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Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud - Section work 1999
AUTHOR	Allen K. Muerhoff C
DATE OF DOC(S)	1999
MULTI_DIST Y / (N?) Additional Dist_Nos:	
QUAD_NAME	Sulphur 7½'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine
COMMODITY If not obvious	gold, silver
NOTES	Correspondence; handwritten notes; geology; cross section 4p.

Keep docs at about 250 pages if no oversized maps attached
(for every 1 oversized page (>11x17) with text reduce
the amount of pages by ~25)

SS: DP 9/11/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

Section Work 1999

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April 24, 1999

Kurt,

A few things: RS-425

- Do you have any updated 200-scale sections? I noticed that holes RS-455 and RS-456 are missing from the set of sections on your drafting table. These two holes are located in the Short Shot / Newmont trench area (sections 1700 – 1800) and look like they should have penetrated Bud and LBT (at least one of them). Should probably check to see if any other holes are missing from the sections.

- I have come across several LAC holes that are plotted on the sections as vertical holes, when in fact they were angle holes (I've just been manually changing them on my sections). You might have Cindy or someone cross-check your database with the original LAC hardcopy database (in the big blue binder on the bookshelf with the core photos). This may affect some of the distal holes on your set of sections as well. I've made a photocopy of that portion of the database; if no one has time on Monday to check the hole orientations, e-mail a copy of the hole collar table and downhole survey table (dumped out as a text file would work best for me) for the LAC holes and I'll do it right away.

- Can you get Matt or Cindy to run the plot files for sections south of –250. I think sections –300 thru –2200 (200-scale) should be run at 100-ft spacing and sections –2400 thru –8000 (200-scale) could be run at 200-ft spacing. Look over the plan map (on the digitizing table) and see if you agree. They could set this up to generate the plot files overnight so it wouldn't tie up a computer for the entire day. If time permits, please start plotting –300 thru –2200.

- Now might also be a good time to generate 200-scale plan maps that start at the northwestern edge of the sections we're currently working on (but double-check the orientation of the LAC holes first).

I'll be in the Reno office on Monday morning; I'll probably check in with you. Call me if you have any questions.

Chuck

Also, if Dan has time, can you ask him to take all of the chips in my office back to the core shed, except RS-421, RS-423, 96-358, & RL-160. Have him pull down RL-265 & RL-144.

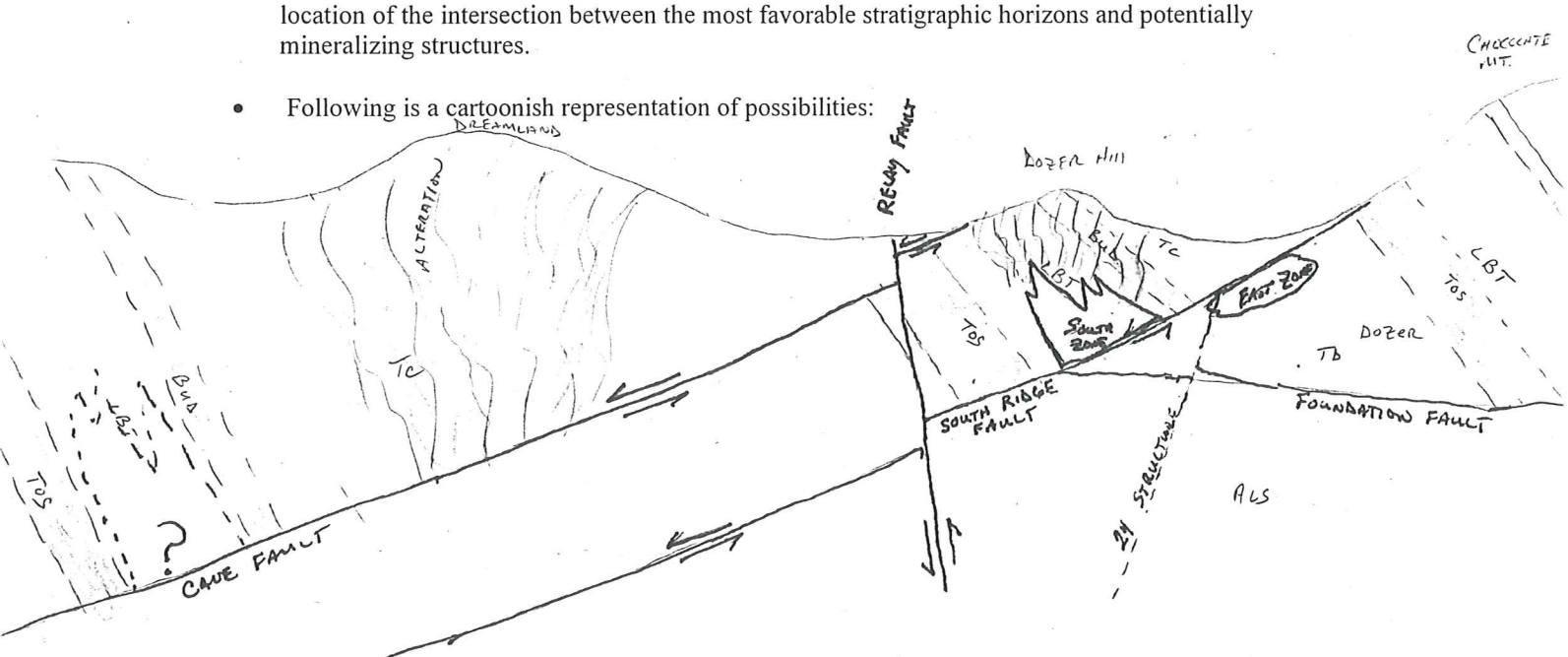
Thanks.

