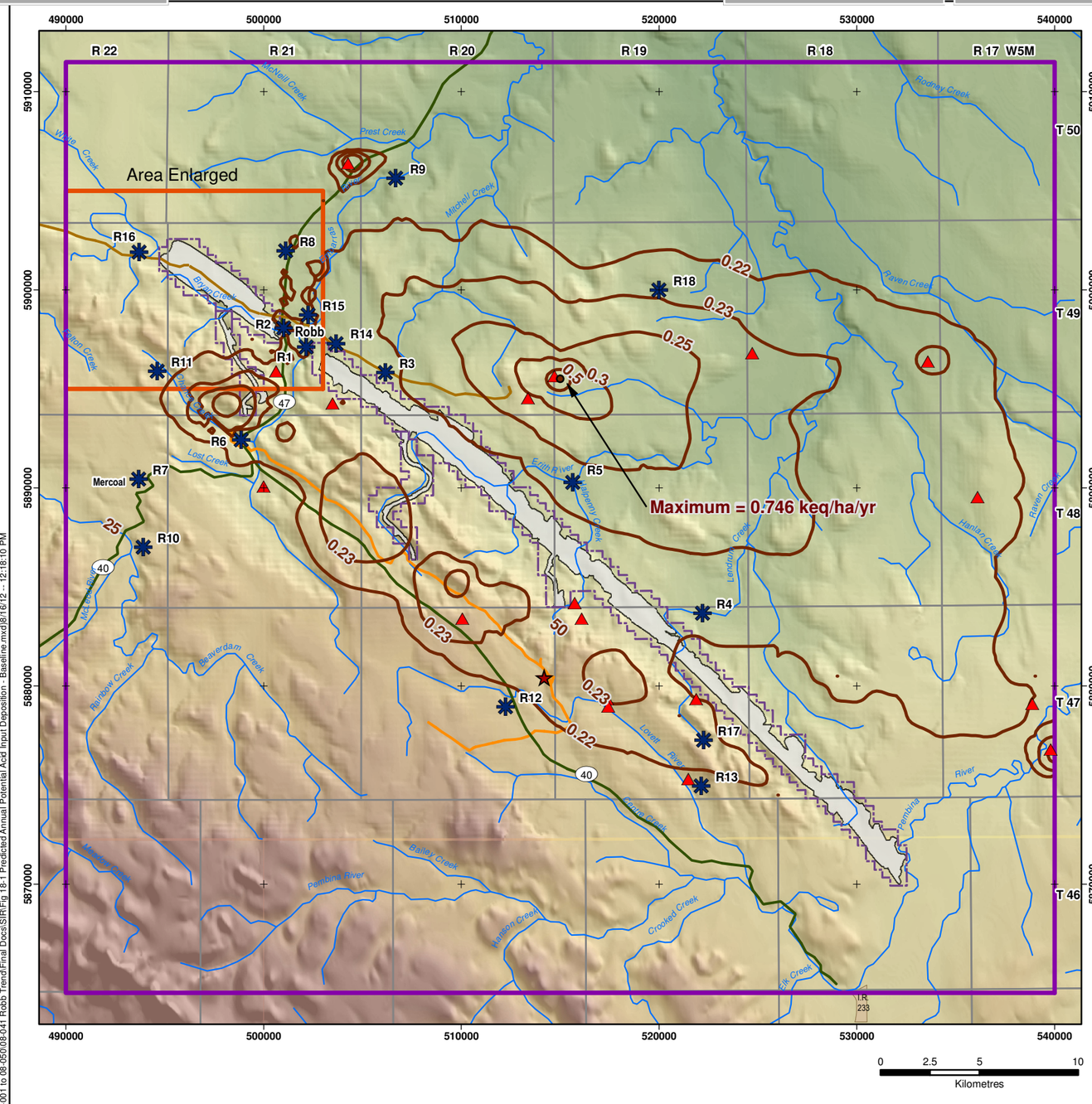
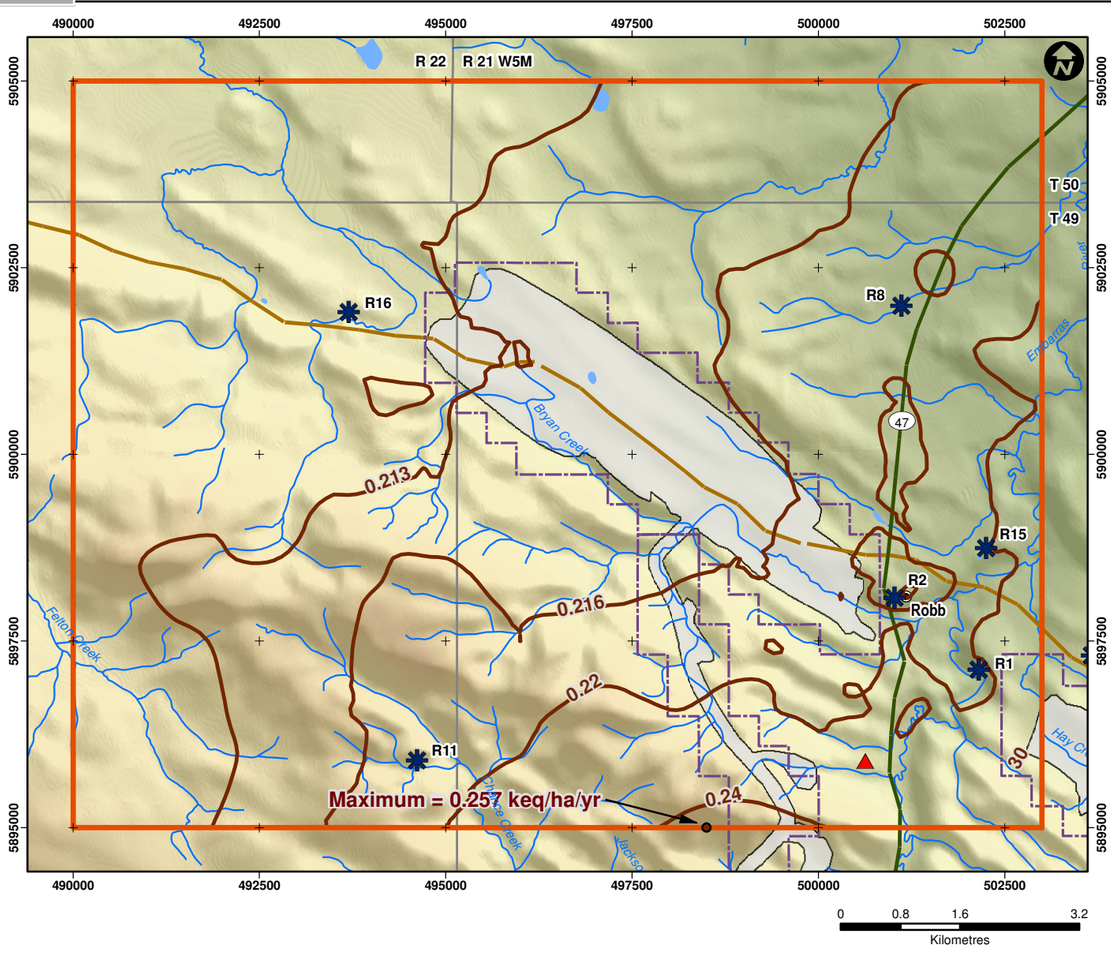




Label	Receptor	Label	Receptor
R1	SE Robb	R10	Steeper AQ Station
R2	NW Robb	R11	Yellowhead Tower
R3	Robb-Denison Road Intersection	R12	Lovett River Campground
R4	Lund Road at Lendrum Creek	R13	Lovett Tower
R5	Halpenny Creek and Erith River	R14	Campground
R6	Former Coalspur Cabin	R15	Residence
R7	Mercoal	R16	Cabin 1
R8	Oke	R17	Cabin 2
R9	Embarras	R18	Fairfax Lake

Legend

- Special Receptor
- Coal Valley Mine Wash Plant
- Gas Plant or Compressor Station
- Regional Study Area
- Concentration Isopleth
- Existing Mine Permit Boundary
- Pending Mine Permit Boundary
- Proposed Mine Permit Boundary
- Proposed Footprint Disturbance
- Existing Haul Road
- Existing Gravel Road
- Highway
- Topography (masl): High : 1675 / Low : 950

REF: CVRI, Mining Stage Total Disturb_27Jun11.dwg; Geobase, 2011; MEMS, 2011.

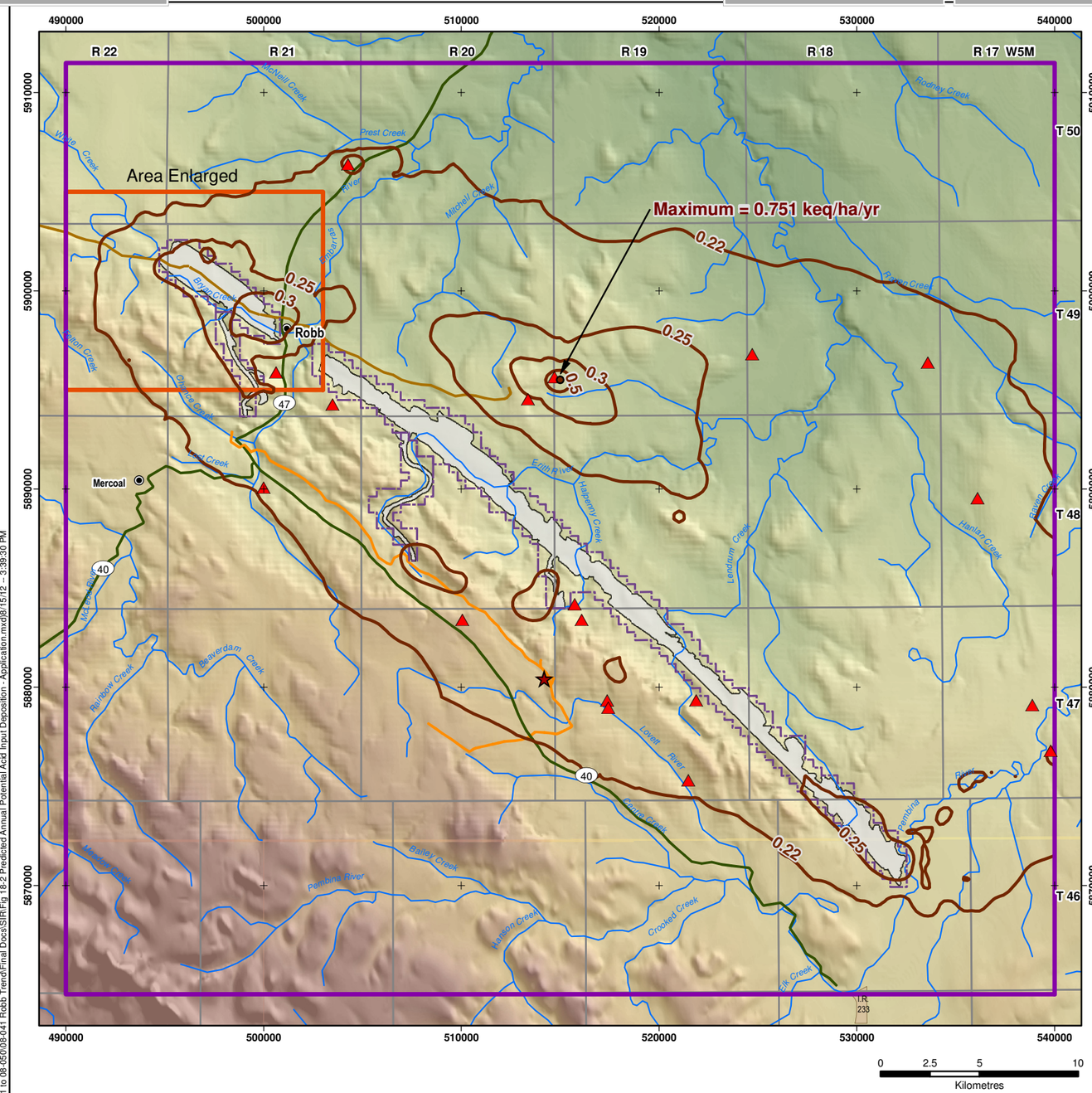
PROJECT:
Coal Valley Mine
Robb Trend Project

