK NEAR THE MOUTH	05AA027	SE 24-10-04-W5	FP3	WSCAB	8QN	0.75	Normal	APROCT					No		
RAT CREEK NEAR CYNTHIA	07BA002	SW 13-48-11-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
RAVEN RIVER NEAR RAVEN	05CB004	SW 14-36-04-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
RAY CREEK NEAR INNISFAIL	05CE010	SW 13-35-26-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
RED DEER RIVER BELOW BURNT TIMBER CREEK	05CA009	NE 11-31-08-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
REDEARTH CREEK NEAR RED EARTH CREEK	07JC002	NW 17-87-08-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
REDWATER RIVER NEAR THE MOUTH	05EC005	SW 01-57-21-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
RENWICK CREEK NEAR THREE HILLS	05CE011	NE 05-32-24-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
RIBSTONE CREEK NEAR EDGERTON	05FD001	NW 35-43-04-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
ROSE CREEK NEAR ALDER FLATS	05DE007	NW 31-45-07-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SADDLE RIVER NEAR WOKING	07FD006	NE 4-77-5-6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SAGE CREEK AT Q RANCH NEAR WILDHORSE	11AA026	NW 09-02-02-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		

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Site Identification			Responsibility				Operational Approach				Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
SAKWATAMAU RIVER NEAR WHITECOURT	07AH003	SE 19-60-12-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
SAM LAKE TRIBUTARY NEAR SCHULER	05AH047	NE 07-14-02-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					Yes		
SAND RIVER NEAR THE MOUTH	06AB001	NW 20-63-08-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SAULTEAUX RIVER NEAR SPURFIELD	07BK005	SE 21-71-02-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
SAWRIDGE CREEK NEAR SLAVE LAKE	07BK009	NE 25-72-06-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SHEEP RIVER AT BLACK DIAMOND	05BL014	NE 08-20-02-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
SIMONETTE RIVER NEAR GOODWIN	07GF001	NE 11-71-02-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SNAKE CREEK NEAR VULCAN	05AC030	SW 36-17-22-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					No		
SOUSA CREEK NEAR HIGH LEVEL	07OA001	SE 31-110-03-W6	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
STONY CREEK NEAR TAWATINAW	07BE004	NW 24-61-24-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
STRAWBERRY CREEK NEAR THE MOUTH	05DF004	SE 15-50-01-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
STRETTON CREEK NEAR MARWAYNE	05EE005	SE 35-51-03-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SUNDANCE CREEK NEAR BICKERDIKE	07AF010	NW 11-53-19-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
SWAN RIVER NEAR SWAN HILLS	07BJ003	NW 16-67-10-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
TEEPEE CREEK NEAR LA CRETE	07JD004	SE 28-105-14-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
THREEHILLS CREEK BELOW RAY CREEK	05CE018	SW 18-35-25-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
THREEPOINT CREEK NEAR MILLARVILLE	05BL013	NW 07-21-02-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
TOMAHAWK CREEK NEAR TOMAHAWK	05DE009	NW 13-51-06-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
TRAP CREEK NEAR LONGVIEW	05BL027	NW 36-17-04-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
VERMILION RIVER AT VEGREVILLE	05EE009	NW 17-52-14-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
VERMILION RIVER TRIBUTARY NEAR BRUCE	05EE006	SW 07-50-14-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WABASH CREEK NEAR PIBROCH	07BC007	NW 25-60-27-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WAIPAROUS CREEK NEAR THE MOUTH	05BG006	NW 06-27-06-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WANDERING RIVER NEAR WANDERING RIVER	07CA006	SW0 6-72-16-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WAPITI RIVER NEAR GRANDE PRAIRIE	07GE001	SW 23-70-06-W6	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WASKAHIGAN RIVER NEAR THE MOUTH	07GG001	SE 35-66-22-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WASKASOO CREEK AT RED DEER	05CC011	NE 16-38-27-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WEST ARROWWOOD CREEK NEAR ARROWWOOD	05BM014	SW 11-21-24-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					No		
WEST ARROWWOOD CREEK NEAR ENSIGN	05BM018	SW 14-18-25-W4	FP3	WSCAB	8QN	0.75	Normal	FEBOCT					No		
WEST PRAIRIE RIVER NEAR HIGH PRAIRIE	07BF002	SE 35-74-17-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WEST WHITEMUD CREEK NEAR IRETON	05DF007	SE 14-49-26-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
WHITEMUD RIVER NEAR DIXONVILLE	07HA005	SW 06-87-23-W5	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WILDHAY RIVER NEAR HINTON	07AC001	NW 29-52-27-W5	FP3	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
WILLOW CREEK AT SECONDARY 532	05AB040	SE 09-15-03-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WILLOW RIVER NEAR WABASCA	07JA003	SE 12-80-26-W4	FP3	WSCAB	8QN	0.75	Normal	MAROCT					No		
WOLF CREEK AT HIGHWAY NO. 16A	07AG003	NE 22-53-16-W5	FP3	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WOLF LAKE AT OUTLET	06AB004	NW 16-66-07-W4	FP3	WSCAB	8HR	0.95	Remote	MAROCT							
WOLF RIVER AT OUTLET OF WOLF LAKE	06AB002	NE 16-66-07-W4	FP3	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
Total	127					103.75									

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ALBERTA POWER LIMITED COOLING POND OUTLET	05CG007	NW 29-28-13-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
ATHABASCA RIVER AT ATHABASCA	07BE001	SE 20-66-22-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ATHABASCA RIVER NEAR WINDFALL	07AE001	NE20-60-14-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
ATIM CREEK AT CENTURY RD	05EA012	SW 23-53-27-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BABETTE CREEK NEAR COLINTON	07CA008	SE 27-65-21-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BAPTISTE LAKE NEAR ATHABASCA	07BE002	SW 26-66-24-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					No		
BAPTISTE RIVER NEAR THE MOUTH	05DC012	NW 34-42-08-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					No		
BATTLE RIVER AT DUHAMEL	05FA011	SE 10-46-21-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BATTLE RIVER AT HIGHWAY 872	05FC008	NE 32-39-10-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BATTLE RIVER NEAR FORESTBURG	05FC001	NW 35-41-17-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BEAR RIVER NEAR VALHALLA CENTRE	07GE007	NW 07-74-09-W6	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BEARBERRY CREEK NEAR SUNDRE	05CA011	NW 06-33-5-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BEAVER CREEK NEAR BROCKET	05AB013	NW 07-08-28-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BEAVERLODGE RIVER NEAR BEAVERLODGE	07GD001	SE 34-71-10-W6	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BEAVERTAIL CREEK NEAR HYTHE	07GD002	SE 17-73-11-W6	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BELLY RIVER NEAR GLENWOOD	05AD041	SE 06-05-26-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BELLY-ST. MARY DIVERSION CANAL	05AD021	SE 34-04-27-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BERLAND RIVER NEAR THE MOUTH	07AC007	SW 18-58-20-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BERRY CREEK NEAR THE MOUTH	05CH007	SW 10-22-12-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BERRY CREEK RESERVOIR NEAR SUNNYNOOK	05CH014	NE 29-26-12-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					No		
BERRY CREEK RESERVOIR OUTLET	05CH011	NW 21-26-12-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BLACKMUD CREEK NEAR ELLERSLIE	05DF003	SE 19-51-24-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BLINDMAN RIVER NEAR BLACKFALDS	05CC001	NW 14-39-27-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BLOOD INDIAN CREEK NEAR CABIN LAKE	05CK007	NE 31-24-09-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BLOOD INDIAN CREEK NEAR THE MOUTH	05CK001	SE 16-23-08-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BOW RIVER DEVELOPMENT CANAL BELOW HEADGATES	05BM021	SE 32-21-25-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BOW RIVER NEAR COCHRANE	05BH005	SW 35-25-04-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
BOYER RIVER NEAR FORT VERMILION	07JF002	SE 09-109-14-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
BUFFALO LAKE NEAR ERSKINE	05CD005	NW 19-40-20-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
BULLSHEAD CREEK AT BLACK AND WHITE TRAIL	05AH053	NE 17-11-05-W4M	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
BULLSHEAD RESERVOIR NEAR ELKWATER	05AH057	NW 29-8-4-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
CALLING LAKE AT RANGER STATION	07CB001	SW 17-72-21-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
CAMROSE CREEK NEAR CAMROSE	05FA025	NW 11-47-20-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
CARROT CREEK NEAR THE MOUTH	05EA011	NE 36-53-26-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
CASTLE RIVER NEAR BEAVER MINES	05AA022	NW 24-06-02-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
CAVAN LAKE DIVERSION NEAR DUNMORE	05AH044	NW 10-11-04-W4	P1	WSCAB	8QN	0.75	Normal	FEBOCT					No		
CAVAN LAKE NEAR DUNMORE	05AH048	NE 30-11-3-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		

