60001809

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud – Deep Dreamland
AUTHOR	Vance R; Langstaff, G
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; Newmont Gold Co
COMMODITY If not obvious	gold; silver
NOTES	Property summary; assay; correspondence; handwritten notes; geology; geochemistry Sp.

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: DD 7/31/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

Rosebud

Deep Dreamland

60001809

4010

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Peter - FYI
4010

Newmont Gold Company
Rosebud Joint Venture

To: Randy Vance **Date:** April 9, 1999

From: George Langstaff

Subject: **Recommendations for the Deep Dreamland Target**

My review of the data available for the Deep Dreamland target indicate the following:

- The high-grade (1.4 oz/st Au) intercept in RS-425 is associated with a hydrothermal breccia at a depth of 1660 feet.
- The hydrothermal breccia is not obviously related to a major fault or lithologic contact so its shape and orientation cannot be reliably inferred from available data.
- Breccia veins immediately below the intercept, which are also enriched in gold, have dips of 50-70°.
- The geochemical halo around the breccia is similar to, but narrower than, that around the East Zone.
- Anomalous gold in other drill holes in the Dreamland area are associated with joints and faults dipping more than 50°, except in rare cases.
- The high-grade gold in RS-425 is associated with quartz (green, possibly due to the presence of green clay), marcasite, and pyrite but not with white clay + marcasite veinlets, which occur adjacent to the hydrothermal breccia and may crosscut it.
- Anomalous gold in other drill holes in the Dreamland area has a variety of mineralogical associations, including white clay + marcasite + pyrite + drusy quartz in a vuggy breccia (1.4 ppm at 1609 in RS-443), white clay + marcasite (2.9 ppm at 1765 in RS-450), sulfide veinlets (.67 ppm at 1582 in RS-408), pyrite + quartz + green clay (.37 ppm at 1585 in RS-443), and green clay + quartz + calcite + marcasite + pyrite (1.0 ppm at 1972 in RS-450).

Conclusion

Testing the deep Dreamland target will be expensive and there are better targets closer to the mine, such as Far East, Sharkfin, Mother Lode. However, the high gold grade ranks the target higher than other deep targets, such as Lucky Boy, White Alps, and Brown Palace. Closer similarities in alteration and geochemistry to the known ore bodies indicate the target is more favorable than shallower targets to the north, such as North Equinox, Chance, Gator and Wildrose.

5 drill holes of approximately 2400 feet each will be necessary to determine whether the gold mineralization in RS-425 is extensive enough to warrant close-spaced drilling. If the first 2 drill holes pass close to the intercept in RS-425 and do not give favorable results, then the 3 additional holes need not be drilled.

Stope and hope

DEEP DREAMLAND

9-4-99
George's last day.

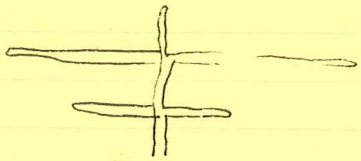
RS-425 (Rc/C) — 1.4 opt over 1.5' (true thickness)

- HT bx = not related to a major fault. So not predictable trend.
- Stratigraphy

Bladed calcite = 10 to 40° tca = Relatively steep

1. Discussed a series of models (strike + dip) to test possible vein (if present) orientation(s).

* plot (from George's plan map) The extent of the Dreamland underground workings. Fault projection ??



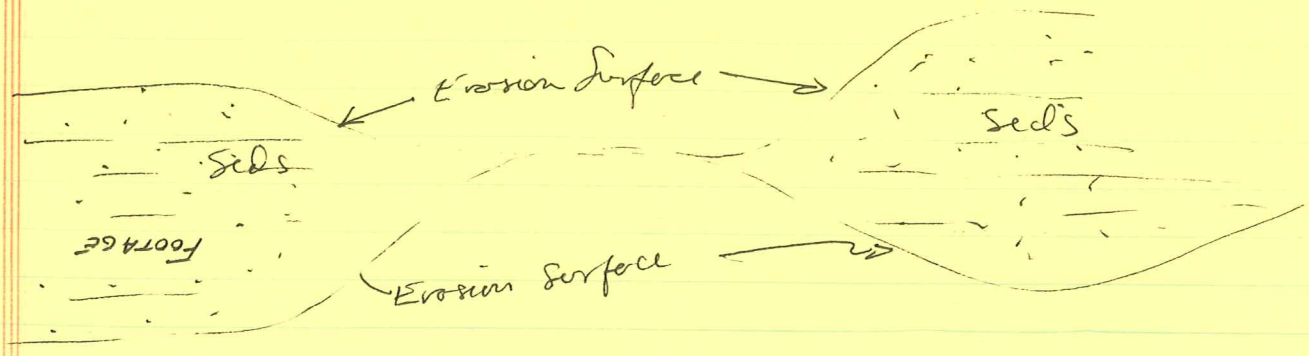
NOTE: (I'm not sure this area is structurally complex!)

