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Miscellaneous Release—Data 317

Chatham Sag Aeromagnetic Lineament Study

by Ontario Geological Survey

This publication can be downloaded from

http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD317

Introduction

This release contains a lineament analysis of aeromagnetic data in the Chatham area of southwestern Ontario. The aeromagnetic survey (Ontario Geological Survey 2009), upon which this study is based, was conducted by the Ontario Geological Survey (OGS) in 2009 over the Chatham Sag, which is a depression on the ridge between the Michigan and Appalachian basins. It is within this depression that the thickest Paleozoic strata in southern Ontario have accumulated. Important regional faults (Dawn, Electric) have previously been identified in the study area.

In 2013, it was decided that a lineament analysis of the aeromagnetic survey would be contracted to TerraNotes Ltd. The contractor was chosen through a “Request for Quotation” process. The structures identified were recognized solely based on the aeromagnetic survey and, therefore, are associated with the Grenvillian basement. The products found in this release were all generated by TerraNotes Limited. This release includes a report (*.pdf*), 21 grids, 140 images (4 *.tif* and 136 *.png* files) and 25 shapefiles. The projection for all grids and shapefiles is in Universal Transverse Mercator (UTM) Zone 17 using North American Datum 1983 (NAD83).

Hosseini et al. (2013) describe the following methods that were used in this study: tilt angle, total horizontal derivative of tilt angle, theta angle, analytic signal, hyperbolic tilt angle, total horizontal derivative (gradient), normalized total horizontal derivative (gradient).

Future Work

This work is to form part of a pilot study that the OGS will be carrying out in 2015–2016 to determine the utility of aeromagnetic data for identifying Precambrian basement structures some of which may penetrate into the overlying Paleozoic sedimentary rocks.

The Oil, Gas and Salt Resources (OGSR) Library database contains geological records of more than 7790 oil and gas wells within the study area. Over 200 of these wells reach the Precambrian basement. This data set may assist to verify the presence of the lineaments identified by TerraNotes Ltd. within the Grenvillian rocks. Furthermore, the possible vertical extension of these structures through the Paleozoic sedimentary cover could be confirmed by assessing the presence and magnitude of any vertical displacements along the identified lineaments.

If the method used in this pilot study is successful, it would greatly improve our understanding of the geological structure of the bedrock, including the Precambrian basement and its Paleozoic cover, and may also help to identify new oil and gas exploration targets associated with regional faults. In addition, fractured bedrock has a strong influence on regional groundwater flow in deep aquifers. Understanding of bedrock groundwater flow is important for hydrocarbon exploration as well as for water source protection.

Future products from this pilot project would include structural and isopach maps of various key stratigraphic units, along with a report describing the interpretations and methodology used.

File Descriptions

There are several files in the root directory of this data release:

metadata.html (and *.pdf*) : The metadata contains information about the data in this digital product

MRD317_report.pdf : Each figure in the report is provided as a separate image (*.png*) file for better viewing. Selecting (or “clicking”) a figure will activate a hyperlink that opens the image (*.png*) file in the folder **\Images** allowing for increased legibility of an enlarged figure. **For these hyperlinks to function, the integrity of the folder structure and the file locations must be maintained; these links will also work if the folder in its entirety as presented is copied to the user’s computer.

Readme.pdf : This explanatory document

Data are organized into 4 folders under **\data**:

1. Euler
2. Grids
3. Images
4. Shapefiles

- 1. Euler.** This folder contains the results of the Euler deconvolution of the magnetic data to obtain apparent depths to magnetic sources. Four structural indices were used and the results for each index are contained in separate, comma-delimited ASCII (*.csv*) files. Each file contains X and Y co-ordinates (UTM zone 17N, NAD83) and a depth channel.

Euler_Structures_Index0p5.csv : Euler deconvolution results – structural index 0.5

Euler_Structures_Index1.csv : Euler deconvolution results – structural index 1

Euler_Structures_Index2.csv : Euler deconvolution results – structural index 2

Euler_Structures_Index3.csv : Euler deconvolution results – structural index 3

- 2. Grids.** This folder contains 21 grids and 4 images (*.tif*).

