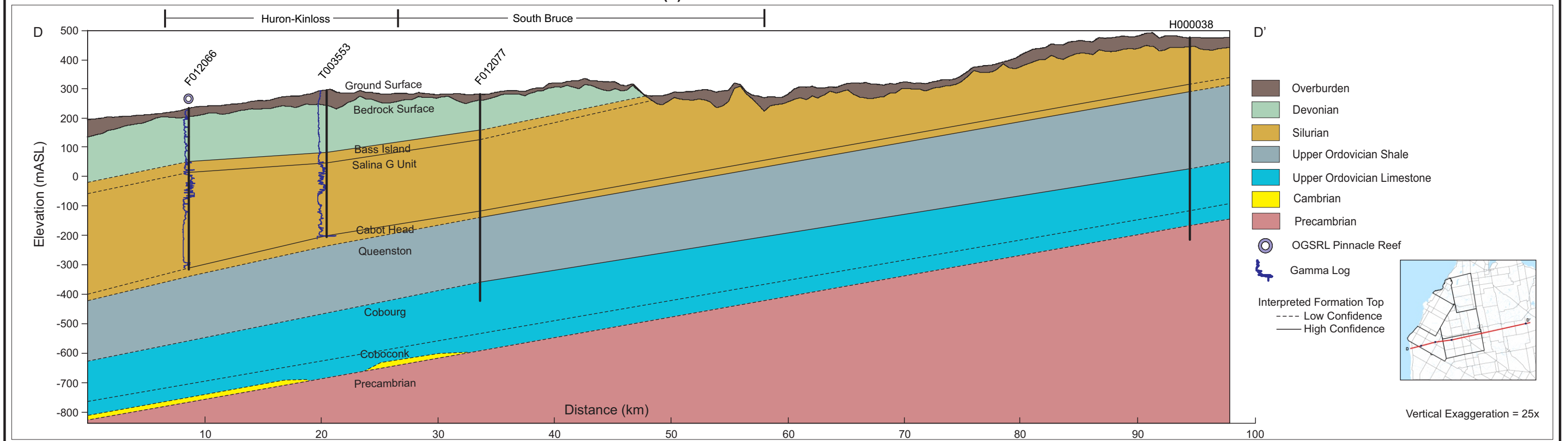


(a) Cross-Section C-C'



(b) Cross-Section D-D'

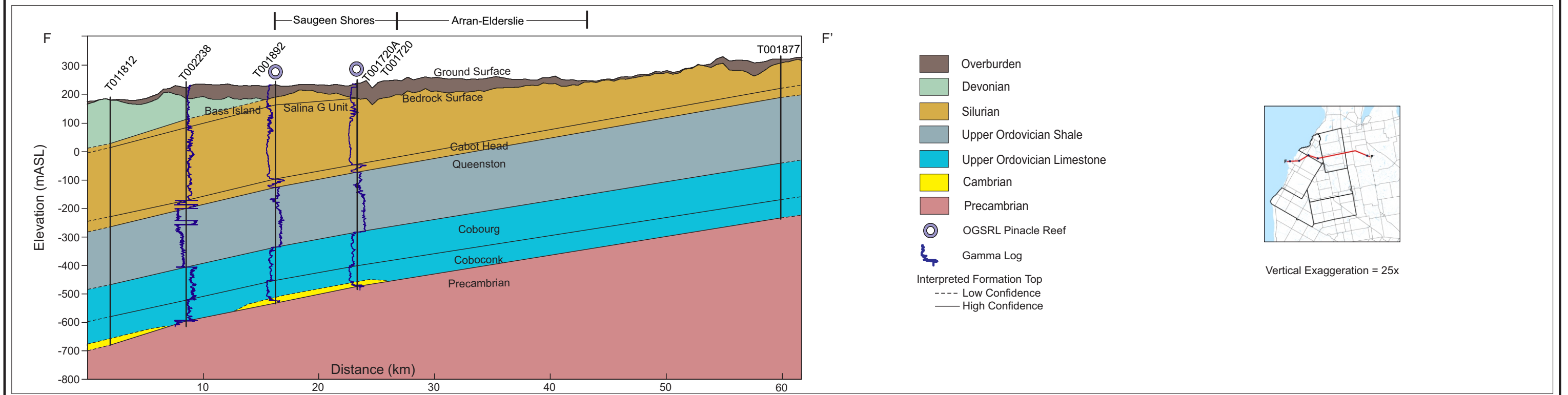
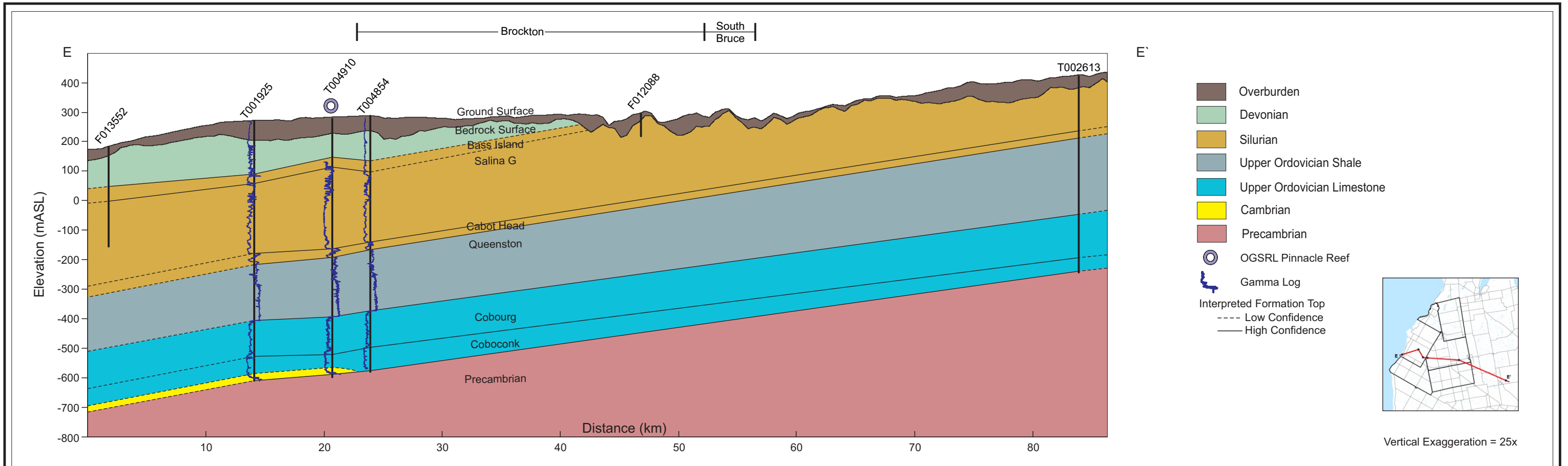
Data Source: OGSRL, 2013

