

Project: FWZ

Hole: MP20-001

Property:	TOM	Survey Type:	GPS	Logged By:	J.Lewis	Hole Type:	DDH	
Prospect:	Tom - Exploration	Survey By:	J.Milton	Date Started:	2020-10-04	Company:	Fireweed Zinc	
UTM Grid:	NAD83_09	Date Surveyed:		Date Completed:	2020-10-15	Core Size:	HQ3	
UTM East:	438698	Survey Accuracy:		Drill Company:	NewAge	Casing Status:	Left in hole	
UTM North:	7003094	Grid Convergence:	-1.09	Drill Rig:	A5_1	Casing Depth (m):	19.5	
Elev. CGVD28 (m):	1311	Declination:	19.5	Drill Started:	2020-10-03	Reduced (m):		
Hole Status:	Complete	Dip:	-60	Drill Completed:	2020-10-12	Reduced Size:		
Hole Purpose:	EXPL	Length (m):	632	Approved By:		Oriented?:	Oriented	
		Comments:					Grouted?:	No

The hole collared into FLC massive black carbonaceous mudstone, continuing to 315.48 m. From here, radiolaria-rich FLG "gritty" mudstone was encountered continuously to 487.45 m, after which FLC mudstone continued to EOH at 632 m. The target horizon was not encountered (FLC/MMC contact) and drilling was shut down due to onset of winter.

Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
0	COLLAR			-60	293.91	274.41	295					☒	
56	DOWNHOLE		2020-10-15	-58	293.1	273.6	294.19	58193	347.9	Reflex EZ-trac +/- degrees	Good	☒	
59	DOWNHOLE		2020-10-15	-57.8	293.6	274.1	294.69	58058	348.8	Reflex EZ-trac +/- degrees	Good	☒	
62	DOWNHOLE	Unknown	2020-10-15	-57.9	293.1	273.6	294.19	57985	350.2	Reflex EZ-trac +/- degrees	Good	☒	
65	DOWNHOLE		2020-10-15	-57.9	293	273.5	294.09	57948	351.7	Reflex EZ-trac +/- degrees	Good	☒	
68	DOWNHOLE		2020-10-15	-57.8	293.3	273.8	294.39	57922	352.8	Reflex EZ-trac +/- degrees	Good	☒	

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Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
71	DOWNHOLE		2020-10-15	-57.8	293.2	273.7	294.29	57902	354	Reflex EZ-trac +/- degrees	Good	☒	
74	DOWNHOLE		2020-10-15	-57.8	292.9	273.4	293.99	57889	355.7	Reflex EZ-trac +/- degrees	Good	☒	
77	DOWNHOLE		2020-10-15	-57.8	293	273.5	294.09	57882	359.6	Reflex EZ-trac +/- degrees	Good	☒	
80	DOWNHOLE		2020-10-15	-57.8	292.9	273.4	293.99	57879	1.4	Reflex EZ-trac +/- degrees	Good	☒	
83	DOWNHOLE		2020-10-15	-57.9	292.6	273.1	293.69	57879	3.5	Reflex EZ-trac +/- degrees	Good	☒	
86	DOWNHOLE		2020-10-15	-57.9	292.8	273.3	293.89	57890	4.7	Reflex EZ-trac +/- degrees	Good	☒	
89	DOWNHOLE		2020-10-15	-57.8	292.8	273.3	293.89	57878	6.3	Reflex EZ-trac +/- degrees	Good	☒	
92	DOWNHOLE	Unknown	2020-10-15	-57.9	292.8	273.3	293.89	57869	7.4	Reflex EZ-trac +/- degrees	Good	☒	
95	DOWNHOLE		2020-10-15	-57.7	293.4	273.9	294.49	57867	9.7	Reflex EZ-trac +/- degrees	Good	☒	
98	DOWNHOLE		2020-10-15	-57.5	293.5	274	294.59	57871	10.3	Reflex EZ-trac +/- degrees	Good	☒	
101	DOWNHOLE		2020-10-15	-57.4	293.7	274.2	294.79	57866	12.4	Reflex EZ-trac +/- degrees	Good	☒	
104	DOWNHOLE		2020-10-15	-57.4	293.8	274.3	294.89	57868	13.6	Reflex EZ-trac +/- degrees	Good	☒	
107	DOWNHOLE		2020-10-15	-57.3	294	274.5	295.09	57868	14.7	Reflex EZ-trac +/- degrees	Good	☒	
110	DOWNHOLE		2020-10-15	-57.1	294.3	274.8	295.39	57862	16.1	Reflex EZ-trac +/- degrees	Good	☒	

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Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
113	DOWNHOLE		2020-10-15	-57	294.5	275	295.59	57860	17.6	Reflex EZ-trac +/- degrees	Good	☒	
116	DOWNHOLE		2020-10-15	-56.8	294.9	275.4	295.99	57862	20.3	Reflex EZ-trac +/- degrees	Good	☒	
119	DOWNHOLE		2020-10-15	-56.7	295.1	275.6	296.19	57863	21.6	Reflex EZ-trac +/- degrees	Good	☒	
122	DOWNHOLE	Unknown	2020-10-15	-56.5	295.5	276	296.59	57856	22.9	Reflex EZ-trac +/- degrees	Good	☒	
125	DOWNHOLE		2020-10-15	-56.1	295.8	276.3	296.89	57853	24.2	Reflex EZ-trac +/- degrees	Good	☒	
128	DOWNHOLE		2020-10-15	-55.9	296.2	276.7	297.29	57855	25.9	Reflex EZ-trac +/- degrees	Good	☒	
131	DOWNHOLE		2020-10-15	-55.8	296.3	276.8	297.39	57849	29.1	Reflex EZ-trac +/- degrees	Good	☒	
134	DOWNHOLE		2020-10-15	-55.6	296.4	276.9	297.49	57845	31	Reflex EZ-trac +/- degrees	Good	☒	
137	DOWNHOLE		2020-10-15	-55.5	296.7	277.2	297.79	57852	32.2	Reflex EZ-trac +/- degrees	Good	☒	
140	DOWNHOLE		2020-10-15	-55.2	297	277.5	298.09	57848	33	Reflex EZ-trac +/- degrees	Good	☒	
143	DOWNHOLE		2020-10-15	-55.1	297.1	277.6	298.19	57845	33.8	Reflex EZ-trac +/- degrees	Good	☒	
146	DOWNHOLE		2020-10-15	-55	297.3	277.8	298.39	57835	34.4	Reflex EZ-trac +/- degrees	Good	☒	
149	DOWNHOLE		2020-10-15	-54.9	297.6	278.1	298.69	57845	35.3	Reflex EZ-trac +/- degrees	Good	☒	
152	DOWNHOLE	Unknown	2020-10-15	-54.8	297.7	278.2	298.79	57843	36.1	Reflex EZ-trac +/- degrees	Good	☒	

