Contractor: LANG | Coordinates: N47238.65 E25300.32 | Project: EXPANSION | Hole No.: R90-660 (site A-92)

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

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 1/22/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5653.6 | Final Depth: 745' | Date Completed: 1/23/90 | Hole Surveyed: N/A

Distance (feet)	Graphic Logs: Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Inclination Elevation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Ag
		Oxide	1	3	0-5		Fill	0-5 Fill, colluvium of Quartz Trachyte	0-680 Oxide			
			85				Tqtp	5-680 Quartz Trachyte Porph.	(no visible sulfides)			
								slig., orange-brown stains				
								of darker maroon colored FeOx				
					20-25			staining as noted. Traces				
								of strong "bleaching" & alteration				
								of ~1% of phenocrysts.				
					45-50							
						712						
						65-745						
					70-75							
					95-100							
					120-125							
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Contractor _____ Coordinates _____ Project _____ Hole No. R90-660

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 / 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	85	3	175-180		Tqtp					
								(185-310) Stronger maroon colored FeOx staining.				
					195-200							
					220-225							
								(225-230) Tr. pyrite replacing K-spar phenocryst.				
					245-250							
					270-275							
					295-300							
								(310-680) Mottled cream & light brown color. Mafics "bleached".				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-660

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, Veinlets, Replacement)	TYPE	ASSAY	
		Oxide	85	3	350-355		Tgtp					
					370-375							
					395-400							
					420-425							
					445-450							
					470-475			(475-495) Mod. clay (poor sample wash?) Fract Zone? (480-490) 1-2% PE Schist frags.				
					495-500							
					520-525							

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. K90-660

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	Ag
		Oxide	85	0	525-530		Tgtp					
					545-550							
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
		tr	0	1			PE	680-745 PE Quartz Mica Schist (680-745) Sulfide tr. Traces Tgtp frags & PE chert frags. pyrite - very sparse.				
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-C60

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	Ag
		tr	10	1	700-705		PE					
					720-725							
					745-750			Hole TD @ 745'				
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-660

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

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: Weak, Moderate, Strong							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, Veinlet, Replacement)	MINERALIZATION: Type	ASSAY: Au	ASSAY: Ag
								tr	10	1	700-705		PE					
											720-725							
														Hole TD @ 745'				
											745-750							
											770-775							
											795-800							
											820-825							
											845-850							
											870-875							

DRILL CUTTING LOG

Logged by:

Contractor: Lang | Coordinat-- N 47056.31 E 25397.92 | Project: Expansion | Hole No. R90-661

Drill Type: | Casing Depth: | State: | Sheet 1 of 4

Hole Size: | Bearing: | Inclination -90° | Date Started 1/24/90 | Property Gilt Edge / Anchor Hill

Collar Elev. 5584.3' | Final Depth TD 545' | Date Completed 1/24/90 | Hole Surveyed:

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
			1	3	0-5			0-5 Fill	Oxide 0-60			
			50				Th+p	5-180 Hornblende Trachyte Porphyry	Mn oxide on Fractures 5-180			
								5-55 Propylitic alteration (bleached)				
								(35-45 some unaltered hornblende)				
					20-25							
					45-50							
				2					60-65 Mix <1% pyrite			
				3					on Fracture surface			
									65-190 Oxide			
					70-75			70-150 Propylitic alteration (bleached)				
					95-100							
					120-125							
								135-140 white clay				
					145-150							
								165-180 Propylitic alteration (bleached)				
					170-175							

DRILL CUTTING LOG

Logged by: J Groff

Contractor _____ Coordinates _____ Project _____ Hole No. R90-661

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

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, Veinlets, Replacement	MINERALIZATION: TYPE %	ASSAY: Au	ASSAY: Ag
									50	3	175-180		Thtp					
									30				cth	180-355 Deadwood hornfels	(low oxidation)			
														190-200 green clay				
										1					190 - 205, 2% Sulfide pyrite veinlets and disseminations			
											195-200							
														205-220 Qtz veinlets	205-275 pyrite 3% as above (possible arsenopyr 205-215)			
											220-225							
														225-235 Green clay				
															240-265 Fractured, vein filling of pyrite, qtz			
											245-250				250-260 possible arsenopyr			
											270-275			< Some hornblende trachyte, dominant hornfels >	275-280 Oxide			
										3					280-295 Mix, <1% pyr			
										2								
											295-300				295-300 Oxide			
										3					300-315 Mix, <1% pyr			
										2					315-330 Sulfide 2-3% pyrite disseminated & on Fractures			
										1					325-335 Fractured qtz veinlets			
											320-325							
										3					330-335 Oxide			
										2					335-345 Mix, 2% diss pyr			
															(345-350 coarse pyr cubes & veinlets 5% sulfide)			
										1	345-350							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-661

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)	MINERALIZATION: Type / Assay
			30	2	350-355		Coh			
			40	1			Cdq.	355-425 Deadwood quartzite	(355-360) pyr diss. & veinlets ~ 5% sulfide)	
					370-375					
					395-400				(395-420 hvy oxidation on Fractures)	
				3					410-450 Oxide	
					420-425					
			20				PE	425-495 Precambrian Chert		
					445-450					
				2					450-460 Mix, 1% pyr	
				1						
				3					460-495 Oxide	
					470-475					
			10	1	495-500			495-545 Precambrian Amphibolite	495-545 sulfide, 2-4% pyrite, diss & veinlets	
					520-525					

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. AYO-661

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, Veinlets, Replacement)	Type	Assay: Au	Ag
			10	1	525-530		PE					
								E.O.H TD 545'				
					545-550							
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: J Goff

Contractor: Larry
Drill Type: D40K
Hole Size:
Collar Elev.: 5635.1

Coordinat--N47245.18 E25640.70
Casing Depth:
Bearing: Inclination: -90°
Final Depth: TD 585'

Project: Expansion
State:
Date Started: 1/24/90
Date Completed: 1/25/90

Hole No.: R90-662
Sheet 1 of 4
Property: Gilt Edge / Anchor Hill
Hole Surveyed:

DRILL CUTTING LOG

Logged by:

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	3	0-5		Fill	0-5 Fill	0-35	oxide		
			50				Th+p	5-10 Hornblende trachyte				
			30				Cch	10-25 Deadwood Hornfels				
					20-25							
			50				Th+p	25-250 Hornblende trachyte				
				2				25-110 mod. (propylitic) alteration - bleached hornblende laths	35-520 Mix, ≤1% pyrite			
					45-50							
					70-75				(75-85 2% diss. pyrite)			
								(75-110) decreasing intensity of alteration)				
					95-100							
					120-125							
					145-150				(150-155 3% sulfide, diss + loose pyrite cubes.)			
				1								
				2								
					170-175							

Contractor _____ Coordinates _____ Project _____ Hole No. R 90-662

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

Hole Size _____ Bearing _____ Inclination _____ Date Started 1/25 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
			50	2	175-180		Th+p	Cont. Hornblende trachyte				
					195-200							
					220-225							
					245-250							
			30				Cdh	250 - 310 Deadwood hornfels				
					270-275							
					295-300							
				50				310 - 320 Hornblende trachyte				
				30	320-325			320 - 400 Deadwood hornfels				
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-662

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

Logged by:

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, Veinlet, Replacement) / TYPE	ASSAY Au	ASSAY Ag
			30	2	350-355		Cdh				
								(355-385) Dark brown hornfels)			
					370-375			(370-385) odd texture, qtz intergrowths)			
					395-400						
			50				Thp	400-410 Hornblende trachyte			
							Cdh	410-430 Deadwood hornfels			
					420-425						
			40				Cdq	430-440 Deadwood Quartzite			
			10				PE	440-525 Precambrian Amphibolite			
					445-450						
					470-475						
					495-500						
								(510-520 mix of chert / amphibolite)			
					520-525						

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-662

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, Veinlets, Replacement)	Type	Assay: Au	Ag
			10	1	525-530		Pt	525-585 Pt quartz/mica schist				
					545-550							
					570-575							
								585 E.O.H				
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

