

## GeoSpark Logger ~ Drill Log

**Project:** KZK **Hole Number:** K16-353

Prospect:	Krakatoa	Hole Type:	DD	Survey Type:	RTK DGPS	Logged By:	Jerome de Pasquale	
Grid:	NAD83_Z9	Hole Diameter:	96	Survey By:	Challenger_Survey	Date Logging Start:	5/29/2016	
UTM Easting:	414881.5319	Core Size:	HQ3	Azimuth:	211.41	Date Logging Complete:	6/1/2016	
UTM Northing:	6814998.9818	Casing Pulled?:	Yes	Dip:	-77	Drill Company:	Hytech	
UTM Elev. (m):	1389.944	Casing Depth (m):	9	Length (m):	159	Drill Rig:	Tech 5000	
Local Easting:		Stored?:	Yes	Claims Title:		Drill Started:	5/27/2016	
Local Northing:		Cemented?:	Yes	Core Storage Loc.:	KZK Camp	Drill Completed:	5/30/2016	
Local Elev. (m):				Hole Completed?:	Completed	Purpose:	Resource Definition	
Comments:							Parent Hole:	

K16-353 was collared to test up-dip exploration potential of lower Krakatoa lens and collect HQ half core met sample of lower main lens. The top of K16-353 is made up of volcanoclastic rhyolite sequence intruded by a mafic sill from 21.10m to 34.10 m. Above the mafic unit the lithology consists in volcanoclastic rhyolite crosscut by aphanitic rhyolite unit showing varying thickness and containing 3% of pyrite in veinlets. Mineralization encountered at the top of the hole are made up of OA domain probably in the overburden and OB in the bed rock from 11.40m to 12.80m. OJ domain (PY/PO stringers-CL/CI alteration) is intercepted from 129.77m to 132.77m and could be correlated to the Main lens. From 106.95m to 108.43m, a unit interpreted as mafic dike shows CL/AK and fuchsite. This unit could be an alteration zone. Hole K16-353 ends at 159.00m in volcanoclastic rhyolite. No massive sulfide were intercepted where the Main lens was projected. No MET samples has been collected.

### Downhole Surveys:

Depth (m)	Dip	Measured Azimuth	Correction Factor	Corrected Azimuth	Survey Type	Survey By	Survey Date	Mag Field	Accept Values?	Comments
0	-77	210.01	1.4	211.41	APS	Jerome de Pasquale	5/27/2016		<input checked="" type="checkbox"/>	Rig aligned to true north (measured azimuth). Grid convergence of 1.4 deg applied to correct to UTM azimuth.
18	-76.1	189.7	22.1	211.8	ReflexEZS	Hytech	5/28/2016	5832	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
42	-74.7	189.2	22.1	211.3	ReflexEZS	Hytech	5/28/2016	5781	<input checked="" type="checkbox"/>	
66	-74.1	188.5	22.1	210.6	ReflexEZS	Hytech	5/28/2016	5763	<input checked="" type="checkbox"/>	
90	-73.7	190.8	22.1	212.9	ReflexEZS	Hytech	5/29/2016	5766	<input checked="" type="checkbox"/>	
114	-72.9	191.7	22.1	213.8	ReflexEZS	Hytech	5/29/2016	5783	<input checked="" type="checkbox"/>	
117	-72.9	191.7	22.1	213.8	ReflexEZS	Hytech	5/29/2016	5783	<input checked="" type="checkbox"/>	
141	-73	194.3	22.1	216.4	ReflexEZS	Hytech	5/29/2016	5739	<input checked="" type="checkbox"/>	
159	-72.8	195	22.1	217.1	ReflexEZS	Hytech	5/30/2016	5746	<input checked="" type="checkbox"/>	