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Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
155	DOWNHOLE		2020-10-15	-54.7	297.8	278.3	298.89	57838	37.9	Reflex EZ-trac +/- degrees	Good	☒	
158	DOWNHOLE		2020-10-15	-54.7	297.9	278.4	298.99	57841	39.1	Reflex EZ-trac +/- degrees	Good	☒	
161	DOWNHOLE		2020-10-15	-54.6	298	278.5	299.09	57841	40.1	Reflex EZ-trac +/- degrees	Good	☒	
164	DOWNHOLE		2020-10-15	-54.5	298.4	278.9	299.49	57842	41.3	Reflex EZ-trac +/- degrees	Good	☒	
167	DOWNHOLE		2020-10-15	-54.5	298.5	279	299.59	57840	41.9	Reflex EZ-trac +/- degrees	Good	☒	
170	DOWNHOLE		2020-10-15	-54.4	298.7	279.2	299.79	57838	42.6	Reflex EZ-trac +/- degrees	Good	☒	
173	DOWNHOLE		2020-10-15	-54.3	299	279.5	300.09	57837	43.9	Reflex EZ-trac +/- degrees	Good	☒	
176	DOWNHOLE		2020-10-15	-54.3	298.9	279.4	299.99	57824	45.9	Reflex EZ-trac +/- degrees	Good	☒	
179	DOWNHOLE		2020-10-15	-54.3	299	279.5	300.09	57843	47.5	Reflex EZ-trac +/- degrees	Good	☒	
182	DOWNHOLE	Unknown	2020-10-15	-54.3	299.2	279.7	300.29	57833	48.2	Reflex EZ-trac +/- degrees	Good	☒	
185	DOWNHOLE		2020-10-15	-54.3	299.4	279.9	300.49	57829	49.1	Reflex EZ-trac +/- degrees	Good	☒	
188	DOWNHOLE		2020-10-15	-54.2	299.5	280	300.59	57829	51.3	Reflex EZ-trac +/- degrees	Good	☒	
191	DOWNHOLE		2020-10-15	-54.2	299.6	280.1	300.69	57824	52.5	Reflex EZ-trac +/- degrees	Good	☒	
194	DOWNHOLE		2020-10-15	-54.2	299.6	280.1	300.69	57834	53.4	Reflex EZ-trac +/- degrees	Good	☒	

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197	DOWNHOLE		2020-10-15	-54.2	299.9	280.4	300.99	57828	54.3	Reflex EZ-trac +/- degrees	Good	☒	
200	DOWNHOLE		2020-10-15	-54.2	300	280.5	301.09	57834	54.7	Reflex EZ-trac +/- degrees	Good	☒	
203	DOWNHOLE		2020-10-15	-54	301.1	281.6	302.19	57831	55.4	Reflex EZ-trac +/- degrees	Good	☒	
206	DOWNHOLE		2020-10-15	-54.1	300.2	280.7	301.29	57831	55.9	Reflex EZ-trac +/- degrees	Good	☒	
209	DOWNHOLE		2020-10-15	-54.1	300.4	280.9	301.49	57831	56.2	Reflex EZ-trac +/- degrees	Good	☒	
212	DOWNHOLE	Unknown	2020-10-15	-54	300.4	280.9	301.49	57838	56.4	Reflex EZ-trac +/- degrees	Good	☒	
215	DOWNHOLE		2020-10-15	-53.9	300.8	281.3	301.89	57833	56.7	Reflex EZ-trac +/- degrees	Good	☒	
218	DOWNHOLE		2020-10-15	-53.9	300.7	281.2	301.79	57833	57	Reflex EZ-trac +/- degrees	Good	☒	
221	DOWNHOLE		2020-10-15	-53.8	301	281.5	302.09	57823	57.7	Reflex EZ-trac +/- degrees	Good	☒	
224	DOWNHOLE		2020-10-15	-53.7	301.2	281.7	302.29	57839	57.9	Reflex EZ-trac +/- degrees	Good	☒	
227	DOWNHOLE		2020-10-15	-53.7	301.2	281.7	302.29	57831	58.3	Reflex EZ-trac +/- degrees	Good	☒	
230	DOWNHOLE		2020-10-15	-53.6	301.5	282	302.59	57831	58.9	Reflex EZ-trac +/- degrees	Good	☒	
233	DOWNHOLE		2020-10-15	-53.6	301.5	282	302.59	57837	59.4	Reflex EZ-trac +/- degrees	Good	☒	
236	DOWNHOLE		2020-10-15	-53.5	301.7	282.2	302.79	57835	59.9	Reflex EZ-trac +/- degrees	Good	☒	