FIGURE 3.12 - Geological Cross-Sections (a) C-C' and (b) D-D'
 PROJECT No: 10-214-7
NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

Prepared by: NMP/ADG
 Reviewed by: KGR/SNS
 Date: 23/06/2014



"P:\Projects\2010\10-214 NWMO APM Site Screening\10-214-7 Sedimentary Sites FS\110 Reporting\110.10 Suitability Report\Figures\WorkingFiles\10-214-7-110_SedSites_Fig3_12_CrossSections_C_D.cdr"



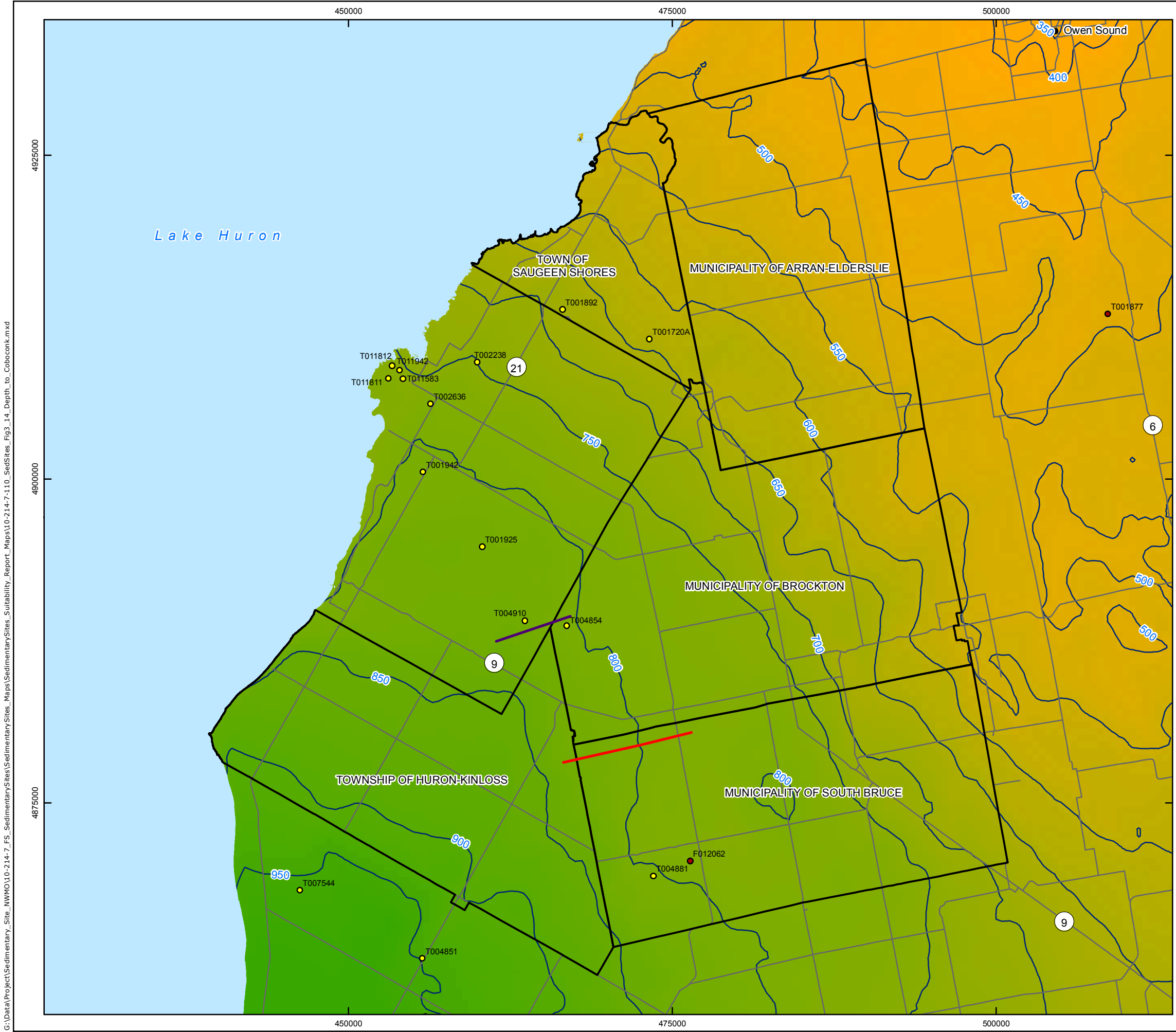
Data Source: OGSRL, 2013

FIGURE 3.13 - Geological Cross-Sections (a) E-E' and (b) F-F'

PROJECT No: 10-214-7
NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

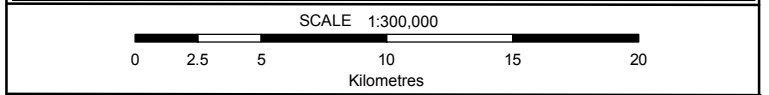
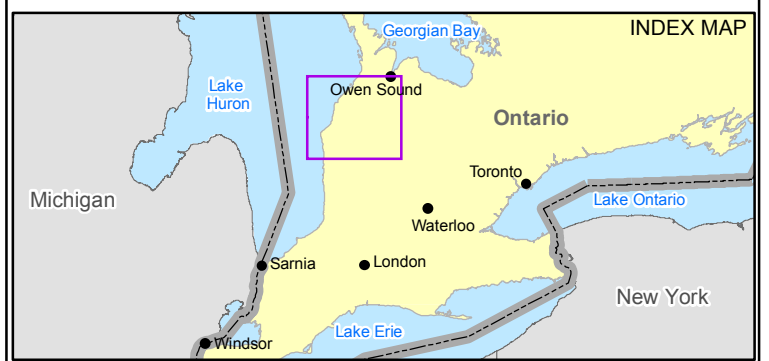
Prepared by: NMP/ADG
 Reviewed by: KGR/SNS
 Date: 23/06/2014





LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
- Shadow Lake/Precambrian
- Trenton (Ordovician)
- OGSRL Well with Data Used to Create Top of the Coboconk Formation**
- OGSRL Well with Geophysics Log
- OGSRL Well
- Depth to the Coboconk Formation (mBGS)**
- High : 996
- Low : 331
- Contour of Depth to top Coboconk Formation (50m interval)