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CHAIN LAKES RESERVOIR NEAR NANTON	05AB037	NE 27-14-02-W5	P1	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
CHIP LAKE NEAR NORTHVILLE	07BB008	SW 03-54-10-W5	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
CLEARWATER RIVER ABOVE CHRISTINA RIVER	07CD005	NW 29-88-06-W4	P1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
COAL LAKE RESERVOIR NEAR WETASKIWIN	05FA016	SE 35-46-23-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					No		
CYPRESS VIEW RESERVOIR NEAR ELKWATER	05AH054	SE 12-10-2-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
DICKSON DAM TUNNEL OUTLET	05CB007	SE 04-36-02-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
EAST MCALPINE CREEK NEAR ELKWATER LAKE	05AH043	NE 03-10-02-W4	P1	WSCAB	8QN	0.75	Normal	FEBOCT					No		
EAST PRAIRIE RIVER NEAR ENILDA	07BF001	NE 14-74-16-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
ELBOW RIVER AT SARCEE BRIDGE	05BJ010	SE 35-23-02-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ELBOW RIVER BELOW GLENMORE DAM	05BJ001	SW 04-24-01-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ELKWATER LAKE AT ELKWATER	05AH025	NW 24-08-03-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
EMBARRAS RIVER NEAR WEALD	07AF014	NE 01-51-20-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
FALLENTIMBER CREEK NEAR SUNDRE	05CA012	SW 09-32-05-W5	P1	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
FAWCETT LAKE NEAR SMITH	07BK008	SE 15-73-01-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
FORSTER RESERVOIR NEAR CESSFORD	05CH013	SW 28-23-13-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					No		
GHOST RIVER ABOVE WAIPAROUS CREEK	05BG010	NW 33-26-07-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
GOLD CREEK NEAR FRANK	05AA030	SW 31-07-03-W5	P1	WSCAB	8QN	0.75	Normal	APRNOV					Yes		
GREGG RIVER NEAR THE MOUTH	07AF015	SW 30-49-23-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
GREGOIRE LAKE NEAR FORT MCMURRAY	07CE001	SW 07-86-08-W4	P1	WSCAB	8HR	0.95	Remote	MAROCT					Yes		
GROAT CREEK NEAR WHITECOURT	07AG008	NE 22-58-13-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
GULL LAKE AT ASPEN BEACH	05CC006	NE 21-40-28-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
HAYNES CREEK NEAR HAYNES	05CD006	SW 11-39-24-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
HIGHWOOD RIVER BELOW LITTLE BOW CANAL	05BL004	NE 06-19-28-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
HILDA LAKE NEAR COLD LAKE	06AC003	NE 08-64-03-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
ISLE LAKE AT EUREKA BEACH	05EA008	NE 32-53-05-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					No		
JACKFISH CREEK NEAR LA COREY	06AC001	NE 09-63-05-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
JACKPINE CREEK AT WADLIN LAKE ROAD	07JD003	NE 09-106-11-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
JUMPINGPOUND CREEK NEAR THE MOUTH	05BH009	NW 20-25-04-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
KENNEDY COULEE NEAR ACADIA VALLEY	05CK006	SW 05-25-02-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
KETTLES CREEK AT PINCHER CREEK	05AA033	NE23-6-30-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
KILLARNEY LAKE TRIBUTARY NEAR CHAUVIN	05GA010	SW 31-41-01-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
KLESKUN HILLS MAIN DRAIN NEAR GRANDE PRAIRIE	07GE002	NE 12-72-4-6	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
KNEEHILLS CREEK NEAR DRUMHELLER	05CE002	NW 12-29-22-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LAC LA NONNE AT LAC LA NONNE	07BB007	NE 07-57-02-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
LAC STE. ANNE AT ALBERTA BEACH	05EA006	SE 22-54-03-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
LASTHILL CREEK NEAR ECKVILLE	05CC013	NE 14-39-04-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
LILY CREEK NEAR SLAVE LAKE	07BG004	NW 14-74-06-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		

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LITTLE RED DEER RIVER NEAR THE MOUTH	05CB001	SW 30-35-01-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
LITTLE SMOKY RIVER NEAR GUY	07GH002	NE 33-74-21-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
LLOYD CREEK NEAR BLUFFTON	05CC009	NE 25-43-02-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
LOMOND LATERAL NEAR HEADGATE	05AC017	SW 34-14-20-W4	P1	WSCAB	8QN	0.75	Normal	APROCT					Yes		
LOON RIVER NEAR THE MOUTH	07JC003	SE 20-93-07-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
MACKAY CREEK RESERVOIR NEAR ELKWATER	05AH056	SW 7-9-1-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
MCALPINE CREEK RESERVOIR NEAR ELKWATER	05AH055	NE 2-9-2-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
MCGREGOR TRAVERS CANAL NEAR CHAMPION	05AC025	SW 15-15-21-W4	P1	WSCAB	8QN	0.75	Normal	APROCT					Yes		
MCLEOD RIVER NEAR CADOMIN	07AF013	SE 30-47-22-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MCLEOD RIVER NEAR WHITECOURT	07AG004	SE 15-58-13-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MEADOW CREEK NEAR THE MOUTH	05AB029	NW 32-11-27-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MICHICI CREEK AT DRUMHELLER	05CE020	NW 11-29-20-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MILK RIVER RIDGE RESERVOIR	05AF030	SW 14-05-20 W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
MILL CREEK NEAR THE MOUTH	05AA011	SW 18-06-01-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
MONITOR CREEK NEAR CONSORT	05GA011	NW 35-33-06-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MONITOR CREEK NEAR MONITOR	05GA003	SW 06-35-04-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MOORE LAKE NEAR COLD LAKE	06AC002	NE 32-63-04-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					No		
MOOSEHILLS CREEK NEAR ELK POINT	05ED003	SE 23-57-06-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
MOSQUITO CREEK NEAR THE MOUTH	05AC031	SE 18-15-26-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
MURIEL LAKE NEAR GURNEYVILLE	06AC007	SW 31-59-05-W4	P1	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
NORTH SASKATCHEWAN RIVER NEAR LODGEPOLE	05DE006	SW 14-47-09-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
NORTH SASKATCHEWAN RIVER NEAR ROCKY MOUNTAIN HOUSE	05DC001	NE 21-39-07-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
NOSE CREEK ABOVE AIRDRIE	05BH014	SE 14-27-1-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
OLDMAN RESERVOIR NEAR PINCHER CREEK	05AA032	NW 25-07-30-W4	P1	WSCAB	12HN	0.4	Normal	ANNUAL					Yes		
OLDMAN RIVER NEAR THE MOUTH	05AG006	SW 24-11-14-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PADDLE RIVER AT BARRHEAD	07BB006	SW 21-59-03-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PADDLE RIVER NEAR ROCHFORD BRIDGE	07BB004	SW 06-57-07-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PAINT EARTH CREEK NEAR HALKIRK	05FC004	NE 30-39-15-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
PARFLESH CREEK NEAR CHANCELLOR	05BM007	SW 35-23-21-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
PARLBY CREEK AT ALIX	05CD007	SE 02-40-23-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PEACE RIVER ABOVE SMOKY RIVER CONFLUENCE	07FD901	NW 36-82-23-W5	P1	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
PEACE RIVER AT FORT VERMILION	07HF001	SW 24-108-13-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PEACE RIVER NEAR ELK ISLAND PARK	07FD934	SW 10-80-26-W5	P1	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
PEMBINA RIVER BELOW PADDY CREEK	07BA001	NE 12-48-10-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
PEMBINA RIVER NEAR ENTWISTLE	07BB002	SW 29-53-07-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
PIGEON LAKE AT PROVINCIAL PARK	05FA013	NE 22-46-01-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		

