Contractor: Lang
Coordinates: N48000.22 E24562.16
Project: Expansion
Hole No.: R90-688 (Site A-92)
Drill Type: D40K
Casing Depth:
State:
Sheet 1 of 4
Hole Size:
Bearing: Inclination: -90°
Date Started: 2/19/90
Property: Gilt Edge (Anchor Hill)
Collar Elev.: 5659.6
Final Depth: 565'
Date Completed: 2/20/90
Hole Surveyed: No

DRILL CUTTING LOG

Logged by: J. Greff

Distance (feet)	Graphic Logs: Alteration	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Ag
			50	3	0-5		Thtp	0-110 Hornblende trachyte	0-10 oxide			
								(0-10 bleached groundmass and				
				2				hornblende laths)	10-565 mixed 1-2% pyrite			
								(Generally very little alteration)	disseminated and on fractures			
					20-25							
								(35-40 large variation in chip size)				
					45-50			(45-75 large variation in chip size)				
					70-75							
					95-100			(95-105 large variation in chip size)				
				30			Cdh	110-130 Deadwood hornfels				
					120-125							
				50			Thtp	130-290 Hornblende trachyte				
					145-150							
					170-175							

Project _____ Hole No. R40-688

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			50	2	175-180		Thtp	Cont. Hornblende trachyte				
					195-200							
					220-225							
					245-250							
					270-275							
				30			Cdh	: 290-425 Deadwood hornfels				
					295-300							
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-688

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

GRAPHIC LOGS			DOWN HOLE LOCATION		GEOLOGIC NOTES			
DISTANCE (feet)	ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION (DISTRIBUTION: Massive, Disseminated, Veinlets, Replacement; TYPE)	ASSAY Au	ASSAY Ag
			30	2	350-355		Cdh	Cont Deadwood hornfels			
					370-375						
								(385-420 Dark brown hornfels)			
					395-400						
					420-425						
			50				Thtp	425-435 Hornblende trachyte			
			30				Cdh	435-470 Deadwood hornfels			
					445-450						
			40		470-475		Cdq	470-480 Deadwood Quartzite			
			50				Thtp	480-565 Hornblende trachyte			
					495-500						
					520-525						

DRILL CUTTING LOG

Logged by:

Hole No. [illegible]

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY Au	ASSAY Ag
			50	2	525-530		Thtp	Cont Hornblende trachyte				
					545-550							
								565 E.O.H				
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

DRILL CUTTING LOG

Contractor: Lang
Coordinates: 47168.21 25282.06
Project: Exploration
Hole No.: R90-689 (Site A-93)

Drill Type: D 40 K
Casing Depth:
State:
Sheet 1 of 5

Hole Size:
Bearing: Inclination: -90°
Date Started: 2/26/90
Property: Gilt Edge / Anchor Hill

Collar Elev.: 5630.7'
Final Depth: 765'
Date Completed: 2/27/90
Hole Surveyed: No

Logged by: Graff

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Distance Down Hole (feet)	Structure	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization Type	Assay Au	Assay Ag
			35	3	0-5	712	Tqip	0-620 Quartz trachyte	0-310 Oxide			
						0-765		Light gray groundmass, moderately altered - clay alter phenocrysts. Some corrosion of chips (pitted)				
					20-25			Zones of intense oxidation				
					45-50							
					70-75				75-90 Increased oxidation			
					95-100			(90-115 Increased amounts of white clay)				
					120-125			(115-120 Increased amounts of white clay)				
					145-150							
					170-175							

Project _____ Hole No. R90-684

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
			85	3	175-180		Tqp	Cont. Quartz trachyte				
									(180-255 Increased oxidation)			
					195-200							
					220-225							
					245-250							
									(255-270 Highly oxidized- majority of chips are reddish)			
					270-275							
									(275-310 Highly oxidized as above)			
					295-300							
					2				310-340 mixed, 1% pyrite			
									(310-325 Increased oxidation- Some chips oxidized to reddish)			
					320-325							
					3				340-355 Oxide			
					345-350				(340-350 Highly oxidized)			

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-689

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

GRAPHIC LOGS														GEOLOGIC NOTES			
DISTANCE (feet)	ALTERATION: Weak, Moderate, Strong							TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION, TYPE: Massive, Disseminated, Veinlets, Replacement	ASSAY: Au	ASSAY: Ag
									45	3	350-355		Tqtp	Cont Quartz trachyte	(350-365 Increased oxidation)		
										2					355-415 Mixed 1-2% pyrite disseminated		
											370-375						
															(370-415 Increased oxidation some chips oxidized to reddish)		
											375-400						
														(405-410 Rock [illegible])			
															(415-430 Highly oxidized)		
										3							
											420-425						
											445-450						
															(450-470 Increased oxidation some chips - reddish)		
											470-475						
															(485-505 Increased oxidation as above)		
											495-500						
														(500-550 Random chips of hornblende trachyte)			
										2					505-550 Mixed 1% pyrite sulfides in hornblende trachyte chips only - quartz trachyte is highly oxidized)		
											520-525						

DRILL CUTTING LOG

Logged by:

Project _____ Hole No. _____

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Type	Assay: Au	Ag
			85	7	525-530		Tqtp	Cont Quartz Arenite				
					545-550							
				3					550-560 Oxide			
									(550-560 Increased oxidation as above)			
				2				(560-570 Random chips of hornblende trachyte)	560-570 Mixed 1% pyrite			
				3	570-575				570- Oxide			
									(580-590 Increased oxidation as above)			
					595-600				(590-595 Highly oxidized)			
				2				(605-615 Random chips of hornblende trachyte) (615 talk, Clay rock)	605-615 Mixed 1% pyrite			
									615-625 Oxide			
				10	620-625		Pt	620-765 Predominantly Quartz-Mica Schist	625-765 Mixed, 1-2% pyrite			
				2								
					645-650							
					670-675							
								(675-740 Random chips of chert)				
								690-695 NO SAMPLE				
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-689

Drill Type _____ Casing Depth _____ State _____ Sheet 5 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL % SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY Au	ASSAY Ag
			10		700-705		PE	Cont Precambrian Quartz-Mica Schist				
					720-725							
					745-750							
								765 ft E.O.H.				
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor: CANG | Coordinat-- 47251.50 24849.82 | Project: EXPANSION | Hole No. R90-690 (A-82)

Drill Type: D40K w/o Aux Air | Casing Depth: | State: SD | Sheet 1 of 4

Hole Size: | Bearing: – | Inclination: -90° | Date Started: 2/27/90 | Property: Gilt Edge/Anchor Hill

Collar Elev. 5573.9' | Final Depth: 605' | Date Completed: 2/28/90 | Hole Surveyed: N/A

Distance (feet)	Alteration (Weak, Moderate, Strong)	% Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement) / Type	Assay: Au	Assay: Ag
		Oxide	1	3	0-5		Fill	0-5 Fill, colluvium of Tgtp.	0-110 Oxide (No visible sulfides)		
			85				Tgtp	5-605 Quartz Trachyte porphyry, M.g., orange-brown, overall w/ mod. "bleached" phenocrysts to 155			
					20-25			color as noted past 155'			
					45-50						
					70-75						
					95-100						
		1-2		2				(110-190) mod. to strong alteration; ("bleaching") of phenocrysts to sericite	110-125 Mix, 1-2% f.g., disem. pyrite w/ minor oxidation not 10% of frags.		
					120-125						
		Oxide		3					125-150 Oxide		
					145-150						
		tr-1		2				(155-165) Traces very altered P€ Schist frags.	150-165 Mix tr-1% pyrite		
				2				(155-195) greenish, cream-gray color w/ cream colored "bleached" phenos	165-190 Sulfide, tr-1% pyrite		
					170-175						

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Coordinates _____ Project _____ Hole No. K70-690

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		tr-1	85	1	175-180		Tgtp (?)	(175-185) Traces very altered P-E Schist and/or Amb. Deadwood Qtzite frags?				
		tr		2					190-200 Mix, mostly oxide w/ tr. fg. dissm. pyrite			
					195-200							
		1-2		1				(205-250) Strong "bleaching" of porphyry (matrix & phenos) to light cream color. Traces "greenish" mineral staining along fracts & some frag. surfaces. Very poorly developed porphyritic texture.	200-905 Sulfide 1-2% fg. dissm. pyrite to 380'			
					220-225							
					245-250			(250-905) mod. "bleaching" of phenos w/ darker cream-gray matrix				
					270-275							
					295-300							
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-690

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement) / Type	Assay: Au	Assay: Ag
		1-2	85%		350-355		Tgfp				
					370-375						
		2-3							(380-390) 2-3% f.g. dissem. pyrite.		
		1-2			395-400						
		tr						(405-470) mod. to strong oxidation ⇒ fract. zone. Orange-brown FeOx stained color	405-470 Mix, mostly oxide w/ tr. pyrite except As note below		
					420-425						
		1-2							(425-435) mix – mostly sulfide, w/ 1-2% pyrite		
		tr									
					445-450						
		1-2			470-475				470-565 Sulfide, 1-2% pyrite		
					495-500			(520-595) mod. to strong "leaching" of matrix & phenos to light cream color. Loss of porphyritic texture, moderate.			
					520-525			(505-605) Traces P-€ schist frags.			