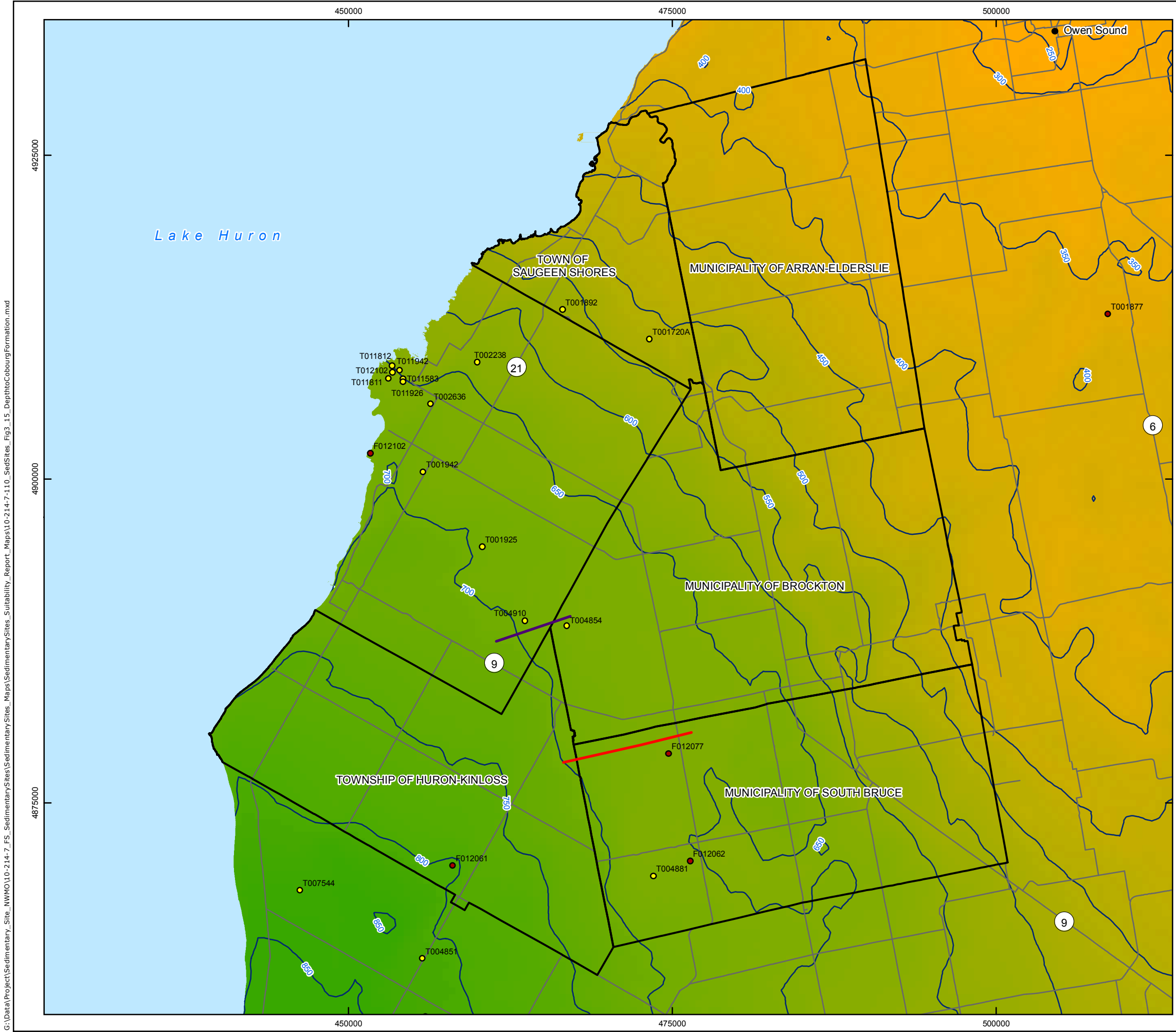
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 SOURCE:
 Basemap Layers: LIO, MNR, ESRI
 Fault Mapping: MRD 276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Oil and Gas Wells: OGSRL 2013
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PROJECT No. 10-214-7
 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

TITLE **Depth to Top of the Coboconk Formation in the Area of the Five Communities**

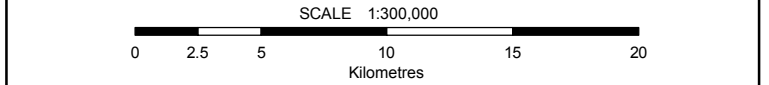
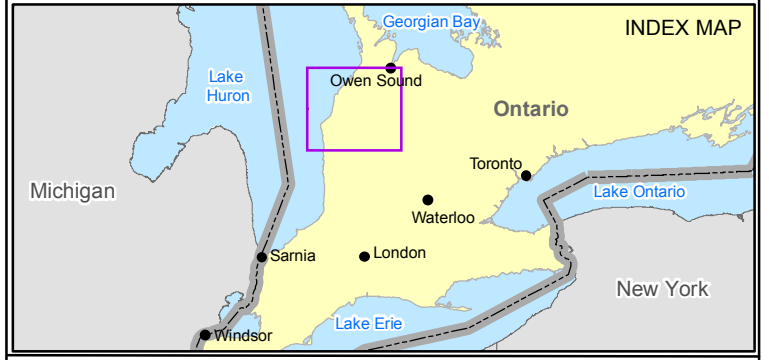
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	DATE: 6/26/2014	

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LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
 - Shadow Lake/Precambrian
 - Trenton (Ordovician)
- OGSRL Well with Data Used to Create Top of the Cobourg Formation**
 - OGSRL Well with Geophysics Log
 - OGSRL Well
- Depth to the Cobourg Formation (mBGS)**
 - High : 864
 - Low : 200
 - Contour of Depth to the Cobourg Formation (50m interval)



