

# GeoSpark Logger ~ Drill Log

**Project:** KZK **Hole Number:** K16-391

Prospect:	Sebesi	Hole Type:	DD	Survey Type:	PLND-LIDAR	Logged By:	Oscar Nielsen	
Grid:	NAD83_Z9	Hole Diameter:	96	Survey By:	Oscar Nielsen	Date Logging Start:	7/17/2016	
UTM Easting:	415655	Core Size:	HQ3	Azimuth:	224.8	Date Logging Complete:	7/18/2016	
UTM Northing:	6815385	Casing Pulled?:	Yes	Dip:	-64.9	Drill Company:	New Age	
UTM Elev. (m):	1568	Casing Depth (m):	4.5	Length (m):	101	Drill Rig:	Zinex A5	
Local Easting:		Stored?:	Yes	Claims Title:		Drill Started:	7/12/2016	
Local Northing:		Cemented?:	Yes	Core Storage Loc.:	KZK Camp	Drill Completed:	7/13/2016	
Local Elev. (m):				Hole Completed?:	Abandoned	Purpose:	Exploration	
Comments:							Parent Hole:	

Drill Hole K16-391 was drilled as a second attempt at planned hole SEB001 after the abandonment of K16-384 due to excessive azimuth deviation. K16-391 was abandoned at 101m depth due to excessive azimuth deviation. The lithologies in the core comprise the mudstone-conglomerate MDS and the volcanoclastic MAFt of the Wind Lake Formation. No significant mineralized intercepts are present in the core. Two silicified zones near the top and bottom of the hole may indicate syn-mineralization fluids within the Wind Lake Formation however, this inference is tenuous at best.

**Downhole Surveys:**

Depth (m)	Dip	Measured Azimuth	Correction Factor	Corrected Azimuth	Survey Type	Survey By	Survey Date	Mag Field	Accept Values?	Comments
0	-64.9	223.4	1.4	224.8	TN14	Oscar Nielsen	7/12/2016		<input checked="" type="checkbox"/>	
10	-64.5	200.2	22.1	222.3	ReflexEZS	New Age	7/12/2016	5838	<input checked="" type="checkbox"/>	
37	-65	199.1	22.1	221.2	ReflexEZS	New Age	7/12/2016	5803	<input checked="" type="checkbox"/>	
64	-65.2	197.2	22.1	219.3	ReflexEZS	New Age	7/12/2016	5786	<input checked="" type="checkbox"/>	
91	-65.4	195.9	22.1	218	ReflexEZS	New Age	7/12/2016	5786	<input checked="" type="checkbox"/>	