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239	DOWNHOLE		2020-10-15	-53.4	301.8	282.3	302.89	57833	60.3	Reflex EZ-trac +/- degrees	Good	☒	
242	DOWNHOLE	Unknown	2020-10-15	-53.4	302	282.5	303.09	57836	60.8	Reflex EZ-trac +/- degrees	Good	☒	
245	DOWNHOLE		2020-10-15	-53.3	302.1	282.6	303.19	57836	61.4	Reflex EZ-trac +/- degrees	Good	☒	
248	DOWNHOLE		2020-10-15	-53.2	302.4	282.9	303.49	57836	61.7	Reflex EZ-trac +/- degrees	Good	☒	
251	DOWNHOLE		2020-10-15	-53.1	302.7	283.2	303.79	57837	62	Reflex EZ-trac +/- degrees	Good	☒	
254	DOWNHOLE		2020-10-15	-52.9	302.9	283.4	303.99	57838	62.5	Reflex EZ-trac +/- degrees	Good	☒	
257	DOWNHOLE		2020-10-15	-52.8	303	283.5	304.09	57839	63	Reflex EZ-trac +/- degrees	Good	☒	
260	DOWNHOLE		2020-10-15	-52.7	303.2	283.7	304.29	57834	63.5	Reflex EZ-trac +/- degrees	Good	☒	
263	DOWNHOLE		2020-10-15	-52.6	303.3	283.8	304.39	57837	64.2	Reflex EZ-trac +/- degrees	Good	☒	
266	DOWNHOLE		2020-10-15	-52.5	303.2	283.7	304.29	57842	64.9	Reflex EZ-trac +/- degrees	Good	☒	
269	DOWNHOLE		2020-10-15	-52.4	303.4	283.9	304.49	57838	65.1	Reflex EZ-trac +/- degrees	Good	☒	
272	DOWNHOLE	Unknown	2020-10-15	-52.2	303.6	284.1	304.69	57840	65.6	Reflex EZ-trac +/- degrees	Good	☒	
275	DOWNHOLE		2020-10-15	-52	303.9	284.4	304.99	57835	66.5	Reflex EZ-trac +/- degrees	Good	☒	
278	DOWNHOLE		2020-10-15	-52	303.9	284.4	304.99	57839	67.1	Reflex EZ-trac +/- degrees	Good	☒	

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281	DOWNHOLE		2020-10-15	-51.9	304.2	284.7	305.29	57838	67.3	Reflex EZ-trac +/- degrees	Good	☒	
284	DOWNHOLE		2020-10-15	-51.8	304.3	284.8	305.39	57843	68.3	Reflex EZ-trac +/- degrees	Good	☒	
287	DOWNHOLE		2020-10-15	-51.8	304.5	285	305.59	57840	68.7	Reflex EZ-trac +/- degrees	Good	☒	
290	DOWNHOLE		2020-10-15	-51.7	304.6	285.1	305.69	57838	69.1	Reflex EZ-trac +/- degrees	Good	☒	
293	DOWNHOLE		2020-10-15	-51.7	304.7	285.2	305.79	57837	69.4	Reflex EZ-trac +/- degrees	Good	☒	
296	DOWNHOLE		2020-10-15	-51.7	304.8	285.3	305.89	57844	69.8	Reflex EZ-trac +/- degrees	Good	☒	
299	DOWNHOLE		2020-10-15	-51.6	305	285.5	306.09	57846	70.2	Reflex EZ-trac +/- degrees	Good	☒	
302	DOWNHOLE	Unknown	2020-10-15	-51.7	304.9	285.4	305.99	57853	70.6	Reflex EZ-trac +/- degrees	Good	☒	
305	DOWNHOLE		2020-10-15	-51.7	304.8	285.3	305.89	57848	71	Reflex EZ-trac +/- degrees	Good	☒	
308	DOWNHOLE		2020-10-15	-51.7	305	285.5	306.09	57850	71.1	Reflex EZ-trac +/- degrees	Good	☒	
311	DOWNHOLE		2020-10-15	-51.6	305.2	285.7	306.29	57855	71.1	Reflex EZ-trac +/- degrees	Good	☒	
314	DOWNHOLE		2020-10-15	-51.6	305.2	285.7	306.29	57855	71.6	Reflex EZ-trac +/- degrees	Good	☒	
317	DOWNHOLE		2020-10-15	-51.6	305.3	285.8	306.39	57856	71.9	Reflex EZ-trac +/- degrees	Good	☒	
320	DOWNHOLE		2020-10-15	-51.6	305.5	286	306.59	57848	72.6	Reflex EZ-trac +/- degrees	Good	☒	

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323	DOWNHOLE		2020-10-15	-51.5	305.4	285.9	306.49	57853	72.9	Reflex EZ-trac +/- degrees	Good	☒	
326	DOWNHOLE		2020-10-15	-51.4	305.7	286.2	306.79	57852	73.3	Reflex EZ-trac +/- degrees	Good	☒	
329	DOWNHOLE		2020-10-15	-51.2	305.9	286.4	306.99	57849	73.6	Reflex EZ-trac +/- degrees	Good	☒	
332	DOWNHOLE	Unknown	2020-10-15	-51.1	305.8	286.3	306.89	57852	74.2	Reflex EZ-trac +/- degrees	Good	☒	
335	DOWNHOLE		2020-10-15	-51	305.9	286.4	306.99	57853	74.5	Reflex EZ-trac +/- degrees	Good	☒	
338	DOWNHOLE		2020-10-15	-50.9	306	286.5	307.09	57852	75	Reflex EZ-trac +/- degrees	Good	☒	
341	DOWNHOLE		2020-10-15	-50.8	306.1	286.6	307.19	57857	75.2	Reflex EZ-trac +/- degrees	Good	☒	
344	DOWNHOLE		2020-10-15	-50.7	306.4	286.9	307.49	57852	76.3	Reflex EZ-trac +/- degrees	Good	☒	
347	DOWNHOLE		2020-10-15	-50.7	306.5	287	307.59	57862	76.3	Reflex EZ-trac +/- degrees	Good	☒	
350	DOWNHOLE		2020-10-15	-50.6	306.6	287.1	307.69	57864	76.8	Reflex EZ-trac +/- degrees	Good	☒	
353	DOWNHOLE		2020-10-15	-50.5	306.9	287.4	307.99	57858	77.1	Reflex EZ-trac +/- degrees	Good	☒	
356	DOWNHOLE		2020-10-15	-50.5	306.8	287.3	307.89	57866	77.5	Reflex EZ-trac +/- degrees	Good	☒	
359	DOWNHOLE		2020-10-15	-50.4	306.9	287.4	307.99	57861	77.6	Reflex EZ-trac +/- degrees	Good	☒	
362	DOWNHOLE	Unknown	2020-10-15	-50.3	307.1	287.6	308.19	57861	77.8	Reflex EZ-trac +/- degrees	Good	☒	