DRILL CUTTING LOG

Logged by:

Hole No. [illegible]

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		1-2	85	1	525-530		Tgfp					
					545-550							
		tr		2	570-575			(565-605) Orange-brown FeOx stained color. Strong water filled structure. Larger frag. size to ~ 2.5cm (15-20%). Possibly near Tgfp/PE schist contact	565-575 Mix, tr. pyrite			
		Oxide		3					575-590 Oxide			
		tr		2	595-600				590-605 Mix, tr. pyrite			
								Hole TD @ 605'. (Hole called due to sump problems & excessive water for hammer hit)				
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

Contractor: LANG | Coordinates: 47117.73 24922.19 | Project: EXPANSION | Hole No. R90-691 A-87

Drill Type: D40K w/o AUX AIR | Casing Depth: | State: SD | Sheet 1 of 4

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 2/28/90 | Property: Gilt Edge/Anchor Hill

Collar Elev. 5589.0' | Final Depth: 705' | Date Completed: 3/1/90 | Hole Surveyed: N/A

DRILL CUTTING LOG

Logged by: S. Ringhoffer

GRAPHIC LOGS					DOWN HOLE LOCATION		GEOLOGIC NOTES				
Rock Type (Code)	Alteration: Weak / Moderate / Strong	Total Sulfides % (Est. %)	Rock Code	Ore Code	Distance Down Hole (Feet)	Structure Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au / Ag
		Oxide	88	3	0-5		Tatp tx	0-705' Quartz Trachyte Porphyry m.g., orange-brown w/ zones of deeper maroon FeOx staining where oxidized Ag noted. Cream-gray to greenish gray where not oxidized as noted.	0-115 Oxide (no visible sulfides)		
					20-25						
								(50-60) weak maroon FeOx			
					45-50						
								(60-65) Strong maroon FeOx ⇒ fract zone			
					70-75						
									(80-90) tr-1% pyrite ⇒ mostly oxide overall.		
					95-100						
								(110-115) mod. maroon FeOx			
		tr			2				115-125 Mix, tr. pyrite		
					120-125						
		1-2			2				125-135 Sulfide 1-2% pyrite		
					2				135-160 Mix tr-1% pyrite		
								(140-145) weak maroon FeOx			
					145-150						
					2				160-195 Sulfide tr-1% pyrite w/ traces oxidized frags		
					170-175						

Project _____ Hole No. _____

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of ____

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structure	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		tr-1	85	1	175-180		Tgtp					
		tr		2	195-200				195-245 Mix. tr. pyrite.			
					220-225			(215-225) weak maroon FeOx				
		1-2		1	245-250			(255-245) Traces strongly Altered Edg or PC Schist ?? Sags. (245-280) modit "bleaching" & loss of porphyritic texture (cream-gray color overall.	245-375 Sulfide, 1-2% f.g. disem. pyrite.			
					270-275							
					295-300							
					320-325			(310-375) Alteration As Above (245-280). Traces light-green staining of 1-2% of sags. Pyrite replacing blende's in some cases.				
					345-350							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-691

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Type	Assay: Au	Assay: Ag
		1-2	85	1	350-355		Tatp					
					370-375							
		tr		2				(325-410) wed. to strong FeOx => Strong fract zone.	375-395 Mix, mostly oxide w/ tr. pyrite			
		Oxide		3	395-400				395-405 Oxide.			
		tr.		2					405-410 Mix, mostly oxide, tr. pyrite			
		1-2		1					410-435 Sulfide.			
					420-425							
						710			(430-435) Pyrite veinlet			
		tr-1		2		435-505		(435-510) Large (2-3cm) frag size ~1-2% w/ FeOx along fracts & frag surfaces. => Fract. zone.	435-535 Mix, mostly sulfide, tr-1% pyrite			
					445-450							
								(465-470) Tr. Edg. frag.				
					470-475							
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

Project _____ Hole No. 670-671

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement) / Type	Assay: Au	Ag
		tr-1	85	2	525-530		Tatp				
		Oxide		3				(535-575) mod. to strong FeOx ⇒ Fract. zone	535-575 Oxide		
					545-550						
								(550-575) strong maroon FeOx ⇒ strong Fract zone.			
					570-575						
		tr 1-2		2 1					575-580 Mix, mostly oxide w/ tr. pyrite. 580-655 Sulfide w/ minor traces of FeOx esp. @ (620-630). 1-2% fine & very fine grained cubic pyrite		
					595-600						
					620-625						
					645-650						
		tr		2				(655-705) mod. FeOx ⇒ Fract zone.	655-705 Mix, tr. pyrite		
					670-675						
					695-700						
					700-705			Hole TD @ 705'			

DRILL CUTTING LOG

Logged by: _____

Contractor: LANG | Coordinates: 47602.95 25810.56 | Project: EXPANSION | Hole No.: R90-692 (Site A-78)

Drill Type: D40K w/o Aux Air | Casing Depth: | State: SD | Sheet 1 of 3

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 3/1/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5641.3' | Final Depth: 495' | Date Completed: 3/1/90 | Hole Surveyed: N/A

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structure	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	50	3	0-5	712	Thtp	0-190 Hornblende Trachyte Porph. m.g. mottled gray-brown & dark greenish-gray w/ light orange-brown FeOx staining. mostly weathered & oxidized laths of hornblende to ~105.	0-105 Oxide (no visible sulfides)			
						0-310						
					20-25							
					45-50							
					70-75							
					95-100							
		tr			2			(105-130) mod. oxidized hornblende laths	105-135 Mix, mostly oxide w/ tr. pyrite			
					120-125							
		Oxide			3				135-330 Oxide			
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Project _____ Hole No. R90-692

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
		Oxide	50	3	175-180		Thtp					
			30		195-200		Edh	190-210 Cambrian Deadwood Hornfels dark greenish-gray				
			35		220-225		Tqtp	210-230 Quartz Trachyte Porphyry m.g. orange-brown Fe Ox stained. tr. Thtp frags.				
			30		245-250		Edh	230-290 Cambr. Deadwood Hornfels As Above (190-210)				
					270-275			(270-290) Traces Thtp frags				
				50	295-300		Thtp	290-310 Hornblende Trachyte Porph. As Above (0-190)				
				30	320-325		Edh	310-325 Cambr. Deadwood Hornfels As Above (230-290)				
				50			Thtp	325-330 Hornblende Trachyte Porph.				
		tr		30			Edh	As Above (290-310) 330-390 Cambr. Deadwood Hornfels As Above (310-325)	330-340 Mix. mostly sulfide VERY sparse pyrite 340-390 Sulfide, VERY sparse pyrite			
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-692

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		tr	30	2	350-355		Edh					
					370-375							
			40	2	395-400		Edq	390-410 Cambrian Deadwood Quartzite, Edq "dirty", fractured w/ traces Thtp frags.	390-455 Mix, tr. pyrite			
			10				PE	410-420 PE Amphibolite or paleosole?				
			50		420-425		Thtp	420-455 Hornblende Trachyte Porph? N.g. w/ pyrite replacing hornblende laths?				
					445-450							
			10	1			PE	456-495 PE Amphibolite.	455-495 Sulfide, VERY sparse pyrite.			
					470-475							
								Hole TD @ 495'				
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