COORDINATE SYSTEM: UTM NAD83 Zone 17N
 SOURCE:
 Basemap Layers: LIO, MNR, ESRI
 Fault Mapping: MRD 276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Oil and Gas Wells: OGSRL 2013
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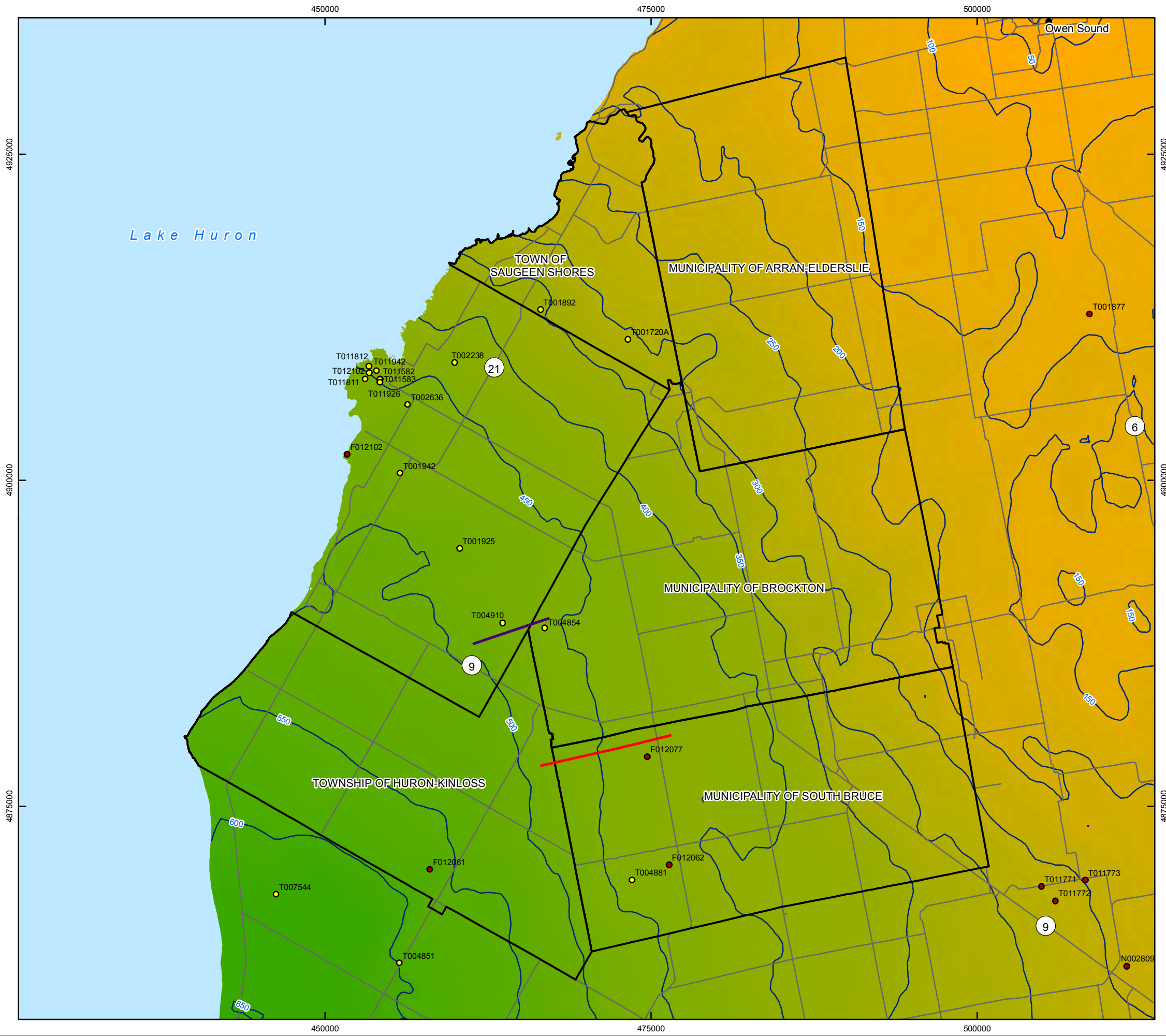
PROJECT No. 10-214-7
 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

TITLE **Depth to Top of the Cobourg Formation in the Area of the Five Communiies**

FIGURE 3.15	DESIGN: NMP CAD/GIS: NMP CHECK: KGR/SNS REV: 0	
	DATE: 6/26/2014	

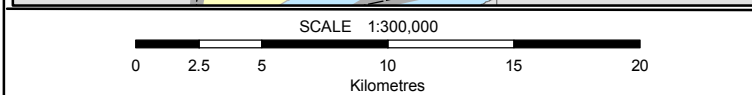
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LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
 - Shadow Lake/Precambrian
 - Trenton (Ordovician)
- OGSRL Well with Data Used to Create Top of the Queenston Formation**
 - OGSRL Well with Geophysics Log
 - OGSRL Well
- Depth to the Queenston Formation (mBGS)**
 - High : 651
 - Low : 0
 - Contour of Depth to the Queenston Formation (50m interval)



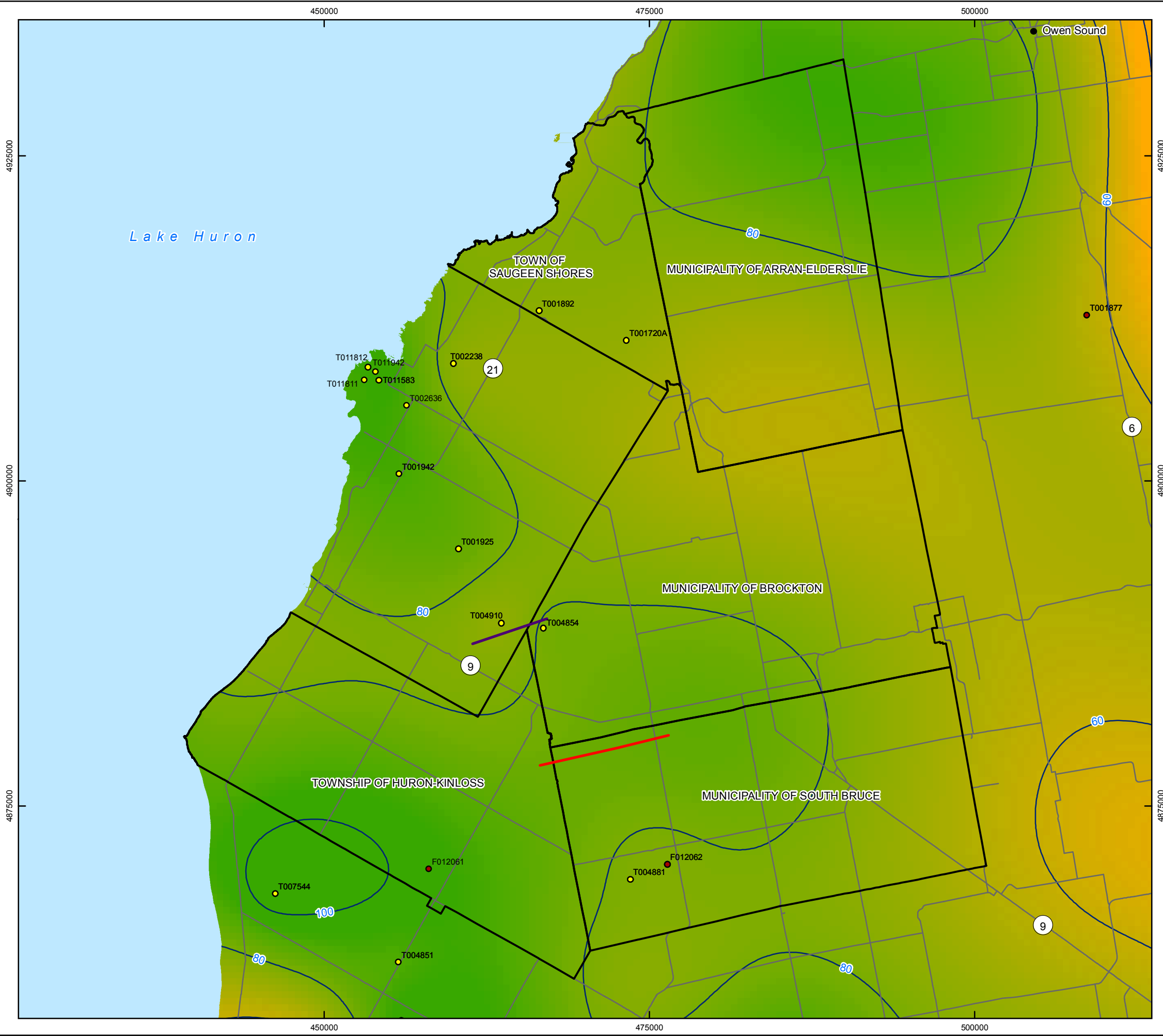
COORDINATE SYSTEM: UTM NAD83 Zone 17N
 SOURCE: Basemap Layers: LIO, MNR, ESRI
 Fault Mapping: MRD276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Oil and Gas Wells: OGSRL 2013
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 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