Logged by: _____

Contractor: Long | Coordinates: N47702.68 E25764.18 | Project: Expansion | Hole No. R90-663

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 3

Hole Size: | Bearing: | Inclination: -90° | Date Started: 1/25/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5646.9 | Final Depth: 475' | Date Completed: 1/25/90 | 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, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			50	3	0-5		Thtp	0-225 Hornblende trachyte	0-50 Oxide			
								0-95 highly altered - sericitic ? -				
								(15-95 Quartz veins)				
					20-25							
									(40-475 magnetite veinlets and loose)			
				1	45-50							
				2					50-55 Mix 1% pyrite			
				3					55-65 Oxide			
				2					65-140 Mix, 1% pyrite			
					70-75							
					95-100							
								(105-110 Quartz veins)				
					120-125			125-225 varying intensity of alteration				
								(125-130 Quartz veins)				
				3				140-200 Highly altered, sericitic ?	140-145 Oxide			
				2	145-150				145-155 Mix 1% pyr.			
								(150-225 Quart veins)				
				3					155-170 Oxide			
				2	170-175				170-175 Mix 1% pyrite			

DRILL CUTTING LOG

Logged by: J. Graff

Contractor _____ Coordinates _____ Project _____ Hole No. R90-663

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
			50	3	175-180		Thtp	175-180 white clay	175-200 oxide		
					195-200						
				2					200-475 Mix 1% pyrite		
					220-225						
			30				Cdh	225-415 Deadwood hornfels			
					245-250						
								(255-265 Quartz veins)			
				2							
					270-275						
								(285-400 Quartz veins)			
					295-300						
					320-325			(Qtz rims around K Felds phenos & qtz veins through Kfelds phenos in Thtp)			
								(330-335 Frags of Quartz trachyte)			
					345-350			(345-360 Dark brown hornfels)	less magnetite in dark brown Cdh		

Contractor _____ Coordinates _____ Project _____ Hole No. R90-663

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

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: • Weak • Moderate • Strong	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 / Ag
			30	2	350-355		cdh	Cdh Cont		
					370-375				(370 - 400 2% diss. pyrite)	
								(385-390. Few highly silicified Frags one with garnets)		
					395-400			(400-405 some Frags of quartz trachyte)		
			40				Cdq	415-435 Deadwood Quartzite		
					420-425					
			10				pt	435-475, Precambrian Amphibolite		
					445-450				(445-470 Oxide mostly on Fractures, sulfide within Frags)	
					470-475			E.O.H 475'		
					495-500					
					520-525					

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N 47448.04 E 25644.13 | Project: Expansion | Hole No.: RGD-664

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 4

Hole Size: | Bearing: | Inclination: -90° | Date Started: 1/25/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5676.4 | Final Depth: 565' | Date Completed: 1/26/90 | Hole Surveyed:

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structure Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			853		0-5	712	Tq+p	0-435 Quartz trachyte por.	0-535 Oxide			
						0-565		(0-70 sericitic? alteration, phenos, highly altered - rust colored clay)	(0-40 highly oxidized)			
					20-25							
					45-50							
								(60-70 large secondary qtz grains, and adularia? - cleavage)				
					70-75			(70-435 phenos altered to varying degrees)				
								(80-95 large secondary qtz grains and adularia? cleavage)				
					95-100							
								(105-135 minor white clay)				
					120-125							
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: J. Graff

Contractor _____ Coordinates _____ Project _____ Hole No. R90-664

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)	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
			65	3	350-355		Tq+P	Cont. Quartz trachyte				
								(350-355 iron stained clay)	(increased oxidation 355-455)			
									(385-390 extreme oxidation red)			
					370-375							
								(385-390 iron stained clay)				
					395-400							
					420-425							
				30			Cdh	435-450, Deadwood hornfels				
								(435-440 quartz veins)				
					445-450			(445-450 greenish clay)				
				40			Cdq	450-470 Deadwood quartzite				
				20	470-475			470-485 Precambrian chert - micaceous				
				10				485-545 Precambrian amphibolite				
					495-500							
					520-525							

DRILL CUTTING LOG

Contractor: _____ Coordinates _____ Project _____ Hole No. KYO-664

Drill Type _____ Casing Depth _____ State _____ Sheet 4 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, Veinlet, Replacement) / TYPE	ASSAY: Au / Ag
			10	3	525-530		Pt	Cont Precambrian Amphibolite		
				2				(535-545 Chert frags)	535-565 Mix, 1% pyrite	
					545-550			545-565 Precambrian Qtz. mica schist		
								(560-565 chert frags)		
					570-575			E.O.H 565'		
					595-600					
					620-625					
					645-650					
					670-675					
					695-700					

DRILL CUTTING LOG

Logged by:

Contractor: LANG | Coordinates: N47341.76 E25354.43 | Project: EXPANSION | Hole No. R90-665 (Site A-67)

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

Hole Size: | Bearing: – | Inclination: -90° | Date Started: 1/26/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5686.7 | Final Depth: 785' | Date Completed: 1/27/90 | Hole Surveyed: N/A

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Inclination	Down Hole Location: Elevation	Rock Type	Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay
		Oxide	1	3	0-5			Fill	0-5 Fill, colluvium of Quartz Trachyte	0-90 Oxide (No		
			85					Tqtp	5-90 Quartz Trachyte Porphyry,	visible sulfides)		
									m.g. orange-brown, yellowish-brown w/ zones of maroon			
					20-25				FeOx staining as noted.			
									(25-55) Yellowish brown/ "bleached"			
									color. Mod. "bleaching" of phenos.			
									(5-360) Alteration weak to moderate			
									as noted ⇒ mostly fracturing &			
					45-50				"bleaching" of phenos. Definite large			
									structural zone w/ stronger individual			
									zones as noted.			
									(65-125) Stronger maroon colored			
					70-75				FeOx staining.			
		NR	99					NR	90-100 No Return ⇒ Large	90-100 No Return		
		NR	99		95-100			NR	open space / fault-fract. zone.			
		Oxide	85	3					100-740 Quartz Trachyte Porphyry	100-130 Oxide		
									As above (5-90).			
									(115-125) Strong maroon FeOx ⇒			
					120-125				Fract. zone.			
									(125-190) Light to mod. "bleaching"			
		1-2		2					of porphy w/ stronger "bleaching"	130-200 Mix ±2% f.g.		
									of phenos @ (180-190)	MA. Disem & some vnlt.		
										pyrite ≥5% of pyrite re-		
					145-150					placing altered "bleached"		
										phenocrust in porphyry		
						712						
						160-785			(160-170) Stronger maroon FeOx ⇒			
									Fract. zone.			
					170-175							

DRILL CUTTING LOG

Logged by: [illegible]

Contractor _____ Coordinates _____ Project _____ Hole No. P90-6665

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)	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, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		1-2	85	2	175-180		Tgfp					
					195-200				200-210 Oxide, no visible sulfides)			
		Oxide		3				(200-210) Mod. clay alteration. (210-225) mod. "bleached" phenos				
		tr-1		2					210-225 Mix, tr-1% fg. dissm. pyrite			
		Oxide		3	220-225				225-690 Oxide (no visible sulfides)			
					245-250							
					270-275							
					295-300			(300-360) Larger (~1.5-2.5 cm) gray size, fracturing w/ FeOx staining fracts, traces "bleaching" of phenos. Large fract zone?				
					320-325							
					345-350							

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-665

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				
DISTANCE (feet)	ALTERATION: Weak, Moderate, Strong	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 / Cu
		Oxide 85	3		350-355		Tgtp				
								(360-740) smaller (~4-8 mm), more uniform frag size, less FeOx along fracture. Orange-brown overall color. Lightly "bleached" phenos. Moderate black "crusts" & casts of FeOx replacing pyrite cubes. (Bornite??) Less structurally altered than (5-360) overall.			
					370-375						
					395-400						
					420-425						
					445-450						
					470-475			(475-565) weak to mod. clay alteration?			
								(485-490) small fract. zone w/ stronger FeOx along fracts.			
					495-500						
					520-525						

