

GeoSpark Logger ~ Drill Log

Project: KZK **Hole Number:** K16-351

Prospect:	Krakatoa	Hole Type:	DD	Survey Type:	RTK DGPS	Logged By:	Dillon Hume	
Grid:	NAD83_Z9	Hole Diameter:	96	Survey By:	Challenger_Survey	Date Logging Start:	5/26/2016	
UTM Easting	415131.7035	Core Size:	HQ3	Azimuth:	215.7	Date Logging Complete:	5/27/2016	
UTM Northing:	6815043.4774	Casing Pulled?:	Yes	Dip:	-59	Drill Company:	Hytech	
UTM Elev. (m):	1399.016	Casing Depth (m):	9	Length (m):	198	Drill Rig:	Tech 5000	
Local Easting:		Stored?:	Yes	Claims Title		Drill Started:	5/24/2016	
Local Northing:		Cemented?:	Yes	Core Storage Loc.:	KZK Camp	Drill Completed:	5/25/2016	
Local Elev. (m):				Hole Completed?:	Completed	Purpose:	Resource Definition	
Comments:							Parent Hole:	

K16-351 was drilled to confirm the resource of the Krakatoa lenses near the Sunda Fault. K16-351 encountered bedrock at 9.3 m. The hanging wall package consists of mixed PEL, RHYv, RHYi, RHYc, and minor MAFi to a depth of ~110.9 m, where the upper contact of the MAFi occurs. Within this hanging wall package moderate to strong MU-alteration occurs from 73-110.9m, with a zone of intense alteration from 93-94.6 m. This intense alteration occurs near where the upper lens mineralization has been modelled from surrounding drill holes. The MAFi occurs from 110.9-131.8 m. From 131.8-133.4 m, OJ mineralization occurs as bands of strong chlorite alteration with stringer style mineralization within the MAFi. From 133.4-140.2 m, MXSX occurs, consisting of OB and OK style mineralization. The footwall zone consists of mixed MU-altered RHY and RHYi from 140.2-163.2 m. From 163.2-198 m (EOH), an intense fault with polyolithic clasts in a gouge matrix occurs. This fault is believed to be the Sunda Fault.

Downhole Surveys:

Depth (m)	Dip	Measured Azimuth	Correction Factor	Corrected Azimuth	Survey Type	Survey By	Survey Date	Mag Field	Accept Values?	Comments
0	-59	214.3	1.4	215.7	APS	Dillon Hume	5/24/2016		<input checked="" type="checkbox"/>	Rig aligned to true north (measured azimuth). Grid convergence of 1.4 deg applied to correct to UTM azimuth.
15	-59.8	196.7	22.1	218.8	ReflexEZS	Hytech	5/24/2016	5862	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
31	-60.1	195.1	22.1	217.2	ReflexEZS	Hytech	5/24/2016	5750	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
57	-60.2	194.7	22.1	216.8	ReflexEZS	Hytech	5/24/2016	5737	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
81	-60.3	195.3	22.1	217.4	ReflexEZS	Hytech	5/24/2016	5741	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
105	-60.4	193.7	22.1	215.8	ReflexEZS	Hytech	5/24/2016	5709	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
129	-60	192.9	22.1	215	ReflexEZS	Hytech	5/25/2016	5702	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
153	-60.5	192.6	22.1	214.7	ReflexEZS	Hytech	5/25/2016	5732	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
177	-60.3	199.4	22.1	221.5	ReflexEZS	Hytech	5/25/2016	5776	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.
198	-60.3	193.4	22.1	215.5	ReflexEZS	Hytech	5/25/2016	5717	<input checked="" type="checkbox"/>	Measured azimuth relative to magnetic north. Grid declination of 22.1 deg applied to correct to UTM azimuth.