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
0.00	11.40	<b>OVBN Overburden</b>	8.85	10.00	1.15	B00291486	0.304	83.8	0.07	2.1	4.23
0 - 11.4: Containing massive sulfide boulder, OA domain/mafic sill/gravel and rubble in sandy clay at contact with the bedrock.											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
		<<Min: 8.95 - 9.4 3% Min: Magnetite>> Probably boulder (overburden).	10.00	11.40	1.40	B00291487	0.069	10.3	0.02	0.19	0.48
		<<Min: 8.95 - 9.5 3% Min: Sphalerite>> Probably boulder (overburden).									
		<<Min: 8.95 - 9.5 40% Min: Pyrite>> Probably boulder (overburden).									
		<<Min: 8.95 - 9.5 2% Min: Galena>> Probably boulder (overburden).									
<b>11.40</b>	<b>12.80</b>	<b>OB Wispy laminar, fine buckshot textured, massive sulphide with lesser magnetite</b>	<b>11.40</b>	<b>12.00</b>	<b>0.60</b>	<b>B00291488</b>	<b>2.24</b>	<b>296</b>	<b>0.2</b>	<b>1.52</b>	<b>5.14</b>
		11.4 - 12.8: Strong muscovite alteration over 10 cm at upper contact.									
		<<Min: 11.4 - 12.8 5% Min: Sphalerite>>	12.00	12.80	0.80	B00291489	2.5	369	0.26	1.22	8.6
		<<Min: 11.4 - 12.8 60% Min: Pyrite>>									
		<<Min: 11.4 - 12.8 0.5% Min: Galena>>									
		<<Alt: 11.4 - 11.5 Moderate-Strong Muscovite>> At contact between RHYv and MxSx.									
<b>12.80</b>	<b>21.10</b>	<b>RHYvl Lapilli tuff</b>	<b>12.80</b>	<b>14.00</b>	<b>1.20</b>	<b>B00291491</b>	<b>0.269</b>	<b>23.5</b>	<b>0.02</b>	<b>0.07</b>	<b>0.21</b>
		12.8 - 21.1: Light grey, fine grain groundmass.									
		<<Min: 12.8 - 40.3 0.1% Min: Pyrite>>	14.00	15.00	1.00	B00291492	0.011	1.8	-0.01	0.01	0.03
		<<Min: 12.8 - 40.3 0.5% Min: Pyrrhotite>> Rare veinlets in the foliation.	15.00	16.02	1.02	B00291493	-0.005	0.7	-0.01	-0.01	0.02
		<<Alt: 12.8 - 21.1 Moderate Calcite>>									
		<<Struc: 15.2 - 15.21 dominant foliation>>									
		<<Struc: 15.5 - 21 Weak Fault>> Multiple narrow fault gouge zones in rhyolite altered MU.									
<b>21.10</b>	<b>34.10</b>	<b>MAFi Mafic Intrusions (primarily footwall mafic intrusion)</b>									
		21.1 - 34.1: Dark green, banded CL/BI/CA schist. Sharp upper contact, faulted lower contact. CL intensity decreases at lower contact, finer grain.									
		<<Alt: 21.1 - 30 Strong Calcite>>									
		<<Alt: 21.1 - 34.1 Moderate Biotite>>									
		<<Alt: 30 - 34 Moderate Calcite>>									
		<<Alt: 34 - 34.1 Strong Calcite>>									
		<<Struc: 21.2 - 21.21 Contact>> Contact RHYvl/MAFi.									
		<<Struc: 22.5 - 22.66 dominant foliation>>									
		<<Struc: 29.8 - 29.81 dominant foliation>>									
		<<Struc: 33.85 - 40.3 Weak Fault>> Multiple narrow fault gouge zones in rhyolite altered MU.									