424 = thick sed. section at depth! check it out!

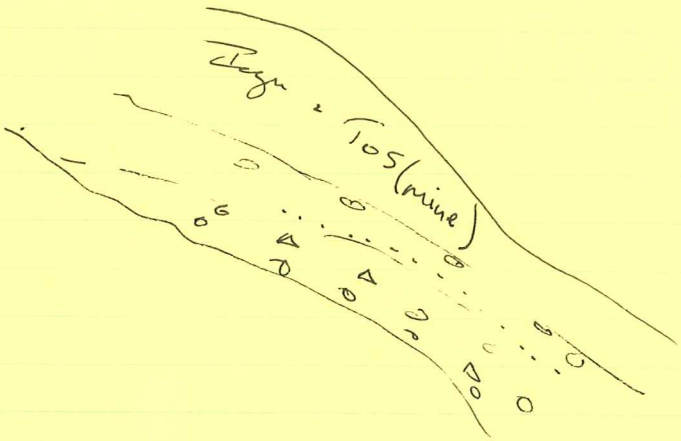
unusual h/o = 447/446?

445 = Thick seds also!

draw these as a basal unit.



* Try to track TOS$_{mine}$ across the sections = lowest ignimbrite w/ fragments of ALS = where I mapped = directly on "talus" apron from Doger Rhyolite. – Apparently this unit is in several Dreamland holes.



TOS = mine tos

TOSC = Regional TOS = Oscar sediments //

E/DREAMLAND ELEVATION CONTROL?

7.4
46.5
2 | 53.9 26.95 @ 5.8'

34.286 | 26.950.000 = 0.78 opt
0.789
274288
240002
284980
308574

5.8' @ 0.78 opt

East Zone max strike = 500 to 600' long.

Trace metal plots drill-hole show characteristic "anomalies" where there is gold, but similar anomalies where there is no gold — So can't use it, except to ~~[illegible]~~ support other information / interpretations

Clearly, we need to do lith logs that use formations / units that are mappable!!

THIS IS A "HARD" TOUGH ONE!

Hydrothermal Breccia in RS-425

Interval	from depth	to depth	Au(FA)	Ag(AA)	Al(%)	As(ppm)	Ca(%)	Cu	Fe(%)	Hg(ppb)	K(%)	Mn	Mo	Na(%)	P(%)	Pb	Sb	Se	Zn
4.8	1604.6	1609.4	0.007	0.01	1.15	22	0.16	1	1.06	25	0.66	700	0	0.03	0.008	25	0	3.5	68
4.8	1609.4	1614.2	0.012	0.7	1.12	16	0.16	2	1.26	60	0.69	1071	1	0.03	0.009	27	0	4.2	75
5.1	1614.2	1619.3	0.006	0.9	1.12	16	0.16	2	1.26	60	0.69	1071	1	0.03	0.009	27	0	4.2	75
4.7	1619.3	1624	0.009	0.6	1.12	16	0.16	2	1.26	60	0.69	1071	1	0.03	0.009	27	0	4.2	75
5	1624	1629	0.176	0.8	1.12	16	0.16	2	1.26	60	0.69	1071	1	0.03	0.009	27	0	4.2	75
4.6	1629	1633.6	0.45	0.9	0.85	103	0.2	3	1.73	40	0.53	404	2	0.03	0.008	26	4	14.2	92
5	1633.6	1638.6	0.084	0.8	0.85	103	0.2	3	1.73	40	0.53	404	2	0.03	0.008	26	4	14.2	92
4.6	1638.6	1643.2	0.058	0.9	0.85	103	0.2	3	1.73	40	0.53	404	2	0.03	0.008	26	4	14.2	92
5.3	1643.2	1648.5	0.145	0.9	0.85	103	0.2	3	1.73	40	0.53	404	2	0.03	0.008	26	4	14.2	92
5	1648.5	1653.5	0.54	1.5	0.6	72	0.2	5	1.14	0	0.4	96	9	0.03	0.007	67	0	16.1	90
2.2	1653.5	1655.7	0.173	1	0.6	72	0.2	5	1.14	0	0.4	96	9	0.03	0.007	67	0	16.1	90
2.9	1655.7	1658.6	8.359	7.4	0.6	72	0.2	5	1.14	0	0.4	96	9	0.03	0.007	67	0	16.1	90
2.9	**1658.6**	**1661.5**	**47.793**	**46.5**	**0.6**	**72**	**0.2**	**5**	**1.14**	**0**	**0.4**	**96**	**9**	**0.03**	**0.007**	**67**	**0**	**16.1**	**90**
1.8	1661.5	1663.3	0.222	0.5	0.55	88	0.11	4	1.04	10	0.36	102	4	0.02	0.007	13	3	9.5	76
1.3	1663.3	1664.6	1.397	1.7	0.57	177	0.16	4	1.28	15	0.39	68	5	0.02	0.008	20	4	18.9	81
2	1664.6	1666.6	0.293	0.6	0.56	103	0.14	3	1.11	10	0.38	44	3	0.03	0.01	14	0	7.5	94
4.6	1666.6	1671.2	0.08	0.5	0.55	138	0.19	2	1.24	10	0.37	82	4	0.03	0.01	18	0	10.8	90
4.4	1671.2	1675.6	0.371	1	0.53	156	0.26	3	1.29	0	0.36	145	5	0.04	0.008	22	0	17.2	73
2.9	1675.6	1678.5	0.155	1.6	0.53	134	0.35	5	1.56	10	0.36	258	10	0.04	0.009	26	6	21.9	83
5	1678.5	1683.5	0.027	0.9	0.67	18	0.26	2	1.32	15	0.34	556	7	0.05	0.01	20	3	8.8	72
5.2	1683.5	1688.7	0.008	0.8	0.81	9	0.25	2	1.46	15	0.37	844	7	0.05	0.012	22	0	2.1	86
4.9	1688.7	1693.6	0.007	0.001	0.8	9	0.37	2	1.24	10	0.37	566	7	0.05	0.011	21	0	0.3	76
5	1693.6	1698.6	0.008	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
5.1	1698.6	1703.7	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
5.3	1703.7	1709	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
4.9	1709	1713.9	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
5.1	1713.9	1719	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
4.7	1719	1723.7	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
4.8	1723.7	1728.5	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
5	1728.5	1733.5	0.006	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
2	1733.5	1735.5	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
4.9	1735.5	1740.4	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
5.1	1740.4	1745.5	0.006	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
4.5	1745.5	1750	0.001	0.001	0.84	5	0.52	2	1.61	15	0.36	1398	3	0.04	0.012	23	0	0.3	87
3.6	1750	1753.6	0.009	0.01	0.8	7	0.35	3	4.06	85	0.33	4040	1	0.05	0.009	22	0	0.9	95