DRILL CUTTING LOG

Coordinates _____ Project _____ Hole No. R90-665

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)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	85	3	525-530		Tqtp					
					545-550							
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
		tr-1	2		695-700			(685-705) Stronger "bleaching". Alteration of phenos. Larger frag size (~.5 to 1.5 cm).	690-700 Mix, tr-1% f.g. chlsson. pyrite			

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. P90-665

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) / Type	Assay: Au	Assay: Ag
		Oxide	85	3	700-705		Tptp		700-740 Oxide, (no visible sulfides)		
					720-725						
		tr	10	1	745-750		PE	740-785 PE Quartz Mica Schist, black w/ traces FeOx & pyrite along schistosity. tr. PE Chert.	740-785 Sulfide, traces oxididation, tr. pyrite		
					770-775						
								Hole TD @ 785'			
					795-800						
					820-825						
					845-850						
					870-875						

DRILL CUTTING LOG

Logged by:

Contractor: LANG | Coordinates: N 41224.00 E 25543.47 | Project: EXPANSION | Hole No.: R90-666 (A-39)

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

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 1/26/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5645.3 | Final Depth: 565' | Date Completed: 1/27/90 | 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 Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	1	3	0-5	712	Fill	0-15 Fill, colluvium of Quartz Trachyte porph.	0-105 Oxide (No visible sulfides)			
			1			0-135						
			30				Cdh	15-25 Cambrian Deadwood Hornfels, traces Tptp & Thtp frags.				
			1		20-25							
			50				Thtp	25-245 Hornblende Trachyte Porphyry, mottled orange-brown & black w/ traces fresh & altered hornblende laths.				
					45-50							
					70-75							
					95-100							
		tr			2				105-200 Mix, mostly oxide, traces f.g. disem pyrite			
					120-125							
					145-150							
		~1%			170-175				170-245 ~1% f.g. disem pyrite			

DRILL CUTTING LOG

Logged by: S. Ringhofer

Contractor _____ Coordinates _____ Project _____ Hole No. R70-666

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, Veinlets, Replacement)	Type	Assay: Au	Ag
		~1%	50	2	175-180		Thtp					
					195-200							
				2				(200-245) greenish-gray (unoxidized) color.	200-245 Sulfide, ~1% f.g. dissm. pyrite, Hornblende mostly unaltered.			
					220-225							
		Oxide	30	2	245-250		Cdh	245-435 Cambrian Deadwood Hornfels, mottled orange-brown & gray-black to cream-brown frags.	245-455? (Oxide, No visible sulfides)			
					270-275							
					295-300							
					320-325							
					345-350							

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-666

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)	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
		Oxide	30	3	350-355		Cdh					
					370-375							
					395-400							
								415-435 Thtp MRZ 1-18-95				
					420-425			(425-435) 10-15% Thtp frags ?				
			40				Cdq	435-455 Cambrian Deadwood Quartzite, cream colored w/ orange-brown FeOx staining.				
					445-450							
		tr	10	1			PE	455-565 PE Quartz Mica Schist (looks somewhat like amphibolite?) (445-465) PE Paleosole? Traces PE chert frags	455-500 Sulfide, tr. pyrite (very sparse & fig.)			
					470-475							
								455-465 Tqtp MRZ 1-18-95				
					495-500							
		Oxide	3					(500-505) Strong FeOx ⇒ Fract Zone	500-505 Oxide, lng visible sulfide, Abund. FeOx			
		tr	1									
					570-575							

DRILL CUTTING LOG

Contractor: _____ Coordinates: _____ Project: _____ Hole No. D 70-666

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, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Fr	10	1	525-530		PE					
					545-550							
		↓	↓	↓			↓	Hole TD @ 565'				
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

Contractor: Long | Coordinates: N47394.23 E25566.96 | Project: Exploration | Hole No.: R90-667

Drill Type: 140K | Casing Depth: | State: | Sheet 1 of 4

Hole Size: | Bearing: | Inclination: -90° | Date Started: 1/26/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5683.5 | Final Depth: 625' | Date Completed: 1/27/90 | Hole Surveyed:

DRILL CUTTING LOG

Logged by: Jeff

Distance (feet)	Alteration (Weak / Strong)	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structural Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Tag
			95	3	0-5	712	Tqtp	0-515 Quartz trachyte porphyry	0-535 Oxide			
						0-625		0-110 slight bleaching, weak alteration of phenocrysts				
					20-25							
					45-50							
									(60-65 increased oxidation)			
					70-75							
					95-100							
								110-515 variable alteration, some clay after phenocrysts				
					120-125							
					145-150							
					170-175							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-667

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, 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
			185	3	175-180		Tqtp	cont Quartz trachyte	cont. Oxide			
					195-200							
					220-225							
					245-250							
					270-275							
					295-300							
					320-325							
					345-350							

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-667

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

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, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			35	3	350-355		Iqtp	Cont Quartz trachyte	Cont. oxid			
								(365-370 loose adularia (cleavage)				
					370-375							
									(390-410 highly oxidized-bright red)			
					395-400							
					420-425							
					445-450							
								(460-465 Minor clay)				
									(465-470 increased oxidation)			
					470-475							
									(485-495 moderate increase in oxidation)			
					495-500							
									(500-505 green-blue secondary copper mineral-chrysocolla ?)			
				10				515-535 Precambrian Amphibolite				
					520-525							

DRILL CUTTING LOG

Contractor: _____ Coordinates _____ Project _____ Hole No. R90-667

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	3	525-530		PE					
				2					535-625 Mix, 1% pyrite			
			20					535-565 Precambrian chert with fragments of quartz trachyte, some with quartz veins				
					545-550							
			10					565-570 Precambrian Qtz/Mica Schist (some chert fragments)				
					570-575							
					595-600							
					620-625			625 E.O.H				
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

Contractor: Long | Coordinates: N47186.40 E25067.61 | Project: Expansion | Hole No.: R90-668

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 5

Hole Size: | Bearing: | Inclination: -90° | Date Started: 1/27/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5640.1 | Final Depth: 795' | Date Completed: 1/28/90 | Hole Surveyed:

Distance (feet)	Graphic Logs: Alteration (Weak / Moderate / 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, Veinlet, Replacement)	Type	Assay
			85	3	0-5		Tqtp	0-795 Quartz Trachyte por. (0-795 variable alteration, bleached to minor clay after phenocrysts	0-390 Oxide		
					20-25						
					45-50			(55-60 loose adularia, cleavage)			
					70-75						
					95-100						
					120-125						
					145-150						
					170-175						

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-668

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	GEOLOGIC NOTES: ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION Massive, Disseminated, Veining, Replacement	TYPE	SIZE	ASSAY Au	Ag
			95	3	175-180		Tstp	Cont Quartz trachyte	Cont oxide				
					195-200								
					220-225								
					245-250								
					270-275								
					295-300								
					320-325								
					345-350								

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-1668

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

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, Fracture Fill)	TYPE	ASSAY Au	ASSAY Ag
			85	3	350-355		Tqtp	Cont Quartz Trachyte	Cont oxide			
					370-375							
				2					390-405 Mix 1% pyrite			
					395-400							
				3					405-475 Oxide			
					420-425							
					445-450			(445-470 precambrian Qtz/Mica Schist and amphibolite fragments) (460-465 large grains of loose secondary quartz)				
					470-475			(470-545 very little alteration)	470-545 Mix 1% pyrite			
					495-500							
					520-525							

BALL CUTTING LOG

Contractor: _____ Coordinates: _____ Project: _____ Hole No. K90-668

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)	Structure	Roughness	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			95		525-530			Ratp	Cont Quartz trachyte por				
										(535-545 increase oxidation)			
				3	545-550				(545-795' variable alteration, minor clay after phenos and bleaching)	545-560 Oxide			
				2						560-795 Mix 1% pyrite			
					570-575								
					595-600								
					620-625								
					645-650-712 650-795								
					670-675								
					695-700								