Contractor: CANG
Coordinates: 47291.56 24952.35
Project:
Hole No.: R90-693 (Site A-85)
Drill Type: D40K w/o Aux Air
Casing Depth:
State:
Sheet 1 of 5
Hole Size:
Bearing: S40E 125 Inclination: -70°
Date Started: 3/1/90
Property: Gilt Edge/Anchor Hill
Collar Elev.: 5605.3'
Final Depth: 745'
Date Completed: 3/2/90
Hole Surveyed:

Distance (feet)	Graphic Logs: Alteration (Weak / Strong)	Total Sulfides (vol. %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Type	Assay: Au	Ag
		Oxide	85	3	0-5		Tatp DV	0-745' Quartz Trachyte Porphyry. 0-130 Oxide (No visible sulfides) Mg. orange-brown w/ zones of darken maroon Fe Ox as noted to 130'.				
					20-25							
					45-50							
					70-75							
					95-100							
					120-125							
		1-2		1				(130-390) Cream-gray color overall - appears mostly unaltered.	130-135 Mix, mostly sulfide. 1-2% fg. dissm pyrite. 135-290 Sulfide, 1-2% fg. dissm. pyrite			
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Project _____ Hole No. KYO-693

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
		1-2	85	1	175-180		Tgtp					
					195-200							
					220-225							
					245-250							
					270-275							
		tr-1		2	295-300				290-310 Mix mostly sulfide w/ minor FeOx. tr-1% pyrite			
				2					310-340 Sulfide, tr-1% pyrite			
					320-325							
		Oxide		3	345-350				340-350 Oxide			

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-693

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Depth (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	Structure ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlets, Replacement) / TYPE	ASSAY Au	ASSAY Ag
		tr-1	85	2	350-355		Tq-p		350-435 Mix tr-1% f.g. dissm. pyrite		
					370-375						
					395-400						
					420-425						
		Oxide		3					435-470 Oxide		
					445-450						
		tr			470-475				470-525 Mix, tr. pyrite		
					495-500						
						712					
						510-745					
					520-525						

DRILL CUTTING LOG

Logged by: _____

Hole No. [illegible]

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak, Moderate, Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Assay: Ag
		Oxide	85	3	525-530		Tgfp		525-660 Oxide			
					545-550							
								(555-645) weak maroon FeOx				
					570-575							
					595-600							
					620-625							
					645-650							
		tr							660-715 mostly oxide, tr. pyrite			
					670-675							
					695-700							

DRILL CUTTING LOG

LOGGED BY: [illegible]

Contractor _____ Coordinates _____ Project _____ Hole No. R90-693

Drill Type _____ Casing Depth _____ State _____ Sheet 5 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed ? _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION (Weak, Moderate, Strong)	TOTAL % SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY Au	ASSAY Ag
		tr	85	2	700-705		Tqfp					
		tr-1		2	720-725			(715-735) mod. "bleaching" of phenos.	715-745 Sulfide tr-1% f.g. dissem. pyrite			
					745-750							
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by: _____

Contractor: LANG
Coordinates: 47400.12 25187.32
Project:
Hole No: R90-694 (A-84)

Drill Type: D40K w/o Aux Air
Casing Depth:
State:
Sheet 1 of 5

Hole Size:
Bearing: S40E Inclination: -70° (125)
Date Started: 3/2/90
Property: Gilt Edge / Anchor Hill

Collar Elev.: 5645.8'
Final Depth: 745'
Date Completed: 3/3/90
Hole Surveyed: N/A

DRILL CUTTING LOG

Logged by: S. Kindoffer

GRAPHIC LOGS: Distance (feet)	Alteration: Weak / Strong	Total Sulfides (vol. %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		Oxide	50	3	0-5		Thtp	0-240 Hornblende Trachyte porphyry, m.g., orange-brown to gray-brown w/ zones of stronger FeOx staining as noted.	0-670 Oxide (No visible sulfides)			
					20-25							
					45-50			(45-160) Stronger orange-brown FeOx.				
					70-75							
					95-100							
					120-125							
								(125-155) Stronger maroon FeOx => fract zones				
					145-150			140-155 Tgtp MRZ 1-18-95				
					170-175							

Coordinates _____ Project _____ Hole No. R90-694

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay Au	Assay Ag
		Oxide	50	3	175-180		Thtp					
					195-200							
					220-225							
			85		245-250		Tqtp	240-670 Quartz Trachyte Porphyry. ing. orange-brown w/ zones of stronger maroon FeOx as noted.				
					270-275			(260-270) mod. maroon FeOx => fract. zone.				
					295-300			(285-295) weak. maroon FeOx => fract zone				
								(300-310) mod. maroon FeOx => fract zone				
						712 315-745						
					320-325							
								(325-335) strong maroon FeOx => strong fract zone.				
					345-350			(345-670) orange-brown, mostly un-altered porphyry				

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. A90-694

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

GRAPHIC LOGS					DOWN HOLE LOCATION		GEOLOGIC NOTES				
SAMPLE NUMBER (Depth)	ALTERATION: Type / Degree	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veining, Replacement)	MINERALIZATION: TYPE	ASSAY: Au / Ag
		Oxide	85	3	350-355		Tgtp				
					370-375						
					395-400						
					420-425						
					445-450						
					470-475						
					495-500						
					520-525						

DRILL CUTTING LOG

Logged by: _____

Project _____ Hole No. KYU-674

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (Feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	85	3	525-530		Tqtp					
					545-550							
					570-575							
					595-600							
					620-625							
					645-650							
		tr	10	1	670-675		PE	670-745 PE Quartz Mica Schist traces PE chert.	670-745 Sulfide tr. pyrite ≥ VERY sparse minor oxidation along fracts & schistosity			
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-694

Drill Type _____ Casing Depth _____ State _____ Sheet 5 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION (Weak, Moderate, Strong)	TOTAL % SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	GEOLOGIC NOTES: ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
		tr	10	1	700-705		PE	PE Amphibolite cont.				
					720-725							
								Hole TD @ 745'				
					745-750							
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by: _____

Contractor: LANG
Coordinates: 47325.49 24960.19
Project: EXPANSION
Hole No.: R90-695 (Site A-83)
Drill Type: D40K w/o Aux Air
Casing Depth:
State: SD
Sheet 1 of 5
Hole Size:
Bearing: —
Inclination: -90°
Date Started: 3/3/90
Property: Gilt Edge/Anchor Hill
Collar Elev.: 5605.6
Final Depth: 720'
Date Completed: 3/3/90
Hole Surveyed: N/A

Distance Down Hole	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Distance Down Hole (feet)	Elevation	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization Distribution (Massive, Disseminated, Veining, Replacement)	Mineralization Type	Assay Au	Assay Ag
		Oxide	1	3	0-5		Fill	0-10 Fill, colluvium of Tgtp	0-175 Oxide (No visible sulfides			
			85				Tgtp	10-175 Quartz Trachyte Porphyry mod. orange-brown FeOx stained.				
					20-25							
								(40-60) mod. intense FeOx staining ⇒ fract. zone.				
					45-50							
					70-75							
					95-100							
					120-125							
					145-150			145-175 Thtp MRZ 1-18-95				
					170-175							

DRILL CUTTING LOG

Logged by: S. Pinghoffer

Coordinates _____ Project _____ Hole No. R90-695

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (in. Meas.)	Graphic Logs: Alteration (Weak, Moderate, Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement) / Type	Assay: Au	Ag
		tr	50	2	175-180		Thtp	175-320 Hornblende Trachyte Porph. dark cream-gray, m.g.	175-185 Mix, tr. pyrite & semi-weathered hornblende laths.		
		tr-1		1					185-200 Sulfide, tr-1% f.g. dissm. pyrite.		
					195-200						
		tr		2				(205-215) Strong FeOx ⇒ fract zone	200-225 Mix, mostly oxide w/ tr. pyrite.		
					220-225						
		tr-1		2					225-320 Sulfide, tr-1% f.g. dissm. pyrite		
					245-250						
					270-275						
					295-300						
		Oxide	85	3	320-325		Tatp	(320-335) Qtz. Trachyte Porphyry. As Above (10-175) Thtp MRZ 1-18-95	320-335 Oxide		
		tr	50	2			Thtp	335-435 Hornblende Trachyte Porph. As Above (175-320) 1-3% altered FE	335-360 Mix, tr. pyrite		
					345-350			schist, Camb. Hornfel. frags, possible Camb. Lr. Alwood quartzite frags (contact breccia) ← 340-370 Edh MRZ 1-18-95			

