Wood Buffalo Environmental Association

Progress Report

2026-2027

Q1: April- June

SUBMITTED JULY 2026

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1. Contract Scope and Delivery

This Progress Report is submitted quarterly by the Wood Buffalo Environmental Association (WBEA) on behalf of its members to Alberta Environment and Protected Areas (EPA) in accordance with the services and deliverables listed in Schedule A of the Government of Alberta contract 24RSD823 and 24RSD828, as amended.

As per the Alberta EPA contracts (Table 1), the WBEA provides environmental monitoring services based on the annual Oil Sands Monitoring (OSM) work plans and associated costs.

Table 1. 2026-2027 Alberta EPA Contracts and Work Plans

Alberta EPA Contract	Work Plan Name	Work Plan Reference
24RSD823	Atmospheric Pollutant Active Monitoring Network	A-LTM-S-1-2627
24RSD828	Integrated Atmospheric Deposition Monitoring	A-PD-6-2627

2. Introduction

The WBEA is a multi-stakeholder, community-based, not-for-profit association that operates in the largest municipality in Canada. The WBEA monitors the air in the Regional Municipality of Wood Buffalo (RMWB) 24 hours a day, 365 days a year and conducts a variety of air, land, and odour monitoring programs. The information collected from all the WBEA's air monitoring stations between Conklin and Fort Chipewyan, most of which are located at or near oil extraction plants, is openly and continuously shared with stakeholders and the public on the WBEA's website (https://wbea.org/) and through annual reports, community engagement, and outreach activities.

An Air Quality Task Force was established in 1985 to address environmental concerns raised by the Fort McKay First Nation related to oil sands development. In 1990, this Task Force became the Regional Air Quality Coordinating Committee. Then in 1996 the area was endorsed as a regional airshed by the Clean Air Strategic Alliance (CASA). The WBEA was incorporated as an Alberta Non-Profit Society in 1997 and assumed responsibility for air quality monitoring within the boundaries of the RMWB. The WBEA became a working partner of the Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) in 2014. With the dissolution of AEMERA on June 30th, 2016, the WBEA began working with the OSM Program and Alberta EPA to fulfill its mandate to provide independent ambient air monitoring in the region.

The WBEA submits annual work plans to the OSM Program. Once the work plans, and any required changes, are approved, the WBEA receives a contract with deliverables for the work from Alberta EPA. This Progress Report is a quarterly update on the work agreed to in the OSM Work Plans and the associated Alberta EPA Contract and includes program updates, exceedances and non-compliances, research and development overviews and adaptive monitoring progress.

Note: Ambient air and laboratory data must be quality assured and controlled prior to submittal to Alberta Environment's Air Data Warehouse and upload to the WBEA website. The data validation process follows one month behind the current month (i.e., data from May is reviewed throughout June and submitted by the end of June). **To ensure reporting of the most accurate data, this progress report will include data and statistics from the previous quarter (2025-2026 Q4) that have already been validated, where applicable.**

3. Atmospheric Pollutant Active Monitoring Network, 2026-2027 Work Plan Reference A-LTM-S-1-2627

The components of the Atmospheric Pollutant Active Monitoring Network Work Plan that are fulfilled, or supported, by the WBEA are described below:

***(1) Long-term core ambient air monitoring network** – includes continuous and time-integrated air monitoring. The Wood Buffalo Environmental Association (WBEA) operates 32 ambient air monitoring stations (AMSs) in the Athabasca Oil Sands Region (including the acute air monitoring station in Fort McKay - Waskōw ohci Pimâtisiwin). The Lakeland Industry and Community Association (LICA) operates 5 AMSs in the Cold Lake Oil Sands Region, and the Peace River Area Monitoring Program (PRAMP) operates 5 AMSs in the Peace River Oil Sands Region. All three airsheds collect time-integrated samples for the National Air Pollution Surveillance (NAPS) program and other parameters that cannot be collected through continuous monitoring. The long-term core air monitoring network was developed to fulfill EPEA Approval compliance monitoring requirements and satisfy community and scientific interests.*

***(2) Recommendations 14/15 in the report "Recurrent Human Health Complaints Technical Information Synthesis – Fort McKay Area" (Alberta Energy Regulatory and Alberta Health, 2016)** - continue to be implemented. Implementation of these recommendations will improve air monitoring consistency within 30 km of Fort McKay and allow improved characterization of the air pollutants and their sources that cause air quality and odour concerns in the community. The WBEA included the funds required to support the Rec 14/15 work in its 25/26 workplan submission, which received a significant budget reduction. As a result, the WBEA's ability to conduct these activities may be impacted by the 25/26 OSM Funding decision.*

***(3) Odour Monitoring** – The WBEA created an odour monitoring app (COMP) that allows the public to provide anonymous information on the odours they experience. The app collects information such as odour type, intensity, duration, time, and location. The long-term project is complete, so the proposed focus for this fiscal year was to be the creation of a 5-year review manuscript and public report; however, this was not supported by the 2025/26 funding decision. The app will be maintained but will no longer be actively advertised. All submitted odour observations and annual reports can be found at www.comp.wbea.org.*

***(4) Transition to an Adaptive Monitoring Approach** – will continue in 2025-26. This will involve a structured approach to: (a) reviewing the existing monitoring network and document the purpose or objective for each station and for each parameter monitored at each station (completed); (b) developing a shared understanding of regulatory and community expectations that will guide any OSM adaptive monitoring framework based adjustments required to the current long-term surveillance program (in progress); (c) determining which air quality parameters are applicable for the Adaptive Monitoring approach (in progress); (d) quantifying baselines for selected parameters (in progress); and (e) establishing limits of change for selected parameters (future work).*

In addition, the Atmospheric Pollutant Active Monitoring Network work plan includes collaboration with two community-based (FMFN and Fort McKay Metis Nation (FMMN)) monitoring projects, one for dust and one for odour that were approved for funding and commenced in 2022-23.

The following section provides details on the Q1 2026-2027 milestones and objectives under Workplan A-LTM-S-1-2627 (Atmospheric Pollutant Active Monitoring Network). Deliverables are from the Government of Alberta contract 24RSD823.

3.1 Continuous Monitoring – Operate a network of ambient air monitoring stations including the acute air monitoring station in Fort McKay (Waskōw ohci Pimâtisiwin - FMAQOAC Recommendation 1).

i. Complete monthly calibrations at all ambient air monitoring stations in the WBEA network in compliance with Alberta's Air Monitoring Directive (AMD). Perform preventative maintenance and repairs, as required.

In Q4 there were 255 analyzers/sensors operating in January and 256 operating in February and March. Average operational uptimes for all equipment are included in Table 2. There were 22 less-than 90 operational uptime non-compliances last quarter, 12 in January, six in February and four in March. See section 3.8.ii for details on these non-compliances.

Monthly calibrations were completed at all air monitoring stations, in compliance with the Air Monitoring Directive (AMD). Preventative maintenance and repairs were completed as needed.

Table 2. WBEA Continuous Monitoring Equipment Statistics, by Month, January to March 2026

Month	Average Operational Time (%)	# of Monitoring Equipment with Average Operational Uptime (%)						Total # of Equipment
		< 90*	90 to 92	93 to 94	95 to 96	96 to 98	98 to 100	
January 2026	98.3	12	4	2	5	14	218	255
February 2026	98.8	6	2	7	7	13	221	256
March 2026	98.9	4	2	6	10	11	223	256

*For details on equipment operating at less than 90% uptime, please refer to Section 3.8.ii: Table 8.

ii. Perform annual calibrations on meteorological sensors at air monitoring stations.

Annual meteorological calibrations at each station are conducted throughout the year. There were five meteorological calibrations done this quarter plus 16 additional calibrations associated with the removal or installation of the sensors due to portable station moves. Most of these calibrations are done in warmer months.

iii. Provide locations of Portable Stations in the WBEA Network.

The locations of portable stations in the WBEA Network for Q1 2026-2027 are listed in Table 3.

