



# PASSIVE AIR QUALITY MONITORING NETWORK **DETAILED SITE DOCUMENTATION**

January 16, 2013 Date:



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### 1.0 INTRODUCTION

PAZA is a not for profit, multi-stakeholder organization that conducts ambient air quality monitoring in northwestern Alberta. PAZA is an unbiased, open and transparent organization, and our members collaborate to provide local solutions to local air quality concerns. As an independent third-party, PAZA has invested over a decade in building trust among members of the public, industry, government and non-governmental organizations.

PAZA was formed in March 1999 in response to air quality concerns in the Peace region. The air quality monitoring program is a resource for the public to become informed about local air quality. Members work collaboratively to produce scientifically defensible data that can be used by stakeholders to ensure continuous improvement of regional air quality, protect environmental health, and influence public policy.

In 2003, PAZA became the fifth airshed zone in Alberta recognized by the Clean Air Strategic Alliance (CASA). Air Quality Management Zones are a key component in CASA's strategy for the management of air quality within Alberta.

PAZA operates under the guidelines developed in the CASA Airshed Zone Guidelines. These guidelines include management by consensus, representation from affected stakeholders and public accessibility to data and information from monitoring activities.

Consensus is reached when there is unanimous agreement among our stakeholders, ensuring each one can live with the outcome of the decision. Stakeholders may not achieve all their goals, but the objective is to find the optimal solution that includes something for everyone. Decisions made through consensus processes are likely to be more innovative and longer lasting than those reached through traditional negotiation or top-down hierarchy.

PAZA is funded by compulsory and voluntary membership from industry, government and non-government members within the zone. For more information about PAZA and regional air quality, please visit PAZA's web site.

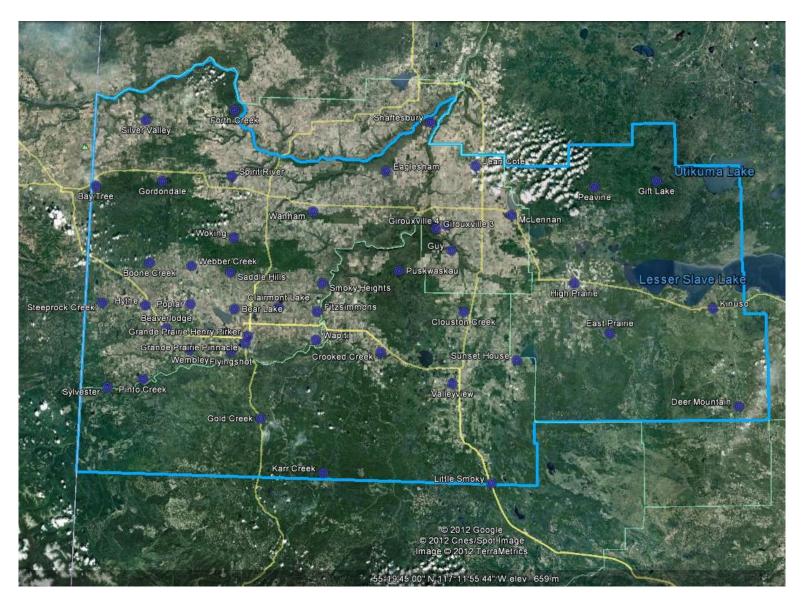


Figure 1. Google Earth regional map showing overview of passive stations within the PAZA boundaries.





### 2.0 PASSIVE NETWORK

The PAZA passive network is designed to provide air quality information across the entire PAZA zone. The information gathered by the passive network can serve:

- To provide air quality information in remote locations in a cost effective manner,
- To provide an overall assessment of air quality across the zone,
- To provide a baseline data set of air quality over the entire zone,
- To provide a data set that may be assessed over time for spatial variation of nitrogen dioxide, ozone and sulphur dioxide,
- To identify long-term air quality trends,
- To qualify data in relation to Alberta's Air Quality Guidelines where applicable, and
- To provide air quality data to assist in locating continuous monitoring stations.

The design of the network was established in July of 2002 on a grid system. Passive stations were located every 200 square miles within the County of Grande Prairie and every 300 square miles outside of the County of Grande Prairie, except where limited by access.

The network initially included 49 monitor stations for sulphur dioxide, nitrogen dioxide and ozone. In 2004 the network was rationalized to 43 stations removing redundant data. In 2011, further completion of the grid including the additional of monitor station for sulphur dioxide, nitrogen dioxide and ozone in near East Prairie. In 2011, three additional monitor stations for hydrogen sulphide were added to the passive network located at G3, G4 and Gift Lake; a recommendation of the sub regional Girouxville Monitoring Project (2007 through 2011). The purpose of this recommendation was to continue monitoring of hydrogen sulphide at G3 and G4 located near confined feeding operations and the addition of a hydrogen sulphide background monitor station located at Gift Lake. Table 1 on the following page summarizes the parameters monitored at each location.

PAZA operates the network to ensure high levels of scientifically credible data. Quality assurance procedures include the rotation of duplicate samples through 10% of the sites and the analysis of 10% field blanks. All sample lab analysis is completed with no knowledge of field sample location to eliminate bias.



www.paza.ca

The passive sampling devices (PSD) and sampling heads for this program are supplied by Maxxam Analytics Inc. The passive shelter heads protects the PSD from precipitation and direct particulate exposure. The shelters are installed in a vertical position two metres above the ground on a 1" outer diameter pipe by two clamps. When duplicate sampling is conducted at the station a second shelter is temporarily installed to the pipe at the same level and in a 180 degree position to the permanent shelter.



Figure 2. Duplicate Sampling Head Installed



**Figure 3.** Passive Shelter Head Bottom View





Table 1. Summary of parameters monitored at each passive station within the PAZA zone.