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
0.00	9.30	OVBN Overburden									
9.30	9.90	RHYc Rhyolite coherent volcanics									
<<Min: 9.3 - 19.8 1% Min: Pyrite>> <<Alt: 9.3 - 9.9 Weak Calcite>>											
9.90	14.50	PEL Equigranular biotite + calcite +/- quartz rock									
9.9 - 14.5: Sharp upper contact and gradational lower contact with RHYvl. Same unit logged as MAFi (mineral: BI) in surrounding holes. Appears stratigraphically controlled in cross-section. <<Alt: 9.9 - 14.5 Moderate Calcite>>											
14.50	17.30	RHYvl Lapilli tuff									
14.5 - 17.3: lpl tuff with minor patches of coherent rhyolite <<Alt: 14.5 - 19.8 Weak-Moderate Calcite>> <<Vein: 14.7 - 14.8 100% Quartz-Carbonate>> Massive QZ-CA vein											
17.30	19.80	RHYva Coarse grained to ash tuff									
17.3 - 19.8: Ash dominated tuff with minor lpl and disseminated BI (sedimentary input?) <<Struc: 18.07 - 18.08 Weak dominant foliation>>											
19.80	32.10	RHYi Aphanitic Rhyolite (intrusion)									
19.8 - 32.1: Light grey to pink aphanitic siliceous rhyolite. Appears to grade from coherent rhyolite at the top to aphanitic over ~50 cm. <<Min: 19.8 - 32.1 2% Min: Pyrite>> <<Alt: 19.8 - 32.1 Weak Calcite>> CA FRA in RHYi <<Struc: 21.36 - 21.37 Weak dominant foliation>> <<Struc: 26.23 - 26.24 Weak dominant foliation>>											
32.10	34.40	RHYva Coarse grained to ash tuff									
32.1 - 34.4: Minor lpl and patches of coherent RHY (blocks or bombs?) <<Min: 32.1 - 43.8 0.5% Min: Pyrite>> <<Alt: 32.1 - 34.4 Weak-Moderate Calcite>>											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
34.40	36.30	PEL Equigranular biotite + calcite +/- quartz rock									
<p>34.4 - 36.3: Same unit logged as MAFi (mineral: BI) in surrounding holes. Appears stratigraphically controlled in cross-section.</p> <p><<Alt: 34.4 - 36.3 Moderate Calcite>></p>											
36.30	37.00	RHYv Rhyolite volcanoclastic									
<p>36.3 - 37: Dominantly ashy with minor lpl and coherent clasts (?)</p> <p><<Alt: 36.3 - 37 Weak-Moderate Calcite>></p>											
37.00	37.50	PEL Equigranular biotite + calcite +/- quartz rock									
<p>37 - 37.5: Same unit logged as MAFi (mineral: BI) in surrounding holes. Appears stratigraphically controlled in cross-section.</p> <p><<Alt: 37 - 37.5 Moderate Calcite>></p>											
37.50	38.90	RHYc Rhyolite coherent volcanics									
<p>37.5 - 38.9: Silica banded rhyolite</p> <p><<Alt: 37.5 - 73 Weak-Moderate Calcite>></p>											
38.90	53.60	RHYvi Lapilli tuff									
<p>38.9 - 53.6: Variable total content of lpl, from locally ash dominant to lpl-rich (>50%)</p> <p><<Min: 43.8 - 68 0.1% Min: Pyrite>></p> <p><<Min: 43.8 - 68 0.5% Min: Pyrrhotite>></p> <p><<Vein: 53.2 - 53.4 100% Quartz-Tourmaline>> QZ vein with patchy tourmaline</p> <p><<Struc: 42.25 - 42.26 Weak dominant foliation>></p> <p><<Struc: 47.95 - 47.96 Weak-Moderate dominant foliation>></p> <p><<Struc: 49.3 - 49.6 Weak Fault>></p>											
53.60	54.80	No Core No Core									
54.80	68.00	RHYvi Lapilli tuff									
<p>54.8 - 68: Variable total content of lpl, from locally ash dominant to lpl-rich (>50%)</p> <p><<Alt: 66 - 73 Weak Muscovite>></p>											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
68.00	93.00	RHYcw Curdy textured-flow banded (flows, subvolcanics)	87.00	88.50	1.50	B00292201	0.006	0.6	-0.01	-0.01	-0.01
68 - 93: Flow banded and altered rhyolite											
<<Min: 68 - 93 2% Min: Pyrite>>											
<<Alt: 73 - 93 Moderate Muscovite>>											
<<Alt: 73 - 93 Weak Calcite>>											
<<Vein: 86.6 - 86.8 80% Quartz-Carbonate>> Deformed QZ-CA vein within RHYcw											
<<Struc: 68 - 69.6 Weak Fault>> Broken ground with minor fault gouge											
<<Struc: 76.1 - 76.3 Weak Fault>> Broken ground with minor gouge											