DRILL HOLE RS-D343-99

- Contains 11 relatively narrow ore grade intercepts ranging from 0.7 feet to 22.7 feet in length with grades up to 5.321 Au oz/ton and 153.73 Ag oz/ton.
- Mineralization is hosted within the Rosebud mine sequence, South Ridge fault, Dozer Formation, and TCS.
- Mineralized intercepts currently outside of the existing mine plan for the North Zone.
- The 5.321 Au oz/ton intercept is approximately 40 feet from the existing stope plan.

NEW GEOLOGIC CROSS-SECTIONS
SECTION 1500

- The high-angle Rosebud Shear and Shaft faults are actual the low-angle Cave fault. Alteration and mineralization are more intense within the hanging wall of the Cave fault. Timing of movement along the Cave fault with respect to mineralization is currently unknown.
- There are at least two significant north-northeasterly faults between the mine and Dreamland (Relay fault and Mother lode?). These faults further down-drop the Tertiary – Basement contact northwest of the mine. It is currently uncertain if these faults offset the Cave fault.
- Drill holes in the Dreamland area appear to start out in relatively intense, high-level alteration, then cross a structure and are followed by un-altered rocks.
    - One possible explanation for this sequence would be that the Dreamland area is the offset portion of the upper part of the Rosebud deposit mineralizing system along the post-mineral Cave fault. If this is true, there is some serious exploration repercussions.
    - Another possibility is that the Cave fault is a pre-mineral fault and has had mineralizing fluids flowing along it. In this case, knowing that the Rosebud deposit formed by the juxtaposition of a low angle mineralizing fault and favorable stratigraphy, you would want to look for the ore host rock sequence (LBT) in the hanging wall of the Cave fault.
- Completion of this set of systematic cross-sections both at 1:1200 and 1:2400 scales is the only way to figure out and understand the structural and stratigraphic relationships as well as to estimate the location of the intersection between the most favorable stratigraphic horizons and potentially mineralizing structures.
- Following is a cartoonish representation of possibilities:



Kurt,

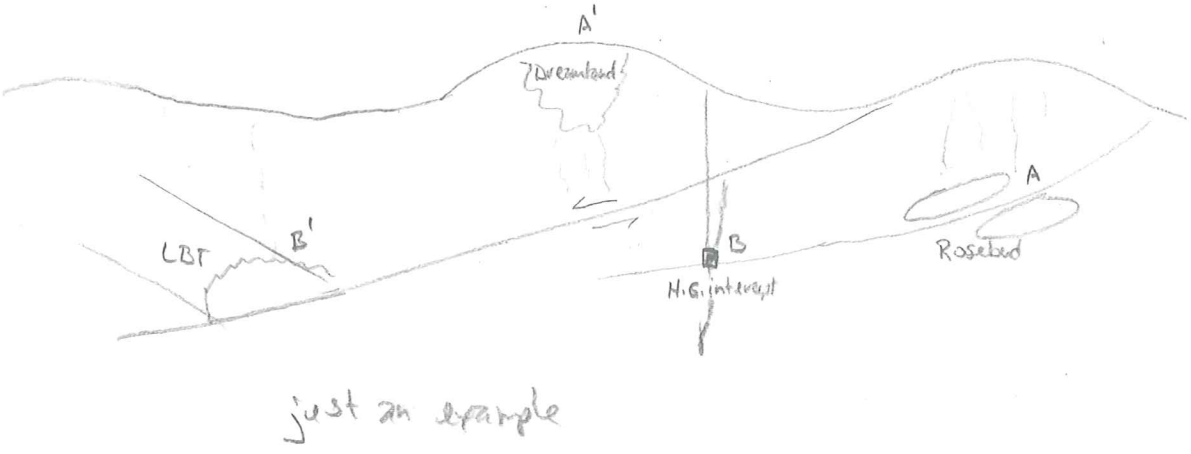
I really haven't had any significant revelations yet, so far, the sections are supporting most of the things we've talked about these last couple of weeks.