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-695

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance Down Hole (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		tr	50	2	350-355		Thtp					
		tr-1		1					360-430 Sulfide tr-1% f.g. dissm. pyrite.			
					370-375			370-430 PreE MRZ 1-18-95				
					395-400							
					420-425							
								430-435 Tqtp MRZ 1-18-95				
			85	2			Tqtp	435-495 Quartz Trachyte Porphyry m.g. orange-brown where oxidized, cream-brown otherwise. tr-2% PreE schist, chert & quartzite frags. Probably highly brecciated.	430-495 Mix mostly oxide. tr-1% f.g. dissm. & vnlt. pyrite.			
					445-450							
					470-475							
	2-5	90		2	495-500		E dg	495-525 Cambrian Deadwood Quartzite, f.g., dark-gray & cream colored, fractured (495-520) w/ tr-2% PreE schist & Tqtp frags.	495-615 Sulfide 2-3% f.g. dissm. pyrite			
	1-2				520-525				(520-550) 1-2% pyrite			

DRILL CUTTING LOG

Logged by:

Project _____ Hole No. K90-675

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement) / Type	Assay: Au	Assay: Ag
		1-2	10	1	525-530		P€	525-580 P€ Quartz Mica Schist, gray to black, weak to highly "bleached", minor FeOx along fracts & frag surfaces.			
					545-550						
		tr-1							(550-615) tr-1% pyrite		
					570-575						
			85				Tqtp	580-590 Qtz. Trachyte Porph m.g. cream-gray w/ 3-7% "bleached" P€ schist frags.			
			10				P€	590-615 P€ Qtz. Mica Schist As Above (525-580). 590-595 Tqtp MRZ 1-18-95			
					595-600						
		1-2	85				Tqtp	615-625 Quartz Trachyte Porph. As Above (580-590), minor FeOx.	615-630 Mix. mostly sulfide 3-5% oxidized Tqtp frags.		
					620-625						
			10				P€	625-650 P€ Qtz. Mica Schist As Above (590-615)	1-2% f.g. dissm. pyrite		
		tr-1							630-720 Sulfide traces oxidation, mostly along sm. fracts.		
					645-650			650-655 PreE MRZ 1-18-95	(630-650) tr-1% Pyrite		
		2-3	85				Tqtp	650-675 Quartz Trachyte Porph. m.g. to f.g. Very small, sparsed quartz phenos. 3-5% schist frags as sm. xeno's & inclusions in porphyry.	(650-675) 2-3% dissm. f.g. pyrite, (1-2% cubic habit). (675-) 1-2% pyrite		
					670-675				(670-675) Magnetite veining		
		1-2	10	1			P€	675-685 P€ Qtz. Mica Schist As Above (615-625)	(675-705) 1-2% pyrite		
				20			P€ Chert	685-720 P€ Chert, milky w/ 2-3% P€ schist frags to 705.			
					695-700						

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-695

Drill Type _____ Casing Depth _____ State _____ Sheet 5 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY Au	ASSAY Ag
		1-2	20	2	700-705		PE Chert	(700-705) 2-3% Tgtp frags				
		↓	↓	↓			↓		(705-720) 3-4% m.g. to c.g. dissm & vnlt. pyrite to ~1cm frags.			
								Hole TD @ 720'				
					720-725							
					745-750							
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor: [illegible] | Coordinates: 41632.40 25484.37 | Project: EXPANSION | Hole No. K90-696 (site A-89)

Drill Type: D40K w/o AUX Air | Casing Depth: | State: SD | Sheet 1 of

Hole Size: | Bearing: S30E | Inclination: -70° | Date Started: 3/9/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5681.1' | Final Depth: 665' | Date Completed: 3/9/90 | Hole Surveyed: N/A

DRILL CUTTING LOG

Logged by: S. Ringhofer

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		Oxide	1	3	0-5			Fill	0-5 Fill, colluvium of Thtp	0-85 Oxide (no visible sulfides)			
			50					Thtp	5-285 Hornblende Trachyte porph.				
									m.g. ORANGE-BROWN FeOx stained				
									w/ "blebs" of dark brown/gray				
					20-25				MN staining?				
					45-50								
					70-75								
		tr			2				(85-95) Traces unoxidized hornblende laths.	85-95 Mix mostly oxide, tr. pyrite ≫1%.			
		Oxide			3 95-100					95-665 Oxide (no visible sulfide			
					120-125								
					145-150								
					170-175								

Contractor _____ Coordinates _____ Project _____ Hole No. R90-696

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		Oxide	50	3	175-180		Thtp					
						712						
						~~145-146~~						
						1910-645						
					195-200							
					220-225			(220-250) Traces Tqtp trans w/ minor increase in maroon FeOx staining.				
					245-250							
					270-275							
				30			Ꞓdh	285-315 Cambrian Deadwood Hornfels, dark greenish-brown, f.g.				
					295-300							
				85			Tqtp	315-615 Quartz Trachyte Porphyry, m.g., orange-brown w/ zones of maroon FeOx staining as noted. Mod. "bleaching" of g-mass w/ some phenos altered to clay or sericite?				
					320-325							
					345-350			345-395: Mod. strong maroon FeOx esp.				

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-696

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DRILL CUTTING LOG

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION (Weak, Moderate, Strong)	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	GEOLOGIC NOTES: ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
		Oxide	85	3	350-355		Tqtp					
					370-375							
					395-400							
					420-425							
					445-450							
					470-475							
					495-500							
					520-525			(510-550) Strong MAROON FeOx ⇒ Strong Fract Zone!				

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. K90-696

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
		Oxide	85	3	525-530		Tgfp					
					545-550							
					570-575							
					595-600							
		tr		10	620-625		PE	615-665 PE Quartz Mica Schist (Amphibolite ??)				
					645-650			(645-655) 5-7% Tgfp frags ⇒ sm. dike or contamination				
		↓	↓	↓			↓	Hole TD @ 665'				
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor: LANG | Coordinates: 47345.12 25066.22 | Project: EXPANSION | Hole No. R90-697 (Gil. A-48)

Drill Type: D40K w/o AIR AIR | Casing Depth: | State: SD | Sheet 1 of 5

Hole Size: | Bearing: S35E | Inclination: -70 | Date Started: 3/4/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5632.1' | Final Depth: 745' | Date Completed: 3/5/90 | Hole Surveyed: N/A

DRILL CUTTING LOG

Logged by: S. Ringhoffer / J. Graff

Distance (feet)	Alteration	% Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Distance (feet)	Elevation	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization Type	Assay Au	Assay Ag
		Oxide	1	3	0-5		Fill	0-15 Fill, colluvium of Thtp & Tqtp	0-265 Oxide (no visible sulfides)			
			50		20-25		Thtp	15-40 Hornblende Trachyte Porph. m.g., orange-brown FeOx color. 15-40 Tqtp MRZ 1-18-95				
			95		45-50		Tqtp	40-705 Quartz trachyte, [illegible] some oxidation zones w/ intense oxidation. Some clay after phenocrysts and bleaching				
					70-75							
					95-100							
					120-125							
					145-150							
					170-175							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-697

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DRILL CUTTING LOG

Logged by:

GRAPHIC LOGS					GEOLOGIC NOTES			
DISTANCE (feet)	ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	DOWN HOLE LOCATION: ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlets, Replacement) / TYPE	ASSAY Au	ASSAY Ag
			85	3	175-180		Tqtp	Cont. Quartz trachyte			
									(195-250 intense oxidation)		
					195-200						
					220-225						
					245-250						
					270-275				265-315 Mixed 1% pyrite		
					295-300			(290-315 less oxidation and alteration, little bleaching only clay after phenocrysts)			
					320-325			(315-335 Strong bleaching - groundmass is white)	315-435 Oxide		
								(335-575 less oxidation and alteration as above)			
					345-350						

Contractor _____ Coordinates _____ Project _____ Hole No. R90-697

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veining, Replacement)	TYPE	ASSAY Au	ASSAY Ag
			85		350-355		Tetp	Cont. Quartz Trachyte				
					370-375							
					395-400							
					420-425							
						712 432-745						
					2				435-440 Mixed 1% pyrite			
					3				440-535 Oxide			
					445-450							
					470-475							
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. K90-697