Table 3. Location of Portable Stations in WBEA Network, April to June 2026

WBEA Portable Number	April	May	June
AMS 101	WBEA Centre	WBEA Centre	WBEA Centre
AMS 102	Leismer/WBEA Centre	WBEA Centre	WBEA Centre/Jackfish 1
AMS 103	Blackgold/WBEA Centre	WBEA Centre	WBEA Centre
AMS 104	Sawbones Bay	Sawbones Bay	Sawbones Bay
AMS 105	Bertha Ganter – Fort McKay	Bertha Ganter – Fort McKay	Bertha Ganter – Fort McKay
AMS 106	WBEA Centre	WBEA Centre	WBEA Centre
AMS 28	Kirby South	Kirby South	Kirby South

iv. Provide continuous analyzer operation statistics, by month.

Continuous air quality analyzer operation statistics are provided in Table 4. These statistics do not include meteorological sensors. A total of five analyzers operated below 90% uptime last quarter.

Table 4. Continuous Analyzer Operation Statistics by Parameter, January to March 2026

Month	No. of analyzer(s) below 90%	SO_2	H_2S	TRS	THC	O_3	NO_2	CO	NH_3	$PM_{2.5}$
January 2026	2	1	0	1	0	0	0	0	0	0
February 2026	1	0	0	0	0	0	1	0	0	0
March 2026	2	0	0	0	1	0	0	0	0	1
Numbers of analyzers in the network		28	17	12	22	11	24	1	2	15
Total Number of non- compliances 2025		1	0	1	1	0	1	0	0	1
Percentage of non-compliance by parameter		20%	0	20%	20%	0	20%	0	0	20%

3.2 Time-Integrated Monitoring – Operate and maintain the WBEA's time-integrated sampling network.

i. Complete routine deployment and collection of time-integrated sampling. Perform preventative maintenance and repairs, as required.

The WBEA collected and deployed a total of 867 samples from January to March 2026 (See Appendix B for time-integrated equipment present at each AMS location). Details on invalid samples and recovery percentages are provided below in Table 5. Most incidents leading to invalid samples from this quarter were due to motor or pump failures leading and low sample volumes.

Preventative maintenance and repairs were conducted by Deposition Technicians, as needed. Examples of maintenance conducted this quarter included replacing pumps and motors, recalibrating samplers, and resetting electrical outlets.

Table 5.Time Integrated Sample Collection - Incidents and Recovery, January to March 2026

Month	Invalid Samples	Total No. of samples	% Recovery	# NAPS days	Incidents per Sample Type						
					$PM_{2.5}$	PM_{10}	VOC	PAH	Precip	TSP	Dustfall
January 2026	0	289	100	5	0	0	0	0	0	0	0
February 2026	0	289	100	5	0	0	0	0	0	0	0
March 2026	2	289	99.3	5	0	1	1	0	0	0	0
Q4 Total	**2**	**867**	**99.8**	**15**	**0**	**1**	**1**	**0**	**0**	**0**	**0**

ii. Perform quarterly calibrations and audits of sampling equipment.

Quarterly calibrations and audits of time-integrated sampling equipment were completed with 19 done in May and 14 done in June.

iii. Make time-integrated data available online.

Time-Integrated data can be accessed online at https://wbea.org/data/time-integrated-data-search/

iv. Submit time-integrated data with annual data report.

Time-Integrated data is submitted as part of the annual data report in Volume 2. The WBEA 2025 Ambient Data Annual Report was submitted March 31st, 2026, and can be found at https://wbea.org/resources-section/annual-data-report/

3.3 Continue the WBEA's Quality Assurance Program

i. Maintain the WBEA's Reference Centre, including monthly calibrations on reference analyzers, perform CGAs, and maintain primary reference materials.

Over the last quarter, regular maintenance and monthly calibrations were carried out on instruments in WBEA's Reference Centre. Five CGAs were conducted this quarter; two were of SO_2 cylinders and three were of H_2S cylinders. One CGA of an H_2S gas cylinder failed the audit and was not sent into the field.

ii. Complete annual internal audits at all WBEA ambient air monitoring stations.

The WBEA has an internal audit program that follows the same procedures as the Alberta EPA; however, the WBEA applies stricter audit criteria allowing the WBEA to initiate investigations and potential maintenance repairs before an AMS analyzer would fail Alberta EPAs audit. Five internal audits were completed this quarter (Table 6).

Table 6. WBEA Internal Audits of AMS Stations, April to June 2026

Air Monitoring Station	Audit Date	Parameters Audited	Audit Response	Follow-up
Fort Hills	Apr 8-9, 2026	SO2, TRS, NMHC, NOX, PM2.5	NOX instrument just outside audit criteria, investigation showed a combination of site calibrator difference and analyzer drift. All other audits were within criteria.	Monitor for expected change during monthly calibration, calibrator to be examined onsite by technician.
Sawbones Bay	May 1, 2026	SO2, H2S, NOX, temp	H2S was outside audit criteria (6.4% high response), investigation pointed to half was result of CGA difference (3.4% low on cal gas) and slight drift of the instrument. NOX was within audit criteria but low by 4%, CGA of cal gas was 1.5% high.	Monitor for expected change during monthly calibration.
Kirby South	May 13, 2026	SO2, H2S, NOX, THC	All audits were within criteria.	None required.
Hangingstone Expansion	May 27, 2026	SO2, H2S, NOX	All audits were within criteria.	None required.
Janvier	Jun 2-3, 2026	SO2, TRS, NMHC, O3, NOX, PM2.5	All audits were within criteria, however TRS performance affected by the increased rain lately.	TRS to be calibrated with portable system to check performance during summer months.

3.4 Modify operations and reporting to meet new requirements in the Air Monitoring Directive (AMD).

No changes to the AMD were identified in this quarter; therefore, no modifications in operations or reporting were required.

3.5 Continue partnership with Athabasca Chipewyan First Nation (ACFN) and Mikisew Cree First Nation (MCFN) to create an Indigenous-led air monitoring program in the Peace Athabasca Delta.

The WBEA, ACFN, and MCFN successfully completed the three-year plan to expand the air monitoring capabilities within the community of Fort Chipewyan and support the Air Quality Monitoring in the Peace Athabasca Delta Indigenous Community Based Monitoring (ICBM) work plan. ACFN and MCFN staff operate and maintain the Fort Chipewyan AMS and change-out all time-integrated and deposition samples. This work is ongoing and is now considered routine network operations. Reporting of all data collected through this initiative are included in the WBEA's routine monthly and annual reports, which are submitted to the Alberta EPA, and available on the WBEA's website.

3.6 Provide updates on Special Studies conducted by the WBEA to improve understanding of air quality in the RMWB region, monitoring methods, assessment of technology changes and method validation.

Due to budget reductions in the 2025/2026 fiscal year, the WBEA paused all special studies. This included the Continuous Hydrocarbon Instrument Evaluation Study and the Continuous Particulate Instrument Evaluation Study. In 2026/2027 several of these Species Studies will be wrapped up with the development of technical reports.

3.7 Fulfill monitoring requests from the Fort McKay Air Quality and Odours Advisory Committee (FMAQOAC) Recommendations 14/15 committee in accordance with the schedule outlined in the approved OSM Program work plan. Document all activities completed.

i. Analysis and reporting of RSC compounds for the Triggered Samplers.

This project was initiated through the Rec 14/15 committee with the intent to capture triggered samples during events of elevated TRS readings and/or during events of experienced odours within the community of Fort McKay. The Triggered RSC Sampler was installed at Bertha Ganter – Fort McKay AMS in February 2022.

The RSC Triggered Samplers began experiencing data validity issues and a root cause has not been identified through various troubleshooting steps, including installation of new leak detection software last quarter. The sampler was re-deployed in August and September with both new and old tubes to determine if the tubes were the source of the data quality issues. The triggered samples were analyzed in late September, but no results were detected once again. The sampler was re-deployed in January and the trigger limits were raised in another attempt to collect viable samples, and again no results. This project has been suspended until the ASG lab can run the analyses using canisters.

ii. Operation and maintenance of the VOC Gas Chromatograph analyzer.

The VOC Gas Chromatograph (GC) is deployed at Bertha Ganter – Fort McKay AMS compound. The WBEA has shifted operations to a remote contractor with analyzer expertise as the equipment is highly technical and time intensive to maintain. New support system equipment was installed between October and January and the final software set up was completed. The VOC GC appears to be now running smoothly and data is being QA'd.