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-628

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

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, Veinlet, Replacement) / TYPE	ASSAY: Au / Ag
			185	2	700-705		Tatp	Cont Quartz Trachyte	Cont. Mixed	
					720-725					
					745-750					
					770-775					
									(780-785. increased oxidation)	
								E.O.H 795-		
					795-800					
					820-825					
					845-850					
					870-875					

DRILL CUTTING LOG

Logged by:

Contractor: Long
Drill Type: D40K
Hole Size:
Collar Elev.: 5550.1

Coordinates: N41217.87 E24750.13
Casing Depth:
Bearing: Inclination: -90°
Final Depth: 605'

Project: Expansion
State:
Date Started: 1/28/90
Date Completed: 1/29/90

Hole No.: R90-669 (Site A-65)
Sheet 1 of 4
Property: Gilt Edge / Anchor Hill
Hole Surveyed:

GRAPHIC LOGS: 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	Ag
			1	3	0-5		Fill	0-20 Fill, Quartz trachyte, hornfels, hornblende trachyte	0-45	Oxide		
			50		20-25		Thtp	20-145 Hornblende trachyte, most hornblende laths relatively unaltered				
				2	45-50			(45-50 highly altered - bleached and iron stained)	45-75	Mix, 1% pyrite		
				3	70-75				75-145	Oxide		
					95-100							
					120-125							
			85	2	145-150		Tqtp	145-195 Quartz trachyte	145-155	Mix 1% pyrite		
				3				(155-200, intense alteration, bleaching)	155-185	Oxide		
					170-175				170-185	extreme oxidation - red		

DRILL CUTTING LOG

Logged by:

PAGE

Contractor _____ Coordinates _____ Project _____ Hole No. R90-669

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, Veinlet, Replacement)	Mineralization: Type & Size	Assay
			85	1	175-180						
				2					185-190	Mix, 1% pyrite	
				3					190-295	Oxide	
			30		195-200		Cdh	195-285 Deadwood hornfels			
					220-225						
					245-250			(245-265, Fragments of quartz trachyte, bleaching & abundant white clay)			
					270-275			(280-285, fragments of quartz trachyte, bleaching & abundant white clay)			
				50			Thtp	285-300 Hornblende trachyte			
					295-300			(285-295, hornblende laths bleached and oxidized)	295-325 Mix, 1% pyrite		
				30			Cdh	300-320 Deadwood hornfels			
				50	320-325		Thtp	320-480 Hornblende trachyte			
					1			(325-390 highly altered, bleached)	325-400 Oxide		
					345-350						

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-669

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)	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
			50	3	350-355	712	Thxp	Cont Hornblende trachyte				
						350-605						
					370-375							
					395-400							
					2				400-425 Mix, 1% pyrite (415-425, 2-3% pyrite - disseminated and veinlets)			
					420-425							
					3				425-455 Oxide			
								(430-450 moderate to strong bleaching)				
					445-450							
									455-485 Mix, 1% pyrite			
					2							
					470-475							
				30			Cdh	480-485 Deadwood hornfels				
				40	3		Cdq	485-495 Deadwood Quartzite	485-515 Oxide			
				10	495-500		PC	495-525 Precambrian Amphibolite				
									515-525 Mix, 1% pyrite			
					2							
					520-525							

DRILL CUTTING LOG

Logged by:

Contractor: _____ Coordinates: _____ Project: _____ Hole No. R90-669

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, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
			20	3	525-530		PC	525-555 Precambrian chert	525-605	Oxide		
					545-550							
			10					555-565 Precambrian Amphibolite				
			20					565-575 Precambrian chert				
					570-575							
			10					575-590 Precambrian Amphibolite				
			20					590-605 Precambrian chert				
					595-600							
								E.O.H 605'				
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

Contractor: Long | Coordinates: N47402.98 E24841.59 | Project: Expansion | Hole No.: R90-670 / Site A-64

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 4

Hole Size: | Bearing: | Inclination: -90° | Date Started: 1/30/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5567.9' | Final Depth: 545' | 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	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			1	3	0-5		Fill	0-20 Fill, hornfels, clay, hornblende trachyte	0-20 Oxide			
			50	2	20-25		Thtp	20-215. Hornblende trachyte (20-150, very little alteration)	20-365 mix, 1-2% pyrite			
					45-50							
					70-75							
					95-100							
					120-125							
					145-150			(150-215, hornblende laths are bleached)				
					170-175							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-670

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, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
			50	2	175-180				Cont Mixed			
					195-200							
			30				Coh	215-285 Deadwood hornfels				
					220-225							
					245-250							
					270-275							
			50				Intp	285-520 Hornblende trachyte				
					295-300							
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-670

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	Ag
			502	2	350-355		Thtp		Cont Mixed			
				1				(365-370, highly altered, bleached)	(365-370 2-3% pyrite diss and veinlets)			
				2	370-375							
				1				(375-380, highly altered, bleached)	(375-380 2-3% pyrite diss and veinlets)			
				2								
					395-400							
				1				(415-425 highly altered, bleached)	(415-425, 2-3% pyrite disseminated and veinlets)			
					420-425							
				2								
				1	445-450			(445-460 highly altered, bleached)	(445-460, 2-3% pyrite disseminated and veinlets)			
				2								
					470-475			(475-510 highly altered, bleached)	(475-510, 2-3% pyrite disseminated and veinlets)			
				1								
					495-500							
				2								
				3a	520-525		Cth	(520-525 [illegible])				

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R40-610

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
					525-530				Cont. Mixed			
			60	2			Thtp	530-545 Hornblende trachye				
					545-550			545 - E.O.H				
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N47451.15 E25315.82 | Project: Expansion | Hole No.: E90-671 (Site A-50)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 5

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/5/90 | Property: Gilt Edge / Anchorite Hill

Collar Elev.: 5683.7 | Final Depth: 800' | Date Completed: 2/6/90 | Hole Surveyed: Yes

Distance (feet)	Graphic Logs: Alteration (Weak, Moderate, 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, Veinlets, Replacement)	Type	Assay: Au	Ag
			50	3	0-5		Intp	0-300 Hornblende trachyte	0-230 Oxide			
								(0-20 relatively unaltered)	(5-495 loose magnetite - some veinlets			
								(15-20 minor quartz veining)				
					20-25			(20-150 increased alteration - bleaching of groundmass and hornblende laths)				
									(35-45 intense oxidation			
					45-50							
					70-75							
					95-100							
					120-125							
					145-150			(150-185 " " less alteration - some bleaching of hornblende laths)				
					170-175							

DRILL CUTTING LOG

Logged by: Groff

Contractor _____ Coordinates _____ Project _____ Hole No. R90-671

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
			50	3	175-180		Th+p					
								(185-235, increased alteration - bleaching of groundmass and hornblende laths)				
					195-200							
					220-225				(230-500 mixed, 1-2% disseminated pyrite			
				2				(235-300, minor alteration - mostly oxidation)				
					245-250							
					270-275				(275-290 increased oxidation on fractures)			
					295-300							
				30			Cdh	300-320 Deadwood hornfels				
				50	320-325		Th+p	320-355 Hornblende trachyte				
									(325-355 Increased oxidation)			
					345-350							

DRILL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-671

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

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

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

DRILL CUTTING LOG

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, Veining, Replacement) / TYPE	ASSAY Au / Ag
			150	2	350-355					
			30				Cdh	355-455 Deadwood hornfels	(355-415, minor pyrite and little oxidation in hornfels	
					370-375			(370-375, minor quartz veining)		
					395-400					
					420-425					
					445-450					
				50			Th+p	455-465 Hornblende trachyte		
				30			Cdh	465-495 Deadwood hornfels		
					470-475					
								(490-500 some hornblende trachyte frags)		
				85	495-500		Tq+p	495-795 Quartz trachyte		
					3			(500-795 phenocrysts are altered - some to clay, groundmass is relatively unaltered)	500-555 oxide	
					520-525					