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement) / Type	Assay: Au	Assay: Ag
			185	3	525-530		Ttp	Cont. Quartz Trachyte			
				2					535-540 Mixed 1% pyrite		
				3					540- Oxide		
					545-550						
					570-575						
									(575-590 Increased oxidation)		
				2					590-600 Mixed 1% pyrite		
					595-600						
				3				(600-640 Increased oxidation and alteration - bleaching)	600-665 oxide		
									(610-640 Increased - oxidation)		
					620-625						
					645-650						
				2					665-670 Mixed 1% pyrite		
				3	670-675				670-715 oxide, some chips highly oxidized		
					695-700						

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-697

Drill Type _____ Casing Depth _____ State _____ Sheet 5 of 5

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration (Weak, Moderate, Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			85	3	700-705		Tq+p					
							PE	705-745 Precambrian Quartz-Mica schist				
				2					715-745 Mixed 1% pyrite			
					720-725							
					745-750			745' E.O.H				
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinat-- 47347.53 25065.24 Project _____ Hole No. 698

Drill Type _____ Casing Depth _____ State _____ Sheet 1 of 4

Hole Size _____ Bearing — Inclination _____ Date Started _____ Property _____

Collar Elev. 5631.8' Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION (Weak, Moderate, Strong)	TOTAL SULFIDES % (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlets, Replacement)	TYPE	ASSAY Au	ASSAY Ag
					0-5		Thtp	[illegible]	0-20 [illegible]			
								10-20 [illegible]				
								(1[illegible]) [illegible]				
								10-20 Tqtp MRZ 1-18-95				
					20-25				[illegible]			
								[illegible]				
								[illegible]	[illegible]			
					45-50							
									[illegible]			
					70-75							
									[illegible]			
								[illegible]				
								[illegible]				
					95-100							
									[illegible]			
									[illegible]			
					170-175							
									130-135 [illegible]			
			50	2			Thtp	135-145 Hornblende trachyte	[illegible] -220 [illegible] 1-2 %			
								→ Thtp MRZ 1-18-95	[illegible]			
					145-150		Tqtp	145-150 Quartz trachyte				
			50				Thtp	150-165 Hornblende trachyte				
								← Thtp MRZ 1-18-95				
							Tqtp	165-170 Quartz trachyte				
					170-175		Thtp	170-[illegible] [illegible]				

DRILL CUTTING LOG

Logged by: [illegible]

Contractor _____ Coordinates _____ Project _____ Hole No. R76-[illegible]

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES % (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement) / TYPE	ASSAY Au	ASSAY Ag
			50	2	175-180		Tr+p	(175-185 Some chips quartz trachyte)			
			85		195-200		Tq+p	195-220 Quartz trachyte (Some chips heavy oxidized)			
			50	1	220-225		Th+p	220-315 Hornblende Trachyte	220-250 Sulfide 2-4% pyrite disseminated nuggets		
					245-250			(250-315 [illegible] Chips highly oxidized)	250-430 Mixed 1-2% disseminated pyrite		
				2	270-275						
					295-300						
				85			Tq+p	315-325 Quartz Trachyte (Some chips heavy oxidized)			
					320-325						
				50			Th+p	325-395 Hornblende Trachyte			
								(335-340 [illegible] highly oxidized)			
					345-350						

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-698

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DRILL CUTTING LOG

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
			50	2	350-355		Th-p	Cont Hornblende Trachyte				
					370-375							
								395-605 Tetp MRE 1-10-95				
			85		395-400		Tetp	395-605 Quartz trachyte, lithology of chips as noted				
					420-425							
				1					~~430-605~~ Sulphide 1-2% m.g.-c.g. cubic Pyrite tr.-Will FeOx.			
					445-450			450-460 Chips of Precambrian Quartz Mica schist)	~~450-500 Sulfide 2-4%~~ disseminated and aggregates of pyrite			
			70				~~Thxc~~	460-605 Breccia (chips of Precambrian Quartz Mica Schist, Hornblende trachyte, quartz trachyte)				
					470-475							
					495-500							
									~~500-510 Mixed tr-2%~~ disseminated Pyrite 510-570 Sulfide 2-4% pyr			
					520-525							

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. K90-6[illegible]

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY Au	ASSAY Ag
			10		525-530		Thrx.	Cont. Breccia				
					545-550							
					570-575				570-605 Mixed 1-2% disseminated pyrite			
					595-600							
								605 E.O.H.				
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: 47675.39 24486.23 | Project: Expansion | Hole No.: R90-699 (Site A-94)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of

Hole Size: | Bearing: | Inclination: -90° | Date Started: 3/6/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5661.8' | Final Depth: 475' | Date Completed: 3/6/90 | Hole Surveyed: No

DRILL CUTTING LOG

Logged by: J Groff

Distance (feet)	Graphic Logs: Alteration (Type, Intensity)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Type	Assay: Au	Ag
			50	3	0-5		Th+p	0-110 Hornblende Trachyte	0-20 Oxide (0-15 Highly oxidized)			
				2	20-25				20-360 Mixed 1-2% pyrite (very little oxidation			
					45-50							
					70-75							
					95-100							
				30			Cdh	110-125 Deadwood Hornfels				
					120-125							
				50			Th+p	125-325 Hornblende Trachyte (125-275 very little alteration)				
					145-150							
					170-175							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-699

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlets, Replacement)	TYPE	ASSAY Au	ASSAY Ag
			50	2	175-180		Tht p	Cont Hornblende Trachyte				
					195-200							
					220-225							
					245-250							
					270-275							
								(275-310 Increased alteration - some bleaching of groundmass)				
					295-300							
								(310-320 loose chips of carbonate - calcite)				
					320-325							
				30			Cdh	325-360 Deadwood Hornfels				
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-699

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			30	2	350-355							
			50	1			Th+p	360-380 Hornblende Trachyte	360-380 sulfide 2-5% pyrite, veinlets - disseminated + loose nuggets			
					370-375							
			30	2			Cdh	380-400 Deadwood Hornfels	380-475 Mixed 1-2% pyrite			
					395-400							
			50				Th+p	400-435 Hornblende Trachyte				
					420-425							
			30				Cdh	435-440 Deadwood Hornfels				
			50				Th+p	440-475 Hornblende Trachyte				
					445-450							
					470-475							
								475' E.O.H				
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

Contractor: Long
Coordinates: 47412.12 24877.60
Project: Expansion
Hole No.: R90-700 (Site A-95)
Drill Type: M40K w Aux Air
Casing Depth:
State: SD
Sheet 1 of 4
Hole Size:
Bearing: S40W
Inclination: -70°
Date Started: 3/6/90
Property: Gilt Edge / Anchor Hill
Collar Elev.: 5578.9'
Final Depth: 605
Date Completed: 3/6/90
Hole Surveyed: No

Distance (feet)	Graphic Logs: Alteration (Weak / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Ag
			50	3	0-5		Thtp	0-350 Hornblende Trachyte (0-35 Oxidized, Fe staining some alteration of hornblende laths)	0-35 Oxide			
					20-25							
									35-60 Mixed 1% pyrite			
					45-50							
				3					60-65 Oxide			
				2					65-70 Mixed 1% pyrite			
				3	70-75				70-110 Oxide			
								(75-150 Fe staining and bleaching of groundmass - hornblende laths - some clay)				
					95-100							
								(100-105 Quartz veining)				
				2					110-115 Mixed 1% pyrite			
				3					115-150 Oxide			
					120-125							
					145-150							
				2					150-255 Mixed between 1-2% pyrite			
					170-175							

DRILL CUTTING LOG

Logged by: J. Fraft, S. Kingsbury

Contractor _____ Coordinates _____ Project _____ Hole No. R90-700

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DRILL CUTTING LOG

Logged by:

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veining, Replacement)	TYPE	ASSAY: Au	ASSAY: Ag
			50	2	175-180		Thtp	Cont Hornblende Trachyte				
					195-200							
								(200 - 205 Some chips of Quartz Trachyte)				
					220-225							
					245-250							
				3				(250 - 295 Bleaching of groundmass - hornblende laths, some clay, Fe staining)	255-295 Oxide			
					270-275							
				2	295-300				295 - 300 Mixed 1% pyrite			
				3				(300 - 350 Altered and Fe stained as above)	300 - 345 Oxide			
					320-325							
					345-350			(345 - 350 Some chips of quartz trachyte)	345 - 370 Mixed 1% pyrite			