1st_Vertical_Derivative (.grd, .grd.gi) : calculated first vertical derivative of the total magnetic field

2nd_Vertical_Derivative (.grd, .grd.gi) : calculated second vertical derivative of the total magnetic field

Analytic_Signal (.grd, .grd.gi) : analytic signal of the total magnetic field

Basement_Topography (.grd, .grd.gi) : basement topography calculated from pseudogravity

Digital_Elevation_Model (.grd, grd.gi) : digital elevation model
EW_Horizontal_Gradient (.grd, grd.gi) : calculated east-west horizontal magnetic gradient
EW_Tilt_Angle (.grd, grd.gi) : calculated east-west magnetic tilt angle
Hyperbolic_Tilt_Angle (.grd, grd.gi) : hyperbolic magnetic tilt angle
Lineament_Detection (.tif) : lineament detection map
Lineament_Detection_Scale160 (.tif) : 1:160 scale lineament detection map (approximate depth 400 m)
Lineament_Detection_Scale640 (.tif) : 1:640 scale lineament detection map (approximate depth 1400 m)
Lineament_Detection_Scale1280 (.tif) : 1:1280 scale lineament detection map (approximate depth 2700 m)
Magnetic_Susceptibility (.grd, grd.gi) : calculated magnetic susceptibility
Maximum_Horizontal_Gradient (.grd, grd.gi) : calculated maximum horizontal magnetic gradient
NE_Horizontal_Gradient (.grd, grd.gi) : calculated northeast horizontal magnetic gradient
Normalized_Horizontal_Gradient (.grd, grd.gi) : normalized horizontal magnetic gradient
NS_Horizontal_Gradient (.grd, grd.gi) : calculated north-south horizontal magnetic gradient
NS_Tilt_Angle (.grd, grd.gi) : calculated north-south magnetic tilt angle
NW_Horizontal_Gradient (.grd, grd.gi) : calculated north-west horizontal magnetic gradient
Pseudogravity (.grd, grd.gi) : pseudogravity
Relative_Horizontal_Gradient (.grd, grd.gi) : relative horizontal magnetic gradient
RTP_Magnetic_Intensity (.grd, grd.gi) : reduced-to-the-pole magnetic intensity
Theta_Angle (.grd, grd.gi) : calculated magnetic theta angle
Tilt_Angle (.grd, grd.gi) : calculated magnetic tilt angle
Total_Horizontal_Gradient (.grd, grd.gi) : calculated magnetic total horizontal gradient

3. Images. This folder contains 136 images (.png); the 51 images used in the report are indicated as “...[Figure x]”.

2D_1VD.png : calculated first vertical derivative of the total magnetic field
2D_1VD-primarystructuralelements.png : calculated first vertical derivative of the total magnetic field with primary structural elements [Figure 10b]
2D_1VD-primarystructuralelements-gaswellsshow.png : calculated first vertical derivative of the total magnetic field with primary structural elements and gas wells and shows
2D_1VD-primarystructuralelements-oilwellsshow.png : calculated first vertical derivative of the total magnetic field with primary structural elements and oil wells and shows
2D_2VD.png : calculated second vertical derivative of the total magnetic field [Figure 29b]
2D_2VD-primarystructuralelements.png : calculated second vertical derivative of the total magnetic field with primary structural elements
2D_AnalyticSignal.png : analytic signal of the total magnetic field
2D_AnalyticSignal-primarystructuralelements.png : analytic signal of the total magnetic field with primary structural elements [Figure 11a]
2D_AnalyticSignal-primarystructuralelements-gaswellsshow.png : analytic signal of the total magnetic field with primary structural elements and gas wells and shows
2D_AnalyticSignal-primarystructuralelements-oilwellsshow.png : analytic signal of the total magnetic field with primary structural elements and oil wells and shows
2D_BasementTopography.png : basement topography calculated from pseudogravity (2-D view)
2D_BasementTopography-primarystructuralelements.png : basement topography calculated from pseudogravity with primary structural elements (2-D view) [Figure 22b]