93.00	94.60	RHY undifferentiated rhyolite	93.00	93.80	0.80	B00292205	-0.005	-0.3	-0.01	-0.01	0.02
93 - 94.6: UPPER LENS: Intensely MU-altered RHY? With minor disseminated sulfides. Located near where upper lens was anticipated to be intercepted.											
<<Min: 93 - 94.6 2% Min: Pyrite>>											
<<Alt: 93 - 94.6 Intense Muscovite>> Completely sericite altered. Located near where the Upper Lens was anticipated to be intercepted.											
<<Alt: 93 - 94.6 Weak-Moderate Calcite>>											
<<Alt: 93 - 94.6 Weak Biotite>>											
<<Struc: 93.5 - 93.6 Weak Fault>> Minor faulting in intensely altered RHY											
94.60	95.60	MAFi Mafic Intrusions (primarily footwall mafic intrusion)	94.60	95.60	1.00	B00292207	0.012	0.8	0.01	-0.01	0.08
94.6 - 95.6: BI-rich MAFi due to alteration (?)											
<<Alt: 94.6 - 95.6 Moderate-Strong Calcite>>											
<<Alt: 94.6 - 96.6 Strong Biotite>> Related to alteration of MAFi ??											
<<Struc: 94.6 - 94.9 Weak-Moderate Fault>> Faulting with some gouge matrix and minor clasts											
95.60	101.90	RHYva Coarse grained to ash tuff	95.60	97.10	1.50	B00292208	0.015	1.1	-0.01	-0.01	0.02
95.6 - 101.9: Well foliated and moderate-strong altered rhyolite											
<<Min: 95.6 - 101.9 1% Min: Pyrite>>											
<<Alt: 95.6 - 101.9 Weak Calcite>>											
<<Alt: 96.6 - 101.9 Moderate-Strong Muscovite>>											
<<Vein: 101.7 - 101.9 100% Calcite 60 deg. >> Massive CA-QZ vein											
101.90	103.00	MAFi Mafic Intrusions (primarily footwall mafic intrusion)	97.10	98.60	1.50	B00292209	0.012	1	-0.01	-0.01	0.03
97.10 - 98.60: Mafic intrusion											
98.60 - 100.10: Mafic intrusion											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<<Min: 101.9 - 110.9 1% Min: Pyrite>> <<Alt: 101.9 - 103 Moderate Calcite>> 103.00 110.90 RHYv Rhyolite volcanoclastic 103 - 110.9: Well foliated and moderate-strong altered rhyolite (volcanoclastic?) <<Alt: 103 - 110.9 Moderate-Strong Muscovite>> <<Alt: 103 - 110.9 Weak-Moderate Calcite>> <<Struc: 107.7 - 110.9 Moderate Fault>> Highly broken with fault gouge contact between RHY and MAFi											
		110.90 131.80 MAFi Mafic Intrusions (primarily footwall mafic intrusion)	121.30	122.80	1.50	B00292212	-0.005	0.6	-0.01	-0.01	0.02
<<Min: 110.9 - 131.8 0.1% Min: Pyrite>> <<Alt: 110.9 - 124.3 Weak-Moderate Calcite>> <<Alt: 124.3 - 133.4 Moderate Calcite>> <<Struc: 122.16 - 122.17 Moderate dominant foliation>>											
		131.80 133.40 OJ Heavily disseminated sulphides and/or stringer style mineralization in proximal altered rock	122.80	124.30	1.50	B00292213	-0.005	-0.3	-0.01	-0.01	0.02
131.8 - 133.4: MAFI with minor bands of intense CL-alteration (~2 cm thick) with CP+PO+PY disseminated to blebby mineralization. Stringer zone. <<Min: 131.8 - 133.4 0.5% Min: Sphalerite>> <<Min: 131.8 - 133.4 0.5% Min: Pyrite>> <<Min: 131.8 - 133.4 0.5% Min: Pyrrhotite>> <<Min: 131.8 - 133.4 2% Min: Chalcopyrite>> <<Alt: 131.8 - 133.4 Strong Chlorite>> Bands of strong Chlorite alteration associated with stringer style mineralization											
		133.40 135.60 OB Wispy laminar, fine buckshot textured, massive sulphide with lesser magnetite	124.30	125.80	1.50	B00292214	-0.005	0.7	-0.01	-0.01	0.02
133.4 - 135.6: Massive laminated PY+SP+/-GL with local blebby CP+PO near upper contact. ~5% SI+CA gangue patches <<Min: 133.4 - 135.6 5% Min: Sphalerite>> <<Min: 133.4 - 135.6 85% Min: Pyrite>>											
			125.80	127.30	1.50	B00292215	0.007	-0.3	-0.01	-0.01	0.01
			127.30	128.80	1.50	B00292216	0.006	-0.3	-0.01	-0.01	0.01
			128.80	130.30	1.50	B00292217	0.007	-0.3	-0.01	-0.01	0.01
			130.30	131.80	1.50	B00292218	-0.005	-0.3	-0.01	-0.01	0.01
			131.80	133.40	1.60	B00292219	1.06	13.9	0.94	0.02	0.4
			133.40	134.50	1.10	B00292221	1.97	197	0.9	7.26	8.82
			134.50	135.60	1.10	B00292222	1.64	154	0.06	6	7.52