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PINCHER CREEK AT FRONT RANGE ROAD	05AA034	SE 21-4-1-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PINE COULEE DIVERSION CANAL ABOVE DROP STRUCTURE	05AB043	SE 33-13-28-4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
PINE COULEE DIVERSION CANAL BELOW HEADGATES	05AB042	SW 32-13-28-4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PINE COULEE OUTFLOW BELOW RESERVOIR	05AB045	NW 27-13-28-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PINE COULEE RESERVOIR NEAR STAVELY	05AB044	SW 34-13-28-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
PINTO CREEK NEAR GRANDE PRAIRIE	07GC002	SW 36-67-10-W6	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
PONY CREEK NEAR CHARD	07CE003	SW 22-79-06-W4	P1	WSCAB	8QR	1.50	Remote	MAROCT					Yes		
PORTER CREEK ABOVE BAPTISTE LAKE	07BE003	SW 21-66-24-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
PRAIRIE CREEK NEAR ROCKY MOUNTAIN HOUSE	05DB002	NW 15-38-07-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
RAM RIVER NEAR THE MOUTH	05DC006	SE 19-39-10-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
RED DEER RIVER ABOVE PANTHER RIVER	05CA004	NE 18-31-10-W5	P1	WSCAB	8QN	0.75	Normal	APROCT					Yes		
RED DEER RIVER AT DRUMHELLER	05CE001	SW 11-29-20-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
REDWILLOW RIVER NEAR RIO GRANDE	07GD004	NW 24-70-12-W6	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
ROSEBUD RIVER BELOW CARSTAIRS CREEK	05CE006	NW 22-28-27-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
RUSH LAKE DRAIN NEAR NEW DAYTON	05AF031	NW 36-05-17-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
SALT CREEK NEAR GROUARD	07BF009	SW 28-76-14-5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
SHEEP RIVER AT OKOTOKS	05BL012	SE 29-20-29-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SOUNDING CREEK NEAR CHINOOK	05GA012	SE 09-30-07-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SOUNDING CREEK NEAR OYEN	05GA008	SE 15-30-04-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SOUTH HEART RESERVOIR NEAR MCLENNAN	07BF008	SE 20-77-17-W5	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
SOUTH HEART RIVER NEAR BIG PRAIRIE SETTLEMENT	07BF905	SW 17-76-15-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
SOUTH HEART RIVER NEAR PEAVINE	07BF010	NW 02-79-16-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SOUTH WABASCA LAKE NEAR DESMARAIS	07JA002	NW 14-80-25-W4	P1	WSCAB	8HN	0.25	Normal	MAYOCT					No		
SPIRIT RIVER NEAR SPIRIT RIVER	07FD020	SE10-78-6-W6	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
SPRAY RIVER AT BANFF	05BC001	SW 25-25-12-W5	P1	WSCAB	12QN	1.00	Normal	ANNUAL					No		
SPRUCE COULEE RESERVOIR NEAR ELKWATER	05AH058	NW 26-8-2-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
ST. MARY RIVER NEAR LETHBRIDGE	05AE006	SW 19-07-21-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
STIMSON CREEK NEAR PEKISKO	05BL007	SE 14-17-02-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
STIRLING LAKE OUTFLOW NEAR STIRLING	05AF029	SW 03-07-19-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
STURGEON LAKE NEAR VALLEYVIEW	07GH003	SW 01-71-24-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					No		
STURGEON RIVER AT ST. ALBERT	05EA002	NE 04-54-25-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
STURGEON RIVER NEAR FORT SASKATCHEWAN	05EA001	NE 29-55-22-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
STURGEON RIVER NEAR MAGNOLIA BRIDGE	05EA010	SW 20-53-06-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		

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Provincial Departmental Programs (P1)

Site Identification			Responsibility				Operational Approach					Output Products			
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
STURGEON RIVER NEAR VILLENEUVE	05EA005	NW 10-54-26-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
SUNWAPTA RIVER AT ATHABASCA GLACIER	07AA007	SW 33-37-23-W5	P1	WSCAB	8QN	0.75	Normal	MAYOCT					Yes		
SYLVAN LAKE AT SYLVAN LAKE	05CC003	NE 32-38-01-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					Yes		
THREEHILLS CREEK NEAR CARBON	05CE007	SW 17-30-22-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
TODD CREEK NEAR HIGHWAY NO.22	05AA909	SE 29-09-02-W5	P1	WSCAB	8QN	0.75	Normal	APROCT					No		
TROUT CREEK NEAR GRANUM	05AB005	SW 07-12-27-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
UTIKUMA LAKE NEAR NIPISI	07JA001	SE 24-79-09-W5	P1	WSCAB	8HN	0.25	Normal	MAROCT					No		
VERDIGRIS LAKE TRIBUTARY NEAR MILK RIVER	11AA039	NE 21-03-16-W4	P1	WSCAB	8QN	0.75	Normal	FEBOCT					No		
VERMILION PARK LAKE NEAR VERMILION	05EE008	NW 32-50-06-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					No		
VERMILION LAKES NEAR MORECAMBE	05EE011	NW 06-54-10-W4	P1	WSCAB	8HN	0.25	Normal	MAROCT					Yes		
VERMILION RIVER AT RGE RD 105	05EE010	SE 31-53-10-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
VERMILION RIVER NEAR MARWAYNE	05EE007	NW 16-52-03-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
WABAMUN LAKE AT WABAMUN	05DE002	SE 08-53-05-W5M	P1	WSCAB	12HN	0.40	Normal	ANNUAL					Yes		
WAMPUS CREEK NEAR HINTON	07AF003	NW 23-48-23-W5	P1	WSCAB	8QN	0.75	Normal	APROCT					No		
WATERTON RIVER NEAR GLENWOOD	05AD028	SW 05-06-26-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WATERTON-BELLY DIVERSION CANAL	05AD027	SE 25-4-28-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WEED CREEK AT THORSBY	05DF008	NE 15-49-1-W5	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WEILLER CREEK NEAR WETASKIWIN	05FA024	NE 09-46-23-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
WHITEMUD CREEK NEAR ELLERSLIE	05DF006	SE 22-51-25-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WILLOW CREEK AT HIGHWAY NO. 811	05AB046	NW 24-09-26-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WILLOW CREEK AT OXLY RANCH	05AB041	NW 36-13-29-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
WILLOW CREEK NEAR CLARESHOLM	05AB021	NE 23-12-28-W4	P1	WSCAB	12QN	1.00	Normal	ANNUAL					Yes		
WINAGAMI LAKE AT PROVINCIAL PARK	07BF006	SW 35-76-18-W5	P1	WSCAB	8HN	0.25	Normal	MAYOCT					No		
YARROW CREEK AT SPREAD EAGLE ROAD	05AD042	NE 22-3-30-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					Yes		
YOUNG CREEK NEAR CASTOR	05FC007	NE 12-38-13-W4	P1	WSCAB	8QN	0.75	Normal	MAROCT					No		
Stations Total	168					116.85									