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365	DOWNHOLE		2020-10-15	-50.2	307.3	287.8	308.39	57863	78.7	Reflex EZ-trac +/- degrees	Good	☒	
368	DOWNHOLE		2020-10-15	-50.2	307.5	288	308.59	57866	78.9	Reflex EZ-trac +/- degrees	Good	☒	
371	DOWNHOLE		2020-10-15	-50.2	307.4	287.9	308.49	57861	79.1	Reflex EZ-trac +/- degrees	Good	☒	
374	DOWNHOLE		2020-10-15	-50.2	307.4	287.9	308.49	57859	79.5	Reflex EZ-trac +/- degrees	Good	☒	
377	DOWNHOLE		2020-10-15	-50.1	307.7	288.2	308.79	57858	79.8	Reflex EZ-trac +/- degrees	Good	☒	
380	DOWNHOLE		2020-10-15	-50.1	307.9	288.4	308.99	57868	80.4	Reflex EZ-trac +/- degrees	Good	☒	
383	DOWNHOLE		2020-10-15	-50.1	308	288.5	309.09	57863	80.8	Reflex EZ-trac +/- degrees	Good	☒	
386	DOWNHOLE		2020-10-15	-50.1	308	288.5	309.09	57870	81	Reflex EZ-trac +/- degrees	Good	☒	
389	DOWNHOLE		2020-10-15	-50.1	308.1	288.6	309.19	57874	81.5	Reflex EZ-trac +/- degrees	Good	☒	
392	DOWNHOLE	Unknown	2020-10-15	-50.1	308.2	288.7	309.29	57871	81.9	Reflex EZ-trac +/- degrees	Good	☒	
395	DOWNHOLE		2020-10-15	-50	308.4	288.9	309.49	57870	82.2	Reflex EZ-trac +/- degrees	Good	☒	
398	DOWNHOLE		2020-10-15	-50	308.5	289	309.59	57876	82.7	Reflex EZ-trac +/- degrees	Good	☒	
401	DOWNHOLE		2020-10-15	-50	308.5	289	309.59	57869	82.9	Reflex EZ-trac +/- degrees	Good	☒	
404	DOWNHOLE		2020-10-15	-49.9	308.7	289.2	309.79	57886	83.1	Reflex EZ-trac +/- degrees	Good	☒	

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407	DOWNHOLE		2020-10-15	-49.9	308.9	289.4	309.99	57899	84	Reflex EZ-trac +/- degrees	Good	☒	
410	DOWNHOLE		2020-10-15	-49.9	309.1	289.6	310.19	57892	84.3	Reflex EZ-trac +/- degrees	Good	☒	
413	DOWNHOLE		2020-10-15	-49.8	309.1	289.6	310.19	57891	85	Reflex EZ-trac +/- degrees	Good	☒	
416	DOWNHOLE		2020-10-15	-49.6	309.8	290.3	310.89	57894	87.3	Reflex EZ-trac +/- degrees	Good	☒	
419	DOWNHOLE		2020-10-15	-49.6	309.7	290.2	310.79	57897	88.4	Reflex EZ-trac +/- degrees	Good	☒	
422	DOWNHOLE	Unknown	2020-10-15	-49.5	309.9	290.4	310.99	57903	88.4	Reflex EZ-trac +/- degrees	Good	☒	
425	DOWNHOLE		2020-10-15	-49.5	310.1	290.6	311.19	57902	88.4	Reflex EZ-trac +/- degrees	Good	☒	
428	DOWNHOLE		2020-10-15	-49.5	310.2	290.7	311.29	57902	88.7	Reflex EZ-trac +/- degrees	Good	☒	
431	DOWNHOLE		2020-10-15	-49.4	310.3	290.8	311.39	57903	88.9	Reflex EZ-trac +/- degrees	Good	☒	
434	DOWNHOLE		2020-10-15	-49.4	310.4	290.9	311.49	57908	89.2	Reflex EZ-trac +/- degrees	Good	☒	
437	DOWNHOLE		2020-10-15	-49.3	310.3	290.8	311.39	57905	89.8	Reflex EZ-trac +/- degrees	Good	☒	
440	DOWNHOLE		2020-10-15	-49.1	310.6	291.1	311.69	57909	90	Reflex EZ-trac +/- degrees	Good	☒	
443	DOWNHOLE		2020-10-15	-49	310.8	291.3	311.89	57909	90.1	Reflex EZ-trac +/- degrees	Good	☒	
446	DOWNHOLE		2020-10-15	-48.9	311	291.5	312.09	57912	90.1	Reflex EZ-trac +/- degrees	Good	☒	