2D_BasementTopography-primarystructuralelements-gaswellsshow.png : basement topography calculated from pseudogravity with primary structural elements and gas wells and shows (2-D view)
2D_BasementTopography-primarystructuralelements-oilwellsshow.png : basement topography calculated from pseudogravity with primary structural elements and oil wells and shows (2-D view)
2D_BedrockGeology.png : Paleozoic bedrock geology with legend [Figure 2b]
2D_DEM-riverstownslakes.png : digital elevation model with rivers, major settlements and lakes
2D_DEM-roadstownslakes.png : digital elevation model with roads, major settlements and lakes.... [Figure 2a]
2D_EWHorizontalGradient.png : calculated east-west horizontal magnetic gradient
2D_EWHorizontalGradient-directionaltrends.png : calculated east-west horizontal magnetic gradient with directional trends [Figure 12a]
2D_EWHorizontalGradient-primarystructuralelements.png : calculated east-west horizontal magnetic gradient with primary structural elements
2D_EWTiltAngle.png : calculated east-west magnetic tilt angle
2D_EWTiltAngle-directionaltrends.png : calculated east-west magnetic tilt angle with directional trends
2D_EWTiltAngle-primarystructuralelements.png : calculated east-west magnetic tilt angle with primary structural elements
2D_FlightLines.png : survey flight lines [Figure 1b]
2D_GeologicalOverviewandStratigraphicColumn.png : generalized basement structure contours and Paleozoic stratigraphic column [Figures 4a, 4b]
2D_GrenvilleGeologyandFaults.png : bedrock geology of the Kingston–Ottawa area [Figure 5]
2D_GrenvilleRTPandFaults.png : reduced-to-the-pole magnetic field intensity and mapped faults in the Kingston–Ottawa area [Figure 6]
2D_HydrocarbonDeposits.png : hydrocarbon deposits
2D_HydrocarbonDeposits-paleozoicfaults.png : hydrocarbon deposits and faults mapped as Paleozoic [Figure 1a]
2D_HydrocarbonDeposits-primarystructuralelements.png : hydrocarbon deposits with primary structural elements [Figure 15]
2D_HyperbolicTiltAngle.png : hyperbolic magnetic tilt angle
2D_HyperbolicTiltAngleAlternateColouring.png : hyperbolic magnetic tilt angle (alternate colouring)
2D_HyperbolicTiltAngleAlternateColouring-primarystructuralelements.png : hyperbolic magnetic tilt angle with primary structural elements (alternate colouring)
2D_HyperbolicTiltAngle-primarystructuralelements.png : hyperbolic magnetic tilt angle with primary structural elements [Figure 11b]
2D_HyperbolicTiltAngle-primarystructuralelements-gaswellsshow.png : hyperbolic magnetic tilt angle with primary structural elements and gas wells and shows
2D_HyperbolicTiltAngle-primarystructuralelements-oilwellsshow.png : hyperbolic magnetic tilt angle with primary structural elements and oil wells and shows
2D_LineamentDetection.png : lineament detection map
2D_LineamentDetection160.png : 1:160 scale lineament detection map (approximate depth 400 m)
2D_LineamentDetection160-primarystructuralelements.png : 1:160 scale lineament detection map with primary structural elements [Figure 25a]
2D_LineamentDetection640.png : 1:640 scale lineament detection map (approximate depth 1400 m)
2D_LineamentDetection640-primarystructuralelements.png : 1:640 scale lineament detection map with primary structural elements [Figure 25b]
2D_LineamentDetection1280.png : 1:1280 scale lineament detection map (approximate depth 2700 m)