Provincial - Contributed Data

Site Identification			Responsibility				Operational Approach					Output Products			
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
ATHABASCA RIVER ABOVE JACKFISH CREEK	07DD007		CP1-AENV	AENV	12HR	1.10	Remote	ANNUAL		10			No		
ATHABASCA RIVER BELOW CROOKED RAPIDS	07CC003	49 54 57.2 -110 38 54	P1	AENV	8HR	0.95	Remote	MAYOCT							
BEAR LAKE NEAR CLAIRMONT	07GE004	NE 27-72-07-W6	C-AENV	AENV	8HN	0.25	Normal	MAROCT		3					
BIGELOW RESERVOIR NEAR WIMBORNE	05CE901	SW 03-34-25-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		7			No	Yes	
BOW RIVER DEVELOPMENT MAIN CANAL AT DROP NO. 3	05AC902	SW 09-14-19-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		9			X		
CHESTERMERE LAKE AT SOUTH OUTLET	05BM904		C-AENV	AENV	8HN	0.25	Normal	MAROCT		8			Yes	Yes	
CHRISTINA LAKE NEAR WINEFRED LAKE	07CE906	SW31-76-5-W4	C-AENV	AENV	12HN	0.40	Normal	ANNUAL		3			Yes	Yes	

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Provincial - Contributed Data

Site Identification			Responsibility				Operational Approach				Output Products				
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
CLEAR LAKE DIVERSION CANAL BELOW HEADGATE	05AC938		C-AENV	AENV	8QN	0.75	Normal	MAROCT		8			X		
CLEAR LAKE DIVERSION HEAD POND ABOVE HEADGATE	05AC939		C-AENV	AENV	8HN	0.25	Normal	MAROCT		8			X		
CLEAR LAKE NEAR STAVELY	05AC901	NE 31-13-25-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		9			X		
DRIEDMEAT LAKE AT OUTFLOW	05FA020	SE 17-44-19-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		10				Yes	
ETZIKOM COULEE NEAR NEMISKAM	05AF905	SW 02-06-10-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		12				X	
GRIMSHAW DRAINAGE NEAR GRIMSHAW	07FD908	SW 08-83-23 W5	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8					
HAYNES CREEK (M1) NEAR JOFFRE	05CD913	NW03-40-25-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		12				Yes	
KEHO LAKE NEAR NOBLEFORD	05AC919	SE 33-11-22-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		9			X		
LAKE MCGREGOR AT SOUTH DAM	05AC022	NE 21-15-21-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		10			X		
LITTLE BOW RESERVOIR NEAR ENCHANT	05AC922	NE 28-14-20-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		9					
LITTLE BOW RIVER ABOVE TRAVERSE RESERVOIR (Little Bow River above Travers Reservoir)	05AC037		C-AENV	AENV	8QN	0.75	Normal	MAROCT		8			Yes	Yes	
LITTLE BOW RIVER AT HIGHWAY NO. 533	05AC930	NW 17-16-26-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8			Yes	Yes	
LITTLE BOW RIVER BELOW TWIN VALLEY RESERVOIR	05AC941		C-AENV	AENV	12QN	1.00	Normal	ANNUAL		8			Yes	Yes	
TWIN VALLEY RESERVOIR (at HWY 529)	05AC940		C-AENV	AENV	12HN	0.40	Normal	ANNUAL		8			Yes	Yes	
MIRROR BACKFLOOD AT HIGHWAY 50	05CD905	NW20-40-22-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		10				Yes	
MODESTE CREEK NEAR LINDALE	05DE911	NW20-49-05-W5	C-AENV	AENV	8QN	0.75	Normal	MAROCT		12			Yes	Yes	
MOSQUITO CREEK BELOW CLEAR LAKE DIVERSION	05AC937		C-AENV	AENV	8QN	0.75	Normal	MAROCT		12			X		
NAMPA (SOUTH) DRAINAGE NEAR NAMPA	07HA914	NW 12-81-21 W5	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8			Yes	Yes	
NORTH STAR DRAINAGE NEAR NORTH STAR	07HC907	SE 27-90-23 W5	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8			Yes	Yes	
PADDLE RIVER RESERVOIR NEAR ROCHFORD BRIDGE	07BB914	SE02-57-08-W5	C-AENV	AENV	12HN	0.40	Normal	ANNUAL		8			Yes	Yes	
PARLBY CREEK NEAR MIRROR	05CD902	SE 04-41-22-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		12			Yes	Yes	
PAYNE LAKE NEAR MOUNTAIN VIEW	05AD940		C-AENV	AENV	8HN	0.25	Normal	MAROCT		9			X		
POINTE-AUX-PINS CREEK NEAR ARDROSSAN	05EB902	SW27-53-22-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		15				Yes	
POINTE-AUX-PINS TRIBUTARY NO. 2 NEAR ARDROSSAN	05EB910	SW23-53-22-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		15				Yes	
RYCROFT SURVEY NO. 3 NEAR RYCROFT	07FD910	SE 18-78-04 W6	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8				Yes	
SPOTTED LAKE NEAR MIRROR	05CD903	SW04-41-22-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		10			Yes	Yes	
SQUAW COULEE NEAR CAYLEY	05AC909		C-AENV	AENV	8QN	0.75	Normal	MAROCT							
TRAVERS RESERVOIR NEAR ENCHANT	05AC921	NE 18-14-20-W4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		9			X		
TYRRELL LAKE NEAR WARNER	05AF903	SE 17-5-17-4	C-AENV	AENV	8HN	0.25	Normal	MAROCT		9			X		
VERMILION RIVER NEAR BEAUVALLON	05EE930	SE21-53-10-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT		12				Yes	
WASKATENAU CREEK NEAR WASKATENAU	05EC002	SE 28-59-19-W4	C-AENV	AENV	8QN	0.75	Normal	MAROCT						Yes	
WHITBURN DRAINAGE PROJECT NEAR SPIRIT RIVER	07FD912	SE 23-79-08 W6	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8				Yes	
YOUNG DRAINAGE PROJECT NEAR SPIRIT RIVER	07FD913	SE 01-79-06 W6	C-AENV	AENV	8QN	0.75	Normal	MAROCT		8			Yes	Yes	
Total	40					22.75									

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Contributed Data

Site Identification			Responsibility				Operational Approach					Output Products			
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
BARRIER LAKE NEAR SEEBE	05BF024	51 01 59 -115 02 29	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
BOW RIVER BELOW BEARSPAW DAM	05BH008	SW 04-25-02-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
BOW RIVER NEAR SEEBE	05BE004	NE 10-25-08-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
CASCADE POWER DIVERSION NEAR BANFF	05BD004	SE 8-26-11-5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
GHOST LAKE NEAR COCHRANE	05BE005	NE 13-26-06-W5	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
GHOST RIVER DIVERSION TO LAKE MINNEWANKA	05BG003	NE 2-27-9-5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
GHOST RIVER NEAR BLACK ROCK MOUNTAIN	05BG002	SE 15-27-09-W5	C-TAU	TAU	8QN	0.75	Normal	MARQCT							
GHOST TRAIL	05BE999	NE 13-26-06-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
GOAT CREEK AT BANFF PARK BOUNDARY	05BC008	SW 23-24-11-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
KANANASKIS RIVER ABOVE POCATERRA CREEK	05BF003	NE 13-20-09-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
KANANASKIS RIVER BELOW BARRIER DAM	05BF025	SE 15-24-08-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
LAKE ABRAHAM NEAR NORDEGG	05DC009	SW 35-38-17-W5	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
LAKE MINNEWANKA NEAR BANFF	05BD003	SW 21-26-11-W5	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
LOWER KANANASKIS LAKE	05BF009	SW 13-20-09-W5	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
NORTH SASKATCHEWAN RIVER BELOW BIGHORN PLANT	05DC010	SE 35-38-17-W5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
SPRAY POWER DIVERSION AT CANMORE	05BE007	SW 32-24-10-5	C-TAU	TAU	12QN	1.00	Normal	ANNUAL							
SPRAY RESERVOIR AT THREE SISTERS DAM	05BC006	SW 32-23-10-W5	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
UPPER KANANASKIS LAKE	05BF005	NE 13-19-09-W5	C-TAU	TAU	12HN	0.40	Normal	ANNUAL							
GLENMORE RESERVOIR AT CALGARY	05BJ008	SE 32-23-01-W5	C-CITY	CITY	12HN	0.40	Normal	ANNUAL					NA		
Total	19					13.95									