Station Number	Station Name	SO <sub>2</sub>	NO <sub>2</sub>	O <sub>3</sub>	H₂S
1	Silver Valley	√	√ ·	√ ·	1 2 2
2	Bay Tree	<b>→</b>	<b>√</b>	<b>√</b>	
3	Forth Creek	<b>→</b>	<b>✓</b>	<b>√</b>	
4		<b>✓</b>	<b>✓</b>	<b>✓</b>	
	Gordondale	<b>✓</b>	<b>∨</b>	<b>∨</b>	
5 7	Boone Creek	<b>✓</b>	<b>∨</b>	<b>∨</b>	
	Steeprock Creek	<b>✓</b>	<b>∨</b>	<b>✓</b>	
9	Spirit River	<b>✓</b>	✓ ✓	<b>✓</b>	
10	Woking				
11	Webber Creek	<b>√</b>	✓	<b>√</b>	
12	Hythe	<b>√</b>	✓	✓	
14	Sylvester	<b>√</b>	✓	✓	
16	Beaverlodge	✓	✓	✓	
17	Poplar	✓	✓	✓	
18	Saddle Hills	✓	✓	✓	
19	Wanham	✓	✓	✓	
20	Shaftesbury	✓	✓	✓	
21	Eaglesham	✓	✓	✓	
23	Bear Lake	✓	✓	✓	
24	Wembley	✓	✓	✓	
25	Pinto Creek	✓	✓	✓	
26	Flyingshot	✓	✓	✓	
27	Grande Prairie	<b>√</b>	<b>√</b>	✓	
28	Clairmont Lake	<b>√</b>	✓	<b>√</b>	
29	Smoky Heights	<b>√</b>	<b>√</b>	<b>√</b>	
30	Fitzsimmons	<b>√</b>	<b>√</b>	<b>√</b>	
32	Gold Creek	<b>√</b>	<b>√</b>	<b>√</b>	
33	Wapiti	<b>√</b>	✓ ·	<i>√</i>	
34	Puskwaskau	<b>✓</b>	✓ <b>/</b>	<b>√</b>	
35	Jean Cote	<b>→</b>	<b>✓</b>	<b>✓</b>	
36		<b>→</b>	<b>✓</b>	<b>✓</b>	
37	Guy Crooked Creek	<b>V</b> ✓	<b>∨</b>	<b>√</b>	
		<b>✓</b>	<b>∨</b>	<b>∨</b>	
38	Karr Creek	<b>✓</b>	<b>∨</b>	<b>∨</b> ✓	
39	Clouston Creek		<b>✓</b>	<b>✓</b>	
40	McLennan	<b>√</b>			
41	Valleyview	<b>√</b>	✓	<b>√</b>	
42	Sunset House	✓	✓	✓	
43	High Prairie	✓	✓	✓	
44	Peavine	✓	✓	✓	
45	Gift Lake	✓	✓	✓	✓
46	Little Smoky	✓	✓	✓	
47	Kinuso	✓	✓	✓	
48	Deer Mountain	✓	✓	✓	
49	Henry Pirker	✓	✓	✓	
50	East Prairie	✓	✓	✓	
G3	Girouxville 3				✓
G4	Girouxville 4				<b>√</b>



### 3.0 STATION LOCATIONS

The general locations of the stations are provided in Figure 1. Included is a link to the Google Earth file for each passive station location and PAZA boundaries. Google Earth Link.

Each station is located to address the following siting criteria:

#### **Considerations**

- Current and future landowner(s)
- Potential future land use change (avoid roads and right of ways)
- All weather access
- Travel time from vehicle on foot in all seasons to station
- Minimal public visibility
- Maximum Security

#### Criteria

- Away from nearby emission sources such as roads, oil and gas wells/batteries, gas processing plants, maintenance/fuelling areas, etc.
- Avoid low-lying areas and high areas to prevent local air flow biases
- An open area away from buildings and tree canopies to ensure representative flows are recorded and to ensure passive samplers are suitably exposed
- Stations cannot be located in pastures because of potential damage

Table 2 on the following page provides the details of station location of each site.



**Table 2.** Summary of locations of passive stations within the PAZA zone in latitude and longitude, UTM, legal locations and elevation.