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>0.00</b>	<b>3.80</b>	<b>OVBN Overburden</b>									
<b>3.80</b>	<b>5.98</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>	<b>dark grey</b>	<b>FG</b>							
3.8 - 5.98: Dark grey-black streaky-banded carbonaceous mudstone with minor interbeds of mafic volcanoclastic material.											
<<Alt: 3.8 - 19.43 Weak Calcite>> Bands of CA											
<b>5.98</b>	<b>12.85</b>	<b>MAFt Mafic Volcaniclastics</b>	<b>grey-green</b>	<b>FG</b>							
5.98 - 12.85: Fine grained, massive volcanoclastic rock with tectonically dismembered calcite bands throughout with minor beds of conglomeratic mudstone											
<<Min: 5.98 - 12.85 0.5% Min: Pyrrhotite>> Whispy pyrrhotite along foliation plane in MAFt											
<<Struc: 7.2 - 7.2 Moderate dominant foliation>> Foliation defined by micaceous partings											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>12.85</b>	<b>15.58</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>12.85 - 15.58: Fine to medium grained black and white streaked carbonaceous mud/siltstone</p> <p>&lt;&lt;Struc: 15 - 19 Moderate Fault&gt;&gt; Zone of broken rock with 5 sub-10 cm zones of gouge and crushed rock.</p>											
<b>15.58</b>	<b>19.43</b>	<b>MAFt Mafic Volcaniclastics</b>									
<p>15.58 - 19.43: Medium grained grey green, massive unit (ashy) with largerounded lapilli .</p> <p>&lt;&lt;Min: 15.58 - 19.43 0.5% Min: Pyrrhotite&gt;&gt; Whispy and streaky pyrrhotite in MAFt</p>											
<b>19.43</b>	<b>24.22</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>19.43 - 24.22: Light grey, hard unit that mimics the textures in the MDS (including pebble sized clasts. Interpreted as a silicified mudstone.</p> <p>&lt;&lt;Alt: 19.43 - 24.22 Moderate-Strong Silicification&gt;&gt; This has the same textures as the MDS, could it be a sandstone though?\</p> <p>&lt;&lt;Alt: 19.43 - 24.22 Trace Calcite&gt;&gt; Rare CA in Si altered area</p>											
<b>24.22</b>	<b>39.26</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>24.22 - 39.26: Medium grey, fine grained mud/siltstone with abundant calcite bands. This unit contains apparent interbeds (or alteration zones???) of MAFt with diffuse contacts in some cases.</p> <p>&lt;&lt;Min: 24.22 - 28.86 0.01% Min: Pyrrhotite&gt;&gt; Whispy pyrrhotite along foliation planes</p> <p>&lt;&lt;Min: 35.38 - 39.26 0.5% Min: Pyrrhotite&gt;&gt; Whispy pyrrhotite in and surrounding interbeds of MAFt within the MDS, along foliation planes</p> <p>&lt;&lt;Alt: 24.22 - 93.94 Moderate Calcite&gt;&gt; Abundant calcite bands throughout the interval irrespective of lithology, and patches of CA as well</p> <p>&lt;&lt;Struc: 28.86 - 29.16 Weak Fault&gt;&gt; Zone of rubble and crushed rock</p> <p>&lt;&lt;Struc: 29.84 - 29.89 Weak-Moderate Fault&gt;&gt; Zone of gouge and crushed rock</p> <p>&lt;&lt;Struc: 30.98 - 31.02 Weak Fault&gt;&gt; Zone of gouge and crushed rock</p> <p>&lt;&lt;Struc: 35.7 - 37.5 Moderate-Strong dominant foliation&gt;&gt; Strong foliation defined by well developed micaceous partings and carbonate bands</p> <p>&lt;&lt;Struc: 37.26 - 40.6 Moderate-Strong Fault&gt;&gt; Thick zone of gouge and crushed rock with deformed foliation</p>											
<b>39.26</b>	<b>40.60</b>	<b>FLZ Fault Zone</b>									
<p>39.26 - 40.6: thick zone containing predominantly gouge and crushed rock, with a minor component of intact rock.</p>											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>40.60</b>	<b>47.05</b>	<b>MAFt Mafic Volcaniclastics</b>									