Sediment Program

Site Identification			Responsibility				Operational Approach					Output Products			
Station Name	Station Number	Station Location	Station Designation	Operator	Station Type	Station Units	Access	Operating Period	Operating Method	Planned Visits	Issue Response Priority	Standards Tier	Real Time	Archive	Other
PROVINCIAL															
OLDMAN RIVER NEAR BROCKET	05AA024	SE 14-07-29-W4	FP2	WSCAB	12QN	1.05	Normal	ANNUAL					Yes		
OLDMAN RIVER NEAR WALDRON'S CORNER	05AA023	NE 10-10-2-W5	FP3	WSCAB	12QN	1.05	Normal	ANNUAL					Yes		
FEDERAL - PROVINCIAL															
OLDMAN RIVER NEAR LETHBRIDGE	05AD007	NW 1-9-22-W4	F2	WSCAB	12QN	0.525	Normal	ANNUAL					Yes		
FEDERAL															
SLAVE RIVER AT FITZGERALD	07NB001		F2	NT/NU	12QR	0.525	Remote	ANNUAL							

APPENDIX B

Schedule D Annual Payment Details

2006 – 2007

CANADA – ALBERTA
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1.0 DIRECT OPERATIONS

1.1 Salaries

personnel charged to the direct operations (Appendix A)		\$1,435,479
Overtime (Appendix A)		\$97,435
	Direct Operations Salary	<u>\$1,532,914</u>

O & M Conversion = 0.2 X Direct Operations Salary		\$306,583
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Direct Operations Salary (as O&M)		<u>\$1,839,497</u>
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1.2 Unit Salary Costs

A - Station Units (Appendix B)	311.650	
B - Direct Operations Salary (as O&M)	\$1,839,497	
Direct Operations Unit Salary Cost (B / A)		\$5,902

1.3 O&M Costs

1.3.1 Hydrometric Conventional (from Line Object Totals)	\$677,421	
1.3.2 Hydrometric Remote (from Line Object Totals)	\$123,386	
1.3.3 Sediment Program (from Line Object Totals)	\$4,075	
	Direct Operations Operational Costs	<u>\$804,883</u>

1.4 Unit O & M Cost

A - Station Units (Appendix B)	311.650	
B - Direct Operations O&M	\$804,883	
Direct Operations Unit Salary Cost (B / A)		\$2,583

1.5 Direct Operations Station Unit Cost

Unit Salary Cost (sec 1.2)		\$5,902
Unit O & M Cost (sec 1.4)		\$2,583

Total **\$8,485**

1.6 Capital Depreciation

<u>Motor Vehicles Hydrometric (Appendix C)</u>	\$83,290	
<u>Field Equipment Amortized over 10 years</u>		
Depreciation Forward	\$29,309	
Purchase 2006 - 2007	\$57,308	\$5,731
<u>EDP Equipment Amortized over 4 years</u>	\$20,381	
Total Direct Operations		<u>\$138,711</u>

Note: References made to Appendix and line objects on this page, references the details in data workbook calculations.

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2.0 INDIRECT OPERATIONS

2.1 Salaries

personnel charged to the indirect operations (Appendix A)		\$266,603
Overtime (Appendix A)		\$4,960
Indirect Operations Salary		<u>\$271,563</u>
O & M Conversion = 0.2 X Indirect Operations Salary		\$54,313
Indirect Operations Salary (as O&M)		<u><u>\$325,876</u></u>

2.2 Unit Salary Costs

A - Station Units (Appendix B)	311,650	
B - Indirect Operations Salary (as O&M)	\$325,876	
Indirect Operations Unit Salary Cost (B / A)		\$1,046

2.3 Operational Costs

2.3.1 Indirect Operations (O&M)	\$73,273
2.3.2 Training (O&M)	\$52,568
2.3.3 Computer Software and Supplies	\$33,453
	<u>\$159,294</u>

2.4 Unit O & M Cost

A - Station Units (Appendix B)	311,650	
B - Indirect Operations Salary (as O&M)	\$159,294	
Indirect Operations Unit Salary Cost (B / A)		\$511

2.5 Indirect Operations Station Unit Cost

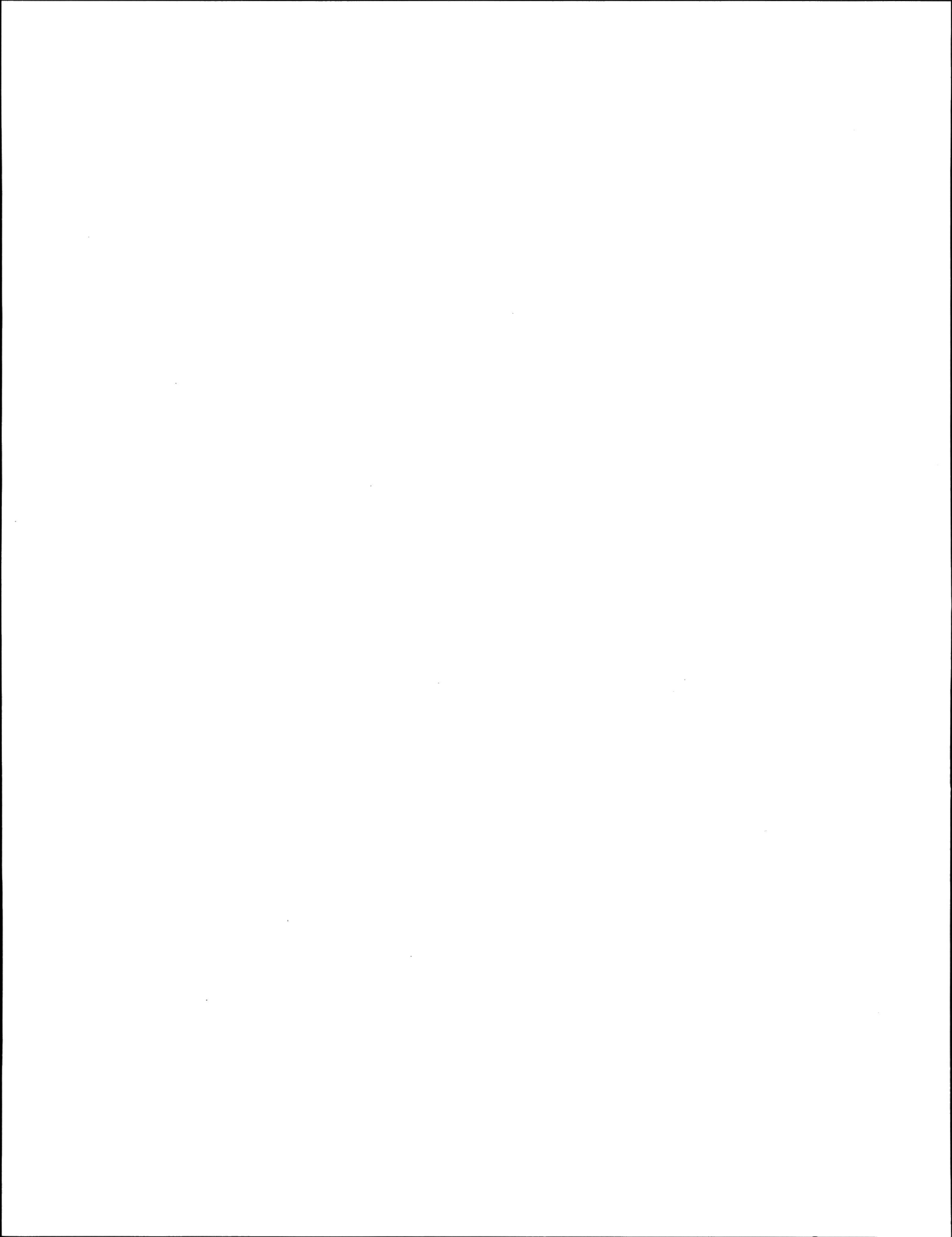
Unit Salary Cost (sec 2.2)	\$1,046
Unit O & M Cost (sec 2.4)	\$511

Total \$1,557

3.0 TOTAL OPERATIONS UNIT COST

A - Unit Costs Direct Operations (item 1.5)	\$8,485
B - Unit Cost Indirect Operations (item 2.5)	<u>\$1,557</u>
Total Operations Unit Costs (A + B)	\$10,042

Note: References made to Appendix and line objects on this page, references the details in data workbook calculations.