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<<Min: 133.4 - 135.6 0.5% Min: Pyrrhotite>> <<Min: 133.4 - 135.6 1% Min: Galena>> <<Min: 133.4 - 135.6 0.5% Min: Chalcopyrite>> <<Alt: 133.4 - 135.6 Weak Calcite>>											
135.60	140.20	OK	135.60	136.20	0.60	B00292223	2.5	110	0.28	3.73	5.6
Heavily disseminated sulphides and/or stringer style mineralization associated with barite ± quartz ± carbonate gangue											
135.6 - 140.2: Massive laminated PY+SP+/-GL with local blebby CP+PO+/-SP. ~20% SI+CA+/-BA gangue patches.											
<<Min: 135.6 - 140.2 3% Min: Sphalerite>>			136.20	137.20	1.00	B00292224	1.91	138	0.2	4.61	6.54
<<Min: 135.6 - 140.2 60% Min: Pyrite>>			137.20	138.20	1.00	B00292225	2.7	164	0.22	5.01	8.22
<<Min: 135.6 - 140.2 1% Min: Magnetite>>			138.20	139.20	1.00	B00292226	2.93	164	0.13	4.2	6.48
<<Min: 135.6 - 140.2 1% Min: Galena>>			139.20	140.20	1.00	B00292227	4.89	208	0.32	3.79	4.79
<<Min: 135.6 - 140.2 2% Min: Chalcopyrite>>											
<<Min: 135.6 - 140.2 2% Min: Barite>>											
<<Alt: 135.6 - 140.2 Moderate Calcite>>											
<<Struc: 136.46 - 136.47 Weak-Moderate dominant foliation>>											
140.20	146.90	RHYv	140.20	141.70	1.50	B00292228	0.031	4.6	-0.01	0.09	0.11
Rhyolite volcanoclastic 140.2 - 146.9: Strongly MU-altered unit with similar blebby CA texture to MAFi, but also closely resembles RHYvl... Local disseminated BI and QZ. Very hard to determine whether it is altered RHYvl or MAFi. Maybe trace element geochemistry can help?											
<<Min: 140.2 - 163.2 1% Min: Pyrite>>			141.70	142.90	1.20	B00292229	0.014	1.6	-0.01	0.03	0.04
<<Alt: 140.2 - 146.9 Strong Muscovite>> Pervasive MU alteration, may be OR near upper contact due to hydrothermal alteration associated with MXSX and OP for the majority of unit due to alteration associated with RHYi???			142.90	143.90	1.00	B00292231	0.006	0.3	-0.01	-0.01	0.02
<<Struc: 144.2 - 145 Weak Fault>>			143.90	145.40	1.50	B00292232	0.006	0.6	-0.01	-0.01	0.02
<<Struc: 146.3 - 146.4 Weak-Moderate Fault>>			145.40	146.90	1.50	B00292233	-0.005	0.9	-0.01	-0.01	-0.01
146.90	147.50	RHYi	146.90	147.50	0.60	B00292234	0.005	1.2	-0.01	-0.01	-0.01
Aphanitic Rhyolite (intrusion) <<Vein: 147 - 147.5 10% Quartz>> Minor QZ-veining. Appears to be cross-cut by contact at 147.5 m											
147.50	149.60	RHYv	147.50	148.60	1.10	B00292235	-0.005	0.5	-0.01	-0.01	-0.01
Rhyolite volcanoclastic 147.5 - 149.6: Strongly MU-altered unit with similar blebby CA texture to MAFi, but also closely resembles RHYvl... Local disseminated BI and QZ. Very hard to determine whether it is altered RHYvl or MAFi. Maybe trace element geochemistry can help?											

