

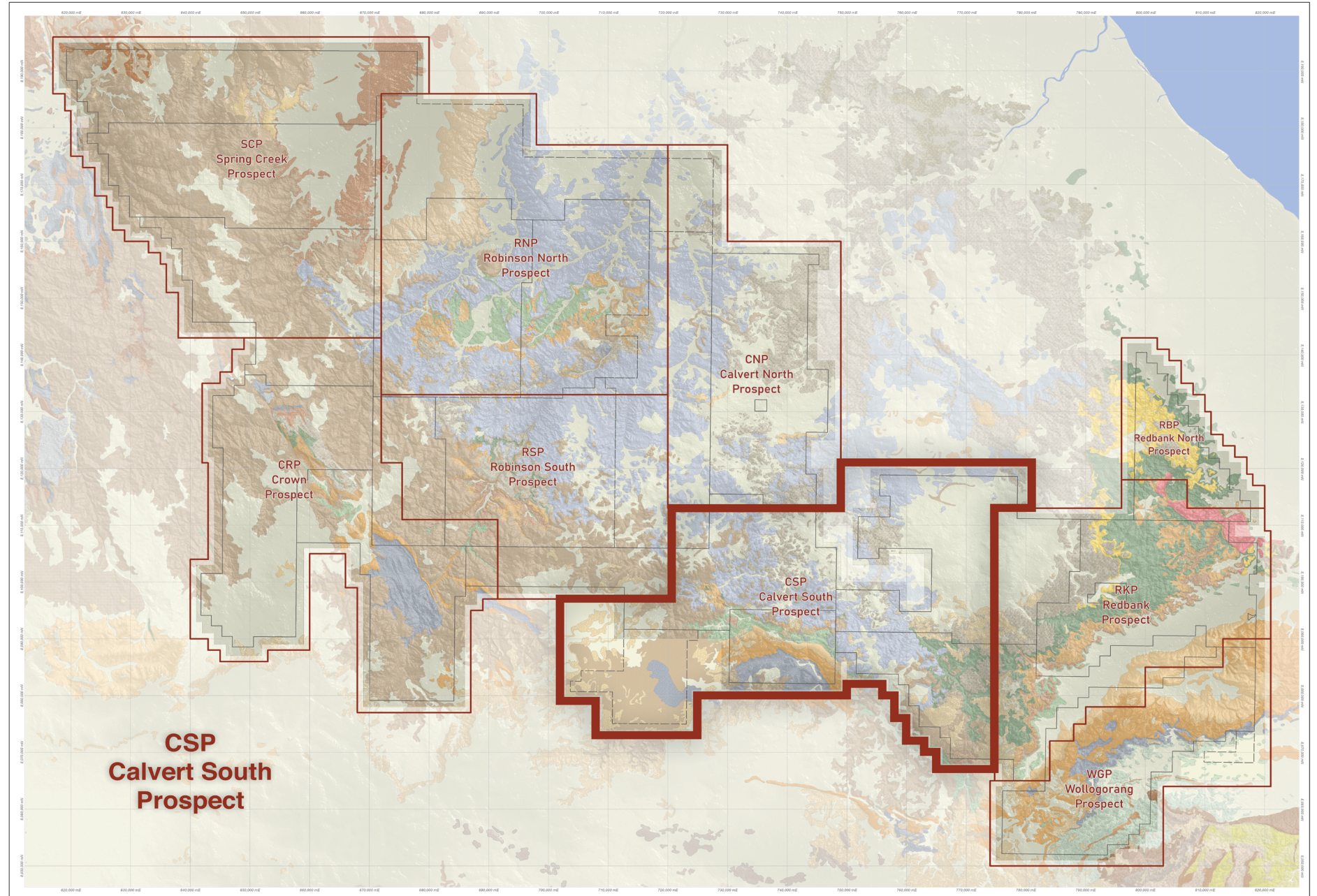
Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Geographic Information Systems**

A geographic information system (GIS) is a computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface.

CSP-Calvert South Prospect  
1,888.29 km<sup>2</sup>

Geological mapping is fundamental to any exploration project. Effective mineral exploration requires an in-depth understanding of the lithological and structural controls of mineralisation. These insights must be gained through geological mapping at the early stages of the exploration program. Mapping is a cost-effective exploration tool and a project-generative process that delivers tangible benefits to all exploration programs. A good geological map not only provides focus to an exploration program, it also clearly communicates the economic potential of a project to stake holders. Geologists strive to know the composition and structure of Earth matter and depict information in GIS format. This provides basis for comparisons and facilitates analysis to offer results that can benefit our future.

The Redbank GIS team are currently focused around the area of Digital Mapping. We understand that at the heart of any Geographical Information System (GIS) is the map database. The efficiency of the GIS is therefore related to the accuracy and reliability of the related map data.





Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Contents – GIS Layers & Images**

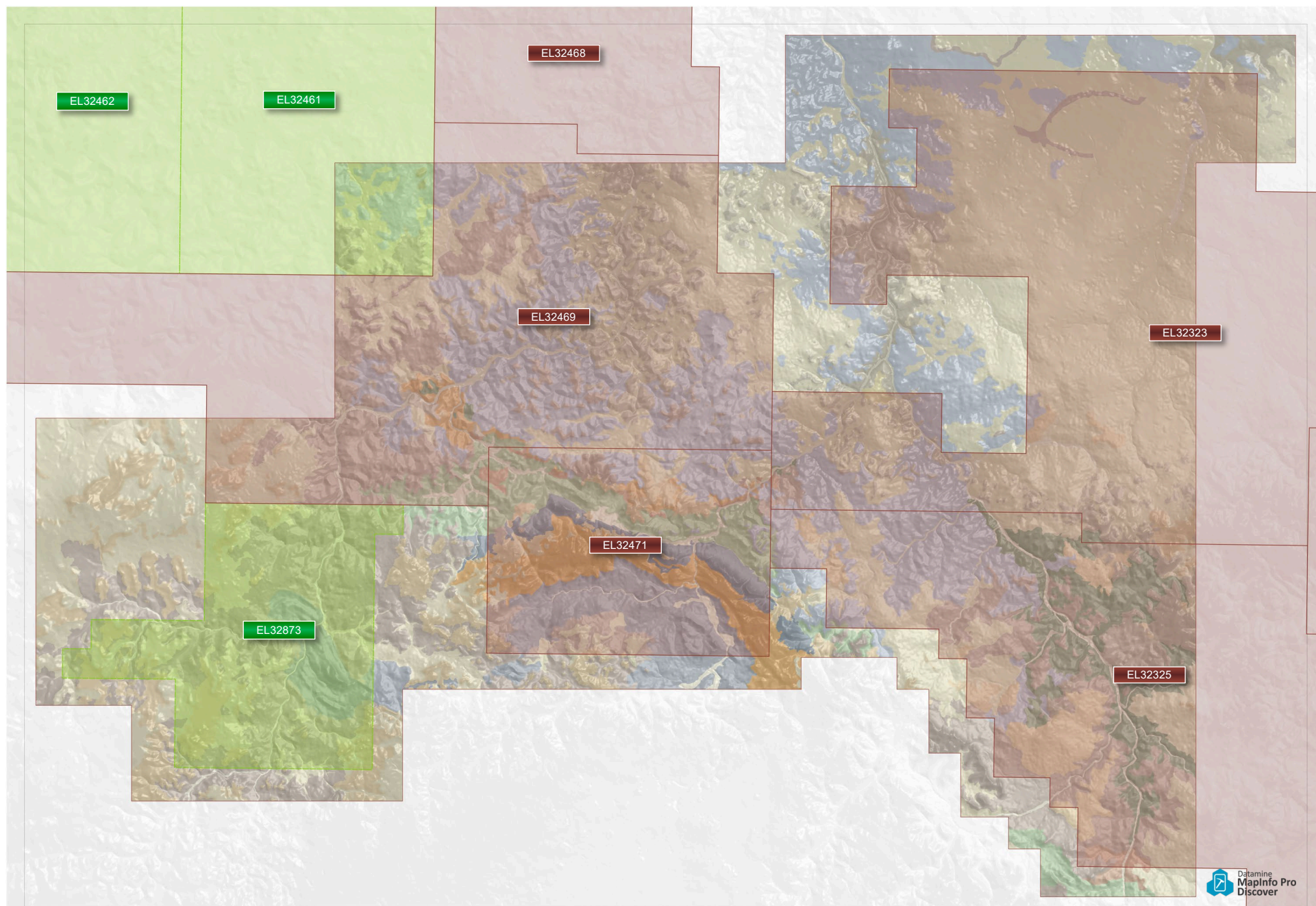
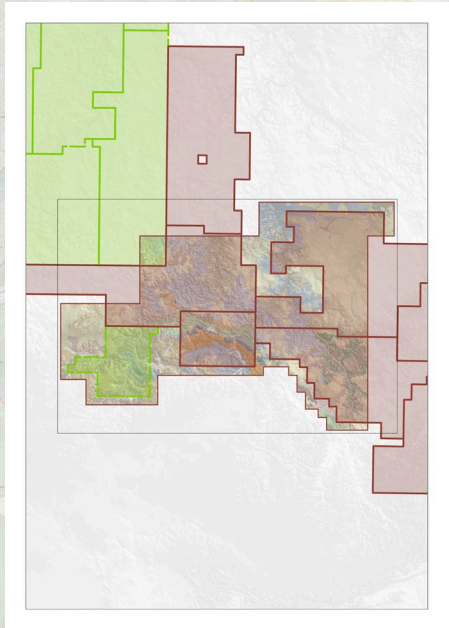
- 1. CSP-Calvert South Regional location**  
CSP-Calvert South Prospect 1,888.29 km<sup>2</sup>
- 2. Contents**  
CSP-Calvert South Prospect Map Book content.
- 3. Exploration Licences**  
The CSP-Redbank Prospect covers several exploration licences, the mapping has included a 2km buffer zone around the CSP-Exploration Licence area
- 4. Geological Map**  
CSP-Calvert South Prospect digitisation and attribution of Geological layers available in the exploration folder.
- 5. Hydrocarbons Map**  
Hydrocarbon classifications have been completed by John Beeson, these layers are fully attributed and available on our server for further investigations.
- 6. Satellite Imagery**  
The highest quality satellite imagery for the CSP, pix50cm World Imagery tiles have merged and then clipped to the CSP prospect boundary
- 7. Digital Elevation Model (DEM)**  
This DEM is available in the workspace, there has been a contour layer extracted at 5m intervals, this DEM is also available for the "Discover 3D" module within MapInfo .
- 8. Hydrology Layers**  
Detailed hydrology, Rivers, Creeks and Catchment layers are fully attributed and these layers have been supplied as individual catchment areas, as well as a combined hydrology layer..
- 9. 2021-Soils Samples**  
1694 Soil sample points in the CSP, A MapInfo Heatmap Cu-ppm layer has been extracted for the layer.
- 10. 2021-Rock Samples**  
34 Rock sample points in the CSP, A MapInfo Heatmap Cu-ppm layer has been extracted for the layer.
- 11. NTGS-Stream Sediments (Heat Map)**  
246 Stream Sediment sample points in the CSP that have 90+ppm of Cu. , A MapInfo Heatmap layer has been extracted for the 90+ppm layer.
- 12. Drillholes (Historical)**  
There are 30 historical drillholes in the CSP Prospect area
- 13. Geophysics Image (TMIRTP-Tilt)**  
Total magnetic intensity (TMI) -reduced to pole - Tilt filter
- 14. Geophysics Image (TMIRTP)**  
Total magnetic intensity (TMI) -reduced to pole
- 15. Geophysics Image (TMIRTP-1VD)**  
Total magnetic intensity (TMI) -reduced to pole First vertical derivative.
- 16. Geophysics Image (KThUr-Ternary)**  
Ternary radioelement potassium(K)-horium(Th)-uranium(U) channel data. The image is a red-green-blue (RGB) composite using a histogram-equalised colour-stretch for each of the three channels..
- 17. Areas of Interest**  
Detailed Areas of Interest from John Beeson, Mat Cooper , NTGS and the digitising process (David Hantke).
- 18. Areas of Interest (AEM-ET)**  
Regional Government and Historical Open File Airborne Electromagnetic (AEM) Early Time Channel AEM Composite (ET) Time Domain Surveys Only
- 19. Areas of Interest (AEM-MT)**  
Regional Government and Historical Open File Airborne Electromagnetic (AEM) Middle Time Channel AEM Composite (MT) Time Domain Surveys Only
- 20. Areas of Interest (AEM-LT)**  
Regional Government and Historical Open File Airborne Electromagnetic (AEM) Late Time Channel AEM Composite (LT) Time Domain Surveys Only
- 21. MapInfo Workspace**  
The CSP MapInfo Workspace has been set-up and available in the **RBK-Exploration Folder**, this workspace is our **Exploration Database Master** for the Calvert South Prospect.



Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect  
Exploration Licences**

The CSP-Redbank Prospect covers several exploration licences, the mapping has included a 2km buffer zone around the CSP-Exploration Licence area

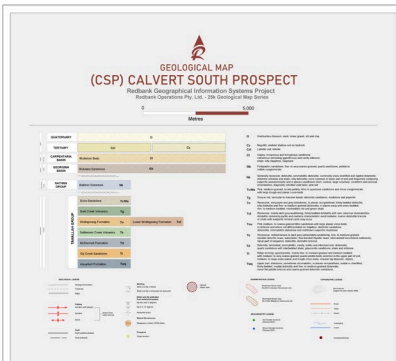
- Granted
- Application



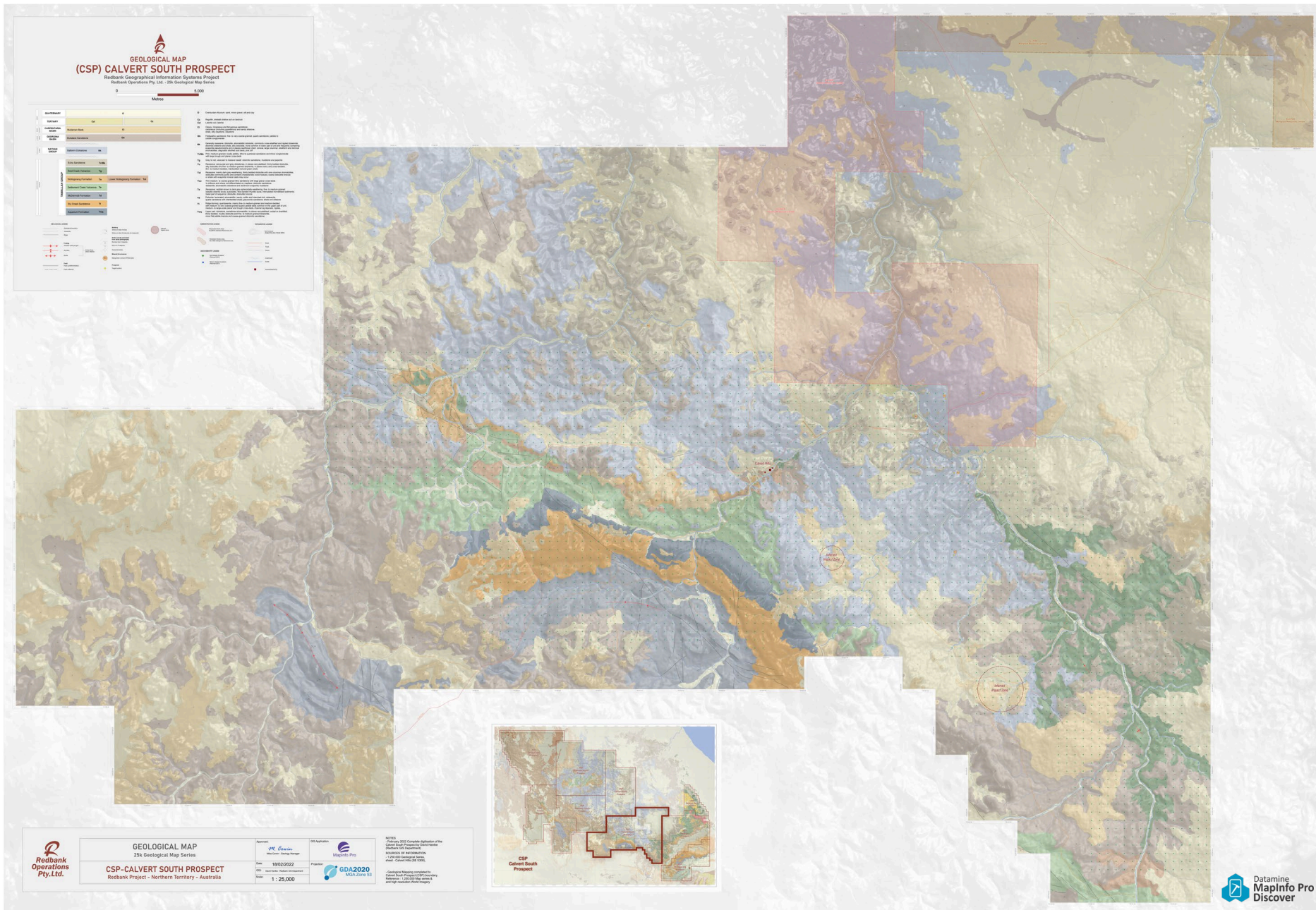


Redbank Exploration Project NT  
 25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Geological Map**

The CSP-Calvert South Prospect has now been totally digitised and has been placed on our server. This map has a very high level of detail including Geology, Geo Physics, Satellite Imagery, Hydrology, Topography and DEM.



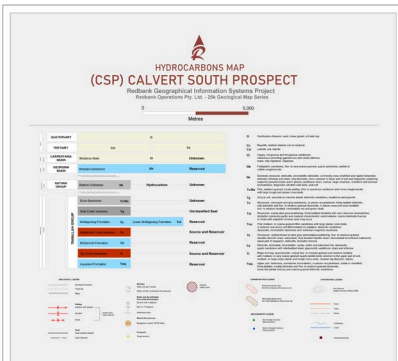
Geological units have been fully attributed in all individual layers, there is also a combined Geology layer with our Redbank codes and hydrocarbon classifications  
 Contact boundaries are approximate and will be updated as field data becomes available.



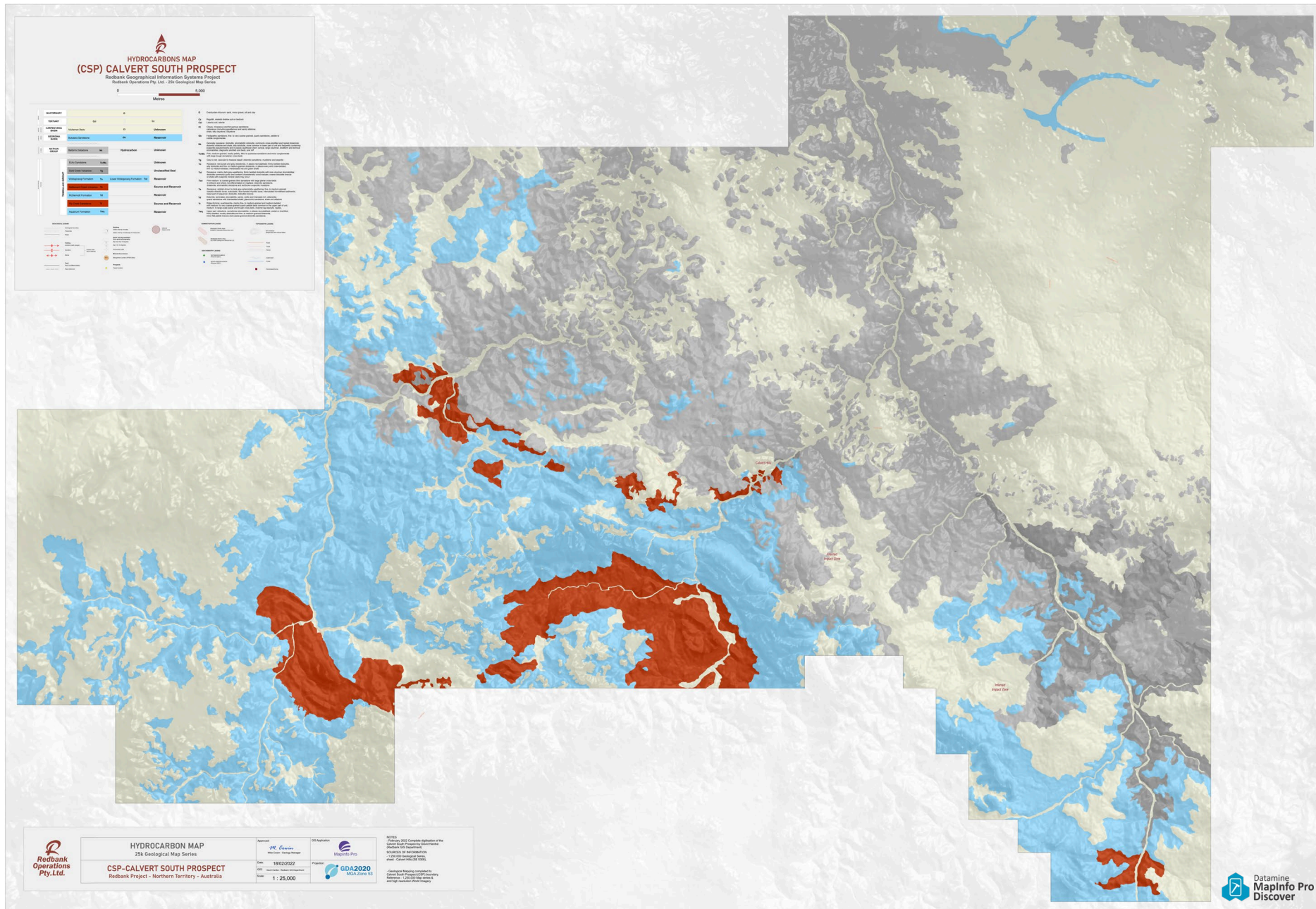


Redbank Exploration Project NT  
 25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Hydrocarbons Map**

Hydrocarbon classifications have been completed by John Beeson, these layers are fully attributed and available on our server for further investigations



Hydrocarbon units have been fully attributed in all individual layers, there is also a combined Geology layer with our Redbank codes and hydrocarbon classifications





Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect  
Satellite Imagery**

The highest quality satellite imagery has been clipped to CSP boundary and available on our server.



CSP-Imagery has been extracted from the pix50cm World Imagery tiles, these super high resolution imagery tiles have been extracted to the CSP and then merged into one layer, this layer has then been clipped to the CSP prospect boundary and available on our server, this process is supplied in a MapInfo .mrx file, which is super efficient and a processor friendly system for workflow.