APPENDIX C

Schedule D Annual Payment Estimates

2006 – 2007

CANADA – ALBERTA
 2006 – 2007 Memorandum of Agreement for Water Quantity Surveys
APPENDIX C – Schedule D Annual Payment Estimates 2006 – 2007

SCHEDULE D (amended)

CONTRIBUTIONS BY PARTIES
CANADA –ALBERTA AGREEMENT ON HYDROMETRIC MONITORING
 For
Fiscal Year 2006 - 2007 (Updated March 13, 2007)

TYPE OF EXPENDITURE	NO. OF STNS.	TOTAL COST per Schedule B	SHARE	
			FEDERAL	PROVINCIAL
Direct Operations				
Hydrometric Network Operated by WSC	394	\$ 2,549,727	\$ 1,032,495	\$ 1,517,232
Hydrometric Equipment Depreciation		\$ 147,771	\$ 59,839	\$ 87,932
Full Program Sediment Stations	4	\$ 26,034	\$ 4,339	\$ 21,695
Sediment Equipment Depreciation		\$ -	\$ -	\$ -
Indirect Operations				
Hydrometric Network Operated by WSC	394	\$ 435,347	\$ 176,291	\$ 259,056
Full Program Sediment Stations	4	\$ 4,445	\$ 741	\$ 3,704
Projects				
Life Cycle Management	59	\$ 455,123	\$ 166,468	\$ 288,655
Contaminated Site Cleanup	7	\$ 74,112	\$ 41,258	\$ 32,854
Cableway Upgrades	11	\$ 182,951	\$ 105,464	\$ 77,487
Station Decommissioning	24	\$ 167,000	\$ 139,000	\$ 28,000
Network Expansion		\$ 245,000	\$ -	\$ 245,000
TOTAL		\$ 4,287,510	\$ 1,725,895	\$ 2,561,616

ALBERTA GROSS SHARE: \$ 2,561,616

ALBERTA CREDIT:

a) Direct Operation cost (PAD area plus Oldman Reservoir)	
Hydrometric stations	\$ (86,782)
Hydrometric Depreciation	\$ (4,979)
b) Indirect Operation cost (PAD area plus Oldman Reservoir)	\$ (14,817)
c) Direct Costs Water Sciences (\$39,894 X 125.45 / 311.65)	\$ (16,059)
d) Direct Costs Monitoring (\$57,225 X 125.45 / 311.65)	\$ (23,035)
e) Christina Lake January -December	\$ (9,809)
e) Variance of historic Contaminated Sites Cleanup costs	\$ 73,848
f) Over recovery for past years hydrometric operations	\$ (153,039)
TOTAL	\$ (234,671)

ALBERTA NET SHARE: Alberta Gross Share - ALBERTA CREDIT \$ 2,326,944

Net payment by Alberta to Canada - \$2,326,944.



Tom Dickson
 Administrator for Alberta
 Alberta Environment



Tim Goos
 Administrator for Canada
 Environment Canada

CANADA – ALBERTA
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APPENDIX C – Schedule D Annual Payment Estimates 2006 – 2007

1.0 DIRECT OPERATIONS

1.1 Salaries

personnel charged to the direct operations (Appendix A)		\$1,421,118
Overtime (Appendix A)		\$45,000
	Direct Operations Salary	<u>\$1,466,118</u>

O & M Conversion = 0.2 X Direct Operations Salary		\$293,224
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	Direct Operations Salary (as O&M)	<u>\$1,759,342</u>
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1.2 Unit Salary Costs

A - Station Units (Appendix B)	311.650	
B - Direct Operations Salary (as O&M)	\$1,759,342	
Direct Operations Unit Salary Cost (B / A)		\$5,645

1.3 O&M Costs

1.3.1 Hydrometric Conventional (from Line Object Totals)	\$676,300
1.3.2 Hydrometric Remote (from Line Object Totals)	\$132,000
1.3.3 Sediment Program (from Line Object Totals)	\$8,120

	Direct Operations Operational Costs	<u>\$816,420</u>
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1.4 Unit O & M Cost

A - Station Units (Appendix B)	311.650	
B - Direct Operations O&M	\$816,420	
Direct Operations Unit Salary Cost (B / A)		\$2,620

1.5 Direct Operations Station Unit Cost

Unit Salary Cost (sec 1.2)	\$5,645
Unit O & M Cost (sec 1.4)	<u>\$2,620</u>

Total	\$8,265
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1.6 Capital Depreciation

Motor Vehicles Hydrometric (Appendix C)	\$74,877
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<u>Field Equipment Amortized over 10 years</u>	
Depreciation Forward	\$25,570
Purchase 2006 - 2007	\$25,000 \$2,500

<u>EDP Equipment Amortized over 4 years</u>	<u>\$44,824</u>
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Total Direct Operations	\$147,771
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APPENDIX C – Schedule D Annual Payment Estimates 2006 – 2007

2.0 INDIRECT OPERATIONS

2.1 Salaries

personnel charged to the indirect operations (Appendix A)		\$284,410
Overtime (Appendix A)		\$0
Indirect Operations Salary		<u>\$284,410</u>
O & M Conversion = 0.2 X Indirect Operations Salary		\$56,882
Indirect Operations Salary (as O&M)		<u>\$341,292</u>

2.2 Unit Salary Costs

A - Station Units (Appendix B)	311,650	
B - Indirect Operations Salary (as O&M)	\$341,292	
Indirect Operations Unit Salary Cost (B / A)		\$1,095

2.3 Operational Costs

2.3.1 Indirect Operations (O&M)	\$98,500
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2.4 Unit O & M Cost

A - Station Units (Appendix B)	311,650	
B - Indirect Operations Salary (as O&M)	\$98,500	
Indirect Operations Unit Salary Cost (B / A)		\$316

2.5 Indirect Operations Station Unit Cost

Unit Salary Cost (sec 2.2)	\$1,095
Unit O & M Cost (sec 2.4)	\$316
Total	<u>\$1,411</u>

3.0 TOTAL OPERATIONS UNIT COST

A - Unit Costs Direct Operations (item 1.5)	\$8,265
B - Unit Cost Indirect Operations (item 2.5)	<u>\$1,411</u>
Total Operations Unit Costs (A + B)	\$9,676

APPENDIX D

Schedule D Annual Payment Estimates

2007 – 2008

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APPENDIX D – Schedule D Annual Payment Estimates 2007 – 2008