<i>2D_LineamentDetection1280-primarystructuralelements.png</i> : 1:1280 scale lineament detection map with primary structural elements	[Figure 25c]
<i>2D_LineamentDetection-detectedlineaments.png</i> : combined scales lineament detection	[Figure 9]
<i>2D_LineamentDetection-primarystructuralelements.png</i> : lineament detection with primary structural elements	
<i>2D_MagSusc.png</i> : calculated magnetic susceptibility	
<i>2D_MagSusc-detectedlineaments.png</i> : magnetic susceptibility with detected lineaments	
<i>2D_MagSusc-detectedlineaments-primarystructuralelements.png</i> : calculated magnetic susceptibility with detected lineaments and primary structural elements	[Figure 28]
<i>2D_MagSusc-primarystructuralelements.png</i> : calculated magnetic susceptibility with primary structural elements	
<i>2D_MaximumHorizontalGradient.png</i> : maximum horizontal magnetic gradient	
<i>2D_MaximumHorizontalGradient-primarystructuralelements.png</i> : maximum horizontal magnetic gradient with primary structural elements	[Figure 11c]
<i>2D_MaximumHorizontalGradient-primarystructuralelements-gaswellsshow.png</i> : maximum horizontal magnetic gradient with primary structural elements and gas wells and shows	
<i>2D_MaximumHorizontalGradient-primarystructuralelements-oilwellsshow.png</i> : maximum horizontal magnetic gradient with primary structural elements and gas wells and shows	
<i>2D_NeSwHorizontalGradient.png</i> : northeast-southwest magnetic horizontal gradient	
<i>2D_NeSwHorizontalGradient-directionaltrends.png</i> : northeast-southwest magnetic horizontal gradient with directional trends	
<i>2D_NormalizedTotalHorizontalGradient.png</i> : normalized horizontal magnetic gradient	
<i>2D_NormalizedTotalHorizontalGradientAlternateColouring.png</i> : normalized magnetic horizontal gradient (alternate colouring)	
<i>2D_NormalizedTotalHorizontalGradientAlternateColouring-primarystructuralelements.png</i> : normalized horizontal gradient with primary structural elements (alternate colouring)	
<i>2D_NormalizedTotalHorizontalGradient-primarystructuralelements.png</i> : normalized horizontal gradient with primary structural elements	
<i>2D_NormalizedTotalHorizontalGradient-primarystructuralelements-gaswellsshow.png</i> : normalized horizontal magnetic gradient with primary structural elements and gas wells and shows	
<i>2D_NormalizedTotalHorizontalGradient-primarystructuralelements-oilwellsshow.png</i> : normalized horizontal magnetic gradient with primary structural elements and oil wells and shows	
<i>2D_NSHorizontalGradient.png</i> : north-south horizontal magnetic gradient	
<i>2D_NSHorizontalGradient-directionaltrends.png</i> : north-south horizontal magnetic gradient with directional trends	[Figure 12b]
<i>2D_NSHorizontalGradient-primarystructuralelements.png</i> : calculated north-south horizontal magnetic gradient with primary structural elements	
<i>2D_NSTiltAngle.png</i> : calculated north-south magnetic tilt angle	
<i>2D_NSTiltAngle-directionaltrends.png</i> : calculated north-south magnetic tilt angle with directional trends	
<i>2D_NSTiltAngle-primarystructuralelements.png</i> : calculated north-south magnetic tilt angle with primary structural elements	
<i>2D_NwSeHorizontalGradient.png</i> : calculated northwest-southeast horizontal magnetic gradient	
<i>2D_NwSeHorizontalGradient-directionaltrends.png</i> : calculated northwest-southeast horizontal magnetic horizontal gradient with directional trends	
<i>2D_Pipelines.png</i> : natural gas pipelines	[Figure 29a]