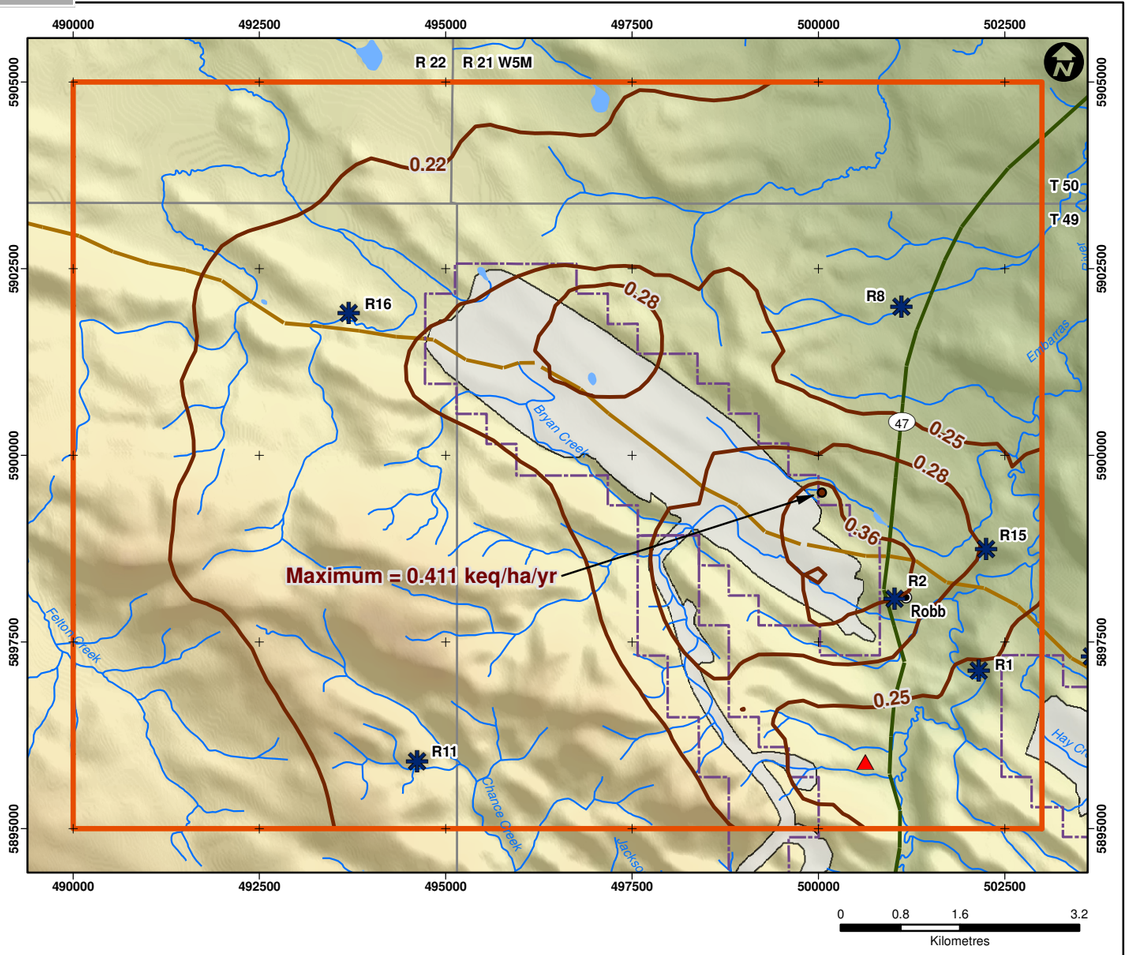
TITLE:
Predicted Annual Potential Acid Input Deposition (keq/ha/yr) - Baseline Case

DRAWN:	PS
CHECKED:	PS
DATE:	Aug 16/12
PROJECT:	08-041

FIGURE: **18-1**

Map Document: (K:\Active Projects 2008\Projects 08-001 to 08-050\08-041 Robb Trend\Final Docs\SIR\Fig 18-1 Predicted Annual Potential Acid Input Deposition - Baseline.mxd)8/16/12 -- 12:18:10 PM





Label	Receptor	Label	Receptor
R1	SE Robb	R10	Steeper AQ Station
R2	NW Robb	R11	Yellowhead Tower
R3	Robb-Denison Road Intersection	R12	Lovett River Campground
R4	Lund Road at Lendrum Creek	R13	Lovett Tower
R5	Halpenny Creek and Erith River	R14	Campground
R6	Former Coalspur Cabin	R15	Residence
R7	Mercoal	R16	Cabin 1
R8	Oke	R17	Cabin 2
R9	Embarras	R18	Fairfax Lake

Legend

- Special Receptor
- Coal Valley Mine Wash Plant
- Gas Plant or Compressor Station
- Regional Study Area
- Concentration Isopleth
- Existing Mine Permit Boundary
- Pending Mine Permit Boundary
- Proposed Mine Permit Boundary
- Proposed Footprint Disturbance
- Existing Haul Road
- Existing Gravel Road
- Highway
- Topography (masl) High : 1675 – Low : 950

REF: CVRI, Mining Stage Total Disturb_27Jun11.dwg; Geobase, 2011; MEMS, 2012.

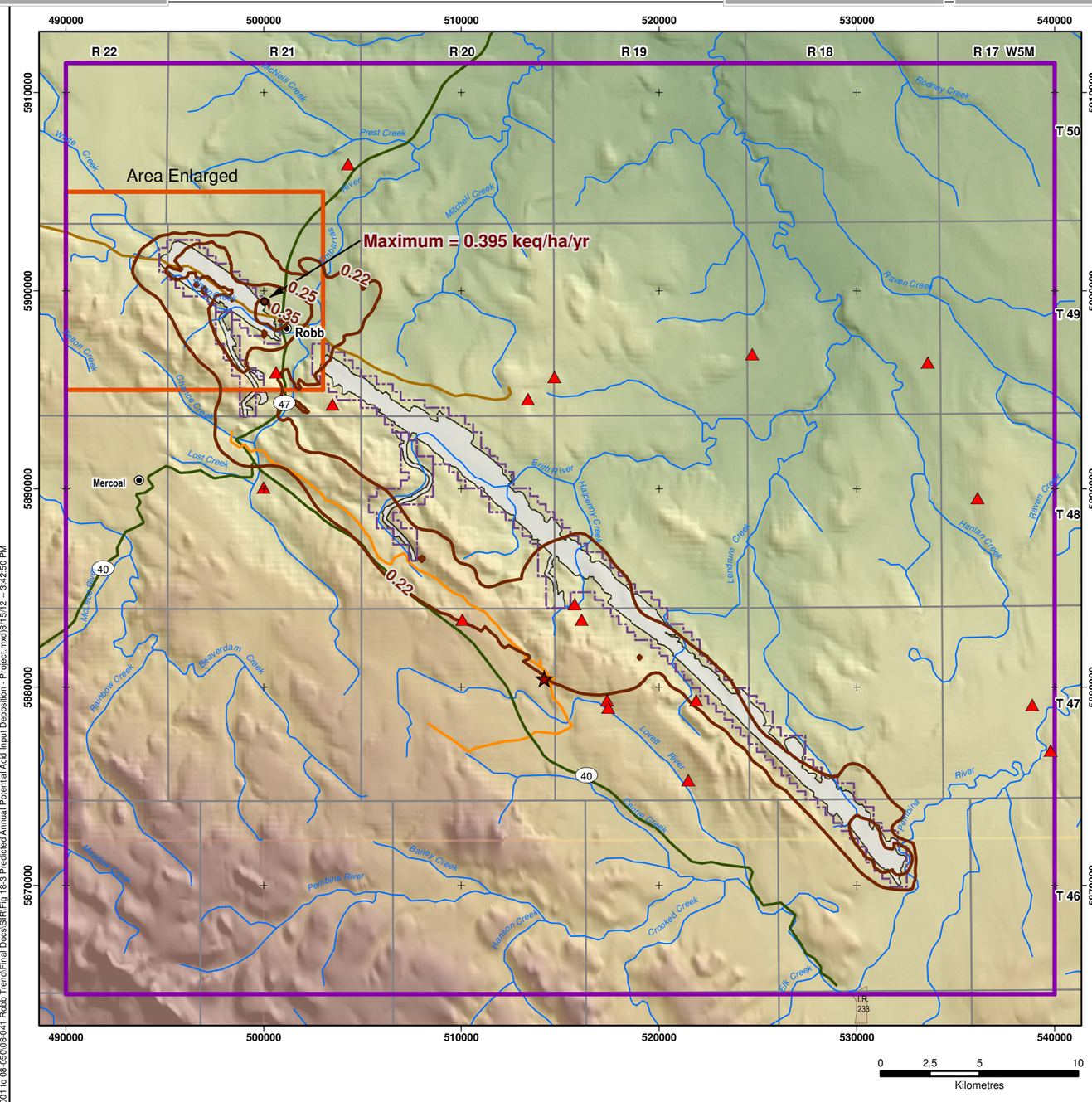
PROJECT: **Coal Valley Mine Robb Trend Project**

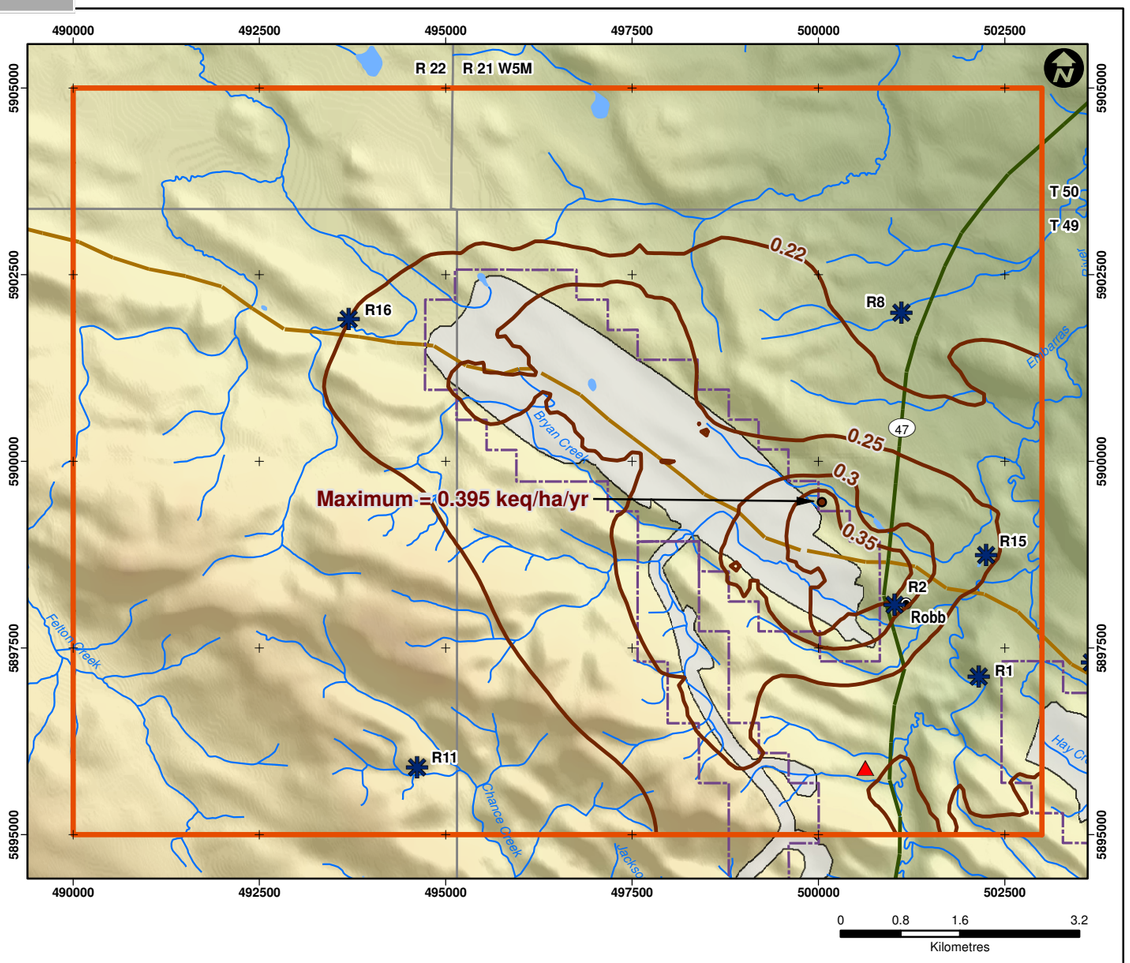
TITLE: **Predicted Annual Potential Acid Input Deposition (keq/ha/yr) - Application and Planned Development Cases**

DRAWN: PS
CHECKED: PS
DATE: Aug 14/12
PROJECT: 08-041

FIGURE: **18-2**

Map Document: (K:\Active Projects 2008\Projects 08-001 to 08-050\08-041 Robb Trend\Final Docs\SIR\Fig 18-2 Predicted Annual Potential Acid Input Deposition - Application.mxd) 8/15/12 – 3:39:30 PM





Label	Receptor	Label	Receptor
R1	SE Robb	R10	Steeper AQ Station
R2	NW Robb	R11	Yellowhead Tower
R3	Robb-Denison Road Intersection	R12	Lovett River Campground
R4	Lund Road at Lendrum Creek	R13	Lovett Tower
R5	Halpenny Creek and Erith River	R14	Campground
R6	Former Coalspur Cabin	R15	Residence
R7	Mercoal	R16	Cabin 1
R8	Oke	R17	Cabin 2
R9	Embarras	R18	Fairfax Lake

Legend

- Special Receptor
- Coal Valley Mine Wash Plant
- Gas Plant or Compressor Station
- Regional Study Area
- Concentration Isopleth
- Existing Mine Permit Boundary
- Pending Mine Permit Boundary
- Proposed Mine Permit Boundary
- Proposed Footprint Disturbance
- Existing Haul Road
- Existing Gravel Road
- Highway
- Topography (masl): High : 1675 / Low : 950

REF: CVRI, Mining Stage Total Disturb_27Jun11.dwg; Geobase, 2011; MEMS, 2011.