SCHEDULE D

CONTRIBUTIONS BY PARTIES
CANADA –ALBERTA AGREEMENT ON HYDROMETRIC MONITORING
For
Fiscal Year 2007 - 2008

TYPE OF EXPENDITURE	NO. OF STNS.	TOTAL COST per Schedule B	SHARE	
			FEDERAL	PROVINCIAL
Direct Operations				
Hydrometric Network Operated by WSC	397	\$ 2,411,272	\$ 969,671	\$ 1,441,601
Hydrometric Equipment Depreciation		\$ 136,576	\$ 54,923	\$ 81,654
Full Program Sediment Stations	4	\$ 24,450	\$ 4,075	\$ 20,375
Sediment Equipment Depreciation		\$ -	\$ -	\$ -
Indirect Operations				
Hydrometric Network Operated by WSC	397	\$ 416,483	\$ 167,485	\$ 248,998
Full Program Sediment Stations	4	\$ 4,223	\$ 704	\$ 3,519
Projects				
Life Cycle Management	27	\$ 352,840	\$ 125,228	\$ 227,612
Cableway Upgrades	9	\$ 156,298	\$ 64,652	\$ 91,646
Station Decommissioning	5	\$ 84,100	\$ -	\$ 84,100
Network Expansion		\$ 250,000	\$ -	\$ 250,000
TOTAL		\$ 3,836,243	\$ 1,386,737	\$ 2,449,506

ALBERTA GROSS SHARE: \$ 2,449,506

ALBERTA CREDIT:

a) Direct Operation cost (PAD area plus Oldman Reservoir)	
Hydrometric stations	\$ (81,501)
Hydrometric Depreciation	\$ (4,570)
b) Indirect Operation cost (PAD area plus Oldman Reservoir)	\$ (14,077)
c) Direct Costs Water Sciences (\$39,894 X 126.20 / 314.55)	\$ (15,949)
d) Direct Costs Monitoring (\$57,225 X 126.20 / 314.55)	\$ (22,877)
e) Christina Lake January -December	\$ (9,103)
TOTAL	\$ (148,077)

ALBERTA NET SHARE: Alberta Gross Share - ALBERTA CREDIT \$ 2,301,429

Net payment by Alberta to Canada - \$2,301,429

Original signed by
 Tom Dickson
 Administrator for Alberta
 Alberta Environment

Original signed by
 Tim Goos
 Administrator for Canada
 Environment Canada

APPENDIX E

Projects

2006 – 2007

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APPENDIX E – Project Details 2006 – 2007

Life Cycle Management Share Calculation

TOTAL Life Cycle Management Shares =

Sum of a) Salary, b) Construction Project, c) Non-Project expenditures and d) single party SHARES

Federal	(\$103,581 +\$74,494 +\$18,366 +\$144,190) =	\$340,632
Provincial	(\$152,211 +\$94,152 +\$26,989 +\$0) =	\$273,352

<u>Salary - shareable</u>	<u>Construction & Cableway</u> (non-project)	<u>Maintenance</u>
base salary	\$174,787	\$69,421
Overtime	\$8,080	
BPE (@20%)	\$36,573	\$13,884
Const. Projects	-\$27,223	
Expansion Projects	-\$2,611	
Cableway Projects	-\$17,119	
	<u>\$172,487</u>	<u>\$83,306</u>

Note: A portion of the salary shown above is accounted for in the Construction and Cableway projects
 The project based salary is subtracted from total salary before the salary shares are calculated

a) Salary SHARES

Federal	((\$172,487 +\$83,306) *((124.925) / 308.50)) =	\$103,581
Provincial	((\$172,487 +\$83,306) *((183.575) / 308.50)) =	\$152,211

Note:

Salary is distributed using the ratio of station units funded by each party. This distribution method was chosen based on the arguments that flow stations normally have more infrastructure and are more complex to manage than water level stations. Station unit distribution reflects this difference more accurately than station equivalents

b) Construction Project - Shares

Federal	(\$57,242 +(\$34,505 / 2)) =	\$74,494
Provincial	(\$76,900 +(\$34,505 / 2)) =	\$94,152

c) Non-Project LCM Expenditures

Vehicle Depreciation	\$5,187	
Non project total of activities below OSH	\$39,258	
Training (not including salaries)	\$910	
Trailer upgrade & servicing		
Tools & equipment		
Communications		
		<u>\$45,355</u>

Non-Project LCM Expenditures **SHARES** are distributed using station units.

Federal	(\$45,355 *124.93 / 308.50) =	\$18,366
Provincial	(\$45,355 *183.58 / 308.50) =	\$26,989

d) LCM projects Funded by a Single Party

Federal	\$144,190
Provincial	\$0

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Life Cycle Management Projects

Station No.	Station Name	Designation	Activities	Expenditure
FEDERAL FUNDED PROJECTS				
05BA001	BOW RIVER AT LAKE LOUISE	F-1	Fall arrest, replace broken windows, C/W platform railing	\$3,796
05BL023	PEKISKO CREEK NEAR LONGVIEW	F-1	Bank Stab/Cont	\$19,754
05DA010	SILVERHORN CREEK NEAR THE MOUTH	F-1	Meter bridge removal, fall arrest, shelter stairs etc	\$524
05AD025	WATERTON LAKE AT WATERTON PARK	F-1	Removal of old stilling well and install new staff gauge.	\$874
05AD003	WATERTON RIVER NEAR WATERTON PARK	F-1	Install fall arrest	\$3,008
05FE004	BATTLE RIVER NEAR THE SASKATCHEWAN BDY	F-2	De-mouse	\$746
05AH050	BOXELDER CREEK NEAR HARGRAVES RANCH	F-2	De-mouse shelter	\$1,303
05CB006	GLENIFFER RESERVOIR NEAR DICKSON	F-2	De-mouse	\$327
05BL025	HIGHWOOD DIVERSION CANAL NEAR HEADGATES	F-2	De-silt well	\$1,908
05EF001	NORTH SASKATCHEWAN RIVER NEAR DEER CK	F-2	replaced 18 meter under ground electrical service	\$1,954
05AD007	OLDMAN RIVER NEAR LETHBRIDGE	F-2	De mouse and re-caulked shelter	\$2,970
11AA028	BEAR CREEK NEAR INTERNATIONAL BOUNDARY	F-3	De-mouse:	\$360
11AA025	MILK RIVER AT WESTERN CROSSING OF IB	F-3	De-mouse:	\$839
11AA029	MINERS COULEE NEAR IB	F-3	Repair erosion around the edges of the weir	\$6,232
11AA001	NORTH MILK RIVER NEAR IB	F-3	Repair access to shelter	\$360
05AD035	PRAIRIE BLOOD COULEE NEAR LETHBRIDGE	F-4	new intakes, bank stabilize, repair fence	\$12,287
				\$57,242
16			salary component of cost	\$9,598

Station No.	Station Name	Designation.	Activities	Expenditure
FEDERAL - PROVINCIAL FUNDED PROJECTS				
07DA006	STEEP BANK RIVER NEAR FORT MCMURRAY	FP-1	Station Relocation - Paid by SUNCOR see note below	\$13,028
05BL024	HIGHWOOD RIVER NEAR THE MOUTH	FP-2	reconnaissance for future activity	\$255
05DF001	NORTH SASKATCHEWAN RIVER AT EDMONTON	FP-2	assessment	\$900
05AA024	OLDMAN RIVER NEAR BROCKET	FP-2	Remove sediment sampling platform.	\$219
07GJ001	SMOKY RIVER AT WATINO	FP-2	Shelter relocation and additional benchmarks.	\$1,921
06AA002	AMISK RIVER AT HIGHWAY NO. 36 (LLB)	FP-3	Replace heat tapes and clear lower intake.	\$489
05ED002	ATIMOSWE CREEK NEAR ELK POINT	FP-3	Install fall arrest.	\$489

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Life Cycle Management Projects