Contractor _____ Coordinates _____ Project _____ Hole No. R90-700

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Type	Assay: Au	Assay: Ag
			85	2	350-355		Tq tp	350-455 Quartz Trachyte (350-390 Fe stained, some clay after phenocrysts and corroded or pitted chips)				
				3	370-375				370-385 Oxide			
				2					385-400 Mixed 1% pyrite			
					395-400							
				3					400-410 Oxide			
				2				(410-445 some chips of Hornblende trachyte - pyrite mineralization)	410-455 Mixed between 1-2% pyrite			
					420-425							
			50		445-450		Tht.p	455-~~470~~ 515 Hornblende Trachyte				
				1					455-570 Sulfide 2-4% pyrite, diss- and on fractures			
			70		470-475		~~Tbxa~~	~~470-575 Breccia~~ (470-575) , clasts of Hornblende Trachyte in Qtz trachyte matrix. Traces PE schist esp. @ (530-580) (2-4%) Xenos 100 Tq tq.				
					495-500							
			85		520-525		Tqt.p	515-600 Qtz. Trachyte w/ abund. xenos of PE schist				

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. K90-700

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay Au	Assay Ag
		2-4	70	1	525-530		~~Tbxa~~	Qtz. Trachyte cont'd				
					545-550							
		tr			570-575				570-580 Mix, mag. pyrite			
		tr	86				Tqtp	575-605 Quartz Trachyte Porph.				
		Oxide			3				580-605 Oxide (no visible sulfides)			
					595-600							
								Hole TD @ 605' called because of sumps overflowing. H_2O @ ~70 gpm.				
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

Coordinates: [illegible] | Project: EXPANSION | Hole No.: R90-701 (Site A-100)

Drill Type: D40K w/o Aux Air | Casing Depth: | State: SD | Sheet 1 of 4

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 3/7/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5686.8 | Final Depth: 565' | Date Completed: 3/8/90 | Hole Surveyed: N/A

DRILL CUTTING LOG

Logged by: S. Rinaldi

Distance (feet)	Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	1	3	0-5		Fill	0-15 Fill, colluvium of Tntp	0-205 Oxide (no visible sulfides)			
			50		20-25		Tntp	15-250 Hornblende Trachyte Porph, mottled orange-brown, tan & black, med. grained w/ light to mod. altered & oxidized hornblende laths.				
					45-50							
					70-75							
					95-100							
					120-125							
					145-150			(135-160) darker gray color minor FeOx staining - no sulfides				
					170-175							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-701

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Assay: Ag
		Oxide	50	3	175-180		Thtp					
					195-200							
		tr		2					200-220 Mix, mostly oxide, tr. fig. disem. pyrite			
		Oxide			220-225				220-500 Oxide			
					245-250							
			30				Edh	250-400 Cambrian Deadwood Hornfels fg., dark-gray, orange-brown & tan w/ traces Thtp frags				
					270-275							
					295-300							
								(305-325) Stronger FeOx				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-701

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DRILL CUTTING LOG

Distance (feet)	Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	30	3	350-355		Edh					
								(360-370) Stronger FeOx w/ traces Thtp frags.				
					370-375							
					395-400							
			50				Thtp	400-420 Hornblende Trachyte porph A- Above (15-250). 2-3% Edh frags.				
			40		420-425		Edq	420-450 Cambrian Deadwood Quartzite, f.g., orange-brown FeOx along strong fractures.				
					445-450							
			10				PE	450-500 PE Quartz Mica Schist black w/ orange brown FeOx staining				
					470-475							
					495-500							
		tr-1	50	2			Thtp	500-550 Hornblende Trachyte porph. m.g. mottled orange brown & cream-gray w/ dark black laths of hornblende "peppering".	500-550 Mix, tr-1% f.g. dissm. pyrite w/ mod. FeOx staining.			
					520-525							

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. RYO-701

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		tr-1	50	2	525-530		Thtp					
					545-550							
		tr	10	1			PE	550-565 PE Amphibolite, black w/ traces PE chert & Thtp frags. Hole TD @ 565'	550-565 Sulfide, very sparse traces of pyrite			
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor: [illegible] | Coordinates: [illegible] | Project: EXPANSION | Hole No.: R90-702 (A-105)

Drill Type: D40K w/o Aux Air | Casing Depth: | State: JD | Sheet 1 of 3

Hole Size: | Bearing: – | Inclination: -90 | Date Started: 3/2/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5639.0 | Final Depth: 445' | Date Completed: 3/2/90 | Hole Surveyed: N/A

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Assay: Ag
		Oxide	1	3	0-5		Fill	0-5 Fill colluvium of Thtp	0-50 Oxide (no visible			
			50				Thtp	5-50 Hornblende Trachyte Porph.	sulfides)			
								m.g. orange-brown to cream				
								gray where not oxidized and				
					20-25			fg. granularly weathered laths				
								of hornblende.				
					45-50							
		tr	30	2			Fdh	50-70 Fdmb, Deadwood Hornfels,	50-70 Mix, mostly oxide			
								dark greenish-gray w/ ~1% Thtp	w/ tr. f.g. disem pyrite.			
								fragsv				
		Oxide	50	3	70-75		Thtp	70-280 Hornblende Trachyte Porph	70-90 Oxide			
								As above (5-50)				
		tr-1		2					90-200 Mix, mostly oxide			
					95-100				w/ tr-1% f.g. disem.			
									pyrite			
					120-125							
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: S. Ringhofer

Contractor _____ Coordinates _____ Project _____ Hole No. R90-702

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

GRAPHIC LOGS										GEOLOGIC NOTES				
DISTANCE (feet)	ALTERATION							TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	DOWN HOLE LOCATION: ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement) / TYPE	ASSAY: Au	ASSAY: Ag
								tr-1	50	2	175-180		Thtp				
											195-200						
								Oxide		3					200-225 Oxide (No visible sulfides)		
											220-225						
								tr-1		2				(225-240) 1-2% Edh frags	225-265 Mix, tr-1% f.g. dissm. pyrite.		
											245-250						
								Oxide		3					265-335 Oxide (No visible sulfides)		
											270-275						
									30				Edh	280-305 Eamb. Deadwood Hornfels As Above (50-70)			
											295-300						
									50				Thtp	305-335 Hornblende Trachyte Porph. As Above (70-280) tr-1% Edh frags			
											320-325						
								tr-1	30	2			Edh	335-405 Eamb. Deadwood Hornfels, As Above (280-305). 2-5% Thtp frags	335-395 Mix. mostly sulfide w/ tr-1% f.g. dissm. & sm. unit. pyrite		
											345-350						

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-702

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total % Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement) / Type	Assay: Au	Assay: Ag
		tr-1	30	2	350-355		Cdh				
								(365-385) 5-7% Thtp frags.			
					370-375						
		1-2		1	395-400			405-410 Thtp	395-410 Sulfide, 1-2% f.g. dissm. pyrite		
		tr	40 50 40	2			Tm Thxa Tm Ea	405-445 Porphyry suggested breccia of Amb. Hornfels (30%) & Thtp (70%) 415-440 Amb. Hornfels Cetell? ~60% Thtp. Highly fract.	410-445 Mix, mostly oxide w/ tr. pyrite		
					420-425						
		↓	10	↓	445-450		Ae	~~Hole TD @ 445~~ 445-445 Ae Amb. hole TD @ 445			
					470-475						
					495-500						
					520-525						

DRILL CUTTING LOG

Logged by:

Coordinates _____ Project EXPANSION Hole No. KY0-703 (A-98)

Drill Type D40K w/o Air Casing Depth _____ State SD Sheet 1 of 2

Hole Size _____ Bearing — Inclination -90° Date Started 3/8/90 Property Gilt Edge/Anchor Hill

Collar Elev. 5473.6 Final Depth 300' Date Completed 3/9/90 Hole Surveyed N/A

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement) / Type	Assay: Au	Ag
		Oxide	1	3	0-5		Fill	0-15 Fill colluvium of Thtp, Edh	0-30 Oxide (no visible sulfides)		
			50		20-25		Thtp	15-120 Hornblende Trachyte porph. m.g. cream-gray w/ black laths of hornblende. (30-120). (15-30) yellowish-orange, strongly altered Thtp. tr. clay?			
		tr-1		2					30-45 Mix, mostly oxide w/ tr-1% f.g. vissm. pyrite		
		1-2		1	45-50				46-300 Sulfide, 1-2% f.g. vissm. pyrite or As noted		
					70-75						
					95-100						
		1%		30	120-125		Edh	120-195 Eamb Deadwood Hornfels. cream-gray to dark-brown.	(120-195) pyrite mostly in sm. blebs. ~1%		
					145-150						
					170-175						