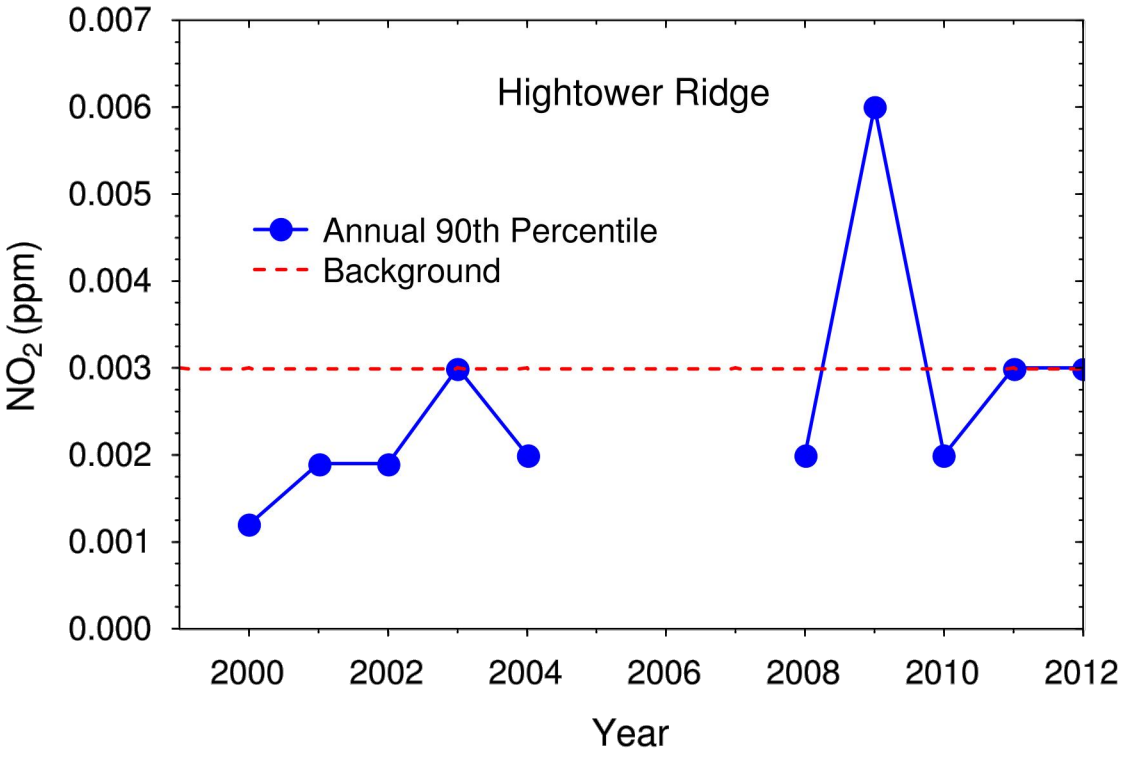
PROJECT:
Coal Valley Mine
Robb Trend Project

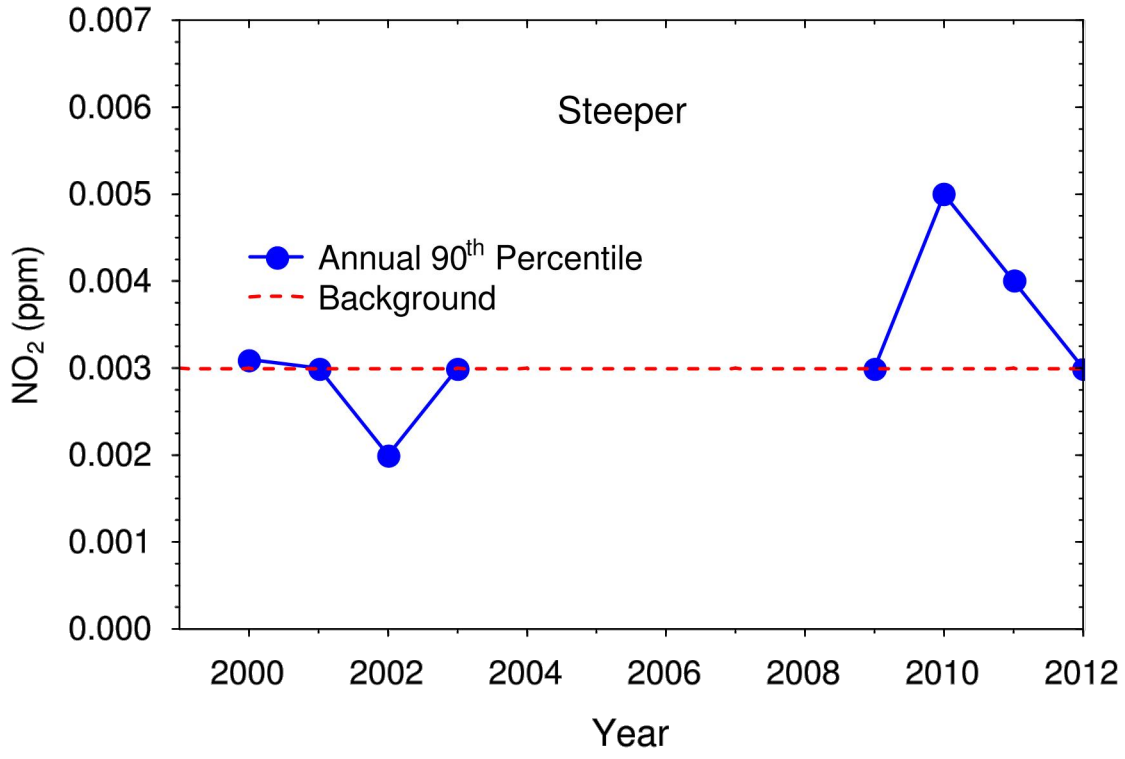
TITLE:
Predicted Annual Potential Acid Input Deposition (keq/ha/yr) - Project Only Case

DRAWN: PS
CHECKED: PS
DATE: Aug 15/12
PROJECT: 08-041

FIGURE: **18-3**

Map Document: (K:\Active Projects 2008\Projects 08-001 to 08-050\08-041 Robb Trend\Final Docs\SIR\Fig 18-3 Predicted Annual Potential Acid Input Deposition - Project.mxd)8/15/12 -- 3:42:50 PM





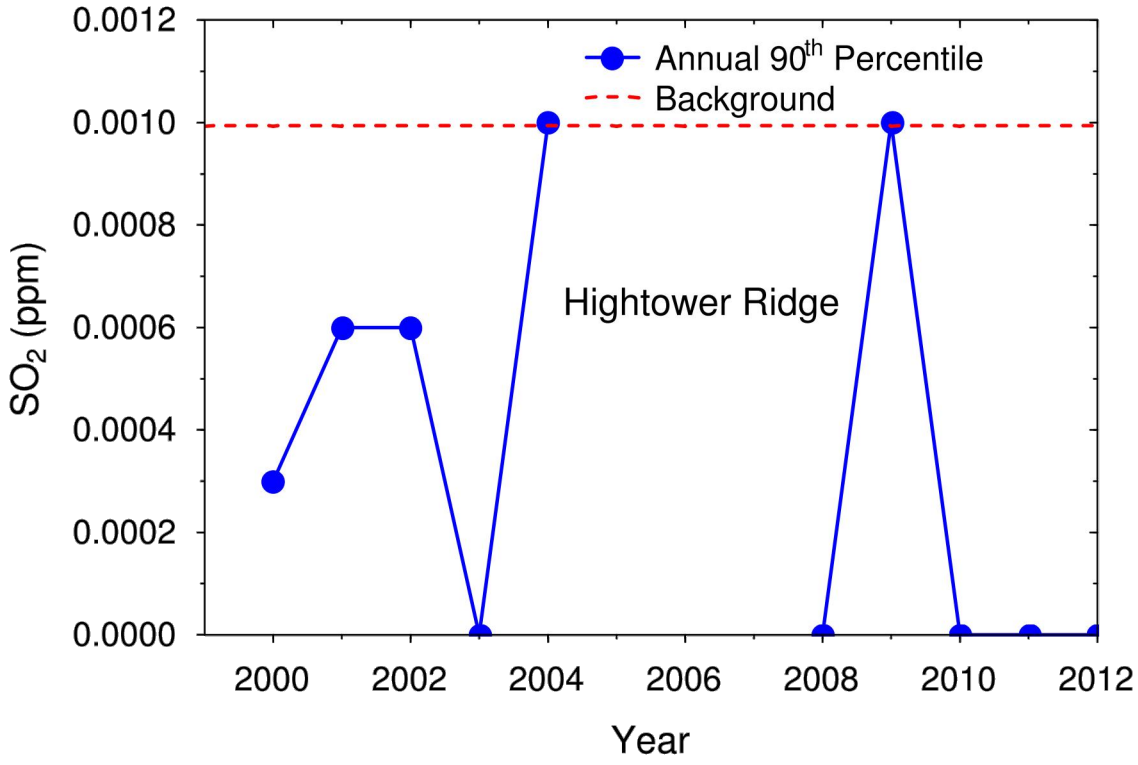
PROJECT:
Coal Valley Mine
Robb Trend Project

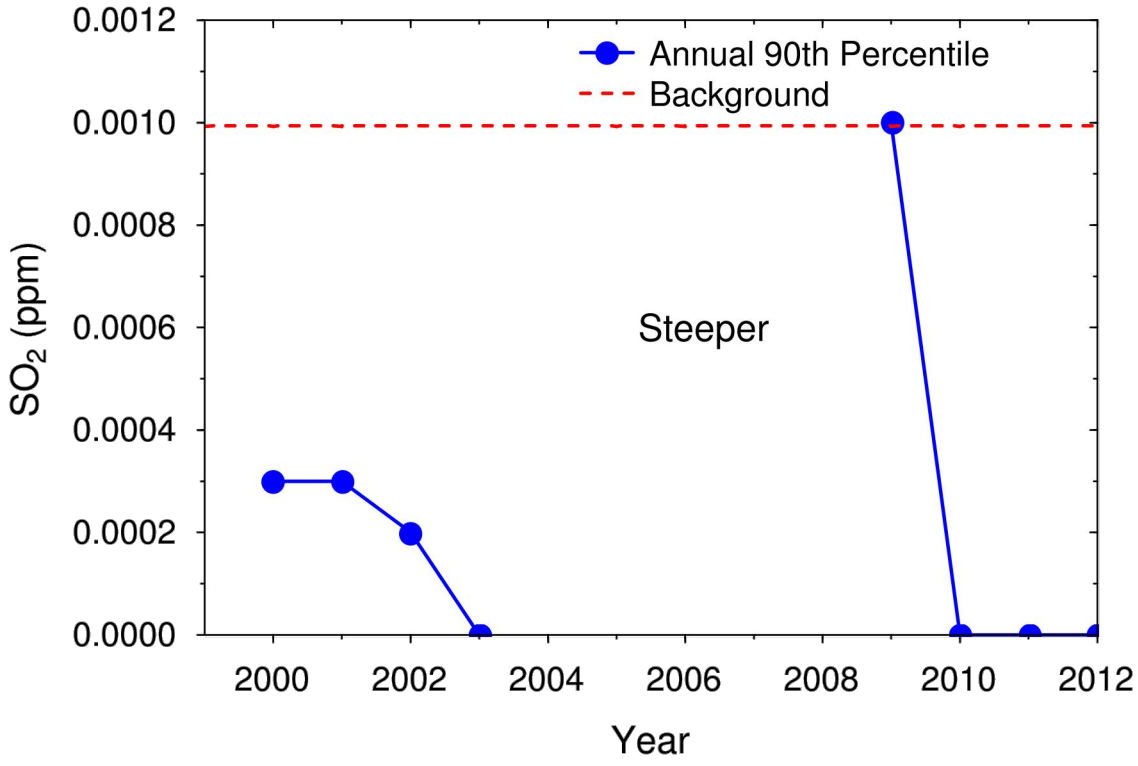
TITLE:
Annual 90th Percentile NO_2 Concentrations Measured at Hightower Ridge and Steeper Stations (CASA, 2012)