Station No.	Station Name	Designation.	Activities	Expenditure
FEDERAL - PROVINCIAL FUNDED PROJECTS Continued				
06DD007	BRAZEAU RIVER BELOW CARDINAL RIVER	FP-3	Reconnaissance	\$733
07HB001	CADOTTE RIVER AT OUTLET CADOTTE LAKE	FP-3	Contract to install power	\$9,462
05CB002	LITTLE RED DEER RIVER NEAR WATER VALLEY	FP-3	De-mouse:	\$109
07GG002	LITTLE SMOKEY RIVER AR LITTLE SMOKY	FP-3	Level shelter	\$391
05FA012	PIPESTONE CREEK NEAR WETASKISON	FP-3	reconnaissance / assessment of shoreline	\$122
05CE010	RAY CREEK NEAR INNISFAIL	FP-3	De-mouse:	\$457
05FD001	RIBSTONE CREEK NEAR EDGERTON	FP-3	New heat tape.	\$1,678
07BK009	SAWRIDGE CREEK NEAR SLAVE LAKE	FP-3	station relocation	\$3,570
05CE018	THREEHILLS CREEK BELOW RAY CREEK	FP-3	stairs	\$231
05DE009	TOMAHAWK CREEK NEAR TOMAHAWK	FP-3	Install fall arrest and fence repairs.	\$235
05CC011	WASKASOO CREEK AT RED DEER	FP-3	assessment	\$218
				\$34,505
18			salary component of cost	\$6,264

Station No.	Station Name	Designation	Activities	Expenditure
PROVINCIAL FUNDED PROJECTS				
07CA008	BABETTE CREEK NEAR COLINTON	P-1	inspection	\$326
07GD001	BEAVERLODGE RIVER NEAR BEAVERLODGE	P-1	fall arrest, repair/replace shut/off extensions, new heat tape	\$885
05BJ001	ELBOW RIVER BELOW GLENMORE DAM	P-1	heat tape	\$602
05AA030	GOLD CREEK NEAR FRANK	P-1	Remove old metering bridge, replace ceiling light fixture	\$584
05CC006	GULL LAKE AT ASPEN BEACH	P-1	assessment	\$415
05BL004	HIGHWOOD RIVER BELOW LITTLE BOW CANAL	P-1	Bank Stabilize 2005 flood	\$21,737
07JD003	JACKPINE CREEK AT HIGHWAY NO. 89	P-1	Install fall arrest, Replace 3/4" lanyards with 7/8"	\$4,636
07GE002	KLESKUN HILLS MAIN DRAIN NEAR GRANDE PRAIRIE	P-1	4' dia well requires fall arrest and heat tape upgrade.	\$4,465
05EA006	LAC STE ANNE AT ALBERTA BEACH	P-1	Relocate look-in shelter	\$3,120
05AF030	MILK RIVER RIDGE RESERVOIR	P-1	De-mouse	\$343
05DE006	NORTH SASKATCHEWAN RIVER NEAR LODGEPOLE	P-1	assessment	\$610
07BA001	PEMBINA RIVER BELOW PADDY CREEK	P-1	Extend Intake	\$972
07BB002	PEMBINA RIVER NEAR ENTWISTLE	P-1	Extend Intake	\$1,223
05AB042	PINE COULEE DIVERSION CANAL BELOW HEADGATES	P-1	Install platform to stand on when working at this site.	\$146

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Life Cycle Management Projects

Station No.	Station Name	Designation.	Activities	Expenditure
PROVINCIAL FUNDED PROJECTS Continued				
07GC002	PINTO CREEK NEAR GRANDE PRAIRIE	P-1	assessment	\$683
05CE006	ROSEBUD RIVER BELOW CARSTAIRS CREEK	P-1	assessment	\$218
07JA002	SOUTH WABASCA LAKE NEAR DESMARAIS	P-1	Level shelter	\$675
05AE006	ST. MARY RIVER NEAR LETHBRIDGE	P-1	Shelter requires repair and possibly new door.	\$359
05BL007	STIMSON CREEK NEAR PEKISKO	P-1	Bank Stabilization 2005 flood	\$24,367
05EA001	STURGEON RIVER NEAR FORT SASKATCHEWAN	P-1	station relocation	\$7,040
05CE007	THREEHILLS CREEK NEAR CARBON	P-1	maintenance	\$159
05AA909	TODD CREEK NEAR HIGHWAY 23	P-1	inspection for platform	\$73
05AB005	TROUT CREEK NEAR GRANUM	P-1	heat tape	\$955
07AF003	WAMPUS CREEK NEAR HINTON	P-1	Install shelter steps (2 risers)	\$1,724
05AB041	WILLOW CREEK AT OXLY RANCH	P-1	De-mouse	\$584
				\$76,900
25			salary component of estimated cost	\$11,361

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Cableway Projects

Cableway Shares

Federal	(F project+ ((FP project) / 2) = (\$13,054 +(\$51,632 / 2)) =	38,870
Provincial	(P project+ ((FP project) / 2) = (\$38,884+(\$51,632 / 2)) =	64,700
Cableway Project Salary		\$17,119

Station No.	Station Name	Designation	Activity	Expenditure
FEDERAL FUNDED PROJECTS				
05DA007	MISTAYA RIVER NEAR SASKATCHEWAN CROSSING	F-1	CW Remediation	\$6,227
05BA002	PIPESTONE RIVER NEAR LAKE LOUISE	F-1	Contract Power Line / remediate old cableway	\$2,971
05DA009	NORTH SASKATCHEWAN RIVER AT WHIRLPOOL POINT	F-1	CW Replacement preliminary survey	\$2,958
05AE027	ST. MARY RIVER AT I.B.	F-3	recon for cableway relocation	\$897
			total	\$13,054
4			salary component of cost	\$2,870
FEDERAL - PROVINCIAL FUNDED PROJECTS				
07AG007	MCLEOD RIVER NEAR ROSEVEAR	FP-2	Replace rusted main cable.	\$6,035
05AA008	CROWSNEST RIVER AT FRANK	FP-3	Conduct MPI	\$146
05CA009	RED DEER RIVER BELOW BURNT TIMBER CREEK	FP-3	Construct new cableway.	\$45,451
			total	\$51,632
3			salary component of cost	\$10,932
PROVINCIAL FUNDED PROJECTS				
07AC007	BERLAND RIVER NEAR THE MOUTH	P-1	site inspection, tower fabrication	\$31,376
05BH009	JUMPINGPOUND CREEK NEAR THE MOUTH	P-1	Station Relocation, flood damage, cableway work	\$4,824
07AG004	MCLEOD RIVER NEAR WHITECOURT	P-1	Replace 5 sets ac cone hardware, Install brace on loading platform hand rail	\$1,233
05CA004	RED DEER RIVER ABOVE PANTHER RIVER	P-1	replace cones	\$1,051
05DF006	WHITEMUD CREEK NEAR ELLERSLIE	P-1	assessment for bank operated cableway	\$401
			total	\$38,884
5			salary component of cost	\$3,317

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Alberta Environment Expansion Projects

Summation of Expansion Expenditures:

Non civil work Salary, Civil Work Projects, Project O&M, Spare Instrumentation
 (\$21,550 + \$19,988 + \$22,196 + \$166,349) = **\$230,083**

Salary - excluding civil work projects

base salary	\$17,958
BPE (@20%)	<u>\$3,592</u>
TOTAL	\$21,550

Nonspecific Project O & M

Instrumentation

Travel and freight Expenses	Peace River AESA upgrades	\$	8,500
Telecommunications - Telephone & Voice	Pulse Radar Sensor	\$	4,549
Personal Services Contracts	GOES Antenna	\$	7,500
Contracts, rentals	Vedas II with Modem	\$	19,000
Repair of Machinery & Equipment	Vedas II with GOES Hardware	\$	66,600
Building & Structures	Vedas II with GOES Hardware	\$	7,400
Purchased Materials.	Accubar Water Level Sensor	\$	35,800
Parts, Consumable Tools	4 installed HDR	\$	17,000
	Total Instrumentation	\$	166,349
Total non specific = \$ 22,196			

Expansion Projects

05BH005	BOW RIVER NEAR COCHRANE	P-1	modification	\$1,044
05DE010	NORTH SASKATCHEWAN RIVER AT HWY 579	P-1	completed	\$5,955
07HD001	PEACE RIVER NEAR CARCAJOU	P-1	completed	\$7,108
05FA026	WOLFE CREEK AT LACOMBE	P-1	completed	\$5,881
				<u>\$19,988</u>
4			salary component	\$2,611