Contractor _____ Coordinates _____ Project _____ Hole No. R90-671

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 (1 Weak, 2 Moderate, 3 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
			85	3	525-530		Tqtp	Cont Quartz trachyte	(530-555 increased oxidation)		
					550-555	712					
				2		555-800			555-595 Mixed, ≤1% pyrite		
					570-575						
									(575-580 increased oxidation)		
				3					595-605 Oxide		
					600-605				(595-600 str oxidation - red)		
									605-615 Mixed, 1% pyrite		
									615-705 Oxide		
					620-625						
					650-655						
					670-675						
					700-705						

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-671

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

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 (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
			85	3	700-705		Tqtp	Cont. Quartz trachyte				
									705-720 Mixed, ≤1% pyrite-very fine disseminations)			
				2								
				3	720-725				720-795 oxide			
					745-750							
					770-775							
			10		795-800		PE	795-800 Precambrian Amphibolite 800' E.O.H	795-800 Mixed 1% pyrite			
					820-825							
					845-850							
					870-875							

Contractor: Larry | Coordinates: N7154.49 E24851.50 | Project: Expansion | Hole No. R90-672 (Site A-63)

Drill Type: A40K | Casing Depth: | State: | Sheet 1 of 3

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/6/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5569.1 | Final Depth: 535' | Date Completed: 2/7/90 | 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, Veinlets, Replacement)	Type	Assay: Au	Ag
			85	3	0-5		Tqtp	0-535 Quartz trachyte (0-535 variable alteration, generally little but some clay after phenocrysts)	0-125 Oxide			
					20-25							
					45-50							
					70-75							
					95-100							
					120-125				125-155 Mixed, ≤ 1% pyrite			
					2							
					145-150				155-200 Oxide			
					3							
					170-175							

DRILL CUTTING LOG

Logged by: Groff

Contractor _____ Coordinates _____ Project _____ Hole No. R90-672

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: Alteration	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution, Massive, Disseminated, Veinlet, Replacement	Mineralization: Type	Assay: Au	Assay: Ag
			45	2	175-180			Tqtp	Cont. Quartz trachyte				
					195-200								
				2						200-325 Mixed, 1% pyrite			
									(210-215 large variation in chip size)				
					220-225								
									(240-245 large variation in chip size)				
					245-250								
									(255-315 generally very little alteration)				
					270-275								
					295-300								
						712							
						305-535							
										(315-335 increased oxidation)			
					320-325					(325-535 2-4% diss. pyrite)			
					1								
					345-350								

Logged by: PNL CUTTING LOG

Contractor _____ Coordinates _____ Project _____ Hole No. R90-672

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	GEOLOGIC NOTES: ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veining, Replacement)	TYPE	ASSAY: Au	Ag
			85	2	350-355		Tqtp	Cont Quartz trachyte				
					370-375							
					400-405							
					420-425							
					450-455							
					470-475							
					500-505							
					520-525			(520-530 · fragments of Precambrian schist and hornblende trachyte)				

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N46945.57 E25217.86 | Project: Expansion | Hole No.: R90-673 (Site A-71)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 3

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/7/90 | Property: Gilt Edge (Anchor Hill)

Collar Elev.: 5533.2 | Final Depth: 385' | Date Completed: 2/7/90 | Hole Surveyed: No

DRILL CUTTING LOG

Logged by: Graff

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structure Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution, Massive, Disseminated, Veinlet, Replacement	Mineralization: Type	Assay: Au	Assay: Ag
			1	3	0-5	712	Fill	0-10 Fill of hornblende trachyte and quartz trachyte	0-70 oxide			
			1			0-225						
			50				Thtp	10-155 Hornblende trachyte				
					20-25							
								(25-65 highly altered, bleaching of groundmass and hornblende laths)				
					45-50							
				2	70-75				70-75 mixed, 1% pyrite			
				3				(75-85 highly altered, bleaching of groundmass and hornblende laths)	75-85 oxide			
				2					85-110 mixed 1% pyrite			
					95-100							
								(110-125 increased alteration, bleaching)				
				3					110-125 oxide (115-130 loose magnetite)			
					120-125							
				2				(130- highly altered, bleaching and clay from 135-140)	125-135 mixed, 1% pyrite			
				3								
									135-160 oxide			
					145-150							
				30			Coh	155-315 Deadwood hornfels				
				2					160-235 mixed, 1% pyrite (165-190 loose magnetite)			
					170-175							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-673

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 (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)	Mineralization: Type	Assay: Au	Assay: Ag
			30	2	175-180		Coh	Lent Deadwood hornfels				
					195-200							
					220-225	705			(220-225 loose magnetite)			
						225-270						
								(230-240, strong bleaching)				
				3					225-240 Oxide			
				2					240-365 Mixed 1% pyrite			
					245-250							
					270-275							
									(275-285 loose magnetite)			
								(285-290, moderate bleaching)				
					295-300							
									(300-315 Loose magnetite)			
				40				315-335 Deadwood quartzite				
					320-325							
				10				335-380 Precambrian Amphibolite				
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-673

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

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, Veining, Replacement) / TYPE	ASSAY: Au / Ag
					350-355				(350-355 loose magnetite)	
									365-385 Oxide	
				3						
				1	370-375					
			20				Pt chert	380-385 Precambrian Chert 385 - E.O.H	380-385, highly fractured-watered out	

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N47095.91 E25174.03 | Project: Expansion | Hole No. R90-674 (Site A-74)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 5

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 2/7/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5596.6 | Final Depth: 725' | Date Completed: 2/8/90 | 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 Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	95	3	0-5	712 0-725	Tq-p	0-545 Quartz trachyte (generally altered, white clay after phenocrysts)	0-725 Oxide (0-225 pervasive iron staining)			
					20-25							
					45-50							
								(60-65 clay rich, iron stained)				
					70-75			(75- small amounts of white clay after phenocrysts)				
					95-100							
					120-125			(125-130 large variation in chip size)				
								(140-150 large variation in chip size)				
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: T. Graff, S. Ringlestter

Contractor _____ Coordinates _____ Project _____ Hole No. R90-674

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: Croft

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
		Oxide	85	3	175-180		Tqtp	Cont Quartz trachyte				
					200-205							
								(215-220 fragments of horst's)				
					220-225							
					250-255							
					270-275							
					300-305							
					320-325							
								(345-355 large variation in chip size)				

Contractor _____ Coordinates _____ Project _____ Hole No. R90-674

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 (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, TEXTURE, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
		Oxide	85	3	350-355		Tqtp	Cont. Quartz trachyte				
									(360 - 410 increased oxidation - pink to red)			
					370-375							
					395-400							
					420-425							
					445-450				(455-545 increased oxidation - pink to red)			
					470-475							
					495-500							

DRILL CUTTING LOG

Logged by:

Project _____ Hole No. RZ0-614

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
		Oxide	85		525-530		Tqfp					
			20		545-550		ThxA	545-570 Clast Supported Breccia of Quartz Trachyte Porph, PE Schist & traces Cambr. Deadwood Hornfels?				
			40		570-575		Cdq	570-620 Cambrian Deadwood Quartzite i.e., gray & "dirty" cream colored (570-585) (585-620) Dirty cream color w/ mod. FeOx along fracts 570-630 Pre E Chert MRZ 1-18-95				
					595-600							
			10		620-625		PE	620-680 PE Qtz. Mica Schist black w/ minor FeOx				
					645-650							
					670-675							
			20				PE Chert	680-690, PE Chert cream & orange-brown FeOx stained,				
			10					690-725 PE Qtz Mica Schist (690-695) Strong FeOx As Above (620-680). Traces PE Chert & talc trace				
					695-700							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. K90-674

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	GEOLOGIC NOTES: ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY Au	ASSAY Ag
		Oxide	10	3	700-705		PE					
		↓	↓	↓	720-725		↓	Hole TD @ 725'				
					745-750							
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor: LANG | Coordinates: N47050.54 E24993.33 | Project: EXPANSION | Hole No: R90-675 (Gilt A-73)