TITLE **Depth to Top of the Queenston Formation in the Area of the Five Communities**

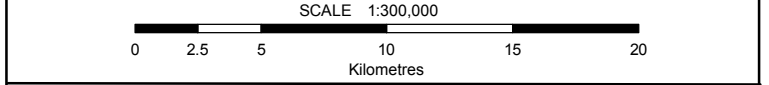
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LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
 - Shadow Lake/Precambrian
 - Trenton (Ordovician)
- OGSRL Well with Data Used to Calculate Thickness of the Ordovician Black River Group**
 - OGSRL Well with Geophysics Log
 - OGSRL Well
- Black River Group Thickness (m)**
 - 116
 - 33
- Contour of the Black River Group Thickness (20m interval)

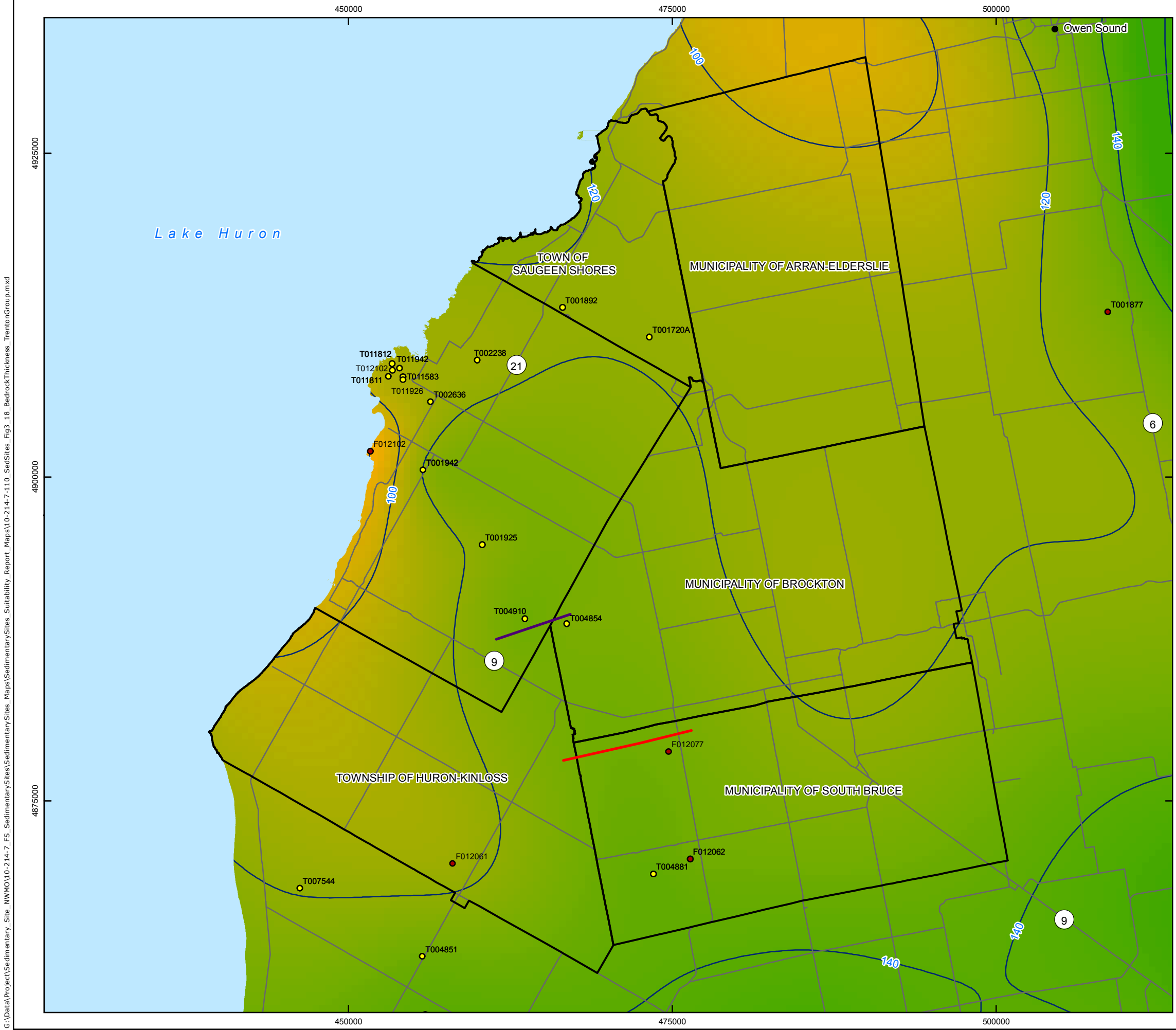


COORDINATE SYSTEM: UTM NAD83 Zone 17N
 SOURCE:
 Basemap Layers: LIO, MNR, ESRI
 Fault Mapping: MRD 276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Oil and Gas Wells: OGSRL 2013
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 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

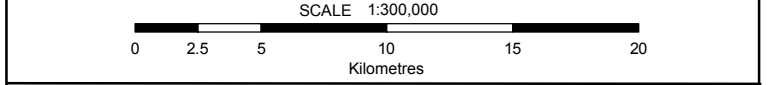
TITLE **Thickness of the Ordovician Black River Group in the Area of the Five Communities**