<i>2D_Powerlines.png</i> : electrical powerlines	
<i>2D_PrecambrianBasementStructures-surroundingregion.png</i> : structural subdivisions of the Precambrian basement	[Figure 3]
<i>2D_Pseudogravity.png</i> : pseudogravity	
<i>2D_Pseudogravity-primarystructuralelements.png</i> : pseudogravity with primary structural elements	[Figure 22a]
<i>2D_QuaternaryGeology.png</i> : Quaternary geology with legend	
<i>2D_RegionalFracturePattern.png</i> : regional fault and fracture patterns	[Figure 14]
<i>2D_RelativeHorizontalGradient.png</i> : relative horizontal magnetic gradient	
<i>2D_RelativeHorizontalGradient-primarystructuralelements.png</i> : relative horizontal magnetic gradient with primary structural elements	
<i>2D_RelativeHorizontalGradient-primarystructuralelements-gaswellsshow.png</i> : relative horizontal magnetic gradient with primary structural elements and gas wells and shows	
<i>2D_RelativeHorizontalGradient-primarystructuralelements-oilwellsshow.png</i> : relative horizontal magnetic gradient with primary structural elements and oil wells and shows	
<i>2D_RTP.png</i> : reduced-to-the-pole magnetic intensity	[Figure 7]
<i>2D_RTPbothcomponents-primarystructuralelements.png</i> : selected area reduced-to-the-pole magnetic intensity with target boundary and primary structural elements	[Figure 26c]
<i>2D_RTP-detectedlineaments.png</i> : reduced-to-the-pole magnetic intensity with detected lineaments	[Figure 19b]
<i>2D_RTP-directionaltrends.png</i> : reduced-to-the-pole magnetic intensity with directional trends	[Figure 21]
<i>2D_RTPLocalComponent-primarystructuralelements.png</i> : selected area anomaly separation shallower component with target boundary and primary structural elements	[Figure 26b]
<i>2D_RTP-otherlocalfeatures.png</i> : reduced-to-the-pole magnetic intensity with other local features	[Figure 20]
<i>2D_RTP-paleozoicfaults.png</i> : reduced-to-the-pole magnetic intensity with faults mapped as Paleozoic	[Figure 8]
<i>2D_RTP-paleozoicfaults-primarystructuralelements.png</i> : reduced-to-the-pole magnetic intensity with primary structural elements and faults mapped as Paleozoic	[Figure 13]
<i>2D_RTP-preliminarylineaments.png</i> : reduced-to-the-pole magnetic intensity with preliminary lineaments	[Figure 19a]
<i>2D_RTP-primarystructuralelements.png</i> : reduced-to-the-pole magnetic intensity with primary structural elements	[Figure 10a]
<i>2D_RTP-primarystructuralelements-gaswellsshow.png</i> : reduced-to-the-pole magnetic intensity with primary structural elements and gas wells and shows	[Figure 17a]
<i>2D_RTP-primarystructuralelements-oilwellsshow.png</i> : reduced-to-the-pole magnetic intensity with primary structural elements and oil wells and shows	[Figure 17b]
<i>2D_RTP-primarystructuralelementspreliminarylineaments.png</i> : reduced-to-the-pole magnetic intensity with preliminary lineaments	
<i>2D_RTPRegionalComponent-primarystructuralelements.png</i> : selected area anomaly separation deeper component with target boundary and primary structural elements	[Figure 26a]
<i>2D_RTPSelectedArea-primarystructuralelements-gaswellsshow.png</i> : selected area reduced-to-the-pole magnetic intensity with primary structural elements and gas wells and shows	[Figure 18a]
<i>2D_RTPSelectedArea-primarystructuralelements-oilwellsshow.png</i> : selected area reduced-to-the-pole magnetic intensity with primary structural elements and oil wells and shows	[Figure 18b]
<i>2D_SatelliteImage.png</i> : satellite image	