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

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 2/8/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5575.7 | Final Depth: 760' | Date Completed: 2/9/90 | Hole Surveyed: Yes-DTH

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	Mineralization	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		Oxide	85	13	0-5			Tatp	0-760 Quartz Trachyte Porphyry m.g. orange-brown & cream colored w/ stronger zone of maroon colored FeOx as noted. (0-115) mod. "bleaching" of phenocrysts & matrix where no FeOx staining	0-315 Oxide			
					20-25								
					45-50				(45-60) Stronger maroon FeOx ⇒ Fract zone				
									(65-80) Yellowish-orange staining ⇒ Jarosite?				
					70-75								
					95-100				(95-125) Stronger maroon FeOx ⇒ Fract zone				
					120-125				(125-150) Yellow-orange staining as above (65-80).				
					145-150								
					170-175				(170-185) Traces PE Schist frags				

DRILL CUTTING LOG

Logged by: S. Ringlestter

Coordinates _____ Project _____ Hole No. R90-675

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, Veinlet, Replacement)	Type	Assay: Au	Assay: Ag
		Oxide	185	3	175-180		Tgtp					
								(185-200) Mod. "Bleaching"				
					195-200							
					220-225							
								(225-310) Traces clay.				
					245-250							
					270-275							
					295-300							
								(310-320) Mod. brecciation of frags?				
								(315-445) tr-1% PE Schist frags				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-675

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 (Weak / Moderate / Strong)	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
		Oxide	85	3	350-355			Tdtp	(355-370) stronger maroon FeOx staining ⇒ FRACT ZONE				
					370-375								
		tr-1		2			712			375-390 Mix. tr-1%			
							380-760			f.g. dissm. pyrite w/ some FeOx			
		1-2		1						390-515 Sulfide. 1-2%			
					395-400					pyrite as above, w/ tr-1% oxidized frags.			
					420-425								
					445-450								
									(455-515) from "leaching" of matrix & phenos, some loss of porphyritic texture. (Potassic alteration?)				
					470-475				(465-470) 1-2% FeOx ⇒ FRACT ZONE.				
					495-500								
		tr-1		2						515-530 Mix. tr-1% pyrite			
					520-525								

DRILL CUTTING LOG

Logged by:

Project _____ Hole No. R70-613

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

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 (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		Tptp					
		Oxide		3					530-550 Oxide (no visible sulfides)			
					545-550							
		tr-1		2					550-570 Mix, tr-1% pyrite			
		1-2		1	570-575				570-590 Sulfide, 1-2% pyrite			
		tr-1		2					590-605 Mix, tr-1% pyrite			
					595-600							
		Oxide		3				(605-625) Strong FeOx => Fract zone	605-625 Oxide			
					620-625							
		tr-1		2					625-640 Mix,			
		1-2		1				(635-675) Mod. "bleaching" of phenocrysts.	640-665 Sulfide, 1-2% pyrite			
					645-650							
		tr-1		2					665-690 Mix, tr-1% pyrite			
					670-675							
		Oxide		3					690-740 Oxide			
					695-700							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-675

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, Veinlets, Replacement)	Type	Assay: Au	Ag
		Oxide	85	3	700-705		Tgfp					
					720-725							
		tr		2				(735-790) Strong Maroon FeOx ⟹ fract zone)	740-760 Mix, tr pyrite			
					745-750							
								Hole TD @ 760 (sump overflowing)				
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor LANG | Coordinates N47551.47 E25673.10 | Project EXPANSION | Hole No. R90-676 (site 80)

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

Hole Size | Bearing — | Inclination -90 | Date Started 2/9/90 | Property Gilt Edge/Anchor Hill

Collar Elev. 5680.7 | Final Depth 605' | Date Completed 2/10/90 | Hole Surveyed N/A

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure Elevation	Rock Type	Description: Mineralogy, Alteration, Texture, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veining, Replacement) / Type	Assay: Au	Assay: Ag
		Oxide	1	3	0-5	712 0-605	Fill	0-15 Fill, colluvium of Qtz. Trachyte porph.	0-535 Oxide fmo visible sulfides		
			96		20-25		Tqtp	15-90 Quartz Trachyte Porphyry. mg., orange-tan color. Light purpleish FeOx (20-30)			
					45-50						
					70-75						
			50		95-100		Thtp	90-245 Hornblende Trachyte Porphyry. mg., mottled orange-brown, tan & gray. Abund. "bleached" & weathered hornblende phenos.			
					120-125						
					145-150						

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Coordinates _____ Project _____ Hole No. RS90-G76

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, Veining, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
		Oxide	50	3	175-180		Thtp					
					195-200							
					220-225							
				30	245-250		Cdh	245-325 Cambrian Deadwood Hornfels, greenish tan, dark gray & dark cream colored. Traces very small qtz. veins.				
					270-275							
					295-300							
					320-325							
				85			Tqtp	325-380 Quartz Trachyte Porphyry, As above (15-90)				
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. B90-676

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	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlet, Replacement)	Type	Assay: Au	Ag
		Oxide	25	3	350-355		Tglp					
					370-375							
			30				Cdh	380-415 Camb. Deadwood Hornfels As Above (295-325)				
					395-400							
			50				Thtp	415-425 Hornblende Trachyte Porph. As Above (90-245)				
			50		420-425							
			30				Cdh	425-435 Camb. Deadwood Hornfels As Above (280-415)				
			30									
			40				Cdq	435-475 Cambrian Deadwood Quartzite dirty, pkg., orange-brown FeOx stained.				
					445-450							
					470-475							
			10				P€	475-520 P€ Qtz Mica Schist. black w/ FeOx staining. (500-520) 2-3% P€ Chert frags.				
					495-500							
				20	520-525		P€ Chert	520-530 P€ Chert, 3-5% schist frags				

Logged by:

Project _____ 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
		Oxide	20	3	525-530		PE Chert				
		)	10	1			PE	535-545 PE Qtz Mica Schist,			
		tr-1		2				1-2% Chert & Thtp frags.	535-605 Mix. tr-1%		
		1-2	50				Thtp	545-580 Hornblende Trachyte	f.g. disem. & vnlt. pyrite.		
					545-550			porph., m.g. mottled orange-	weak to mod. FeOx.		
								brown & cream & gray, very	(540-580) 1-2% f.g. to m.g.		
								sparse traces of weathered &	disem. pyrite mod FeOx.		
								unweathered hornblende phenos.			
					570-575						
									(580-605) tr pyrite, minor		
		tr	10				PE	580-605 PE Qtz Mica Schist.	FeOx along fracs.		
								(could be Amphibolite ??)			
					595-600						
								Hole TD @ 605'			
					620-625						
					645-650						
					670-675						
					695-700						

DRILL CUTTING LOG

Logged by: [illegible]

Contractor: Cruz | Coordinates: N46807.46 E25202.88 | Project: Expansion | Hole No.: R90-677 (site A-52)

Drill Type: D90K w/o Aux Air | Casing Depth: | State: SD | Sheet 1 of 3

Hole Size: | Bearing: – | Inclination: -90° | Date Started: 2/9/90 | Property: Gilt Edge / Anchor Hill

Collar Elev.: 5500.3 | Final Depth: 385' | Date Completed: 2/10/90 | 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 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	710	Fill	0-20 Fill, colluvium of Tqtp.	0-50 Oxide (no visible sulfides)			
						0-220						
			85		20-25		Tqtp	20-100 Quartz Trachyte porphyry. Mg. orange-brown & cream colored, FeOx stained				
					45-50							
		tr-1		2					50-105 Mix. tr-1% f.g. to mg. disem. pyrite			
					70-75							
					95-100							
				30			Cdh	100-225 Cambrian Deadwood Hornfels. Greenish-cream & gray.				
		tr		1					105-175 Sulfide, tr, pyrite			
					120-125							
					145-150							
					170-175							