FILE: SIR Drawings.dwg

DRAWN:	RS
CHECKED:	JT
DATE:	Nov 26/12
PROJECT:	08-0□1

FIGURE: **19-1**





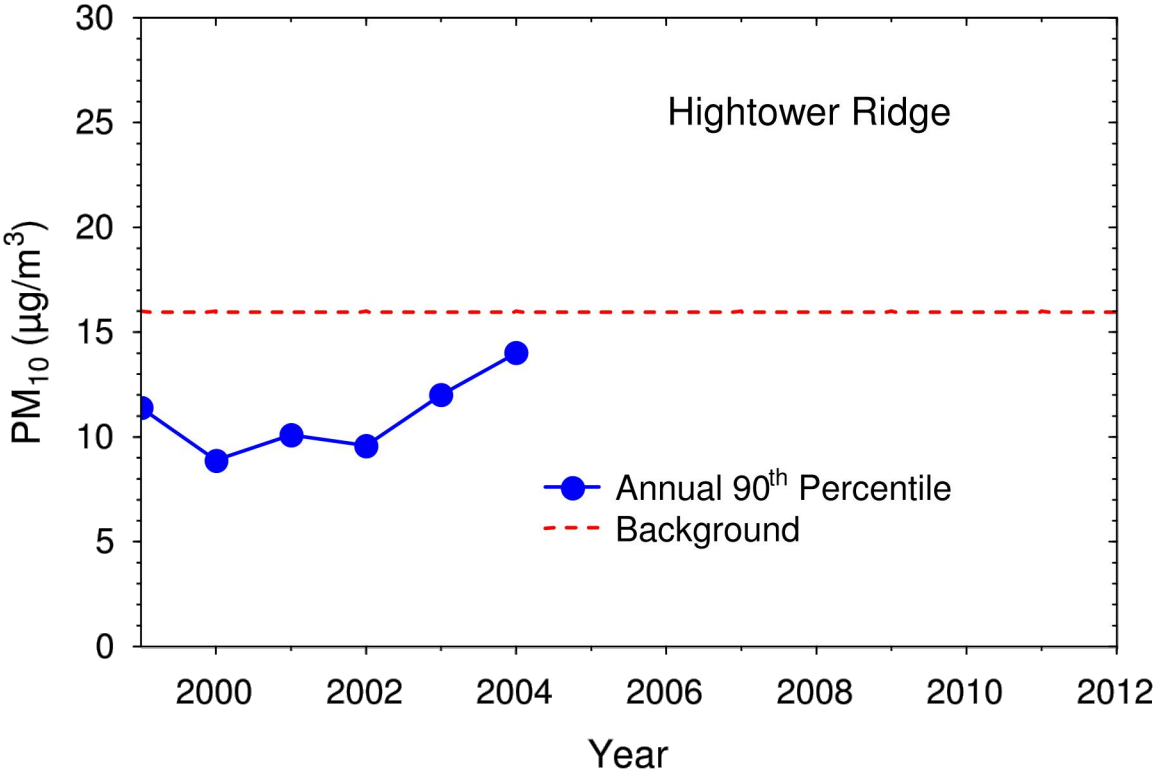
PROJECT:
Coal Valley Mine
Robb Trend Project

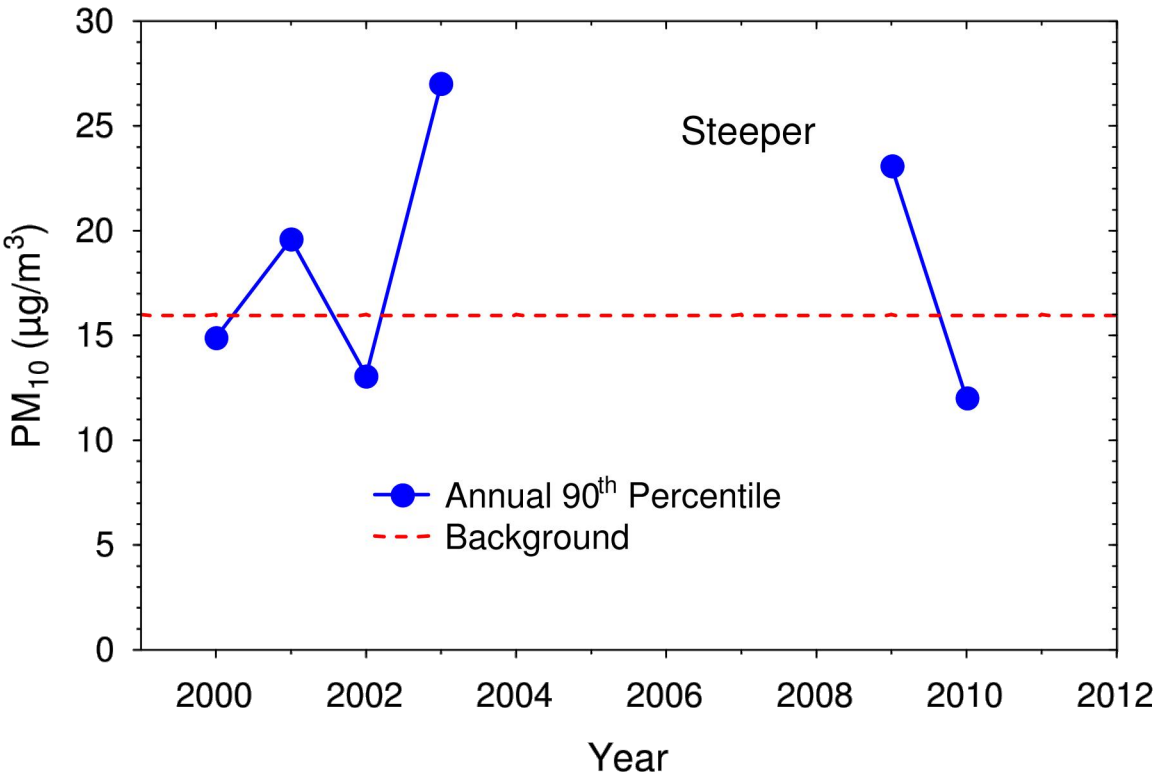
TITLE:
Annual 90th Percentile SO_2 Concentrations Measured at Hightower Ridge and Steeper Stations (CASA, 2012)

FILE: SIR Drawings.dwg

DRAWN:	RS
CHECKED:	JT
DATE:	Nov 26/12
PROJECT:	08-0□1

FIGURE: **19-2**



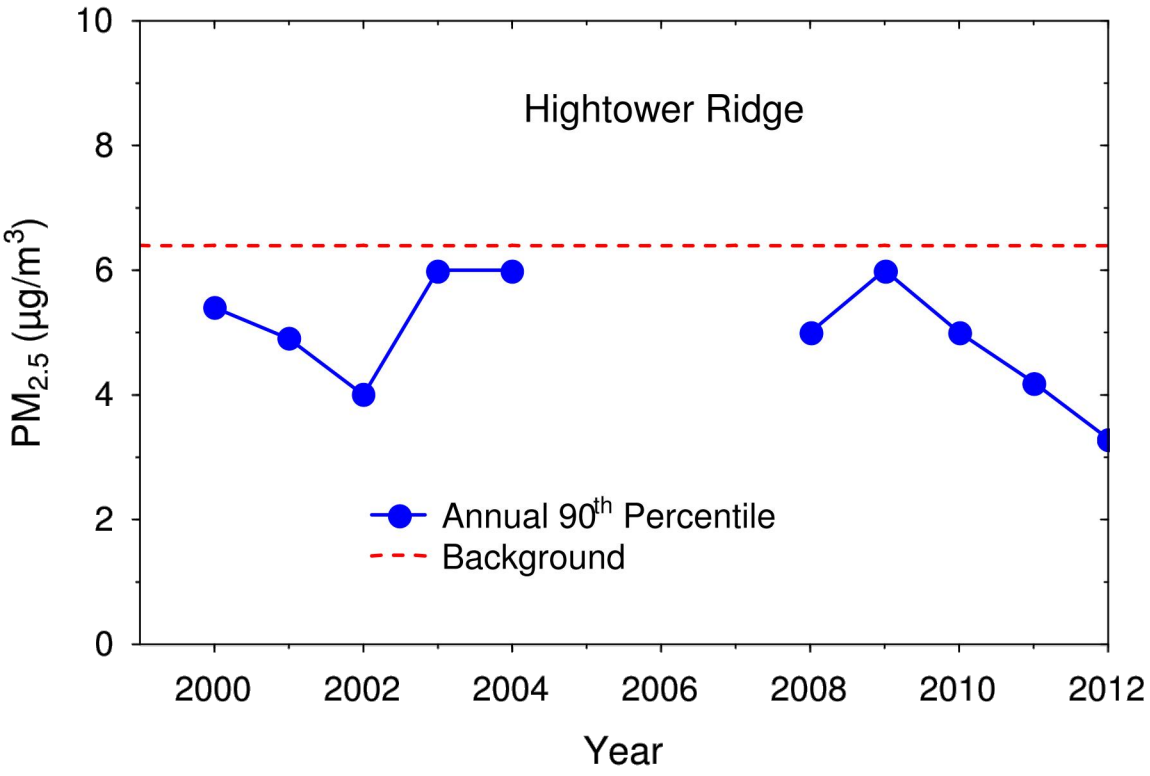


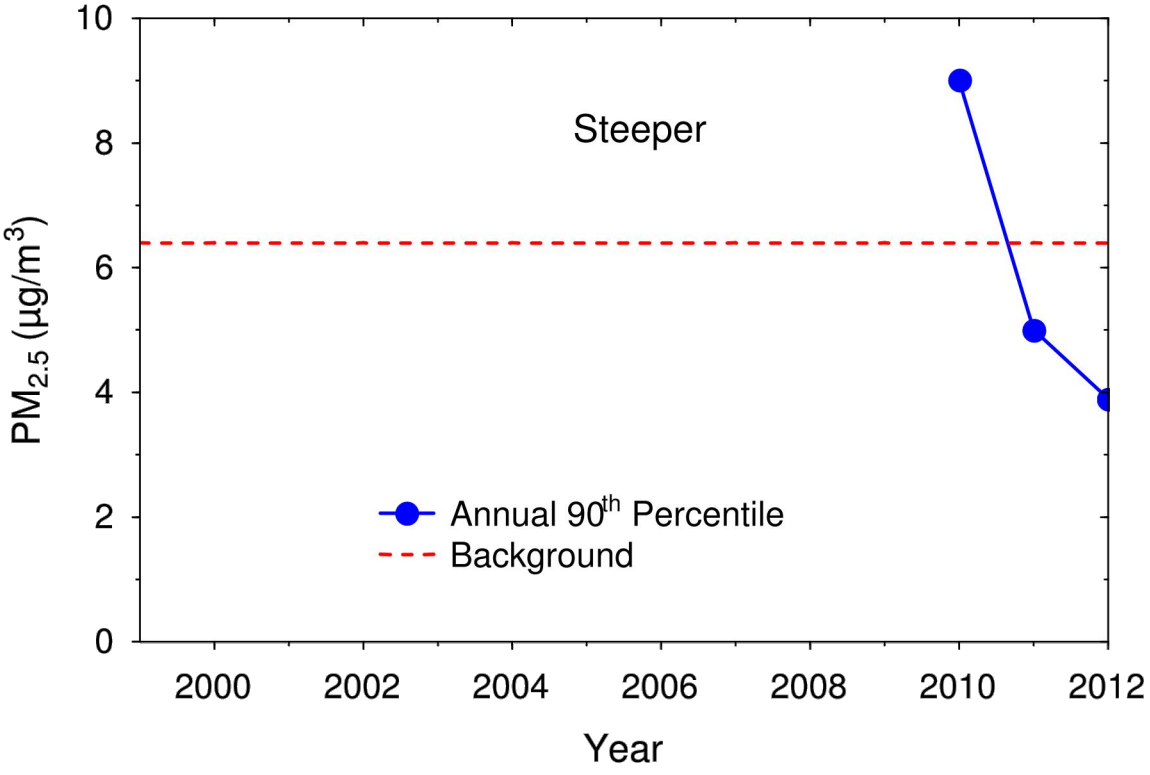
PROJECT:
Coal Valley Mine
Robb Trend Project

TITLE:
Annual 90th Percentile PM_{10} Concentrations Measured at Hightower Ridge and Steeper Stations (CASA, 2012)

FILE: SIR Drawings.dwg

DRAWN: RS	FIGURE:
CHECKED: JT	**19-3**
DATE: Nov 26 12	
PROJECT: 08-0 1	



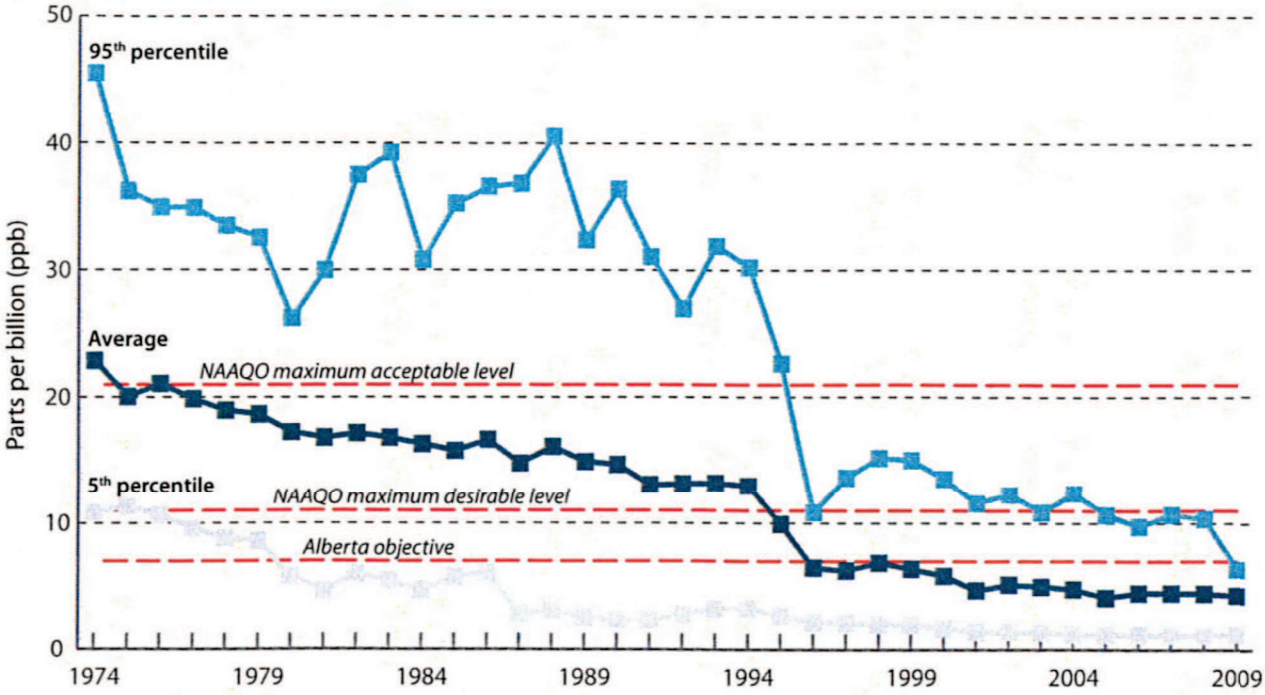


PROJECT:
Coal Valley Mine
Robb Trend Project

TITLE:
Annual 90th Percentile $PM_{2.5}$ Concentrations Measured at Hightower Ridge and Steeper Stations (CASA, 2012)