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>34.10</b>	<b>40.30</b>	<b>RHYva Coarse grained to ash tuff</b> 34.1 - 40.3: Containing locally RHYi bands (10 cm wide). Light grey, homogeneous, weakly foliated, moderate fault (gouge). <<Alt: 34.1 - 40.3 Weak Calcite>> <<Struc: 34.5 - 34.51 dominant foliation>> <<Struc: 39.95 - 39.96 dominant foliation>>									
		<b>40.30 43.35 RHYi Aphanitic Rhyolite (intrusion)</b> 40.3 - 43.35: RHYv at upper contact., sharp lower contact. Aphanitic , fractured, PY veinlets, pink/orange patch (albite?), PY patch. <<Min: 40.3 - 48.95 0.1% Min: Sphalerite>> <<Min: 40.3 - 48.95 1% Min: Pyrite>> <<Alt: 40.3 - 48.95 Trace Calcite>> <<Vein: 40.3 - 43.35 Pyrite>> PY veinlets <<Struc: 43.2 - 43.21 dominant foliation>>	40.30	41.00	0.70	B00291494	0.039	10.3	0.05	0.14	0.36
			41.00	42.00	1.00	B00291495	0.066	5.7	0.02	0.04	0.06
			42.00	43.35	1.35	B00291496	0.014	1.9	-0.01	0.06	0.08
		<b>43.35 45.00 RHYva Coarse grained to ash tuff</b> 43.35 - 45: Core missing from 44m to 45m. Light grey, homogeneous, fine grain ash tuff.	43.35	45.00	1.65	B00291497	0.006	0.9	-0.01	0.01	0.05
		<b>45.00 48.95 RHYi Aphanitic Rhyolite (intrusion)</b> 45 - 48.95: Aphanitic fractured, beige/orange/pinkish patch. Massive QZ vein containing SP/PY/GL, CA in fracture. Calcareous patch from 47.97m to 48.17m, whitish alteration (dolomite?). PY in veinlets. <<Vein: 45.45 - 46.1 Quartz>> QZ vein, patch of SP/GL/PY, CA in fracture. <<Vein: 47.2 - 47.4 Quartz>> QZ vein-core missing. <<Struc: 47.8 - 47.81 dominant foliation>>									
		<b>48.95 52.14 RHYva Coarse grained to ash tuff</b> 48.95 - 52.14: Fine grain, light grey groundmass, mid to high strained lapilli. Narrow RHYi band (20 cm), CA bands and MU alteration at lower contact. Sharp lower contact. <<Min: 48.95 - 52.14 0.1% Min: Pyrite>> <<Alt: 48.95 - 52.14 Weak-Moderate Calcite>> <<Alt: 50 - 52.14 Moderate Muscovite>> <<Struc: 50.7 - 50.71 dominant foliation>>									