In all, the work to date appears to confirm the presence of a significant low-angle structure (Cave fault) originally called the Shaft fault by LAC. As we've discussed, this fault seems to be the major offsetting structure northeast of the deposit, rather than the high-angle Rosebud Shear. In all but one hole, the fault exhibits itself as a zone of pervasive silicification or quartz. Alteration is normally very strong on the HW, and diminishes into the FW (though I've recently seen where this is not the case).

In addition, there are at least two significant north-northeasterly faults (Relay fault and ???), spaced approximately 1000 ft apart (?), located between the surface projection of the Cave fault and Dreamland. These faults are responsible for further down-dropping the Tertiary / basement contact northwest of the mine. So far, all evidence points to the Relay fault being reverse (at least apparent reverse). Whether or not these faults offset the Cave fault is uncertain. Right now, I have conflicting evidence on sections – it will take additional drill hole logging and interpretation to determine the timing of these structures. Undoubtedly, there are others, we just haven't identified them yet.

As far as Ron's discussion with Art is concerned, it is probably a good time to talk about the idea of the Dreamland area being offset (slid down) by the Cave fault. If the Cave fault is post-Rosebud mineral, it would seem to explain why when Newmont or Santa Fe drilled below Dreamland, they generally intersected fresh rocks below a certain point. As you know, the timing of the Cave fault and the mineralization event(s) is still uncertain.

When discussing the Dreamland area, we shouldn't forget Newmont's high-grade intercept. That intercept is undoubtedly in the FW of the Cave fault, and if Dreamland's current location is a result of post-mineral movement, one could speculate that the up-dip extension of the mineralization (not necessarily this particular intercept) has also been offset by the Cave fault. I know that's a lot of speculation, but the general idea here (i.e., the big picture) is if we can figure out the structure (in many cases this will be done by systematically figuring out the stratigraphy and recognizing disconformable contacts - i.e., recognize discrepancies in the stratigraphic sequence).



Maybe another point Ron should make is the best way to seriously start the exploration is to look for analogies to Rosebud – the intersection of apparently mineralized structures with rocks known to be favorable hosts (LBT and Dozer ± Chocolate). For example: if the Cave fault is a mineralizing structure, what better place to look than at its intersection with the LBT. Pretty common sense stuff.

All of this is the reason for doing this relogging and section work – we need to be able to make a reasonable estimate as to the location of the most favorable rocks and the potentially mineralizing structures. **Blindly drilling holes is not going to find ore here**. I realize I'm just telling you things you already know.

In addition to giving Ron sections around 1500N, take a look at sections 1000 and 1050. When used together, they show the Cave fault, Relay fault, SRF, Boundary fault and a good offset of stratigraphy. Also, Ron and I went over these two sections together the other day and he'd probably be comfortable talking about them to Art.

Kind of besides the point, I've just logged and plotted a hole, RL-148 on section 950 (between the deposit and Dreamland) that is rather interesting. Due to structural complexities that haven't fully revealed themselves in the chips yet, it appears that Chocolate is on top of Badger (clearly a fault contact), but then Badger is lying on top of LBT and there is no structure apparent between the two units. To make it more interesting, there is an incredible amount of silicification throughout this hole, from the start of the LBT on down. And all of this occurs about 100-200 feet or so from a hole that has a thick section of Badger and the 'normal' strat sequence starting at the surface. Ah, the plot thickens…….

Sorry, I know there's nothing new here yet. Call me at home if you need to talk about any of this 828-3724. Hope you kicked some ass in golf today. Have a good weekend – see you on Monday.

Sorry - It was pretty quick & dirty.

Charlie