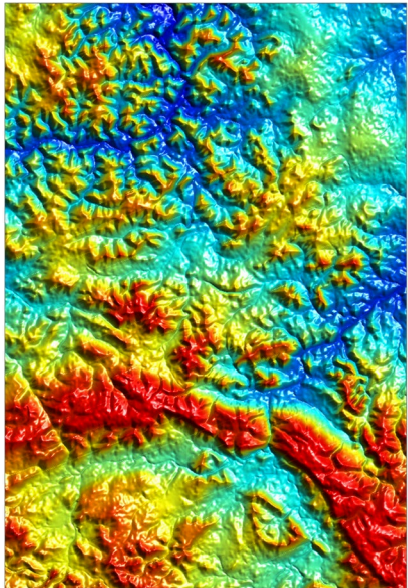


25k-Geological Map Series  
**Satellite Imagery**

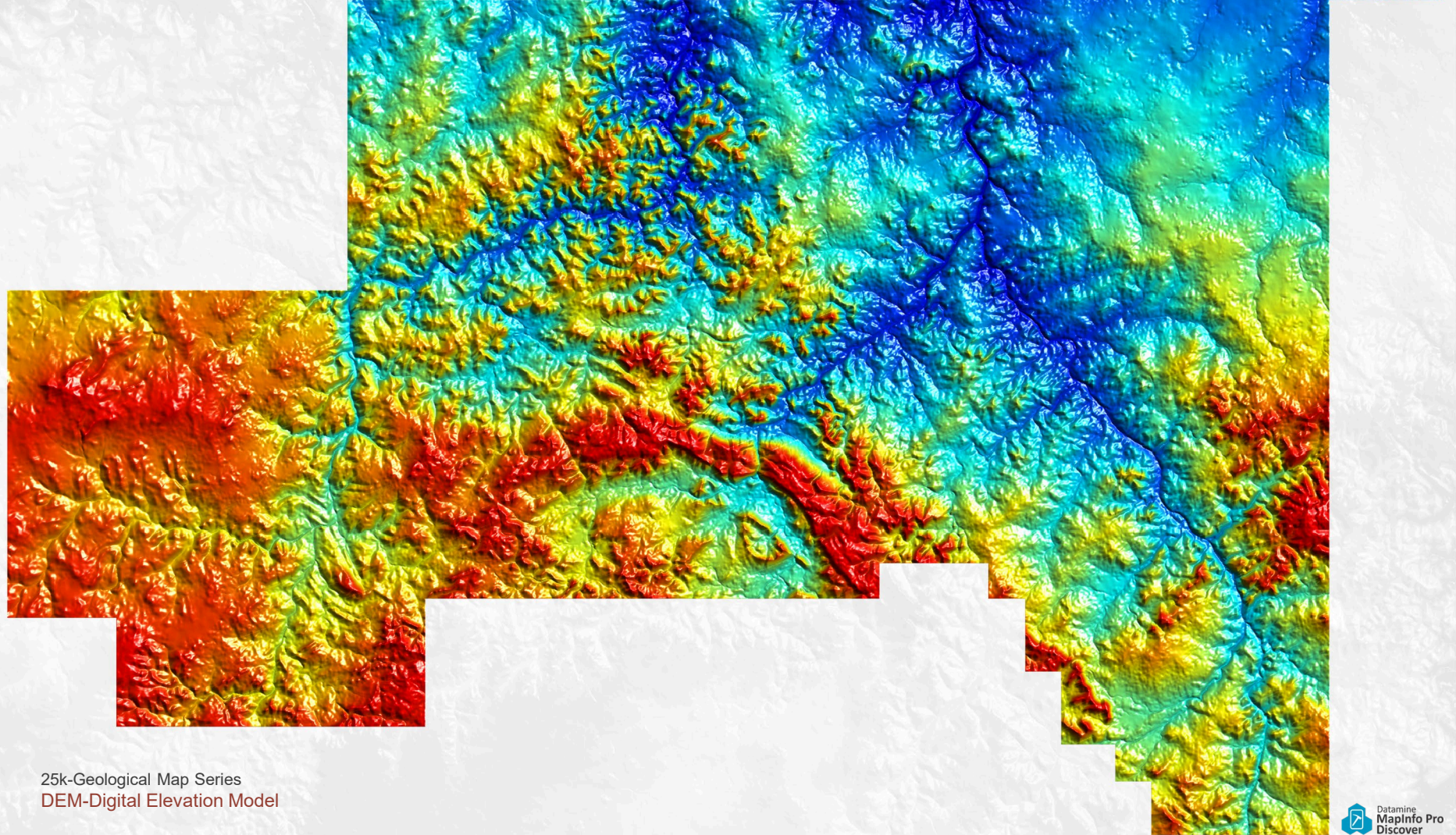


Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Digital Elevation Model**

This DEM is available in the workspace, there has been a contour layer extracted at 5m intervals, this DEM is also available for the "Discover 3D" module within MapInfo.



The 1 second SRTM derived DEM-H Version 1.0 is a 1 arc second (~30 m) gridded digital elevation model (DEM) that has been hydrologically conditioned and drainage enforced. The DEM-H captures flow paths based on SRTM elevations and mapped stream lines, and supports delineation of catchments and related hydrological attributes



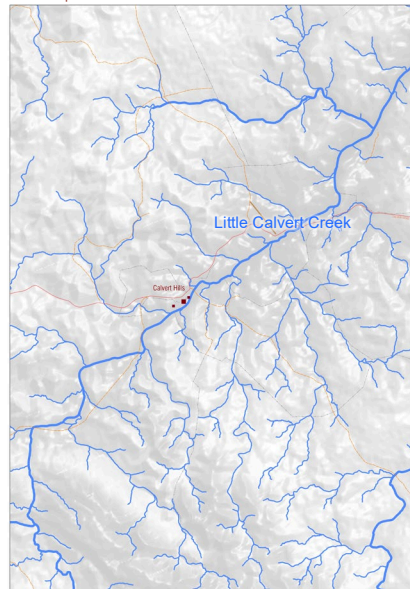
25k-Geological Map Series  
DEM-Digital Elevation Model



Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Hydrology**

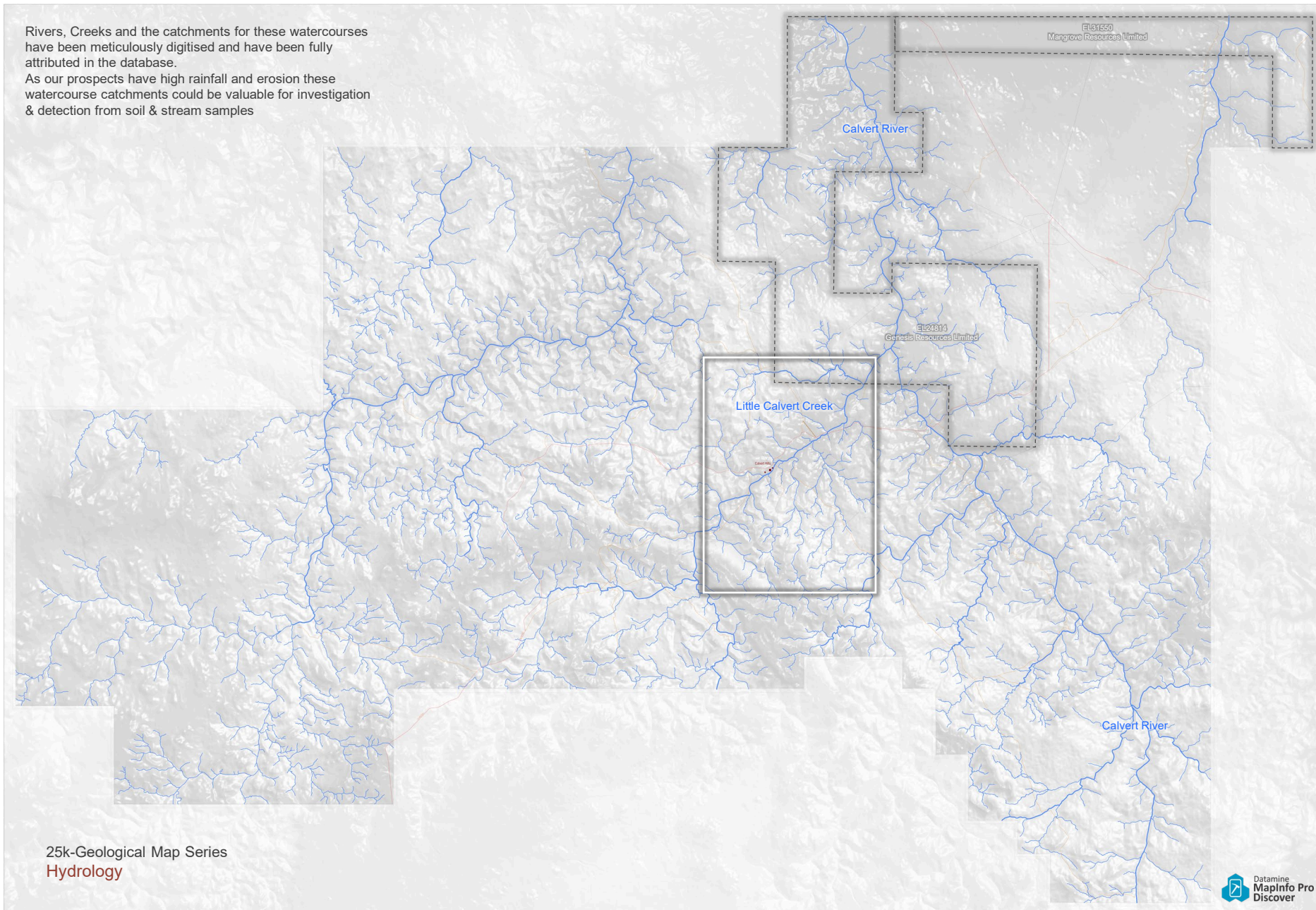
Detailed hydrology layers are available in the workspace. Rivers, Creeks and Catchment layers are fully attributed and these layers have been supplied as individual catchment areas, as well as a combined hydrology layer.

Insert Map



Rivers, Creeks and the catchments for these watercourses have been meticulously digitised and have been fully attributed in the database.

As our prospects have high rainfall and erosion these watercourse catchments could be valuable for investigation & detection from soil & stream samples

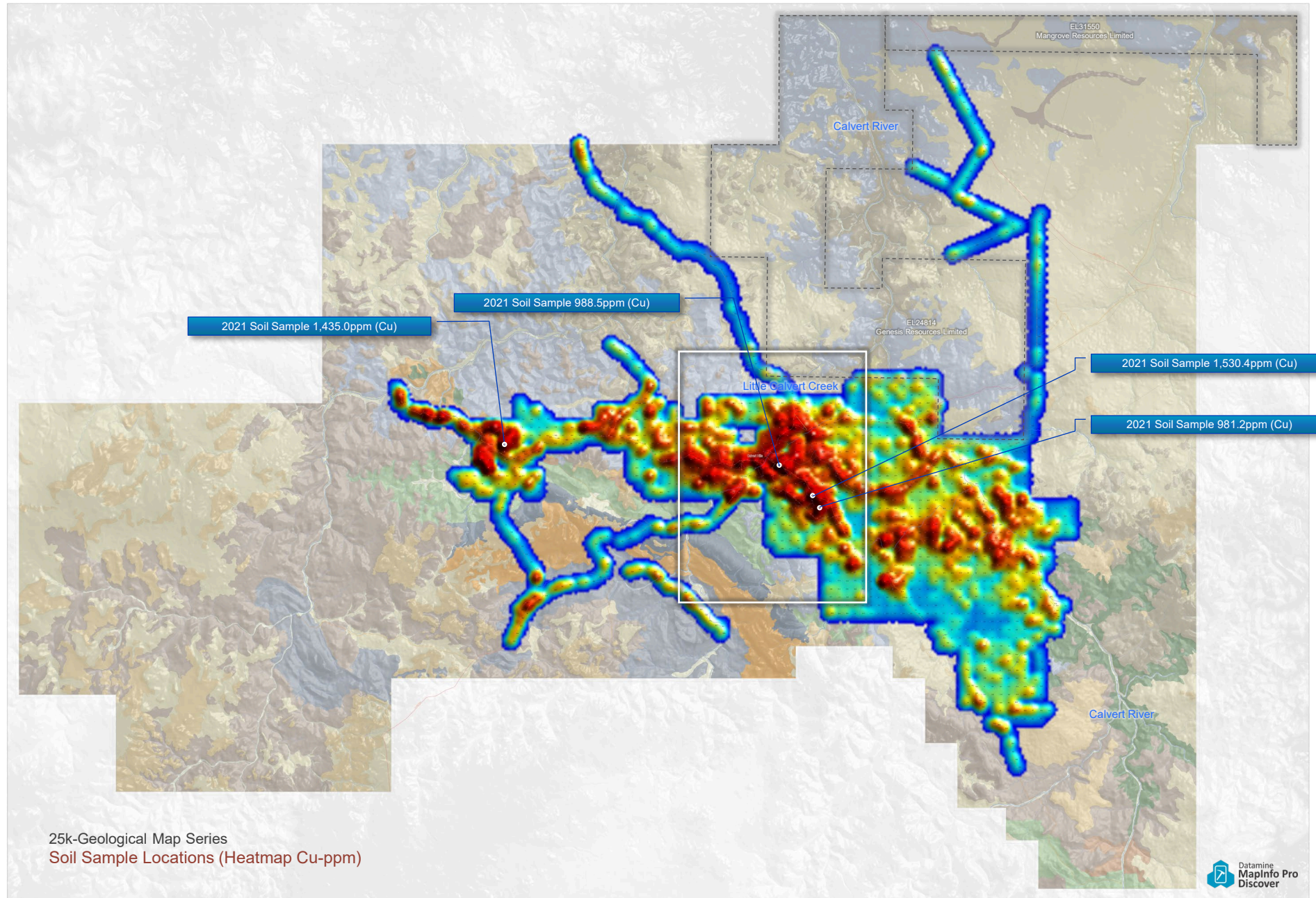
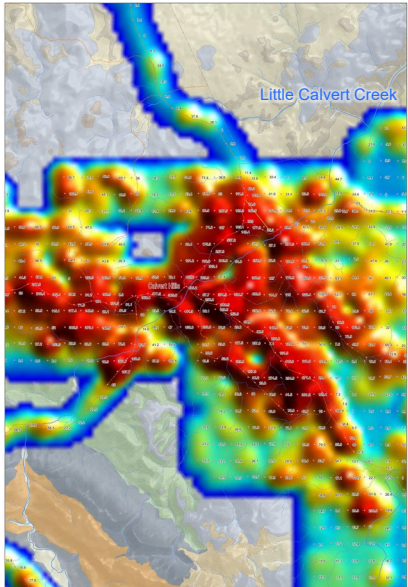




Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**2021-Soil Samples**  
1694 Soil Sample locations

Heatmap created showing 1694 soil sample locations with the highest @ 1,530.4 Cu-ppm

Insert Map



25k-Geological Map Series  
Soil Sample Locations (Heatmap Cu-ppm)

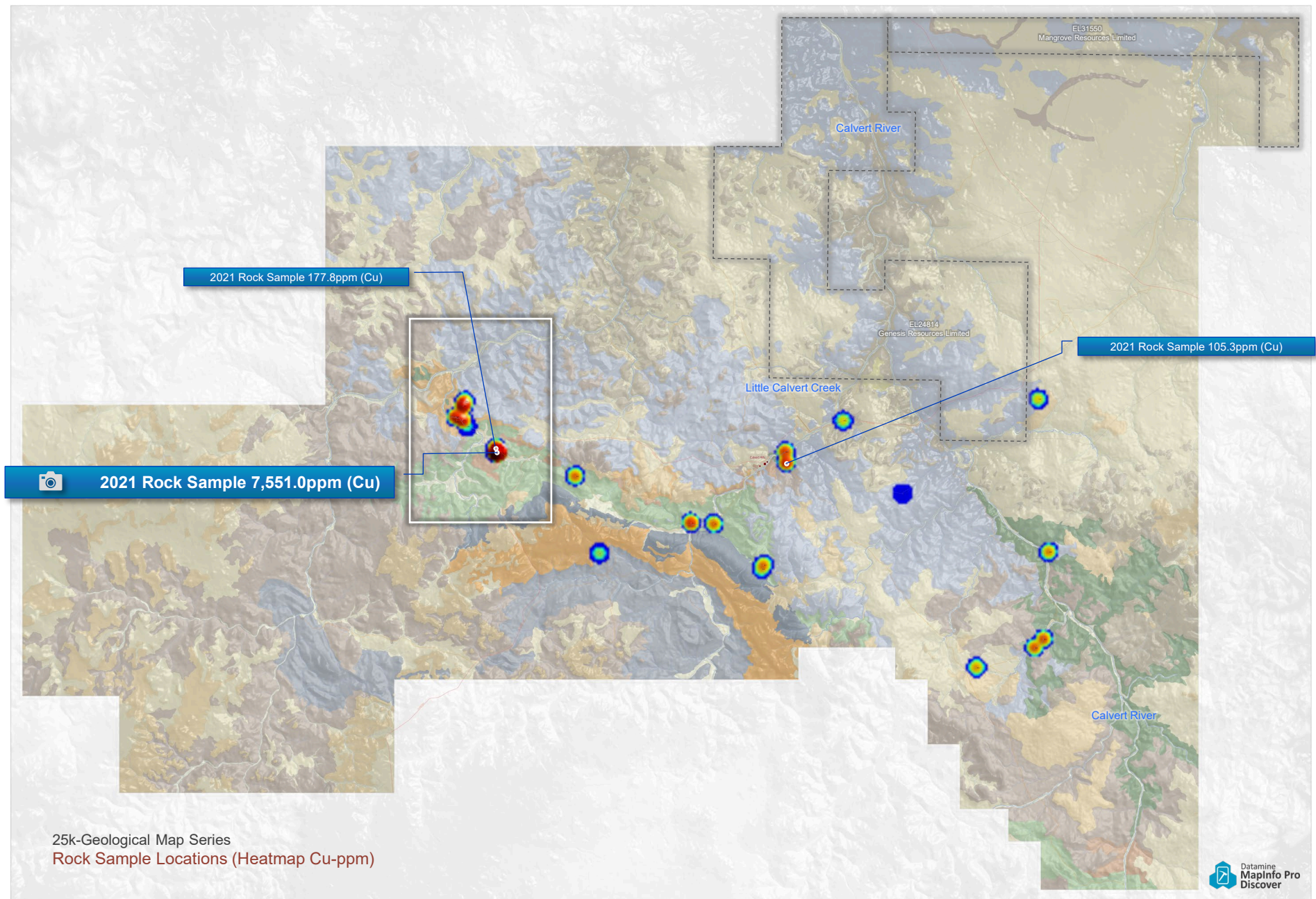
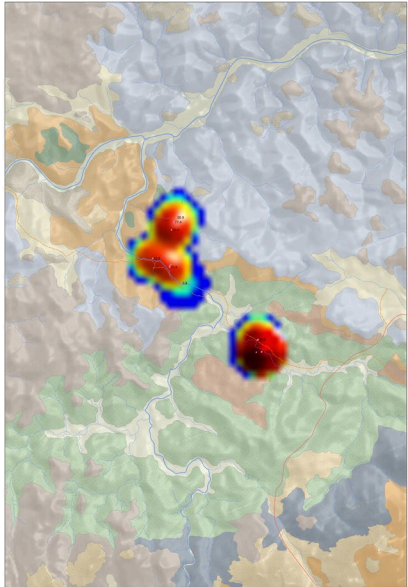


Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**2021-Rock Samples**

34 Rock Sample locations

Heatmap created showing 34 sample locations with the highest @ 7,551 Cu-ppm

Insert Map



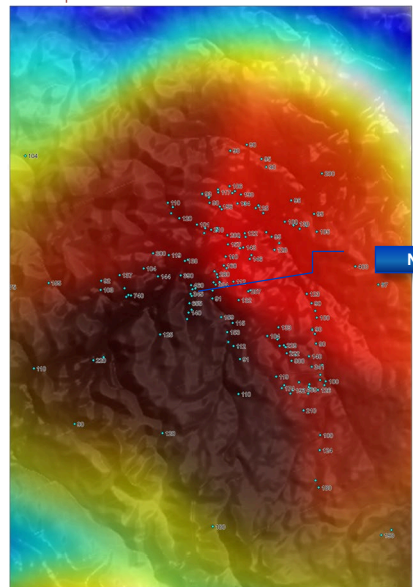
25k-Geological Map Series  
Rock Sample Locations (Heatmap Cu-ppm)



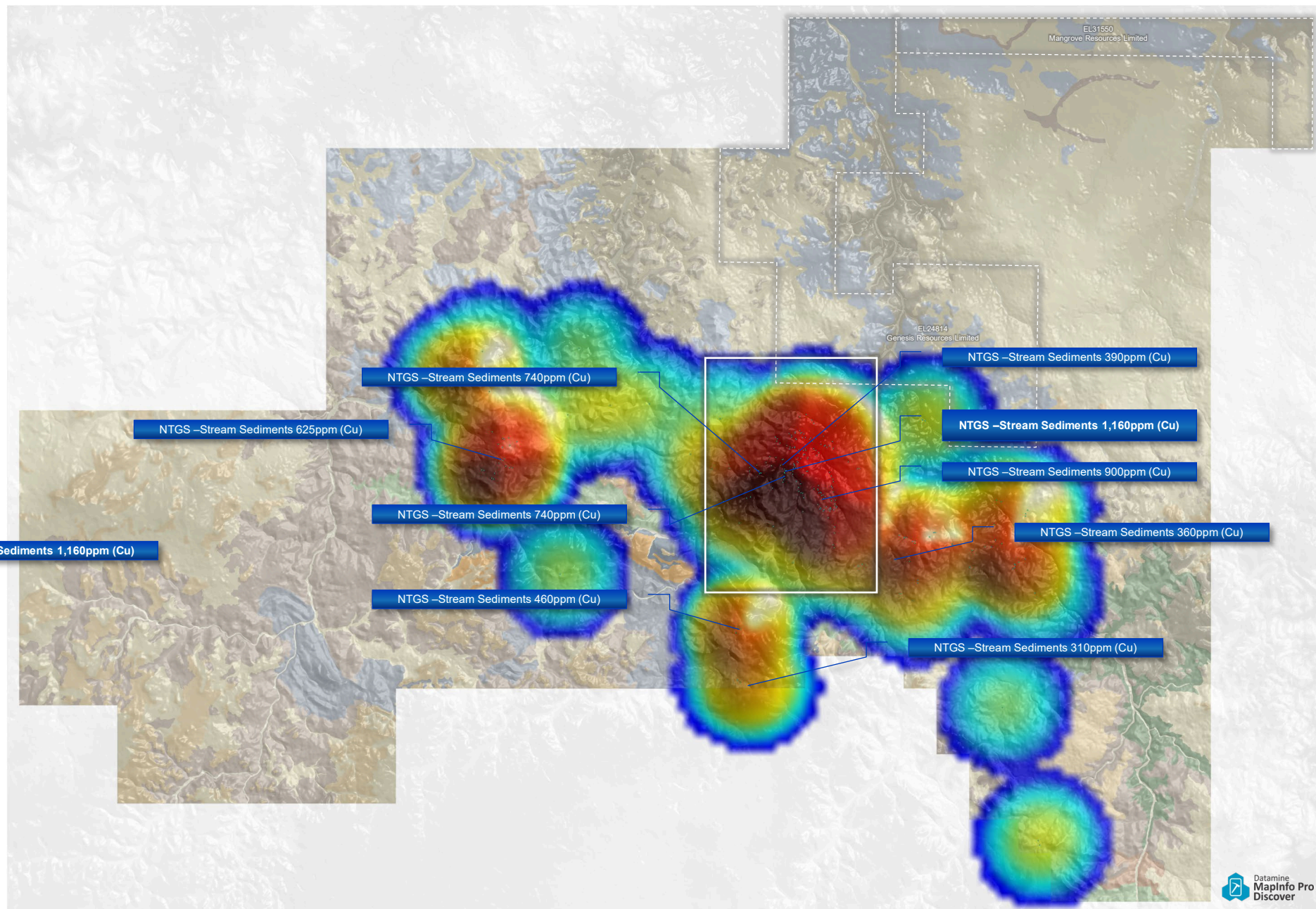
Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**NTGS-Stream Sediments**  
**90+ppm-Cu Heatmap**