FIGURE 3.17	DESIGN: NMP CAD/GIS: NMP CHECK: KGR/SNS REV: 0	
	DATE: 6/26/2014	



LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
 - Shadow Lake/Precambrian
 - Trenton (Ordovician)
- OGSRL Well with Data Used to Calculate Thickness of the Ordovician Trenton Group**
 - OGSRL Well with Geophysics Log
 - OGSRL Well
- Trenton Group Thickness (m)**
 - 162
 - 76
- Contour of the Trenton Group Thickness (20m interval)



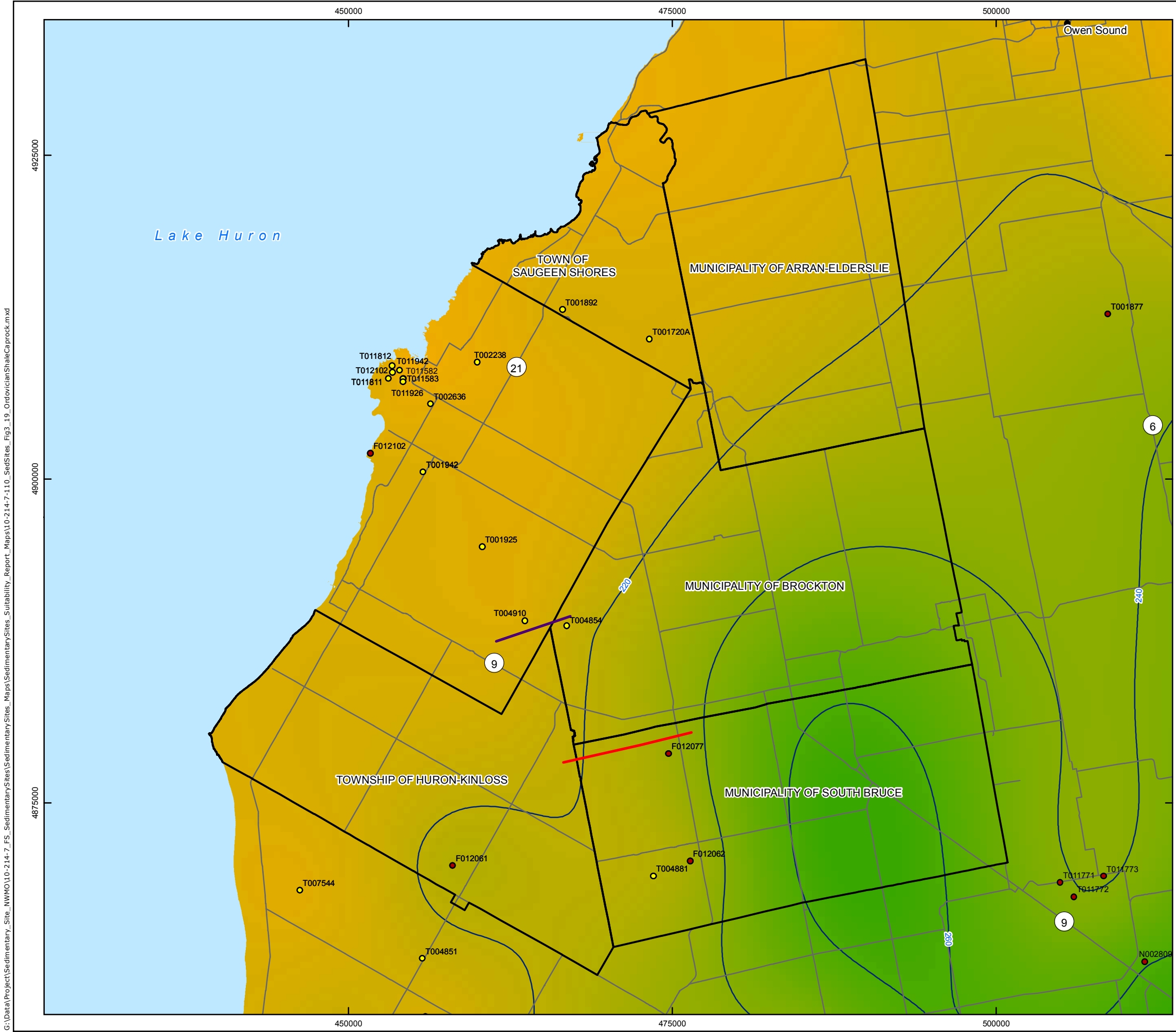
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 SOURCE:
 Basemap Layers: LIO, MNR, ESRI
 Fault Mapping: MRD 276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Oil and Gas Wells: OGSRL 2013
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 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

TITLE **Thickness of the Ordovician Trenton Group in the Area of the Five Communities**

FIGURE 3.18	DESIGN: NMP CAD/GIS: NMP CHECK: KGR/SNS REV: 0	
	DATE: 6/26/2014	

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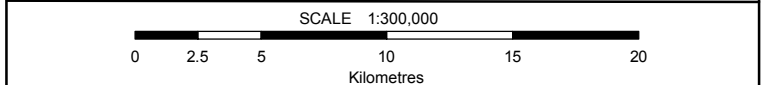
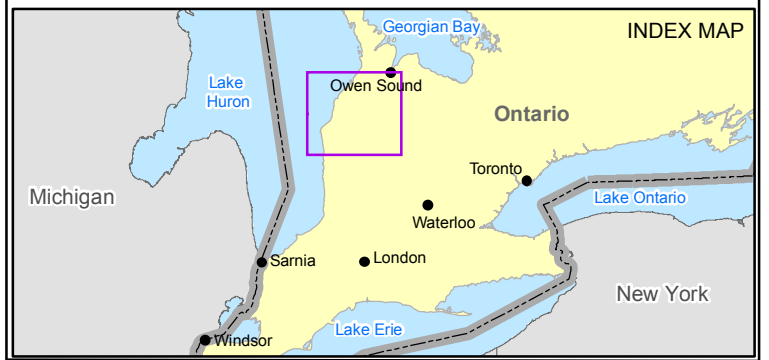


LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
 - Shadow Lake/Precambrian
 - Trenton (Ordovician)
- OGSRL Well with Data Used to Calculate Thickness of the Ordovician Shale Units**
 - OGSRL Well with Geophysics Log
 - OGSRL Well
- Ordovician Shale Thickness (m)**

267

196
- Ordovician Shale Thickness Contour (20m interval)