Data from the VOC GC is available on the WBEA website under "Other Data" at https://wbea.org/data/time-integrated-data-search/

3.8 Provide data from the WBEA's ambient air monitoring network.

i. Maintain processing, validation, and reporting of all WBEA ambient air quality data. Make all data available on the WBEA's website.

During Q1 2026-2027, monthly ambient air data was reviewed, as per the WBEA's monthly data validation process. Quality controlled Level II data was made available on the WBEA's website 30 days after the end of the calendar month in which the data were collected, here: (https://wbea.org/data/continuous-monitoring-data/)

WBEA time-integrated data was collected and centralized within a database. A catalogue containing sample types, number of data points, and date ranges is available to view on the WBEA website. The catalogue and download page are available at https://wbea.org/data/time-integrated-data-search/

ii. Report exceedances of the Alberta Ambient Air Quality Objectives and Guidelines, and non-compliances of the Air Monitoring Directive to the Alberta Government as established by WBEA's Immediate Reporting Protocol and the Fort McKay Acute Response Triggers (FMART) Process.

The WBEA follows the *WBEA Immediate Reporting Protocol* to report exceedances and non-compliances in the ambient air network to the appropriate stakeholder and regulator. In addition, members are notified of exceedances through the Air Quality Events app and are notified of exceedances and non-compliances through the GLC distribution list, quarterly committee meetings and the WBEA's ambient air monitoring monthly data reports. These reports can be found at https://wbea.org/monthly-continuous-data-and-calibration-reports/

In Q4 of 2025-2026, there were a total of 72 validated exceedances within the WBEA network (Table 7). Users can search all exceedances through the WBEA's Air Quality Events website (https://wbea.org/data/air-quality-events/).

Table 7. Total number of Exceedances by Parameter, from January to February 2026

Event Type	Parameter									Total
	H_2S	$PM_{2.5}$	NO_2	O_3	SO_2	CO	Dustfall	TRS	TSP	
AAAQG	-	9	-	-	-	-	1	50	-	60
AAAQO	8	1	1	0	0	0	-	-	2	12
Total	**8**	**10**	**1**	**0**	**0**	**0**	**1**	**50**	**2**	**72**

Non-compliances of the AMD that occurred in the WBEA network in the fourth quarter of 2025-2026 are listed in Table 8. There were 22 non-compliance events during this quarter. January had 12 non-compliance events, February had 6 and December had 4. Several of the events were due to the cold and fluctuating weather conditions in January.

Table 8. WBEA Non-Compliances, January to March 2026

Reporting Period	Date Reported	Alberta EPA Reference Number	Location	Brief Description	Issue	Remedial Action
January	06-Jan-26	449082	Monday Creek	The SO2 analyzer at Monday Creek AMS33 operated less than 90% of the time in January 2026.	The daily span checks for the SO_2 analyzer did not meet AMD performance criteria for multiple consecutive days beginning on December 30, 2025. A remote QA review conducted on December 31 identified a slow analyzer response in reaching the target concentration, along with evidence of sample pump performance degradation. A maintenance visit could not be completed at that time due to site access restrictions and holiday scheduling limitations. On January 6, 2026, the sample pump was replaced, and the analyzer was recalibrated, restoring normal operation.	Sample pump was replaced on January 6 to resolve the issue.
January	12-Jan-26	449237	Surmont 2	The Wind Speed (WS) and Wind Direction (WD) at Surmont 2 AMS operated less than 90% of December 2025 & January 2026.	Throughout December 2025 and January 2026, the WS/WD sensor experienced freezing due to extreme cold weather, leading to intermittent flatlining. Normal operation resumed once weather conditions improved. During data validation, 86 hours of data were invalidated for December 2025, resulting in 88% operational uptime. For January 2026, a total of 124 hours of data were invalidated; data validation for January is still ongoing at the time of this letter.	N/A
January	12-Jan-26	449236	Jackfish 2 / 3	The wind speed and wind direction (WS/WD) sensor at the Jackfish 2/3 AMS operated less than 90% of January 2026.	During the first week of January, the WS/WD sensor froze due to extreme cold weather, causing intermittent flatlining. Maintenance was performed on January 7 to de-ice the sensor, and normal operations resumed shortly after reinstallation. A total of 156 hours of data from this event were invalidated during data validation.	N/A

January	14-Jan-26	449316	Leismer	The Wind Speed (WS) and Wind Direction (WD) at Leismer AMS operated less than 90% of January 2026.	During the first week of January, the WS/WD sensor froze due to extreme cold weather, resulting in intermittent flatlining. Normal operation resumed on January 6 after the tower was lowered to de-ice the sensors. During data validation, a total of 138 hours of data were invalidated as a result of this event.	N/A
January	15-Jan-26	449362	Sawbones Bay	The Wind Speed (WS) and Wind Direction (WD) at Sawbones Bay AMS operated less than 90% of January 2026.	During the first week of January, the WS/WD sensor froze due to extreme cold weather, resulting in intermittent flatlining. Normal operation resumed on January 6 where weather conditioned improved. During data validation, a total of 138 hours of data were invalidated as a result of this event.	N/A
January	16-Jan-26	449518	Wapasu	The precipitation gauge at the Wapasu AMS operated less than 90% of December 2025 and January 2026.	During the weekly preparation of the time-integrated precipitation sample at Wapasu AMS, it was observed that the sample volume did not align with precipitation data from the on-site gauge or with measurements from other precipitation gauges across the WBEA network. Further investigation determined that the Wapasu precipitation gauge was over-reporting precipitation from approximately December 20, 2025, to January 13, 2026 due to an overfilled collection bucket and a snow-covered shield. The issue was resolved through standard maintenance, which included emptying the collection bucket on January 13, 2026. As a result, data for this period were invalidated, yielding an operational time of 61% for December 2025 and a total of 132 hours of invalidated data for January 2026.	The issue was resolved through standard maintenance, which included emptying the collection bucket on January 13, 2026.

January	19-Jan-26	449502	Fort Chipewyan	The precipitation gauge at the Fort Chipewyan AMS operated less than 90% of January 2026.	During the data validation process, it was identified that the data logger has not been communicating with the precipitation collector since January 11. A site visit has been scheduled for this week to investigate and resolve the issue. As a result of this communications failure, a total of 105 hours of precipitation data for January 2026 have been invalidated.	A site visit was scheduled for January 28 to resolve the issue.
January	20-Jan-26	449535	Stony Mountain	The WS/WD sensor at the 20-meter elevation at Stony Mountain operated less than 90% of January 2026.	From January 1 through 8, the WS/WD sensor froze due to weather conditions, resulting in intermittent flatlining. Normal operation returned once weather conditions changed. Data from these events were invalidated, resulting in 171 hours of invalid data for January.	N/A
January	20-Jan-26	449537	Stony Mountain	The precipitation gauge at the Stony Mountain AMS operated less than 90% of December 2025 & January 2026.	During the weekly preparation of the time-integrated precipitation sample from Stony Mountain AMS, it was noted that the sample volume did not compare well with the precipitation data from the gauge that is also located at the Stony Mountain AMS, or with data from other precipitation gauges in the WBEA network. It was determined that the precipitation gauge at Stony Mountain was over-reporting precipitation volumes from approximately from December 20, 2025, through January 6, 2026, due to an overfilled collection bucket and snow-covered shield. The issue was resolved by emptying the bucket; the standard maintenance that is completed on January 6, 2026. Data for the period was invalidated, resulting in an operational time of approximately 61% for December 2025, and 132 hours in January 2026.	The issue was resolved through standard maintenance, which included emptying the collection bucket on January 6, 2026.