Strat Column of Greater Dreamland Area

4/99

xSc – muddy, generally matrix-supported conglomerate with minor sandstone and mudstone

Fp-±q,f (mmb) – weakly porphyritic rhyolite flows and intrusions with very rare quartz ≤ 1mm and 1-2% anhedral-subhedral kspar + plag < 3mm phenocrysts and rare to 5% mafic magma blobs < 2cm

Fp-b,f (mmb) – weakly porphyritic rhyolite flows and intrusions with very rare to 1% biotite ≤ 1mm and 1-2% anhedral-subhedral kspar + plag < 3mm phenocrysts and rare to 5% mafic magma blobs; may be gradational with Fp-q,f (mmb)

Sc/Ss/Sm – various conglomerates, sandstones, and mudstones

Fp-b,f (am) – weakly porphyritic rhyolite-quartz latite flows with ≤ 1% euhedral biotite ≤ 1mm and <1% to locally 5% subhedral Kspar + plag phenocrysts < 3mm; locally amygdaloidal with up to 10% irregular amygdales ≤ 5mm

Sc – discontinuous conglomerate and conglomeratic sandstone

Fp-h,b – weakly porphyritic felsic flow with ≤ 1% euhedral biotite ≤ 1mm and possibly rare hornblende phenocrysts

Sc – commonly clast-supported conglomerate, possibly with intercalation of Fa or Fa (mmb)

Fa or Fsp-f – aphyric or sparsely feldspar-phyric rhyolite flow with no or rare subhedral kspar or plagioclase phenocrysts usually ≤ 1mm

Sc – ~~discontinuous~~ local commonly clast-supported conglomerate, possibly with intercalation of Fa or Fsp-f

Fa or Fsp-f – see above; may be intercalated with or laterally equivalent to aphyric rhyolite flow with rare to 1% mafic magma blobs < 2 cm

Sc – ~~local conglomerate~~ discontinuous, commonly clast-supported conglomerate and volcanic breccia

Fa – essentially aphyric alkali-feldspar rhyolite to rhyolite flow but may have rare Kspar and plag phenocrysts ≤ 1mm locally

Sc + Ss – conglomerate and sandstone

Mp-b/h,p – porphyritic rhyodacite to andesite flow or intrusion with 15-30% subhedral plag ≤ 3mm and either ~5% euhedral biotite and hornblende or 5-15% euhedral to embayed hornblende phenocrysts ≤ 3mm, locally with rare amygdales < 2mm

Sc + Ss – sandstone or conglomerate

M (am) – amygdaloidal mafic flow or intrusion (andesite?) with 3-15% subhedral hornblende microphenocrysts and up to 10% irregular, cuspate amygdales

Ss + Sm – ~~fine~~ moderately to well sorted fine to very coarse sandstone and siltstone, including normally graded turbidite beds

Sc + Ss – heterogeneous matrix- and clast-supported conglomerate and sandstone with volcanic rock and pumice (?) clasts as well as common basement (phyllite, vein quartz, granitoid) clasts