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Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
449	DOWNHOLE		2020-10-15	-48.8	311	291.5	312.09	57923	90.5	Reflex EZ-trac +/- degrees	Good	☒	
452	DOWNHOLE	Unknown	2020-10-15	-48.7	311.1	291.6	312.19	57918	90.9	Reflex EZ-trac +/- degrees	Good	☒	
455	DOWNHOLE		2020-10-15	-48.6	311.4	291.9	312.49	57920	92.1	Reflex EZ-trac +/- degrees	Good	☒	
458	DOWNHOLE		2020-10-15	-48.6	311.3	291.8	312.39	57922	92.4	Reflex EZ-trac +/- degrees	Good	☒	
461	DOWNHOLE		2020-10-15	-48.5	311.6	292.1	312.69	57924	92.5	Reflex EZ-trac +/- degrees	Good	☒	
464	DOWNHOLE		2020-10-15	-48.3	311.7	292.2	312.79	57926	92.2	Reflex EZ-trac +/- degrees	Good	☒	
467	DOWNHOLE		2020-10-15	-48.1	311.9	292.4	312.99	57919	92.3	Reflex EZ-trac +/- degrees	Good	☒	
470	DOWNHOLE		2020-10-15	-48	312	292.5	313.09	57923	92.8	Reflex EZ-trac +/- degrees	Good	☒	
473	DOWNHOLE		2020-10-15	-47.9	312	292.5	313.09	57925	93.4	Reflex EZ-trac +/- degrees	Good	☒	
476	DOWNHOLE		2020-10-15	-47.9	312.1	292.6	313.19	57930	93.7	Reflex EZ-trac +/- degrees	Good	☒	
479	DOWNHOLE		2020-10-15	-47.8	312.2	292.7	313.29	57929	93.9	Reflex EZ-trac +/- degrees	Good	☒	
482	DOWNHOLE	Unknown	2020-10-15	-47.8	312.2	292.7	313.29	57933	94.6	Reflex EZ-trac +/- degrees	Good	☒	
485	DOWNHOLE		2020-10-15	-47.7	312.5	293	313.59	57931	94.7	Reflex EZ-trac +/- degrees	Good	☒	
488	DOWNHOLE		2020-10-15	-47.8	312.3	292.8	313.39	57931	94.5	Reflex EZ-trac +/- degrees	Good	☒	

Hole: MP20-001

Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
491	DOWNHOLE		2020-10-15	-47.7	312.6	293.1	313.69	57935	95.2	Reflex EZ-trac +/- degrees	Good	☒	
494	DOWNHOLE		2020-10-15	-47.7	312.6	293.1	313.69	57940	96.1	Reflex EZ-trac +/- degrees	Good	☒	
497	DOWNHOLE		2020-10-15	-47.6	313.1	293.6	314.19	57944	96.7	Reflex EZ-trac +/- degrees	Good	☒	
500	DOWNHOLE		2020-10-15	-47.5	313.2	293.7	314.29	57944	96.4	Reflex EZ-trac +/- degrees	Good	☒	
503	DOWNHOLE		2020-10-15	-47.5	313.2	293.7	314.29	57940	96.7	Reflex EZ-trac +/- degrees	Good	☒	
506	DOWNHOLE		2020-10-15	-47.3	313.3	293.8	314.39	57955	96.8	Reflex EZ-trac +/- degrees	Good	☒	
509	DOWNHOLE		2020-10-15	-47.1	313.5	294	314.59	57956	97.4	Reflex EZ-trac +/- degrees	Good	☒	
512	DOWNHOLE	Unknown	2020-10-15	-46.9	313.6	294.1	314.69	57938	97.5	Reflex EZ-trac +/- degrees	Good	☒	
515	DOWNHOLE		2020-10-15	-46.8	313.6	294.1	314.69	57956	97.4	Reflex EZ-trac +/- degrees	Good	☒	
518	DOWNHOLE		2020-10-15	-46.6	313.9	294.4	314.99	57958	97.2	Reflex EZ-trac +/- degrees	Good	☒	
521	DOWNHOLE		2020-10-15	-46.6	313.9	294.4	314.99	57956	97.7	Reflex EZ-trac +/- degrees	Good	☒	
524	DOWNHOLE		2020-10-15	-46.5	313.9	294.4	314.99	57960	97.5	Reflex EZ-trac +/- degrees	Good	☒	
527	DOWNHOLE		2020-10-15	-46.5	314.2	294.7	315.29	57954	97.3	Reflex EZ-trac +/- degrees	Good	☒	
530	DOWNHOLE		2020-10-15	-46.4	314.4	294.9	315.49	57961	97	Reflex EZ-trac +/- degrees	Good	☒	

Hole: MP20-001

Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
533	DOWNHOLE		2020-10-15	-46.4	314.5	295	315.59	57960	96.8	Reflex EZ-trac +/- degrees	Good	☒	
536	DOWNHOLE		2020-10-15	-46.5	314.5	295	315.59	57967	97	Reflex EZ-trac +/- degrees	Good	☒	
539	DOWNHOLE		2020-10-15	-46.4	314.6	295.1	315.69	57956	97.5	Reflex EZ-trac +/- degrees	Good	☒	
542	DOWNHOLE	Unknown	2020-10-15	-46.4	314.8	295.3	315.89	57970	97.6	Reflex EZ-trac +/- degrees	Good	☒	
545	DOWNHOLE		2020-10-15	-46.3	314.9	295.4	315.99	57971	98.2	Reflex EZ-trac +/- degrees	Good	☒	
548	DOWNHOLE		2020-10-15	-46.2	315	295.5	316.09	57969	98.5	Reflex EZ-trac +/- degrees	Good	☒	
551	DOWNHOLE		2020-10-15	-46.1	315.2	295.7	316.29	57975	98.5	Reflex EZ-trac +/- degrees	Good	☒	
554	DOWNHOLE		2020-10-15	-45.9	315.4	295.9	316.49	57974	98.6	Reflex EZ-trac +/- degrees	Good	☒	
557	DOWNHOLE		2020-10-15	-45.7	315.5	296	316.59	57975	99.1	Reflex EZ-trac +/- degrees	Good	☒	
560	DOWNHOLE		2020-10-15	-45.6	315.7	296.2	316.79	57973	98.9	Reflex EZ-trac +/- degrees	Good	☒	
563	DOWNHOLE		2020-10-15	-45.3	316.4	296.9	317.49	57969	98.4	Reflex EZ-trac +/- degrees	Good	☒	
566	DOWNHOLE		2020-10-15	-45.2	316.2	296.7	317.29	57978	98.1	Reflex EZ-trac +/- degrees	Good	☒	
569	DOWNHOLE		2020-10-15	-45.1	316.2	296.7	317.29	57982	97.9	Reflex EZ-trac +/- degrees	Good	☒	
572	DOWNHOLE	Unknown	2020-10-15	-45	316.3	296.8	317.39	57978	97.4	Reflex EZ-trac +/- degrees	Good	☒	