COORDINATE SYSTEM: UTM NAD83 Zone 17N
 SOURCE:
 Basemap Layers: LIO, MNR, ESRI
 Fault Mapping: MRD 276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Oil and Gas Wells: OGSRL 2013
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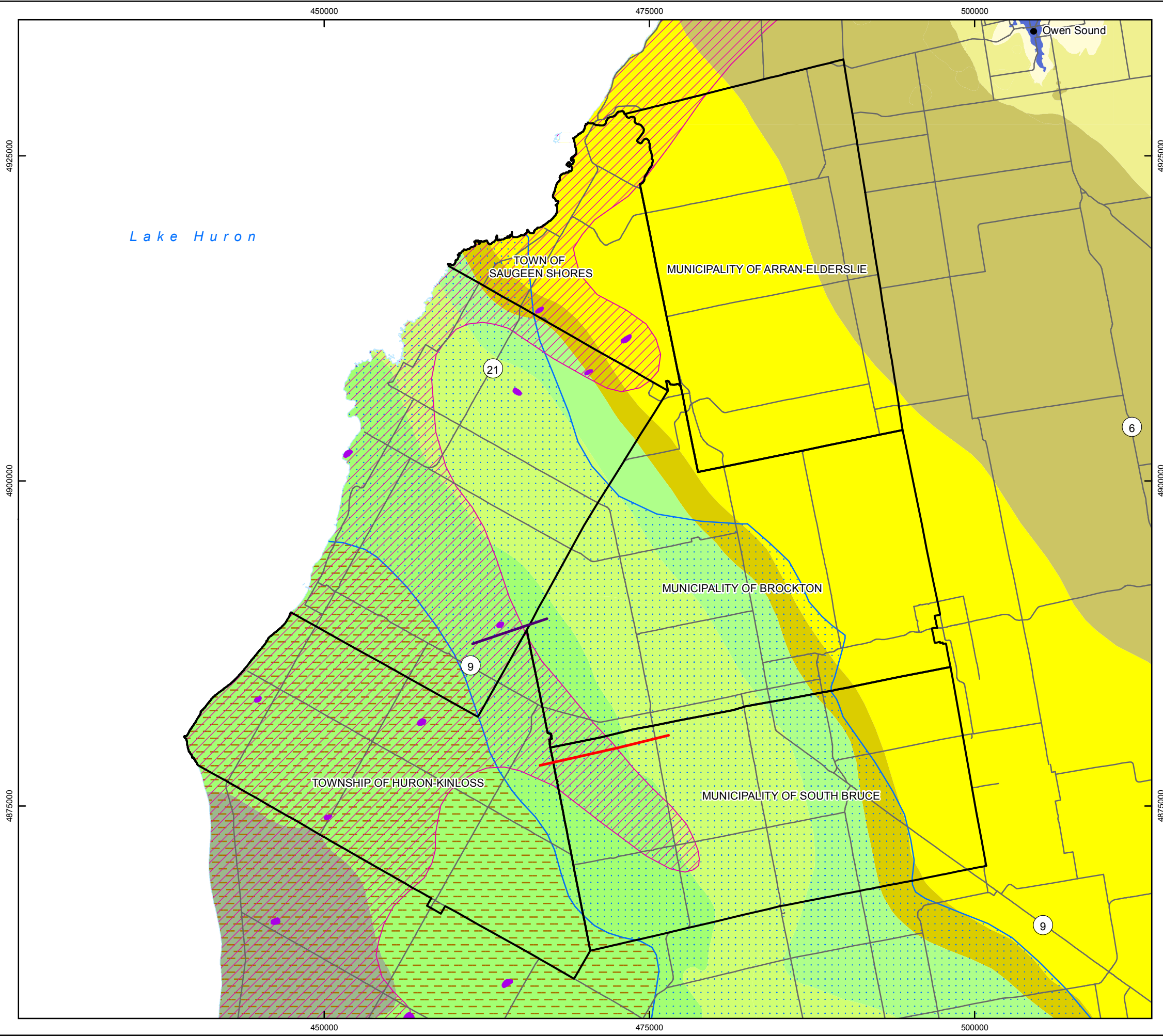
PROJECT No. 10-214-7
 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

TITLE **Thickness of the Ordovician Shale Units in the Area of the Five Communities**

FIGURE 3.19	DESIGN: NMP CAD/GIS: NMP/ADG CHECK: KGR/SNS REV: 0	
	DATE: 6/26/2014	

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LEGEND

- The Communities
- Highway/Major Road
- Waterbody
- Mapped Subsurface Faults**
 - Shadow Lake/Precambrian
 - Trenton (Ordovician)
- Area of Salt Occurrence
- Area of Salt Dissolution
- Cambrian Sandstone
- Pinnacle Reef

Bedrock Geology

Middle Devonian

- Dundee
- Lucas
- Amherstburg

Lower Devonian

- Bois Blanc

Upper Silurian

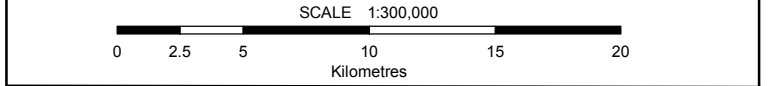
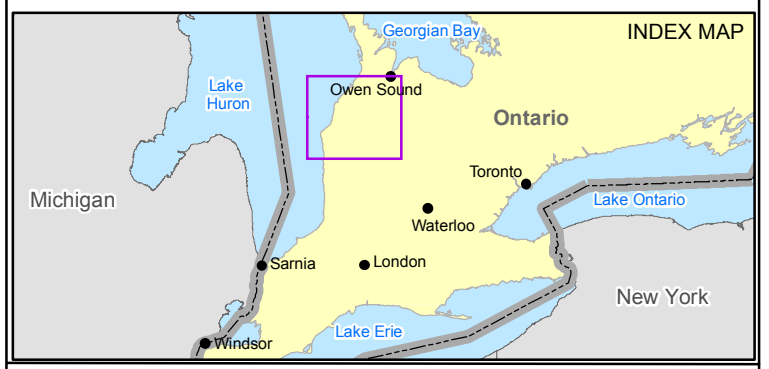
- Bass Islands
- Salina
- Guelph

Lower Silurian

- Amabel
- Clinton-Cataract Group

Upper Ordovician

- Queenston



COORDINATE SYSTEM: UTM NAD83 Zone 17N
 SOURCE:
 Basemap Layers: LIO, MNR, ESRI
 Cambrian Sandstone: Bailey & Cochrane, 1990
 Fault Mapping and Pinnacle Reefs: MRD276 Regional structure and isopach maps of potential hydrocarbon-bearing strata for southern Ontario, OGS, 2011
 Geology: MRD219 Paleozoic Geology of Southern Ontario, OGS, 2007
 Salt Occurrence & Salt Dissolution: Sanford, 1976
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PROJECT No. 10-214-7
 NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

TITLE **Location of Pinnacle Reefs, Salt Occurrence and Dissolution, and Cambrian Sandstone in the Area of the Five Communities**

