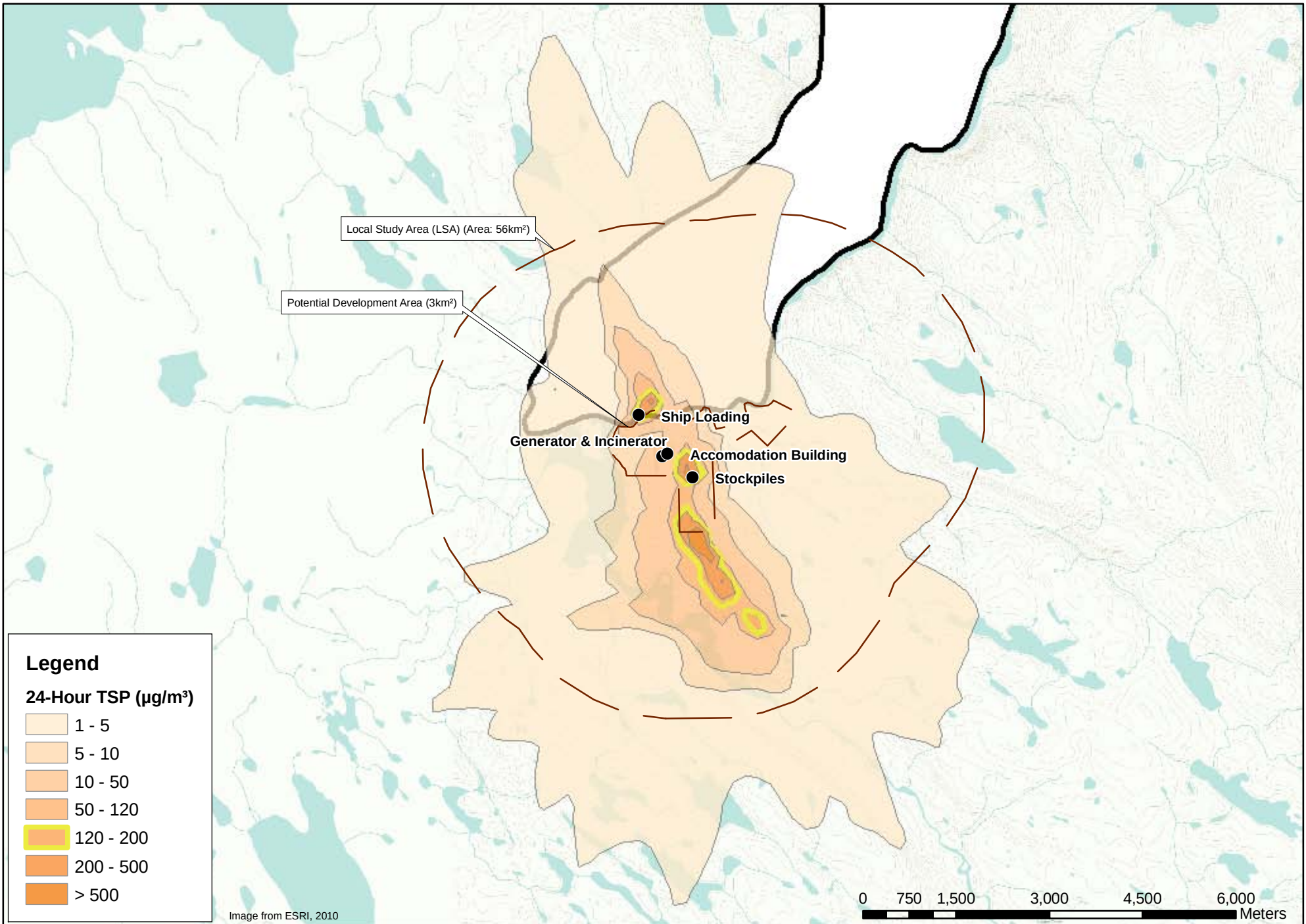
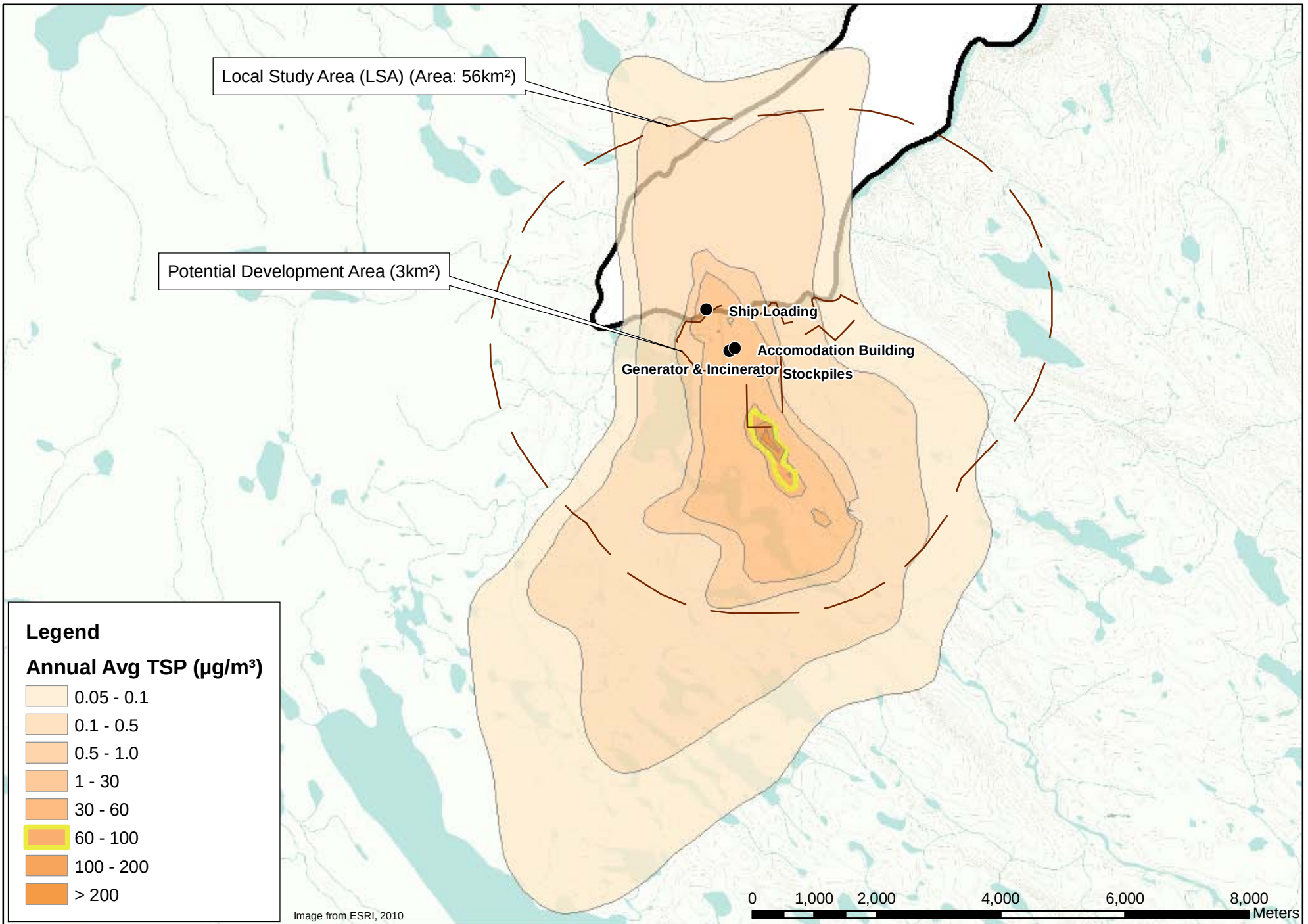


APPENDIX 5C-5

AIR QUALITY MODELLING CONTOUR PLOTS





Predicted Average Annual TSP Concentrations - Milne Port

* Note: Threshold = 60 $\mu\text{g}/\text{m}^3$

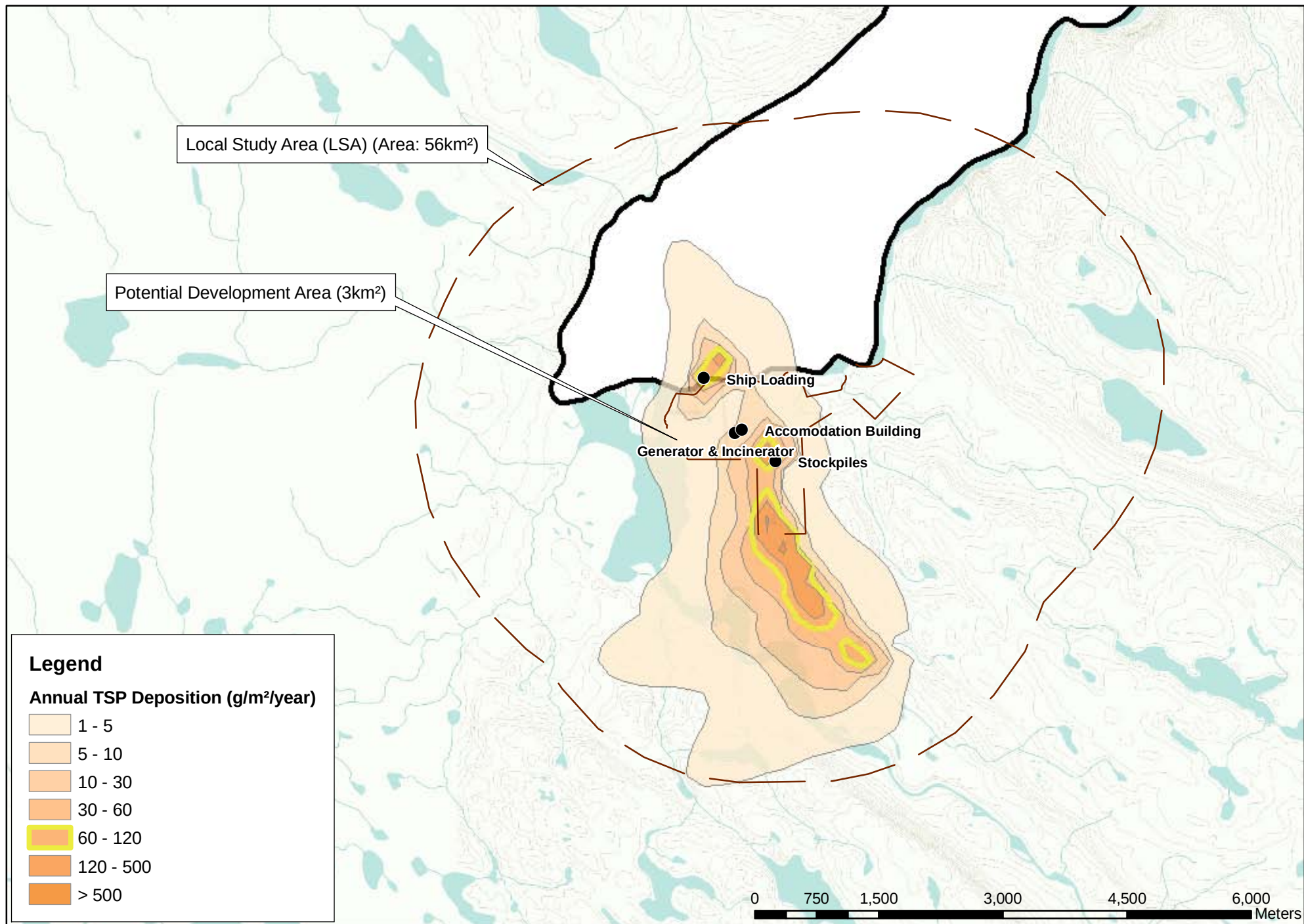
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: 5
Approx. Scale: 1:80,000	
Date Revised: Dec.9, 2010	

RWDI

Project #0940977



Predicted Annual TSP Deposition - Milne Port

* Note: Threshold = 60 g/m²/year

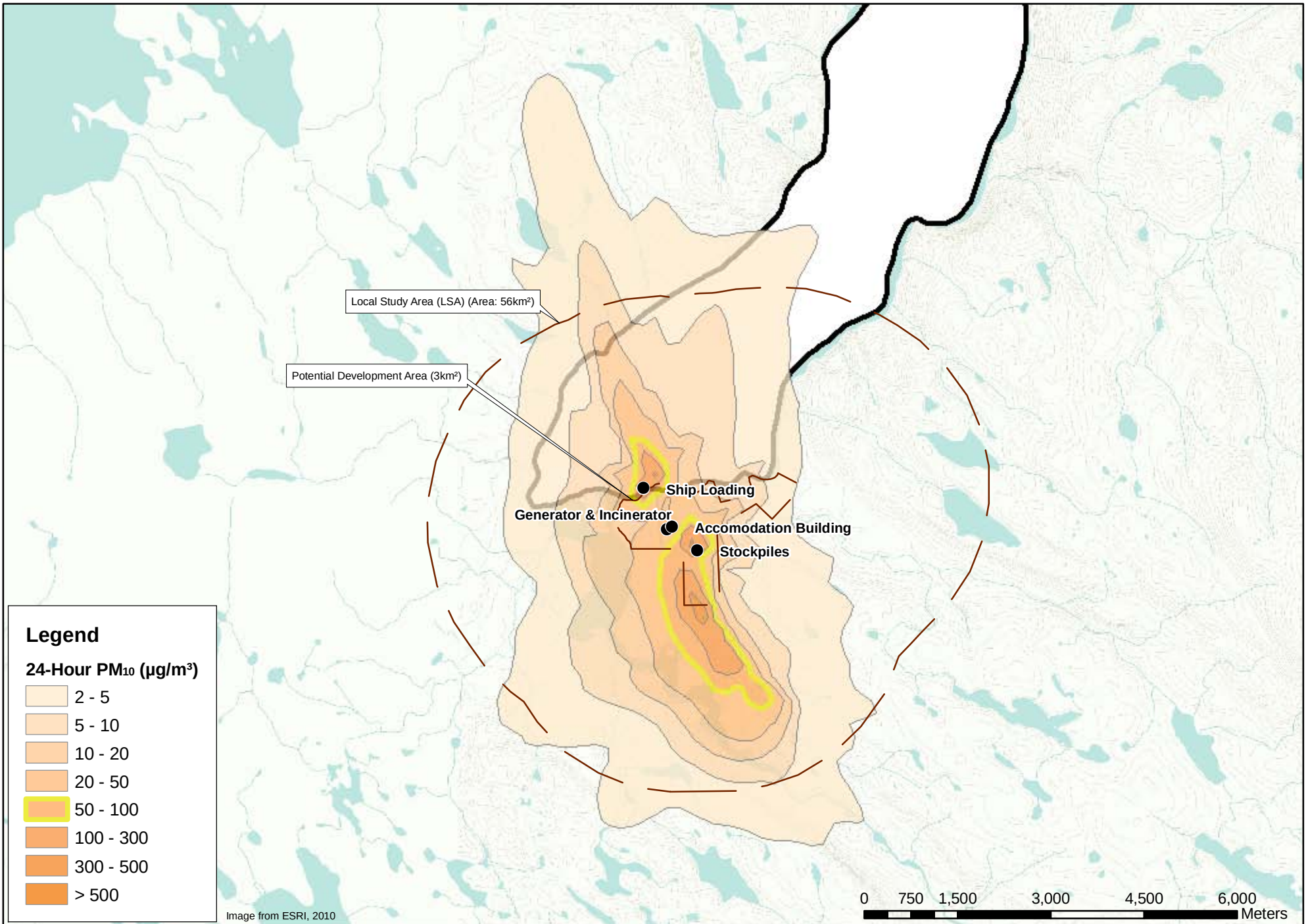
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM Fig: 6
Approx. Scale: 1:60,000
Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 24-Hour PM₁₀ Concentrations - Milne Port

* Note: Threshold = 50 µg/m³

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



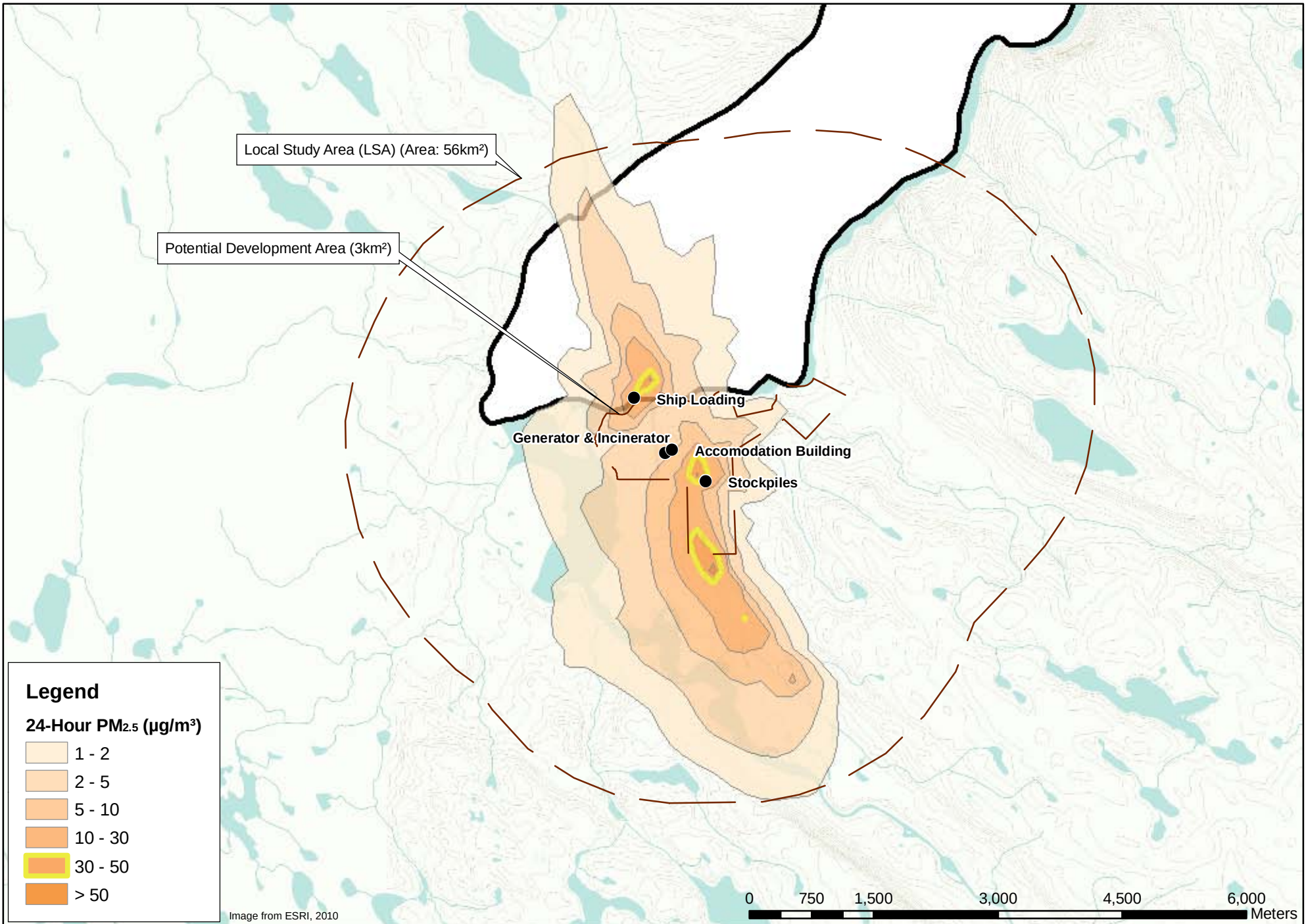
Drawn by: CAM Fig: 7

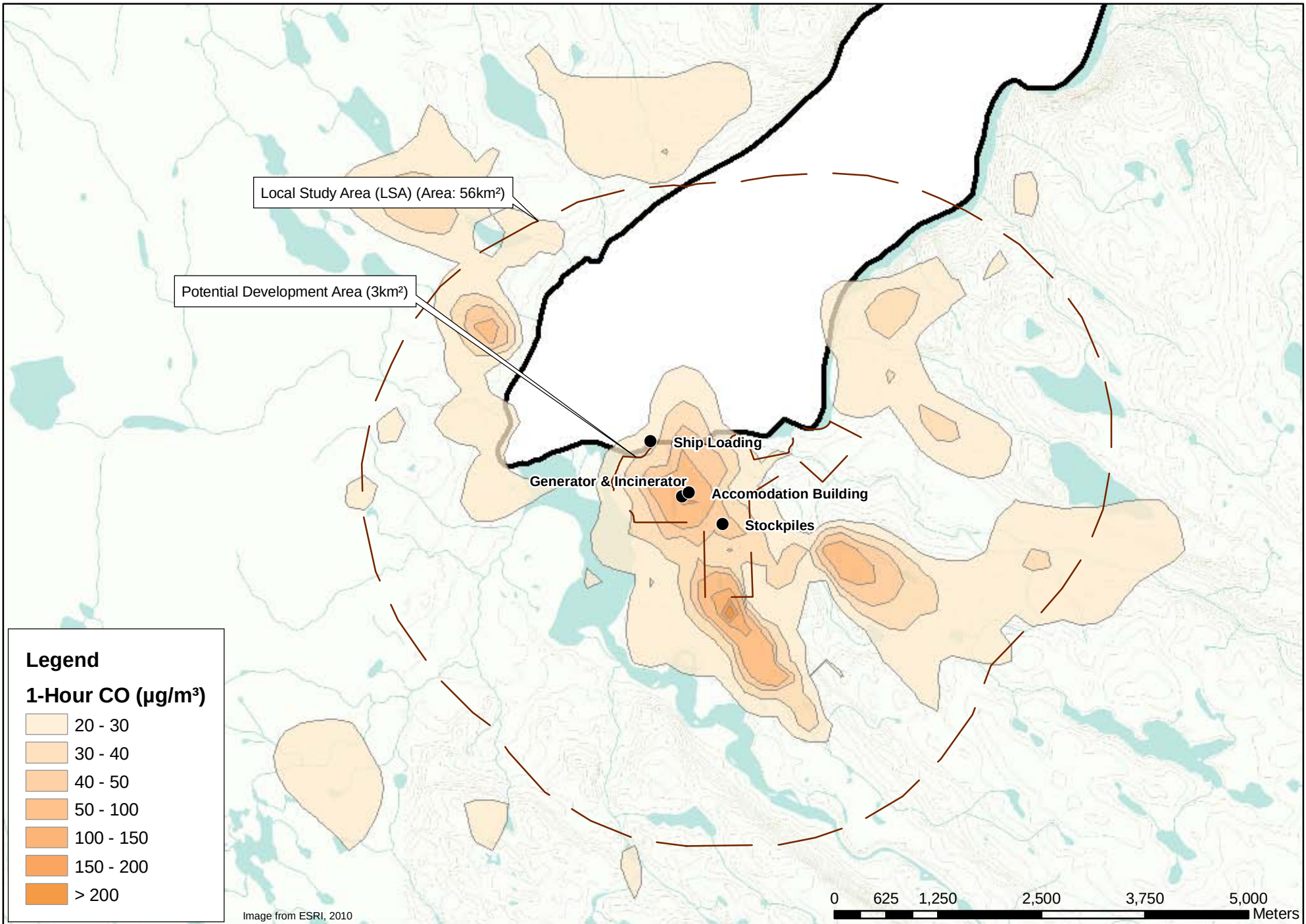
Approx. Scale: 1:80,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI





Legend

1-Hour CO ($\mu\text{g}/\text{m}^3$)

- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200

Image from ESRI, 2010

0 625 1,250 2,500 3,750 5,000 Meters

Predicted Maximum 1-Hour CO Concentrations - Milne Port

* Note: Threshold = 15,000 $\mu\text{g}/\text{m}^3$

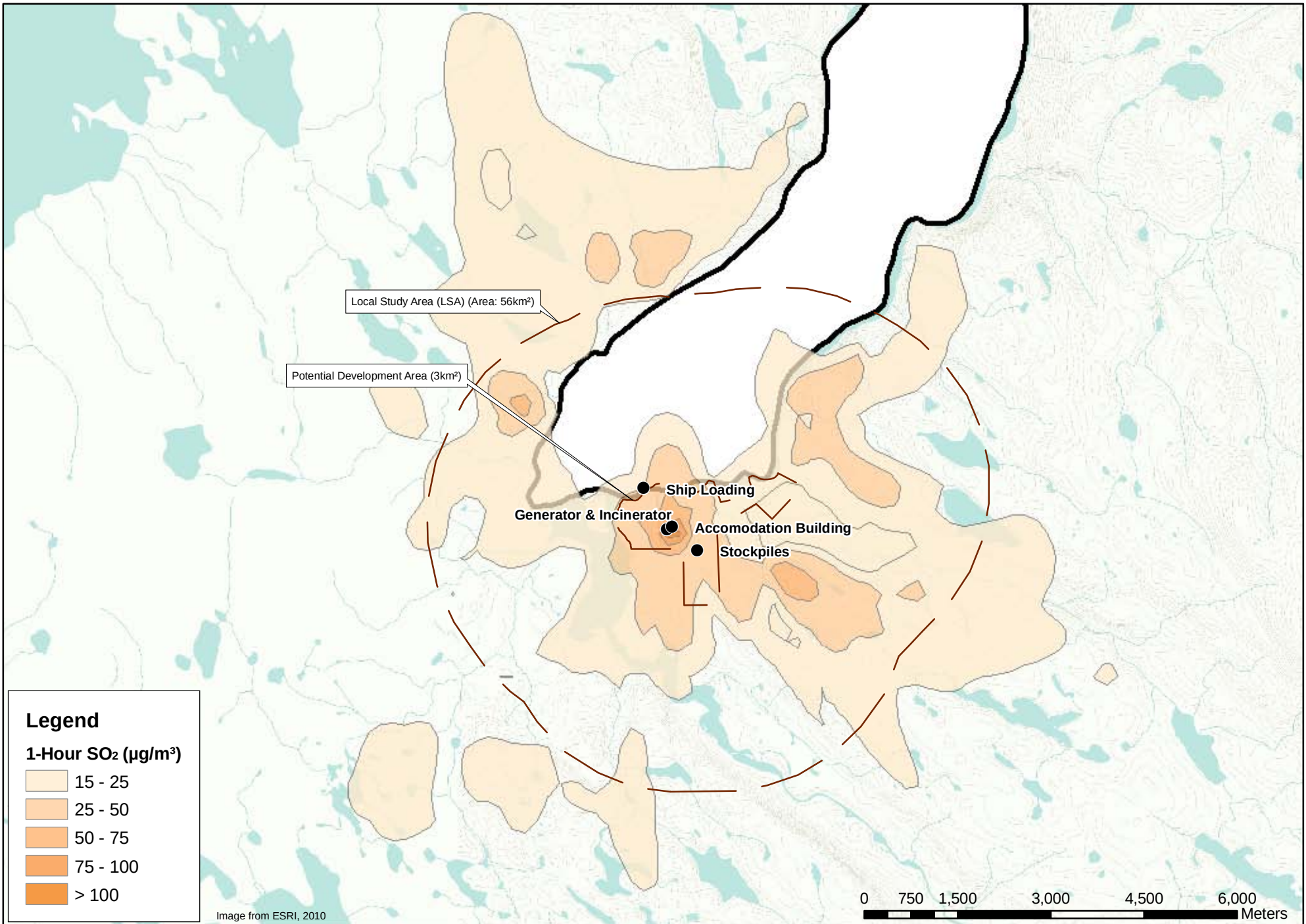
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: 9
Approx. Scale: 1:60,000	
Date Revised: Nov. 30, 2010	

Project #0940977

RWDI



Legend

1-Hour SO₂ (µg/m³)

- 15 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- > 100

Image from ESRI, 2010

Predicted Maximum 1-Hour SO₂ Concentrations - Milne Port

* Note: Threshold = 450 µg/m³

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



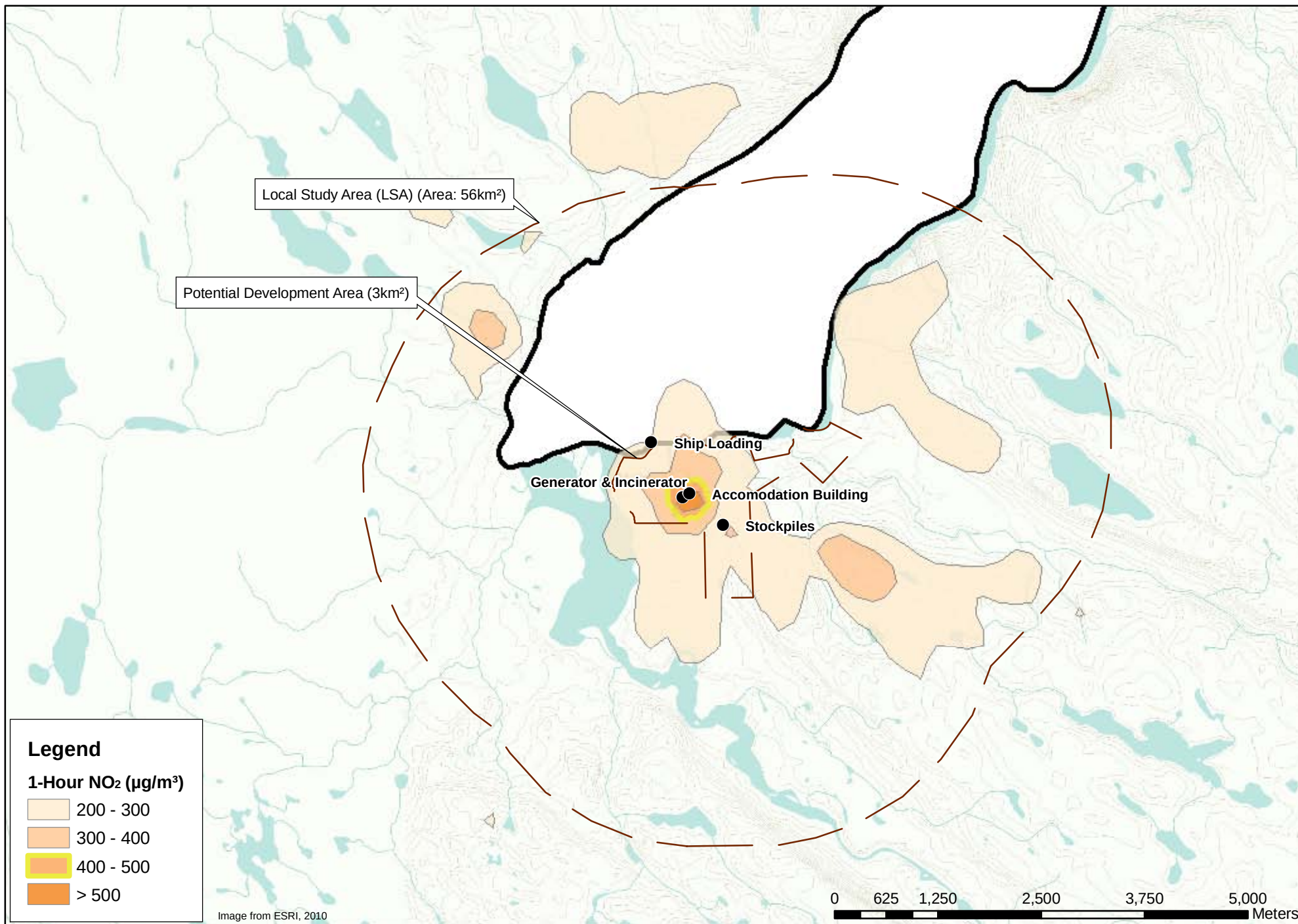
Drawn by: CAM Fig: 10

Approx. Scale: 1:80,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 1-Hour NO₂ Concentrations - Milne Port

* Note: Threshold = 400 µg/m³

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



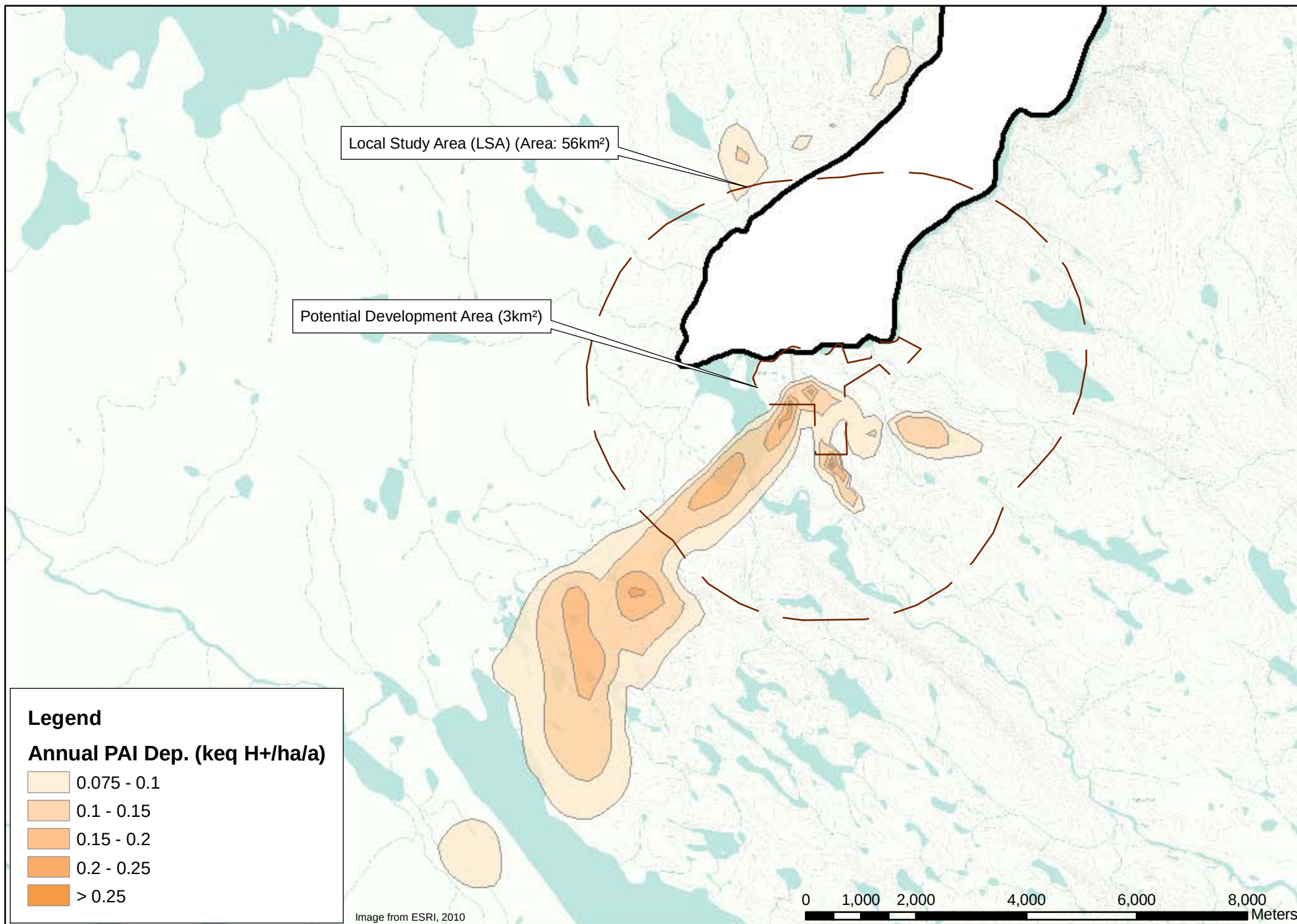
Drawn by: CAM Fig: 11

Approx. Scale: 1:60,000

Project #0940977

Date Revised: Nov. 30, 2010

RWDI



Predicted Annual PAI Deposition - Milne Port

* Note: PAI Loads (keq H⁺/ha/a) are as follows: Critical: 0.50, Target: 0.45, Monitoring: 0.35.

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



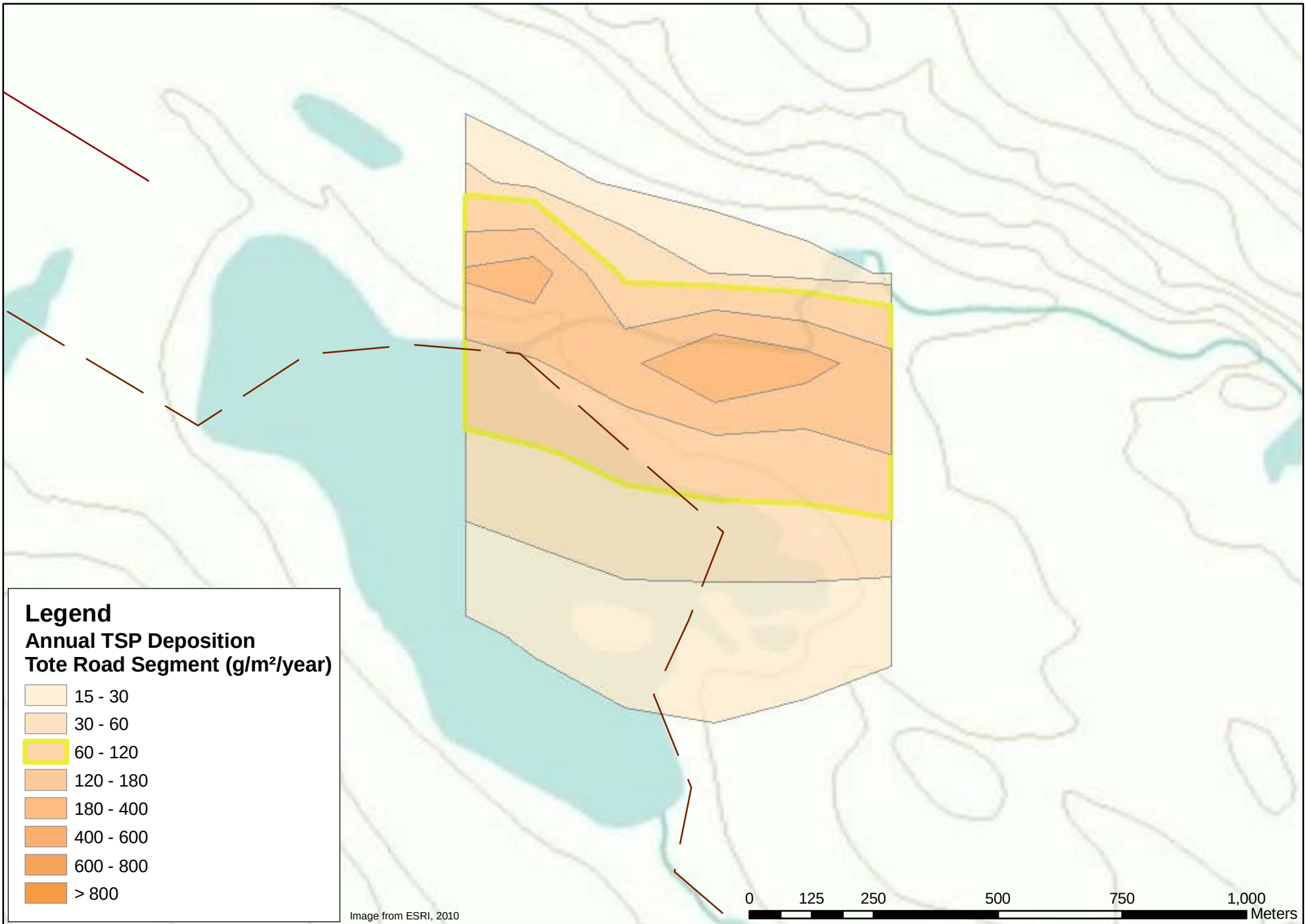
Drawn by: CAM Fig: 12

Approx. Scale: 1:90,000

Date Revised: Dec.10, 2010

Project #0940977

RWDI



Predicted Annual TSP Deposition for Milne Tote Road Source Segment

* Note: Threshold = 60 g/m²/year

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



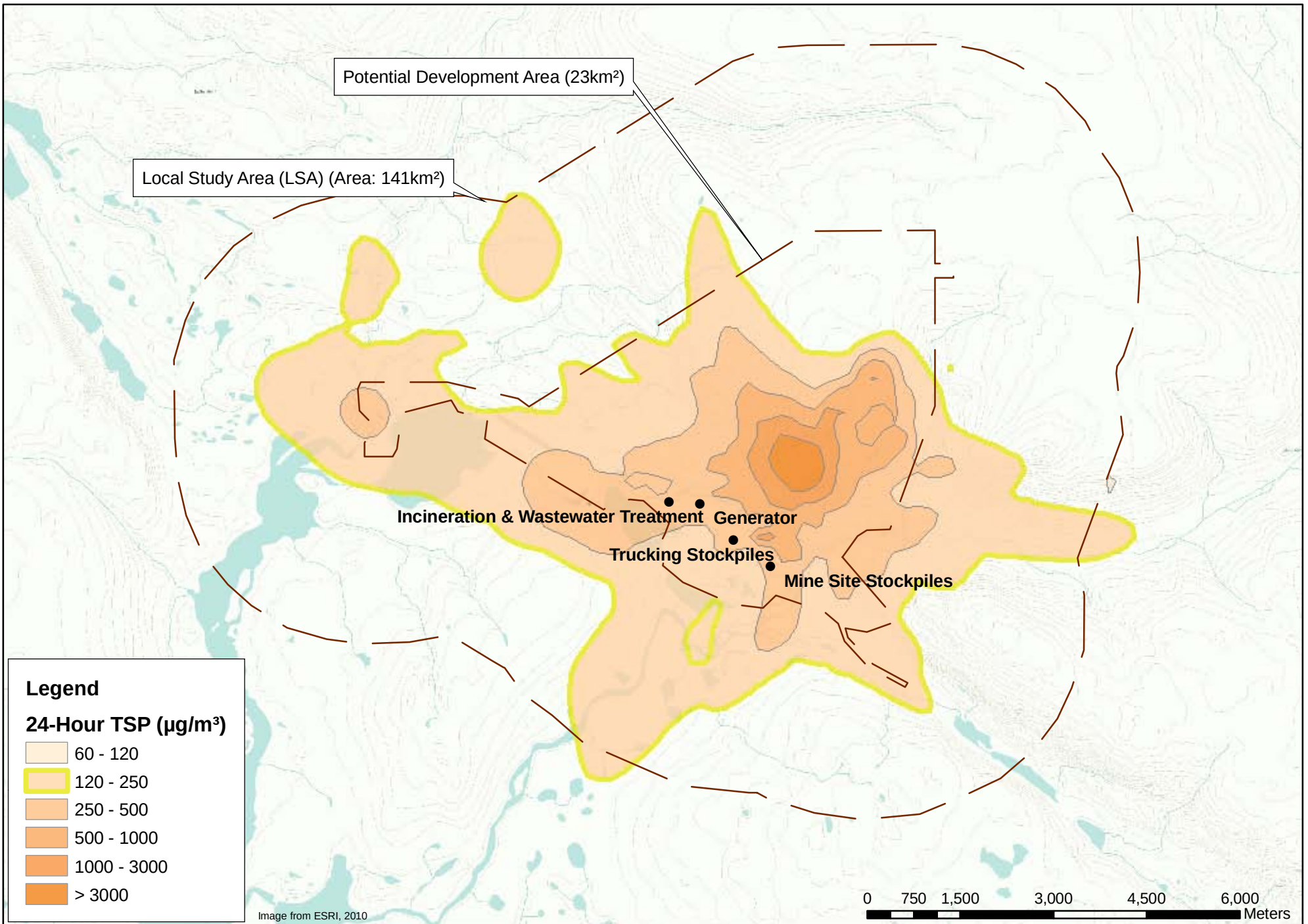
Drawn by: CAM Fig: 13

Approx. Scale: 1:10,000

Date Revised: Dec. 7, 2010

Project #0940977

RWDI



Predicted Maximum 24-Hour TSP Concentrations - Mine Site

* Note: Threshold = 120 µg/m³

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



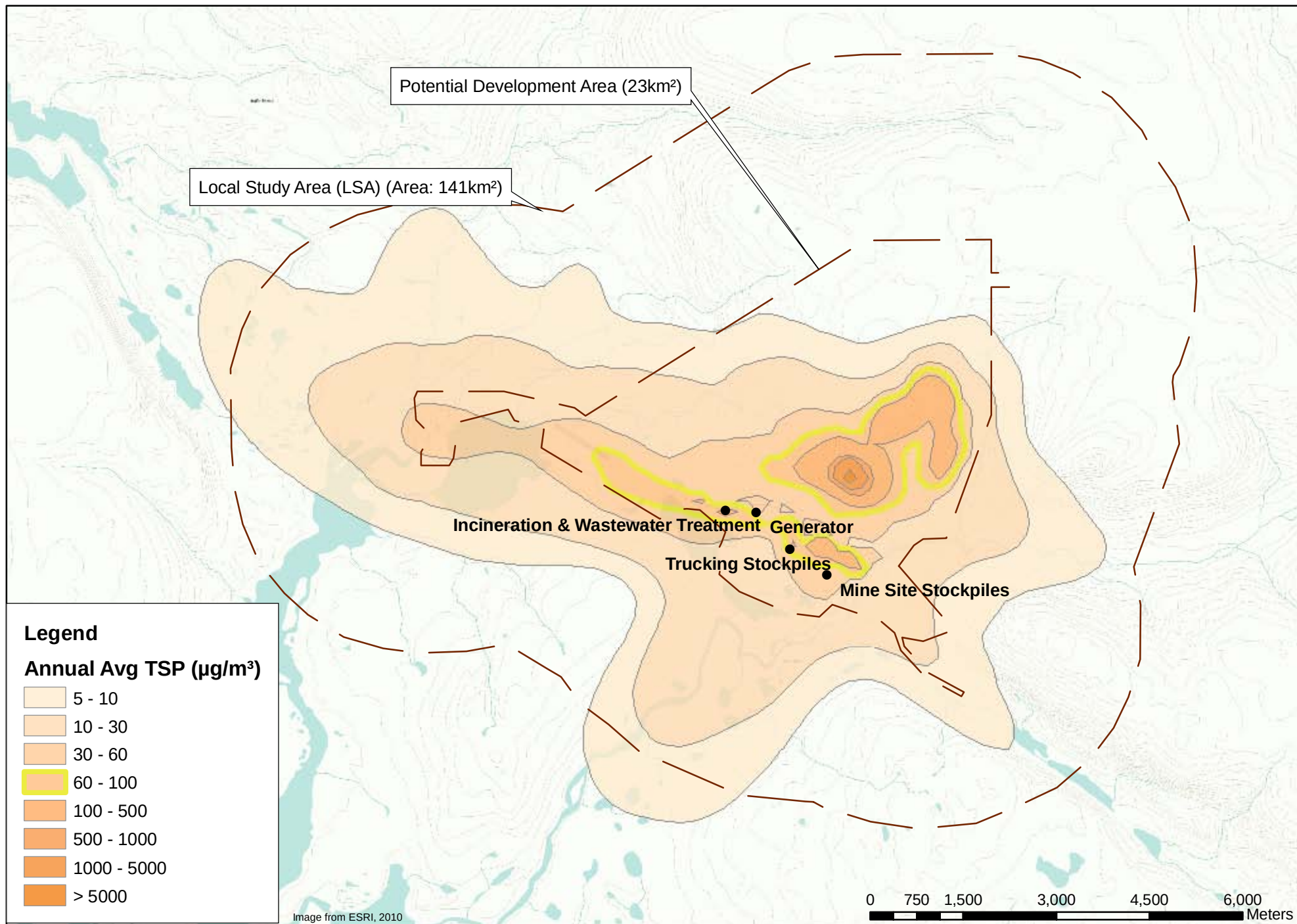
Drawn by: CAM Fig: 14

Approx. Scale: 1:80,000

Date Revised: Dec. 3, 2010

Project #0940977

RWDI



Predicted Average Annual TSP Concentration - Mine Site

* Note: Threshold = 60 g/m²/year

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada

True North



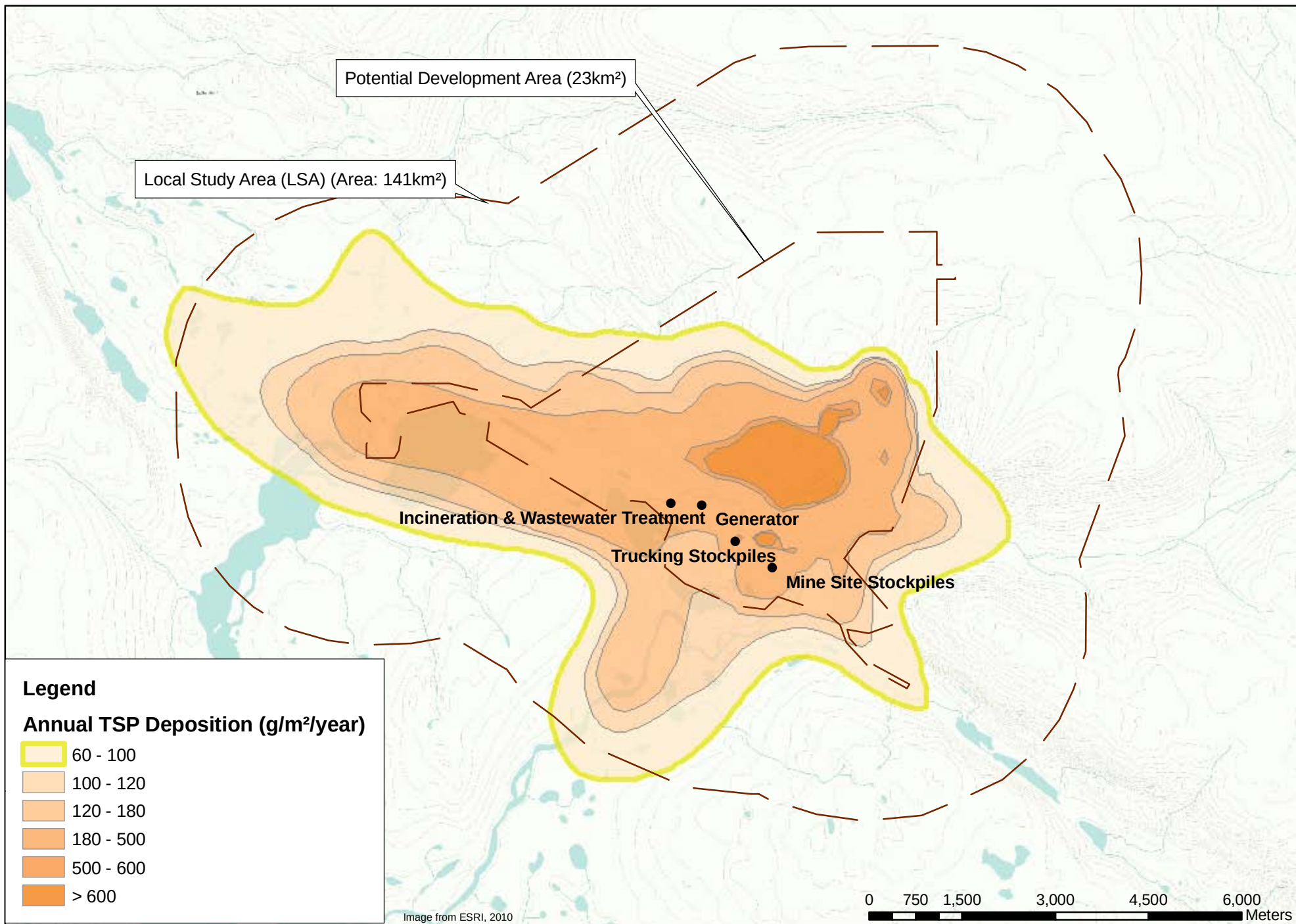
Drawn by: CAM Fig: 15

Approx. Scale: 1:80,000

Date Revised: Dec. 9, 2010

Project #0940977

RWDI



Predicted Annual TSP Deposition - Mine Site

* Note: Threshold = 60 g/m²/year

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



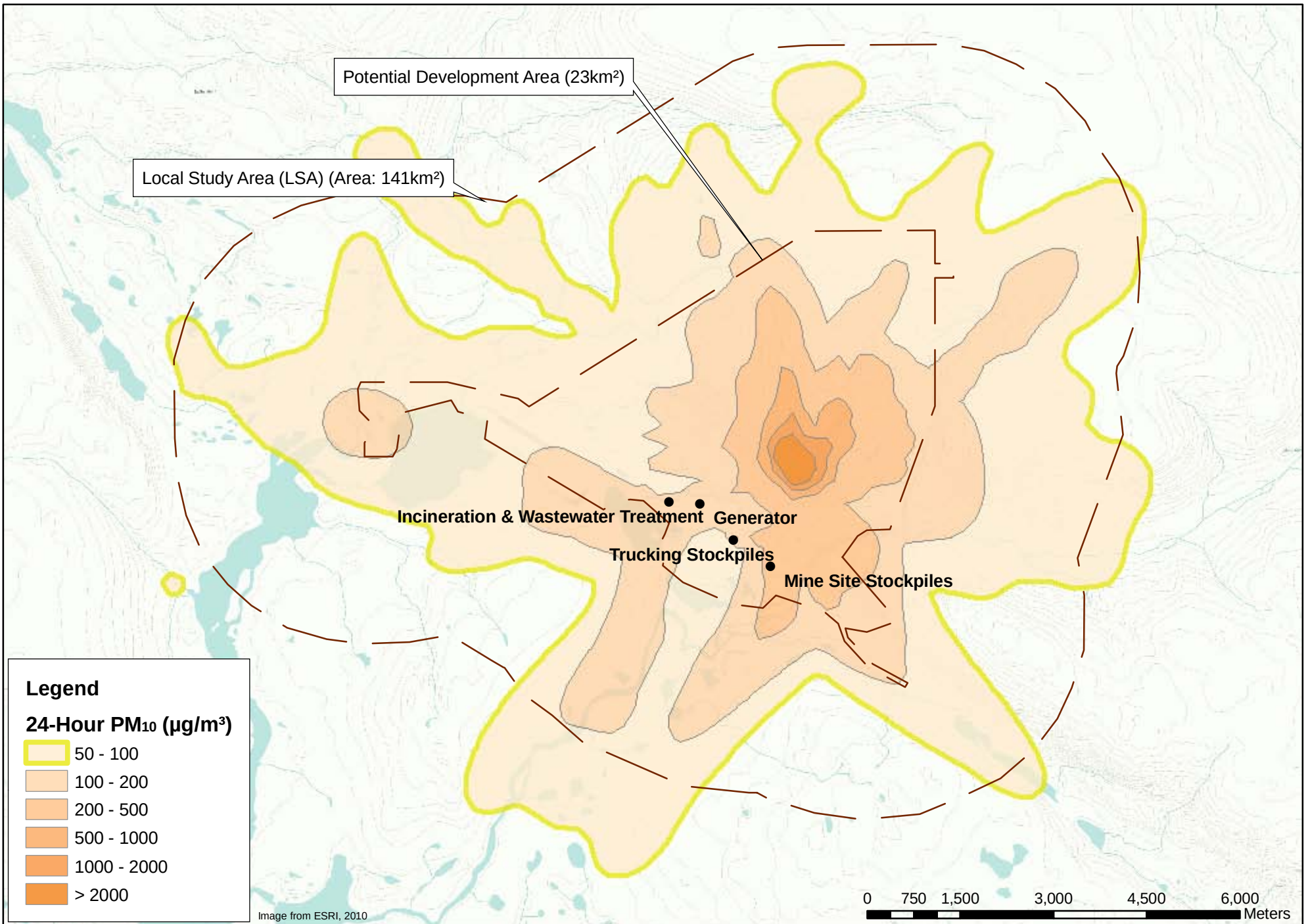
Drawn by: CAM Fig: 16

Approx. Scale: 1:80,000

Date Revised: Dec. 3, 2010

Project #0940977

RWDI



Predicted Maximum 24-Hour PM₁₀ Concentrations - Mine Site

* Note: Threshold = 50 µg/m³

All Sources

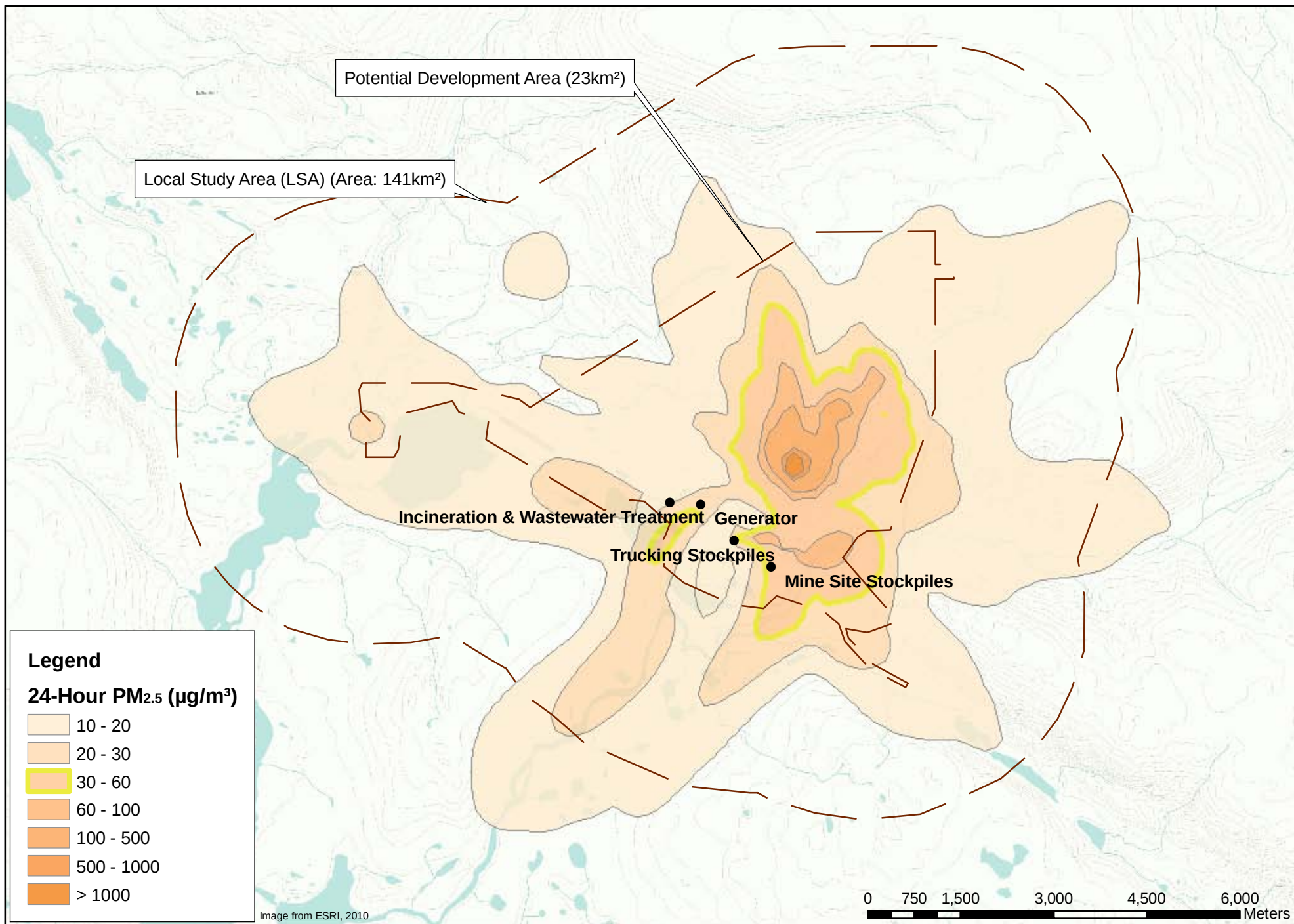
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: 17
Approx. Scale: 1:80,000	
Date Revised: Dec. 3, 2010	

Project #0940977

RWDI



Predicted Maximum 24-Hour PM_{2.5} Concentrations - Mine Site

* Note: Threshold = 30 µg/m³ ** Includes SO₂ and NO₂

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



True North

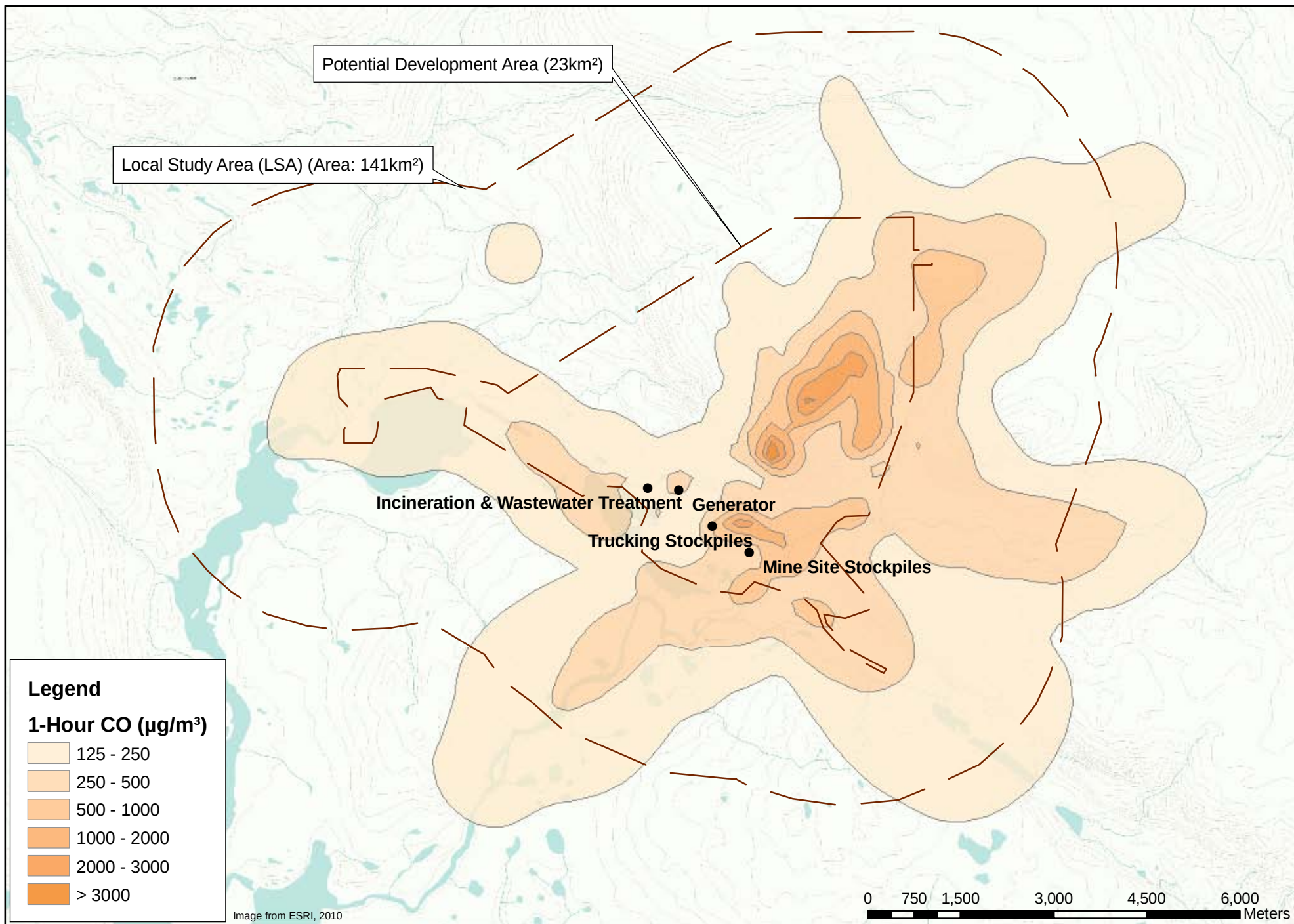
Drawn by: CAM Fig: 18

Approx. Scale: 1:80,000

Date Revised: Dec. 3, 2010

Project #0940977

RWDI



Predicted Maximum 1-Hour CO Concentrations - Mine Site

* Note: Threshold = 15,000 µg/m³

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



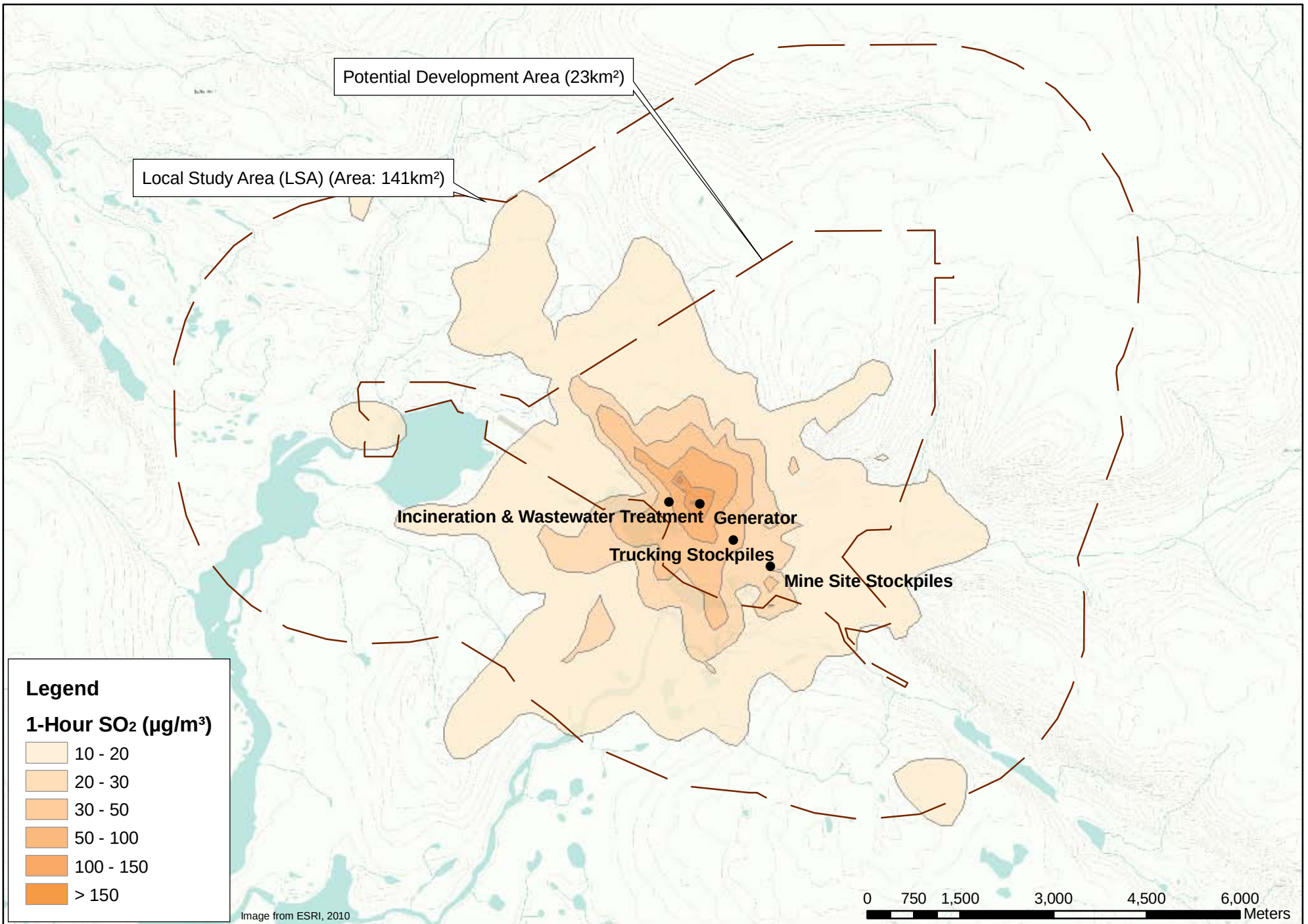
Drawn by: CAM Fig: 19

Approx. Scale: 1:80,000

Date Revised: Dec. 3, 2010

RWDI

Project #0940977



Predicted Maximum 1-Hour SO₂ Concentrations - Mine Site

* Note: Threshold = 450 µg/m³

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada

True North



Drawn by: CAM

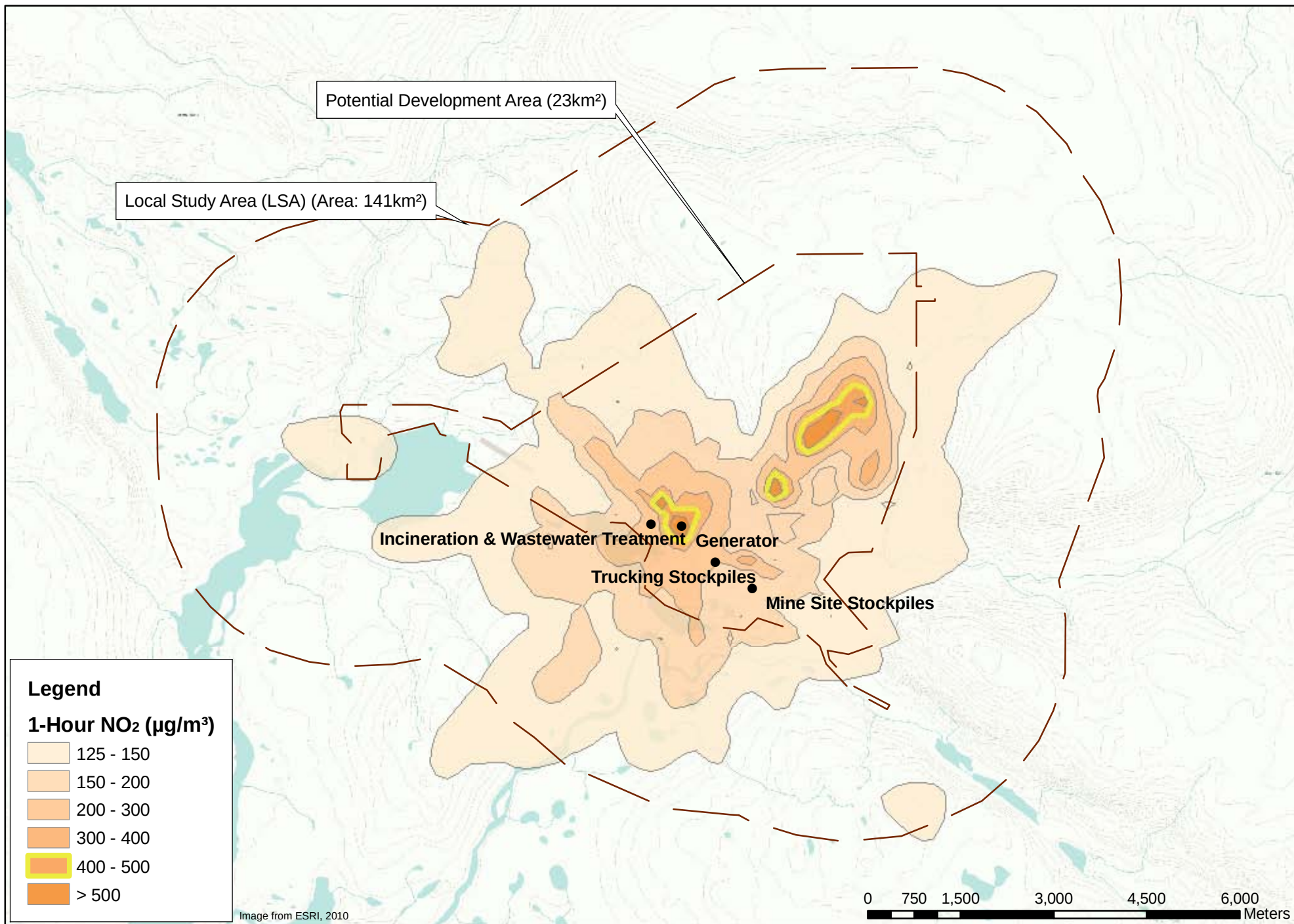
Fig: 20

Approx. Scale: 1:80,000

Date Revised: Dec. 3, 2010

Project #0940977

RWDI



Predicted Maximum 1-Hour NO₂ Concentrations - Mine Site

* Note: Threshold = 400 µg/m³

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



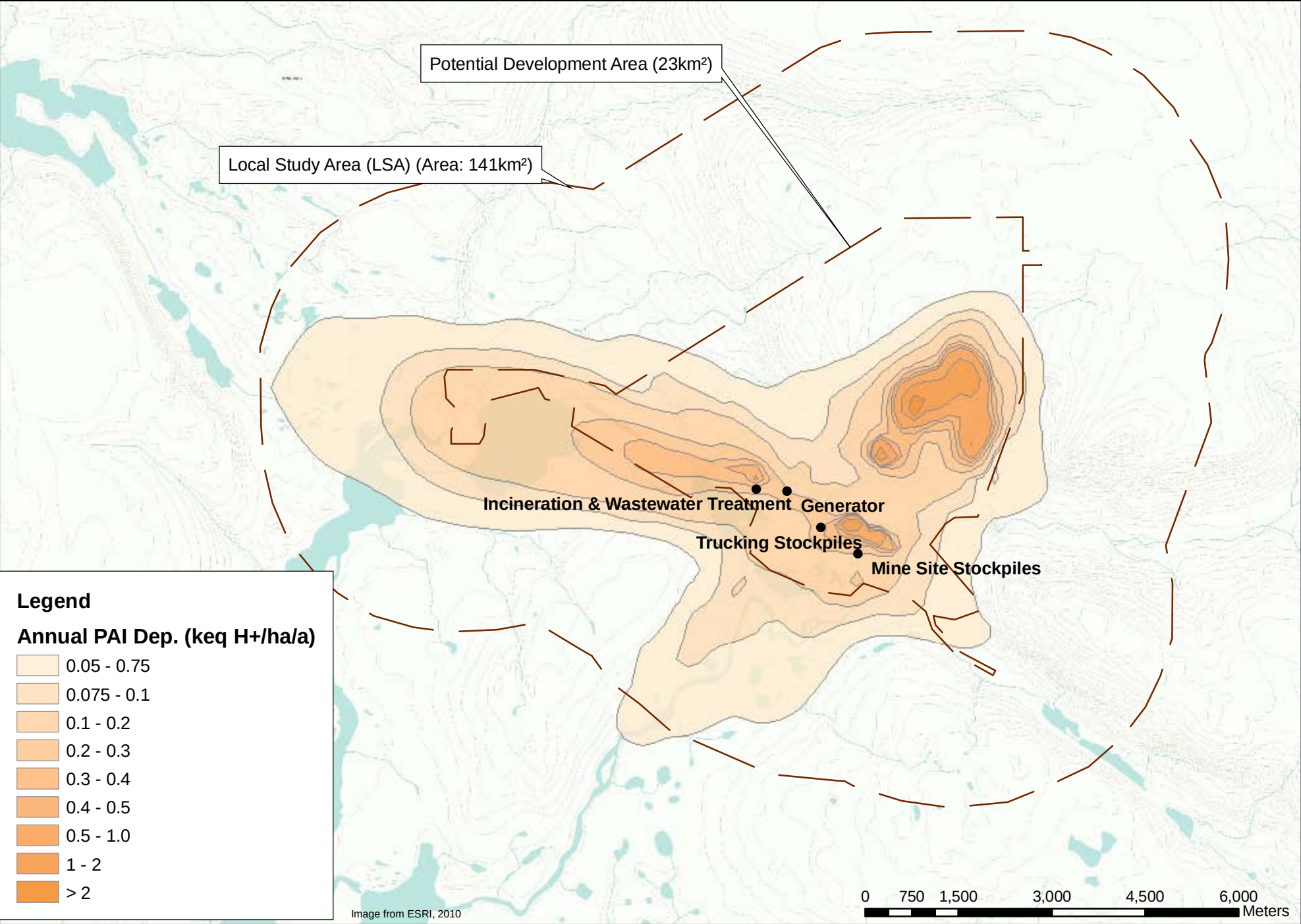
Drawn by: CAM Fig: 21

Approx. Scale: 1:80,000

Date Revised: Dec. 3, 2010

Project #0940977

RWDI



Predicted Annual PAI Deposition - Mine Site

* Note: PAI Loads (keq H⁺/ha/a) are as follows: Critical: 0.50, Target: 0.45, Monitoring: 0.35.

All Sources

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada

True North



Drawn by: CAM

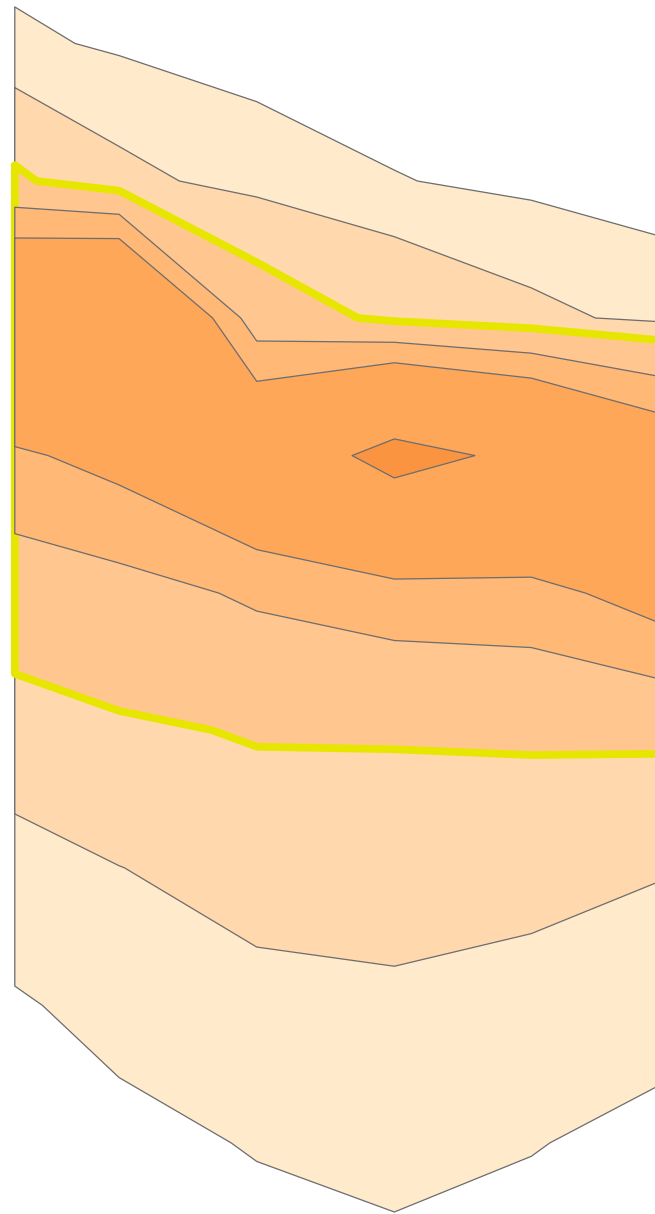
Fig: 22

Approx. Scale: 1:80,000

Date Revised: Dec. 10, 2010

Project #0940977

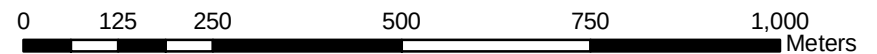
RWDI



Legend Annual TSP Deposition Railway Segment (g/m²/year)

- 15 - 30
- 30 - 60
- 60 - 120
- 120 - 180
- 180 - 400
- 400 - 600
- 600 - 800
- > 800

Image from ESRI, 2010



Predicted Annual TSP Deposition for Railway Source Segment

* Note: Threshold = 60 g/m³/year
 ** Rail emissions are based on factors provided from the document "Transportation of Iron Ore - A Practical Experience in Environmental Control", The Annals of Occupational Hygiene, (1974) for "Untreated Kovdorsky Ore".

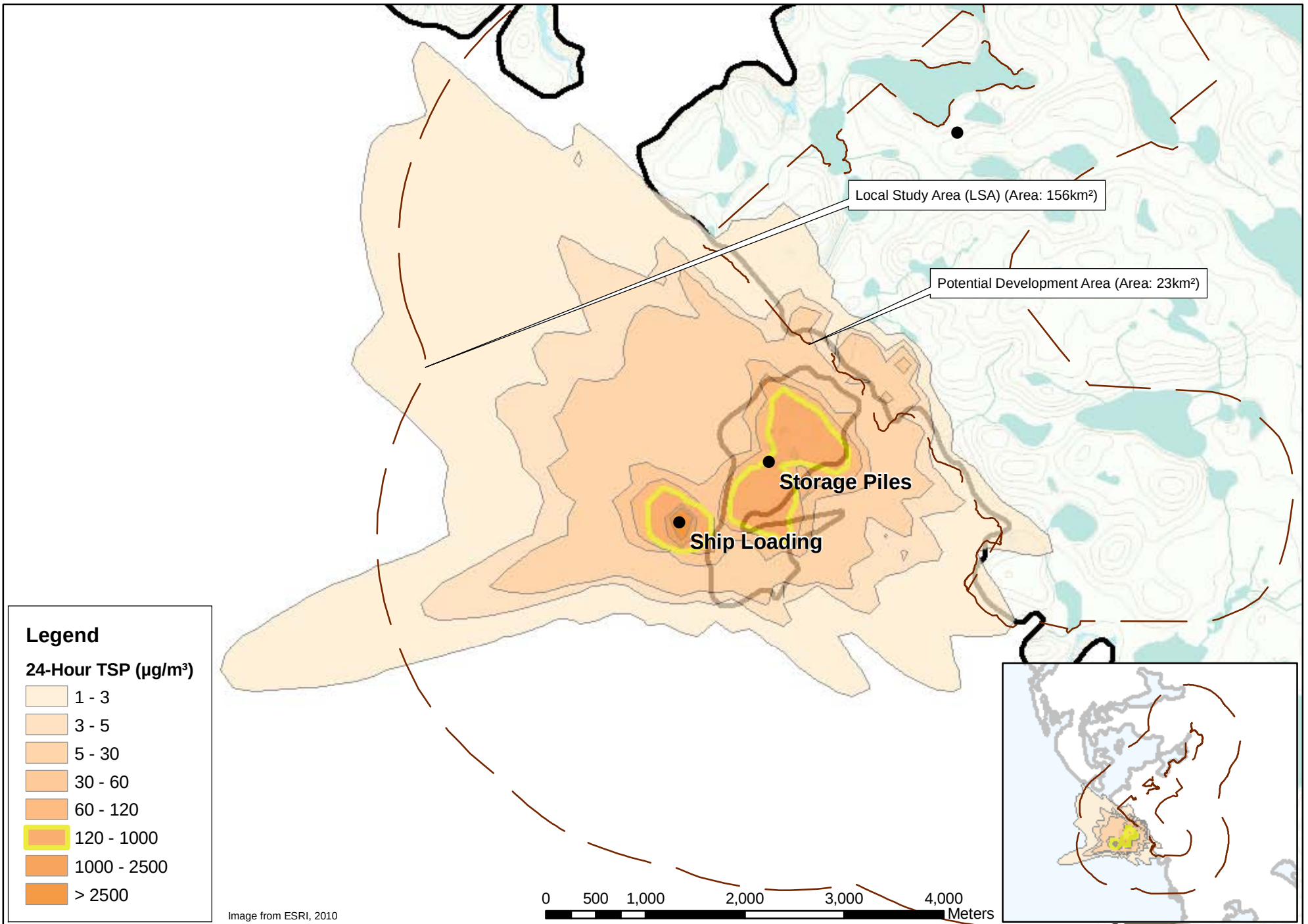
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: 23
Approx. Scale: 1:10,000	
Date Revised: Dec. 9, 2010	

RWDI

Project #0940977



Predicted Maximum 24-Hour TSP Concentrations - Steensby Port

* Note: Threshold = 120 $\mu\text{g}/\text{m}^3$

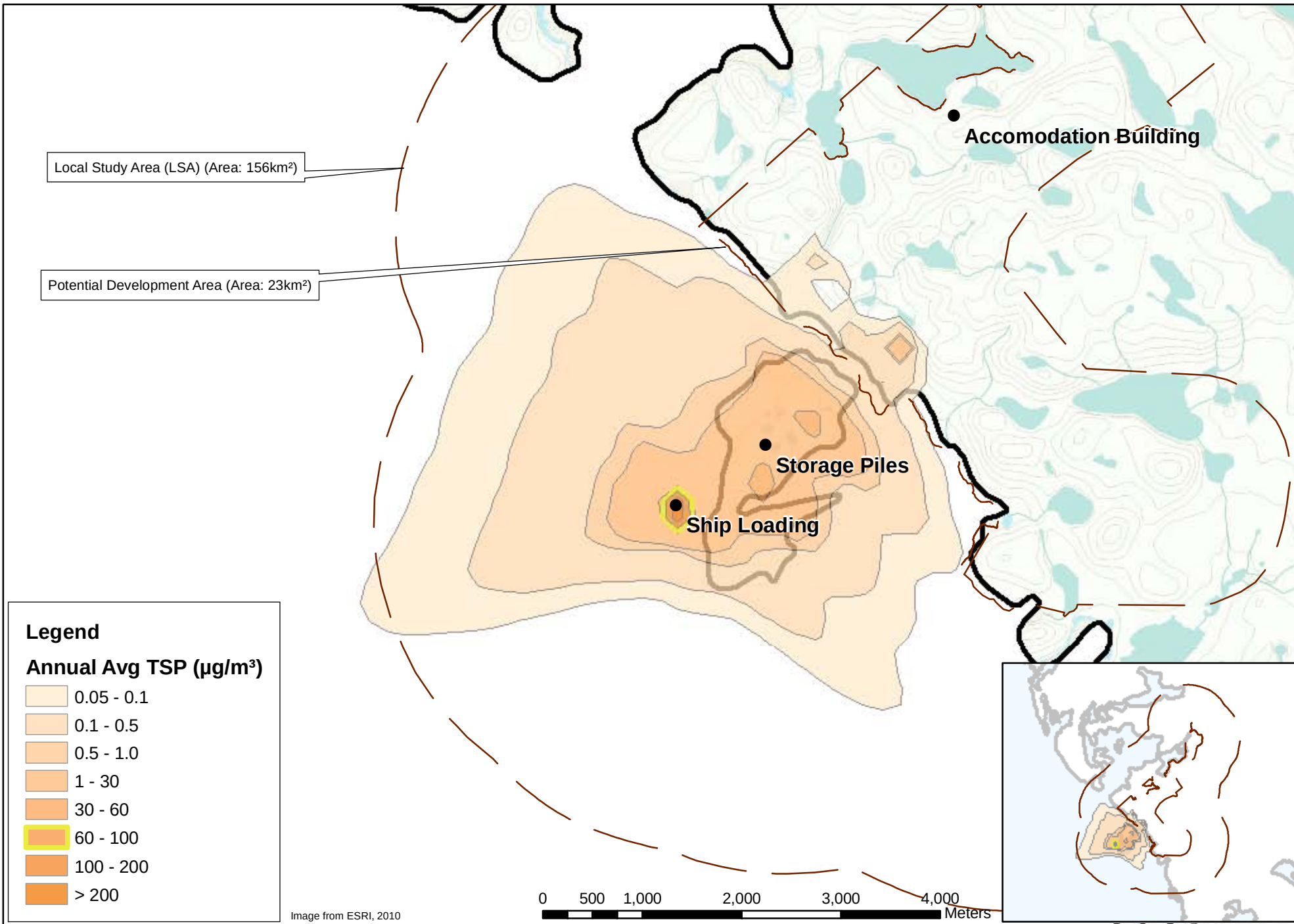
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM Fig: 24
Approx. Scale: 1:50,000
Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Average Annual TSP Concentration - Steensby Port

* Note: Threshold = 60 µg/m³

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada

True North



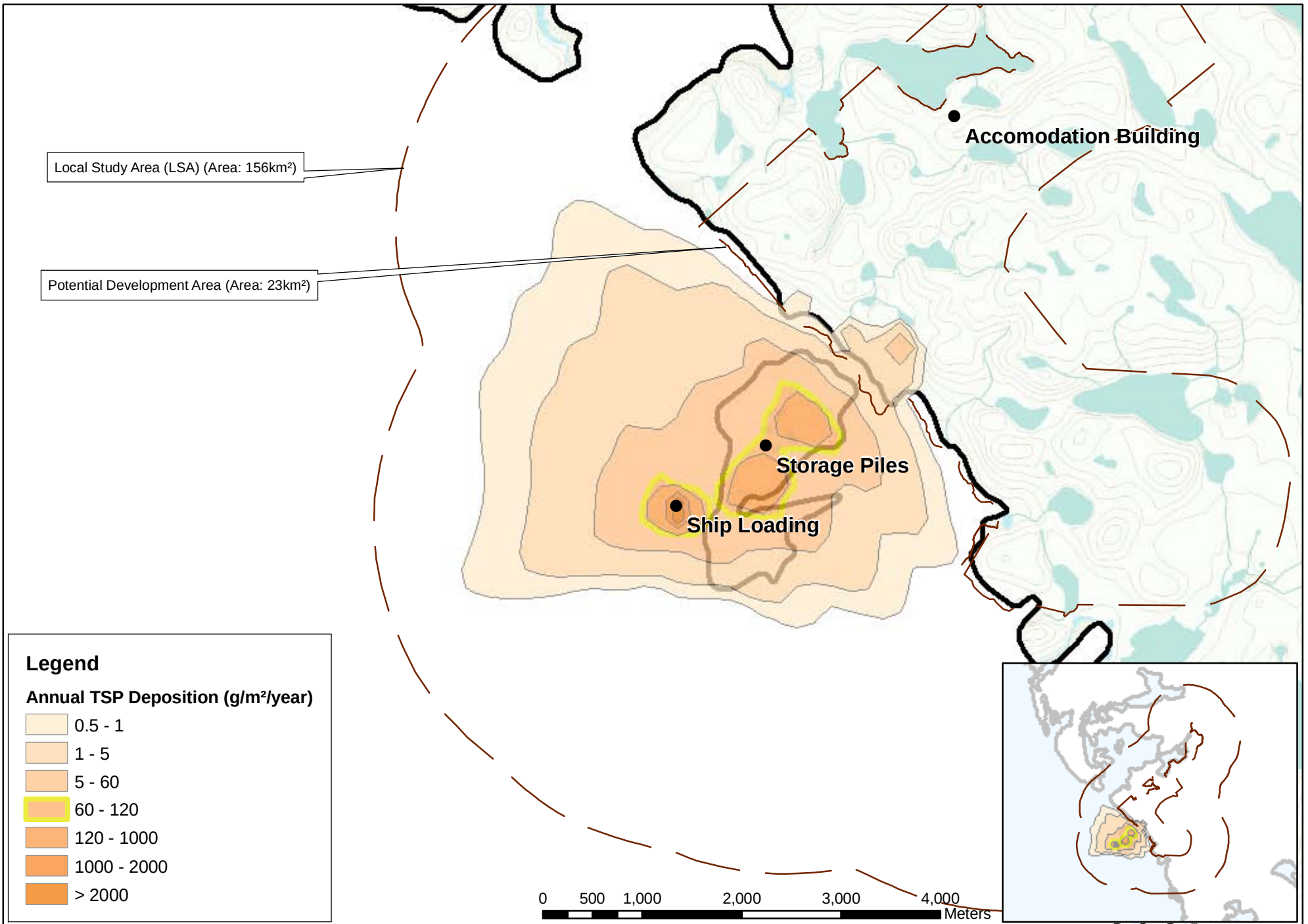
Drawn by: CAM Fig: 25

Approx. Scale: 1:50,000

Date Revised: Dec. 9, 2010

Project #0940977

RWDI



Predicted Annual TSP Deposition - Steensby Port

* Note: Threshold = 60 g/m²/year

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



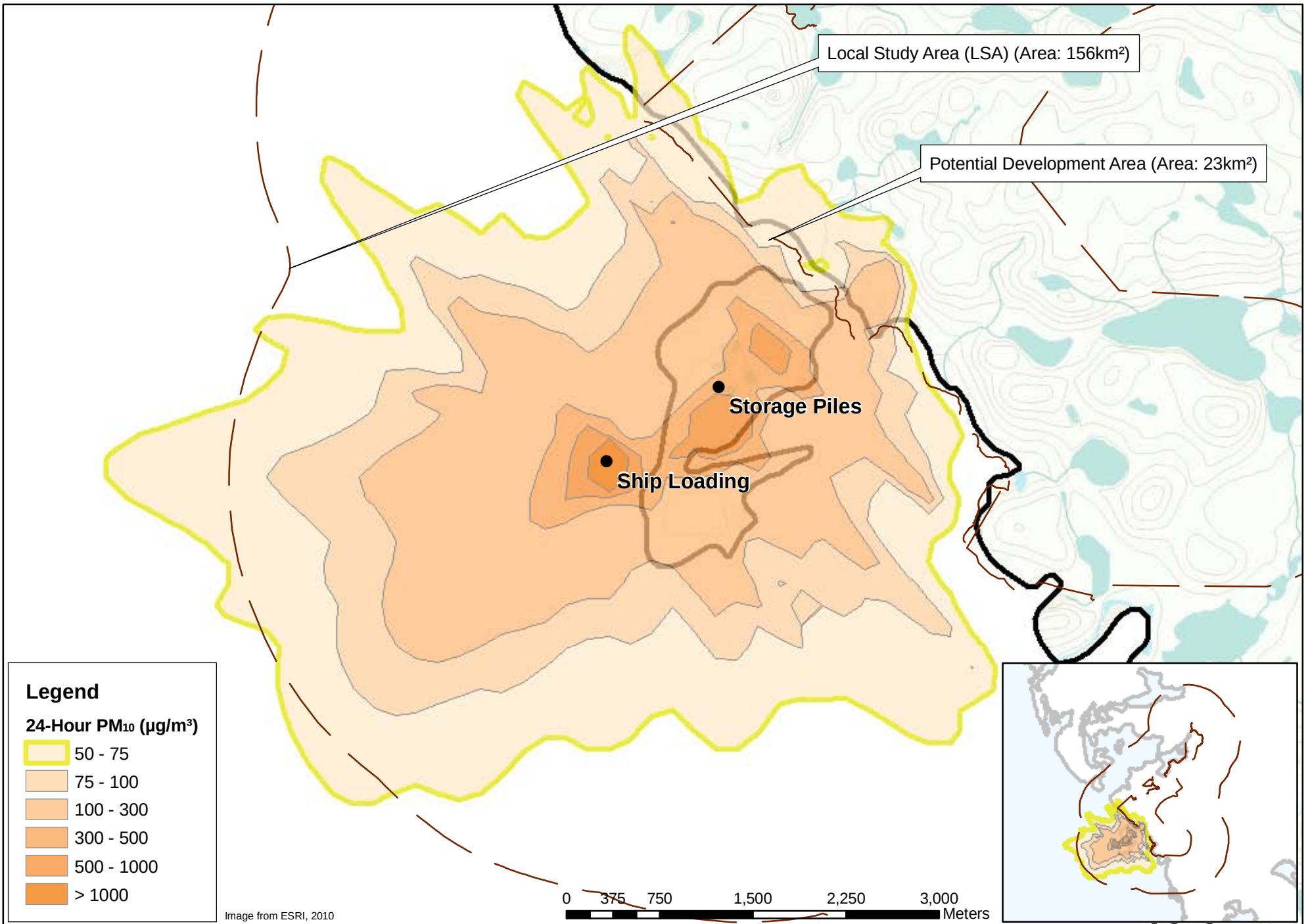
Drawn by: CAM Fig: 26

Approx. Scale: 1:50,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 24-Hour PM₁₀ Concentrations - Steensby Port

* Note: Threshold = 50 µg/m³

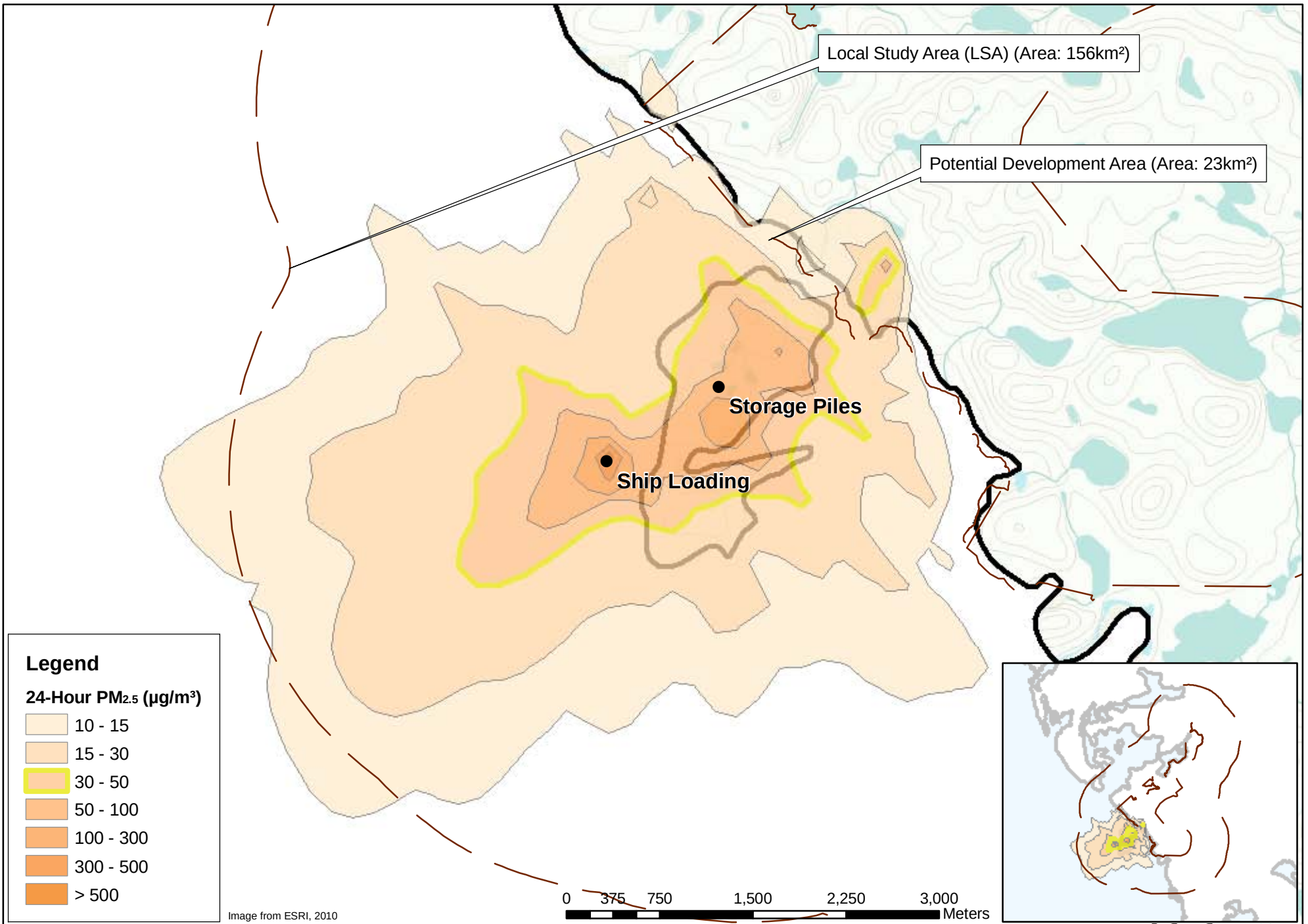
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: 27
Approx. Scale: 1:40,000	
Date Revised: Nov. 30, 2010	

Project #0940977

RWDI



Predicted Maximum 24-Hour PM_{2.5} Concentrations - Steensby Port

* Note: Threshold = 30 µg/m³
 ** Includes SO₂ and NO₂

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



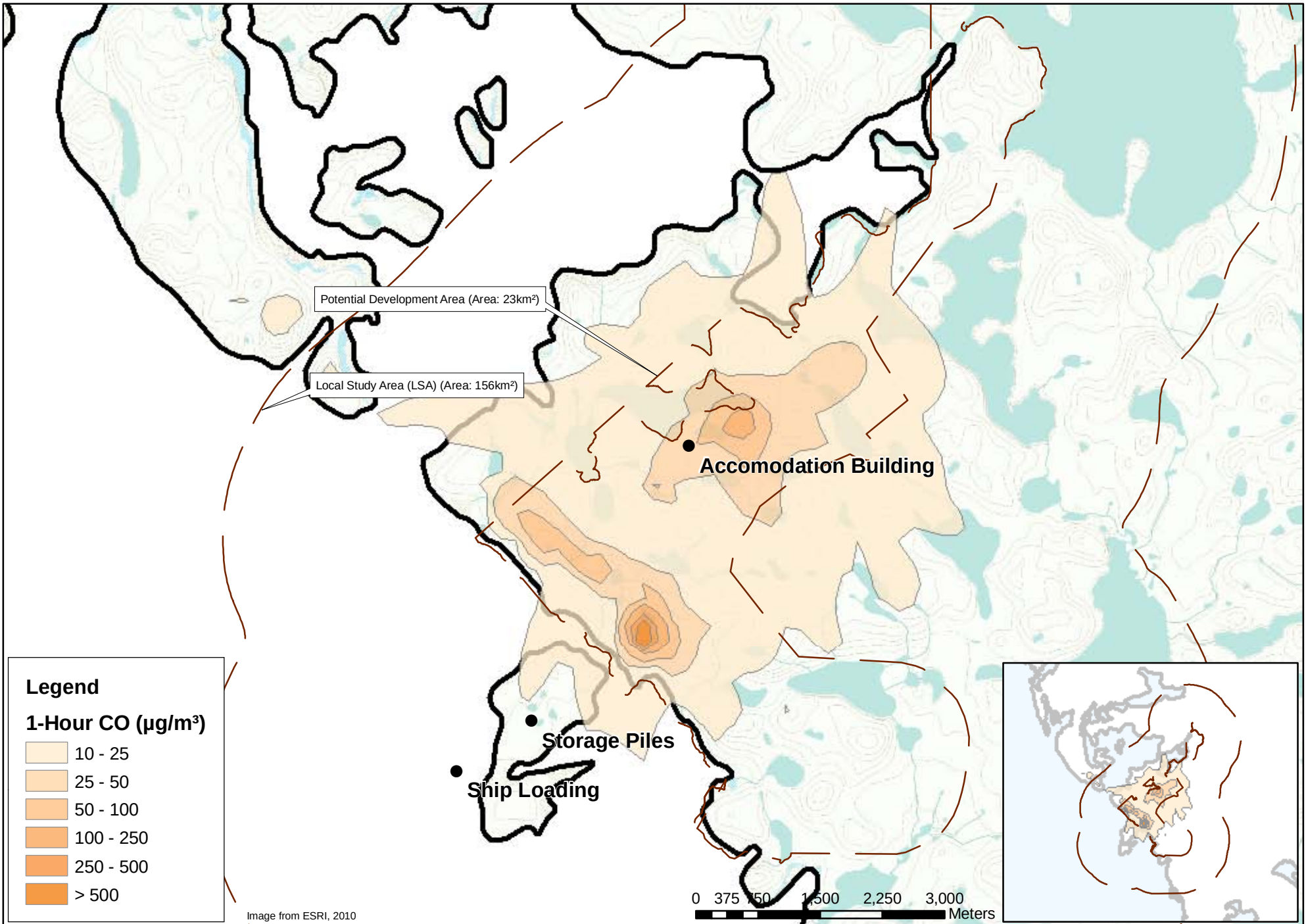
Drawn by: CAM Fig: 28

Approx. Scale: 1:40,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Legend

1-Hour CO ($\mu\text{g}/\text{m}^3$)

- 10 - 25
- 25 - 50
- 50 - 100
- 100 - 250
- 250 - 500
- > 500

Image from ESRI, 2010

0 375 750 1,500 2,250 3,000 Meters

Predicted Maximum 1-Hour CO Concentrations - Steensby Port

* Note: Threshold = 15,000 $\mu\text{g}/\text{m}^3$

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



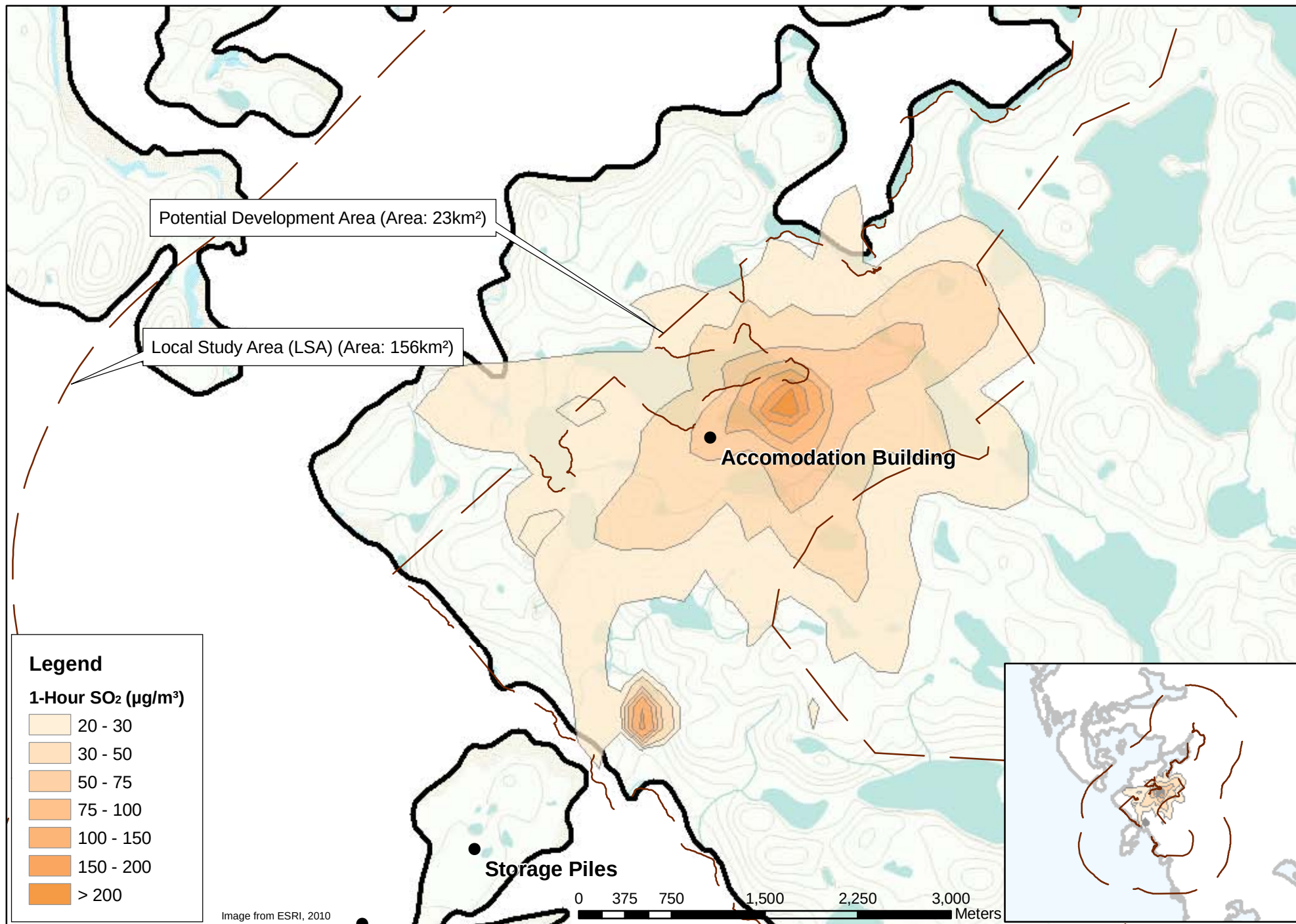
Drawn by: CAM Fig: 29

Approx. Scale: 1:60,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 1-Hour SO₂ Concentrations - Steensby Port

* Note: Threshold = 450 µg/m³

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



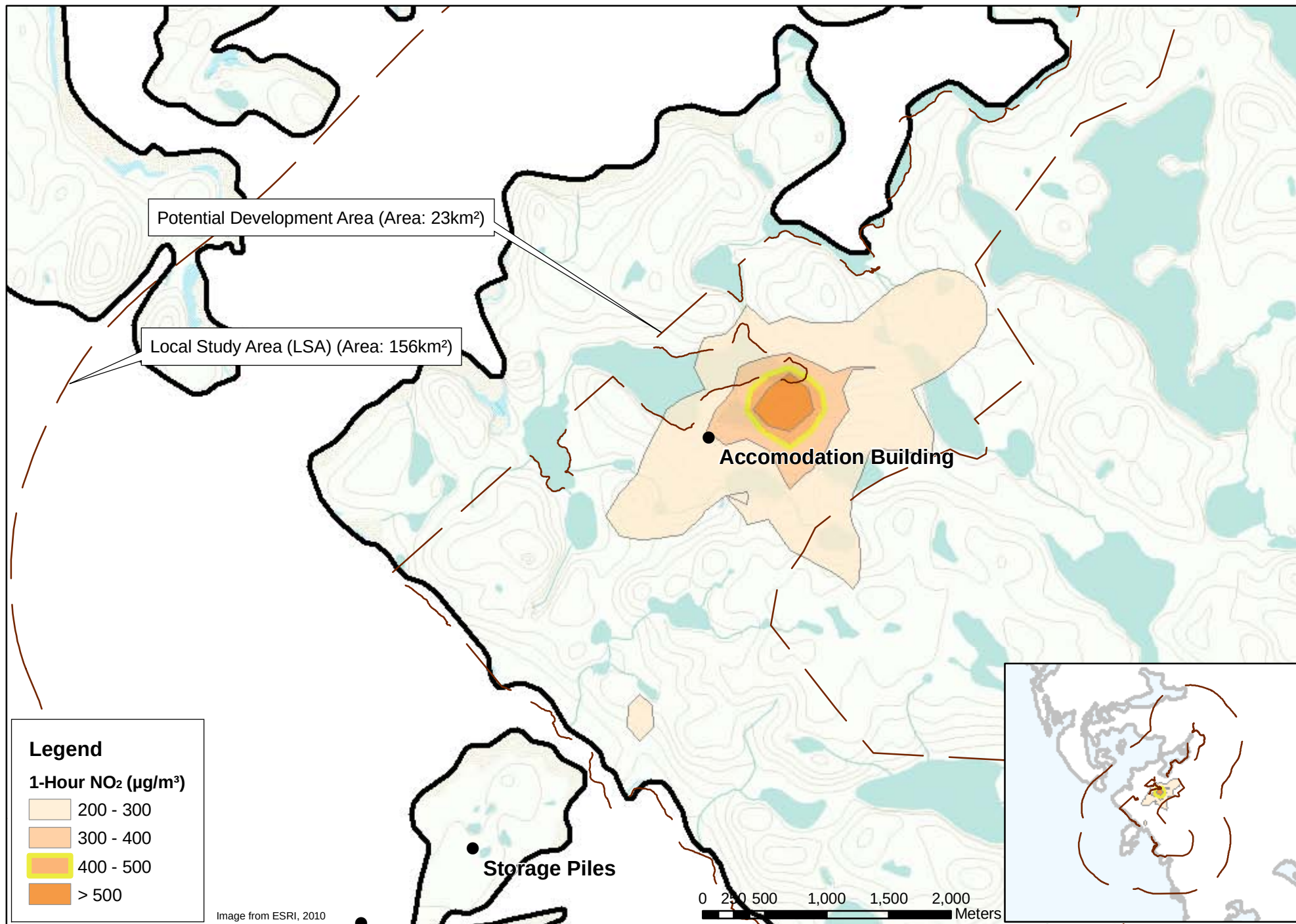
Drawn by: CAM Fig: 30

Approx. Scale: 1:40,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 1-Hour NO₂ Concentrations - Steensby Port

* Note: Threshold = 400 µg/m³

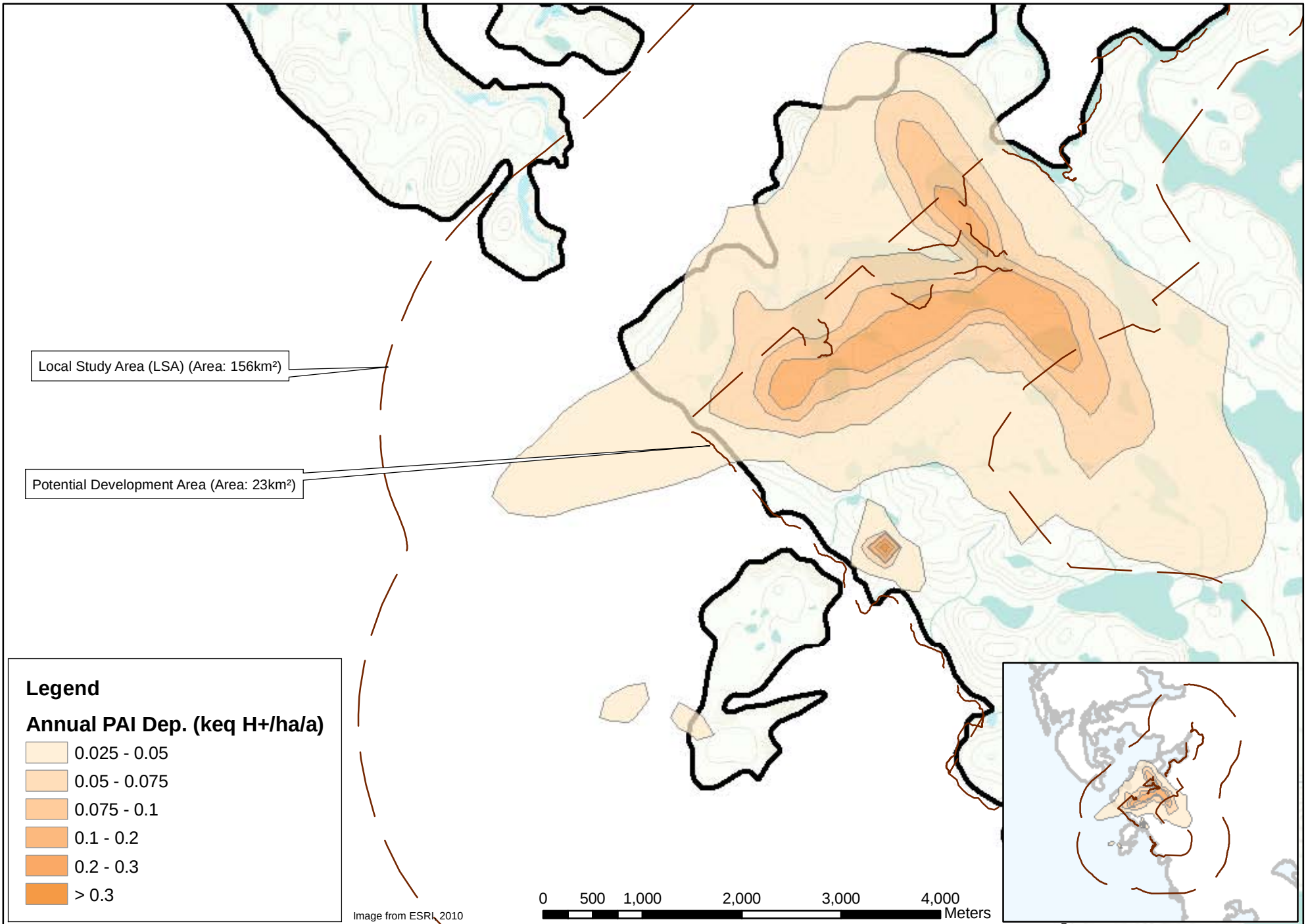
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: 31
Approx. Scale: 1:40,000	
Date Revised: Nov. 30, 2010	

Project #0940977

RWDI



Predicted Annual PAI Deposition - Steensby Port

* Note: PAI Loads (keq H⁺/ha/a) are as follows: Critical: 0.50, Target: 0.45, Monitoring: 0.35.

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada

True North



Drawn by: CAM

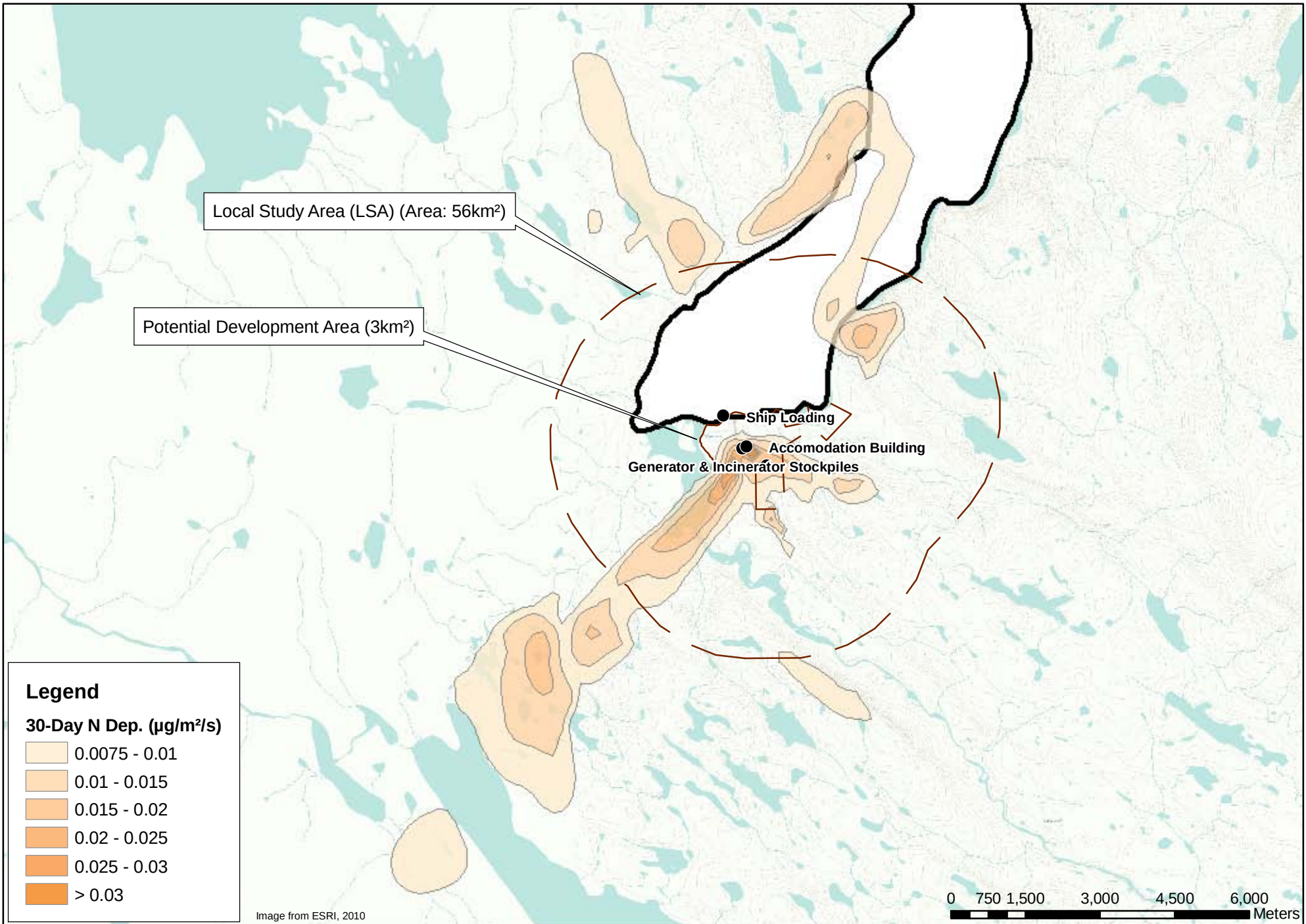
Fig: 32

Approx. Scale: 1:50,000

Date Revised: Dec. 10, 2010

Project #0940977

RWDI



Legend

30-Day N Dep. ($\mu\text{g}/\text{m}^2/\text{s}$)

- 0.0075 - 0.01
- 0.01 - 0.015
- 0.015 - 0.02
- 0.02 - 0.025
- 0.025 - 0.03
- > 0.03

Image from ESRI, 2010

Predicted Maximum 30-Day N Deposition - Milne Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



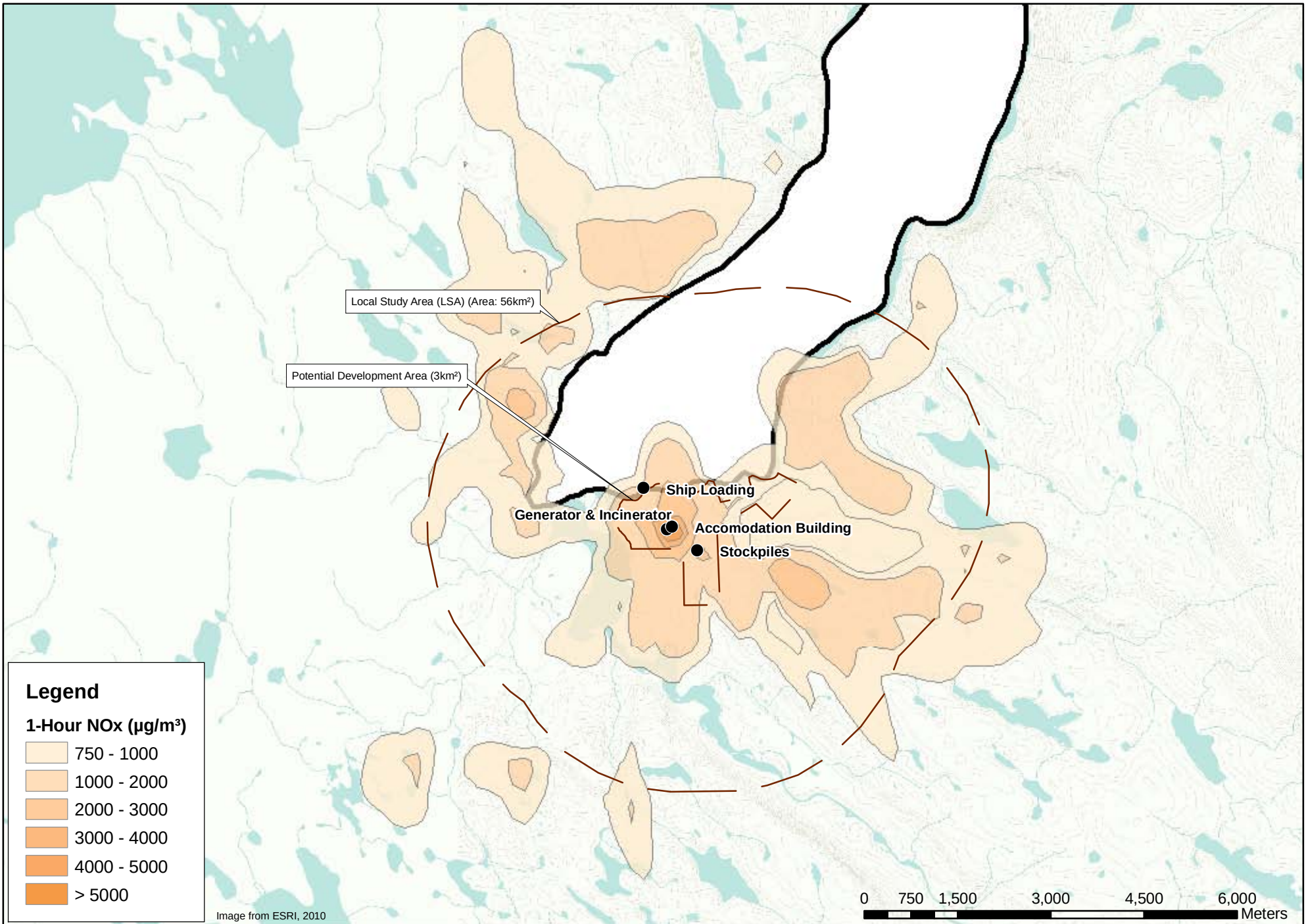
Drawn by: CAM Fig: A-1

Approx. Scale: 1:100,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 1-Hour NOx Concentrations - Milne Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



True North

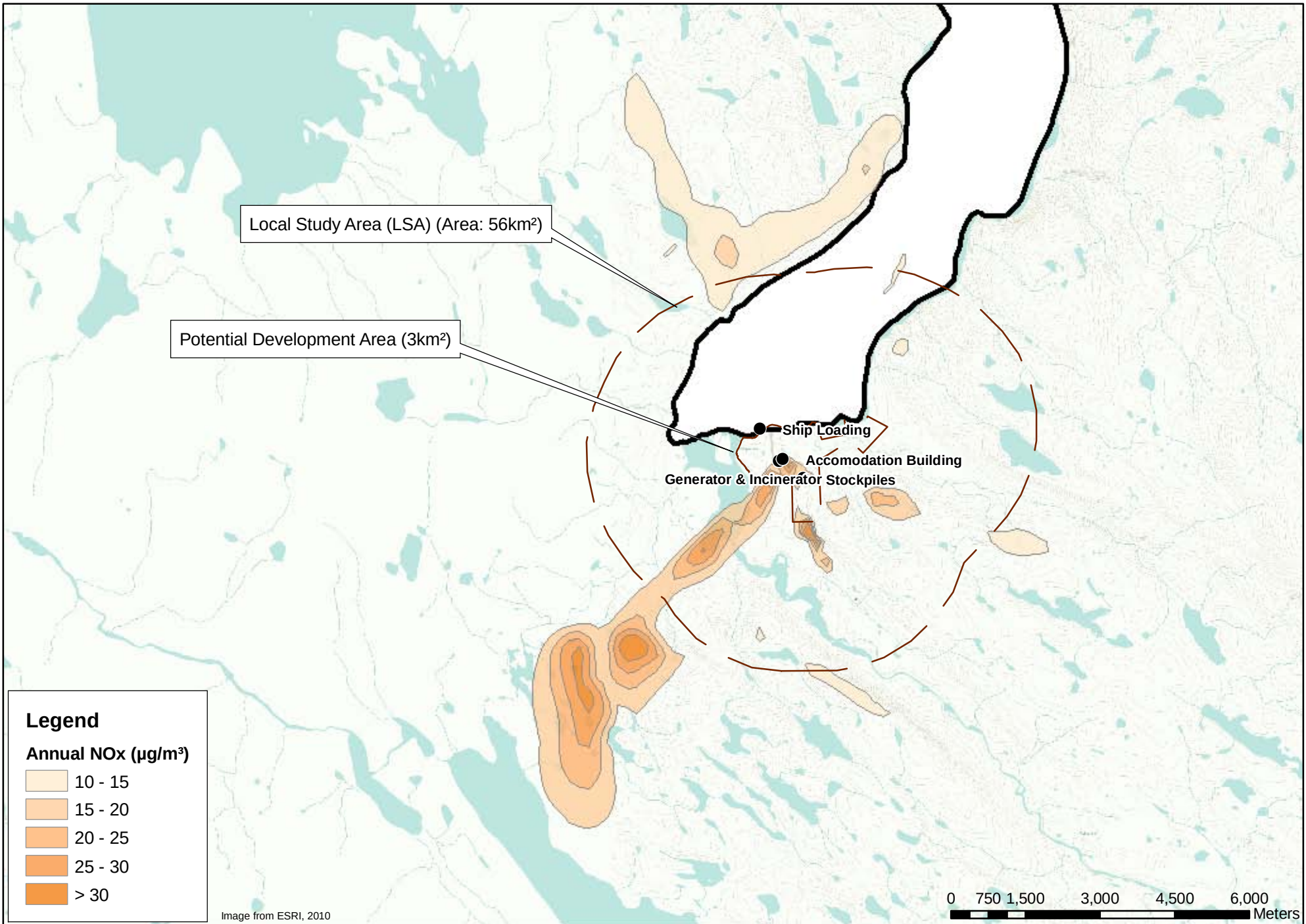
Drawn by: CAM Fig: A-2

Approx. Scale: 1:80,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Legend

Annual NOx ($\mu\text{g}/\text{m}^3$)

- 10 - 15
- 15 - 20
- 20 - 25
- 25 - 30
- > 30

Image from ESRI, 2010

Predicted Annual NOx Concentrations - Milne Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



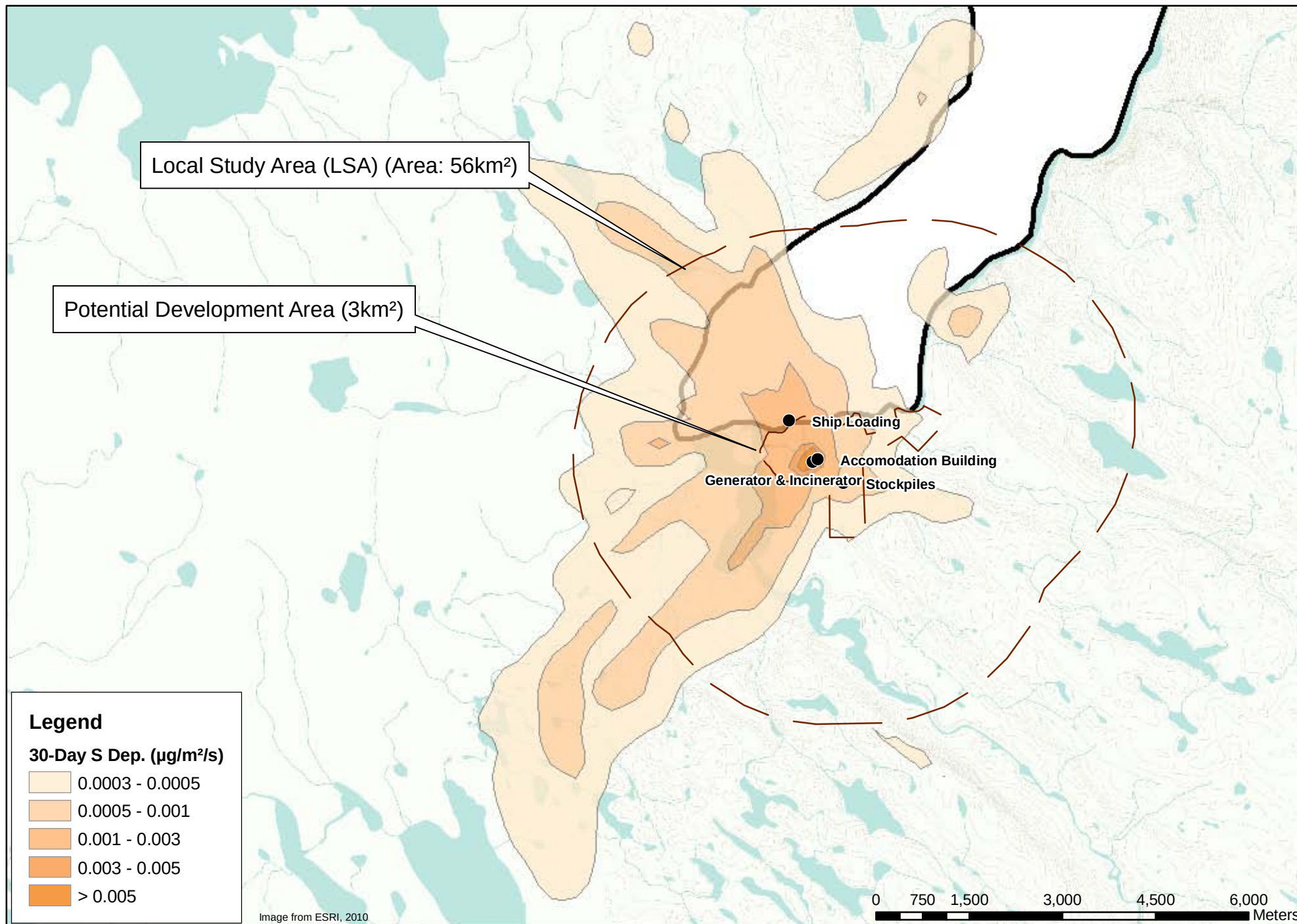
Drawn by: CAM | Fig: A-3

Approx. Scale: 1:100,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 30-Day S Deposition - Milne Port

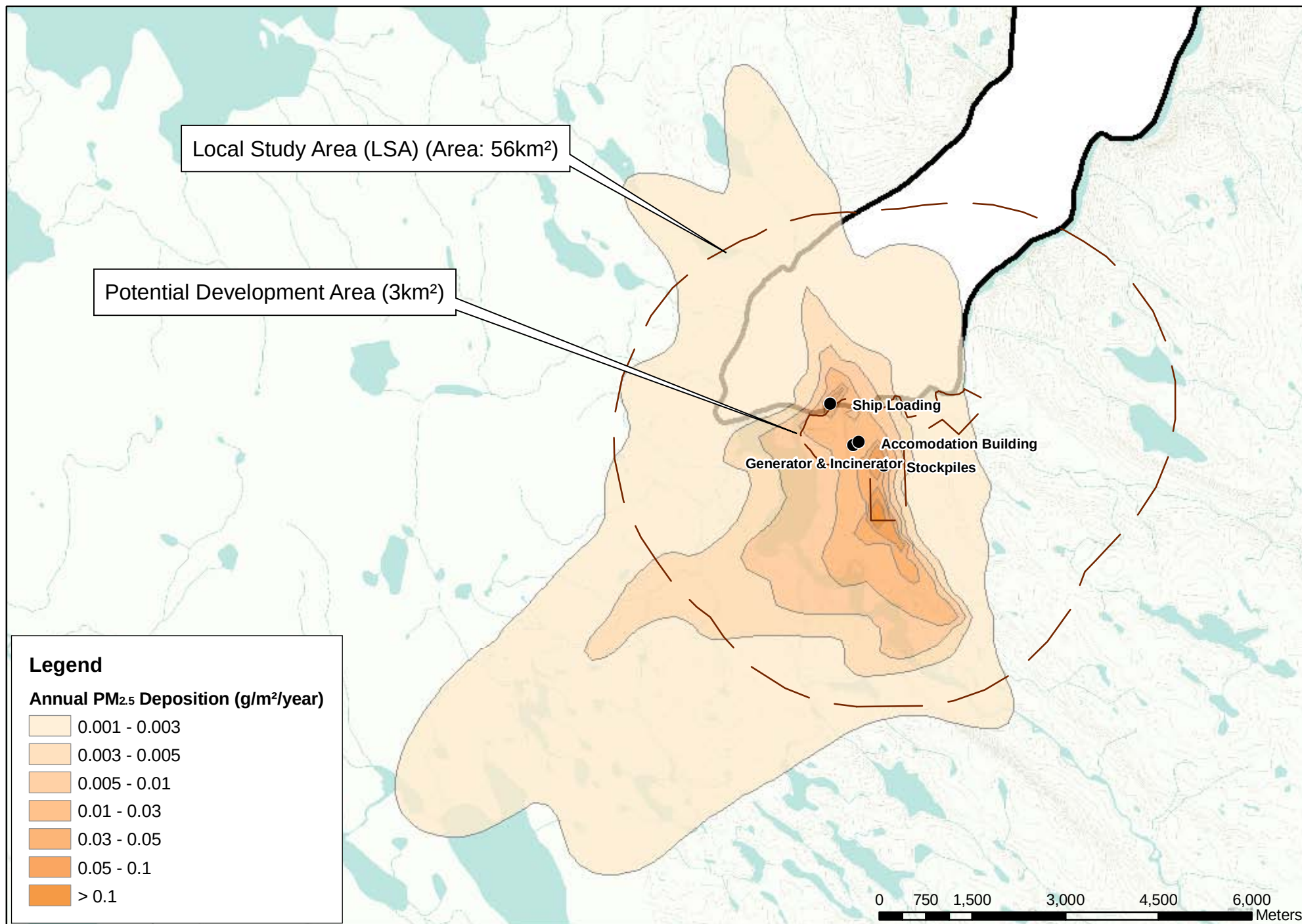
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: A-4
Approx. Scale: 1:80,000	
Date Revised: Nov. 30, 2010	

Project #0940977

RWDI



Predicted Annual PM_{2.5} Deposition - Milne Port

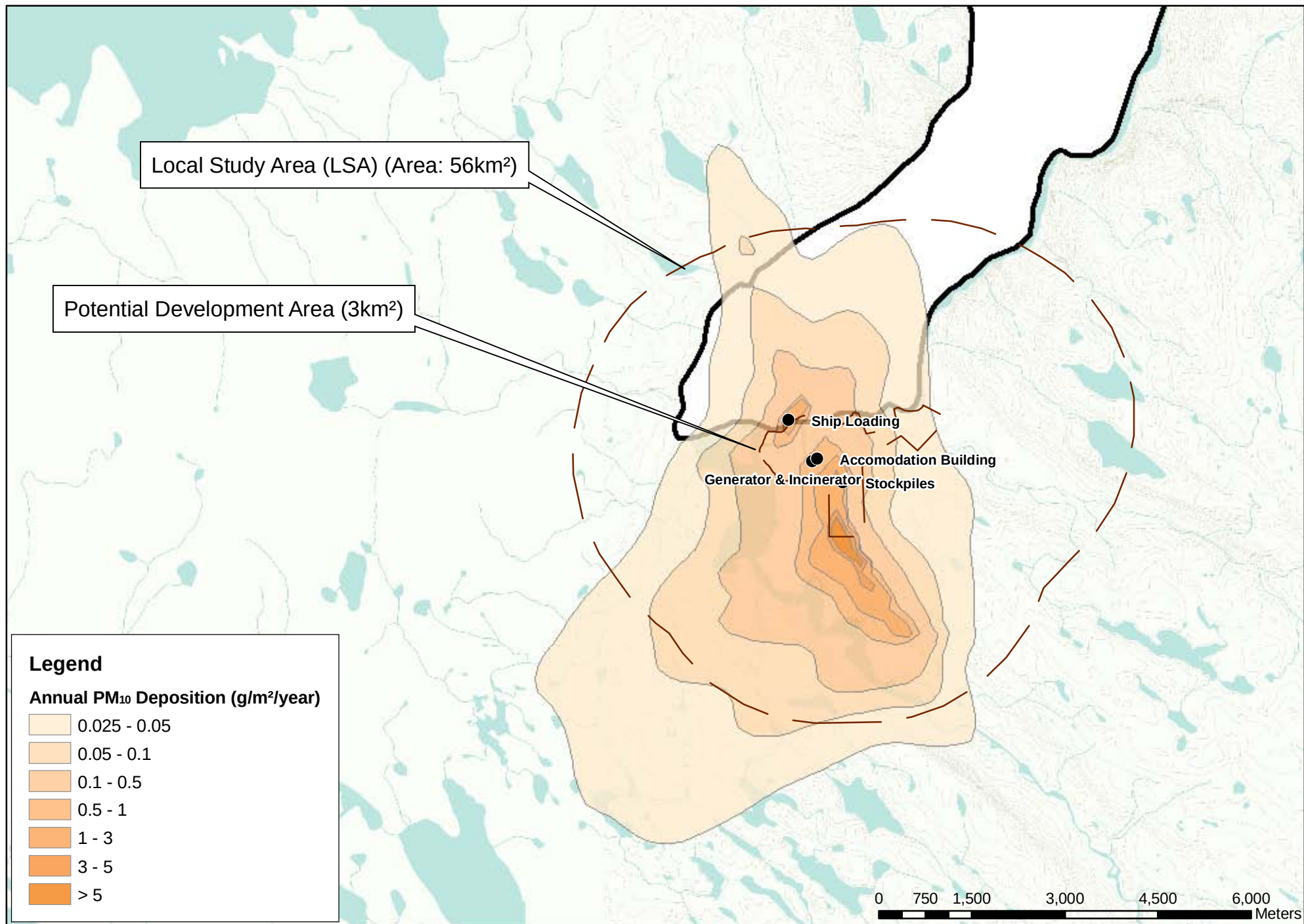
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM Fig: A-5
Approx. Scale: 1:80,000
Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Annual PM₁₀ Deposition - Milne Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



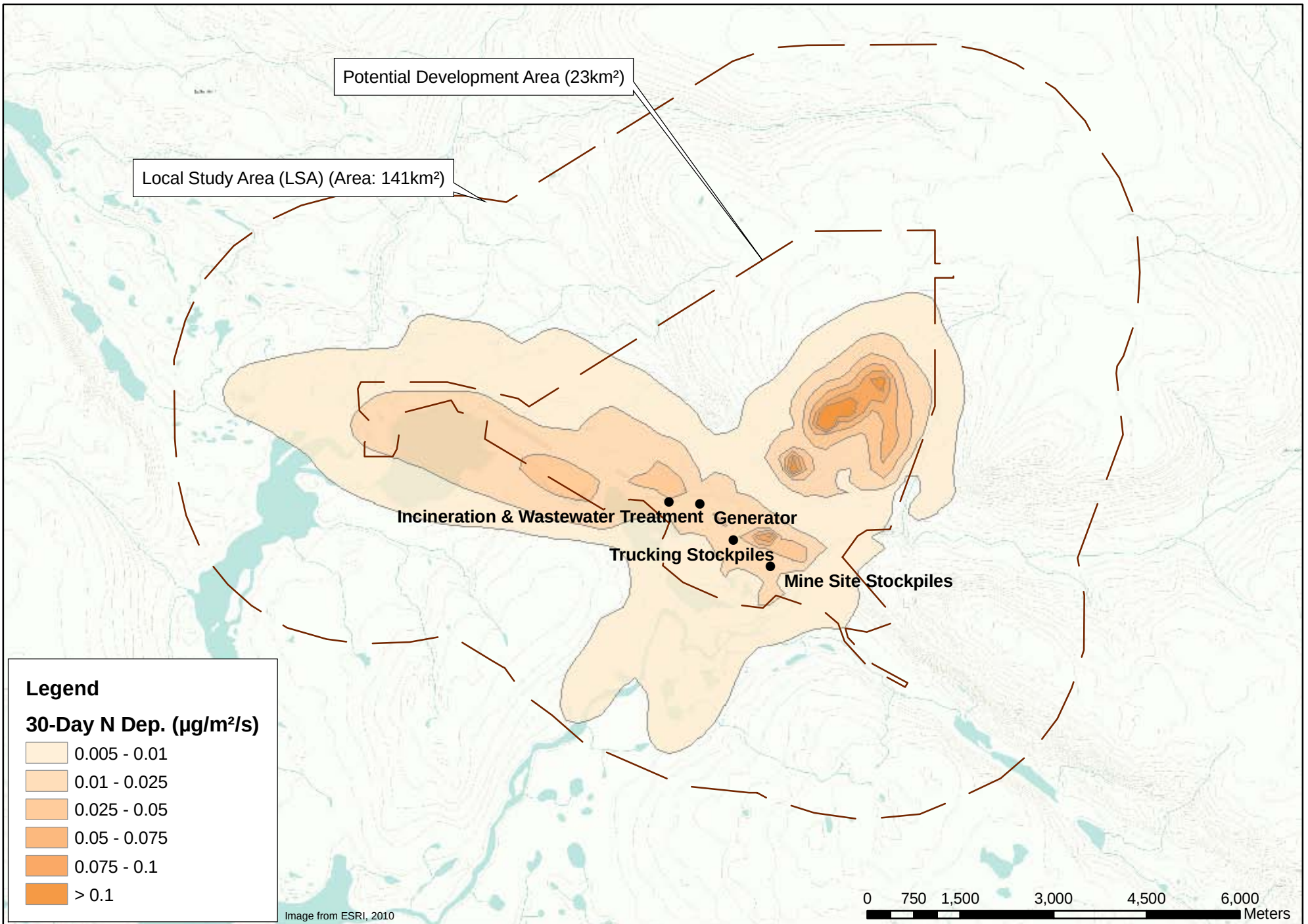
Drawn by: CAM Fig: A-6

Approx. Scale: 1:80,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Maximum 30-Day N Deposition - Mine Site

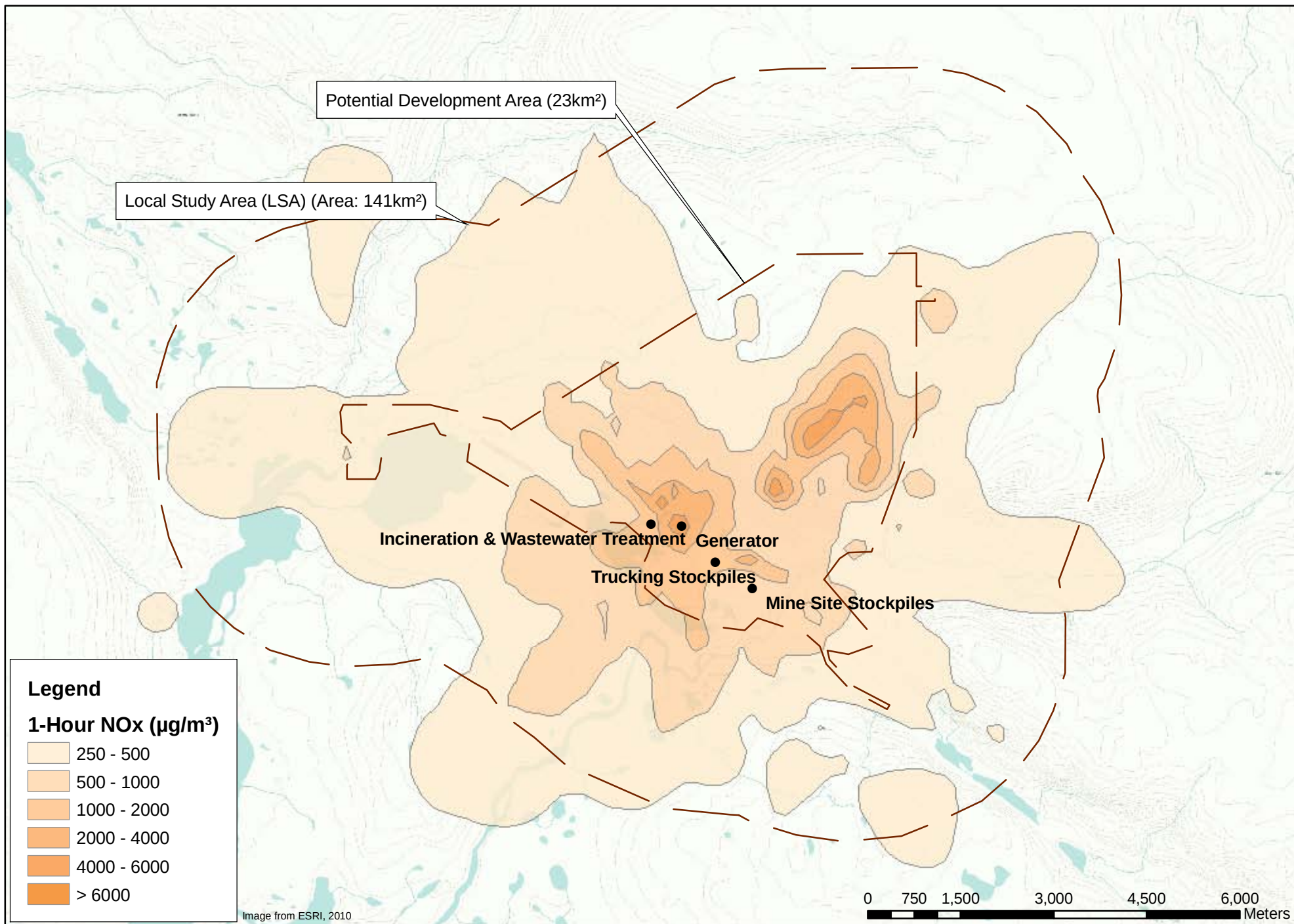
All Sources
 Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: A-7
Approx. Scale: 1:80,000	
Date Revised: Dec. 3, 2010	

RWDI

Project #0940977



Predicted Maximum 1-Hour NO_x Concentrations - Mine Site

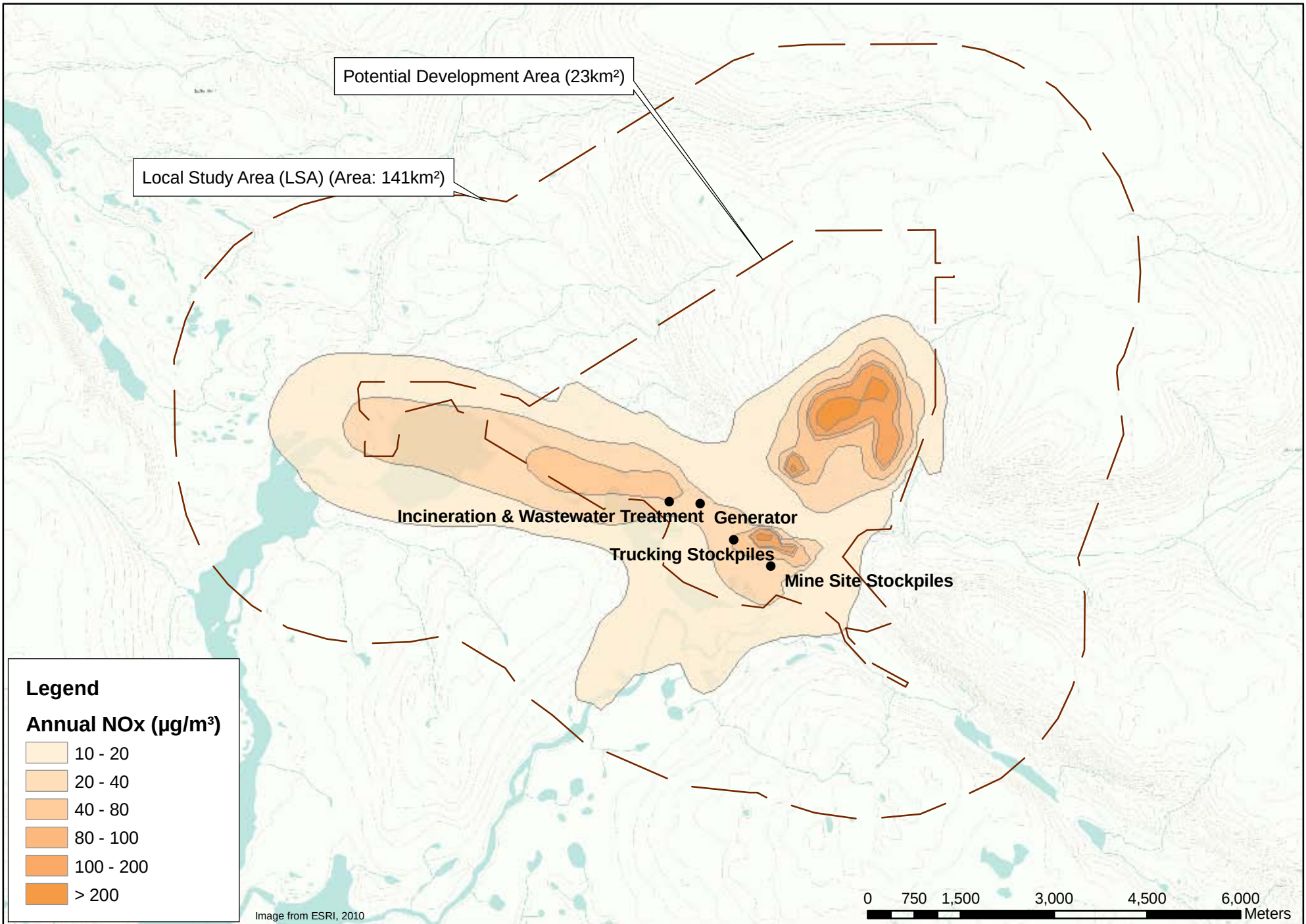
All Sources
 Baffinland Iron Mines Corporation, Baffin Island, NU, Canada

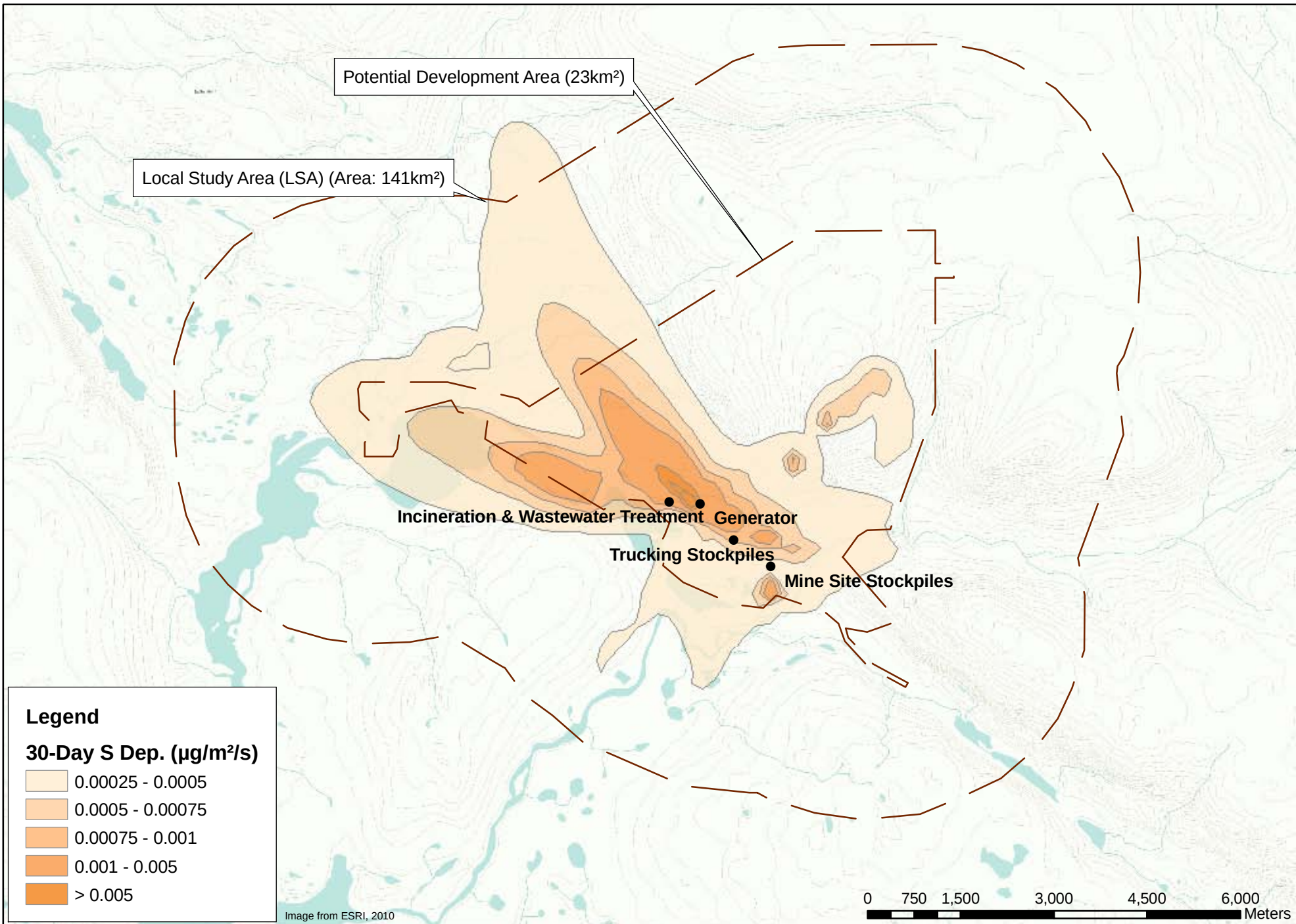


Drawn by: CAM Fig: A-8
 Approx. Scale: 1:80,000
 Date Revised: Dec. 3, 2010

RWDI

Project #0940977





Predicted Maximum 30-Day S Deposition - Mine Site

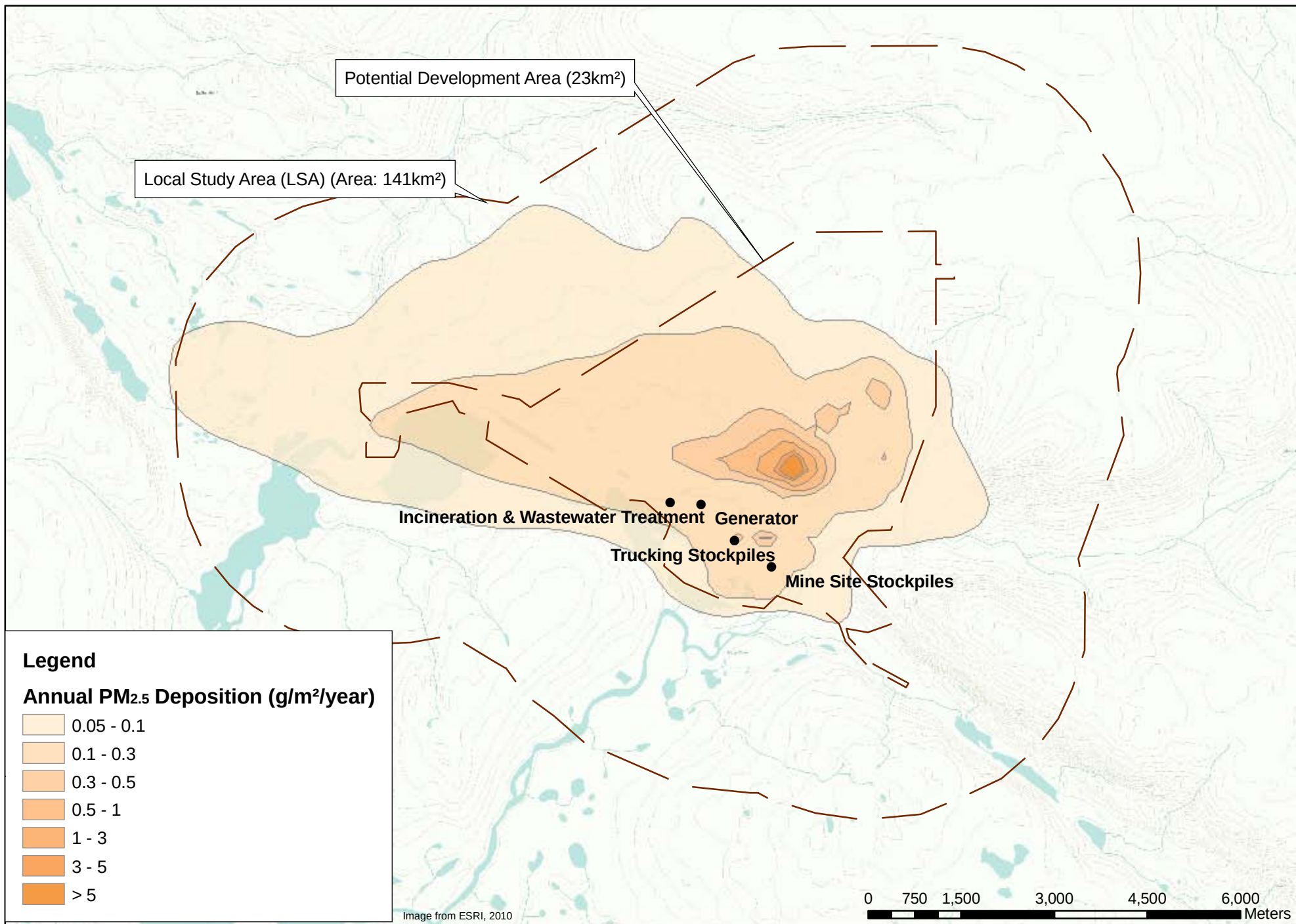
All Sources
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: A-10
Approx. Scale: 1:80,000	
Date Revised: Dec. 3, 2010	

Project #0940977

RWDI



Predicted Annual PM_{2.5} Deposition - Mine Site

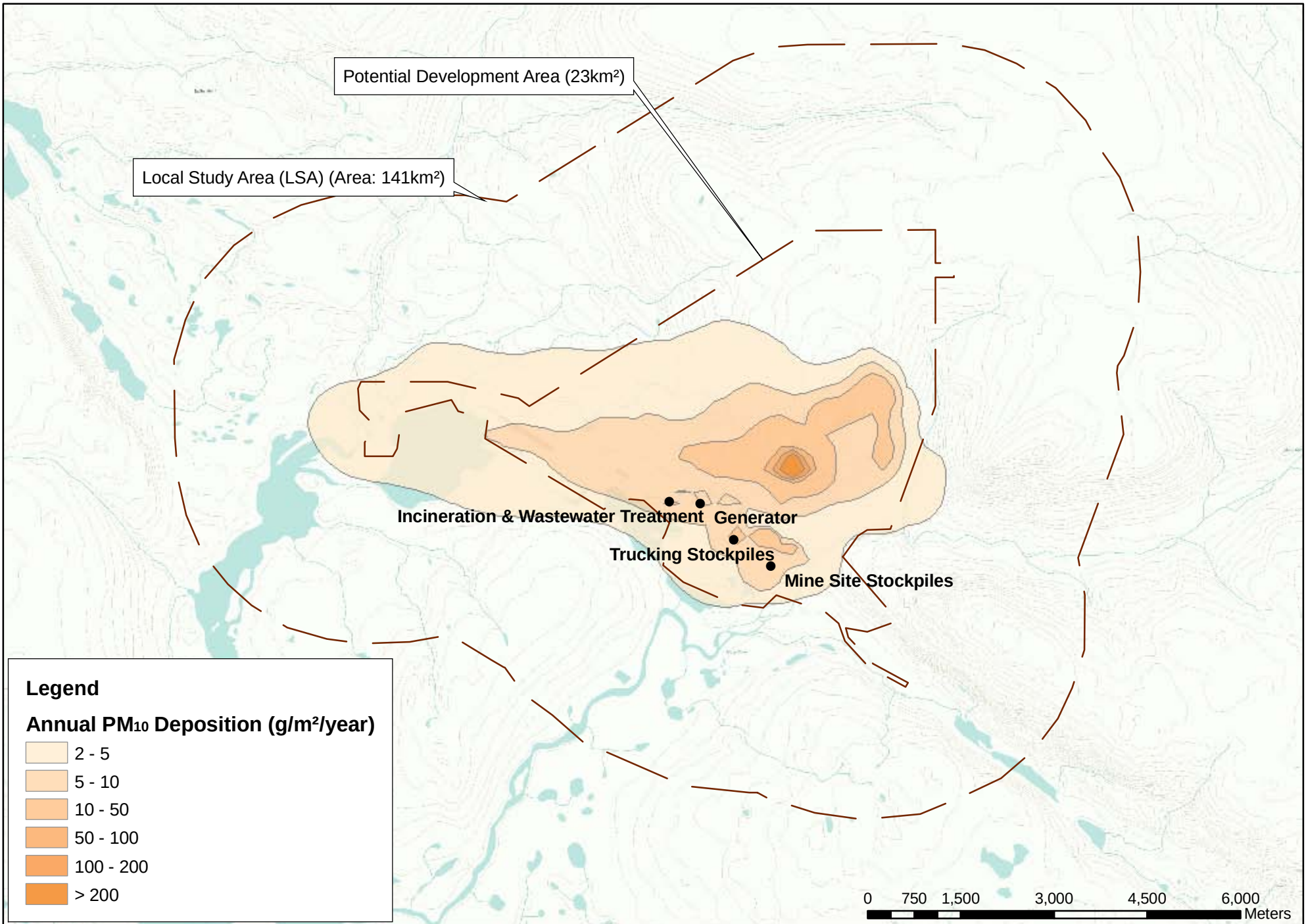
All Sources
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM Fig: A-11
Approx. Scale: 1:80,000
Date Revised: Dec. 3, 2010

RWDI

Project #0940977



Predicted Annual PM₁₀ Deposition - Mine Site

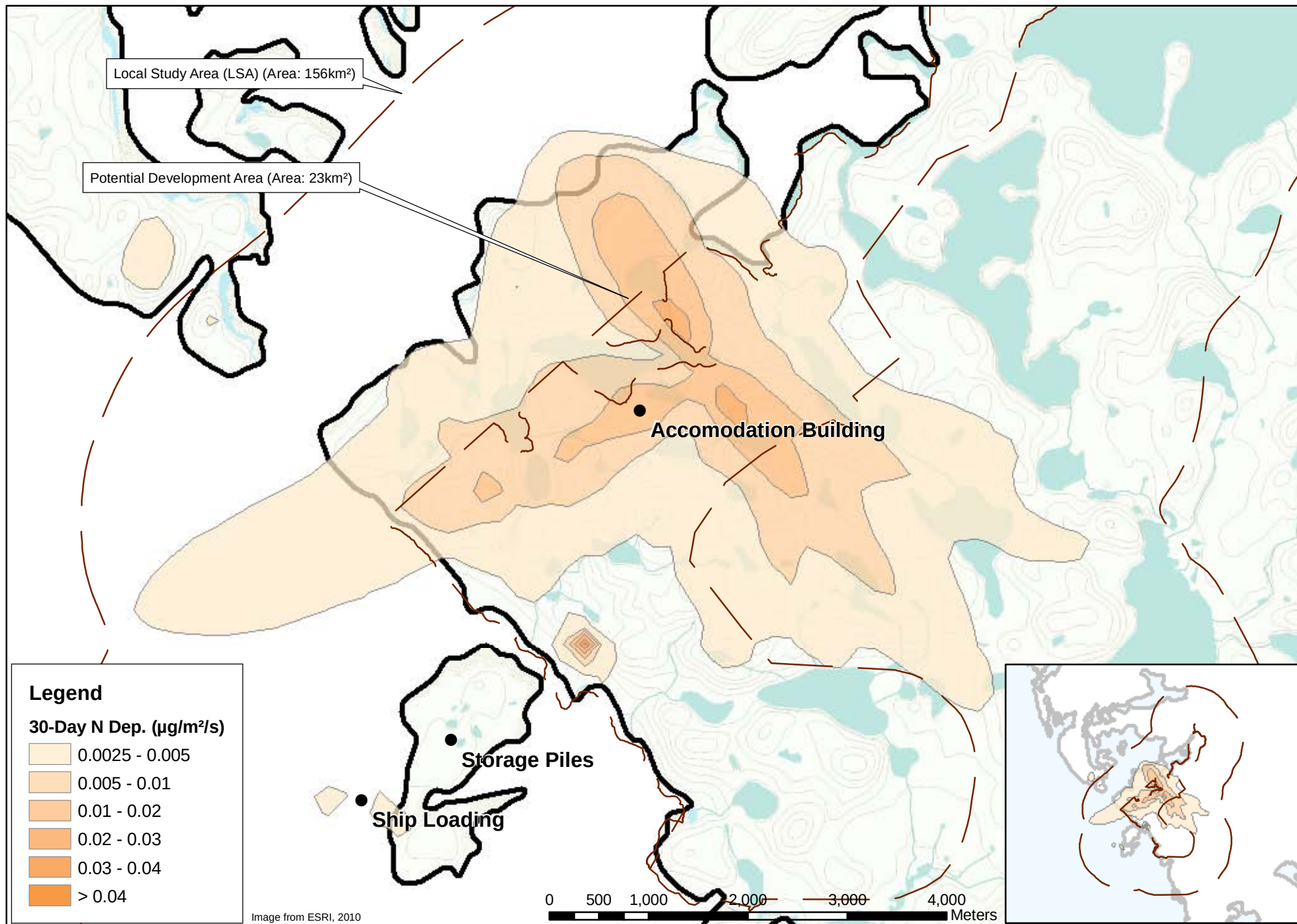
All Sources
Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



Drawn by: CAM	Fig: A-12
Approx. Scale: 1:80,000	
Date Revised: Dec. 3, 2010	

Project #0940977

RWDI



Predicted Maximum 30-Day N Deposition - Steensby Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



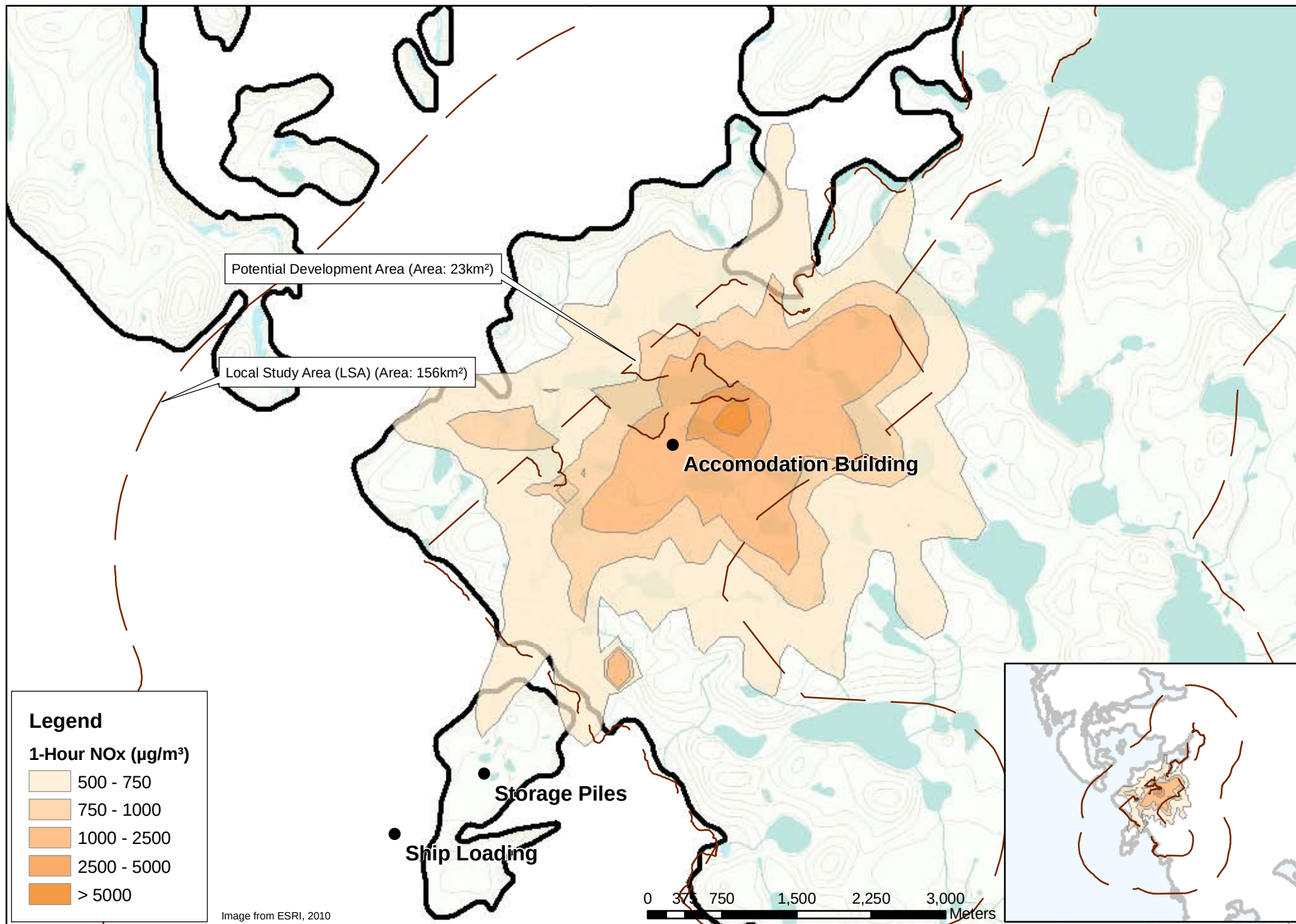
Drawn by: CAM Fig: A-13

Approx. Scale: 1:50,000

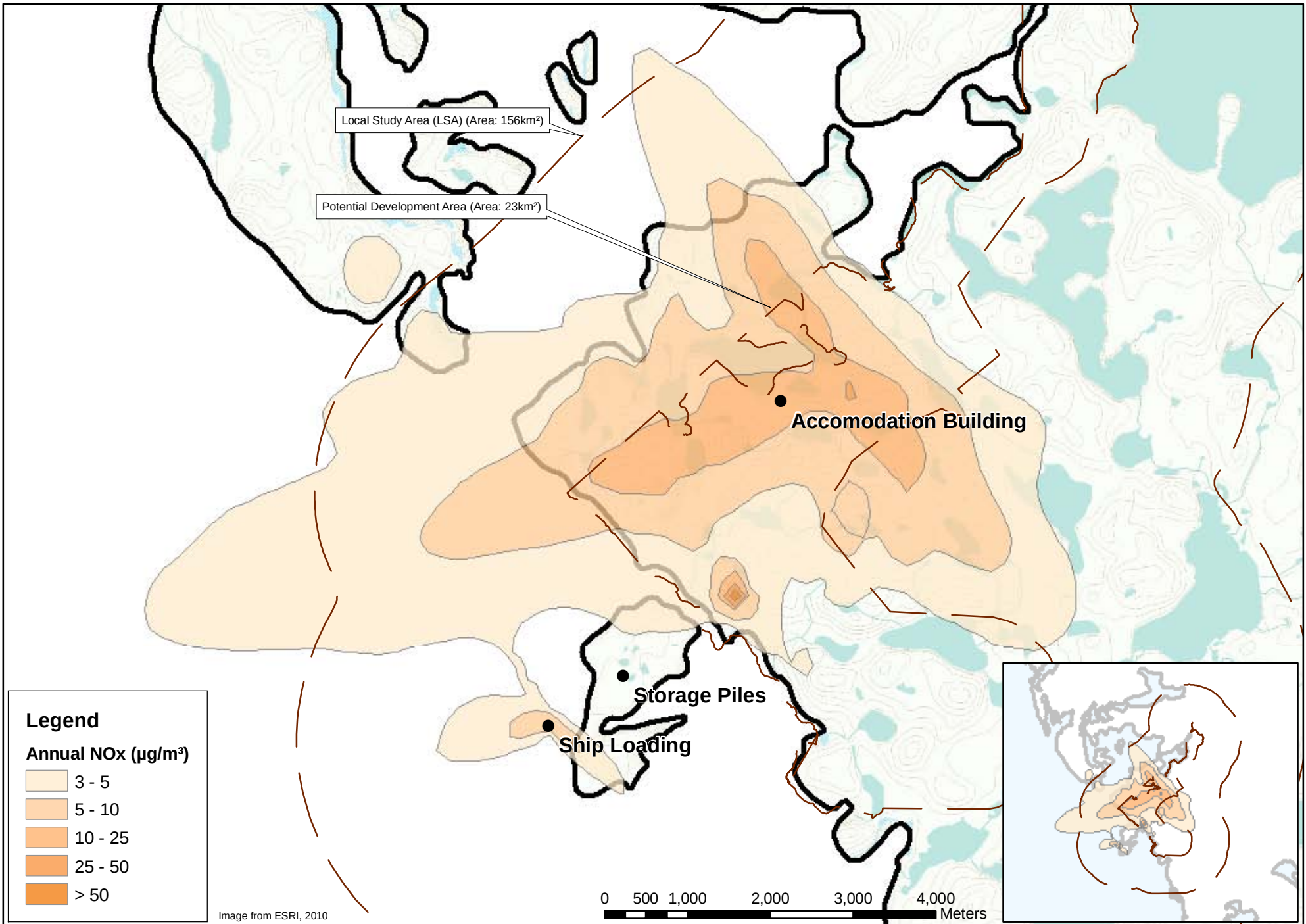
Date Revised: Nov. 30, 2010

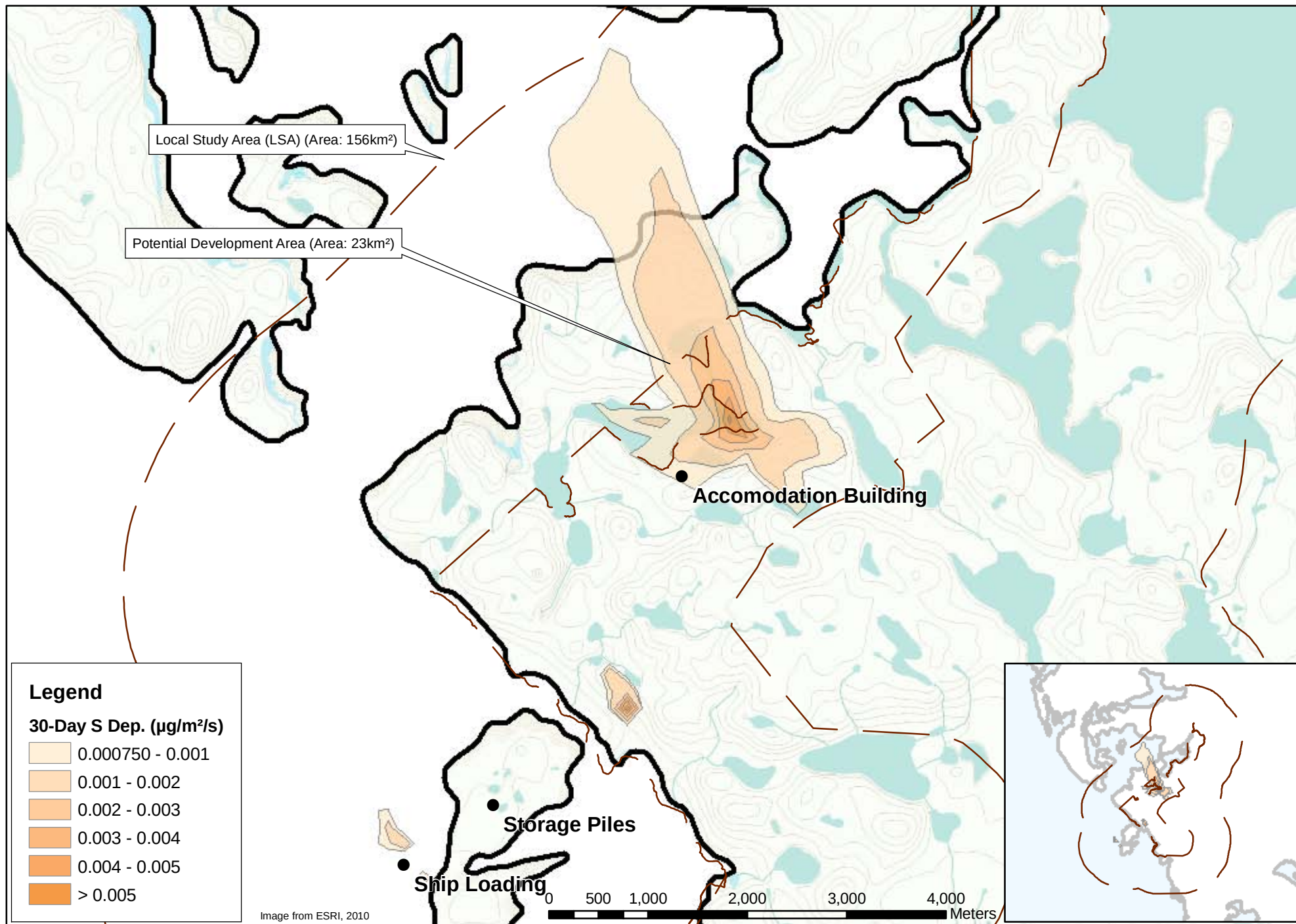
Project #0940977

RWDI



Predicted Maximum 1-Hour NOx Concentrations - Steensby Port





Predicted Maximum 30-Day S Deposition - Steensby Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



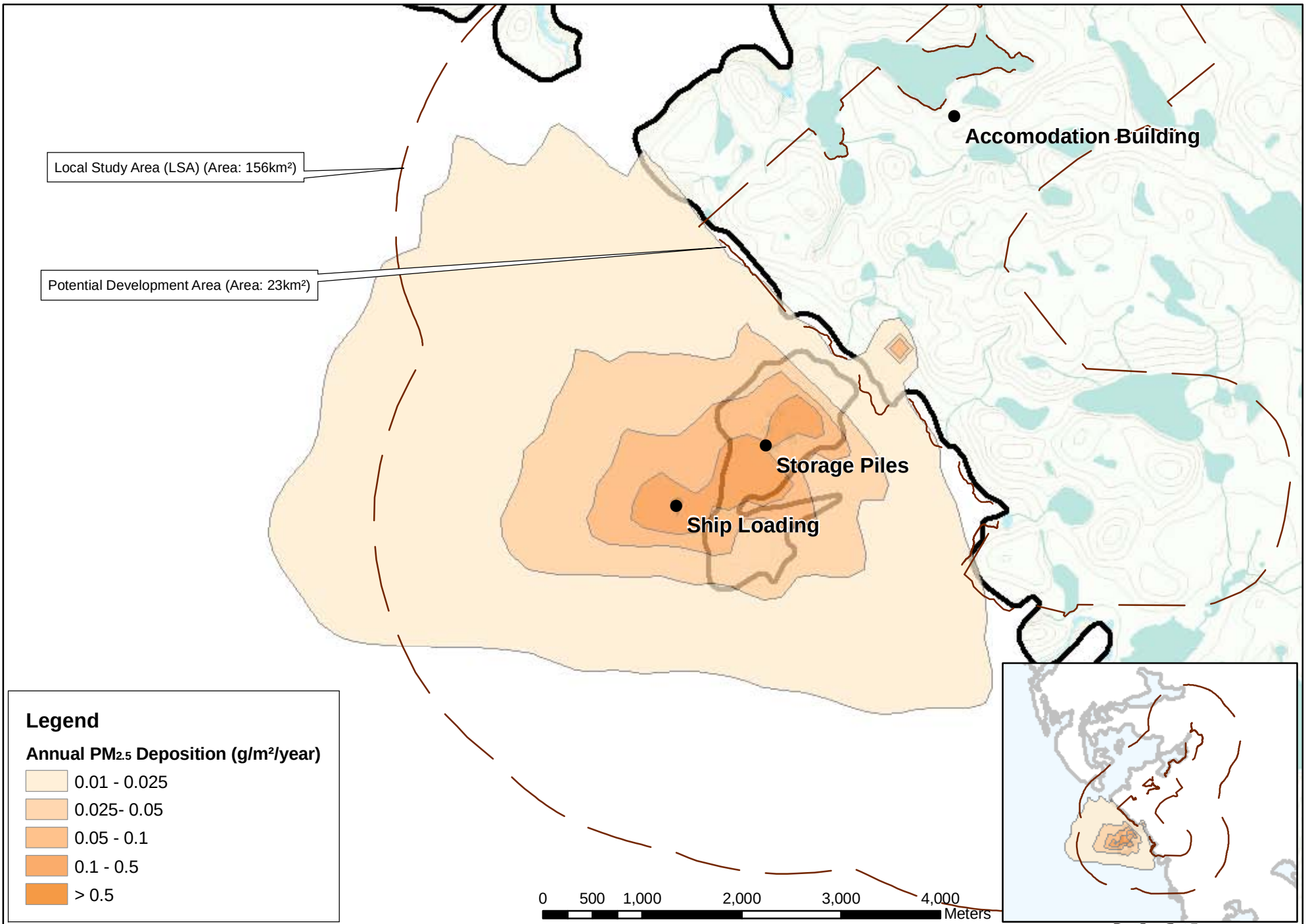
Drawn by: CAM Fig: A-16

Approx. Scale: 1:50,000

Date Revised: Nov. 30, 2010

Project #0940977

RWDI



Predicted Annual PM_{2.5} Deposition - Steensby Port

Baffinland Iron Mines Corporation, Baffin Island, NU, Canada



True North

Drawn by: CAM

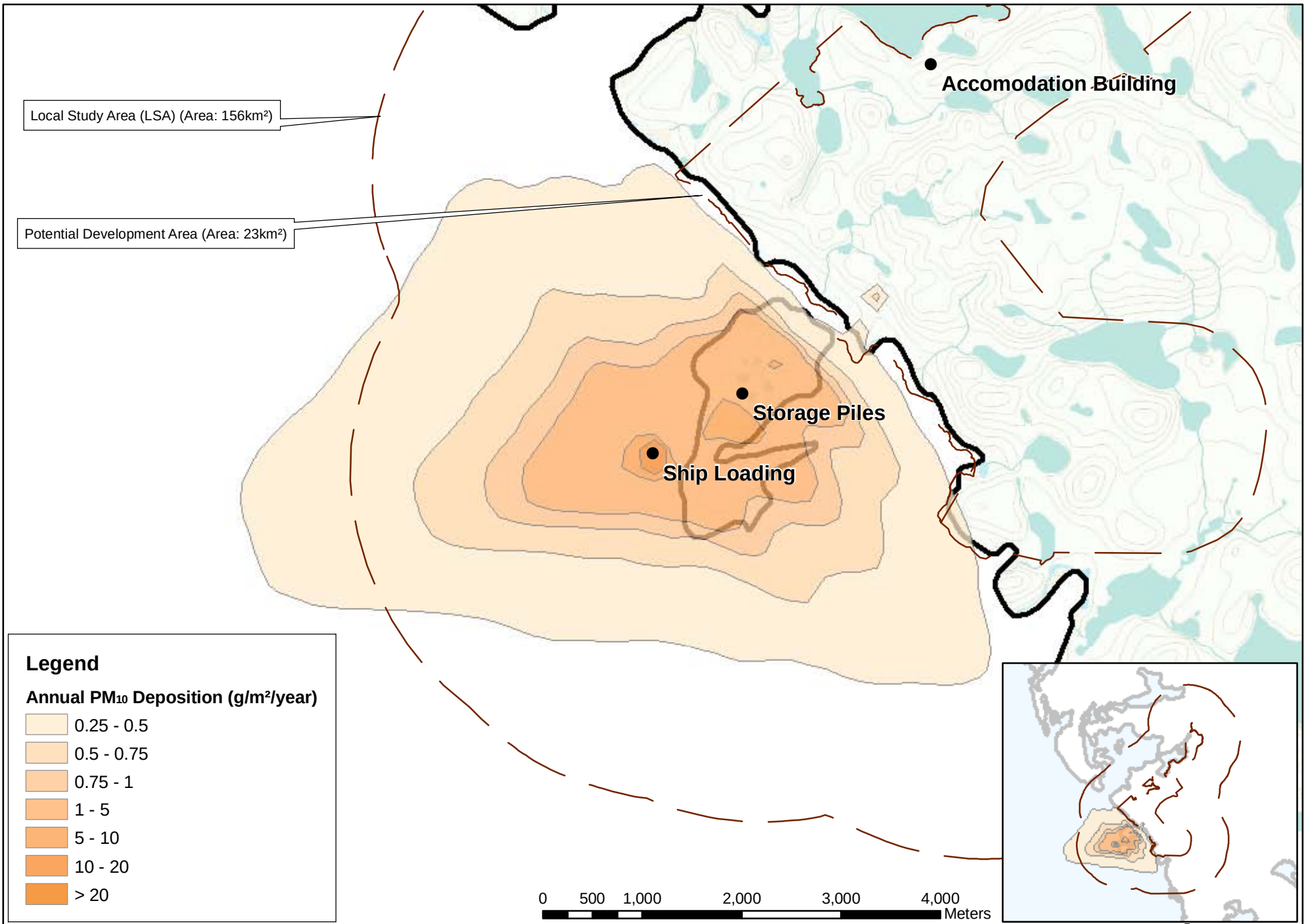
Fig: A-17

Approx. Scale: 1:50,000

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Predicted Annual PM₁₀ Deposition - Steensby Port