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>52.14</b>	<b>75.10</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b>	58.00	59.00	1.00	B00291498	0.011	1.2	-0.01	0.02	0.03
<p>52.14 - 75.1: Pink/orange aphanitic. PY/SP/GL in veinlets and fractures. From 72.20m to 72.67m light grey, possibly fine grain ash tuff containing RHYi (clasts or discontinuous veins, could be lapilli replacement). Brecciated RHYi crosscut by large QZ vein. Sharp lower contact.</p> <p>&lt;&lt;Min: 52.14 - 105 0.5% Min: Sphalerite&gt;&gt; Associated with RHYi.</p> <p>&lt;&lt;Min: 52.14 - 105 3% Min: Pyrite&gt;&gt; Associated with RHYi.</p> <p>&lt;&lt;Min: 52.14 - 105 0.1% Min: Galena&gt;&gt; Associated with RHYi.</p> <p>&lt;&lt;Alt: 52.14 - 142.7 Trace Calcite&gt;&gt;</p> <p>&lt;&lt;Alt: 62 - 69 Moderate-Strong Silicification&gt;&gt; Possibly RHYva silicified (altered by RHYi).</p> <p>&lt;&lt;Alt: 72.3 - 105 Moderate-Strong Silicification&gt;&gt; Possibly RHYva silicified (altered by RHYi).</p> <p>&lt;&lt;Vein: 52.14 - 105 Pyrite&gt;&gt; PY/SP veinlets (stringers. Irregular intensity.</p> <p>&lt;&lt;Vein: 54.03 - 54.43 Quartz&gt;&gt; QZ vein.</p> <p>&lt;&lt;Vein: 74.16 - 74.94 Quartz-Carbonate&gt;&gt; QZ/CA vein crosscutting and fracturing RHYi. Possibly late CA.</p> <p>&lt;&lt;Struc: 52.14 - 105 Trace Fault&gt;&gt; Highly fractured due to high silicification.</p> <p>&lt;&lt;Struc: 54.5 - 54.51 dominant foliation&gt;&gt;</p> <p>&lt;&lt;Struc: 64.2 - 64.21 dominant foliation&gt;&gt;</p> <p>&lt;&lt;Struc: 72.15 - 72.16 Vein&gt;&gt; PY veinlets set.</p>											
			59.00	60.00	1.00	B00291499	0.027	3.1	-0.01	0.06	0.21
			60.00	61.08	1.08	B00291501	0.025	4.3	-0.01	0.05	0.42
			61.08	62.00	0.92	B00291502	0.021	2	-0.01	0.02	0.02
			62.00	63.00	1.00	B00291503	0.011	0.8	-0.01	-0.01	0.01
			69.50	71.00	1.50	B00291504	0.027	2.5	-0.01	0.03	0.06
			71.00	72.30	1.30	B00291505	0.086	9.6	0.02	0.18	0.46
			72.30	73.30	1.00	B00291506	0.016	0.7	-0.01	-0.01	0.02
			73.30	74.72	1.42	B00291507	0.01	0.5	-0.01	-0.01	-0.01
<b>75.10</b>	<b>78.00</b>	<b>RHY undifferentiated rhyolite</b>									
<p>75.1 - 78: RHYi/RHY mixed. Elongated clasts or truncated veins giving a conglomerate aspect. PY/SP/GL stringers, few SP/PY in foliation, fine grain in groundmass.</p> <p>&lt;&lt;Alt: 75.16 - 106.95 Moderate Muscovite&gt;&gt; Could be overprint. Late silicification obscuring texture.</p> <p>&lt;&lt;Struc: 76 - 76.01 dominant foliation&gt;&gt;</p> <p>&lt;&lt;Struc: 77.6 - 77.61 dominant foliation&gt;&gt;</p>											
<b>78.00</b>	<b>78.70</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b>									
<p>78 - 78.7: Fractured, brecciated but by QZ vein.</p> <p>&lt;&lt;Vein: 78 - 78.46 Quartz&gt;&gt; QZ veining crosscutting RHYi.</p>											
<b>78.70</b>	<b>79.95</b>	<b>RHY undifferentiated rhyolite</b>									
<p>78.7 - 79.95: Light green, MU altered, fine grain, gradual lower contact, faulted lower contact.</p>											
<b>79.95</b>	<b>81.36</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b>									
<p>79.95 - 81.36: Grey, banded orange/pink, aphanitic, PY veinets.</p>											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>81.36</b>	<b>85.60</b>	<b>RHY undifferentiated rhyolite</b> 81.36 - 85.6: Light green, foliated, CA bands, locally pinkish (RHYi intrusion), altered MU. <<Struc: 82.7 - 82.71 Contact>> Contact between pinkish (albite?) and grey RHYi. <<Struc: 85.2 - 85.21 dominant foliation>>									
<b>85.60</b>	<b>86.07</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b> 85.6 - 86.07: Grey, aphanitic, gradual upper contact, sericite in joint at lower contact.									
<b>86.07</b>	<b>87.21</b>	<b>RHY undifferentiated rhyolite</b> 86.07 - 87.21: Containing RHYi "clasts", light green, MU altered, gradual lower contact.									
<b>87.21</b>	<b>87.60</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b> 87.21 - 87.6: PY stringers/discontinuous veinlets at upper contact. Aphanitic.									
<b>87.60</b>	<b>88.95</b>	<b>RHYva Coarse grained to ash tuff</b> 87.6 - 88.95: Light grey, fine grain, PY disseminated.									
<b>88.95</b>	<b>91.00</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b> 88.95 - 91: Grey, aphanitic.									
<b>91.00</b>	<b>97.90</b>	<b>RHYv Rhyolite volcaniclastic</b> 91 - 97.9: Light green, NU altered, locally pinkish bands (RHYi), fine grain, CA bands, PY stringers. <<Struc: 93 - 93.01 dominant foliation>> <<Struc: 95.5 - 95.51 dominant foliation>>									
<b>97.90</b>	<b>98.08</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b> 97.9 - 98.08: Grey, aphanitic.									
<b>98.08</b>	<b>100.90</b>	<b>RHY undifferentiated rhyolite</b> 98.08 - 100.9: Silicified, PY veinlets.									
<b>100.90</b>	<b>101.80</b>	<b>RHYi Aphanitic Rhyolite (intrusion)</b> 100.9 - 101.8: Pinkish, PY veinlets (stringers).									
<b>101.80</b>	<b>105.70</b>	<b>RHY undifferentiated rhyolite</b> 101.8 - 105.7: MU altered, light green/yellow, locally silicic bands.									