2D_SatelliteImageRTP.png : satellite image with reduced-to-the-pole magnetic intensity
2D_Ternary-RTPIVDMaxHorGrad.png : reduced-to-the-pole magnetic intensity, first vertical derivative, maximum horizontal gradient ternary map
2D_Ternary-RTPIVDMaxHorGrad-primarystructuralelements.png : reduced-to-the-pole magnetic intensity, first vertical derivative, maximum horizontal gradient ternary map with primary structural elements [Figure 27a]
2D_Ternary-RTPIVDTotalHorGrad.png : reduced-to-the-pole magnetic intensity, first vertical derivative, normalized total horizontal gradient ternary map
2D_Ternary-RTPIVDTotalHorGrad-primarystructuralelements.png : reduced-to-the-pole magnetic intensity, first vertical derivative, normalized total horizontal gradient ternary map with primary structural elements [Figure 27b]
2D_Ternary-RTPMaxHorGradTotalHorGrad.png : reduced-to-the-pole magnetic intensity, maximum horizontal gradient, normalized total horizontal gradient ternary map
2D_Ternary-RTPMaxHorGradTotalHorGrad-primarystructuralelements.png : reduced-to-the-pole magnetic intensity, maximum horizontal gradient, normalized total horizontal gradient ternary map with primary structural elements [Figure 27c]
2D_ThetaAngle.png : theta angle
2D_ThetaAngleAlternateColouring.png : theta angle (alternate colouring)
2D_ThetaAngleAlternateColouring-primarystructuralelements.png : theta angle with primary structural elements (alternate colouring)
2D_ThetaAngle-primarystructuralelements.png : theta angle with primary structural elements [Figure 11d]
2D_ThetaAngle-primarystructuralelements-gaswellsshow.png : theta angle with primary structural elements and gas wells and shows
2D_ThetaAngle-primarystructuralelements-oilwellsshow.png : theta angle with primary structural elements and oil wells and shows
2D_TiltAngle.png : calculated magnetic tilt angle
2D_TiltAngle-primarystructuralelements.png : calculated magnetic tilt angle with primary structural elements [Figure 11e]
2D_TiltAngle-primarystructuralelements-gaswellsshow.png : calculated magnetic tilt angle with primary structural elements and gas wells and shows
2D_TiltAngle-primarystructuralelements-oilwellsshow.png : calculated magnetic tilt angle with primary structural elements and oil wells and shows
2D_TotalHorizontalGradient.png : calculated total horizontal magnetic gradient
2D_TotalHorizontalGradient-primarystructuralelements.png : calculated total horizontal magnetic gradient with primary structural elements
3D_BasementTopography.png : basement topography (3-D view)
3D_BasementTopographyRTP.png : basement topography with reduced-to-the-pole magnetic intensity (3-D view)
3D_BasementTopographyRTP-primarystructuralelements.png : basement topography with reduced-to-the-pole magnetic intensity (3-D view from south)
3D_BasementTopographyRTP-primarystructuralelements2.png : basement topography with reduced-to-the-pole magnetic intensity (3-D view from north)
3D_DEM.png : digital elevation model (3-D view)
3D_DEM1VD.png : first vertical derivative on the digital elevation model (3-D view)
3D_DEMRTP.png : reduced-to-the-pole magnetic intensity on the digital elevation model (3-D view)
3D_DEM-tielines.png : digital elevation model with tie lines (3-D view)

3D_RMI.png : residual magnetic intensity (3-D view)
3D_RMISelectedArea.png : residual magnetic intensity of a selected area (3-D view)
Euler_RTP-Reduced_0p5-15-5.png : Euler deconvolution results for step-like structures [Figure 23a]
Euler_RTP-Reduced_1-15-5.png : Euler deconvolution results for fault and dike structures [Figure 23b]
Euler_RTP-Reduced_2-15-5.png : Euler deconvolution results for vertical pipe structures [Figure 23c]
Euler_RTP-Reduced_3-15-5.png : Euler deconvolution results for point source structures [Figure 23d]
FaultDiagram.png : first- and second-order fault relation [Figure 16]
TiltDepth-Anomaly1-Method3.png : tilt depth result – anomaly 1
TiltDepth-Anomaly2-Method3.png : tilt depth result – anomaly 2 [Figure 24]
TiltDepth-Anomaly3-Method3.png : tilt depth result – anomaly 3
TiltDepth-Anomaly4-Method3.png : tilt depth result – anomaly 4
TiltDepth-Anomaly5-Method3.png : tilt depth result – anomaly 5