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
<<Alt: 147.5 - 149.6 Strong Muscovite>> OP alteration of unit due to alteration associated with RHYi???			148.60	149.60	1.00	B00292236	-0.005	0.6	-0.01	-0.01	-0.01
149.60	152.00	RHYi Aphanitic Rhyolite (intrusion)	149.60	150.60	1.00	B00292237	0.009	1.2	-0.01	-0.01	0.01
<<Alt: 149.6 - 152 Moderate Muscovite>> OP alteration of unit due to alteration associated with RHYi???											
152.00	153.40	RHY undifferentiated rhyolite	152 - 153.4: Strongly MU-altered unit with similar blebby CA texture to MAFi, but also closely resembles RHYvl... Local disseminated BI and QZ. Very hard to determine whether it is altered RHYvl or MAFi. Maybe trace element geochemistry can help?								
<<Alt: 152 - 153.4 Strong Muscovite>> OP alteration of unit due to alteration associated with RHYi???											
153.40	155.10	RHYi Aphanitic Rhyolite (intrusion)	<<Alt: 153.4 - 155.1 Moderate Muscovite>> OP alteration of unit due to alteration associated with RHYi???								
155.10	156.90	RHY undifferentiated rhyolite	155.1 - 156.9: Strongly MU-altered unit with similar blebby CA texture to MAFi, but also closely resembles RHYvl... Local disseminated BI and QZ. Very hard to determine whether it is altered RHYvl or MAFi. Maybe trace element geochemistry can help?								
<<Alt: 155.1 - 156.9 Strong Muscovite>> OP alteration of unit due to alteration associated with RHYi???											
156.90	161.10	RHYi Aphanitic Rhyolite (intrusion)	<<Alt: 156.9 - 161.1 Moderate Muscovite>> OP alteration of unit due to alteration associated with RHYi???								
<<Vein: 160.6 - 161 25% Quartz-Carbonate 45 deg. >> QZ-CA veining in RHYi											
<<Struc: 159 - 161.2 Moderate Fault>> Moderate faulting of RHYi and RHY with local brecciated texture with RHYi clasts in sericitic matrix											
161.10	163.20	RHY undifferentiated rhyolite	161.1 - 163.2: Strongly MU-altered unit with similar blebby CA texture to MAFi, but also closely resembles RHYvl... Local disseminated BI and QZ. Very hard to determine whether it is altered RHYvl or MAFi. Maybe trace element geochemistry can help?								
<<Alt: 161.1 - 163.2 Strong Muscovite>> OP alteration of unit due to alteration associated with RHYi???											
<<Struc: 161.66 - 161.67 Moderate dominant foliation>>											
163.20	198.00	FLZ Fault Zone	163.2 - 198: Sunda Fault: Intensely faulted zone dominated by fault gouge, with sericite, chlorite, silica, and carbonaceous components. Polyolithic clasts include RHYi, MDS, MXSX, RHY, and MAFi.								
<<Min: 163.2 - 198 2% Min: Pyrite>> Local clasts of PY-rich rocks											
<<Alt: 163.2 - 198 Trace Calcite>>											
<<Struc: 163.2 - 198 Intense Fault>> Intense polyolithic fault breccia with gouge matrix. Locally clasts of RHYi and MDSc occur as larger blocks ranging from 40 cm to 1.5 m in size.											

GeoSpark Logger ~ Drill Log

Project:

KZK

Hole Number:

K16-351

From (m)	To (m)	Rocktype & Description	From (m)	To (m)	Width	Sample	Au ppm	Ag ppm	Cu %	Pb %	Zn %
End of Hole @ 198											