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<<Struc: 105.2 - 105.21 dominant foliation>> <b>105.70 106.95 RHY undifferentiated rhyolite</b> 105.7 - 106.95: PY veinlets/patch, strong MU alteration, fractured along the core axis, dolomite bands. <<Alt: 105.7 - 106.95 Strong Muscovite>> Could be original or altered by dike. <<Alt: 106 - 108.43 Weak-Moderate Dolomite>> <<Alt: 106.85 - 108.43 Moderate-Strong Ankerite>> Porphyroblasts in mafic dike. <b>106.95 108.43 MAFi Mafic Intrusions (primarily footwall mafic intrusion)</b> 106.95 - 108.43: Strongly altered mafic dike, fuchsite, AK porphyroblasts. Could be related to original alteration (MU alteration increasing above). <b>108.43 121.10 RHYv Rhyolite volcanoclastic</b> 108.43 - 121.1: Light grey, weak foliation, weak MU alteration. Rare QE. <<Min: 108.43 - 129.77 0.1% Min: Sphalerite>> <<Min: 108.43 - 129.77 0.5% Min: Pyrite>> rare veinlets. <<Min: 108.43 - 129.77 0.1% Min: Galena>> <<Alt: 121 - 129.77 Weak Chlorite>> <<Struc: 109.7 - 109.71 dominant foliation>> <<Struc: 113.3 - 113.31 dominant foliation>> <b>121.10 122.40 RHY undifferentiated rhyolite</b> 121.1 - 122.4: Breccia texture, QZ fragmented veins, weak CL alteration. <b>122.40 129.77 RHYv Rhyolite volcanoclastic</b> 122.4 - 129.77: Light grey, locally clasts, sericite bands (talc?), rare QZ eyes. Sheared from 126.70m to 127.00m.											
			127.00	127.90	0.90	B00291508	-0.005	-0.3	-0.01	-0.01	-0.01
			127.90	129.00	1.10	B00291509	-0.005	-0.3	-0.01	-0.01	0.04
			129.00	129.77	0.77	B00291511	-0.005	-0.3	-0.01	-0.01	0.01
			129.77	130.68	0.91	B00291512	-0.005	0.4	-0.01	-0.01	0.03
		<b>129.77 132.77 OJ Heavily disseminated sulphides and/or stringer style mineralization in proximal altered rock</b> 129.77 - 132.77: CL altered rhyolite. PY "spider web" texture, PO, CA patch, TML, CI aggregated. <<Min: 129.77 - 132.77 10% Min: Pyrite>>									
			130.68	132.00	1.32	B00291513	0.007	0.6	0.03	-0.01	0.41