January	13-Feb-26	450223	Fort McKay South	The TRS analyzer at Fort McKay South operated less than 90% of the time in January 2026.	Between January 16 and 18, 2026, the station internal temperature dropped below the range required for proper operation of the TRS analyzer. During this period, daily QA span checks were outside of AMD compliance, and the analyzer baseline appeared unstable. WBEA conducted maintenance activities on January 16 and January 18 to restore the station's internal temperature to the optimal operating range. Data were invalidated back to the last acceptable daily span check, which occurred on January 15. During Level 2 data validation, a total of 93 hours of data were invalidated for January, resulting in an operational time of 88% for the month.	Maintenance was conducted on January 16 and 18 to restore station's internal temperature.
January & February	24-Feb-26	450480	Mannix	The WS/WD/VWS sensor at the 20-meter elevation at Mannix operated less than 90% of January and February 2026.	In January and February 2026, ice fog caused intermittent flat-line readings in the WS/WD/VWS sensor at the 20-meter elevation. The sensors returned to normal operation once weather conditions improved. Following data validation, 125 hours were invalidated in January, resulting in 83% operational time for the month. For February, 153 hours of data have been invalidated as of the date of this letter, and the final operational time for the month remains under review pending completion of the data validation.	N/A
January	24-Feb-26	450470	Lower Camp Met Tower	The WS/WD/VWS at the 163-meter elevation at Lower Camp Met Tower operated less than 90% of January 2026.	In January 2026, ice fog caused intermittent flat-line readings in the WS/WD/VWS sensor at the 163-meter elevation. The sensors returned to normal operation once weather conditions improved. Following data validation, 129 hours were invalidated, resulting in 83% operational time for the month of January.	N/A

February	13-Feb-26	450227	Fort Chipewyan	The precipitation gauge at the Fort Chipewyan AMS operated less than 90% of February 2026.	During the data validation process in January, it was identified that the data logger has not been communicating with the precipitation guage since January 11. A non-complinace had been reported for the month of January 2026 under reference number 449502. A site visit was conducted on January 29 and it was discovered that the logger was not able to communicate with the guage due to circuit board failure. The precipitation collector was removed from the site and returned to the WBEA Centre for repair. Following repairs, the precipitation gauge was shipped back to the Fort Chipewyan AMS. On February 11, the gauge was successfully re-installed and communication with the logger was restored. As a result of this communications failure, a total of 240 hours of precipitation data for February 2026 have been invalidated. February data validation is currently ongoing at the time of this letter, and final operational time (<90%) has yet to be determined.	Precipitation gauge was repaired and on February 11, instrument was re-installed and normal operations restored.
February	24-Feb-26	450481	Mannix	The WS/WD/VWS sensor at the 45-meter, 75-meter, 90-meter elevations at Mannix operated less than 90% of February 2026.	During February, ice fog caused intermittent flat-line readings in the WS/WD/VWS sensor at the 45-meter, 75-meter, 90-meter elevations. The sensors returned to normal operation once weather conditions improved.	N/A

February	10-Mar-26	450882	Firebag	The $NO/NO_2/NO_x$ analyzer at Firebag AMS (AMS19) operated less than 90% of the time in February 2026.	The HVAC unit at the air monitoring station failed to maintain a consistent internal temperature. During routine daily system checks on February 18, fluctuating station temperatures were observed to affect the analyzer response, causing the QA check to fall outside AMD criteria. A site visit was conducted on February 20 to address the BARD unit issue and stabilize the station temperature. Once conditions were stabilized, a QA check was performed to verify the response of the $NO/NO_2/NO_x$ analyzer and normal operations resumed at 12:00 MST. During data validation, data were invalidated back to the last acceptable daily span check from February 17, resulting in 81 hours of invalidated data, which resulted in less than 88% operational uptime for February 2026.	A site visit was conducted on February 20 to address the BARD unit issue and stabilize the station temperature.
March	17-Apr-26	452112	Ells River	The THC/NMHC/CH4 analyzer at the Ells River AMS operated for less than 90% of March 2026.	During the first week of March, the THC/NMHC/CH_4 analyzer showed noisy baseline readings. On March 13, maintenance was performed; however, the following the maintenance a proper multi-point verification was not completed. On March 23, the THC/NMHC/CH_4 analyzer failed operational criteria due to unstable baseline. The WBEA conducted maintenance to troubleshoot and replace the analyzer from March 23 to March 31. From March 13 to March 31, the analyzer exhibited intermittent operation issues and failed to meet AMD compliance criteria; accordingly, all data collected during this period were deemed invalid. Corrective actions included personnel training, analyzer replacement, span recalibration, and verification through linearity checks. The instrument was returned to compliant operation on March 31, resulting in 457 hours of invalidated data and an overall operational uptime of 38.58% for the month of March.	Corrective actions included personnel training, analyzer replacement, span recalibration, and verification through linearity checks. The instrument was returned to compliant operation on March 31,.

March	23-Apr-26	452376	Mannix	The WS/WD/VWS sensor at the 20-meter elevation at Mannix operated less than 90% of March 2026.	In March 2026, ice fog caused intermittent flat-line readings in the WS/WD/VWS sensors at the 20-meter elevation. Normal sensor operation resumed once weather conditions improved. Following data validation, a total of 298 hours were invalidated for the month, resulting in an operational time of 59.95%. The WS/WD/VWS sensor at 20-meter elevation at this site have been operating at less than 90% uptime since December 2025. WBEA is currently investigating this issue in coordination with its third-party contractor to identify the root cause and implement appropriate corrective actions. Additionally, extreme cold and unsafe winter weather conditions limited immediate on-site response, which contributed to delays in addressing the issue.	WBEA is currently investigating this issue in coordination with its third-party contractor to identify the root cause and implement appropriate corrective actions.
March	24-Apr-26	452397	Fort McKay South	The PM2.5 analyzer at the Fort McKay South AMS operated for less than 90% of March 2026.	Between March 27 and April 1, the PM2.5 analyzer exhibited unstable, cyclic response patterns, these response patterns are characteristic of issues with the optics within the analyzer. On April 1, maintenance was performed to clean the optics and sensor inside the instrument and replace the disposable filer. Following the maintenance, the analyzer signal returned to normal operation. The unstable operation caused 110 hours of downtime in the month of March 2026, resulting in an operational uptime of 85.22%.	Maintenance was performed on April 1 and normal operation returned to normal.
March	24-Apr-26	452429	Bertha Ganter - Fort McKay	The precipitation gauge at the Bertha Ganter-Fort McKay AMS operated less than 90% of March 2026.	On March 6, the WBEA identified the data transfer program had stopped writing files to the data logger and initiated a site visit. The data logger was reset and data transfer resumed on March 6 at 17:00 MST. Data for the incident period, determined to be March 2 through 6, was invalidated for 88 hours resulting in 88% operational time for the month of March.	Data logger reset on March 6.

iii. Provide real-time air quality data from continuous air monitoring stations to EPA real-time website in the required format.

Real-time air quality data is provided on a continual basis to Alberta EPA via a secure file upload from the WBEA Data Management System.

iv. Submit Monthly Ambient Air Monitoring Report to the Alberta Government and submit data to the EPA Air Data Warehouse.

Table 9 lists the Monthly Air Monitoring Reports and Quality Assured Data that were submitted electronically via the Electronic Transfer System (ETS) to Alberta EPA.

Table 9. Schedule of Monthly Air Monitoring Reports and Quality Assured Data Submissions from January to March 2026

Monthly Air Monitoring Report and Quality Assured Data	Date Submitted
January 2026	February 27, 2026
February 2026	May 1, 2026
March 2026	April 30, 2026

v. Provide WBEA data to citizens, industry members, regulatory bodies, and governments so that it can be used to make informed decisions on health, facility compliance, and environmental management and policy. All data management and accessibility outcomes will be in alignment with the OSM Program direction.

The WBEA makes data accessible on the WBEA website. Data is further disseminated through the Alberta Data Warehouse, community outreach activities, and through WBEA committee meetings. The WBEA engages with members including Indigenous communities, industry, three levels of government, and non-government organizations. The WBEA works with Alberta EPA and OSM Program staff to ensure data management and accessibility outcomes are aligned.

vi. Any data not submitted to the Alberta Data Warehouse or not on the WBEA website will be provided directly to Alberta EPA in an agreed upon format within three months of data collection.

If data is not submitted to the Alberta Air Data Warehouse or not posted on the WBEA website, the WBEA will provide the data to Alberta EPA in an agreed-upon format within three months of data collection.

vii. Submit the WBEA Ambient Air Monitoring Data Annual Report Volume 1-3.

The 2025 Ambient Air Monitoring Data Annual Report was submitted March 31st, 2026, and is available online at https://wbea.org/resources-section/annual-data-report/.

viii. Continuous monitoring data from the WBEA's ambient air monitoring network should be provided in near real-time in support of the EAMAS program, as amended from time to time.

The WBEA continued to provide access to RWDI to enable the retrieval of near real-time ambient air monitoring data from the WBEA network to support the EAMAS program.

3.9 Participate in Oil Sands Monitoring (OSM) Program related to optimizing and improving the active air monitoring network in the Athabasca Oil Sands Region (AOSR).

i. Participate in OSM Program committees, activities, workshops, and webinars.

The WBEA continued to support the OSM Program's Air and Deposition TAC in their efforts to optimize and improve the active air monitoring network through on-going and open communication with the project lead and TAC representatives, as required. The WBEA was not invited to participate in, or aware of, any related OSM initiatives in this quarter.

ii. Implement any additions, deletions, or any other changes to the WBEA active air monitoring network consistent with approved OSM Program workplan(s).

For the 2026/2027 fiscal year, activities will occur as per the workplan. Two changes to the workplan activities include: (1) triggered RSC sampling will be suspended (see section 3.7i) as per the direction of Rec 14/15 committee, and (2) the planned speciated particulate matter study from the NAWG recommendations cannot occur as the activity is time sensitive and the equipment parts will not arrive before the end of the summer field season.

iii. Document any additions, deletions, or any other changes to the WBEA continuous or time-integrated air monitoring network not indicated previously. Identify and describe any deviations from the approved OSM Program.

No additions, deletions, or other changes to the WBEA continuous or time-integrated air monitoring network were done that were not previously indicated.

iv. Participate in development of Adaptive Monitoring Approach for Active Air Monitoring Network.

See item 3.9(i).

4. Integrated Atmospheric Deposition Monitoring, 2026-2027 Work Plan Reference A-PD-6-2627

Atmospheric deposition is a critical pathway that links stressors to responses. Deposition monitoring data are used by the Oil Sands Monitoring Program to assess responses, and to help determine the source(s) of stressors.

The overall objectives of this project are:

(1) Determine levels and changes of atmospheric deposition for specific pollutants that pose a likely risk for forest, river, lake, and wetland ecosystem function

(2) Quantify the contribution of OS emissions to deposition of pollutants of concern, particularly at ecological monitoring sites, and provide these data to ecological effects monitoring projects

(3) Deliver model outputs and deposition data required by other themes and OSM Program participants

This work plan monitors the spatial and temporal changes in deposition of pollutants of concern at relevant ecological monitoring sites, including: acidifying (e.g., nitrogen, sulphur), alkalizing (i.e., base cations) and eutrophying (e.g., nitrogen) pollutants at forest and wetland sites; and contaminants (i.e., polycyclic aromatic compounds (PACs), other organic carbon compounds and trace metals) at forest, wetland, and aquatic sites. This work plan also contains environmental effects monitoring of soil and forest health indicators at co-located deposition monitoring sites. This allows for an assessment of if/how deposition is affecting forests.

Source apportionment analyses and chemical transport models can both determine the contribution of specific OS and non-OS sources to deposition. Deposition modelling and GIS techniques will support the estimation of deposition at ecological monitoring sites where deposition is not actually measured, and allow for determination of contribution of OS sources. The key modelling tool that will enable the above is GEM-MACH, which is an observation-evaluated tool that simulates emissions, transport, transformation, and deposition, and is used for scenario testing. GEM-MACH will be used in a 'service delivery role by 2024 (e.g., providing annual deposition maps, scenario-testing), with transition to that role finishing 2022-23, including comparison against surface observations. Beyond 2024, GEM-MACH will undergo periodic evaluations and updates as emissions evolve and inputs/science improves.

The following section provides details on the Q1 2026-2027 milestones and objectives under Workplan A-PD-6-2627 (Integrated Atmospheric Deposition Monitoring) and is based off the deliverables in the Government of Alberta contract 24RSD828.

4.1 Operate and maintain the Denuder and Passives sampling program, including routine sample changeouts and equipment maintenance.

Denuders and passives are co-located to understand gaseous atmospheric pollutants for deposition modelling. Routine sample changeouts for both samplers were completed monthly at all sites (Figure 1). Dates for this quarter's changeouts were:

April Changeout – March 30th to April 1st 2026
May Changeout – April 30th, May 1st, and May 4th 2026
June Changeout – June 4th, June 5th and June 7th 2026

Denuders experience extreme fluctuations in temperature which has been noted to impact the flow rates. Consistent flow calibrations and audits have led to overall more consistent flow rates across the network. A new black box board was deployed in December at site 1004 to see if it helps keep the denuder flow constant during changes in temperature. Preliminary results show improvement of flow rates with the new black box. More monitoring will be done and then, assuming no issues, they will be deployed throughout the network.

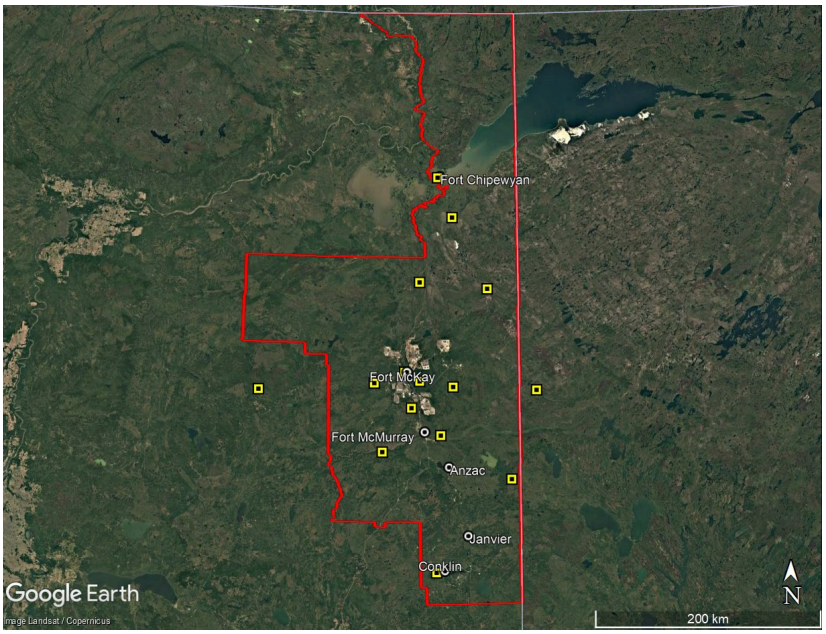


Figure 1. Map of the current denuder locations with co-located passives (yellow symbols).

4.2 Operate and maintain the Ion Exchange Resins (IER) network sampling program, including routine sample changeouts and equipment and site maintenance.

The spring sample changeout throughout the network (Figure 2) was completed this quarter between April 30th and May 22nd. This year, high water levels and deep snow present at some monitoring sites

provided extra challenges to the sample changeout. Weather also delayed some helicopter days. Routine maintenance at sites was conducted and wildlife fences were re-energized once the snow melted.

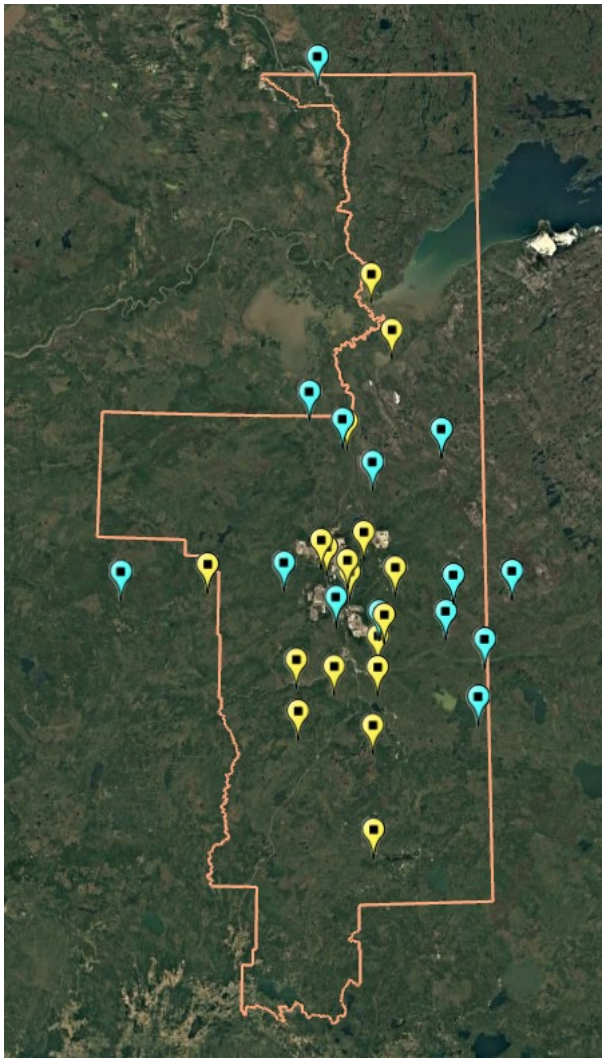


Figure 2. Map of the current IER freefall (yellow symbols) and throughfall (blue symbols) sites. Several of the symbols overlap on the map as freefall and throughfall are often paired at the same location.

4.3 Operate and maintain the Meteorological Towers data collection program, including tower inspections and maintenance, equipment maintenance, and annual calibrations.

The Regional Meteorological Network (MET) provides multi-level continuous, hourly measurements of meteorological conditions in remote areas around the Wood Buffalo region. The WBEA operates six meteorological towers. Data collected by these towers are used for deposition calculations and modelling. All remote meteorological data is reviewed weekly and validated monthly. Site 2001 was burned by wildfires and therefore has not had data since May 2025.

The TEEM committee approved a change to the meteorological network to remove the mid-level meteorological sensors at the six MET sites. These will be removed throughout the year. The rationale for this change was the increased expense of setting up new towers with this additional equipment, the noise in the data made it not useful for micrometeorology modelling and the data was deemed not useful for deposition modelling or forest health results analyses.

4.4 Operate and maintain the Forest Health Monitoring program, including data analyses.

The last field campaign for the Forest Health Monitoring (FHM) program was in 2024. The science advisor team has been working on analyses comparing deposition values with soil and vegetation trends.

Forest Health Workshops: A series of planning workshops was initiated in 2023, with the goal to (1) align all WBEA members on the FHM objectives and history, and (2) review and determine the path forward of the FHM program. Workshops have been held:

Workshop 1 – November 7th and 8th, 2023
Workshop 2 – January 30th and 31st, 2024
Workshop 3 – April 10th and 11th, 2024
Workshop 4 – February 19th and 20th, 2025
Field Workshop 5 – September 11th, 2025
Workshop 6 – June 11, 2026
Workshop 7 – Coming late 2026

The workshop series has been influential in the progress, evolution and understanding of the FHM program. This quarter the WBEA hosted Workshop 6 which focused on results that led to the activities that will be added to the site assessments, and how these activities will be conducted. 35 members from 15 organizations came together and discussed each topic in breakout groups.

2024 FHM Focus Studies: Two focus studies were approved by the TEEM committee and added to the 2024 Forest Health Monitoring Program. This included:

Indigenous Indicator - Deposition Impacts on *Cladonia mitis* Lichen (Focus Study): The WBEA proposed the addition of a chemical analysis of *Cladonia mitis* (Caribou lichen), a ground-dwelling lichen that is a key food source to the Woodland Caribou and makes up a major component to the understory biomass at the jack pine sites. The sampling program ran from September 9th to September 25th, 2024.

Updates from this quarter included:

- Continued QA of datasets
- Began writing the draft data report

Indigenous Indicator – Deposition Impacts on Traditional Food (Focus Study): The WBEA proposed the addition of blueberry collection and analysis at eight sites with known deposition levels. Ecological observations were also collected on the health of the blueberries. Seven sites were sampled between August 12 – 16th, 2024.

Updates from this quarter included:

- Draft technical report finished internal review.

4.5 Data & Reporting

i. Maintain public access to WBEA deposition data via the WBEA website so that it can be used to make informed decisions on health, facility compliance, and environmental management and policy. All data management and accessibility outcomes will be in alignment with the OSM Program direction.

Access to the searchable deposition database, plus additional datasets in excel files, can be found at https://wbea.org/data/time-integrated-data-search/

A new WBEA website was launched as a data visualization tool for the deposition and forest health monitoring data. This can be found at https://dep.wbea.org/ This will be updated on a regular basis and currently shows deposition data (nitrogen, sulphur, base cations and potential acid input) from 2013 to 2024 on interactive maps.

4.6 Changes to the Monitoring Network.

i. Participate in Oil Sands Monitoring (OSM) Program committees, activities, workshops and webinars related to optimizing and improving the atmospheric deposition monitoring network in the Athabasca Oil Sands region.

The WBEA continued to support the OSM Program's Air and Deposition TAC in their efforts to optimize and improve the atmospheric deposition monitoring network through on-going and open communication with the project lead and TAC representatives, as required. The WBEA was not invited to participate in, or aware of, any related OSM committees, activities, workshops, or webinars this quarter.

ii. Implement any additions, deletions or any other changes to the WBEA atmospheric deposition monitoring network consistent with approved OSM Program work plan(s).

Based on the approved OSM Program workplans, there are no additions, deletions or changes to monitoring this quarter.

iii. Document any additions, deletions, or any other changes to the WBEA atmospheric deposition monitoring network not indicated previously. Identify and describe any deviations from approved OSM Program work plan(s).

Based on the 2026-2027 workplan, there were no additions, deletions, or other changes to the WBEA deposition monitoring network this quarter that were not previously identified.

5. Appendix A – Adhering to Contract Clauses

Clause 9

As per Clause 9, Personnel Replacement, of the WBEA Contracts with Alberta EPA, the WBEA is required to report any changes to the list of key personnel. The WBEA has made no changes to its key personnel list during this reporting period. Any changes would be communicated to the Alberta EPA within five business days of the change.

Clause 12

As per Clause 12, Conflicts of Interest and Ethical Conduct, of WBEA's Contracts with Alberta EPA, the WBEA is required to report all potential or perceived conflicts of interest. The WBEA noted the following potential or perceived conflicts of interest during this reporting period (Table 10). These conflicts are communicated to the Alberta EPA via email within five business days of each meeting.

Table 10. Declared Conflicts of Interest in Q1, April to June 2026

Date	Meeting	Member		Declared Conflict of Interest
		Name	Organization	
April 17, 2026	GC Meeting	Ryan Abel	Fort McKay First Nation	Participates on OSM Air and Deposition TAC and OSM Oversight Committee as alternate and OSM Indigenous Caucus
May 8, 2026	GC Meeting	Ryan Abel	Fort McKay First Nation	Participates on OSM Air and Deposition TAC and OSM Oversight Committee as alternate and OSM Indigenous Caucus
June 10, 2026	AATC	David Spink	Fort McKay First Nation	Participates on OSM Air and Deposition TAC, participated in two Indigenous Community Based Monitoring (ICBM) project submissions that involve the WBEA (Fort McKay Métis Nation – odour project & Fort McKay First Nation – dust project)
		Pourya Shahpoury	Alberta EPA	Participates on OSM Air and Deposition TAC
		Greg Wentworth	Alberta EPA	Works for EPA and participates on OSM Air and Deposition TAC
		Danlin Su	Fort McKay First Nation	Participated in two ICBM project submissions that involve the WBEA (Fort McKay Métis Nation – odour project & Fort McKay First Nation – dust project)
		Courtney Brown	Canadian Natural	Participates on OSM Air and Deposition TAC
June 11 2026	TEEM	Carla Davidson	Fort McKay First Nation	Participates on OSM's Oversight committee
		Pourya Shahpoury	Alberta EPA	Participates on OSM Air and Deposition TAC
		David Spink	Fort McKay First Nation	Participates on OSM Air and Deposition TAC, participated in two Indigenous Community Based Monitoring (ICBM) project submissions that involve the WBEA (Fort McKay Métis Nation – odour project & Fort McKay First Nation – dust project)
		Courtney Brown	Canadian Natural	Participates on OSM Air and Deposition TAC
June 12, 2026	GC Meeting	Ryan Abel	Fort McKay First Nation	Participates on OSM Air and Deposition TAC and OSM Oversight Committee as alternate and OSM Indigenous Caucus
June 17, 2026	AGM & GM Meeting	Morgan Voyageur	Athabasca Chipewyan First Nation	Participates on OSM Indigenous Caucus, OSM Wood Buffalo Indigenous Sub-Caucus, and OSM Indigenous Community Based Monitoring Advisory Committee (ICBMAC)

		Ryan Abel	Fort McKay First Nation	Participates on OSM Oversight Committee
		Luc White	ECCC	Works for ECCC
		Greg Wentworth	AEPA	Works for AEPA

6. Appendix B – Summary of Air Monitoring Stations & Parameters in the WBEA Network

Continuous Monitoring Measurements

Table 11 provides a list of stations names and parameters measured by continuous methods, which include sulphur dioxide (SO_2), nitric oxide/nitrogen dioxide (NO/NO_2), ozone (O_3), $PM_{2.5}$, total reduced sulphur (TRS), hydrogen sulphide (H_2S), total hydrocarbons (THC), methane (CH_4), non-methane hydrocarbons (NMHC), carbon monoxide (CO), and ammonia (NH_3).

Table 11. Summary of stations and continuously measured parameters at WBEA AMS

Station name	SO_2	$NO/NO_2/NO_X$	O_3	$PM_{2.5}$	TRS	H_2S	THC	CH_4	NMHC	CO	CO_2	NH_3
BERTHA GANTER-FORT MCKAY	X	X	X	X	X	X	X	X	X			X
MILDRED LAKE*	X					X	X	X	X			
BUFFALO VIEWPOINT	X	X	X	X		X	X	X	X			
MANNIX	X					X	X	X	X			
PATRICIA MCINNES	X	X	X	X	X		X	X	X			X
ATHABASCA VALLEY	X	X	X	X	X		X	X	X	X		
FORT CHIPEWYAN	X	X	X	X	X							
BARGE LANDING	X	X		X	X		X	X	X			
LOWER CAMP	X					X	X	X	X			
FORT MCKAY SOUTH	X	X	X	X	X		X	X	X			
ANZAC	X	X	X	X	X		X	X	X			
WAPASU	X	X	X	X		X	X					
STONY MOUNTAIN	X	X	X	X	X		X	X	X			
FIREBAG	X	X				X	X					
MACKAY RIVER	X	X				X	X					
CONKLIN	X	X	X	X	X		X	X	X			
JANVIER	X	X	X	X	X		X	X	X			
FORT HILLS	X	X		X	X	X	X	X	X			
WASKOW OHCI PIMATISIWIN	X					X						
JACKFISH 2/3	X	X				X						
SURMONT 2	X	x		X		X						
ELLS RIVER	X	X		X	X		X	X	X			
LEISMER	X	X				X						
SAWBONES BAY	X	X				X						
JACKFISH 1	X	X				X						
KIRBY SOUTH	X	X				X	X					
KIRBY NORTH	X	X				X	X					
BLACKGOLD	X	X				X	X					
HANGINGSTON EXPANSION	X	X				X						
MONDAY CREEK	X	X				X						
BLACKROD	X	X				X						
PIHEW POINT	X					X	X	X	X			

* Decommissioned May 2026.

Continuous Meteorological Measurements

Table 12 provides a listing of stations and meteorological parameters measured by continuous methods. Parameters measured include ambient temperature (Temp), relative humidity (RH), barometric pressure (BP), wind speed (WS), wind direction (WD), vertical wind speed (VWS), global radiation, precipitation, and leaf wetness.

Table 12. Summary of stations and meteorological parameters measured continuously at WBEA AMS

Station name	Temp	RH	BP	WS	WD	VWS	Global Radiation	Precipitation	Leaf Wetness
BERTHA GANTER-FORT MCKAY	X[1,2]	X[1]		X[2]	X[2]		X	X	X
MILDRED LAKE*	X[1]	X[1]		X[2]	X[2]				
LOWER CAMP MET TOWER	X[4]	X[4]		X[4]	X[4]	X[4]			
BUFFALO VIEWPOINT	X[1]	X[1]		X[2]	X[2]				
MANNIX	X[5]	X[5]		X[5]	X[5]	X[5]			
PATRICIA MCINNES	X[1]	X[1]		X[2]	X[2]				
ATHABASCA VALLEY	X[1]	X[1]	X	X[2]	X[2]				
FORT CHIPEWYAN	X[1]	X[1]		X[2]	X[2]		X		X
BARGE LANDING	X[1]	X[1]	X	X[2,3]	X[2,3]				
LOWER CAMP	X[1]	X[1]	X	X[2]	X[2]				
FORT MCKAY SOUTH	X[1]	X[1]		X[2]	X[2]				
ANZAC	X[1]	X[1]		X[3]	X[3]				X
WAPASU	X[1]	X[1]		X[2]	X[2]			X	
STONY MOUNTAIN	X[1]	X[1]		X[3]	X[3]		X	X	X
FIREBAG	X[1]	X[1]		X[2]	X[2]				
MACKAY RIVER	X[1]	X[1]		X[2]	X[2]			X	
CONKLIN	X[1]	X[1]		X[2]	X[2]				
JANVIER	X[1]	X[1]		X[2,3]	X[2,3]				
FORT HILLS	X[1]	X[1]		X[2]	X[2]				
WASKOW OHCI PIMATISIWIN	X[1]	X[1]		X[2]	X[2]				
JACKFISH 2/3	X[1]	X[1]		X[2]	X[2]				
SURMONT 2	X[1]	X[1]		X[2]	X[2]				
ELLS RIVER	X[1]	X[1]		X[2]	X[2]		X		
LEISMER	X[1]	X[1]		X[2]	X[2]				
SAWBONES BAY	X[1]	X[1]		X[2]	X[2]				
JACKFISH 1	X[1]	X[1]		X[2]	X[2]				
KIRBY SOUTH	X[1]	X[1]		X[2]	X[2]				
KIRBY NORTH	X[1]	X[1]		X[2]	X[2]				
BLACKGOLD	X[1]	X[1]		X[2]	X[2]				
HANGINGSTONE EXPANSION	X[1]	X[1]		X[2]	X[2]				
MONDAY CREEK	X[1]	X[1]		X[2]	X[2]				
BLACKROD	X[1]	X[1]		X[2]	X[2]				
PIHEW POINT	X[1]	X[1]		X[2]	X[2]				

[1] Parameter measured at 2m.
[2] Parameter measured at 10m.
[3] Parameter measured at 20m.
[4] Parameter measured at multiple elevations (i.e., 20m, 45m, 100m, 163m).
[5] Parameter measured at multiple elevations (i.e., 20m, 45m, 75m, 90m).
* Decommissioned May 2026.

Time-Integrated Analysis Measurements

Table 13 provides a listing of stations and air quality parameters measured by time-integrated methods. Parameters measured include volatile organic compounds (VOC), particulate matter less than 2.5 µm aerodynamic diameter ($PM_{2.5}$) and associated metals and ions, particulate matter less than 10 µm aerodynamic diameter (PM_{10}) and associated metals and ions, polycyclic aromatic hydrocarbons (PAH), precipitation samples, dustfall, and total suspended particulates (TSP).

Table 13. Summary of parameters measured using Time-integrated methods at WBEA AMS

Station name	VOC	$PM_{2.5}$	PM_{10}	PAH	Precip	TSP	Dustfall
BERTHA GANTER-FORT MCKAY	X	X	X	X	X	X	X
PATRICIA MCINNES	X	X	X	X			
ATHABASCA VALLEY	X	X	X	X			
FORT CHIPEWYAN	X	X	X	X			
BARGE LANDING	X						
FORT MCKAY SOUTH	X		X				
ANZAC	X	X	X	X			
WAPASU					X		
STONY MOUNTAIN					X		
CONKLIN	X	X	X	X			
JANVIER	X	X	X	X			
FORT HILLS	X		X				
ELLS RIVER	X		X			X	
CANADIAN NATURAL DF1							X
CANADIAN NATURAL DF2							X
CANADIAN NATURAL DF3							X
CANADIAN NATURAL DF4							X
CANADIAN NATURAL DF5							X

Additional Continuous/Semi-continuous Measurements

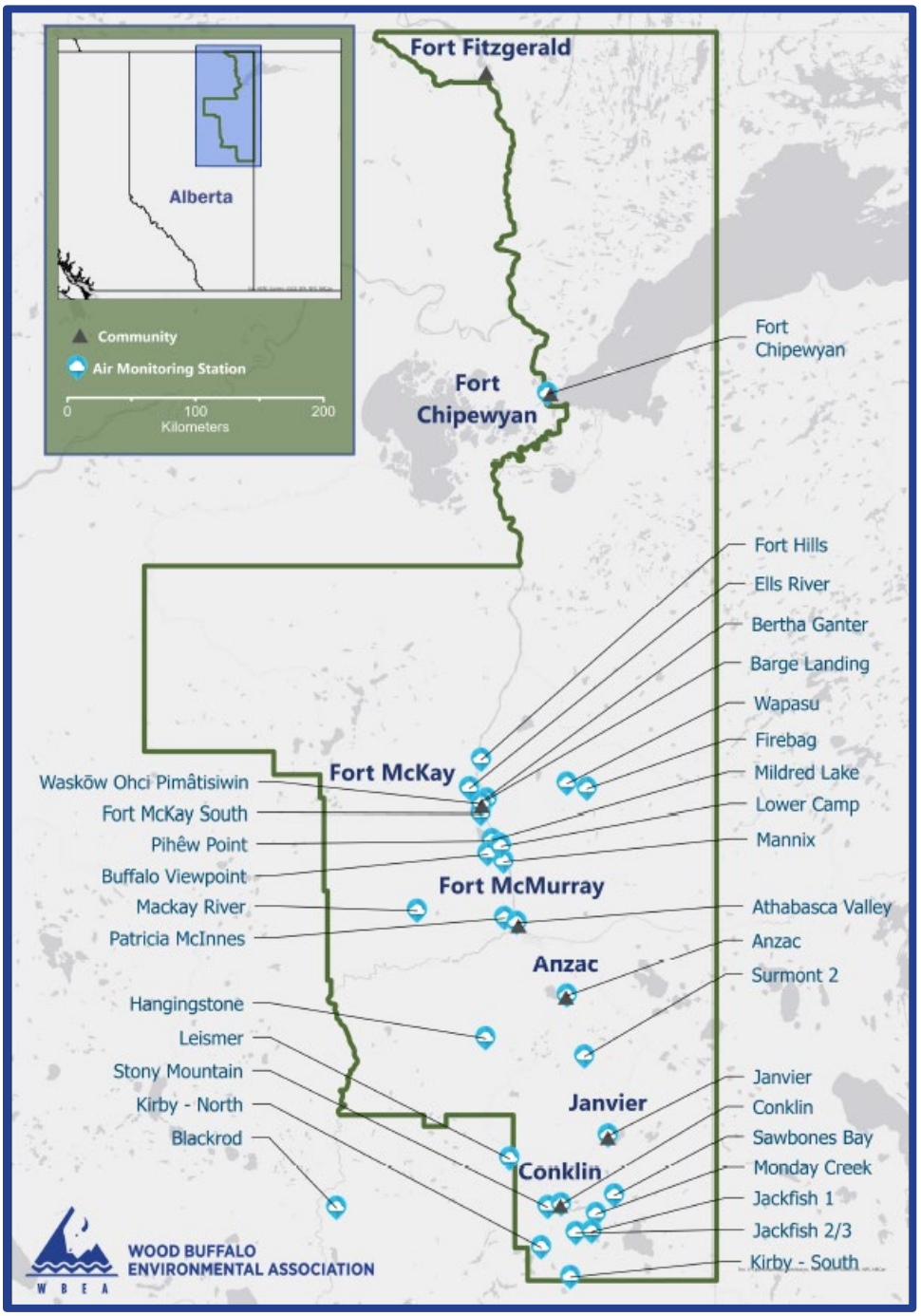
Table 14 provides a list of stations and continuous/semi-continuous methods that are additional to standard monitoring techniques. Parameters measured include visibility sensors, volatile organic compounds (VOC) gas chromatograph (GC), and triggered RSC tube sampling.

Table 14. Summary of stations and continuous/semi-continuous methods at WBEA AMS

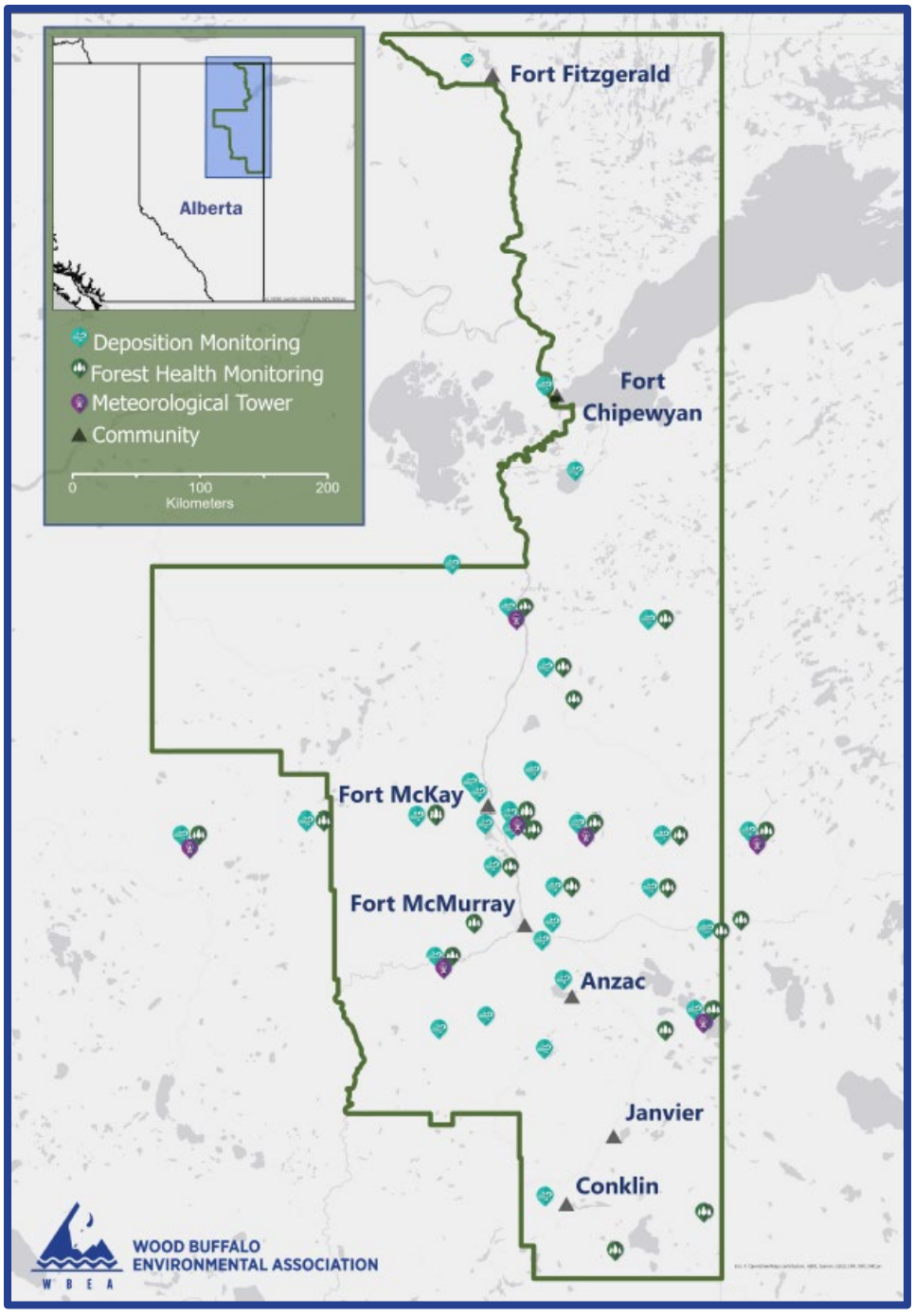
Station name	Visibility Sensor	VOC GC	Triggered RSC
BERTHA GANTER-FORT MCKAY		X	X*
BUFFALO VIEWPOINT	X		
LOWER CAMP	X		

* Triggered RSC program paused in May 2026 based on direction from Rec 14/15 committee

7. Appendix C – Maps of the WBEA Monitoring Networks



Continuous Ambient Air Monitoring Stations



Deposition Monitoring Network