FIGURE 3.20	DESIGN: NMP CAD/GIS: NMP CHECK: KGR/SNS REV: 0	
	DATE: 6/26/2014	

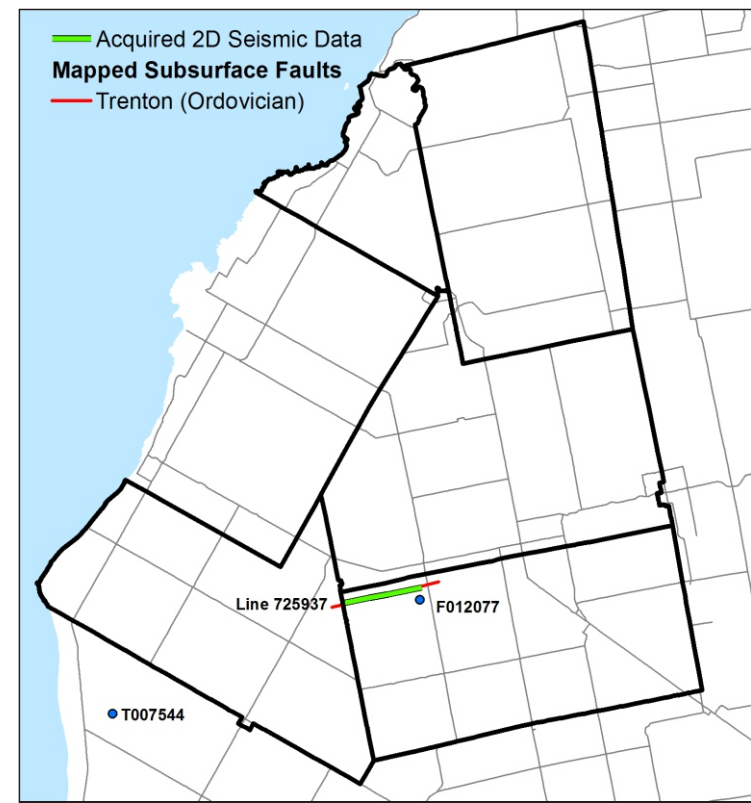
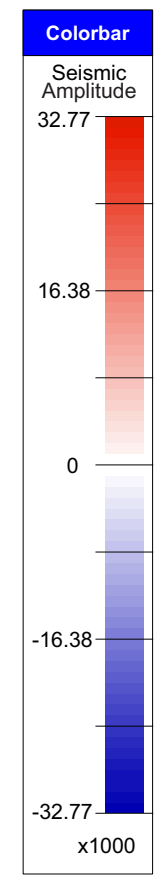
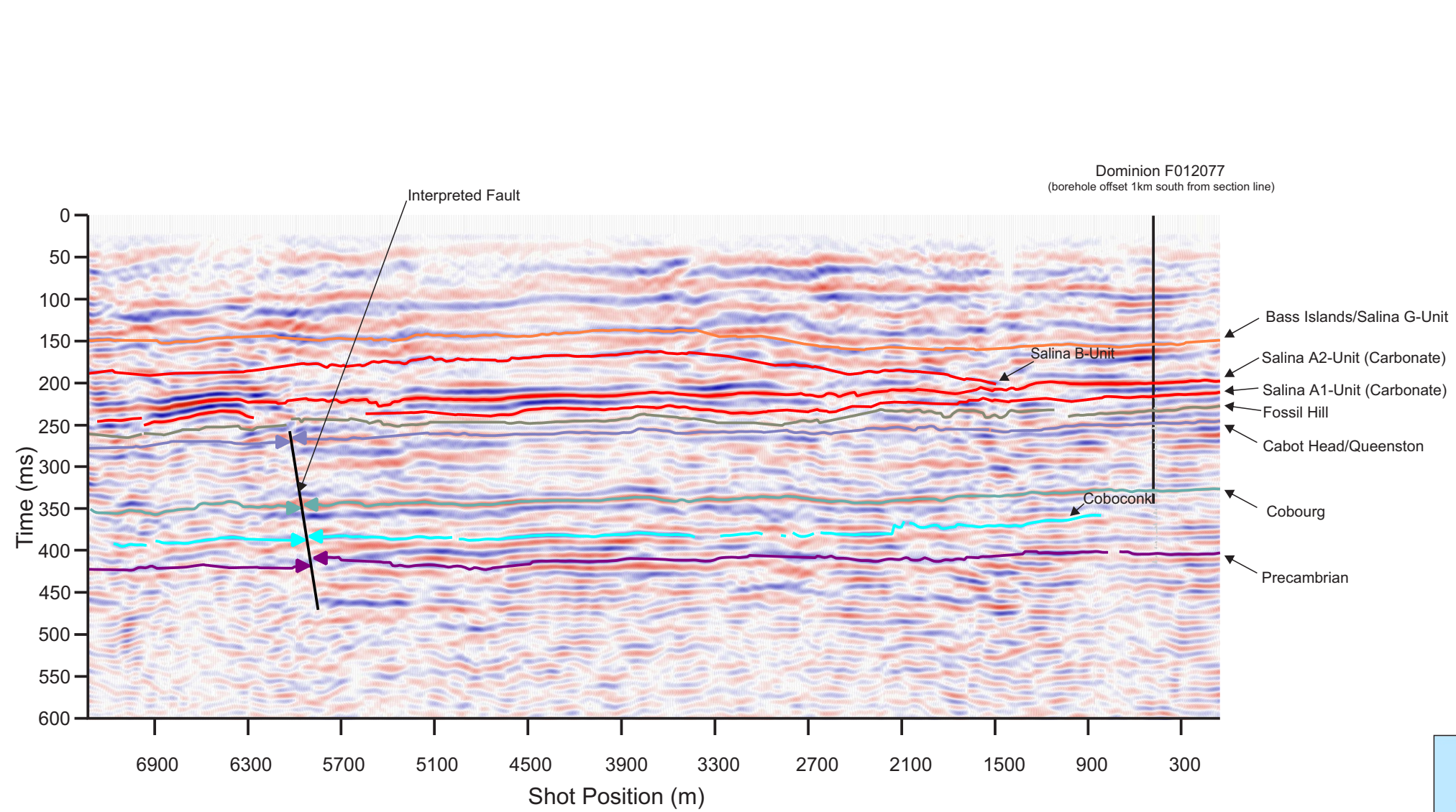


Figure 3.21 - 2D Seismic Interpretation of Line 725937 in the Municipality of South Bruce

PROJECT No: 10-214-7
NWMO Phase 1 Geoscientific Desktop Preliminary Assessment Study - Sedimentary Sites

Prepared by: NMP/ADG
 Reviewed by: SNS
 Date: 26/06/2014



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