Station	Station	Location		UTM		Site Legal	Elevation of
Number	Name	Longitude	Latitude	Northing	Easting	Location	Passive Head (m)
1	Silver Valley	119°37'07.5"	56°02'52.6"	6214509	336898	08-27-081-11 W6M	651
2	Bay Tree	119°57'54.8"	55°45'58.7"	6184052	313982	13-16-078-13 W6M	700
3	Forth Creek	118°57'54.7"	56°06'08.8"	6219222	377769	04-13-082-07 W6M	695
4	Gordondale	119°28'26.0"	55°47'56.5"	6186483	344927.5	04-34-078-10 W6M	788
5	Boone Creek	119°32'24.7"	55°27'40.7"	6149061	339396	16-36-074-11 W6M	800
7	Steeprock Creek	119°52'19.4"	55°17'16.1"	6130578	317623	01-02-073-13 W6M	832
9	Spirit River	118°57'57.5"	55°49'49.6"	6188957.5	376859	08-12-079-07 W6M	630
10	Woking	118°55'53.4"	55°34'43.2"	6160880	378238.5	01-13-076-07 W6M	722
11	Webber Creek	119°14'01.9"	55°27'14.9"	6147597.5	358735.5	09-36-074-09 W6M	769
12	Hythe	119°33'19.3"	55°17'12.0"	6129668	337724	14-36-072-11 W6M	745
14	Sylvester	119°48'22.6"	54°56'30.3"	6091914	320251	08-06-069-12 W6M	797
16	Beaverlodge	119°23'50.6"	55°11'46.4"	6119249	347407	15-36-071-10 W6M	749
17	Poplar	119°13'50.5"	55°17'59.3"	6130422	358384	13-06-073-08 W6M	730
18	Saddle Hills	118°56'55.6"	55°26'01.1"	6144773.5	376695.5	04-25-074-07 W6M	785
19	Wanham	118°21'46.4"	55°41'37.0"	6172821	414332	16-22-077-03 W6M	656
20	Shaftesbury	117°31'12.9"	56°04'21.6"	6214288	467613.5	04-03-082-23 W5M	513
21	Eaglesham	117°50'16.8"	55°52'07.7"	6191797	447560	16-21-079-25 W5M	564
22	Webster	118°35'24.0"	55°25'54.4"	6143991	399389	16-19-074-04 W6M	840
23	Bear Lake	118°54'37.4"	55°17'11.4"	6128336	378676	15-31-072-06 W6M	686
24	Wembley	119°13'15.3"	55°06'43.2"	6109507	358340	12-31-070-08 W6M	686
25	Pinto Creek	119°33'04.4"	54°58'53.8"	6095723	336746	04-24-069-11 W6M	721
26	Flyingshot	118°55'25.8"	55°06'42.5"	6108923.0	377286.0	15-36-070-07 W6M	665
27	Grande Prairie	118°49'26.7"	55°08'55.4"	6112860	383755	08-15-071-06 W6M	667
28	Clairmont Lake	118°35'24.3"	55°17'53.5"	6129127.5	399045.5	09-06-073-04 W6M	686
29	Smoky Heights	118°16'52.7"	55°24'09.9"	6140357	418862	13-08-074-02 W6M	641
30	Fitzsimmons	118°18'47.5"	55°17'13.6"	612527	416600	01-01-073-03-W6M	632
32	Gold Creek	118°41'45.6"	54°50'29.24"	6078467	391088	07-33-067-05 W6M	689
33	Wapiti	118°18'56.0"	55°10'14.6"	6114580.3	416206.3	02-25-071-03 W6M	621
34	Puskwaskau	117°43'46.3"	55°27'40.7"	6146369.5	453870	15-35-074-25 W5M	653
35	Jean Cote	117°11'06.2"	55°53'37.8"	6194280.5	488426	12-35-079-21 W5M	607
36	Guy	117°21'10.8"	55°32'55.4"	6155911.5	477729.5	03-04-076-22 W5M	562
37	Crooked Creek	117°50'52.1"	55°07'37.0"	6109246	445939	19-01-071-26 W5M	675
38	Karr Creek	118°14'23.7"	54°37'33.4"	6053873	419949.5	10-16-065-02 W6M	811
39	Clouston Creek	117°15'27.3"	55°17'48.3"	6127845	483645	12-01-073-22 W5M	647
40	McLennan	116°55'08.5"	55°41'39.3"	6172054	505089	03-29-077-19 W5M	622
41	Valleyview	117°19'54.8"	55°00'11.7"	6095204	478771	09-30-069-22 W5M	753
42	Sunset House	116°52'25.8"	55°06'05.8"	6106103.5	508050.5	05-32-070-19 W5M	776
43	High Prairie	116°27'47.4"	55°25'05.9"	6141468.5	533932.5	16-13-074-17 W5M	595
44	Peavine	116°18'52.6"	55°48'42.7"	6185352.5	542954	03-05-079-15 W5M	650
45	Gift Lake	115°51'42.9"	55°50'04.0"	6188238.5	571281.5	10-07-079-12 W5M	679
46	Little Smoky	117°02'45.2"	54°35'48.4"	6049923	497036	12-01-065-21 W5M	772
47	Kinuso	115°27'46.1"	55°18'44.1"	6130614.5	597562	12-10-073-10 W5M	592
48	Deer Mountain	115°17'07.9"	54°54'28.5"	6085890.5	609918	15-22-068-09 W5M	842
49	Henry Pirker	118°48'27.67"	55°10'35.90"	6115939	384880	7-26-71-06 W6M	654
50	East Prairie	116°12'23.39"	55°12'23.39"	6118741	550490	13-02-72-15 W5M	631
G3	Girouxville 3	117°27'58.5"	55°38'13.380"	470648	6165784	04-02-077-23 W5M	562
G4	Girouxville 4	117°23'19.1"	55°39'1.860"	475544	6167253	13-05-077-22 W5M	565

In the following pages a summary of each station location is provided that includes:

- Photographs of the station in all four compass directions (north, east, south and west)
- Directions to access the station from the closest town, village or hamlet
- Map indicating station location



## **STATION 1: SILVER VALLEY**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located along fence line, surrounded by open crop land, with a small stand of trees to the east

#### **Directions**

Travel west of Silver Valley on Hwy 681

Turn north on access road to TWP 814 and RR 112

Travel ½ km to intersection to RR 112

Turn north on RR 112 and travel  $\frac{1}{2}$  km to station located on west side of road along fence line.





## **STATION 2: BAY TREE**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located on the fence on east side of road across from residence.

This whole area is surrounded by dense bush with a crop field extending east and south.

#### **Directions**

Travel west of Bay Tree on Hwy 49

Turn South on RR 134

Travel 3.94 kilometers, the station will be on the east side of the road allowance along the fence line; across from a log home.





## **STATION 3: FOURTH CREEK**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located on top of a hill above the tree line to the west and south. This area is surrounded by dense bush with crop fields further west.

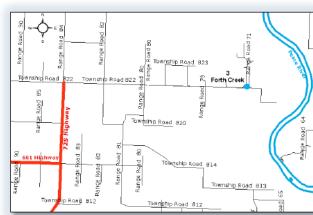
#### **Directions**

Travel west of Spirit River on Highway 49 to the intersection with Highway 725.

Turn north on Hwy 725 and travel 29.85 km to TWP Rd 822.

Travel east on TWP 822 for 15 km the road will Y with a small road continuing east. Follow small road 100 m further east.

The station is located at the top of a large steep hill on the north side of the road.