4. Shapefiles. This folder contains 25 shapefiles and 1 comma-delimited ASCII (.csv) file.

All Lineaments (.cpg, .dbf, .prj, .shp, .shx) : all lineaments identified (polylines)
Block Faulting (.cpg, .dbf, .prj, .shp, .shx) : interpreted block faults (polylines)
Can-Am Impact Structure (.cpg, .dbf, .prj, .shp, .shx) : outline of the Can-Am impact structure (polylines)
Directional Trends (.cpg, .dbf, .prj, .shp, .shx) : directional trends (polylines)
HDF1 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as HDF1 (Huron Domain) in the report (polylines)
HDF2 (.cpg, .dbf, .prj, .shp, .shx) : interpreted faults identified as HDF2 (Huron Domain) in the report (polylines)
HDF3 (.cpg, .dbf, .prj, .shp, .shx) : interpreted faults identified as HDF3 (Huron Domain) in the report (polylines)
HDF4 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as HDF4 (Huron Domain) in the report (polylines)
HDF5 (.cpg, .dbf, .prj, .shp, .shx) : interpreted faults identified as HDF5 (Huron Domain) in the report (polylines)
HDF6 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as HDF6 (Huron Domain) in the report (polylines)
HDF7 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as HDF7 (Huron Domain) in the report (polylines)
HDF8 (.cpg, .dbf, .prj, .shp, .shx) : interpreted faults identified as HDF8 (Huron Domain) in the report (polylines)
Huron Domain Circular Feature (.cpg, .dbf, .prj, .shp, .shx) : circular feature observed in the Huron Domain (polylines)
Huron Domain Faults (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : all interpreted faults of the Huron Domain (polylines)
KDF1 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as KDF1 (Kent Domain) in the report (polylines)
KDF2 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as KDF2 (Kent Domain) in the report (polylines)
KDF3 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as KDF3 (Kent Domain) in the report (polylines)

KDF4 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as KDF4 (Kent Domain) in the report (polylines)

KDF5 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as KDF5 (Kent Domain) in the report (polylines)

KDF6 (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : interpreted faults identified as KDF6 (Kent Domain) in the report (polylines)

Kent Domain Circular Feature (.cpg, .dbf, .prj, .shp, .shx) : circular feature observed in the Kent Domain (polylines)

Kent Domain Faults (.cpg, .dbf, .prj, .sbn, .sbx, .shp, .shx) : all interpreted faults of the Kent Domain (polylines)

Kent-Huron Domain Boundary (.cpg, .dbf, .prj, .shp, .shx) : boundary corridor between the Huron and Kent domains (polylines)

Lineament_Properties.csv : List of lineaments of both domains with properties (feature name, type, strike direction, relative age, confidence)

Preliminary Lineaments (.cpg, .dbf, .prj, .shp, .shx) : all lineaments that were identified in the preliminary phase of the project (polylines)

Z Folding (.cpg, .dbf, .prj, .shp, .shx) : interpreted Z-folding identified in report (polylines)

References

- Hosseini, S.A.A., Ardejani, F.D., Tabatabaie, S.H. and Hezarkhani, A. 2013. Edge detection in gravity field of the Gheshm sedimentary basin; International Journal of Mining and Geo-Engineering, College of Engineering, Tehran, Iran, v.47, no.1, p.41-50.
- Ontario Geological Survey 2009. Ontario airborne geophysical surveys, magnetic and electromagnetic data, grid and profile data (ASCII and Geosoft® formats) and vector data, Chatham area; Ontario Geological Survey, Geophysical Data Set 1065.