<p>40.6 - 47.05: Light grey-green, fine grained mafic volcaniclastic with abundant dismembered and intact bands of calcitic material</p> <p>&lt;&lt;Min: 46.5 - 64.7 1% Min: Pyrite&gt;&gt; 0.5-8mm thick bands and discordant veins of pyrite</p> <p>&lt;&lt;Vein: 41.08 - 41.62 80% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Vein: 46.5 - 50.01 1% Pyrite&gt;&gt;</p> <p>&lt;&lt;Struc: 42.76 - 43.1 Weak Fault&gt;&gt; Zone of weakly crushed rock with minor gouge development</p> <p>&lt;&lt;Struc: 44.3 - 44.97 Weak-Moderate Fault&gt;&gt; Three zones of weakly crushed rock and minor gouge 5-15 cm long</p> <p>&lt;&lt;Struc: 46.6 - 46.6 Moderate dominant foliation&gt;&gt; Foliation defined by chloritic partings</p>											
<b>47.05</b>	<b>50.01</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>47.05 - 50.01: fine grained medium grey mudstone/siltstone with fine laminations/tectonic fabric and some sections brecciated, cemented by calcite and/or pyrite</p> <p>&lt;&lt;Vein: 48.78 - 50.96 40% Quartz-Carbonate&gt;&gt;</p>											
<b>50.01</b>	<b>55.09</b>	<b>MAFt Mafic Volcaniclastics</b>									
<p>50.01 - 55.09: Fine grained grey green mafic volcaniclastic rock with abundant carbonate bands and thin interbeds of MDS near the bottom</p> <p>&lt;&lt;Min: 50.69 - 62.25 0.5% Min: Pyrrhotite&gt;&gt; Whispy pyrrhotite along foliation planes</p>											
<b>55.09</b>	<b>56.71</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>55.09 - 56.71: Fine grained medium grey mud/siltstone with thin interbeds of mafic volcaniclastic rock and bands of carbonate material</p>											
<b>56.71</b>	<b>59.61</b>	<b>MAFt Mafic Volcaniclastics</b>									
<p>56.71 - 59.61: Fine grained ashy volcaniclastic rock with bands of carbonate material and disseminate/whispy pyrrhotite</p> <p>&lt;&lt;Alt: 57.59 - 59.61 Weak-Moderate Biotite&gt;&gt; Coincident with pyrrhotite</p> <p>&lt;&lt;Vein: 58.6 - 61.14 35% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Vein: 58.95 - 59 15% Pyrrhotite&gt;&gt; QBS refers to just biotite</p> <p>&lt;&lt;Struc: 57.53 - 57.59 Moderate Fault&gt;&gt; Zone of intense gouge development</p> <p>&lt;&lt;Struc: 58 - 58 Weak-Moderate dominant foliation&gt;&gt; Foliation defined by micaceous/pyritic partings</p>											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>59.61</b>	<b>64.70</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>59.61 - 64.7: Fine grained medium grey mud/siltstone with thin interbeds of mafic volcanoclastic rock and bands of carbonate material</p> <p>&lt;&lt;Struc: 64 - 71.86 Moderate-Strong Fault&gt;&gt; Zone of intense gouge development with a minor component of crushed rock</p>											
<b>64.70</b>	<b>76.04</b>	<b>MAFt Mafic Volcaniclastics</b>									
<p>64.7 - 76.04: Fine grained ashy volcanoclastic rock with bands of carbonate material and cm-dm scale beds of fine grained grey MDS</p> <p>&lt;&lt;Min: 75 - 79.09 1% Min: Pyrite&gt;&gt; Broken pyrite in fault zone</p> <p>&lt;&lt;Alt: 64.7 - 65.93 Weak Biotite&gt;&gt; Coincident with pyrrhotite</p> <p>&lt;&lt;Vein: 67.22 - 68.01 95% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Vein: 71.41 - 71.64 100% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Vein: 71.86 - 73.98 15% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Vein: 75.3 - 75.35 90% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Struc: 70.2 - 70.2 Moderate dominant foliation&gt;&gt; Foliation defined by micaceous/pyritic partings</p> <p>&lt;&lt;Struc: 75.02 - 75.18 Moderate Fault&gt;&gt; Zone of well consolidated gouge and crushed rock</p>											
