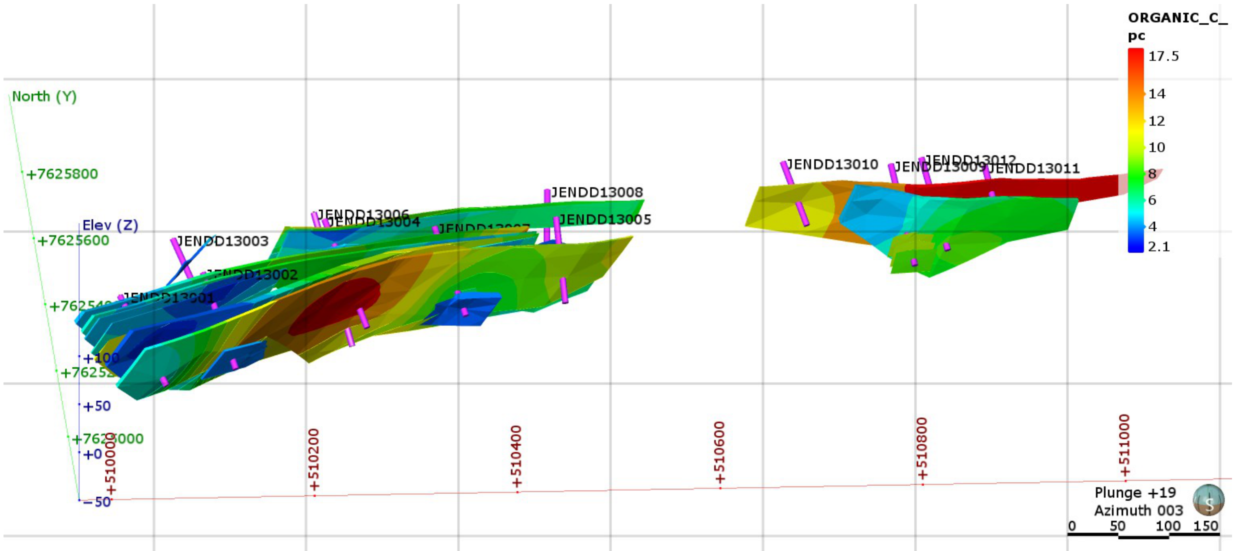

Jennestad Graphite Project

Resource estimation

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1 Summary

1.1 Introduction

This report describes the resource estimation of the Jennestad Graphite deposit based on the spring 2013 drilling campaign. Author of this report, holding an M.Eng degree in Technical Resource Geology, previously evaluated this deposit in february 2013 based on historic data, from where the EM-anomaly map and previous drillings have been applied for interpretation purposes in this report.

1.2 Conclusion

Data from 14 diamond drillholes totaling 1365m drilled in spring 2013, have been collated in a database. From these holes, 57 intersection composites were generated from sample assays above 2% organic carbon, to make interpretation of 11 parallel graphite lenses in the Koven area and 2 parallel graphite lenses in the Godlia area, extending 600 and 430m along strike respectively. Structures are interpreted to dip 49degrees to the north-northwest.

The resources in the Jennestad deposit are classified as inferred, where resources are modeled in LeapFrog Geo software between intersections having up to 200m distance along strike and extrapolated to a maximum distance of 50m down dip below the deepest intersection. In addition, graphite lenses are extrapolated further along strike, where historic EM-anomalies and drilling infer mineralisation.

The resource estimate, generated from the interpolation of grade shells within each interpreted lens is presented below:

Region	Jennestad Inferred Resources	
	Tonnes Mt	Organic Carbon %
Godlia	0.63	10.36
Koven	3.03	9.06
TOTAL	**3.66**	**9.28**

Note:
- Cut-off grade = 2% org. Carbon
- Assumed ore density applied is 2.6 tonnes/m3
- Extracted ore from historic underground mining activity have not been subtracted from the reported resources

2 Location

The Graphite resources at Jennestad, are located 2km south west of Jennestad village in Sortland municipality, on the Vesterålen archipelago in northern Norway.

Figure 1 Jennestad location map

3 Historic Exploration and Mining

The graphite deposits in the Jennestad area were first visited and registered by B.M Keilhau in about 1820. The first period of commercial mining started in 1899 and ended in 1914. During this period some tens of different deposits were exploited in the Lofoten-Vesteralen district, the main activity being in the Jennestad area.

In 1938, the graphite occurrences were reinvestigated by ground geophysics and diamond drilling. Norwegian Graphite, have registered 9 diamond drillholes, likely drilled by Skaland Graphite during this period.

Exploration continued in 1947 with an electromagnetic survey conducted by *Geofysisk Malmleting,* to identify the extent of the already known graphite lenses. Results showed several parallel strong anomalies along strike, with partially weaker anomalies in between. A drilling program was carried out in autumn 1949, drilling 6 holes, followed by 4 holes during the summer of 1950, to identify the thickness and depth of the graphite lenses. A local coordinate map was produced, seen in Figure 2, showing EM-anomalies, drillhole positions, mine excavations and trenches

From 1948 to 1960 there was a second period of active mining during which a total of 770 m of underground adits and drifts were dug, together with several large surface trenches. The Golia and Koven area was also subject to land surveying, producing a map, which is georeffered and used for interpretations in this report.

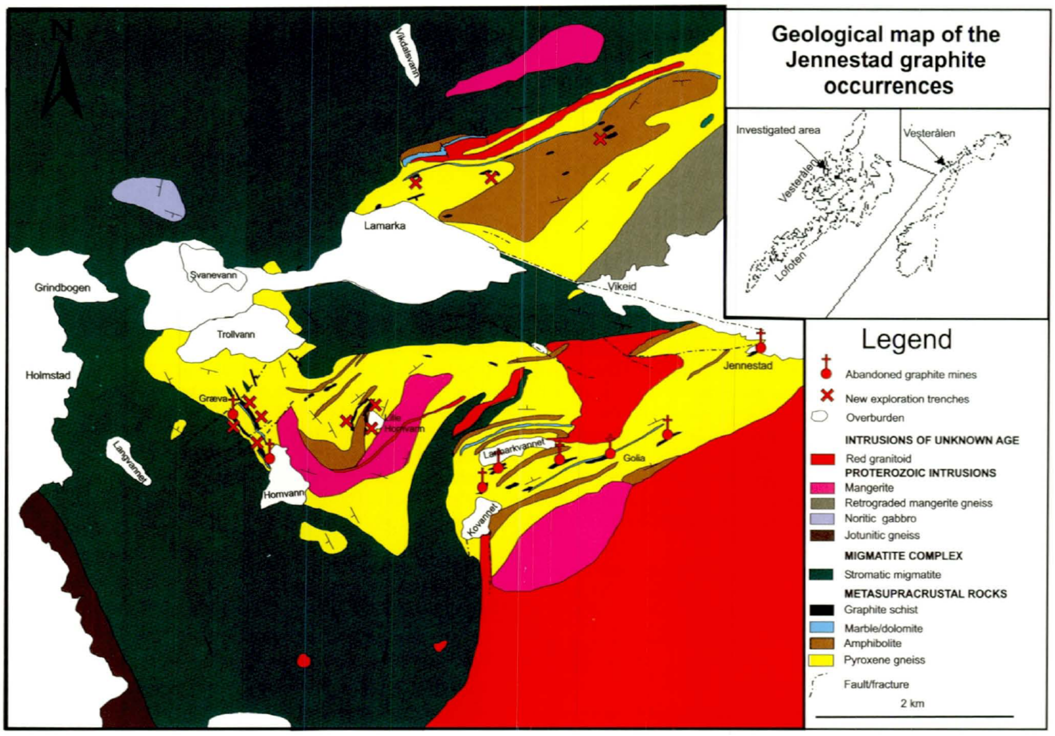

Figure 2 Geologic map of Graphite occurrences in the Jennestad area, Vesterålen. Gautneb 2000.