## **STATION 4: GORDONDALE**



Clockwise from top: Looking North, East, South, and West.

### Description

Station is sited at the edge of the road easement and is directly surrounded by open crop land. Forest is located to the south and east.

#### **Directions**

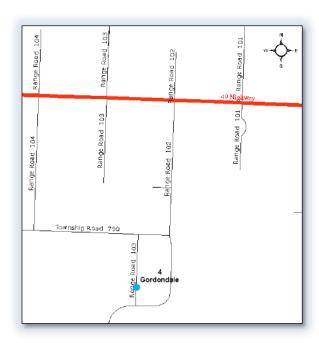
Travel west of Spirit River on Hwy 49, turn south at RR 102.

Travel on RR 102 5.6 km, the road will bend to the west.

At the bend there is an intersection; take the road heading north.

Travel 0.4 kilometers

The station is located on the east side of the road.





## **STATION 5: BOONE CREEK**



Clockwise from top: Looking North, East, South, and West.

### Description

This area is surrounded by pasture land with forested land on the north side.

#### **Directions**

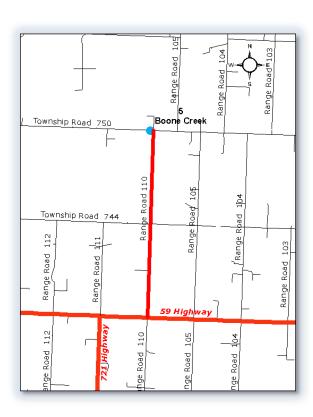
Travel north on Hwy 43 past Hythe

Turn east onto Hwy 59; 13 km after Hythe

Travel 11.7 km east; turn north onto RR 110

Travel north 6.46 km and turn west onto TWP 750

Station is 120 m on south side of road at the edge of road allowance





## **STATION 7: STEEPROCK CREEK**



Clockwise from top: Looking North, East, South, and West.

### Description

This area is immediately surrounded by pasture land with forested land extended out further west and east.

#### **Directions**

Travel north on Hwy 43 from Beaverlodge

Turn west onto Hwy 671

Travel to RR 131

Turn north on RR 131 and travel 3 km

Station is located on the west side of the road at the edge of the road allowance





## **STATION 9: SPIRIT RIVER**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is surrounded by crop lands on all sides.

#### **Directions**

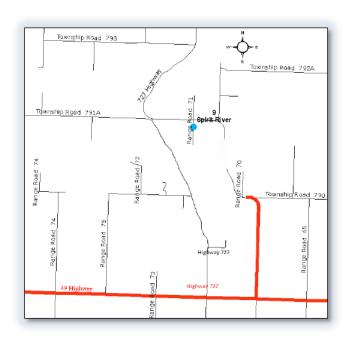
Travel west of Spirit River on Hwy 49

Turn north on Hwy 727 (RR 71)

At TWP 791A turn east

Travel to RR71 and turn south

Station is located 200 m south on the east side of the road at the edge of the road allowance





## **STATION 10: WOKING**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Area is surrounded by cropland with willows located in the direct vicinity.

#### **Directions**

Travel north of Grande Prairie on Hwy 2

At the intersection to Woking travel west on Hwy 677

At the T-intersection of Hwy 731 and 677 follow Hwy 677 south and it will bend west

Travel to RR 70

Turn north on RR70; station is located 100 m on the west side of the road at the edge of the road allowance.





## **STATION 11: WEBBER CREEK**



Clockwise from top: Looking North, East, South, and West.

### Description

Area is surrounded by cropland. The area has active oil and gas in the vicinity.

#### **Directions**

Travel west on Hwy 59 from LaGlace

Turn north on RR90

Travel 5.87 kilometers to a residential driveway that heads

Station is located approximately 150 m from RR 90 on the south side of the resident's drive way





## **STATION 12: HYTHE**



Clockwise from top: Looking North, East, South, and West.

### Description

A residential yard surrounded by pasture land with some trees to the north and south.

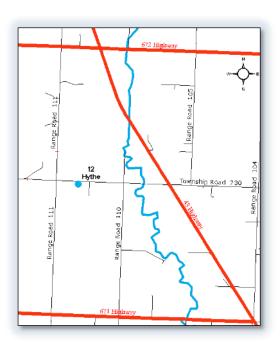
#### **Directions**

Travel north on Hwy 43 from Beaverlodge

Turn west on TWP 730

Travel 2.1 km

Station is located on the south side of the road behind a stand of poplar located close to a fence line. This station is near a large home with a white pipe fence.





## **STATION 14: SYLVESTER**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located in pasture land with dense forested land surrounding the area. Active oil and gas throughout the area.

#### **Directions**

Travel west of Elmworth on Hwy 722

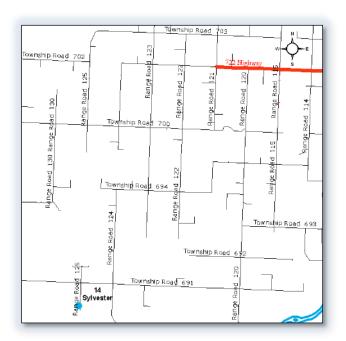
Turn south onto RR120

Travel 11.2 km south to TWP 691 (Isley Corner)

Turn west and travel 8 km to RR 125

Turn south on RR 125 and travel 1.2 km

Station is located on the west side of the road. Walk through a blue fence and continue approximately 100m south west. Station is located in the field attached to a fence post.





## **STATION 16: BEAVERLODGE**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located on the roof of the PAZA Beaverlodge AQM Station. Surrounded by crop land.