Hole: MP20-001

Depth (m)	Survey Method	Survey By	Date Surveyed	Dip	TN Azimuth	Mag. Azimuth	Grid Azimuth	Mag. Field	Roll	Accuracy	Confidence	Accept Values?	Comments
575	DOWNHOLE		2020-10-15	-45	316.2	296.7	317.29	57979	96.8	Reflex EZ-trac +/- degrees	Good	☒	
578	DOWNHOLE		2020-10-15	-44.8	316.6	297.1	317.69	57980	96.5	Reflex EZ-trac +/- degrees	Good	☒	
581	DOWNHOLE		2020-10-15	-44.8	316.8	297.3	317.89	57982	96.6	Reflex EZ-trac +/- degrees	Good	☒	
584	DOWNHOLE		2020-10-15	-44.8	316.9	297.4	317.99	57984	96.9	Reflex EZ-trac +/- degrees	Good	☒	
587	DOWNHOLE		2020-10-15	-44.8	316.9	297.4	317.99	57980	97.2	Reflex EZ-trac +/- degrees	Good	☒	
590	DOWNHOLE		2020-10-15	-44.8	317	297.5	318.09	57987	96.8	Reflex EZ-trac +/- degrees	Good	☒	
593	DOWNHOLE		2020-10-15	-44.7	317	297.5	318.09	57989	96.1	Reflex EZ-trac +/- degrees	Good	☒	
596	DOWNHOLE		2020-10-15	-44.7	317.1	297.6	318.19	57984	96.3	Reflex EZ-trac +/- degrees	Good	☒	
599	DOWNHOLE		2020-10-15	-44.5	317.4	297.9	318.49	57982	96.3	Reflex EZ-trac +/- degrees	Good	☒	
602	DOWNHOLE	Unknown	2020-10-15	-44.3	317.6	298.1	318.69	57982	97.1	Reflex EZ-trac +/- degrees	Good	☒	

Hole: MP20-001

From (m)	To (m)	Rock Type & Description	From (m)	To (m)	Length	Sample #	ZnEquiv pct	Pb Best pct	Zn Best pct	Cu Best ppm	Ag Best ppm
0.00	19.50	CASE									
		Casing									
		Variably weathered clasts of black mudstone colluvium.									
19.50	315.48	BMST									
		Black mudstone									
		Black									
		VF									
		Massive black carbonaceous mudstone. Variably siliceous and hard, but can still be scratched with steel, and contains subtle grey laminae to dm-scale beds (rarely containing disseminated radiolaria) as well as diffuse pyritic laminae. The rock is very competent, aside from minor small fracture zones. Faint, low angle foliation. Bedding is moderate-steep to core axis, with alphas generally ranging from 50 to 75 degrees. Bedding parallel, cm scale, massive pyrite nodules and bands or nodular barite scattered about; some are associated with calcite (witherite?) and an unknown white, fibrous mineral. Fractures surfaces are commonly coated in soft powdery minerals, varying from blue to green to iridescent. These mineral coatings can be > 0.5 cm and display very bright colors. Rare quartz (+/- Fe carb) veins throughout. Scattered disrupted (folded or boudinaged) quartz-py veins parallel to bedding. Pyrite is the sole sulphide as disseminations/radiolaria replacements, vein mineral and dull brown wispy bedding-parallel laminae.									
		<<Min: 19.5 - 632: 3% Pyrite / 2% Quartz / 0.5% Barite>> Disseminated pyrite occurring in diffuse bedding parallel bands is common in this interval. Some bedding parallel, cm scale, massive pyrite nodules and bands are found in the interval, and are associated with quartz/calcite (witherite?) and an unknown white, fibrous mineral. Rare quartz (+/- Fe carb) veins are found in the interval. Sporadic blebby nodular bedded barite									
		<<Struc: 23.48 - 23.48: Bedding>>									
		<<Struc: 28.48 - 28.48: Bedding>>									
		<<Struc: 34.23 - 34.23: Bedding>>									
		<<Struc: 36.84 - 36.84: Bedding>>									
		<<Struc: 38.8 - 38.8: Bedding>>									
		<<Struc: 44.05 - 44.05: Bedding>>									
		<<Struc: 44.38 - 44.38: Foliation>> Faint foliation.									
		<<Struc: 48.33 - 48.33: Bedding>>									
		<<Struc: 52.88 - 52.88: Foliation>>									
		<<Struc: 61.58 - 61.58: Bedding>>									
		<<Struc: 65.11 - 65.11: Bedding>>									
		<<Struc: 67.69 - 67.69: Bedding>>									
		<<Struc: 73.18 - 73.18: Bedding>>									
		<<Struc: 74.2 - 74.2: Bedding>>									
		<<Struc: 80.61 - 80.61: Bedding>>									
		<<Struc: 80.65 - 80.65: Foliation>> Alignment of graphite within core									

Hole: MP20-001

From (m)	To (m)	Rock Type & Description	From (m)	To (m)	Length	Sample #	ZnEquiv pct	Pb Best pct	Zn Best pct	Cu Best ppm	Ag Best ppm
<<Struc: 87.51 - 87.51:	Bedding>>										
<<Struc: 89.94 - 89.94:	Bedding>>										
<<Struc: 94.21 - 94.21:	Bedding>>										
<<Struc: 96.84 - 96.84:	Bedding>>										
<<Struc: 100.31 - 100.31:	Bedding>>										
<<Struc: 102.61 - 102.61:	Bedding>>										
<<Struc: 109.32 - 109.32:	Bedding>>										
<<Struc: 113.5 - 113.5:	Bedding>>										
<<Struc: 116.87 - 116.87:	Bedding>>										
<<Struc: 121.1 - 121.1:	Bedding>>										
<<Struc: 121.35 - 121.35:	Foliation>>										
<<Struc: 127.78 - 127.78:	Bedding>>										
<<Struc: 129.58 - 129.58:	Bedding>>										
<<Struc: 135.9 - 135.9:	Bedding>>										
<<Struc: 144.32 - 144.32:	Bedding>>										
<<Struc: 144.35 - 144.35:	Foliation>>										
<<Struc: 148.64 - 148.64:	Bedding>>										
<<Struc: 152.2 - 152.2:	Bedding>>	Foliation measured on bedding plane									
<<Struc: 152.21 - 152.21:	Foliation>>										
<<Struc: 157.82 - 157.82:	Bedding>>										
<<Struc: 162.03 - 162.03:	Bedding>>										
<<Struc: 166.35 - 166.35:	Bedding>>										
<<Struc: 170.33 - 170.33:	Bedding>>										
<<Struc: 173.27 - 173.27:	Bedding>>										
<<Struc: 185.24 - 185.24:	Bedding>>										
<<Struc: 192.2 - 192.2:	Bedding>>										
<<Struc: 193.91 - 193.91:	Bedding>>										
<<Struc: 199.96 - 199.96:	Bedding>>										
<<Struc: 205.6 - 205.6:	Bedding>>										

Hole: MP20-001

From (m)	To (m)	Rock Type & Description	From (m)	To (m)	Length	Sample #	ZnEquiv pct	Pb Best pct	Zn Best pct	Cu Best ppm	Ag Best ppm
		<<Struc: 205.61 - 205.61: Foliation>>									
		<<Struc: 212 - 212: Bedding>>									
		<<Struc: 217.63 - 217.63: Bedding>>									
		<<Struc: 221.28 - 221.28: Bedding>>									
		<<Struc: 221.29 - 221.29: Foliation>>									
		<<Struc: 224.82 - 224.82: Bedding>>									
		<<Struc: 229.32 - 229.32: Bedding>>									
		<<Struc: 233.8 - 233.8: Bedding>>									
		<<Struc: 238.37 - 238.37: Bedding>>									
		<<Struc: 241 - 241: Bedding>>									
		<<Struc: 251.13 - 251.13: Bedding>>									
		<<Struc: 257 - 257: Bedding>>									
		<<Struc: 263.21 - 263.21: Bedding>>									
		<<Struc: 272.34 - 272.34: Bedding>>									
		<<Struc: 276 - 276: Bedding>>									
		<<Struc: 280.96 - 280.96: Bedding>>									
		<<Struc: 286.32 - 286.32: Bedding>>									
		<<Struc: 290.32 - 290.32: Bedding>>									
		<<Struc: 292.14 - 292.14: Bedding>>									
		<<Struc: 292.15 - 292.15: Foliation>>									
		<<Struc: 298.71 - 298.71: Bedding>>									
		<<Struc: 303.11 - 303.11: Bedding>>									
		<<Struc: 309.7 - 309.7: Bedding>>									
		<<Struc: 313.17 - 313.17: Bedding>>									

Hole: MP20-001

From (m)	To (m)	Rock Type & Description	From (m)	To (m)	Length	Sample #	Zn Equiv pct	Pb Best pct	Zn Best pct	Cu Best ppm	Ag Best ppm
315.48	487.45	BMST Black mudstone Black VF	320.62	320.63	0.01	MP20-001_320.62					
Black radiolaria-rich carbonaceous and siliceous mudstone. Massive to thinly bedded, with bedding defined by pyritic laminae or linear bands of radiolaria. Radiolaria are sub-mm scale, spherical and ubiquitous, variably replaced by pyrite; drill core has the characterisitc "gritty" texture from drill bit action ripping out surface radiolaria through the whole interval. Isolated dm-to-m-scale beds of muddy dark grey polymictic diamictite roughly parallel bedding. Bedding is sharp and regular at moderate to steep angles to core axis. A dm-scale shear marks the start of the interval. Foliation is apparent, defined by hairline elongated aligned smears of graphite cutting bedding at shallow-moderate angles. Minimal veining comprised of bedding-parallel disrupted quartz-pyrite or rare low-angle quartz. Pyrite is the sole sulphide as laminae (diffuse or solid), vein mineral, and disseminations after radiolaria. The interval terminates abruptly in a cm-scale dense band of pyrite, followed by FLC mudstone.											
<<Struc: 315.79 - 315.79: Bedding>>			330.11	330.12	0.01	MP20-001_330.11					
<<Struc: 321.25 - 321.25: Bedding>>			338.23	338.24	0.01	MP20-001_338.23					
<<Struc: 325.28 - 325.28: Bedding>>			347.13	347.14	0.01	MP20-001_347.13					
<<Struc: 328.17 - 328.17: Bedding>>			356.85	356.86	0.01	MP20-001_356.85					
<<Struc: 349.92 - 349.92: Bedding>>			367.26	367.27	0.01	MP20-001_367.26					
<<Struc: 349.96 - 349.96: Foliation>>			376.65	376.66	0.01	MP20-001_376.65					
<<Struc: 370.57 - 370.57: Bedding>>			387.11	387.12	0.01	MP20-001_387.11					
<<Struc: 378.04 - 378.04: Bedding>>			396.33	396.34	0.01	MP20-001_396.33					
<<Struc: 392.8 - 392.8: Bedding>>			404.67	404.68	0.01	MP20-001_404.67					
<<Struc: 397.87 - 397.87: Foliation>>			416.00	416.01	0.01	MP20-001_416					
<<Struc: 400.3 - 400.3: Bedding>>			425.00	425.01	0.01	MP20-001_425					
<<Struc: 404.02 - 404.02: Bedding>>			434.00	434.01	0.01	MP20-001_434					
<<Struc: 404.07 - 404.07: Foliation>>			443.00	443.01	0.01	MP20-001_443					
<<Struc: 409.83 - 409.83: Bedding>>			453.96	453.97	0.01	MP20-001_453.96					
<<Struc: 416.13 - 416.13: Bedding>>			462.73	462.74	0.01	MP20-001_462.73					
<<Struc: 424.72 - 424.72: Bedding>>			473.00	473.01	0.01	MP20-001_473					
<<Struc: 428.48 - 428.48: Bedding>>			481.16	481.17	0.01	MP20-001_481.16					
<<Struc: 432.29 - 432.29: Bedding>>			481.17	481.18	0.01	MP20-001_481.17					
<<Struc: 435.12 - 435.12: Bedding>>			481.18	481.19	0.01	MP20-001_481.18					
<<Struc: 440.73 - 440.73: Bedding>>											
<<Struc: 443.86 - 443.86: Bedding>>											