DRILL CUTTING LOG

Logged by: S. Ringlestter

Contractor _____ Coordinates _____ Project _____ Hole No. 1290-703

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 2

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Assay: Ag
		1%	30	1	175-180		Edh					
			50		195-200		THP	195-205 Hornblende Trachyte porph. (1-2% Edh frags)				
			30				Edh	205-225 Cambrian Deadwood Hornfels As Above (180-195) (215-225) mod. "bleaching" w/ traces THP frags.				
					220-225							
		3-4	40				Edq	225-280 Cambrian Deadwood Quartzite, m.g., cream-gray w/ strong pyrite veining, mod. fractured w/ large frag size to ~ 7cm. (>1%)	(225-280) 3-4% m.g. to c.g. diss. & vnlt. pyrite			
					245-250							
					270-275							
		tr-1	10				PE	280-300 PE Qtz Mica Schist 1-2% PE Chert frags. minor "bleaching" of schist frags.	(280-300) tr-1% pyrite			
					295-300			Hole TD @ 300'				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor: [illegible] | Coordinates: N [illegible] E 24784.77 | Project: EXPANSION | Hole No.: K90-704 (A-101)

Drill Type: D90K w/o Aux Air | Casing Depth: | State: SD | Sheet 1 of 2

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 3/9/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5610.6 | Final Depth: 275' | Date Completed: 3/9/90 | Hole Surveyed: N/A

Distance (feet)	Alteration: Weak / Strong	Total % Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement) / Type	Assay: Au	Assay: Ag
		tr	1	2	0-5		Fill	0-10 Fill, colluvium of Thtp	0-10 Mix, mostly oxide, tr. pyrite		
		1%	50	1			Thtp	10-165 Hornblende Trachyte Porph., mg., greenish-gray w/ well developed black 1-5 mm hornblende laths. (Some radiate)	10-275 Sulfide ~1% f.g. dissm. pyrite.		
					20-25						
					45-50						
					70-75						
					95-100						
					120-125						
					145-150			(145-155) mod. "bleaching" of Thtp			
					60		Thtp	165-180 Trachyte Porphyry, mg., greenish-cream color			
					170-175						

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Contractor _____ Coordinates _____ Project _____ Hole No. R90-704

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 2

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Type	Assay: Au	Assay: Ag
		1%	60	1	175-180		T/A					
			50				Thtp	180-220 Hornblende Trachyte Porph.				
					195-200							
		1r	30		220-225		Ꞓdh	220-275 Cambrian Deadwood Hornfels, dark greenish-gray.				
					245-250							
		↓	↓	↓	270-275		↓	Hole TD @ 275'				
					295-300							
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Coordinates: [illegible] Project: C MANSION Hole No.: K90-705 (A-109)

Drill Type: D40K w/o Aux Air Casing Depth: State: JD Sheet 1 of 4

Hole Size: Bearing: S26W Inclination: -70° Date Started: 3/9/90 Property: Gilt Edge/Anchor Hill

Collar Elev.: 5506.0 Final Depth: 580' Date Completed: 3/10/90 Hole Surveyed: N/A

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Distance (feet)	Elevation	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization Distribution (Massive, Disseminated, Veining, Replacement)	Mineralization Type	Assay Au	Assay Ag
		tr	1	2	0-5		Fill	0-40 Fill, colluvium of Thtp & Tgtp	0-40 Mix tr. pyrite, oxide contained to Tgtp frags (~40%)			
					20-25							
		tr-1	50	1	45-50		Thtp	40-135 Hornblende Trachyte Porphyry m.g. dark greenish-gray w/ black laths of hornblende.	40-285 Sulfide. (40-135) tr-1% f.g. dissm. pyrite			
					70-75							
						712 95-410						
					95-100							
					120-125							
		tr	30		145-150		Edh	135-220E' Amb. Deadwood Hornfels. dark greenish cream-gray w/ tr-1% Thtp frags to 155' (150-155) minor FeOx, tr. clay?	(135-310) tr. pyrite			
					170-175							

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Contractor _____ Coordinates _____ Project _____ Hole No. R90-705

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		tr	30	1	175-180		Edh					
					195-200							
			50		220-225		Thtp	220-230 Hornblende Trachyte Porph. As Above (40-135), 3-5% Edh. Frags.				
			30				Edh	230-260 Eamb. Deadwood Hornfels As Above (135-220) Dark brown color.				
					245-250							
			50				Thtp	260-270 Hornblende Trachyte Porphyry As Above (220-230)				
			30		270-275		Edh	270-310 Eamb. Deadwood Hornfels As Above (230-260) (270-285) 1-2% Thtp frags? (285-300) Minor FeOx ⇒ Weak fract zone	285-300 Mix, mostly sulfide, tr. pyrite 300-580 Sulfide, % pyrite As noted			
				2	295-300							
				1								
		tr-1	40				Edq	310-335 Eambrian Deadwood Quartzite, "dirty" cream-gray w/ minor FeOx staining along fracts. (310-370) tr-1% fg. discem. pyrite				
					320-325							
			10				P€	335-440 P€ Qtz. Mica Schist, light "bleaching" to 360' 1-3% P€ chert frags				
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R 90-705

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Assay: Ag
		tr-1	10	1	350-355		PE					
		tr			370-375				(370-540) tr. pyrite			
					395-400							
					420-425							
			50		445-450		Thtp	440-450 Hornblende Trachyte Porphyry				
								As Above (260-270) 3-7% PE Qtz Mica Schist frags.				
			10				PE	450-540 PE Qtz Mica Schist				
								As Above (335-440).				
					470-475							
					495-500							
								(510-540) light to mod. "bleaching" of PE schist frags.				
					520-525							

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-705

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 4

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DRILL CUTTING LOG

Logged by:

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Ag
		tr	10	1	525-530		PE					
		1-2	20		545-550		PE Chert	540-580 PE Chert, milky-gray w/ traces PE schist frags. Some frags. seem slightly sucrosic in texture. Mod. fracturing w/ sm. pyrite veinlets filling/fracts.	(540-580) 1-2% f.g. disem. & vnlt. pyrite			
					570-575			Hole TD @ 580' (Hole called due to broken bit)				
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

Coordinates _____ Project _____ Hole No. K90-106 A-106

Drill Type D40K w/o Aux Air | Casing Depth _____ | State _____ | Sheet 1 of 3

Hole Size _____ | Bearing S50W | Inclination -70° | Date Started 3/10/90 | Property Gilt Edge/Anchor Hill

Collar Elev. 5519.2 | Final Depth 445' | Date Completed 3/10/90 | Hole Surveyed N/A

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay Au	Assay Ag
		Oxide	1	3	0-5	712 0-90	Fill	0-25 Fill, colluvium of Tqtp & Thtp	0-55 Oxide (no visible sulfides)			
					20-25							
			50				Thtp	25-105 Hornblende Trachyte porphyry, m.g. mottled cream & orange-brown FeOx stained mod. to strong "bleaching" of matrix & hornblende phenos.				
					45-50							
		tr-1		2					55-105 Mix mostly oxide w/ tr-1% f.g. dissm. & unit. pyrite.			
					70-75							
						710 90-240						
					95-100							
		Oxide	85	3			Tqtp	105-145 Quartz Trachyte porphyry, m.g. orange-brown w/ mod. bleached phenos.	105-150 Oxide			
					120-125							
			50		145-150		Thtp	145-155 Hornblende Trachyte porph.				
		tr-1		2				A- above (25-105)	150-170 Mix mostly oxide w/ tr-1% f.g. dissm. & unit. pyrite to 170'			
			30				Cdh	155-225 Cambrian Deadwood Hornfels dark gray-brown & green. 155-190' 2-5% Thtp dikes				
		tr		1	170-175				170-225 Sulfide, tr pyrite			