4 Sample preparation and analysis

Core samples from the spring 2013 drilling campaign where stored in the nearby storage facility in the village of Jennestad, where logging and sampling took place, supervised by Norwegian Graphite Geologist Rasmus Blomqvist.

Selected sample intervals where sent 430km southward to Molab laboratories, in Mo i Rana, where they where analysed for total carbon, inorganic carbon and sulphur content by combustion and IR detection. The total organic carbon content is subtracted from the total carbon content to determine the total inorganic carbon content of a given sample.

5 Data Verification

The following quality control measures where taken during spring 2013 drilling campaign:

- Norwegian graphite geologists inserted 59 duplicate samples into the sample tray, at the rate of one every ten sample, totaling 506 samples for the Jennestad drilling, sent to Molab for assaying. Results presented in Figure 3.
- Norwegian Graphite Geologist inserted 20 blank samples into the sample tray to check for carbon contamination between samples. Results presented in Figure 4.

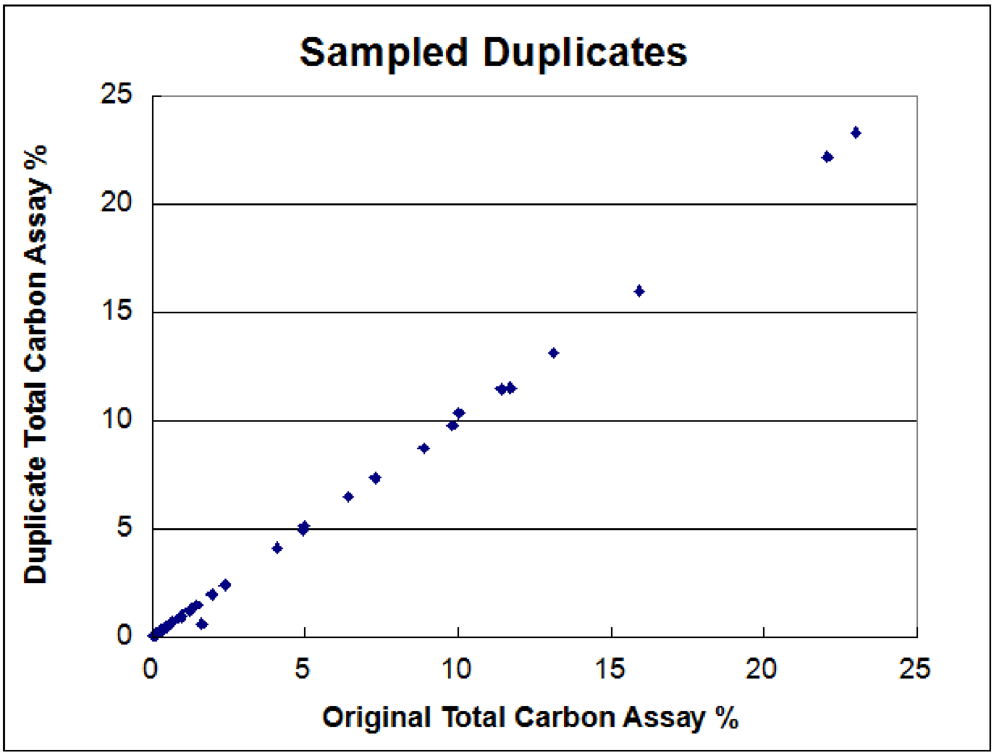

Figure 3 Plot showing original vs. Inserted duplicate samples

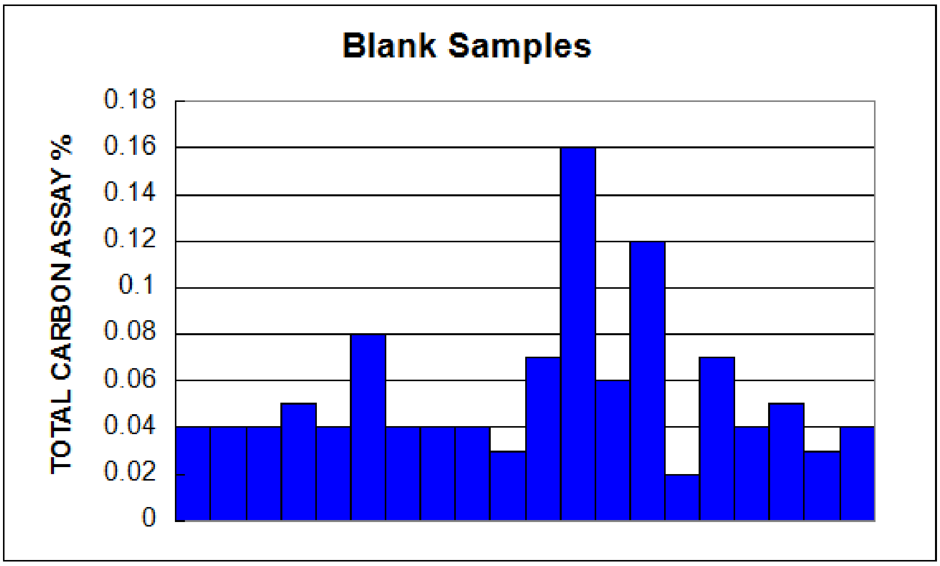

Figure 4 Histogram of blank assays

Overall the results are acceptable and support the use of available samples.

6 Mineral Resource estimate

6.1 Data Collation

Data from the recent spring 2013 drilling campaign have been handed over by Norwegian Graphite and collated into a drillhole database by the author, with separate sheets for:

- Collar: Drillhole surface UTM zone 33 coordinates registered by a Leica DPOS GPS
- Survey: Consist of hole azimuth obtained from DPOS GPS registered points in front of and behind the casing and hole dip obtained from measurements on casing. Down the hole surveing has not been carried out prior to this report.
- Assay: Interval table including assayed total carbon, inorganic carbon and sulphur. Column for organic carbon is made by subtracting inorganic carbon from total carbon.
- Lithology: Interval table including geologic unit codes and descriptions for the cores.

After import of these data sets into LeapFrog Geo together with maps, collars and lithology data files were combined and then 'desurveyed' so as to obtain the complete three-dimensional coordinates of each graphite intersection. Figure 3 show plan view of all imported data used for modeling.