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<<Min: 129.77 - 132.77		2% Min: Pyrrhotite>>	132.00	132.77	0.77	B00291514	0.006	1.1	0.01	-0.01	0.07
<<Alt: 129.77 - 132.77		Moderate-Strong Chlorite>>									
<<Alt: 130.08 - 130.68		Moderate-Strong Cordierite>>									
<b>132.77</b>	<b>138.51</b>	<b>RHYv Rhyolite volcanoclastic</b>	132.77	134.00	1.23	B00291515	-0.005	-0.3	-0.01	-0.01	0.02
132.77 - 138.51: Light grey, fine grain groundmass.											
<<Min: 132.77 - 138.51		0.1% Min: Pyrite>>	134.00	135.00	1.00	B00291516	-0.005	0.3	-0.01	-0.01	0.01
<<Alt: 132.77 - 134		Weak-Moderate Chlorite>>	135.00	136.00	1.00	B00291517	0.005	-0.3	-0.01	-0.01	-0.01
			136.00	137.32	1.32	B00291518	-0.005	-0.3	-0.01	-0.01	0.01
			137.32	138.51	1.19	B00291519	-0.005	0.4	-0.01	-0.01	0.02
			138.51	139.10	0.59	B00291521	-0.005	-0.3	-0.01	-0.01	0.09
<b>138.51</b>	<b>139.60</b>	<b>RHY undifferentiated rhyolite</b>									
138.51 - 139.6: Weakly altered CL, QZ/CA vein (10 cm wide) associated with SP/PY/GL. Few TML.											
<<Min: 138.51 - 139.6		2% Min: Sphalerite>>	139.10	139.60	0.50	B00291522	0.005	1.1	-0.01	0.01	2.19
<<Min: 138.51 - 139.6		0.5% Min: Pyrite>> Few veinlets.									
<<Min: 138.51 - 139.6		0.1% Min: Galena>>									
<<Alt: 138.51 - 139		Weak Tourmaline>>									
<<Alt: 138.51 - 139		Weak-Moderate Chlorite>>									
<b>139.60</b>	<b>143.94</b>	<b>RHYva Coarse grained to ash tuff</b>	139.60	141.00	1.40	B00291523	-0.005	-0.3	-0.01	-0.01	-0.01
139.6 - 143.94: Light grey, fine grain.											
<<Min: 139.6 - 159		1% Min: Pyrite>> And disseminated.	141.00	142.00	1.00	B00291524	-0.005	-0.3	-0.01	-0.01	-0.01
<<Min: 139.6 - 159		1% Min: Pyrrhotite>>	142.00	142.70	0.70	B00291525	-0.005	-0.3	-0.01	-0.01	0.01
<<Alt: 142.7 - 159		Weak-Moderate Calcite>>									
<<Struc: 140.3 - 140.31		dominant foliation>>									
<b>143.94</b>	<b>149.95</b>	<b>RHYv Rhyolite volcanoclastic</b>									
143.94 - 149.95: Light grey/brownish. Gouge at lower contact (30 cm wide).											
<b>149.95</b>	<b>152.82</b>	<b>RHYv Rhyolite volcanoclastic</b>									
149.95 - 152.82: Light grey, few PO disseminated, few CL.											
<b>152.82</b>	<b>154.70</b>	<b>RHYva Coarse grained to ash tuff</b>									
152.82 - 154.7: Light grey, mid strain, weak foliation, gradual upper and lower contact.											
<<Struc: 154 - 154.01		dominant foliation>>									
<<Struc: 154.3 - 154.31		dominant foliation>>									

# GeoSpark Logger ~ Drill Log

**Project:**

**KZK**

**Hole Number:**

**K16-353**

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<b>154.70</b>	<b>159.00</b>	<b>RHYv Rhyolite volcaniclastic</b>									
154.7 - 159: Light grey. TML vein, selvage. Weak foliation. E.O.H. <<Vein: 156.54 - 156.62 Tourmaline>> CA/TML vein											
<b>End of Hole @ 159</b>											