FILE: SIR Drawings.dwg

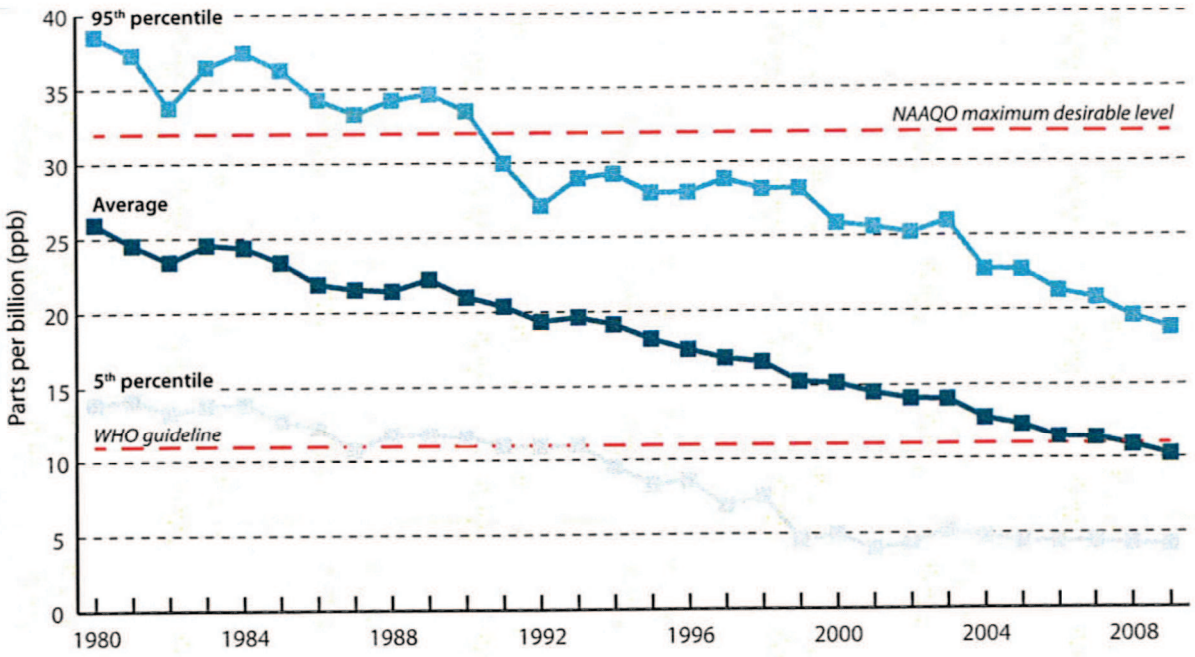
DRAWN: RS	FIGURE: 19-4
CHECKED: JT	
DATE: Nov 26 12	
PROJECT: 08-0 1	



Notes: The figure displays average, 95th percentile, and 5th percentile values of annual average SO_2 concentrations from stations across Canada. In a given year, 95% of stations have concentrations below the 95th percentile value. Similarly, 5% of stations report concentrations below the 5th percentile value.

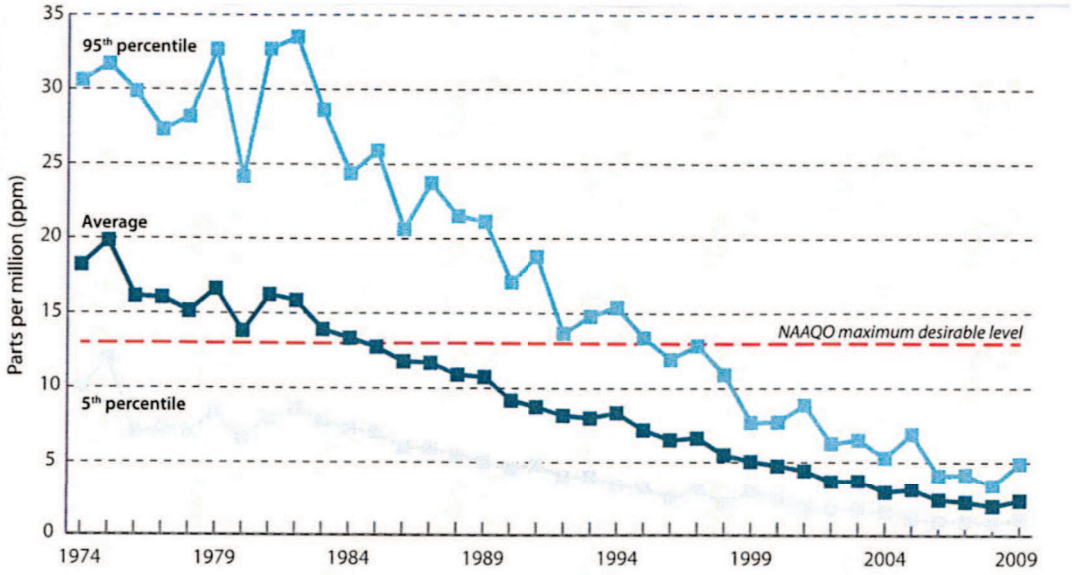
Sources: Environment Canada, 2010b; calculations by author.

PROJECT: **Coal Valley Mine Robb Trend Project**	cvri	
TITLE: **Annual Concentrations of Sulfur Dioxide in Canada, 1974-2009 (Fraser Institute, 2012)**	FILE: SIR Drawings.dwg	
	DRAWN: RS CHECKED: JT DATE: Nov 26/12 PROJECT: 08-041	FIGURE: **19-5**



Notes: The figure displays average, 95th percentile, and 5th percentile values of annual average NO_2 concentrations from stations across Canada. In a given year, 95% of stations have concentrations below the 95th percentile value. Similarly, 5% of stations report concentrations below the 5th percentile value.

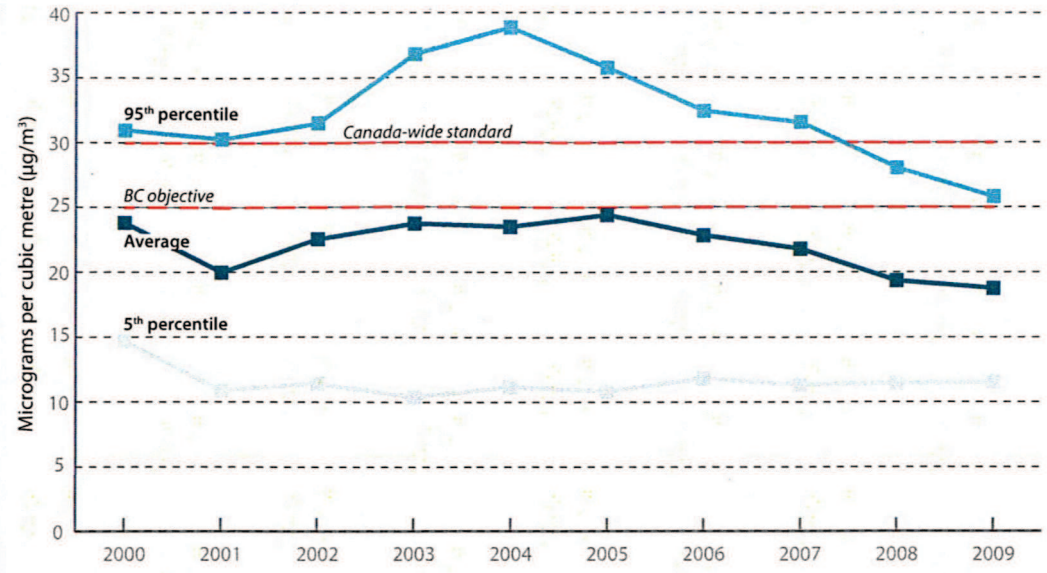
PROJECT: **Coal Valley Mine Robb Trend Project**	cvri
TITLE: **Average annual concentrations of Nitrogen Dioxide in Canada, 1980-2009 (Fraser Institute, 2012)**	FILE: SIR Drawings.dwg
	DRAWN: RS
	CHECKED: JT
	DATE: Nov 26/12
	PROJECT: 08-041
	FIGURE: **19-6**



Notes: The figure displays average, 95th percentile, and 5th percentile values of annual maximum 1-hour average CO concentrations from stations across Canada. In a given year, 95% of stations have concentrations below the 95th percentile value. Similarly, 5% of stations report concentrations below the 5th percentile value. MDL = maximum desirable level.

Sources: Environment Canada, 2010b; calculations by author.

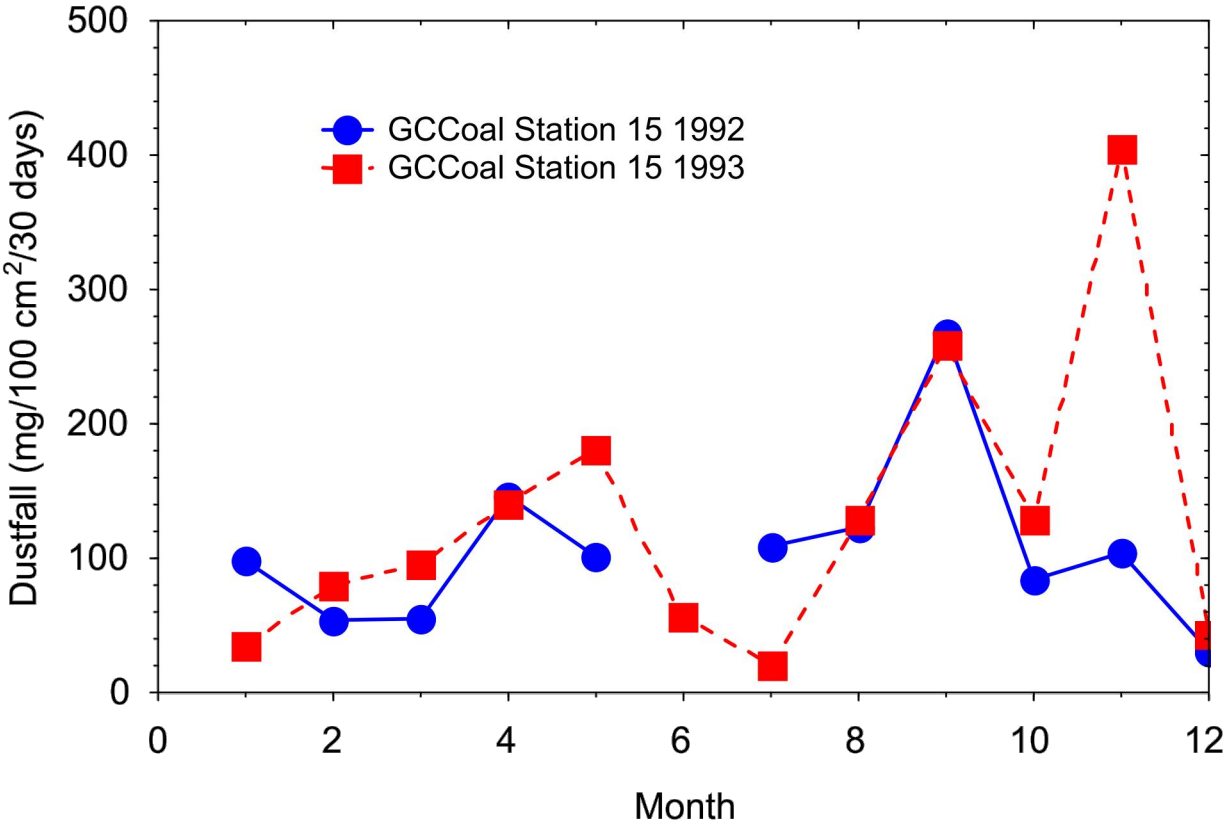
PROJECT: **Coal Valley Mine Robb Trend Project**	cvri
TITLE: **Average annual concentrations of Carbon Monoxide in Canada, 1974-2009 (Fraser Institute, 2012)**	FILE: SIR Drawings.dwg
	DRAWN: RS
	CHECKED: JT
	DATE: Nov 26/12
	PROJECT: 08-041
	FIGURE: **19-7**

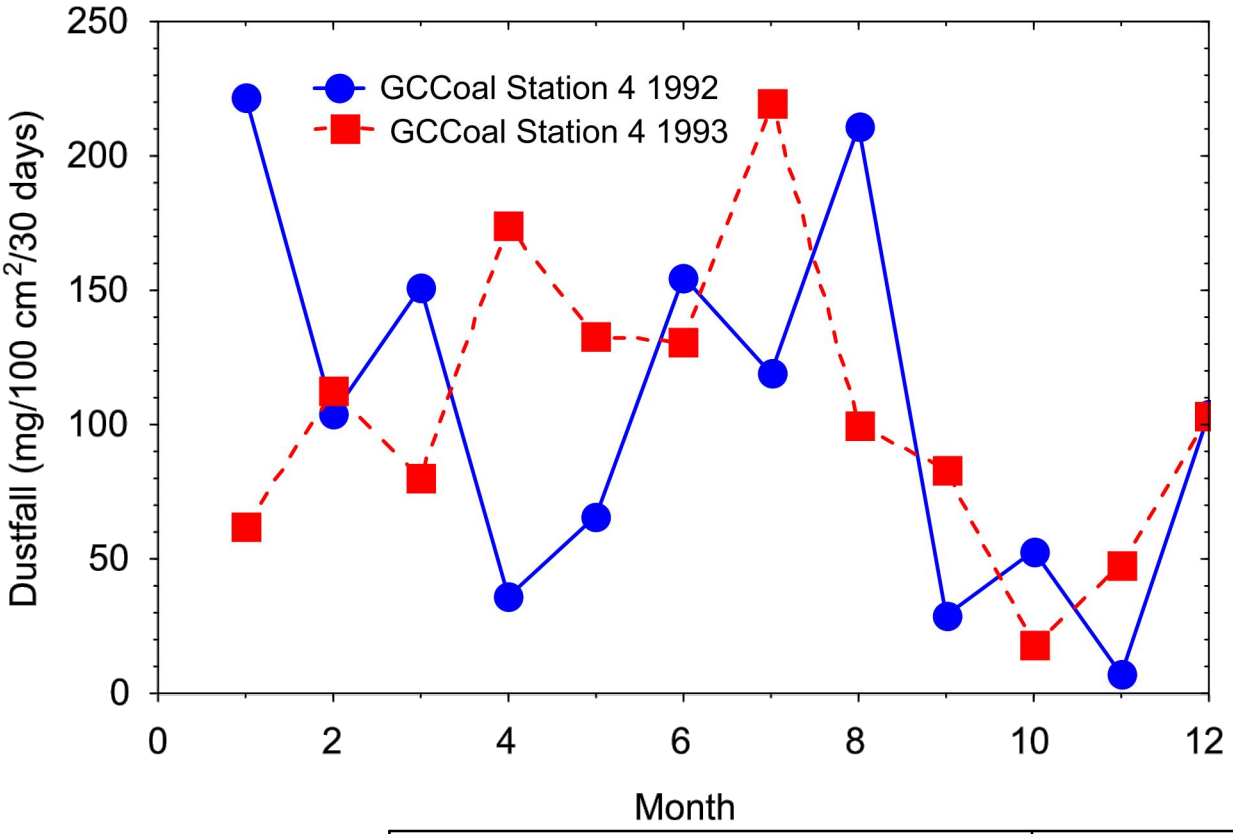


Note: The figure displays average, 95th percentile, and 5th percentile values of the 3-year moving average of annual 98th-percentile 24-hour average $PM_{2.5}$ concentrations from monitoring stations across Canada. In a given year, 95% of stations have concentrations below the 95th percentile value. Similarly, 5% of stations report concentrations below the 5th percentile value.

Sources: Environment Canada, 2010b; calculations by author.

PROJECT: **Coal Valley Mine Robb Trend Project**	cvri
TITLE: **Concentrations of ultrafine particular matter in Canada, 2000-2009 (Fraser Institute, 2012)**	FILE: SIR Drawings.dwg
	DRAWN: RS
	CHECKED: JT
	DATE: Nov 26/12
	PROJECT: 08-041
	FIGURE: **19-8**





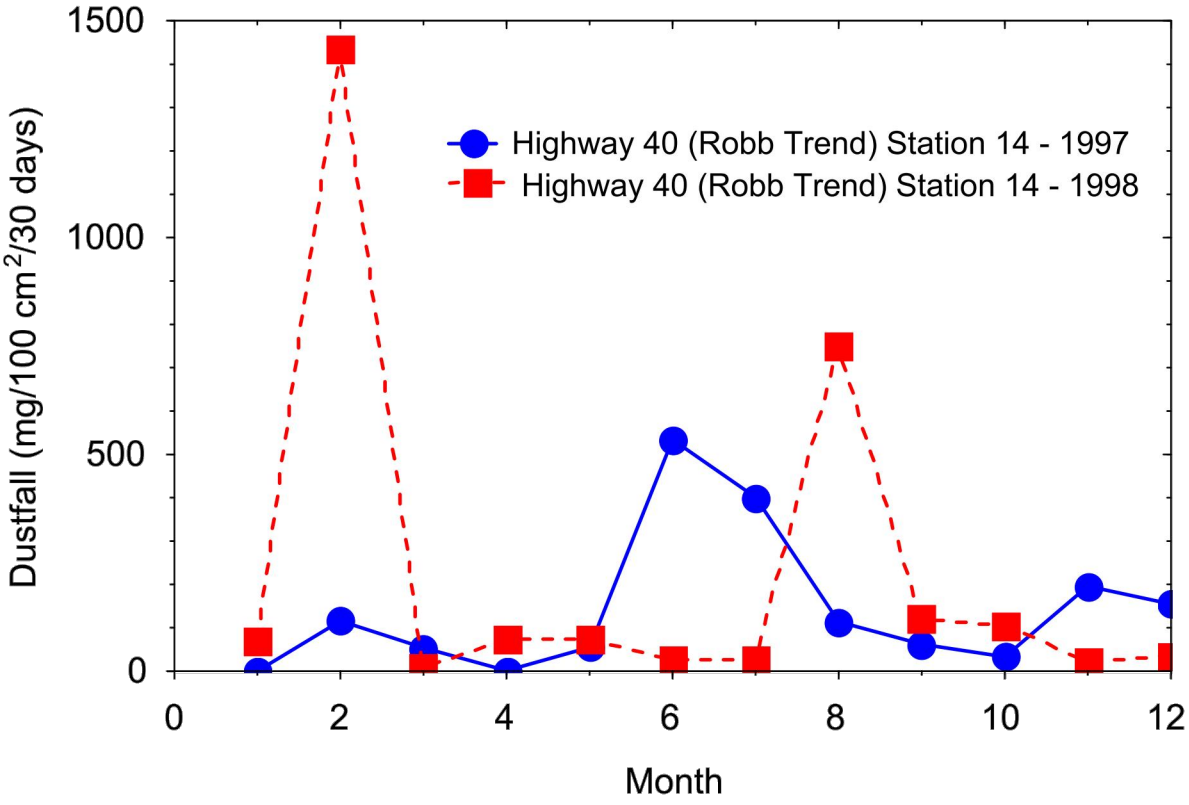
PROJECT:
Coal Valley Mine
Robb Trend Project

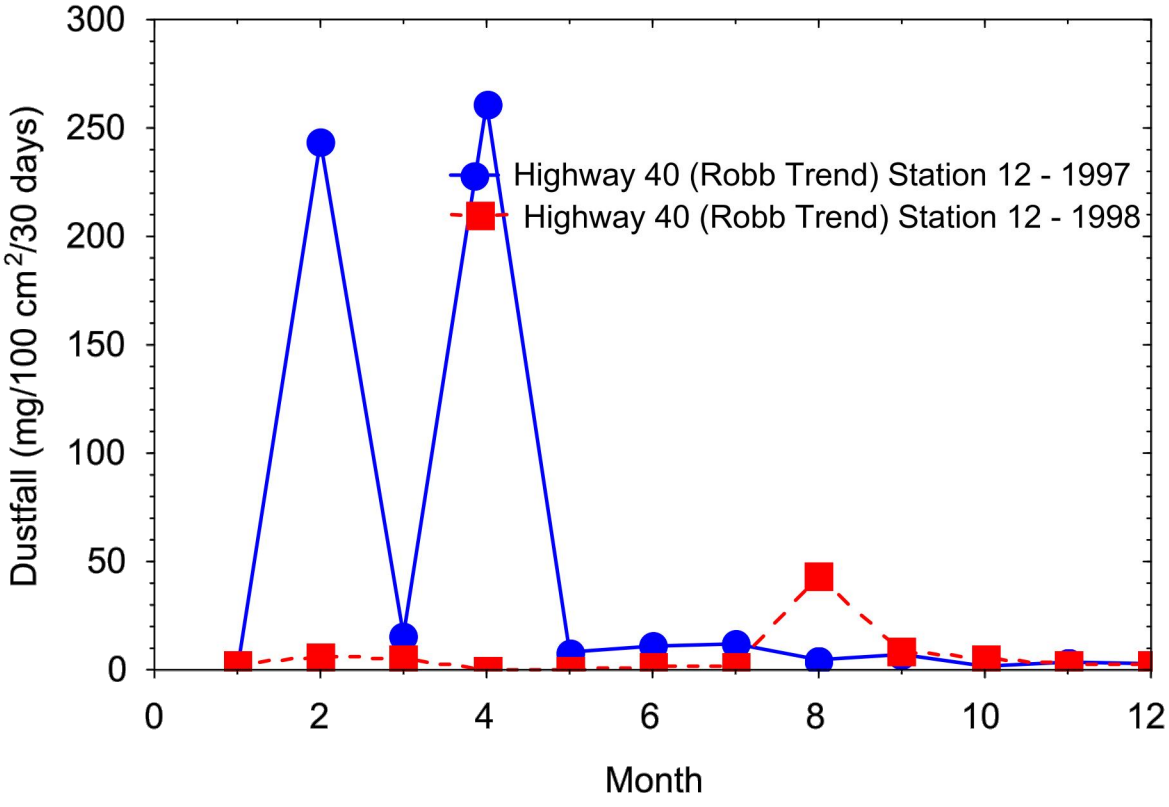
TITLE:
Dustfall Measurements at Two of GCCoal Monitoring Sites

FILE: ...Final Docs\SIR\ERCB\SIR Drawings.dwg

DRAWN: RS/JG	FIGURE:
CHECKED: KP	**24-1**
DATE: Dec 5/12	
PROJECT: 08-01	

REF: CVRI, 2012.





PROJECT:
Coal Valley Mine
Robb Trend Project

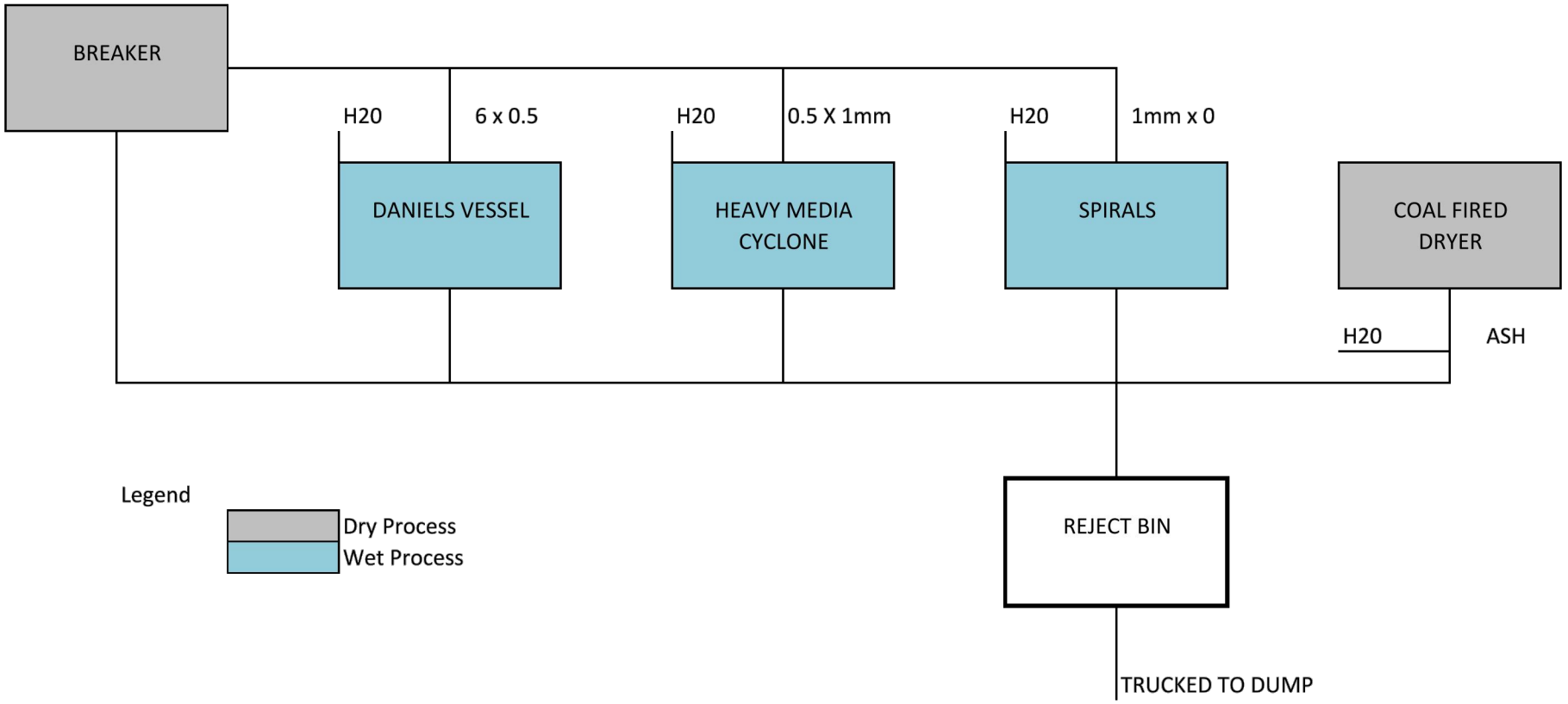
TITLE:
Dustfall Measurements at Two of CVRI Monitoring Sites

FILE: ...Final Docs\SIR\ERCB\SIR Drawings.dwg

DRAWN:	RS/JG
CHECKED:	KP
DATE:	Dec 5/12
PROJECT:	08-0□1

FIGURE: **24-2**

REF: CVRI, 2012.



PROJECT:
Coal Valley Mine
Robb Trend Project

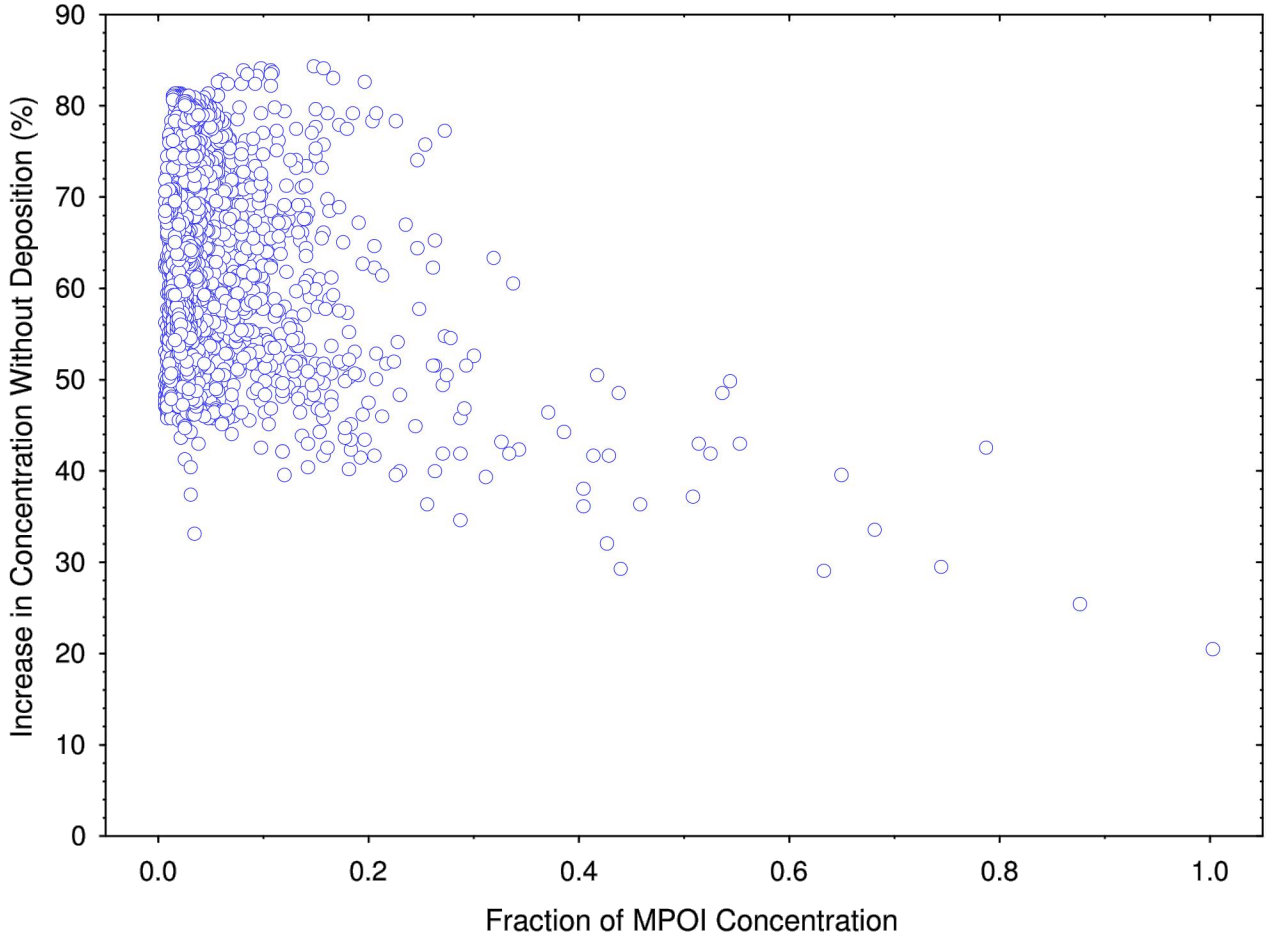
TITLE:
Coal Processing Material to Coarse Reject Bin

FILE: ...Final Docs\SIR\ERCB\SIR Drawings.dwg

DRAWN:	RSJG
CHECKED:	KP
DATE:	Dec 5 12
PROJECT:	08-0 1

FIGURE: **36-1**

REF: Reject Bin Cartoon.xls



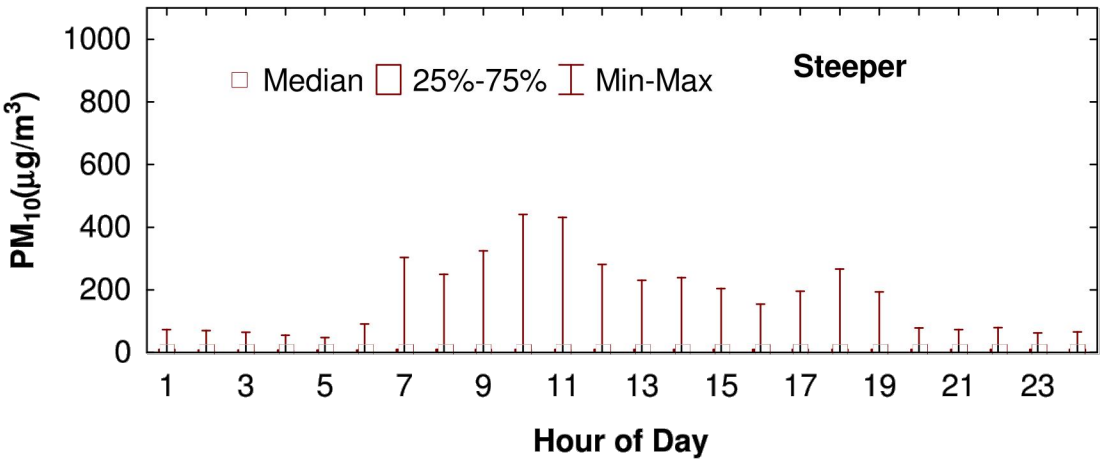
PROJECT:
Coal Valley Mine
Robb Trend Project

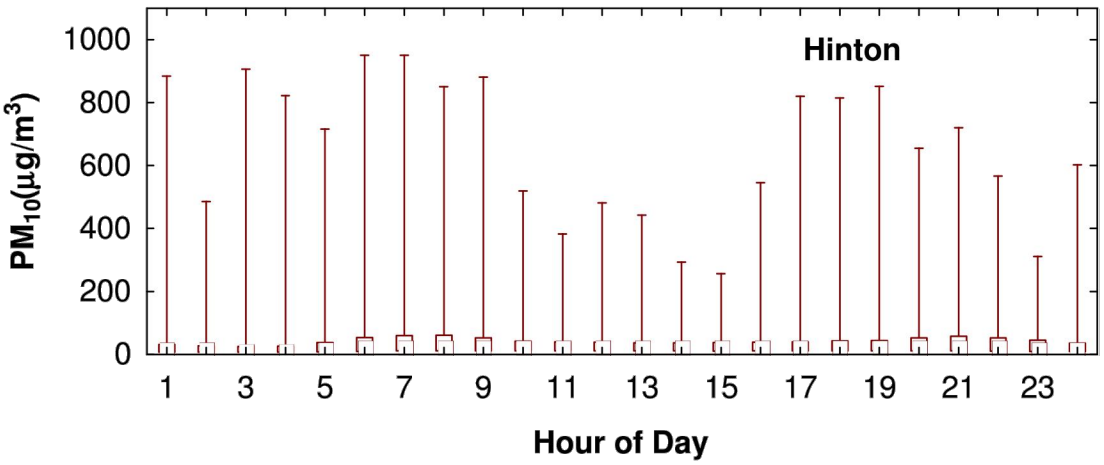
TITLE:
Increase in TSP Concentration with Deposition, as a function of Predicted Concentration

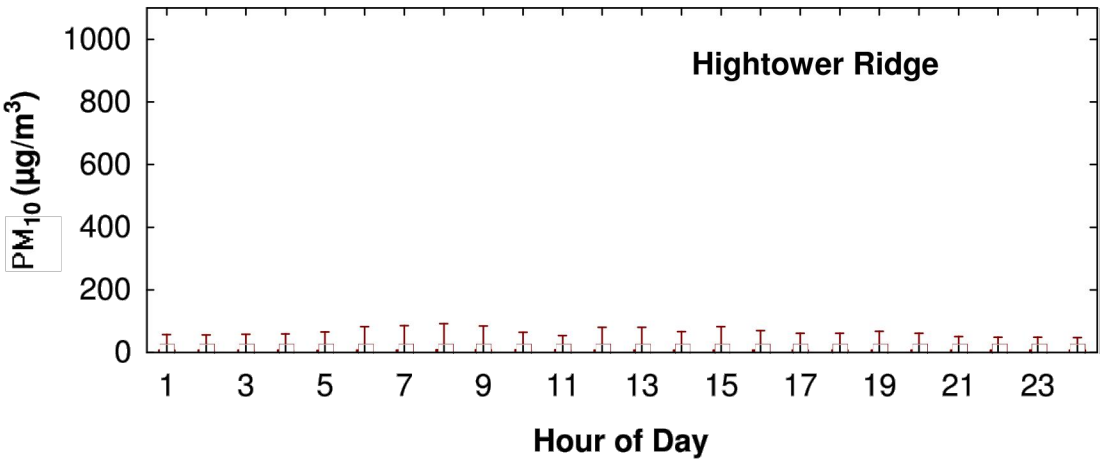
FILE: SIR Drawings.dwg

DRAWN:	RS
CHECKED:	JT
DATE:	Nov 27/12
PROJECT:	08-0□1

FIGURE: **46-1**







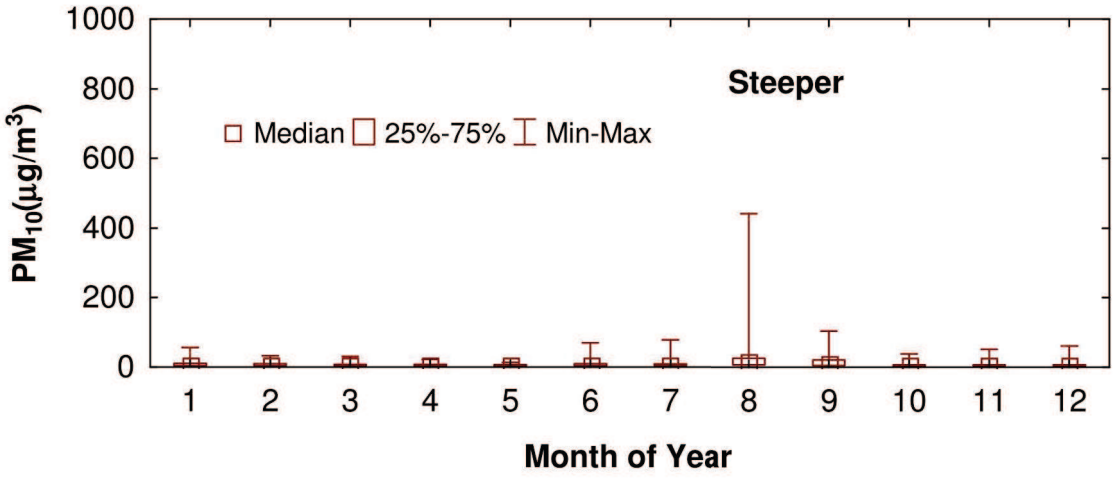
PROJECT:
Coal Valley Mine
Robb Trend Project

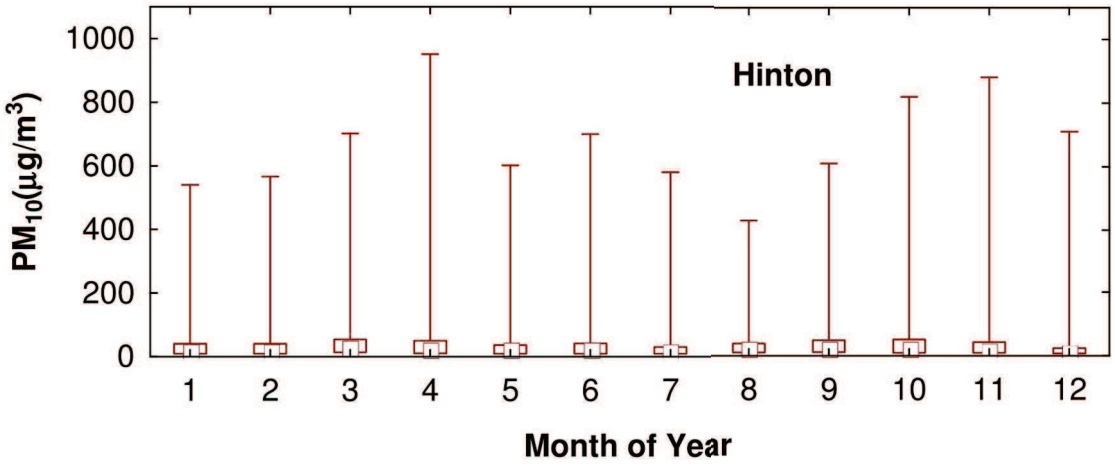
TITLE:
Diurnal Variation of PM_{10} Concentrations at Steeper, Hinton and Hightower Ridge