Sample type	Number of Holes	Drilled length [m]	Total samples	Samples inside Graphite lenses	Total sample length [m]
Diamond Drillholes 2013	14	1365	506	186	433.25

Table 1 Summary of drillhole collars

HOLE_ID	EASTING	NORTHING	ELEVATION	TOTAL DEPTH	AZIMUTH	DIP
JENDD13001	510014.41	7624924.49	122	102	140	-49
JENDD13002	510099.12	7624972.28	127	104	154	-50
JENDD13003	510073.52	7625043.29	139	143	146	-49
JENDD13004	510228.54	7625140.17	123	119	150	-50
JENDD13005	510458.61	7625169.95	110	88	173	-55
JENDD13006	510219.00	7625160.37	123	137	147	-62
JENDD13007	510337.87	7625153.43	108	98	155	-48
JENDD13008	510456.25	7625279.47	101	106	184	-50
JENDD13009	510800.64	7625377.71	87	110	164	-48
JENDD13010	510692.08	7625340.57	104	69	151	-50
JENDD13011	510893.52	7625383.77	81	35	162	-50
JENDD13012	510831.99	7625399.57	86	99	159	-50
JENDD13013	511339.36	7625562.75	53	61	157	-48
JENDD13014	511932.20	7625910.09	20	94	154	-48

6.2 Sample statistics

Diamond drill holes in the spring 2013 campaign were in general aimed at lenses of graphite schist previously inferred by historic drilling and EM-anomalies. Samples were made from intersections in graphite schist, but also from low grade sections in above and below the schist. Summary statistics is generated for all sample data, and for sample data within the revised intersections, shown in Table 1.

Table 2 Sample statistics

	Field	Unit	Number of samples	Min	Max	Mean	Variance	Standard deviation
All samples	Total Carbon	%	506	0.03	33.16	3.62	35.36	5.95
	Inorganic Carbon	%	165	0.1	9.6	0.58	2.24	1.50
	Organic Carbon*	%	506	0.03	33.16	3.44	34.20	5.85
	Sulphur	%	111	0.03	15.6	3.09	8.21	2.87

	Field	Unit	Number of samples	Min	Max	Mean	Variance	Standard deviation
Intersections > 2% org.C	Total Carbon	%	186	0.04	33.16	8.71	51.42	7.17
	Inorganic Carbon	%	144	0.1	5.93	0.36	0.92	0.96
	Organic carbon*	%	186	0.04	33.16	8.47	50.75	7.12
	Sulphur	%	95	0.04	15.6	3.35	8.59	2.93

* Organic carbon field generated by subtracting inorganic carbon from total carbon if inorganic assay, otherwise set equal to total carbon

6.3 Compositing

Sample assay intervals >2%organic carbon where denoted with a lens ID in LeapFrog and exported to excel for compositing. Composites were created across each identified intersection, some places including short low grade intervals in between the >2% org. carbon intervals. Composites are therefore of variable length. Composite statistics is generated, seen in Table 2, as well as summary of the drill hole composite data shown in Table 3.

Table 3 Composite statistics

	Field	Unit	Number of samples	Min	Max	Mean	Variance	Standard deviation
Unweighted	Total Carbon	%	57	2.10	20.91	8.10	21.03	4.59
	Inorganic Carbon	%	53	0.00	3.12	0.26	0.32	0.57
	Organic Carbon*	%	57	2.10	20.79	7.90	20.57	4.54
	Sulphur	%	35	0.00	8.36	2.19	3.27	1.81
	Comp length	m	57	0.20	8.15	2.59	4.96	2.23
Weighted by length	Total Carbon	%				8.99		
	Inorganic Carbon	%				0.30		
	Organic Carbon*	%				8.72		
	Sulphur	%				1.53		

* Organic carbon field generated by subtracting inorganic carbon from total carbon if inorganic assay, otherwise set equal to total carbon

Table 4 Composite summary

HOLE_ID	DEPTH_FROM	DEPTH_TO	Comp length	TOTAL Carbon %	INORGANIC Carbon %	ORGANIC Carbon %	Sulphur %	LensIDs
JENDD13001	6.7	10.95	4.25	3.56		3.56		Koven3g
JENDD13001	19.55	22.85	3.3	4.63		4.63		Koven3h
JENDD13001	27.4	29	1.6	4.58		4.58		Koven3f
JENDD13001	41.15	42.45	1.3	5.03	0.04	4.99		Koven3e
JENDD13001	51.5	53.3	1.8	10.82	0.17	10.65		Koven3c
JENDD13001	62.15	66	3.85	2.78		2.78		Koven3b
JENDD13001	90	93.75	3.75	4.33	0.05	4.28		Koven3d
JENDD13002	4.45	9.3	4.85	9.77	3.12	6.65		Koven3g
JENDD13002	16.3	19	2.7	8.57	2.34	6.23		Koven3h
JENDD13002	22.7	23	0.3	4.04	0.18	3.86		Koven3f
JENDD13002	33.5	34.25	0.75	2.62	0.21	2.41		Koven3e
JENDD13002	67.5	74	6.5	3.84	0.11	3.74		Koven3b
JENDD13002	82.7	85.85	3.15	14.19	2.02	12.17		Koven3d
JENDD13002	93	95	2	4.13	0.20	3.93		Koven3i
JENDD13003	29.15	31.35	2.2	3.47	0.03	3.46	0.71	Koven2b
JENDD13003	96.15	97	0.85	7.29	0.10	7.29	0.93	Koven3e
JENDD13003	111.1	114.6	3.5	11.13	0.18	11.00	1.36	Koven3c
JENDD13003	121.65	125.5	3.85	8.68	0.09	8.62	1.17	Koven3b
JENDD13004	16.05	17	0.95	12.50	0.00	12.50		Koven2c
JENDD13004	21.45	23.2	1.75	7.84	0.07	7.83	0.00	Koven2b
JENDD13004	27	28	1	3.56	0.14	3.42		Koven2a
JENDD13004	45.3	46	0.7	4.08	0.10	4.08		KovenGodlia2e
JENDD13004	59	59.65	0.65	8.87	0.10	8.87		Koven3g
JENDD13004	65.6	69.6	4	8.63	0.16	8.48		Koven3h
JENDD13004	80.6	88	7.4	11.59	0.12	11.50		Koven3b
JENDD13004	91.75	98.35	6.6	17.69	0.13	17.58		Koven3d
JENDD13005	62.55	64.9	2.35	9.94	0.13	9.81		Koven3d
JENDD13006	33.3	34.3	1	2.81	0.10	2.81	0.64	Koven2c
JENDD13006	43.4	44.1	0.7	9.42	0.10	9.38	1.64	Koven2b
JENDD13006	47.95	52.85	4.9	8.81	0.10	8.79	8.36	Koven2a
JENDD13006	93.4	94.75	1.35	2.55	0.10	2.55	0.59	Koven3h
JENDD13006	102.75	106.9	4.15	13.41	0.10	13.41	2.44	Koven3b
JENDD13006	112.25	120.15	7.9	11.51	0.59	10.95	3.97	Koven3d
JENDD13007	27.6	28.1	0.5	6.90	0.10	6.90	0.11	Koven3g
JENDD13007	46.95	47.7	0.75	2.10	0.10	2.10	0.99	Koven3h
JENDD13007	53.75	54.3	0.55	11.24	0.10	11.24	1.10	Koven3b
JENDD13007	57.8	59.55	1.75	4.44	0.03	4.44	0.95	Koven3a
JENDD13007	67.75	71.6	3.85	6.45	0.15	6.33	5.16	Koven3d
JENDD13007	82.35	90.5	8.15	3.35	0.06	3.35	4.17	Koven3i
JENDD13008	67.1	67.4	0.3	2.95	0.15	2.80	2.70	KovenGodlia2e
JENDD13008	77.25	78.35	1.1	11.50	0.16	11.34	1.10	KovenGodlia 2f
JENDD13008	81.8	82.5	0.7	11.70	0.10	11.70	1.40	KovenGodlia2g
JENDD13008	87.6	91.15	3.55	20.42	0.11	20.34	1.78	Koven3g
JENDD13008	94	96.55	2.55	14.39	0.14	14.29	1.77	Koven3h
JENDD13008	99.5	99.95	0.45	4.30	0.16	4.14	0.81	Koven3b
JENDD13008	103.5	103.75	0.25	6.34	0.10	6.34	1.90	Koven3a
JENDD13009	47.2	53.7	6.5	14.88	0.08	14.88	2.42	Godlia2a
JENDD13009	69.25	75.65	6.4	4.86	0.07	4.85	1.35	Godlia2d
JENDD13009	86.55	86.75	0.2	10.54	0.44	10.10	5.80	KovenGodlia2e
JENDD13009	97.45	97.75	0.3	9.40	0.12	9.28	3.10	KovenGodlia 2f
JENDD13009	103.65	104.15	0.5	8.18	0.14	8.10	4.40	KovenGodlia2g
JENDD13010	44.2	44.9	0.7	10.61	0.10	10.61	2.80	Godlia2a
JENDD13011	26.9	28.75	1.85	20.91	0.12	20.79	1.91	Godlia2a
JENDD13012	56.8	60.95	4.15	13.84	0.08	13.81	1.38	Godlia2a
JENDD13012	87.9	93.4	5.5	8.74	0.15	8.65	3.01	Godlia2d
JENDD13013	39.75	39.95	0.2	3.09	0.12	2.97	4.30	Godlia2d
JENDD13014	5.6	6.8	1.2	4.01	0.10	3.91	0.44	Godlia2d

The scatter plot of composite grades versus composite length, seen in Figure 5, show that there is no particular relationship between grade and thickness.

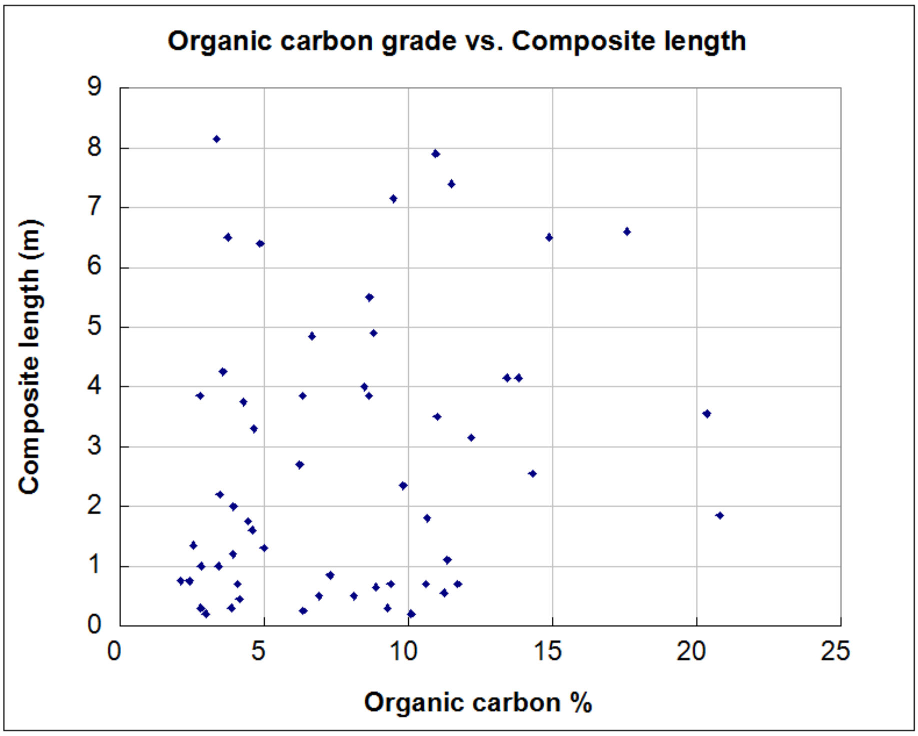

Figure 5 Organic graphite grade vs. Composite length

6.4 Interpretation

The previous LeapFrog model made for the preliminary tonnage estimation, have been updated with the data described above, to allow a quick comparison with historic drillhole and EM data. Looking at assays > 2% organic carbon from 2013 drilling in 3D, one could identify structures, likely to represent the same graphite lenses as inferred by the 1947 EM anomaly map seen in Figure 6, and historic drillholes. Exceptions also occurred, where new graphite intersections locate below areas without EM-anomaly in the extreme west part. Historic graphite intersections does also occur nearby new drillholes without graphite and vice-versa, seen in Figure 7, suggesting carefull use of these data in the interpretation. Overall, the comparison of new data and historic data, suggests the use of EM-anomaly map for interpretation of structures along strike, while interpretation of thickness and grade estimation limits to the use of new data only.

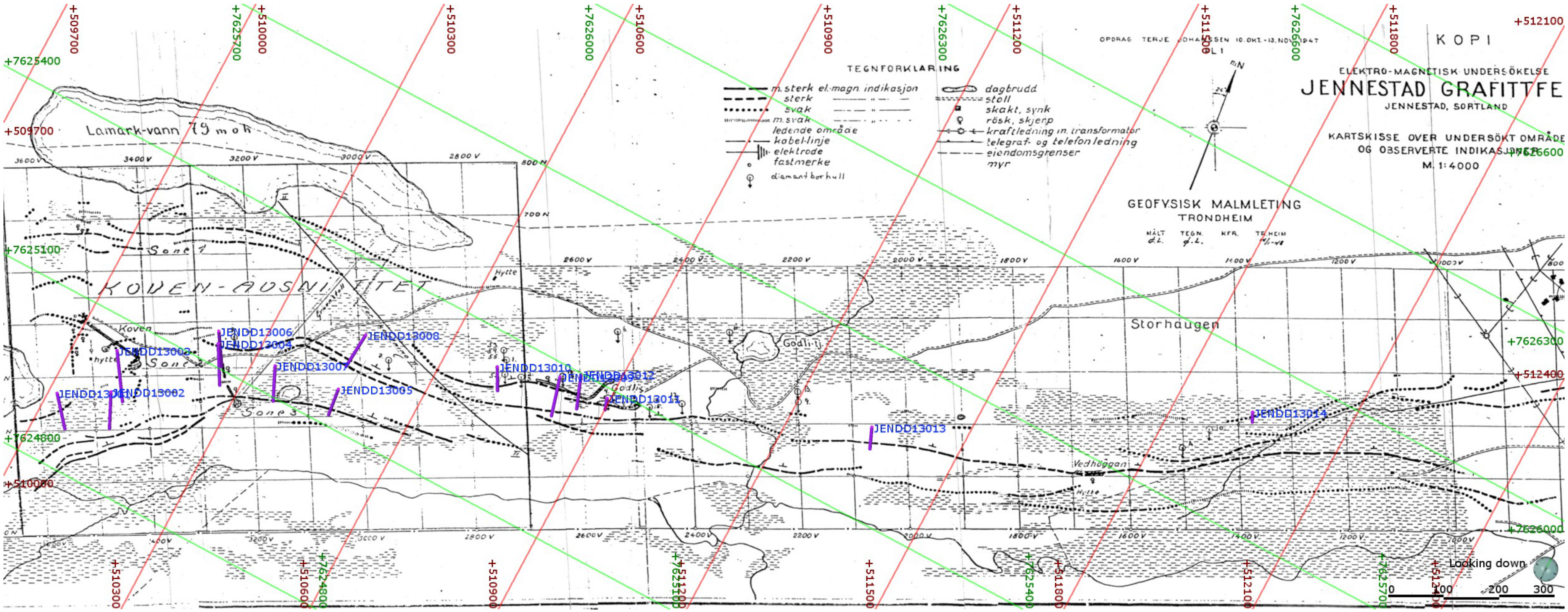

Figure 6 Plan view of georefferenced EM-anomaly map and spring 2013 drill holes

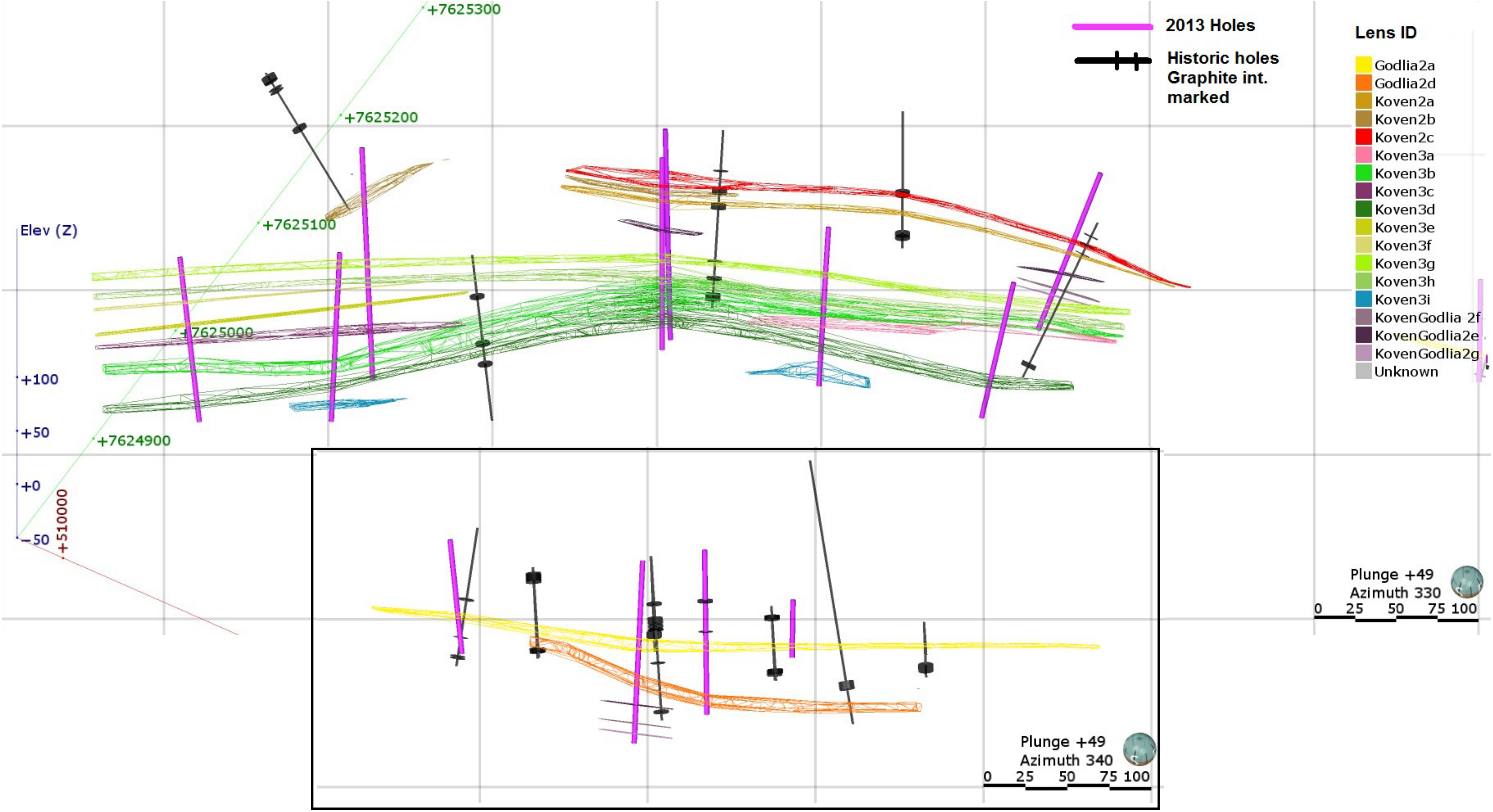

Figure 7 3D view looking down dip at Koven area in large and Godlia in box, showing interpreted graphite lenses from 2013 DH intersections and historic drillholes

Based on organic carbon >2% intersections, Audun M. Sletten has made the following interpretations:

- 11 parallel graphite lenses in the Koven area dipping 49 degrees to 330 NNW extending 600m along strike.
- 2 parallel graphite lenses in the Godlia area dipping 49 degrees to 340 NNW, extending 430m along strike.
- Lenses are modelled between intersections with 200m distance along strike, extending model to a maximum of 50m down dip below the deepest intersection.
- Lens Koven2a and Koven2c are extended 330m eastward along strike from intersections, based on strong EM-anomalies and historic drillholes suggesting near surface mineralisation.
- Lens Godlia2a and Godlia 2d are extended 180 and 130m respectively eastward along strike from intersections, based on strong EM-anomalies and historic drillholes suggesting near surface mineralisation.
- 12 single outstanding intersections interpreted as a 45x45m mineralised volume

Each graphite intersection where denoted with a lens ID in LeapFrog, to allow wireframing of each separate lens, by the LeapFrog vein modeling tool. This wireframing tool honours the hangwall and footwall contact points from intersections, as well as additional contact points made in cross sectional interpretations.

Wireframe model can be seen in plan view in Figure 8 and 3D view of Koven and Godlia regions in Figure 9 and Figure 10 respectively, as well as cross sectional views in Appendix A.

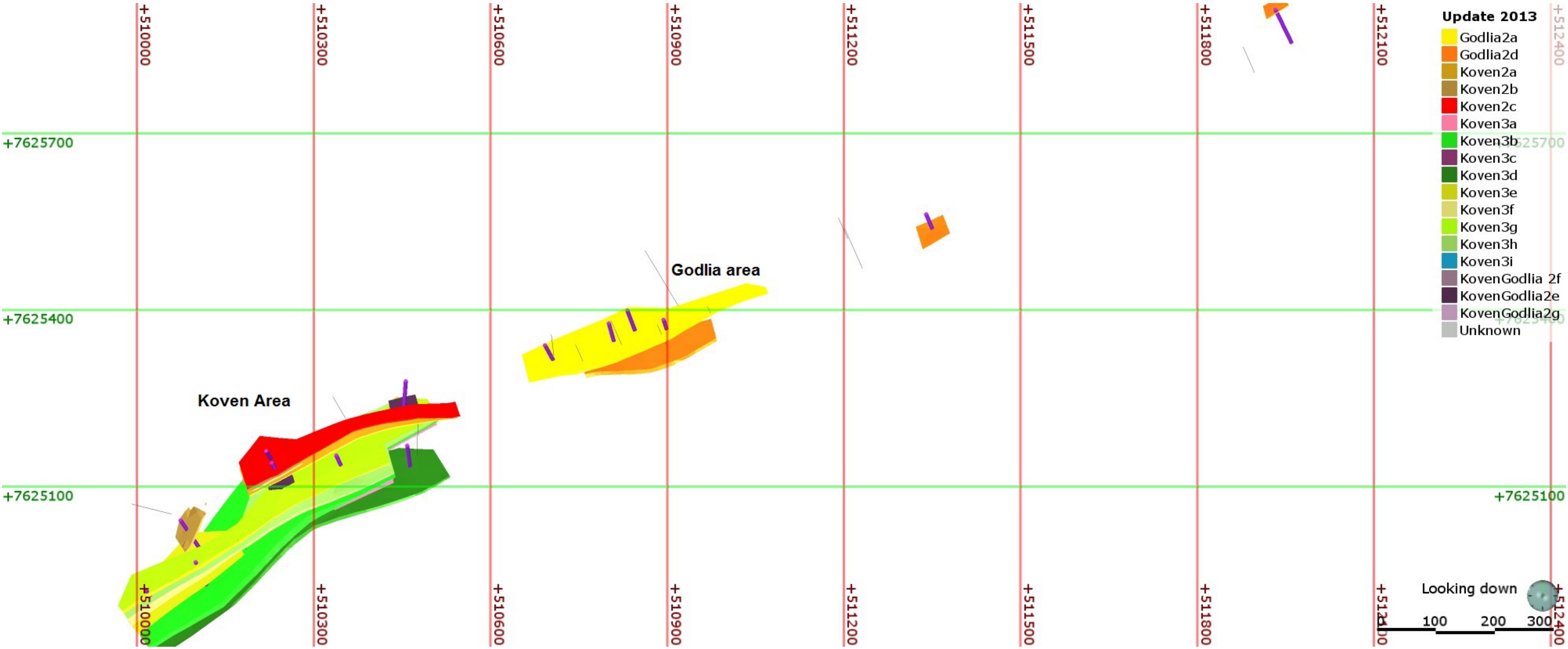

Figure 8 Plan view Jennestad wireframe model, colour marking lens ID

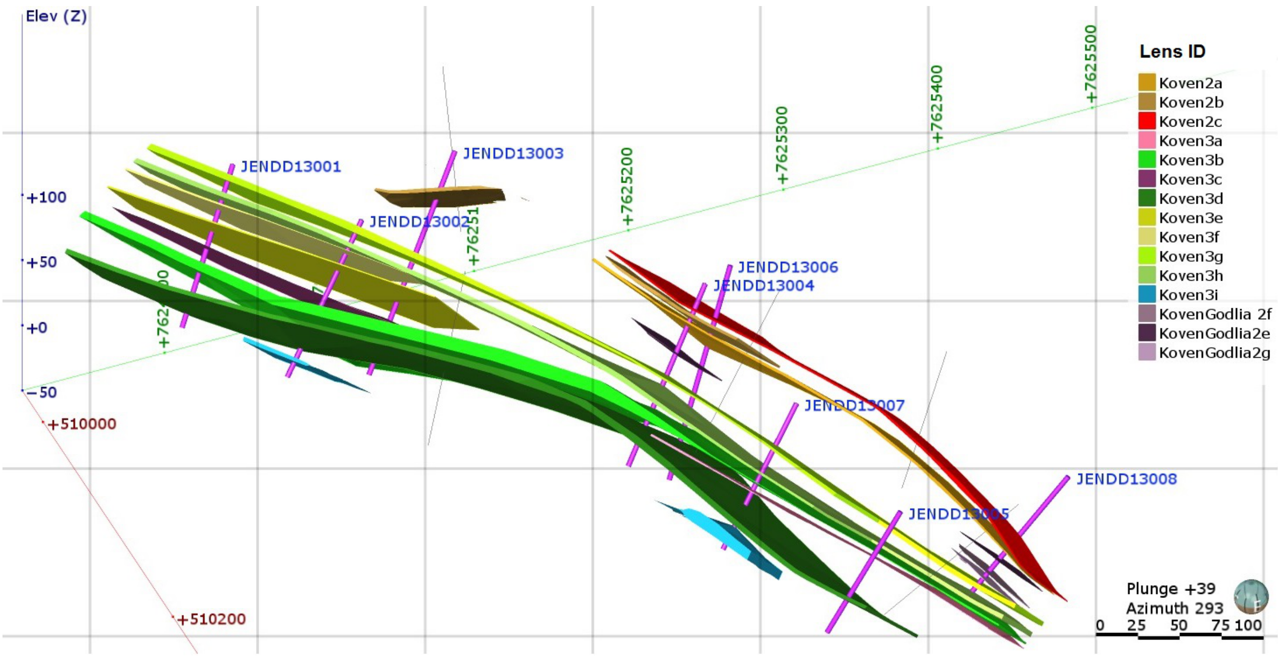

Figure 9 3D view Koven wireframe model, colour marking lens ID

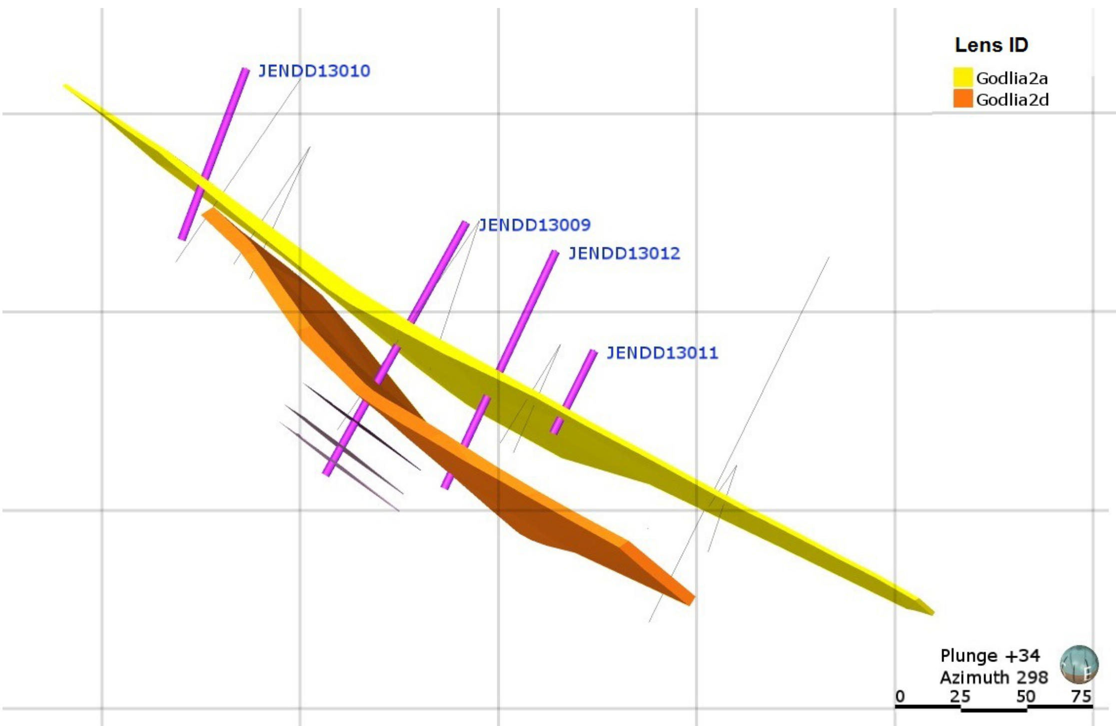

Figure 10 3D view Godlia wireframe model, colour marking lens ID

6.5 Grade estimation

Organic carbon grades have been estimated directly from the average grades of the >2% org. Carbon composites. Composite grades have been filtered by their lens ID in LeapFrog Geo, to allow separate grade estimation of each lens by ordinary Kriging, based on the respective intersections.

Model variogram parameters applied in LeapFrog Geo interpolation module are summarised in Table 5 and the variogram can be seen in Figure 9.

Table 5 Grade estimation parameters

	Region	**Dip**	**Azimuth**	**Orthogonal to structures**
Variogram orientation	Koven	49	330	
	Godlia	49	340	
Ellipsoid ratios		3	3	1

Interpolant parameters	Variogram model:	Spheroidal
	Range	400
	Sill	20
	Alpha	3

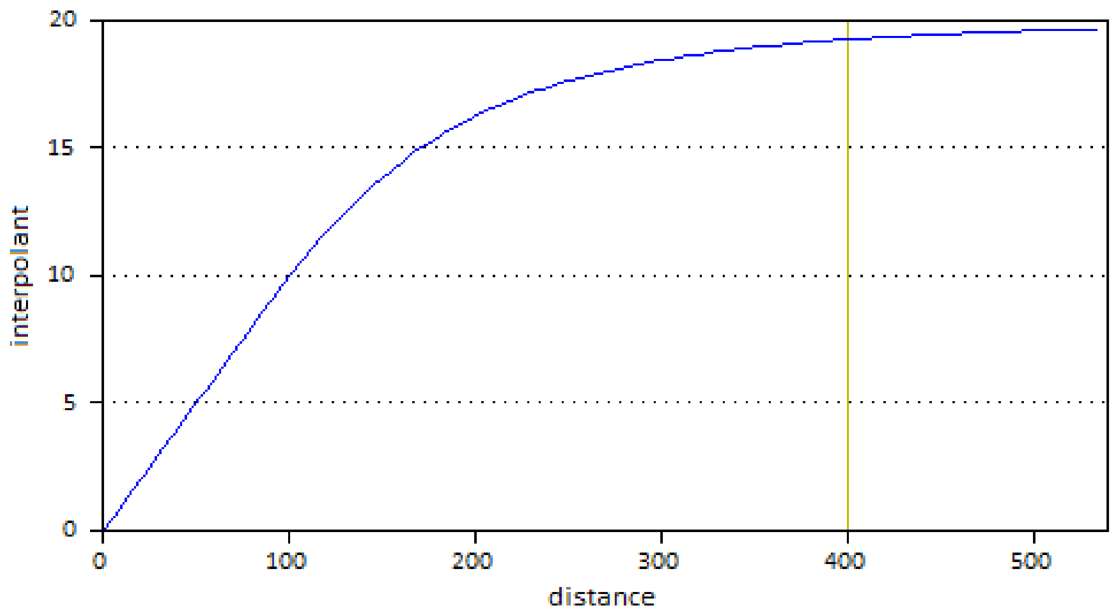

Figure 11 Organic carbon variogram

The LeapFrog interpolation module generate grade shells for specified grade intervals, based on composites and parameters above. Each grade shell is a closed wireframe representing the volume containing graphite mineralisation within the specified interval. The module also presents an approximate mean grade for the interval, which is used in the resource estimation.

6.6 Mineral Resource classification

Author of this report have made a comprehensive evaluation of the received data, to determine the confidence of the reported resources in the Jennestad graphite deposit.:

Results from the spring 2013 drilling campaign, combined with evidence from historic EM-surveying and drilling, prove a resource potential in the previously mined Jennestad area. Sampled intersections seem to indicate consistent graphite lenses along strike, but the short distance between parallel lenses and drill hole spacing of 100-200m along strike imply an uncertainty in which intersection belong to which lens. One can also interpret lenses pinching out between drill holes, suggesting that denser drilling is required to justify the presence of interpreted graphite lenses.

All the modeled resources are therefore allocated as **inferred.** These resources have been modeled between intersections with 200m distance along strike, and extrapolated to a maximum distance of 50m down dip from the deepest and to a maximum of 330m from intersections, where mineralisation is inferred by historic EM-anomaly and drilling.

6.7 Model Validation

The grade shells generated from interpolation, have been visually inspected in LeapFrog Geo to verify estimated grades are corresponding to nearby intersection composites. A global comparison of estimated grades vs. Sample intersection grades and weighted composites grades have also been generated, seen in Table 6.

Table 6 Global comparison of grades

	Samples	Composites	LeapFrog grade interpolation Ordinary Kriging
Org.Carbon %	8.47	8.72	9.28

A noticeably higher estimated organic carbon grade can be observed from the comparison, which is due to the smoothening nature of the Kriging interpolation and the fact that several of the low grade samples belong to lenses interpreted with smaller volume, illustrated by grade shells in appendix A.

6.8 Model resource reporting

The resulting statistics from grade interpolation within each interpreted lens, have been collated in a sheet, from where calculations are made using an assumed mineralisation density of 2.6tonnes/m^3. Grade shells can be seen in appendix A. A grade tonnage curve and table for the Jennestad inferred resources can be seen in Figure 10, 11, 12 and Table 7 respectively.

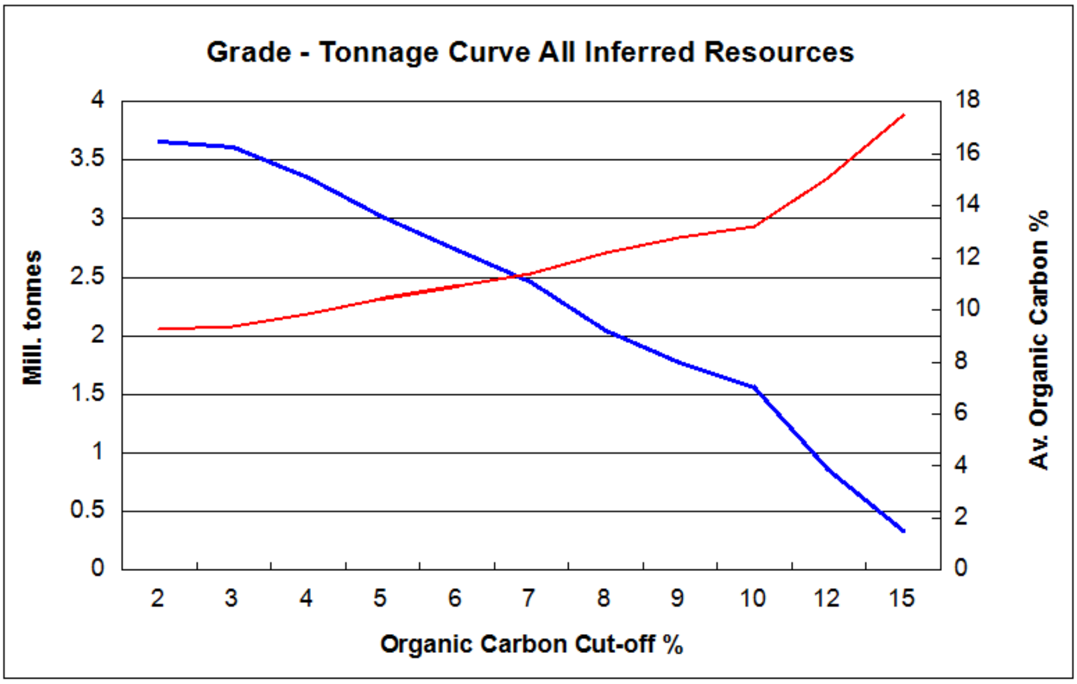

Figure 12 Grade (red line) - Tonnage (blue line) curve all Jennestad inferred resources

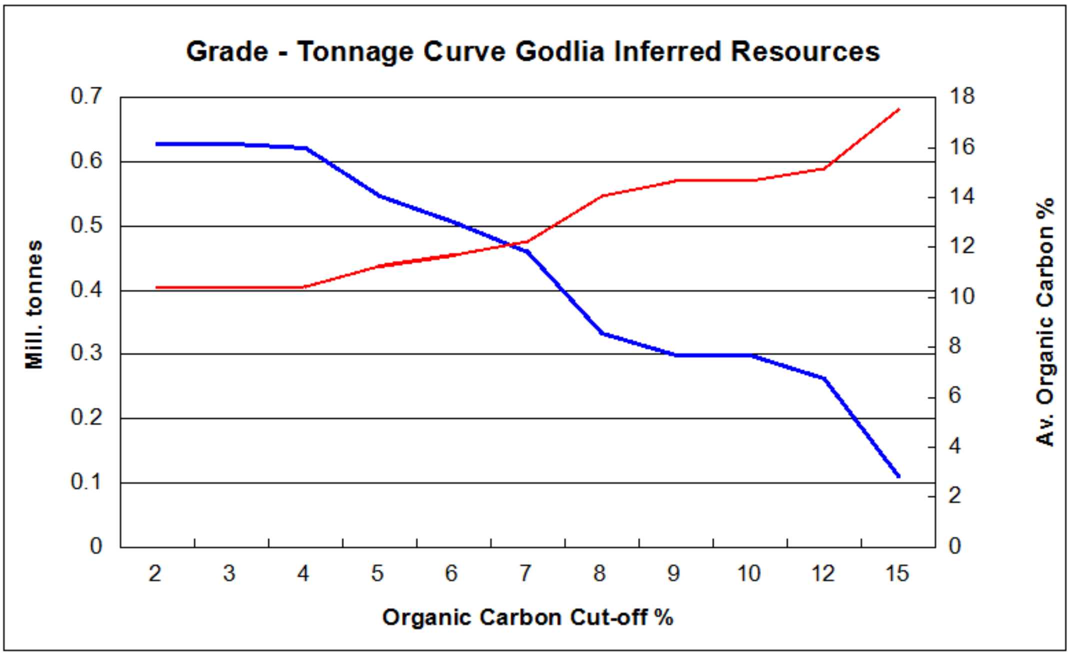

Figure 13 Grade (red line) - Tonnage (blue line) curve Godlia inferred resources

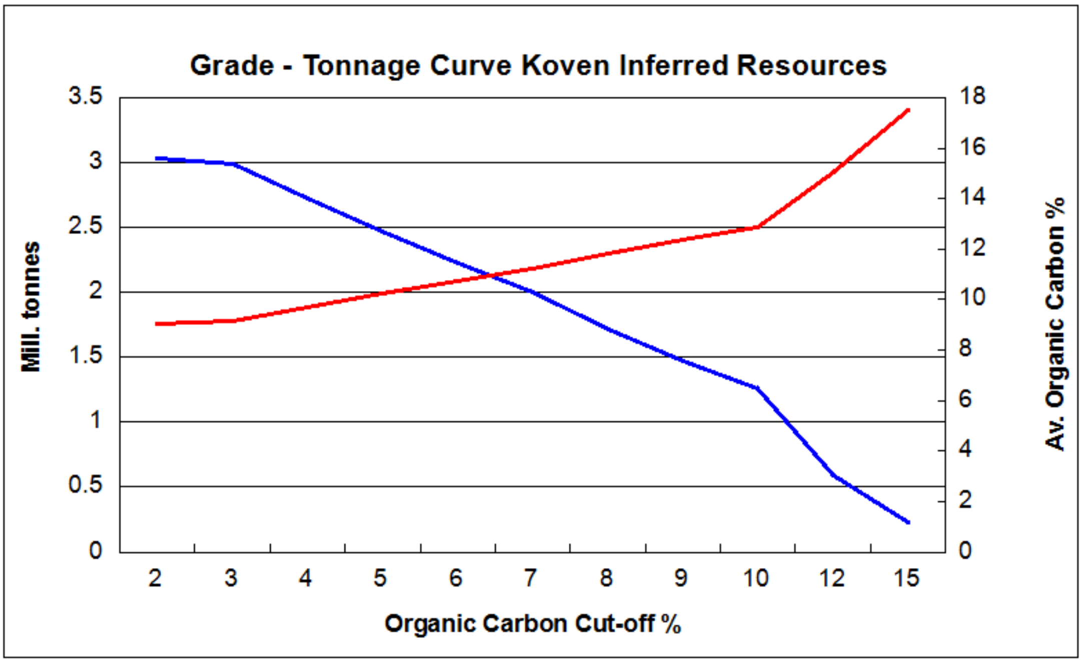

Figure 14 Grade (red line) - Tonnage (blue line) curve Koven inferred resources

Table 7 Grade tonnage table for various org. Carbon cut-offs for Jennestad regions

	All Jennestad Inf. Resources		Godlia Inf. Resources		Koven Inf. Resources	
Org.Carbon Cut-off %	Tonnes Mt	Av. Org.Carbon %	Tonnes Mt	Av. Org.Carbon %	Tonnes Mt	Av. Org.Carbon %
2%	3.66	9.28	0.63	10.36	3.03	9.06
3%	3.62	9.36	0.63	10.36	2.99	9.14
4%	3.35	9.82	0.62	10.44	2.73	9.67
5%	3.02	10.41	0.55	11.26	2.47	10.22
6%	2.73	10.93	0.51	11.70	2.22	10.75
7%	2.46	11.41	0.46	12.25	2.00	11.22
8%	2.05	12.20	0.33	14.05	1.72	11.84
9%	1.77	12.77	0.30	14.67	1.47	12.38
10%	1.55	13.23	0.30	14.67	1.26	12.89
12%	0.86	15.07	0.26	15.17	0.59	15.03
15%	0.34	17.50	0.11	17.50	0.23	17.50

The resource evaluation of the grade shells, based on a 2% organic carbon cut-off is summarised below in Table 7.

Table 8 Jennestad resource evaluation

Region	Jennestad Inferred Resources	
	Tonnes Mt	Organic Carbon %
Godlia	0.63	10.36
Koven	3.03	9.06
TOTAL	**3.66**	**9.28**

Note:
- Cut-off grade = 2% org. Carbon
- Assumed ore density applied is 2.6 tonnes/m3
- Extracted ore from historic underground mining activity have not been subtracted from the reported resources

Resources are also presented by each separate lens, in Table 8.

Table 9 Lens by leans break down of resources

Lens	Tonnes Kt	Organic Carbon %
Godlia2a	299	14.67
Godlia2d	329	6.45
Koven2a	111	6.59
Koven2b	48	6.43
Koven2c	58	7.12
Koven3a	39	4.83
Koven3b	998	8.49
Koven3c	129	10.85
Koven3d	861	11.90
Koven3e	60	5.15
Koven3f	31	4.40
Koven3g	256	9.51
Koven3h	366	6.78
Koven3i	58	3.56
KovenGodlia 2f	5	10.65
KovenGodlia2e	7	4.78
KovenGodlia 2g	4	9.92