DRILL CUTTING LOG

Logged by: S. Pinsky

Contractor _____ Coordinates _____ Project _____ Hole No. R90-706

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structure	Down Hole Location: Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		tr	30	1	175-180			Ꞓdh					
					195-200								
					220-225								
			50	2				Thtp	225-250 Hornblende trachyte porph. 20-30% of frags oxidized. 5-10% Ꞓdh frags throughout interval	225-270 Mix, mostly sulfide, tr. pyrite. Strongest FeOx @ (225-235)			
						712 240-245							
					245-250								
			30					Ꞓdh	250-280 Ꞓambrian Deadwood Hornfels, dark brown, some frags FeOx stained (2-3%)				
		tr-1		1	270-275					270-305 Sulfide, tr-1% pyrite, traces oxidized frags.			
			70					Thxa	280-310 Clast supported breccia? of predominately Thtp w/ 5-10% Ꞓdh frags.				
					295-300								
				2						305-445 Mix, mostly oxide			
			40					Cdg	310-335 Ꞓambrian Deadwood Quartzite, f.g. to m.g. "dirty" S.S. Highly fractured w/ strong FeOx & minor dissm. & unit. pyrite, 1-2% Thtp ?? frags @ (325-335).	(310-335) mostly sulfide (335-445) (305-335): tr-1% pyrite (335-450) 1-2% pyrite			
					320-325								
		1-2	10					P-Ꞓ	333-340 P-Ꞓ Qtz Mica Schist 2-3% chert				
			20					P-Ꞓ Chert	340-345 P-Ꞓ Chert, 3-5% P-Ꞓ schist				
			10		345-350			P-Ꞓ	345-365 P-Ꞓ Qtz Mica Schist, 5-7% Chert				

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-706

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION (Weak / Moderate / Strong)	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veining, Replacement)	TYPE	ASSAY: Au	Ag
		1-2	10	2	350-355		PE	PE Schist cont; possibley brecciated				
			20				PE Chert	365-430 PE Chert, milky-gray w/ 2-3% PE schist frags. weak to mod. FeOx, mod to highly fractured. (375-380) mod. to strong FeOx ⇒ fract zone (385-390) Strong "green" clay gouge zone?				
					370-375							
					395-400							
					420-425							
		tr	10				PE	430-445 PE Qtz. Mica Schist, tan, (430-445) tr. pyrite. "bleached" color, very strongly altered schist, possibley brecciated. Hole TD @ 445' (Prediction: This stuff will assay!)				
					445-450							
					470-475							
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

Contractor: [illegible] Coordinates: [illegible] Project: Exploration Hole No. K90-107 A-107

Drill Type: D40K w/o Aux Air Casing Depth: State: SD Sheet 1 of 3

Hole Size: Bearing: — Inclination: -90° Date Started: 3/10/90 Property: Gilt Edge/Anchor Hill

Collar Elev.: 5605.3 Final Depth: 400' Date Completed: 3/11/90 Hole Surveyed: N/A

Distance (feet)	Graphic Logs: Alteration (Weak, Moderate, Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement) / Type	Assay: Au	Assay: Ag
		Oxide	1	3	0-5		Fill	0-10 Fill, colluvium of Thfp	0-15 Oxide (no visible sulfides)		
			50				Thfp	10-205 Hornblende Trachyte porph.			
		1%		2				m.d. light gray to dark gray,	15-20 Mix, mostly sulfide 1%		
		1-2		1	20-25			w/ some zones appearing "bleached"	f.g. dissm. pyrite.		
								as noted.	20-235 Sulfide, 1-2%		
								(25-45) light "bleaching" of Thfp	pyrite to 205"		
					45-50						
					70-75						
					95-100						
								(115-200) light "bleaching" of Thfp			
					120-125						
					145-150						
					170-175						

DRILL CUTTING LOG

Logged by: S. Rindoffer

Contractor _____ Coordinates _____ Project _____ Hole No. R90-707

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		1-2	50	1	175-180		Thtp					
					195-200							
		tr	30				Edh	205-260 Cambrian Deadwood Hornfels (205-260) tr. pyrite Dark greenish-gray to black.				
					220-225							
				2				mod. strong FeOx ⇒ Fract/Fault zone	235-245 Mix, mostly oxide w/ tr. pyrite			
					1 245-250				245-400 Sulfide (% pyrite As Noted)			
		1%	50				Thtp	260-270 Hornblende Trachyte Porph (260-270) ~1% pyrite As above (10-205)				
		tr-1	30		270-275		Edh	270-390 Cambrian Deadwood Hornfels (270-900) tr-1% f.g. dissm. pyrite traces to several percent Thtp frags As noted.				
								(270-310) 5-7% "bleached" Thtp frags				
					295-300							
								(310-320) "bleaching" of Edh frags?				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-707

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

DISTANCE (feet)	GRAPHIC LOGS: ALTERATION	TOTAL SULFIDES (vol %)	ROCK CODE	ORE CODE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (feet)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
		tr-1	30	1	350-355		Edb					
					370-375							
								(325-330) 2-3% Lamb. Quartzite frags.				
			40				Edg	390-400 Cambrian Deadwood Quartzite,				
		↓	↓		395-400		↓	tan, cream-gray				
								Hole TD @ 400'				
								(Hole called during graveyard shift by sampler/tech as per instructions previous day. No geologist present to observe Edg/tm.)				
					420-425							
					445-450							
					470-475							
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

Contractor: LANG | Coordinates: N46804.62 E24924.74 | Project: EXPANSION | Hole No.: R90-708

Drill Type: D40K w/o AUX AIR | Casing Depth: | State: ISD | Sheet 1 of 3

Hole Size: | Bearing: S60E | Inclination: -70° | Date Started: 3/11/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5506.0 | Final Depth: 425' | Date Completed: 3/11/90 | Hole Surveyed: N/A

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Ag
		tr	1	2	0-5		Fill	0-25 Fill, colluvium of Thfp & Tgfp	0-30 5% fix, mostly oxide, tr. fig. diss. pyrite (0-15) mostly oxide			
					20-25							
			50				Thfp	25-130 Hornblende Trachyte Porph. m.g., orange-brown where oxidized to dark greenish-gray.				
					45-50				(45-70) mostly sulfide, tr. pyrite			
					70-75			(75-90) mod. to strong FeOx & "bleaching" of phenos ⇒ fract zone	(70-90) mostly oxide, tr. pyrite			
					95-100							
					120-125							
				30			cdh	130-135 Deadwood hornfels				
		1%		70			Tbxa	135-175 Breccia, clasts of Deadwood hornfels and hornblende trachyte (Hornfels is bleached)	(135-300 1% pyrite)			
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: S. Pinghoff/J. Groff

Contractor _____ Coordinates _____ Project _____ Hole No. R90-708

Drill Type _____ Casing Depth _____ State _____ Sheet 2 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Ag
		1% pyr	30	2	175-180		Cdh	175-270 Deadwood hornfels, bleached -sheared				
					195-200							
					220-225			(220-235 Some chips highly oxidized)				
					245-250							
			50		270-275		Thtp	270-285 Hornblende trachyte				
			30				Cdh	285-305 Deadwood hornfels				
					295-300							
		3-4%	40	1			Cdq	305-315 Deadwood quartzite	305-315 Sulfide 3-4% pyrite dominantly on fractures -still oxidation on fractures			
		1%	50	2			Thtp	315-340 Hornblende trachyte	315-350 mixed 1% pyrite - oxidation on fractures			
					320-325							
								(335-340) Fragments of chert)				
			10				Pt	340-350 Precambrian Amphibolite				
					345-350							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-108

Drill Type _____ Casing Depth _____ State _____ Sheet 3 of 3

Hole Size _____ Bearing _____ Inclination _____ Date Started _____ Property _____

Collar Elev. _____ Final Depth _____ Date Completed _____ Hole Surveyed _____

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement) / Type	Assay: Au	Ag
			20	3	350-355		Pt chert	350-370 Precambrian chert	350-375 Oxide		
			10		370-375		Pt	370-390 Precambrian Quartz-Mica Schist			
		1%		2					375-390 Mixed, 1% pyrite-Strong oxidation		
								(380-385 numerous chips of chert)			
		Oxide	20	3			Pt chert	390-405 Precambrian Chert	390-425 Oxide		
					395-400						
			10				Pt.	405-425 Precambrian Quartz-Mica Schist			
					420-425						
								425 E.O.H.			
					445-450						
					470-475						
					495-500						
					520-525						

DRILL CUTTING LOG

Logged by: