Diamond Drill log Hole A-1

Kerr Addison Vangorda Property Grum No. 2 claim.

Location: approx 7600W 740S, Vangorda Baseline

Proposed depth 1000 feet, to test SE centre of large subtle magnetic anomaly, projection of Chantz horizon, deep Turam response, and possible projection of gravity

Ultimate Depth 1026' Drilled Sept 3 – 9/73 vertical

0 – '	overburden
– 63'	grey phyllite (dark chlorite, sericite, minor graphite) contorted banding, average for area. Core ∠ Ave 80°
63 – 101'	same but broken up, fault gouge 96–101
101 – 103'	grey phyllite as above
103 – 105'	altered sericite phyllite
105 – 120'	light coloured sericite-chlorite phyllite (altered) grading to mottled (altered greenstone?) with marposite(?) by 115'
120 – 184'	grey phyllite with considerable broken ~~gouge~~ gouge sections 131' to 157', fault gouge at 154', 176'
184 – 194	Sericite phyllite with chlorite phyllite and mottled (altered greenstone?) in centre.
194 – 202	grey phyllite 197.6 1' gouge, some pyrite in section
202 – 204	very altered (greenstone?) with marposite(?), quartz, breccia.
204 – 207	grey phyllite
207 – 243	chlorite phyllite, locally mottled, upper 1½' very altered to sericitic; grades to grey phyllite at 243'
243 – 250	grey phyllite, core ∠ 75°
250 – 282	pale chloritic sericitic(?) phyllite, mottled 262–269' core ∠ 70°–90°
282 – 327	grey phyllite, finely banded core ∠ 80–90°, some 70°
327 – 342	chlorite-sericite phyllite core ∠ 70–80°
342 – 426	grey phyllite, slightly more graphitic, contorted banding core ∠'s 80°. ~~[illegible]~~, somewhat broken up 342 to 350 with gouge at upper contact. some pyrrhotite?
426 – 438	very graphitic with bands of sulfides (pyrite, minor pyrrhotite(?)) at 466'
438 – 466	graphitic grey phyllite core ∠ 75°, faulted and gougey 438–443' some parts more graphitic than average
468 – 516	chlorite-sericite phyllite, grades to graphitic grey phyllite around 516, core ∠ 80–90°
516 – 580	variably graphitic grey phyllite with disseminated pyrrhotite up to 1" blobs at 545', pyrrhotite, pyrite, qtz common in section. core ∠ 75°, 80° around 542'

To P. 2 – cont'd

580 – 587 very graphitic, grades to above section

587 – 607 graphitic grey phyllite with contorted banding

607 – 641 very graphitic with some patches pyrrhotite, core ∠ 90°

641 – 653 grey phyllite core ∠ 70–90° grading to below

653 – 668 varyingly graphitic grey phyllite

668 – 689 very graphitic and broken up with gouge 671–672' core ∠ 90° at base

689 – 782 grey phyllite, occassional pyrrhotite, pyrite, contorted banding, core ∠ 75–80°, Ave 75° around 700' from 760 becoming more graphitic toward base

782 – 792 graphitic phyllite

792 – 804 very graphitic, contorted, gougey core ∠ Ave 75° but varies from 45–90°, some pyrrhotite? (forgot to note)

804 – 810 less graphite, graphitic phyllite Au core ∠ 75°

810 – 828 very graphitic

828 – 847 considerably brecciated graphitic phyllite, some sulfides pyrite, etc at 831

847 – 853 very graphitic, core ∠ at 852 65°, broken up

853 – 863.7 very magnetic — massive banded pyrrhotite pyrite, with minor sphalerite, galena, chalcopyrite, quartz, marcasite, sericite, possibly minor tetrahedrite(?) core ∠'s 65–90° last 2' breccia with more quartz & carbonate with more chalcopyrite as well as the other sulfides

#3401 16.7' Assay: 1.28% Zn 1.45% Pb .25% Cu .59 oz/ton Ag .01 oz/ton Au

863.7 – 875 gougey, very graphitic at base of sulfides, core ∠ 45° very faulted section, grades rapidly into grey phyllite (still broken up) at base

875 – 900.6 grey phyllite, broken up in sections to 890, core ∠'s 65–80° Sudden change to graphitic at base

900.6 – 960 graphitic phyllite, banding very contorted core ∠'s 60–90°, Ave 75° around 914 grades to more graphite at 960 core ∠ 90°

960 – 1026 (END) very graphitic with bands of pyrite, marcasite, pyrrhotite (more sulfides than hole A-2) core ∠'s 90° at 1000', 70° at 1026', 962–978 very faulted with much gouge and bands of sulfides (pyrite).

conclusions upon review

1. Main cause of turam response are the graphitic sections 426–438 and especially deeper
2. Magnetics appear to be caused mainly or wholly by pyrrhotite (the altered greenstone(?) appears to be non magnetic)
3. The sulfide section corresponds to projection of the channp.
4. End of the hole is still in favourable(?) graphitic section with sulfide bands.
5. As with all other sulfide bodies in the district, graphite is associated.

Diamond Drill log Hole A-2

Vangorda Mines Property, NE corner Champ No. 1 claim.

Location approx 2800 W 1375 S, Vangorda Baseline (line is mis-picketted and must be reclaimed)

Proposed Depth 500 feet to test coincident strong magnetic and electromagnetic anomalies, erratic high geochem (gravity low due to sand & glacial fill)

Ultimate Depth 502' Drilled Sept 13 — 17/73 vertical

0-124	overburden, reamed to 158
158-208	very graphitic phyllite core L 80° some pyrite, pyrrhotite
208-211	gougey sulfide-rich zone, rock geochem ppm Pb ppm Zn ppm Cu
211-254	very graphitic, core L's 80-85°, pyrrhotite
254-255	small gougey leached zone with disseminated pyrite, pyrrhotite & quartz with pyrite
254-324	very graphitic phyllite, some sulfides core L's 80-85
324-325.5	chloritic phyllite
325.5-344.5	very graphitic as above
344.5-347.5	chloritic phyllite
347.5-502 (END)	Mostly very graphitic with varying amounts of pyrrhotite, pyrite 357-365 slightly less graphitic, 378 slightly more contorted with pyrrhotite 436-438 faulted, 476-487 broken up with gougey sections. Core ~~L's~~ Ave 80-85°, up to 90°; at end of hole 75°

conclusion:

The pyrrhotite content and the graphite account for the magnetic and electromagnetic anomalies.

Note: Holes A-2 and A-3 were selected pending interpretation of results of hole A-1 and to partly satisfy work commitment on Vangorda Mines ground.

Diamond Drill Log Hole A-3

Vangorda Mines Property, Champ No. 3 claim

Location 3600 W 1600 S, Vangorda Baseline picket.

Proposed Depth 650 feet to test coincident ~~anomalies~~ moderate magnetics, Turam, and slight gravity feature on strike 1500' SE of champ deposit.

Ultimate Depth 648' Drilled Sept 21 – 25/73 vertical

0–88 overburden

88–98 grey phyllite (dark chlorite, sericite, minor graphite) minor quartz vein core L ave 60° grades to graphitic phyll at about 98

98–152 ~~grades to~~ graphitic phyllite

152–193 slightly less graphitic, graphite increasing toward base core Ls 65° to 160', 70° at 201'

193–370.5 (magnetic) finely banded graphitic phyllite with minor bands of quartz with pyrite, pyrrhotite, and pyrrhotite bands core Ls 70–75, increase to 90 at 266', continue 85° to 320', then 70° again to base

370.5–415 grey phyllite with quartz bands in places, core Ls mostly 80° grades to graphitic at base

415–464 banded graphitic phyllite with minor bands pyrrhotite, core Ls 75–90, grades to slightly less graphitic phyll by 464

464–490 slightly less graphitic, minor pyrrhotite

490–521 very graphitic grading to slightly less graphite but still very graphitic with pyrite, pyrrhotite core Ls 80° except ~~45~~ 70° at 587–590

521–600 graphitic

600–603 grades to biotite chlorite sericite phyllite (higher metamorphic grade?) with some bands of pyrrhotite core L 75–70°

603–648 (END) same, becoming slightly graphitic at end

Conclusions

1. Magnetics and Turam are accounted for by pyrrhotite and graphite respectively.
2. The slight gravity feature may result from the presence of softer rocks from 600' down or from the effect of a similar anomaly 600' to the northeast where the gravity gradient is steepest (36W, 10S) Depending on developments in future, the latter locality may be considered as a low priority drill target.

Diamond Drill Log Hole A-4

Kerr Addison Vangorda Property NW corner Crum No. 3 claim

Location: approx 60' S 15° W of 7600 W, Vangorda Baseline (about 700' NE of A-1 and 40-50' lower in elevation)

Proposed Depth 750' to test gravity nose in area of slight magnetics, 300 to 400' SW of main gravity gradient and Turam response where magnetics are low (i.e. a compromise), also to test up-dip projection of sulfides in A-1 expected at about 550'

Ultimate Depth 753' Drilled Sept 26 – ~~Sept~~ 30/73 / Oct 1/73

0-10' decomposed bedrock (phyllite) with vein quartz at start

10-29 broken up grey phyllite (dark chlorite, sericite, minor graphite) core ∠ 55°

29-35 grey ←sericitic→ phyllite core ∠ 60°

35-48 grey phyllite, faulted 38'-44', less faulted 44-48'

48-101 10% recovery faulted and reamed ↳ slightly more graphitic grey phyllite

101-115 gongey grey phyllite quartz 111-112 core ∠ 65°, 75° at 115'

115-143 sericitic grey phyllite core ∠ 75°

143-187 grey and slightly graphitic phyllite, faulted in places core ∠'s 80-85°

187-200 lighter grey phyllite core ∠ 85°

200-217 graphitic phyllite with some bands of pyrite, core ∠ 90°, 6" chloritic phyllite at base

217-270 grey phyllite, some sericitic, becoming ~~slightly~~ slightly more graphitic in bottom 10' core ∠'s 80-85°, 6" graphitic at 237.6, slight faulting at base.

270-277 chlorite-sericite phyllite core ∠ 60°

277-292 finely banded, ↳ slightly graphitic grey phyllite core ∠ 75°

292-295 some pyrite and sericite phyllite grading to graphitic by 295

295-330 graphitic phyllite, around 298.5 many pyrite bands, contortion and graphite, faulted 308-309, very faulted and broken 317-330

330-345 grey phyllite (less graphitic than above) core ∠ 65°

345-370 few inches broken quartz, then chlorite phyllite (an altered greenstone?) core ∠ 50° grades to grey phyll at base

370-401 grey phyllite, considerably faulted and broken up with quartz, some graphite core ∠ 70° at 381'

401-410 mixed altered greenstone(?), graphite, grey phyllite, all contorted.

410-417 grey phyllite

417-434 some pyrite, etc 418-419, then chloritic phyllite core ∠ 70-80° ~~433-434~~

cut off from bottom:

		Zn	Pb	Cu	Ag	Au
19.5'	17.5% (comb)	10.8	6.7	.30	3.85	.05

Hole A-4

434–478 Sericite phyllite (Bleached zone); some fracturing, graphite, quartz 443–444

478–492 start of bands of pyrite at 478, breccia by 481–492 with minor galena, sphalerite, minor chalcopyrite, and pyrite etc.

#3402 10' Assay 481.5–491.5 .16 % Zn .10 % Pb .04 % Cu .06 oz/ton Ag .005 oz/ton Au Ag/Pb .60

492–497 sericite phyllite (Bleached zone) [illegible], grades to grey phyllite by 497, core ∠ 45–90°

497–513.5 grey phyllite 502–503 graphitic

513.5–515 sericite bleached zone with increasing sulfides (pyrite)

515–527 Breccia similar to above but more sulfides

#3403 12' Assay: [illegible] .25 % Zn .30 % Pb .08 % Cu .12 oz/ton Ag .005 oz/ton Au Ag/Pb .40

527–536 very/ugly graphitic to pure graphite

536–537.5 graphitic phyllite with considerable pyrite, pyrrhotite(?)

537.5–538.5 Breccia with sulfides (1st sample includes 1' white alt wdrock) minor quartz and barite(?) pyrrhotite sphalerite galena chalcopyrite

some magnetic pyrrhotite at top and base

538.5–562.3 massive sulfides, mostly pyrite, core ∠'s 80–90° sericite schist 554.8–556.5

		Assays:	% Zn	% Pb	% Cu	oz/ton Ag	oz/ton Au	Ag/Pb
#3404	5'	537.5–542.5	2.62	3.00	.28	1.62	.01	.54
3405	5'	542.5–547.5	2.04	2.25	.22	1.56	.02	.69
3406	4.5'	547.5–552	.20	.20	.27	.38	.01	
3407	5'	552–557	.90	.94	.28	.79	.02	
3408	5.3'	557–562.3	3.24	4.05	.31	1.62	.02	.40
	29.8'	Approx Ave	1.86	2.18	.27	1.26	.018	.54

cole of Ave not checked yet →

562.3–624 chlorite–sericite phyllite grading to slightly graphitic at 619, then chloritic phyllite to base, core ∠'s 70–80°

624–651 becoming graphitic at base graphitic phyllite, contorted, with local quartz core ∠'s 45–80°

651–653 quartz and graphite gouge with pyrite, pyrrhotite(?)

653–656 graphitic gouge " " "

656–676 massive sulfides with banding ∠'s 75–80°, last 5' ∠'s 60–80° more sphalerite and galena, pyrite, quartz, barite(?) chalcopyrite. very little pyrrhotite, mostly pyritic

676–682 chloritic gouge with massive breccia sulfide sections; some coarse sphalerite, also chalcopyrite, galena, mostly pyrite; Approx 60% gouge, ground core in central part, core ∠'s steep to 0°

		Assays	% Zn	% Pb	% Cu	oz/ton Ag	oz/ton Au	Ag/Pb
#3409	5'	656–661	8.75	6.16	.30	3.68	.04	.60
3410	5'	661–666	10.1	7.50	.29	3.68	.04	.49
3411	5'	666–671	10.8	5.96	.34	3.77	.06	.63
3412	4.5'	671–675.5	13.98	7.19	.30	4.41	.06	.62
only 3413 of Ave at	7'	675.5–682.5	3.84	2.23	.16	1.76	.01	
	14.5'		9.0	5.5	.27	3.2	.04	

(79)

682 - 692	graphitic, gougey core ∠'s mostly ca 75°
692 - 699	Sericite phyllite, slightly chloritic (bleached), slightly broken up, alteration, gouge core ∠'s 80-90°
699 - 753 (END)	greyish sericitic chloritic phyllite, 1" gouge at 728', last 4' slightly broken up, core ∠'s 75-90 Ave 80°

Conclusions: (Before assays obtained)

1. The 265-foot section from 434 to 699 represents the zone of bleaching alteration, associated graphite, and mineralization which occurs in four zones, 10 feet and 12 feet ~~two of breccia~~ ~~~~ of mineralized breccia and 24.8 and 26.5 feet largely of massive sulfides, each deeper zone being of better grade than the upper.
2. This zone corresponds with the up-dip projection from Hole A-1
5. Since the mineralization is virtually non-magnetic like the NW end of the Vangorda deposit, the Turam anomalies and associated steep gravity gradients extending for about 4500 feet along the northeast flank of the 6500-foot, 2000-foot wide magnetic anomaly zone become priority targets for ore at shallower depth. Moreover, the entire magnetic anomaly zone becomes a target area in which magnetic or slightly magnetic ore may occur. Thus the possibilities are wide open for major tonnage, presumably plunging northwesterly.
3. The mineralization is similar in character and copper content to that of the Vangorda deposit.
4. If the mineralization comes to bedrock surface it would subcrop under deep glacial till and swamp and lake (low topography) in the order of 1000 feet to the northeast.
6. A final Turam map and a residual gravity map should be completed and interpreted ~~in view of~~ with all data available for ~~laying~~ designing a drill program to ~~block~~ explore and block out this ore zone.
7. Pending interpretation of data, organizing of financing, ~~~~ and impending winter conditions the drill was moved to a final exploratory hole at Swim Lake 8 or 9 miles to the southeast. Moreover drilling should be started in March when the lake and swamp areas (presently inaccessible) are frozen.

Diamond Drill Log Hole AS-5

Kerr Addison Swim Property Swim No 33 or 45 claim

Location 400 E 1500 N Swim Baseline approximately on boundary of above two claims

Proposed Depth 500 to 600 feet, to test coincident magnetic and Turam anomaly 800 feet up glacial direction from surface float and lead-zinc geochem anomaly in deep overburden.

Ultimate Depth 317' Drilled oct 5 — 13/73 Vertical

0 — 317 overburden

Breakdowns, repeated trips for casing, finally broke off throne and drill stem, tried drilling and lost hole oct 13 due to caving at 110'.

Hole abandoned oct 14/73 still in overburden.

Conclusion.

1. Target not tested or proven any less favourable.
2. After completion of more geophysical surveys on other parts of the claim group this target should be tested in any case with perhaps change of location along strike or up dip, if deemed as favourable, to hopefully avoid excessive overburden.
3. Upon re-drilling, knowing excessive overburden depth, drill problems can be minimized