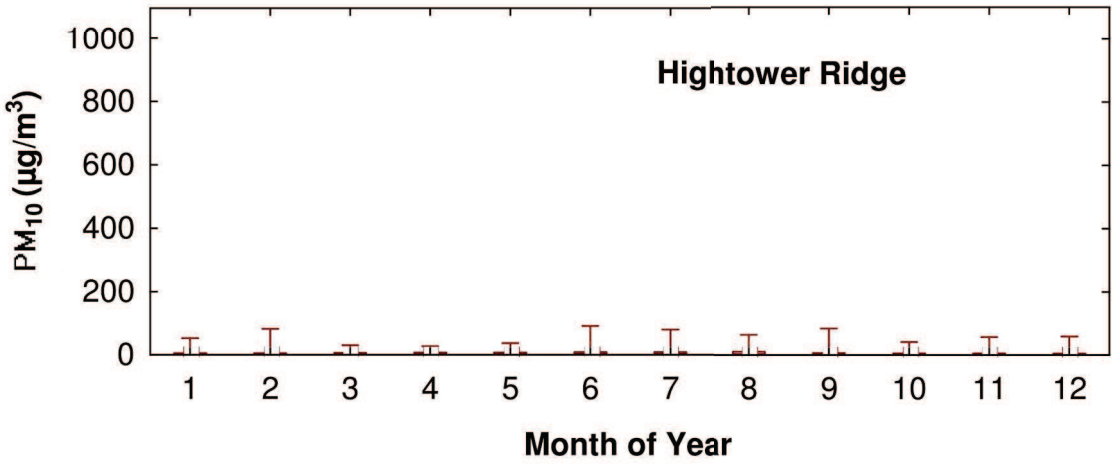
FILE: SIR Drawings.dwg

DRAWN:	RS
CHECKED:	JT
DATE:	Nov 27/12
PROJECT:	08-01

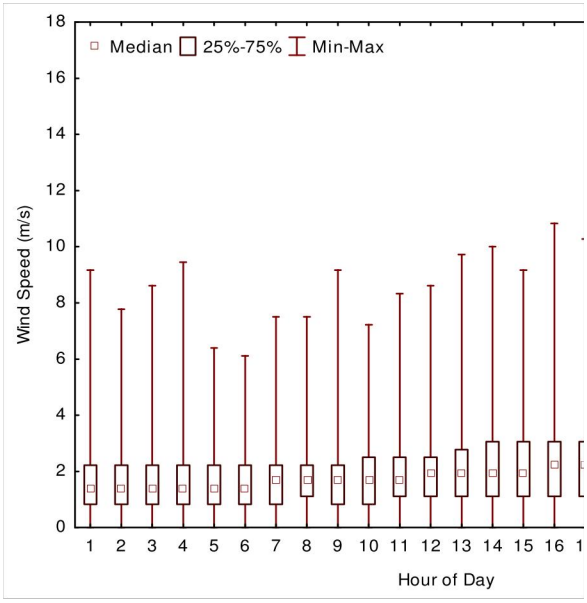
FIGURE: **51-1**



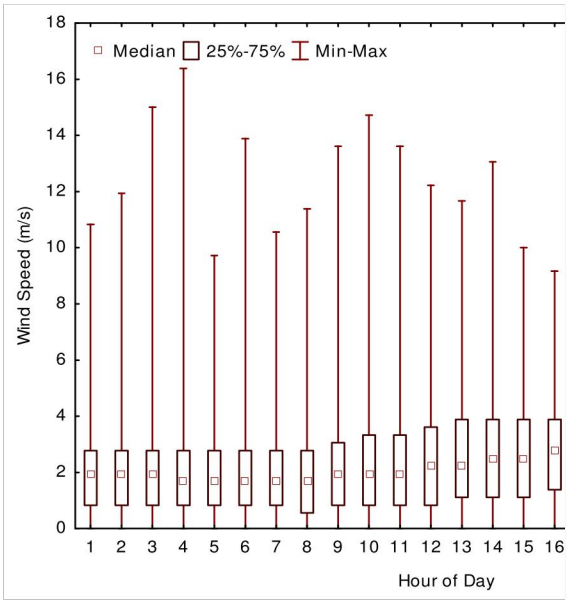




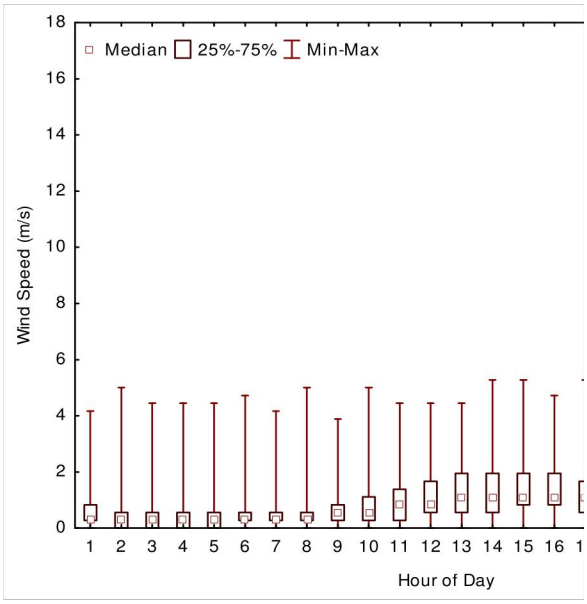
PROJECT: Coal Valley Mine Robb Trend Project	cvri
TITLE: Seasonal Variation of PM_{10} Concentrations at Steeper, Hinton and Hightower Ridge	FILE: SIR Drawings.dwg DRAWN: RS CHECKED: JT DATE: Nov 27/12 PROJECT: 08-041 FIGURE: 51-2

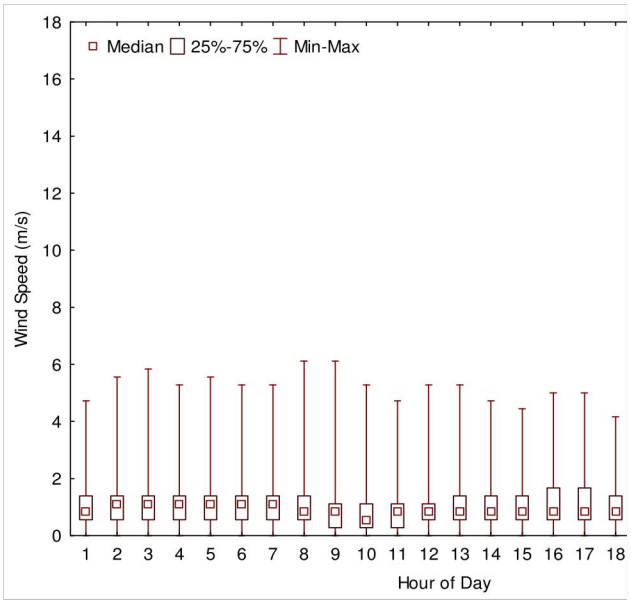


Edson, January 1, 2006 – December 31, 2010



Hightower Ridge, December 1, 2007 – December 31, 2010





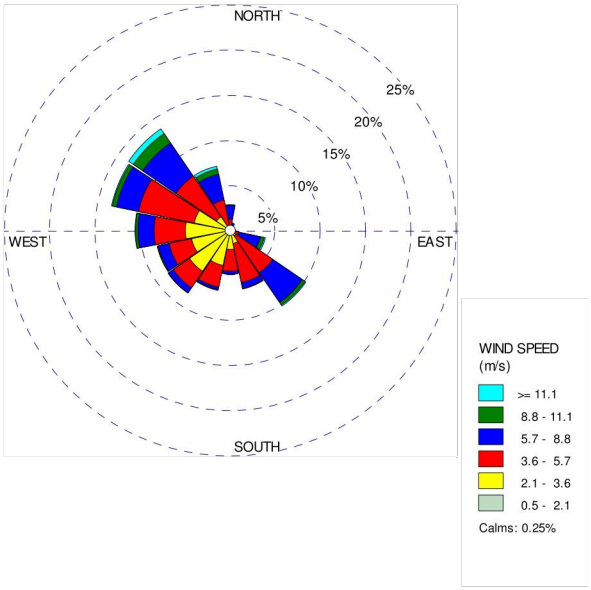
PROJECT:
Coal Valley Mine
Robb Trend Project

TITLE:
Diurnal Variation of Wind Speeds at the Four West Central Airshed Society Stations

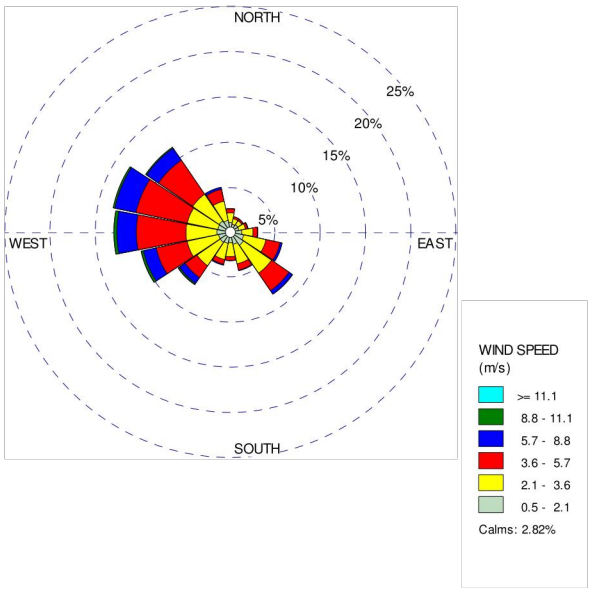
FILE: ..Final Docs\SIR\SIR AESRD Drawings.dwg

DRAWN:	RS/JG
CHECKED:	KP
DATE:	Dec 5/12
PROJECT:	08-0□1

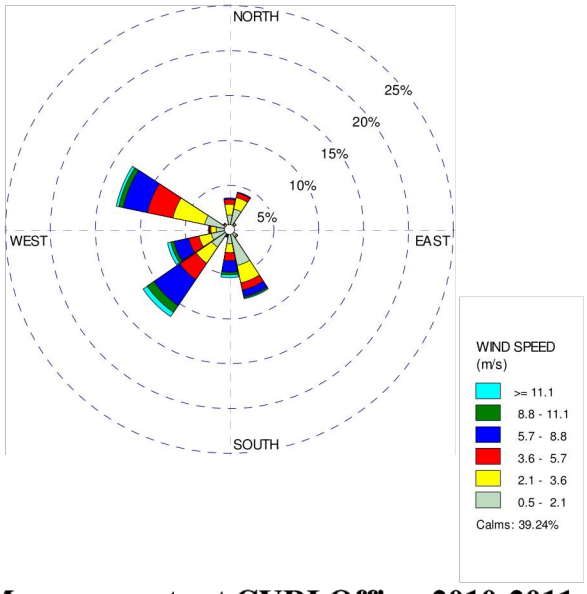
FIGURE: **51-3**



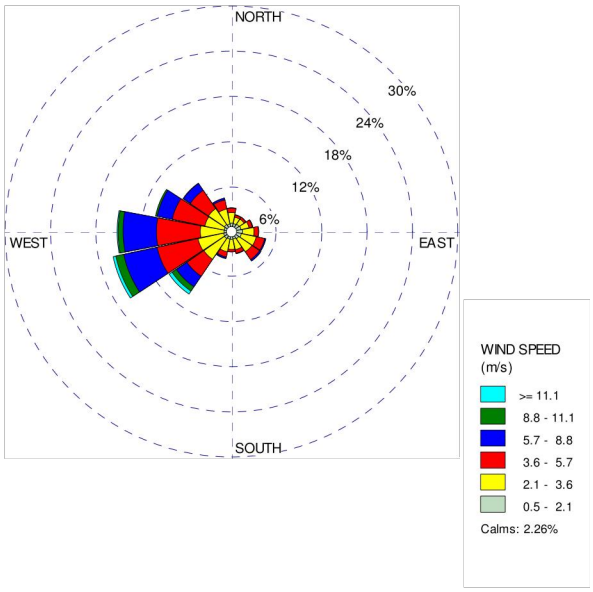
Measurements at the Suncor Hanlan Robb Gas Plant



CALMET Winds at the Suncor Hanlan Robb Gas Plant



Measurements at CVRI Office, 2010-2011



CALMET Winds at CRVI Office, 2006-2010

PROJECT: **Coal Valley Mine Robb Trend Project**	cvri
TITLE: **Measurements and CALMET Wind Roses at Suncor Hanlan Robb Gas Plant and CVRI Office Locations**	FILE: ..Final Docs\SIR\SIR AESRD Drawings.dwg
	DRAWN: RS/JG
	CHECKED: KP
	DATE: Dec 5/12
	PROJECT: 08-01
	FIGURE: **54-1**