Hole: MP20-001

From (m)	To (m)	Rock Type & Description	From (m)	To (m)	Length	Sample #	Zn Equiv pct	Pb Best pct	Zn Best pct	Cu Best ppm	Ag Best ppm
<<Struc: 443.87 - 443.87: Foliation>>											
<<Struc: 451.88 - 451.88: Foliation>>											
<<Struc: 455.5 - 455.5: Bedding>>											
<<Struc: 463.53 - 463.53: Bedding>>											
<<Struc: 468.16 - 468.16: Bedding>>											
<<Struc: 479.71 - 479.71: Bedding>>											
<<Struc: 482.92 - 482.92: Bedding>>											
487.45	632.00	BMST Black mudstone	Black	VF							
Massive black carbonaceous mudstone. Variably siliceous and hard, but can still be scratched with steel, and contains subtle grey laminae to dm-scale beds (rarely containing disseminated radiolaria) as well as diffuse pyritic laminae. M-scale limey breccia from ~529.75 - 530.75 m, and isolated dm-scale diamictite bands < 1% of interval. The rock is very competent, aside from minor small fracture zones. Faint, low angle foliation. Bedding is shallow-steep to core axis, with alphas generally ranging from 30 to 75 degrees. Bedding parallel, cm scale, massive pyrite nodules and bands or nodular barite scattered about; some are associated with calcite (witherite?) and an unknown white, fibrous mineral. M-scale fault from ~593-596, with rubble and graphitic gouge. Fractures surfaces are commonly coated in soft white powdery mineral. Rare quartz (+/- Fe carb) veins throughout. Scattered disrupted (folded or boudinaged) quartz-py veins parallel to bedding. Pyrite is the sole sulphide as disseminations/radiolaria replacements, vein mineral and dull brown wispy bedding-parallel laminae.											
<<Struc: 494.06 - 494.06: Bedding>>											
<<Struc: 495.6 - 495.6: Bedding>>											
<<Struc: 502.17 - 502.17: Bedding>>											
<<Struc: 511.07 - 511.07: Bedding>>											
<<Struc: 515.56 - 515.56: Foliation>> Near normal to bedding at location											
<<Struc: 516.55 - 516.55: Bedding>>											
<<Struc: 523.4 - 523.4: Bedding>>											
<<Struc: 532 - 532: Bedding>>											
<<Struc: 541.7 - 541.7: Bedding>>											
<<Struc: 544.09 - 544.09: Fold axial plane>> Same plane and relationship to bedding as foliation/cleavage throughout the rest of the hole.											
<<Struc: 544.12 - 544.12: Bedding>> parasitic S folds											
<<Struc: 546.25 - 546.25: Bedding>>											
<<Struc: 554.65 - 554.65: Bedding>>											
			490.17	490.18	0.01	MP20-001_490.17					
			498.26	498.27	0.01	MP20-001_498.26					
			509.75	509.76	0.01	MP20-001_509.75					
			519.75	519.76	0.01	MP20-001_519.75					
			528.90	528.91	0.01	MP20-001_528.9					
			537.38	537.39	0.01	MP20-001_537.38					
			546.23	546.24	0.01	MP20-001_546.23					
			553.70	553.71	0.01	MP20-001_553.7					
			566.37	566.38	0.01	MP20-001_566.37					
			574.83	574.84	0.01	MP20-001_574.83					
			584.00	584.01	0.01	MP20-001_584					
			591.87	591.88	0.01	MP20-001_591.87					
			602.20	602.21	0.01	MP20-001_602.20					
			611.53	611.54	0.01	MP20-001_611.53					

Hole: MP20-001

From (m)	To (m)	Rock Type & Description	From (m)	To (m)	Length	Sample #	ZnEquiv pct	Pb Best pct	Zn Best pct	Cu Best ppm	Ag Best ppm
		<<Struc: 556.37 - 556.37: Foliation>>	621.50	621.51	0.01	MP20-001_621.5					
		<<Struc: 560.81 - 560.81: Bedding>>	629.00	629.01	0.01	MP20-001_629					
		<<Struc: 562.8 - 562.8: Foliation>>									
		<<Struc: 567.13 - 567.13: Foliation>> Fol/Cleavage									
		<<Struc: 567.23 - 567.23: Bedding>>									
		<<Struc: 572.6 - 572.6: Bedding>>									
		<<Struc: 584.3 - 584.3: Bedding>>									
		<<Struc: 592.6 - 592.6: Fault>>									
		<<Struc: 597.35 - 597.35: Bedding>>									
		<<Struc: 610.5 - 610.5: Bedding>>									
		<<Struc: 622 - 622: Bedding>>									
		<<Struc: 631.07 - 631.07: Bedding>>									

End of Hole @ 632