There are 246 Stream Sediment sample points in the CRP that have 90+ppm of Cu

Insert Map



NTGS -Stream Sediments 1,160ppm (Cu)



NTGS -Stream Sediments 740ppm (Cu)

NTGS -Stream Sediments 625ppm (Cu)

NTGS -Stream Sediments 740ppm (Cu)

NTGS -Stream Sediments 460ppm (Cu)

NTGS -Stream Sediments 390ppm (Cu)

NTGS -Stream Sediments 1,160ppm (Cu)

NTGS -Stream Sediments 900ppm (Cu)

NTGS -Stream Sediments 360ppm (Cu)

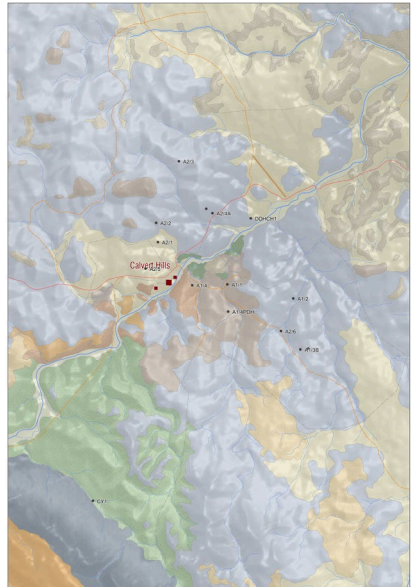
NTGS -Stream Sediments 310ppm (Cu)



# Redbank Exploration Project NT 25k Geological Map Series CSP-Calvert South Prospect Drillholes (Historical)

There are 30 historical drillholes in the CSP Prospect area  
(Please see table contents for details)

Insert Map



DrillHoleID	HostRef	DrillMethod	DrillPurpose	WellType	TotalDepth	Longitude	Latitude	SpotDate	CompletionDate	Status	SourceOrg	Title	Map100K	Map250K	Comments	ReportID	OpenFile	Hydroged	Publicable	East_MGA21_551	North_MGA_551
867875	AA1	Percolation	Mineral	Expl	38000	137.85	-17.1098			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.488.85	8.106.184.54
867876	AA2	Percolation	Mineral	Expl	28000	137.84	-17.1027			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.488.85	8.107.591.48
867877	AA3A	Percolation	Mineral	Expl	54000	137.84	-17.1027			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.488.85	8.107.581.88
867878	AA3	Percolation	Mineral	Expl	120.000	137.82	-17.0966			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	750.370.51	8.108.284.52
867820	CHC/5	RC	Mineral	Expl	37.000	137.63	-17.1188			Unknown	EXPLOREMAN PTY LTD.	MC2067	6363	SE3308		CR1901-0092	Yes	No	No	760.898.63	8.098.001.52
867822	CHC/3	RC	Mineral	Expl	33000	137.60	-17.1301			Unknown	EXPLOREMAN PTY LTD.	MC2067	6363	SE3308		CR1901-0092	Yes	No	No	760.502.94	8.097.772.55
867823	CHC/1	RC	Mineral	Expl	43.500	137.60	-17.1308			Unknown	EXPLOREMAN PTY LTD.	MC2067	6363	SE3308		CR1901-0092	Yes	No	No	760.502.98	8.097.806.66
867826	CHC/2	RC	Mineral	Expl	36.500	137.60	-17.1303			Unknown	EXPLOREMAN PTY LTD.	MC2067	6363	SE3308		CR1901-0092	Yes	No	No	760.503.52	8.097.748.31
867828	CHC/4	RC	Mineral	Expl	31000	137.60	-17.1308			Unknown	EXPLOREMAN PTY LTD.	MC2067	6363	SE3308		CR1901-0092	Yes	No	No	760.503.97	8.097.866.82
107567	CY2	Diamond Drill	Mineral	Expl	480.000	137.54	-17.3353			Unknown	Casperata Exploration	EL1209	6363	SE3308		CR1905-0088	Yes	No	No	748.193.95	8.085.170.18
867876	AI/9	Percolation	Mineral	Expl	18000	137.81	-17.2455			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	751.044.85	8.091.732.52
867875	AI/4	Percolation	Mineral	Expl	34000	137.81	-17.2453			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	751.219.53	8.091.679.48
107563	CY1	Diamond Drill	Mineral	Expl	510.300	137.35	-17.2784			Unknown	Casperata Exploration	EL1209	6363	SE3308		CR1902-0088	Yes	No	No	746.171.32	8.088.170.62
867877	AI/4	Percolation	Mineral	Expl	32000	137.87	-17.2321			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.402.87	8.093.272.51
867876	DD101	Diamond Drill	Mineral	Expl	104.400	137.26	-17.2176			Completed	Arundel-Geophysical	AR2023	6363	SE3308		CR1902-0092	Yes	No	No	748.870.88	8.094.601.19
1745618	AI/10/1H	Diamond Drill	Mineral	Expl	32000	137.86	-17.2378			Unknown	Casperata Exploration	EL1671	6363	SE3308		CR1901-0070	Yes	No	No	748.334.39	8.092.632.27
1745622	AI/10/1H	Diamond Drill	Mineral	Expl	55000	137.86	-17.2366			Unknown	Casperata Exploration	EL1671	6363	SE3308		CR1901-0070	Yes	No	No	750.441.19	8.097.899.62
867873	AI/1	Percolation	Mineral	Expl	36000	137.85	-17.2318			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.315.52	8.093.283.53
867874	AI/2	Percolation	Mineral	Expl	74000	137.89	-17.2346			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	750.877.87	8.092.965.54
867878	AI/3	Percolation	Mineral	Expl	30000	137.89	-17.2329			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	747.678.83	8.094.293.53
867879	AI/2	Percolation	Mineral	Expl	63000	137.89	-17.2328			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	747.626.84	8.094.293.53
867870	AI/1	Percolation	Mineral	Expl	116000	137.83	-17.2356			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.189.84	8.096.209.17
867871	AI/4	Percolation	Mineral	Expl	15000	137.84	-17.2346			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.916.92	8.094.906.66
867872	AI/5H	Percolation	Mineral	Expl	9000	137.84	-17.2357			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	748.815.51	8.095.084.54
867873	AI/5	Percolation	Mineral	Expl	59000	137.84	-17.2368			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	747.278.83	8.093.686.66
867874	AI/5	Percolation	Mineral	Expl	43000	137.87	-17.2414			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	750.585.87	8.092.185.5
867878	AI/6	Percolation	Mineral	Expl	24000	137.84	-17.1895			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	760.895.5	8.097.833.68
867870	AI/6A	Percolation	Mineral	Expl	116000	137.65	-17.1906			Unknown	CABERNETARIA EXPLORATION COMPANY PTY LTD.	EL1671	6363	SE3308		CR1902-0344	Yes	No	No	761.882.87	8.098.812.49
86910	AI/8	RC	Mineral	Expl	67000	137.67	-17.2548			Unknown	Casperata Exploration	EL1209	6363	SE3308		CR1901-0124	Yes	No	No	758.891.48	8.096.838.83
1911112	DD101C1	Diamond Drill	Mineral	Srs	508.900	137.28	-17.2858			Completed	CMA Exploration	EL1701	6363	SE3308		CR1902-0138	Yes	Yes	Yes	737.948.52	8.087.448.83

Attribution Table

DD91DC1 Strat Hole 509m  
CR1992-0138

EL13550  
Mangrove Resources Limited

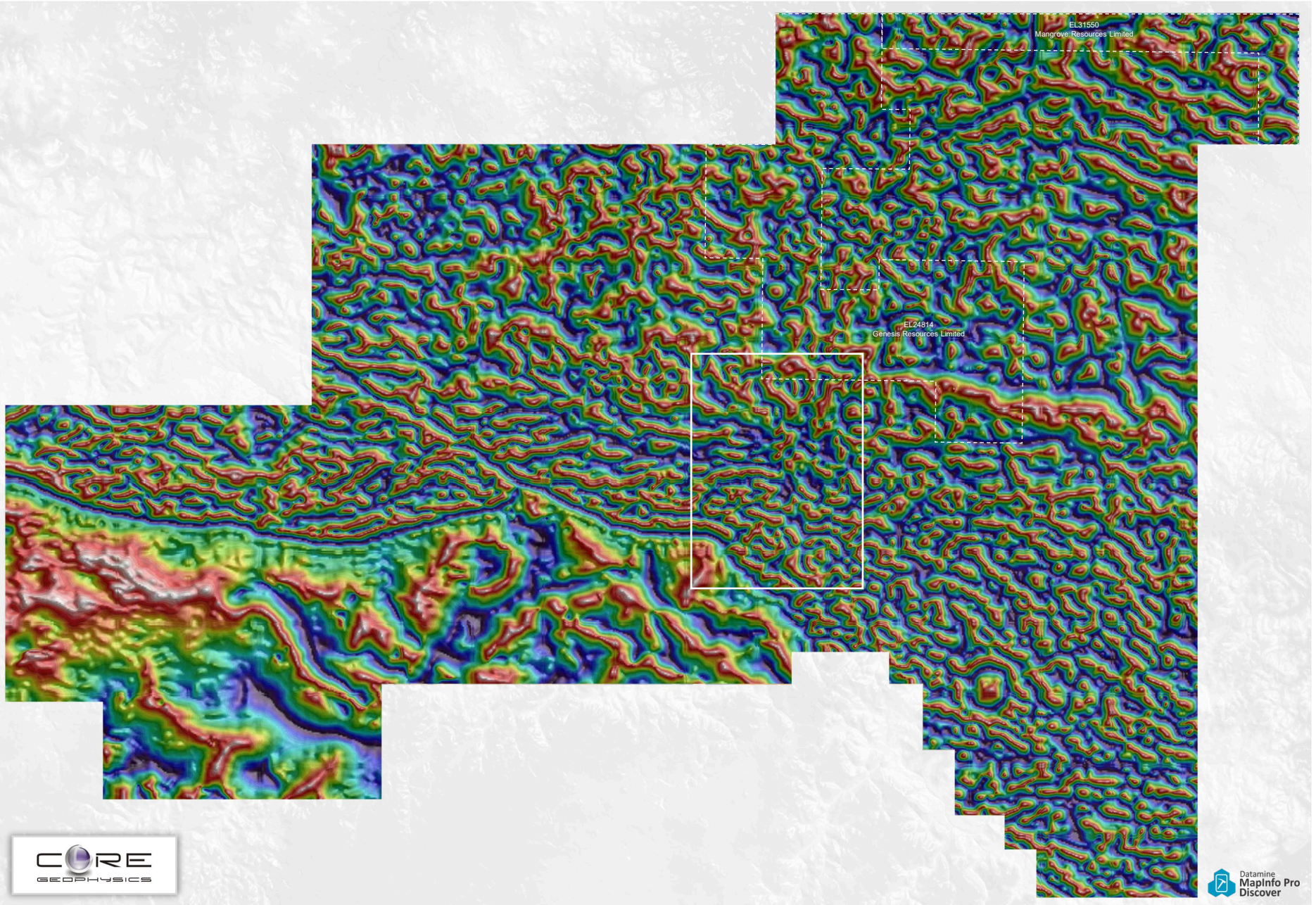
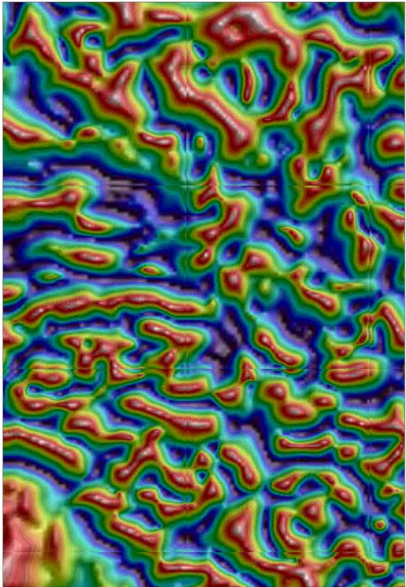
EL24814  
Genesis Resources Limited



Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Geophysics Images**

Derived from NTGS Government Aeromagnetic Surveys  
Total magnetic intensity (TMI) - reduced to pole  
Tilt filter

Insert Map

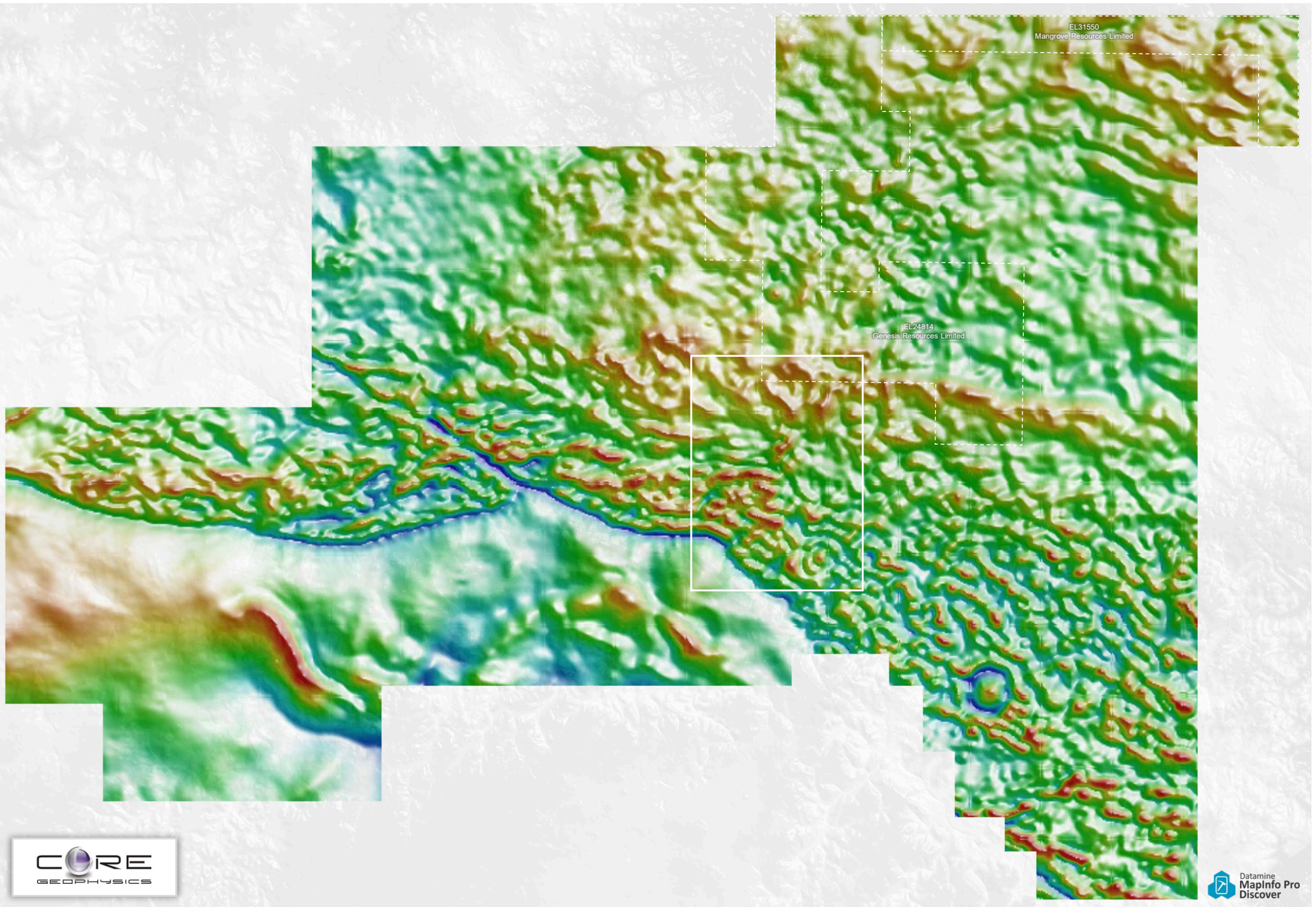
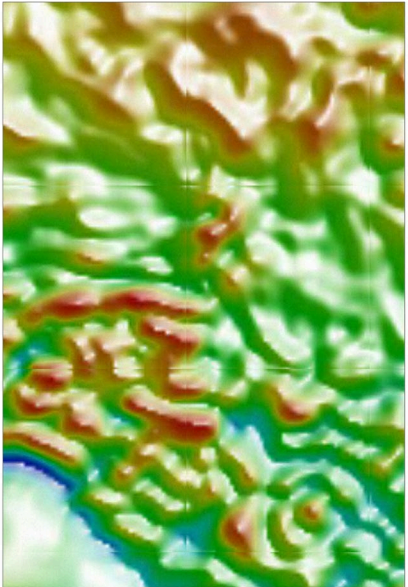




Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Geophysics Images**

Derived from NTGS Government Aeromagnetic Surveys  
Total magnetic intensity (TMI) - reduced to pole

Insert Map

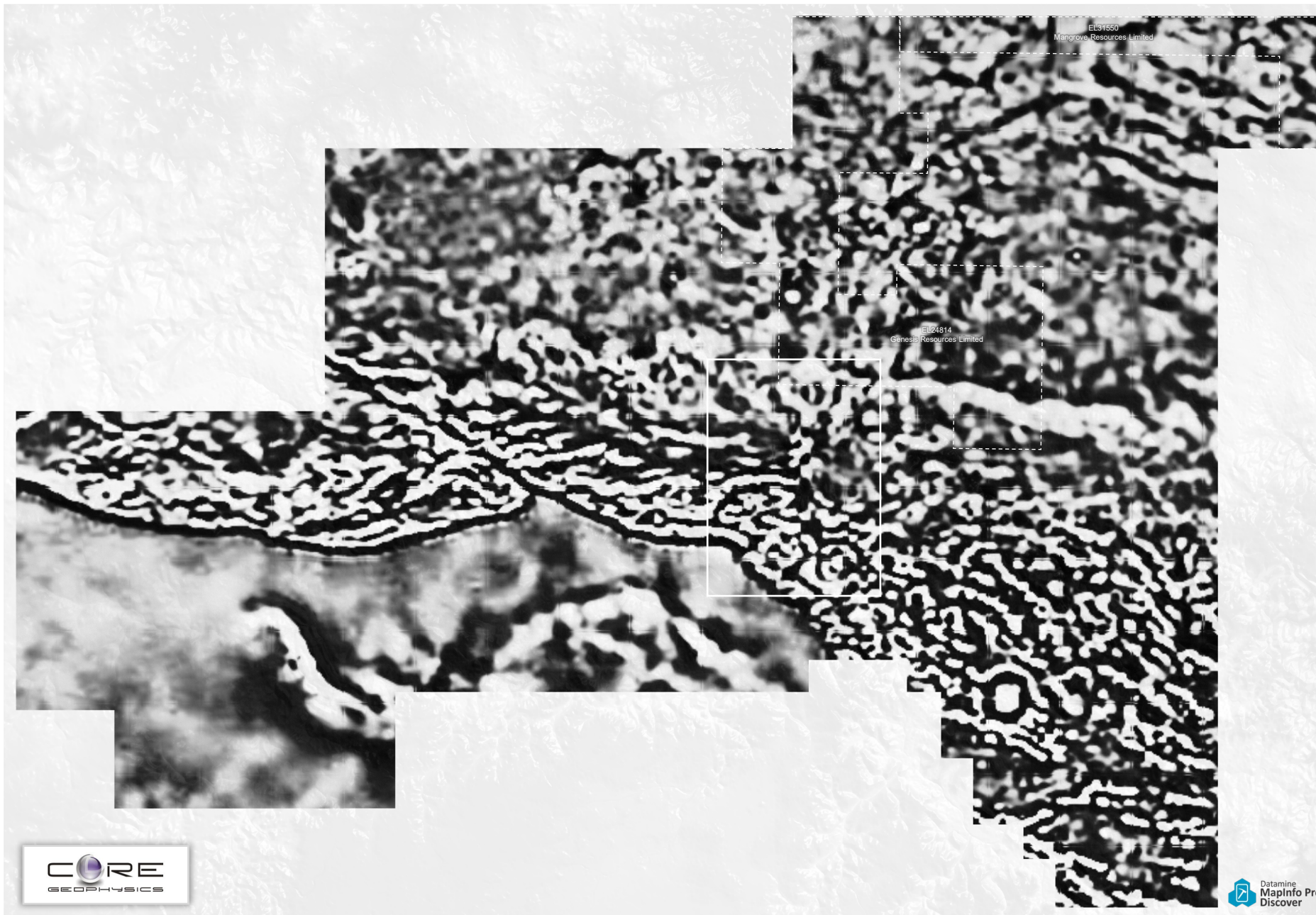




Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Geophysics Images**

Derived from NTGS Government Aeromagnetic Surveys  
Total magnetic intensity (TMI) - reduced to pole  
First vertical derivative

Insert Map

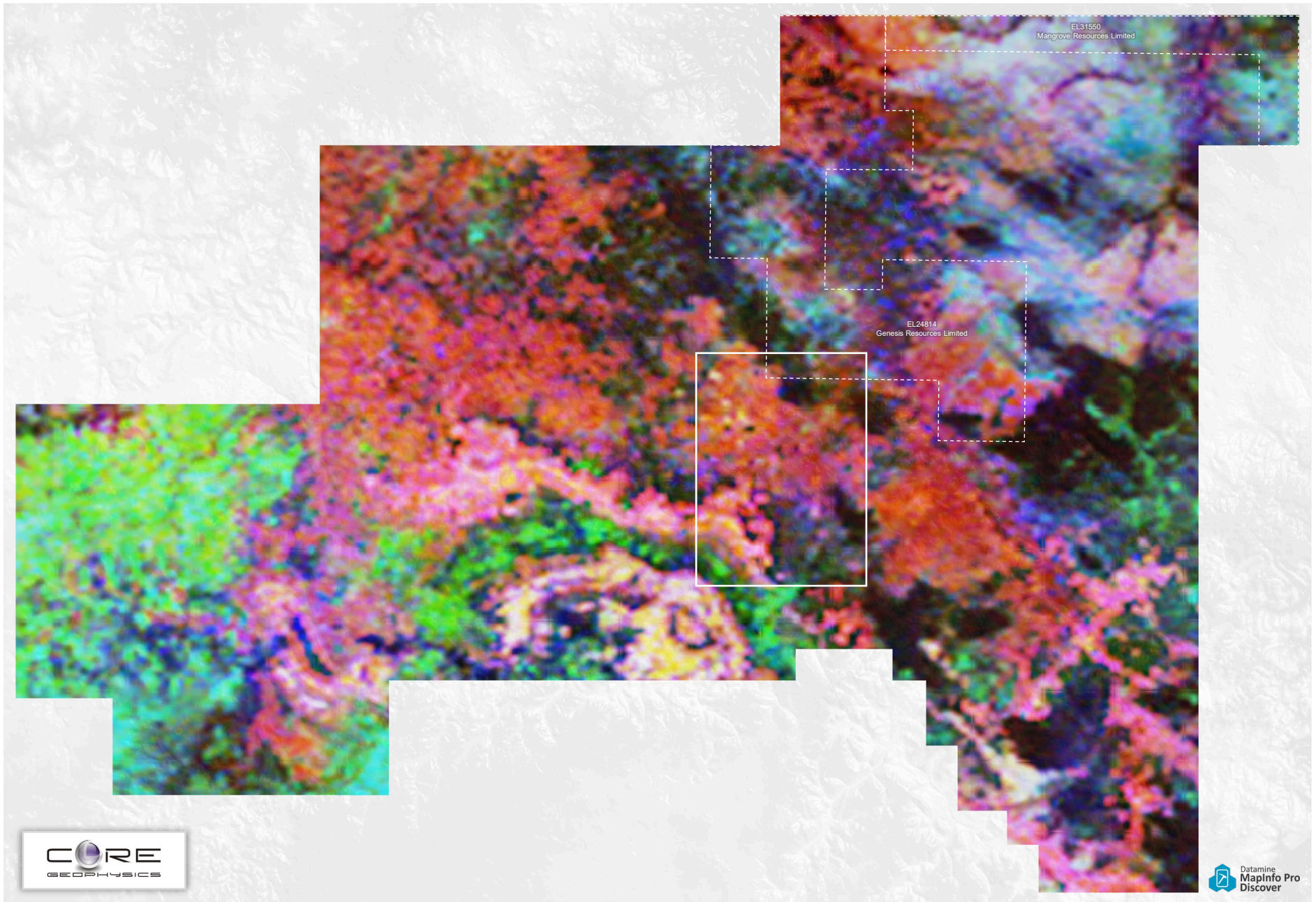
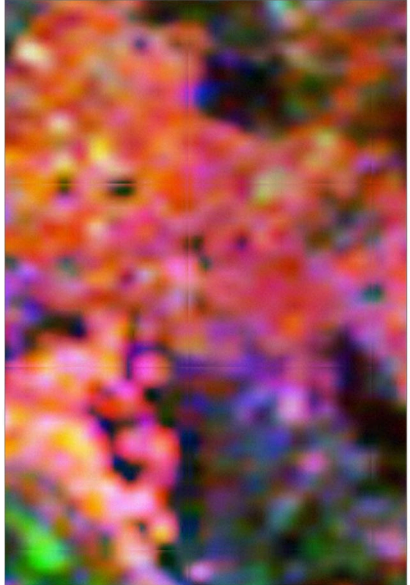




Redbank Exploration Project NT  
25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Geophysics Images**

Derived from NTGS Government Aeromagnetic Surveys Ternary radioelement potassium(K)-thorium(Th)-uranium(U) channel data. The image is a red-green-blue (RGB) composite using a histogram-equalised colour-stretch for each of the three channels.

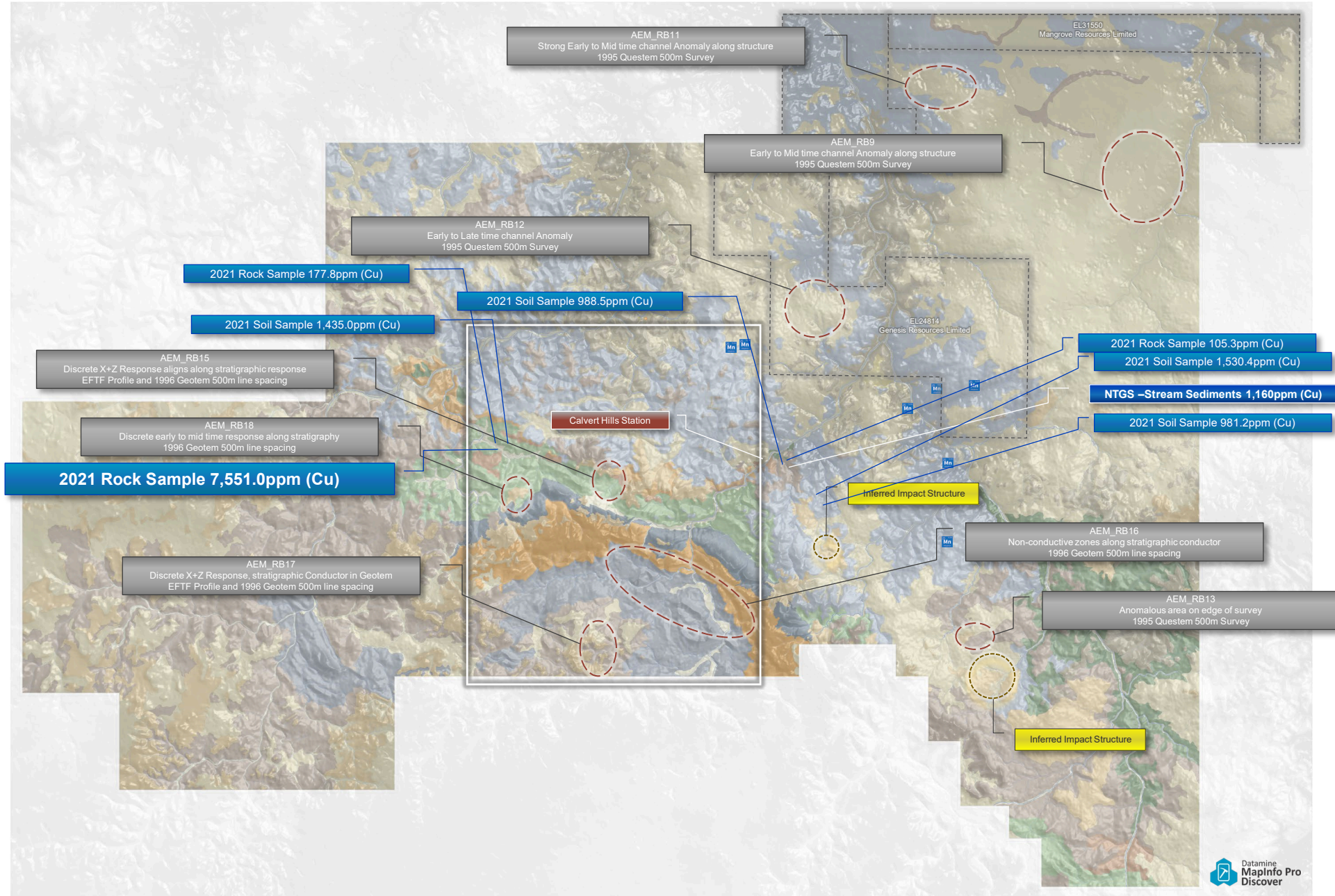
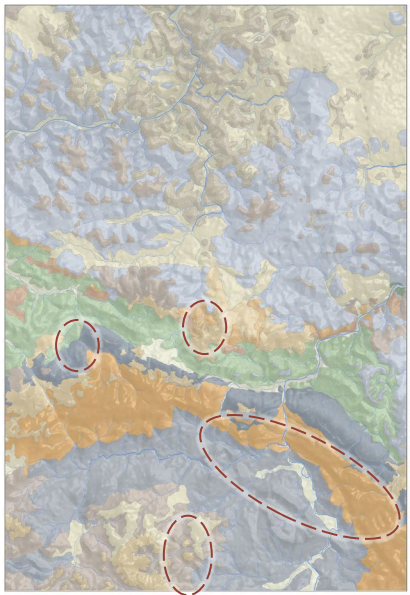
Insert Map





Redbank Exploration Project NT  
 25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Areas of Interest (AOI)**

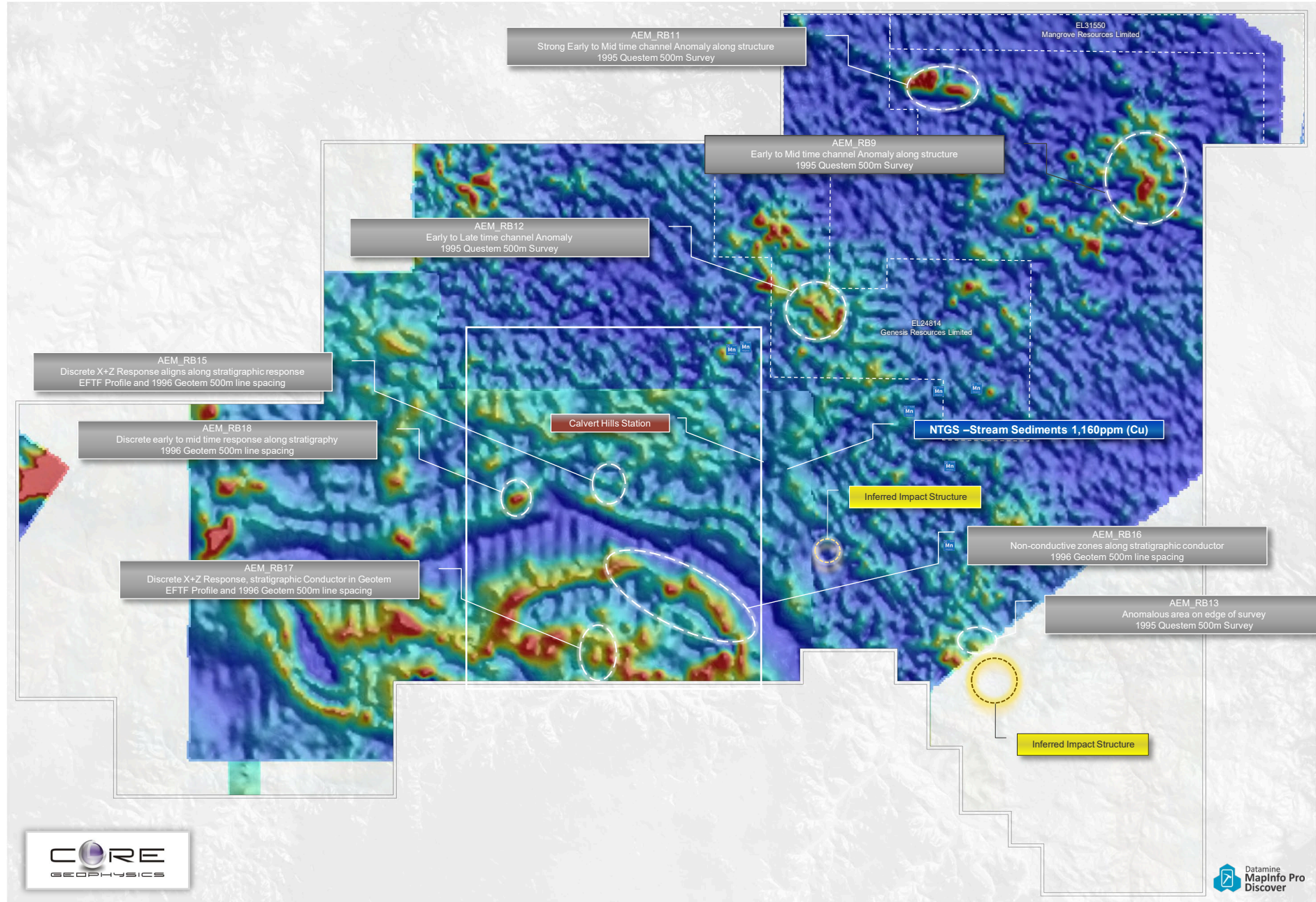
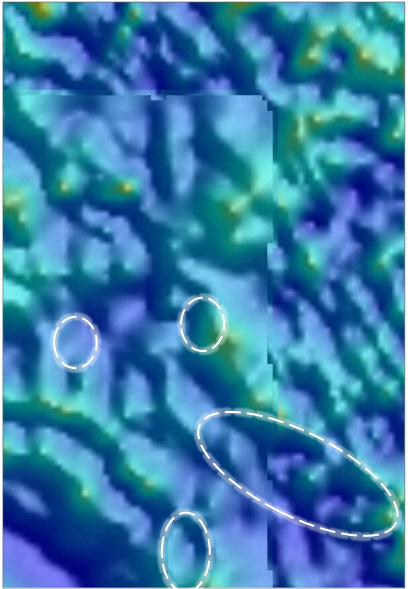
- AOI's available in the workspace include
- Airborne Electromagnetics (Mat Cooper)
  - Impact Structures (John Beeson)
  - 2021 Soil & Rock Samples
  - NTGS Stream Sediments (90+ppm Anomalies)
  - NTGS Mineral Occurrences (Manganese) <sup>55</sup>Mn





Redbank Exploration Project NT  
 25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Areas of Interest (AOI)**  
 Regional Government and Historical Open File  
**Airborne Electromagnetic (AEM)**  
 Early Time Channel AEM Composite (ET)  
 Time Domain Surveys Only

Insert Map

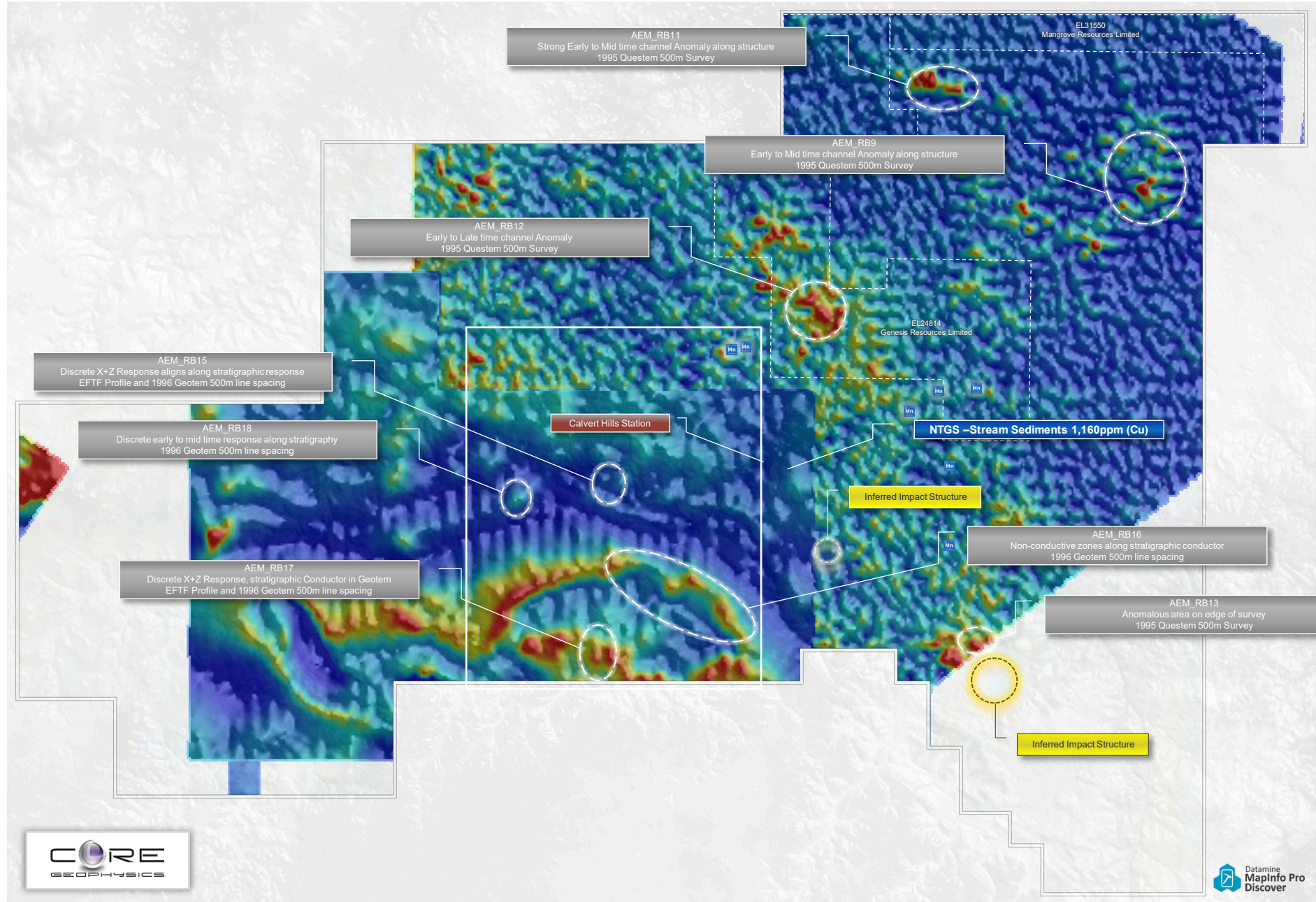
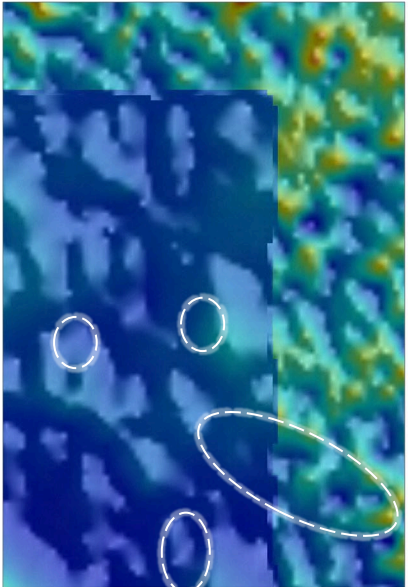




Redbank Exploration Project NT  
 25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Areas of Interest (AOI)**

Regional Government and Historical Open File  
**Airborne Electromagnetic (AEM)**  
 Middle Time Channel AEM Composite (MT)  
 Time Domain Surveys Only

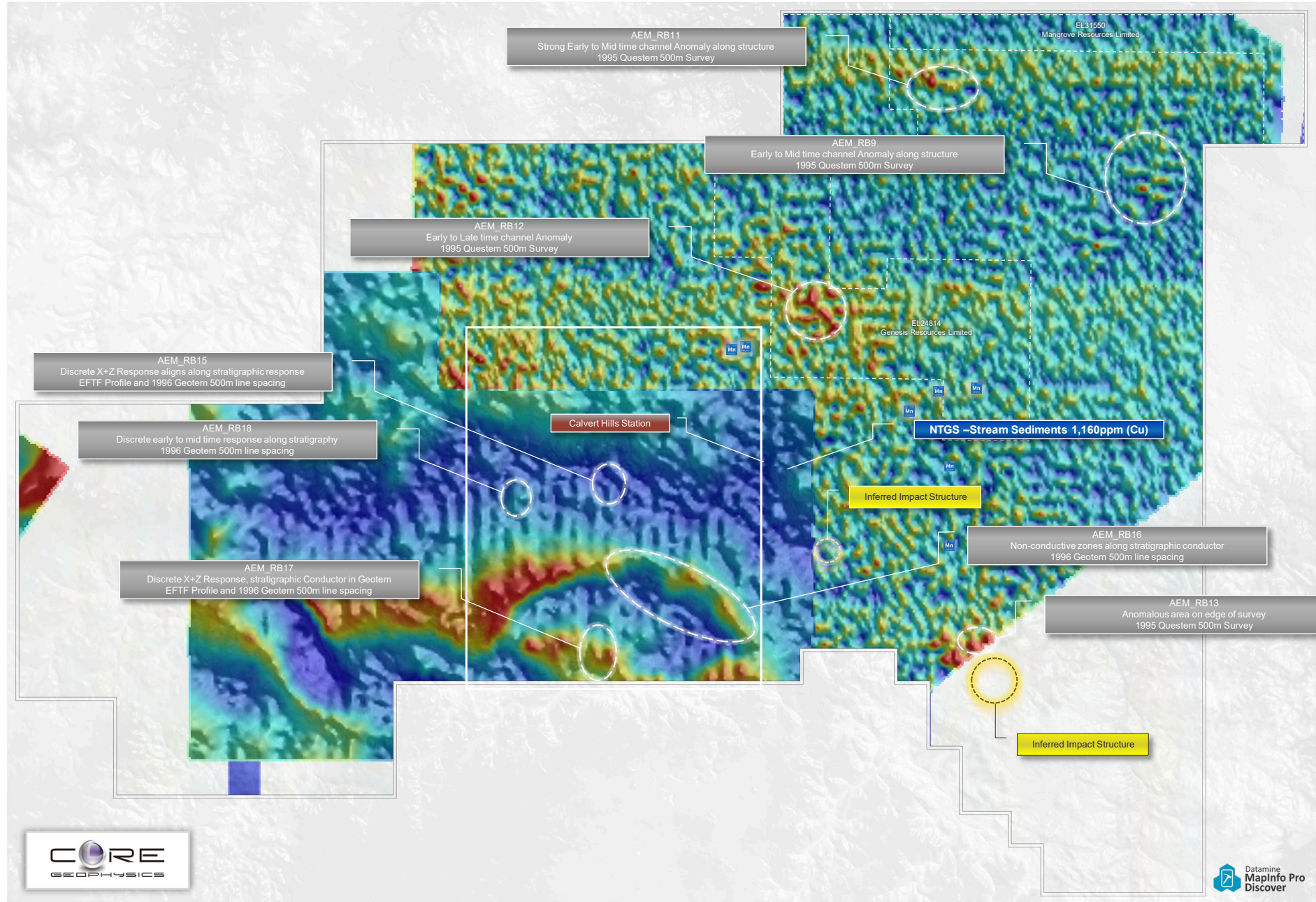
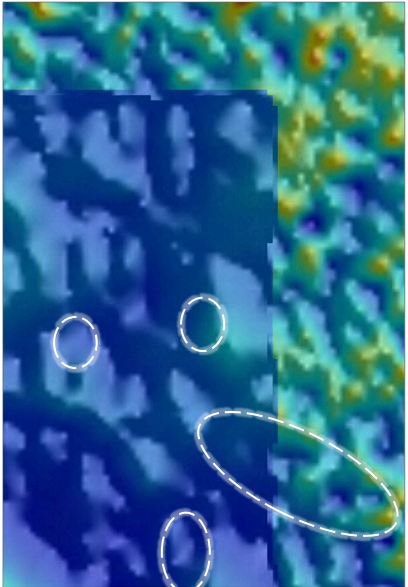
Insert Map





Redbank Exploration Project NT  
 25k Geological Map Series  
**CSP-Calvert South Prospect**  
**Areas of Interest (AOI)**  
 Regional Government and Historical Open File  
**Airborne Electromagnetic (AEM)**  
 Late Time Channel AEM Composite (LT)  
 Time Domain Surveys Only

Insert Map





Redbank Exploration Project NT  
 25k Geological Map Series  
 CSP-Calvert South Prospect  
 MapInfo Workspace

The CSP MapInfo Workspace has been set-up and available in the **RBK-Exploration** Folder, this workspace is our base dataset for the CSP

25k-Geological Map Series  
 MapInfo Workspace Location

File Explorer path: Network > per-fp1.rc.local > GROUPS > GIS > GIS-NT-Northern Territory > RBO-GIS-Redbank Operations > RBK-Redbank Project > RBK-Exploration > CSP-Calvert South Prospect > CSP-25-WorkPro

Name	Date modified	Type	Size
CSP-25k-Geology Map-Workspace.WOR	17/02/2022 8:36 AM	MapInfo Workspace	33 KB
CSP-25k-Geology Map-Workspace.wox	17/02/2022 8:36 AM	MapInfo Workspa...	4 KB