#### **Directions**

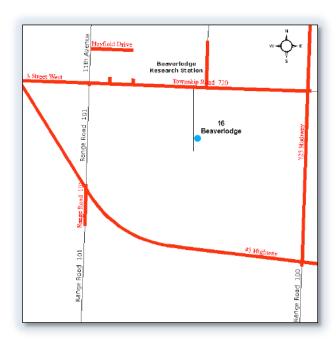
From Hwy 43 near Beaverlodge turn north onto Hwy 723

Travel north 1.3 km to TWP 720

Turn west on TWP 720 and travel  $800\ m$  to a dirt road across from the Agriculture Research Office

Travel south on dirt road to the AQM station

Located on the roof of the building





## **STATION 17: POPLAR**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is surrounded by crop fields with small stands of willows close to the station. An oil and gas facility is located to the east of the station and a residence to the west.

#### **Directions**

Travel north of Grande Prairie on Hwy 2

Turn west onto Hwy 672

Travel on Hwy 672 to RR90

Turn south on RR 90

Travel 1.8 km

Station is located on the east side of the road near a power pole.





## **STATION 18: SADDLE HILLS**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located along fence line, surrounded by open crop land, with forested areas to north, east and west.

#### **Directions**

Travel north on Hwy 2 from Grande Prairie

Turn west onto Hwy 59

Travel 11.5 km west to RR 71

Travel north on RR71 6.6 km just past the intersection with TWP 744

Station is located on the east side of the road along the road allowance.





## **STATION 19: WANHAM**



Clockwise from top: Looking North, East, South, and West.

### Description

Located in an area of crop lands with small stands of bush in the vicinity.

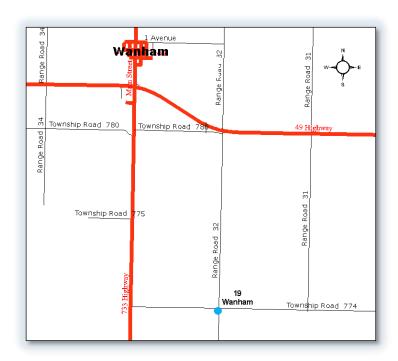
#### **Directions**

Travel east of Wanham on Hwy 49

Turn south on RR 30

Travel 3.1 km to station

Station is located on west side of road near property line





## **STATION 20: SHAFTESBURY**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located at the top of the river valley in a pastured area surrounded by forested land.

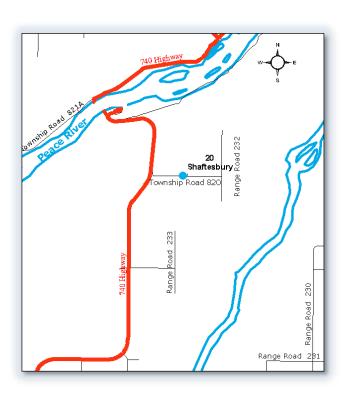
#### **Directions**

Travel north on Hwy 740 from Tangent towards Shaftesbury Ferry

Turn east onto TWP road 820

Travel 1.26 km to station

Station is located on the north side of the road at the top of a steep road allowance along the fence line





## **STATION 21: EAGLESHAM**



Clockwise from top: Looking North, East, South, and West.

### **Description**

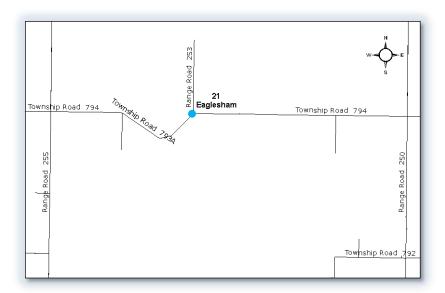
Station is located just east of a dugout and low lands with forested areas. The area to the north is open crop land.

### **Directions**

Travel north of Tangent on Hwy 740

Turn west onto TWP 794

Travel 9.83 km west to station. Station is located on the north west side of the road at the intersection with RR 253.





## **STATION 23: BEAR LAKE**



Clockwise from top: Looking North, East, South, and West.

### Description

Station is located in an area of open farm land close to a residence.

#### **Directions**

Travel north on Hwy 2 from Grande Prairie

Turn west onto TWP 730

Travel 7.4 km to station

Station is located on the south side of the road approximately 100 m into the field at the quarter line





## **STATION 24: WEMBLEY**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located in an area of crop land.

#### **Directions**

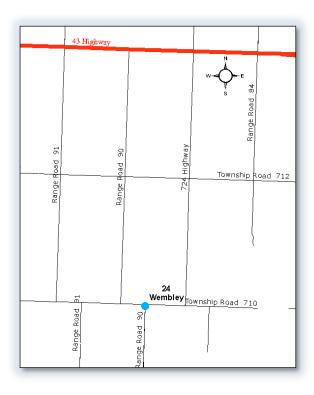
Travel west on Hwy 43 towards Beaverlodge

Turn south onto Hwy 724

Travel 6.45 km and turn west onto TWP 710

Travel on TWP 710 1.0 km to the intersection with RR 90

Station is located in the SE corner of the intersection of TWP 710 and RR 90 at the property line  $\frac{1}{2}$ 





## **STATION 25: PINTO CREEK**



Clockwise from top: Looking North, East, South, and West.

### **Description**

The site is immediately surrounded by open farm land with small stands of trees.

#### **Directions**

Travel on Hwy 43 towards Beaverlodge

Turn south onto Hwy 667

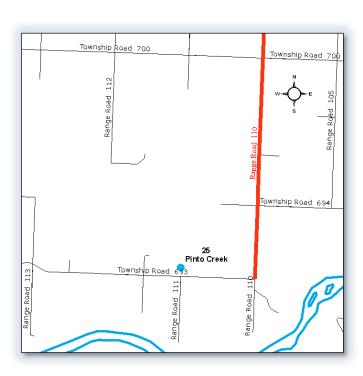
Travel 6.6 km to Hwy 722

Turn south onto Hwy 722 and travel 18 km to where Hwy 722 turns west. At this intersection carry on south onto RR 110.

Travel south on RR 110 for 8.1 km and turn west onto TWP 693

Travel west to RR 111

Station is located in the north east corner of RR 111 and TWP 693





## **STATION 26: FLYING SHOT**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located in an area of increased residential activity with small pastures as well as treed areas.

#### **Directions**

Travel south of Grande Prairie on Hwy 49

Turn west onto Hwy 668

Travel 6.7 km

Turn south onto residential driveway.

Station is located half way down on west side of driveway.





## **STATION 27: GRANDE PRAIRIE (PINNACLE)**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located within the City of Grande Prairie in a residential park located in Pinnacle subdivision.

#### **Directions**

Travel south of Grande Prairie on Hwy 40 (Wapiti Road or 108 Street)

Turn west onto Pinnacle Drive

Travel 125 meters to walking path entrance to park

Station is located to the west of play park and gazebo near two spruce trees and attached to lamp post





## **STATION 28: CLAIRMONT LAKE**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located in the vicinity of small farms with open farm lands and small stands of bush. Station is located near Kleskun Lake.

#### **Directions**

Travel east of Grande Prairie on Hwy 43

Travel north on RR45 for 6.4 km.

Travel through the intersection with TWP 730.

Continue 1.2 km on RR45.

Station is located on west side of road at the fence line.





## **STATION 29: SMOKY HEIGHTS**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located on top of the Smoky Heights Air Quality Monitoring Station. Surrounded by pasture with small clumps of poplar to the east and an old building. To the north is an industrial facility with a wood burner.

#### **Directions**

From the Hamlet of Teepee Creek travel east on Hwy 674

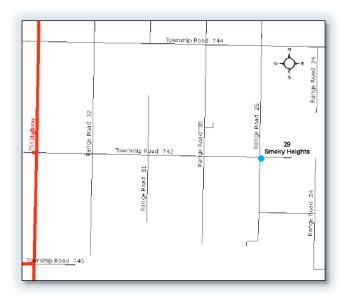
At the junction with Hwy 733 travel north

Turn east onto TWP 742 and travel 4.8 km

At the junction with RR 30 turn south and travel 25m

There is an approach to the field on the east side of RR 25 with a brown metal gate.

The site is located in the field on the top of the Smoky Heights Station.





## **STATION 30: FITZSIMMONS**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located along a bush line to the north with open pasture land to the south. A residence is located SW of the station.

#### **Directions**

From Bezanson travel west on Hwy 43 to the junction with Hwy 733

Travel 6.4 km north on Hwy 733 to TWP 730

Travel east on TWP  $730\,4.4$  km to the end of the road

The site is located just past the residence on the north side of the road across from an approach with a garden.





# **STATION 32: GOLD CREEK**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located near Hwy 40 close to a dugout and surrounded by dense bush. There are active well sites to the west and north. A plant is located to the east.

#### **Directions**

Travel south of Grande Prairie on Hwy 40

Travel 37.5 km from Grande Prairie City limits to the Canfor Road and continue travel 500 m past the Canfor Road to a gravel oilfield road leading west off Hwy 40.

Follow the oilfield road to the Y (270m) and take the road to the north

The station is located (approximately 40m from Y intersection) on the west side of the road in the ditch.





### **STATION 33: WAPITI**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located along a fence line with pasture surrounding the area. The topography is gently rolling with the Smoky River Valley to the east.

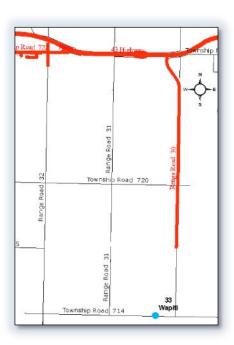
#### **Directions**

From the Hamlet of Bezanson travel east on Hwy 43

Turn south onto RR 30

Travel to the end of RR 30 and turn west on TWP 714

Travel  $0.5~\mathrm{km}$  to site located on north side of road close to gate access to field.





# **STATION 34: PUSKWASKAU**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located along secondary gravel road surrounded by dense bush in cleared area.

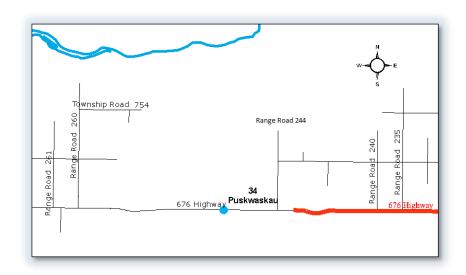
#### **Directions**

Travel north of Debolt on Hwy 736

Turn east onto Hwy 676 (road naturally turns)

Travel approximately 19 km to station

Site is located on south side of road in open area approximately 25 m from road.





# **STATION 35: JEAN COTE**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located along in open area surrounded by crop land.

#### **Directions**

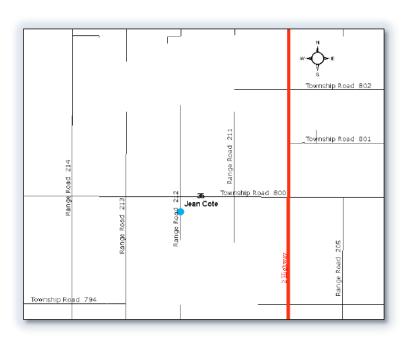
Travel north on Hwy 2 from the Donnelly Corner junction with Hwy 49.

Travel north 19.2 km

Turn west onto TWP 800 and travel west 3.3 km

Turn south onto dead end road and travel 200m

Site is located on east side of the road near a power pole.





# **STATION 36: GUY**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is surrounded by crop lands with small patches of treed areas. There are some residences in the area.

#### **Directions**

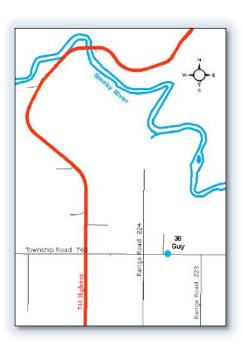
Travel west of Falher on Hwy 49

Turn south onto Hwy 744

Travel 24.5 km south on Hwy 744 through river valley to TWP 760

Turn east on TWP 760 and travel 2.3 km

Site is located on north side of road near a power pole.





# **STATION 37: CROOKED CREEK**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located along fence line surrounded by agricultural land. A small industrial facility is located to the east.

#### **Directions**

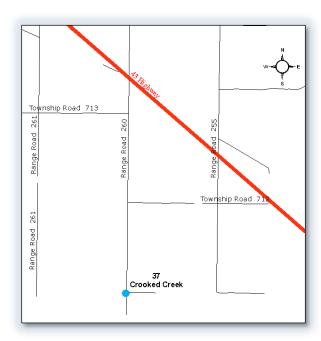
Travel east of the hamlet of Crooked Creek on Hwy 43

Travel 2 km east to RR 260

Turn south onto RR 260

Travel 3.9 km south to station

Station is located on the west side of road along fence line





### **STATION 38: KARR CREEK**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Station is sited at an oilfield lease opening as far from facility as possible. The area is largely densely forested with significant oilfield operations.

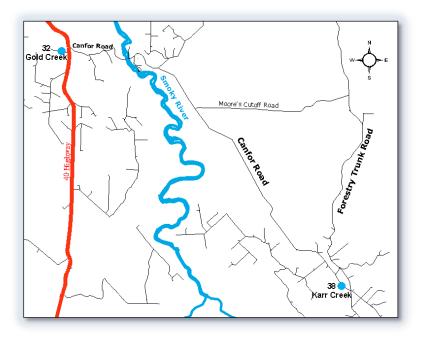
#### **Directions**

Travel south of Grande Prairie on Hwy 40 approximately 37.5 km from City of Grande Prairie south city limits to Canfor Road

Travel on Canfor Road to kilometer 291

Turn right or south onto lease access road 10-16-65-2-W6

Station is located on far west side of lease, past riser on a cutline.





# **STATION 39: CLOUSTON CREEK**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located on a fence line surrounded by fields. The area is relatively flat with a community center in the vicinity.

#### **Directions**

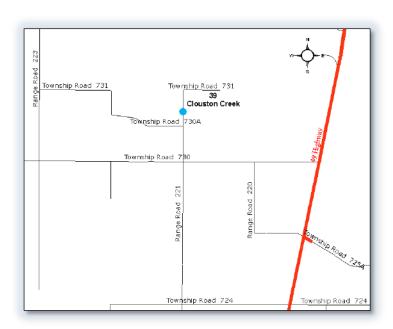
Travel north of Valleyview on Hwy 49

Turn west onto TWP 730

Travel 3 km on TWP 730 to RR 221

Turn north on RR 221 and travel 1.2 km

Site is located on east side of road at the fence line





### **STATION 40: MCLENNAN**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located at the edge of road easement. Area is flat and surrounded by fields. A small stand of trees is located to the west.

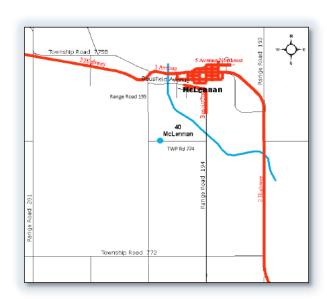
### **Directions**

From the town of McLennan travel west on Hwy 2 to RR 195  $\,$ 

Turn south onto RR 195 and travel 1.6 km to T-intersection

Travel east for 400m

Station is located near a power pole.





# **STATION 41: VALLEYVIEW**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is surrounded by open fields with residences directly east and west of the site.

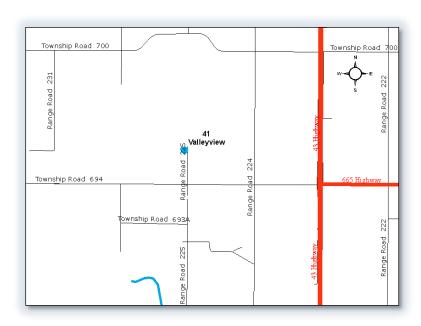
#### **Directions**

From Valleyview travel south on Hwy 43

Turn west on TWP 694

Travel 3.2 km to RR 225 and turn north on RR 225

Travel 0.8 km to station located on west side of road between power poles and north of old fence





# **STATION 42: SUNSET HOUSE**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Station is located near the top of a gradual hill surrounded by crop land with small clusters of trees.

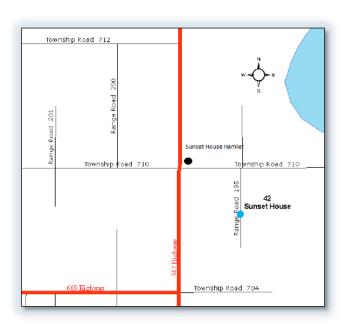
#### **Directions**

From the Hamlet of Sunset House travel east of the Sunset House store on TWP 710

Travel 1.6 km east to RR 195 and turn south onto RR 195

Travel south 1.1 km to station

Station is located on the east side of the road on the fence line





### **STATION 43: HIGH PRAIRIE**



Clockwise from top: Looking North, East, South, and West.

### **Description**

The station is located south of High Prairie in an area of agricultural lands. The station is located west of a residence.

#### **Directions**

From the town of High Prairie travel south on Hwy 749

Travel 2.4 km and turn east on TWP 742A

Travel east 1.6 km and turn north onto RR 170

Travel north 800 m to station.

Station is located on the west side of road on a fence line.





### **STATION 44: PEAVINE**



Clockwise from top: Looking North, East, South, and West.

### Description

The station is located in an area of rolling hills with shrubs and stands of trees.

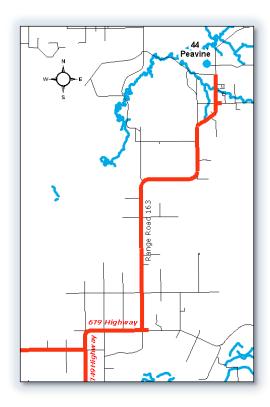
#### **Directions**

From the town of High Prairie travel north on Hwy 749

Continue east on Hwy 679

From the junction with Hwy 679 travel 4.8 km to the turn off to Peavine

Turn north and travel 27, km the road will turn east and then return north. The road will turn to gravel, travel 2 km to the sign Dump Water Treatment Plant, travel 800 m and the station will be located on the east side of the road near a power pole





# **STATION 45: GIFT LAKE**



Clockwise from top: Looking North, East, South, and West.

### Description

This region is mixed with pasture lands mixed with dense stands of trees.

#### **Directions**

From the Village of Grouard travel north on Hwy 750

Travel 43 km to station

Station is sited just after crossing a bridge, on the south side of the road in a clearing.





# **STATION 46: LITTLE SMOKY**



Clockwise from top: Looking North, East, South, and West.

### **Description**

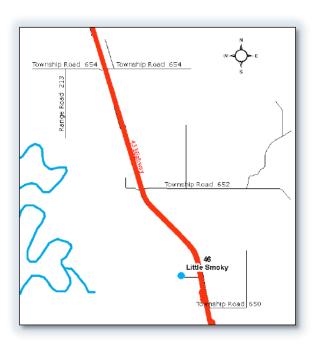
The station is located in a region mixed with dense forest and crop land. It is west of Hwy 43.

#### **Directions**

Travel south of Little Smoky on Hwy 43

Travel 18km south continue past the junction to TWP 652 to the next road turning west.

The station is located on a long residential driveway approximately 200m from highway on the north side of drive way along fence line.





# **STATION 47: KINUSO**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is located along fence line, surrounded by flat fields with several stands of trees.

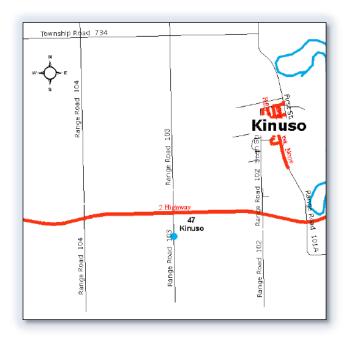
#### **Directions**

Travel west on Hwy 2 from the access to the Village of Kinuso

Travel 2.5 km west to RR 103

Turn south on RR 103 and travel 400m

Station is located on east side of road along fence line





# **STATION 48: DEER MOUNTAIN**



Clockwise from top: Looking North, East, South, and West.

### **Description**

The station is located in an area of dense forests and foothill terrain with industrial activity in the vicinity.

#### **Directions**

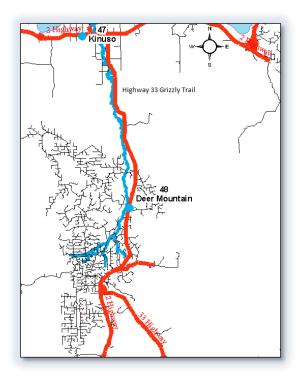
Travel south of Kinuso on Hwy 33 (Grizzly Trail)

Travel 45 km to turn off east to station

Turn off has sign saying "Deer Mountain Unit #2"

Station is sited 500m down access road located on south side of road in open clearing, just before the bend in the road

This is a high traffic road so please use caution if parking on road as visibility is minimal with corner





# **STATION 49: HENRY PIRKER (GRANDE PRAIRIE)**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located near the center of the City of Grande Prairie on the edge of Muskoseepi Park on top of the Henry Pirker Air Quality Monitoring Station.

### **Directions**

Located in the City of Grande Prairie

Travel to the corner of 107 Ave and 104 Street

Travel south into the park 43 meters along walking trail

Station is located to the east of the walking trail on top of the Henry Pirker Air Quality Monitoring Station





### **STATION 50: EAST PRAIRIE**



Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is surrounded by densely forested areas mixed with small residences and oil field activity.

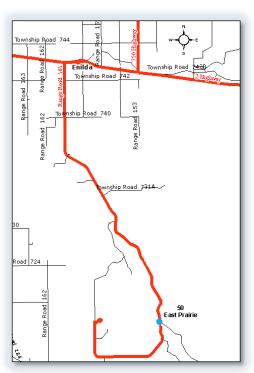
#### **Directions**

Travel west 1.8 km of the Village of Enilda on Hwy 2

Turn south onto Hwy to East Prairie

Travel 26 km south to an intersection with a large gravel industrial road that heads east and the main road continues south

Station is located in the middle of the Y intersection on east side of the north south road. Old church is east of station.





# **STATION G3: GIROUXVILLE 3**







Clockwise from top: Looking North, East, South, and West.

### **Description**

Site is located in an area of crop land with river valley and dense forest to the west and confined feeding operations to the east.

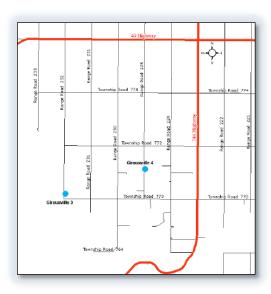
#### **Directions**

Travel south of Girouxville to Hwy 49

Travel west on Hwy 49 8.2 km to RR 232

Travel south on RR 232 9.6 km to station

Station is located on the east side of road just north of a small clump of poplars





# **STATION G4: GIROUXVILLE 4**



Clockwise from top: Looking North, East, South, and West.

### Description

Site is surrounded by open crop land with rolling topography. Confined feeding operations are in the vicinity.

#### **Directions**

Travel south of Girouxville to Hwy 49

Travel west on Hwy 49 3.25 km to RR 225

Follow road south for 8.0 km to station

Station is located on the east side of road just north of large stand of spruce shelter belt trees.