<b>76.04</b>	<b>79.09</b>	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>76.04 - 79.09: Fine dark grey-black mudstone with thin chaotic bands of carbonate material, brecciated locally by a through-going fault zone.</p> <p>&lt;&lt;Min: 76.18 - 76.38 0.5% Min: Galena&gt;&gt; Galena bearing quartz-carbonate vein</p> <p>&lt;&lt;Vein: 76.18 - 76.38 95% Quartz-Carbonate-Sulphide&gt;&gt; &lt;1% Galena</p> <p>&lt;&lt;Struc: 76.38 - 79.88 Moderate Fault&gt;&gt; Zone of crushed rock with firm gouge as a matrix and intervals of broken rock/rubble</p>											
<b>79.09</b>	<b>82.17</b>	<b>MAFt Mafic Volcaniclastics</b>									
<p>79.09 - 82.17: Fine grained, well foliated (bedded?) ashy volcanoclastic rock with bands and flecks of carbonate material</p> <p>&lt;&lt;Min: 79.09 - 86.72 3% Min: Pyrite&gt;&gt; discordant branching veins of pyrite</p> <p>&lt;&lt;Vein: 79.09 - 86.72 2% Pyrite&gt;&gt;</p> <p>&lt;&lt;Struc: 80.5 - 80.5 Weak-Moderate dominant foliation&gt;&gt; Foliation defined by chloritic partings</p>											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
82.17	86.72	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>82.17 - 86.72: Fine to medium grained light grey and black to black and light grey siltstone-sandstone( ???). light portions have a granular appearance with minimal carbonate material and bands of black materail that appear to be normal MDS. Interbeds of grey-green MAFt are common. Could be ableached unit</p> <p>&lt;&lt;Alt: 82.17 - 86.72 Weak-Moderate Silicification&gt;&gt; Texturally very simiar to the typical MDS of the Wind Lake Formation. Carbonate bands replaced by siliceous material</p>											
86.72	93.99	<b>FLZ Fault Zone</b>									
<p>86.72 - 93.99: Intense, large fault zone comprises gouge, crushed rock, and rubble. From the colour it is apparent that it cuts the MAFt.</p> <p>&lt;&lt;Alt: 93.94 - 97.75 Weak Calcite&gt;&gt; Rare patches of calcite in the ashy MAFt</p> <p>&lt;&lt;Vein: 86.72 - 88 60% Quartz-Carbonate&gt;&gt;</p> <p>&lt;&lt;Struc: 86.72 - 93.97 Moderate Fault&gt;&gt; Zone primarily composed of rubble with three 40 cm sections of crushed rock consolidated by firm gouge</p>											
93.99	97.75	<b>MAFt Mafic Volcaniclastics</b>									
<p>93.99 - 97.75: light grey green sandy textured medium grained volcanoclastic rock with carbonate material bands and clots of pyrite.</p>											
97.75	99.66	<b>FLZ Fault Zone</b>									
<p>97.75 - 99.66: Fault zone composed exclusively of gouge an pebble-granule sized crushed rock</p> <p>&lt;&lt;Alt: 97.75 - 99.66 Moderate Calcite&gt;&gt; Abundant calcite throughout the fault interval</p> <p>&lt;&lt;Struc: 97.75 - 99.66 Strong Fault&gt;&gt; Zone of gouge with minor crushed rock and rubble</p>											
99.66	100.22	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>99.66 - 100.22: Fine grained black and white streaked carbonaceous mud/siltstone</p> <p>&lt;&lt;Min: 99.66 - 100.22 1% Min: Pyrite&gt;&gt; Bleb of pyrite in a quartz-carbonate vein.</p> <p>&lt;&lt;Alt: 99.66 - 101 Trace Calcite&gt;&gt; Rare patches of calcite in the silicified MDS</p>											
100.22	101.00	<b>MDS Carbonaceous Mudstone &amp; Tuffaceous Mudstone</b>									
<p>100.22 - 101: Light and dark grey, massive rock, highly siliceous. cut by calcite veins. Possiblya silicified mudstone or a dirty sandstone (???)</p> <p>&lt;&lt;Alt: 100.22 - 101 Moderate-Strong Silicification&gt;&gt; This has the same textures as the MDS, could it be a sandstone though?</p>											

# GeoSpark Logger ~ Drill Log

**Project:**

**KZK**

**Hole Number:**

**K16-391**

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<<Vein: 100.22 - 100.4 100% Quartz>> <<Struc: 100.22 - 100.6 Moderate Fault>> Zone of crushed silica/quartz											
<b>End of Hole @ 101</b>											