DRILL CUTTING LOG

Logged by: S. Rinehart

Project _____ Hole No. R90-677

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	Assay: Ag
		tr-1	30	4	175-180		Cdh		175-210 Mix, tr.-1% pyrite w/ minor FeOx along fracts		
					195-200						
		2-4%		1					210-385 Sulfide 2-4% pyrite veinlets and small aggregates		
			50		220-225		Thp	225-270 Hornblende trachyte			
					245-250						
		10-15%	40		270-275		Cdq	(265-270 highly altered) altered 270-290 Deadwood quartzite	(270-290 10-15% pyrite - veinlets, heavy dissemination and aggregates)		
		2-4%	10		295-300		Pt	290-385 Precambrian Amphibolite (295-385 variable amounts of interbedded chert fragments - chert is mineralized in places as Amphibolite)			
					320-325						
					345-350			350-385, altered, greenish hue - possibly lower contact)			

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-677

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)	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
		2-4%	10	4	350-355		PE	Cor- [illegible]				
					370-375							
								385' E.O.H				
					395-400							
					420-425							
					445-450							
					470-475							
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

DRILL CUTTING LOG

Contractor: Long
Drill Type: 440 K
Hole Size:
Collar Elev.: 5658.4

Coordinat-- N47268.43 E25481.80
Casing Depth:
Bearing: Inclination: -70°
Final Depth: 745'

Project: Expansion
State:
Date Started: 2/10/90
Date Completed: 2/11/90

Hole No.: R90-678 (Site A-75)
Sheet 1 of 5
Property: Gilt Edge / Anchor Hill
Hole Surveyed:

Logged by: J. Graff

RJM & SR. 1-16-92

GRAPHIC LOGS: Distance Down Hole	Alteration (Weak / Strong)	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, Veining, Replacement)	Type	Assay: Au	Ag
			85	3	0-5	712	Tqtp	0-745 Quartz trachyte, generally oxidized to pink or reddish hue and altered. Groundmass is bleached and sometimes pitted, difficult to distinguish phenocrysts. Chip size is generally variable throughout. Oxidation decreases below 600 ft.	0-745 Oxide zones of intense oxidation - brick red.			
					20-25	0-360						
					45-50				(10-45, intense oxidation)			
									(55-60, intense oxidation)			
					70-75							
					95-100				(90-100 intense oxidation)			
					120-125				(115-125 intense oxidation)			
					145-150				(140-195 intense oxidation)			
					170-175							

Project _____ Hole No. R90-678

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, Veining, Replacement)	TYPE	ASSAY Au	ASSAY Ag
			95	3	175-180		Tqtp	Lun - Quartz trachyte				
					195-200				(200-335 intense oxidation)			
					220-225							
					245-250							
					270-275							
								(290-295 vugs after phenocrysts)	(290-300 extreme oxidation - entire interval is brick red)			
					295-300							
								(310-315 vugs after phenocrysts)				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-678 530

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 (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	3	350-355		Tqtp					
								(360-395 highly altered, vuggy)				
					370-375							
			70				~~Tbx~~	~~375-395 Breccia, [illegible]~~	(380-410 intense oxidation)			
								~~intense hornfels and quartzite~~				
			85		395-400		Tqtp	395-530 Quartz trachyte				
								(395-405 loose chips of hornfels)				
					420-425							
					445-450							
								(450-455 vugs after phenocrysts)				
								(450-480 random chips of quartzite-hornfels and hornblende trachyte)				
					470-475							
								(485-490 vugs after phenocrysts)				
								(490-495 numerous chips of quartzite and pink-brown Amphibolite)				
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

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	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
					525-530							
			70				~~Tbx~~	~~530-540 Breccia, Quartz veinlets~~				
								includes Pt Amphibolite and chert				
			85				Tqtp	540-565 Quartz trachyte				
					545-550							
			70				~~Tbx~~	~~565-570 Breccia, as above~~				
			95		570-575		Tqtp	570-620 Quartz trachyte				
					595-600							
								(610-620 loose chips of Pt Amphib.)				
				70	620-625		~~Tbx~~	~~620-670 Breccia, as above~~				
								(670-675 Chips up to half an inch across)				
					645-650							
				85	670-675		Tqtp	670-715 Quartz trachyte				
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-678

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, Veinlin, Replacement)	TYPE	ASSAY: Au	Ag
			95		700-705							
			10				PE	715-745 [illegible] Amphibolite				
					720-725							
					745-750			745' E.O.H				
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor: Lang | Coordinates: N47447.79 E25464.75 | Project: Exploration | Hole No.: K90-677 (Site A-76)

Drill Type: D40 K | Casing Depth: | State: | Sheet 1 of 5

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/11/90 | Property: Gold Edge / Anchor Hill

Collar Elev.: 5715.0 | Final Depth: 845' | Date Completed: 2/12/90 | Hole Surveyed: yes

Distance (feet)	Graphic Logs: Alternation (Weak / Strong)	Total Sulfides % (est.%)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	Rotation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay Au	Assay Ag
			453		0-5	712		Tq+p	0-755 Quartz trachyte, variable degrees of oxidation - some highly oxidized zones, generally altered, some bleaching and clay alter phenos. Chip size is generally small but zones with large variations occur. Oxidation and alteration decrease below 225 Ft. (Note: Quartz trachyte is more of a brown to green instead of gray as usual for Anchor except in 10 Ft interval at bottom of hole)	0-755 oxide			
						0-845				(0-20 highly oxidized)			
					20-25								
										(35-45 highly oxidized)			
					45-50								
					70-75								
					95-100								
										(110-195 highly oxidized)			
					120-125								
					145-150								
					170-175								

DRILL CUTTING LOG

Logged by: Goff

Project _____ Hole No. KYO-674

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							
					195-200							
									(210-225 highly oxidized)			
					220-225							
					245-250							
					270-275							
					295-300							
					320-325							
								(340-350 large variation in chip size)				
					345-350							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-679

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 (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, Veinlin, Replacement)	TYPE	ASSAY: Au	ASSAY: Ag
			85	3	350-355		Tuff	Chert (Quartz Arenite)				
					370-375							
					395-400							
					420-425							
								(435-445 large variation in chip size)				
					445-450							
					470-475							
					495-500							
					520-525							

DRILL CUTTING LOG

Logged by:

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, Veinlet, Replacement)	Type	Assay: Au	Ag
			85	3	525-530		Tqtp	Cont Quartz trachyte				
					545-550							
					570-575				(570-575 increased oxidation)			
					595-600							
					620-625				(625-640 increased oxidation)			
					645-650				(645-650 increased oxidation)			
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-679

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
			85	3	700-705		Tqtp	Cont Quartz trachyte (700 - increased alteration - groundmass is pitted / corroded			
					720-725				(725 - 745 increased oxidation)		
								(730 - 755 quartz veining)			
					745-750						
			10	2			PE	755 - 765 Precambrian Amphibolite	755 - 785 Mixed 1-2% pyrite - disseminated and veinlet		
			85		770-775		Tqtp	765 - 780 Quartz trachyte, gray instead of brown - green as in top of hole (very little alteration and oxidation)			
			10	1			PE	780 - 845 Precambrian Amphibolite, some random chips of chert	785 - 825 Sulfide 2-3% disseminated pyrite		
					795-800						
				2	820-825				825 - 845 Mixed, 1-2% pyrite (Chert is preferential oxidized and mineralized over Amphibolite disseminated and veinlet pyrite)		
								845' E.O.H			
					845-850						
					870-875						

DRILL CUTTING LOG

Logged by:

DRILL CUTTING LOG

Contractor: Long
Drill Type: 040K
Hole Size:
Collar Elev.: 5706.5

Coordinates: N47550.95 E25578.36
Casing Depth:
Bearing: Inclination: -90°
Final Depth: 585'

Project: Expansion
State:
Date Started: 2/12/90
Date Completed: 2/13/90

Hole No.: R90-680 (Site A-1)
Sheet 1 of 4
Property: Gilt Edge / Anchor Hill
Hole Surveyed:

Logged by: Groff

Distance (feet)	Alteration	Total Sulfides (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Down Hole Location: Structure 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	0-5	712 0-585	Tqtp	0-460 Quartz trachyte generally light oxidation - pinkish (rusty) zones of intense oxidation. Generally weak alteration of phenocrysts and groundmass; zones of increased alteration - pitted or corroded appearance	0-585 Oxide (0-10 highly oxidized)			
					20-25				(20-80 increased oxidation some chips highly oxidized)			
					45-50							
					70-75							
									(80-100 highly oxidized)			
					95-100							
					120-125							
					145-150							
									(155-165 highly oxidized) (165-180 increased oxidation - some chips highly oxidized)			
					170-175							

Project _____ Hole No. K70-680

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, 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
			85	3	175-180		Tqtp	Cont. Quartz trachyte				
					195-200				(195-230 increased oxidation some chips highly oxidized)			
					220-225							
					245-250							
					270-275			(275-310 altered, pitted or corroded)	(265-315 increased oxidation some chips highly oxidized)			
					295-300							
					320-325				(315-345 extreme oxidation)			
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-680

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												GEOLOGIC NOTES				
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
									85	3	350-355		Tqtp	Cont Quartz trachyte				
														(360 - 375 decreased alteration, some phenocrysts altered to clay)				
											370-375				(370 - 400 increased oxidation)			
											395-400							
															(405 - 410 extreme oxidation)			
											420-425							
															(425 - increased oxidation)			
											445-450							
										30			cdh	460 - 465 Deadwood hornfels				
										40			Cdq	465 - 500 Deadwood Quartzite				
											470-475							
											495-500							
										10			PE	500 - 585 Precambrian Amphibolite				
											520-525							

DRILL CUTTING LOG

Logged by:

Hole No. _____

Drill Type _____ Casing Depth _____ State _____ Sheet 4 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)	MINERALIZATION: TYPE	ASSAY: Au / Ag
			10	3	525-530		PE	Cont Precambrian Amphibolite			
					545-550						
					570-575						
								585 E.O.H			
					595-600						
					620-625						
					645-650						
					670-675						
					695-700						

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N47556.02 E25466.11 | Project: | Hole No. R90-681 (Site A-77)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 4

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/13/90 | Property: Gilt Edge (Anchor Hill)

Collar Elev.: 5699.3 | Final Depth: 565' | Date Completed: 2/13/90 | Hole Surveyed: No

Distance (feet)	Graphic Logs: Alteration (Weak / Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	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	0-250 Hornblende trachyte	0-390 Oxide			
									0-250 altered, bleaching of groundmass and hornblende laths				
					20-25								
					45-50								
					70-75								
					95-100								
					120-125								
					145-150					(145-165 increased oxidation)			
					170-175								

DRILL CUTTING LOG

Logged by:

Project _____ Hole No. KYO-681

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: Structure Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Mineralization: Type	Assay: Au	Assay: Ag
			50	3	175-180							
								(190-200 less alteration - little bleaching)				
					195-200							
					220-225							
						712 235-565						
					245-250				(245-260 increased oxidation)			
			30				Cdh	250-320 Deadwood. horizels				
					270-275							
					295-300							
			50		320-325		Thtp	320-375 Hornblende trachyte - altered, bleached, Fe staining				
					345-350							

GRAPHIC LOGS

GEOLOGIC NOTES

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-681

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 % (est %)	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
					350-355							
					370-375							
			30				Cdh	375-430 Deadwood horntels				
					2				390-420 Mixed. 1% pyrite			
					395-400							
					3 420-425				420-470 Oxide			
			85				Ltp	430-520 Quartz trachyte (generally altered, some clay after phenocrysts and corrosion at chips)	(430-470 highly oxidized)			
					445-450							
					2 470-475				470-480 Mixed. 1% pyrite			
					3				480-515 Oxide			
					495-500							
								(510-520 quartz veining)				
					2				515-565 Mixed 1% pyrite			
					10 520-525		PE	520-565 Precambrian Amphibolite				

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 (Weak / Strong)	Total Sulphides (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
			10	7	525-530		PE	Cont Precambrian Amphibolite				
					545-550							
								565 ft E.O.H				
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N17499.87 E25375.04 | Project: Exploration | Hole No.: R90-682 (Site A-46)

Type: D40K | Casing Depth: | State: | Sheet 1 of 5

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/13/90 | Property: Gilt Edge (Anchor Hill)

Collar Elev.: 5696.6 | Final Depth: 745' | Date Completed: 2/14/90 | Hole Surveyed:

DRILL CUTTING LOG

Logged by: J. Groff

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, Veining, Replacement)	Type	Assay: Au	Ag
			150	3	0-5			Thlp	0-23.5 Hornblende andesitic (5-10 [illegible])	0-10 oxide			
				2					23.5 [illegible] altered andesite, generally fresh hornblende laths and groundmass	10-46.5 mixed + 1-2% pyrite-disseminated and on fractures			
					20-25								
					45-50								
					70-75								
					95-100								
					120-125								
					145-150								
					170-175								

Project _____ Hole No. [illegible]

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, 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
			50	2	175-180			Cont Hornblende trachyte				
					195-200							
					220-225							
			30				cdh	235-335 Hardwood hornfels	(235-290 <1% pyrite			
					245-250							
					270-275							
								(240-245 random clipped hornfels tranyl				
					295-300							
					320-325							
									(335-360 increased oxidational			
			50				Thp	335-375 Hornblende trachyte				
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-682

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 (Weak, Moderate, Strong)	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)	Mineralization: Type	Assay: Au	Assay: Ag
					350-355			Cont Hornblende trachyte				
					370-375							
			30				Cdh	375-470 Deadwood porphyry	(375-465 < 1% pyrite)			
					375-400							
					420-425							
					445-450							
						712 465-745						
				50	1 470-475		Thp	470-480 Hornblende trachyte	(465-475 Sulfide, 2-4% pyrite disseminated and in loose nuggets			
				95	2		Thp	480-745 Quartz trachyte porphyry (480-490 random chips of hornblende trachyte) generally uniform in chip size and little alteration — some clay after phenocrysts, more alteration (bleaching) associated with highly oxidized zones	475-490 Mixed, 1% pyrite (490-515 Oxide (490-515 highly oxidized)			
					3 495-500							
					4				(515-575 Mixed ≤ 1% pyrite)			
					520-525							

DRILL CUTTING LOG

Logged By: _____

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
			85	2	525-530		Tqtp	(cont quartz [illegible])				
					545-550							
					570-575				(575-625 Oxide) (575-625 highly oxidized)			
					595-600							
					620-625				(625-670 Mixed, 1% pyrite)			
					645-650							
					670-675				(670 -715 Sulfide 2-3% diss. pyrite)			
					695-700				(670-695 Some chips highly oxidized)			

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-682

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, Veinlets, Replacement)	TYPE	ASSAY: Au	Ag
			96	1	700-705		Tap	Qtz				
				2					(715-745 Mixed, 1% pyrite) disseminated			
					720-725							
					745-750			745 E.O.H				
					770-775							
					795-800							
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N47314.56 E25223.28 | Project: Exploration | Hole No.: R90-683 (Site A-81)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 5

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/14/90 | Property: Gilt Edge (Anchorhill)

Collar Elev.: 5668.7 | Final Depth: 200' | Date Completed: 2/15/90 | Hole Surveyed: No

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, Veining, Replacement)	Mineralization: Type	Assay Au	Assay Ag
			85	3	0-5		Tqtp	0-115 Quartz trachyte (generally oxidized and well altered - clay after phenocrysts)	0-270 Oxide			
					20-25							
					45-50							
									(60-110 highly oxidized)			
					70-75							
					95-100							
					120-125				(125-130 increased oxidation)			
									(135-145 increased oxidation)			
					145-150							
									(160-220 highly oxidized)			
					170-175							

DRILL CUTTING LOG

Logged by: Groff

Project _____ Hole No. _____

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, 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
			35	3	175-180		Tatp	Qtz- Quartz [illegible]				
					195-200							
					220-225				(220-265 highly oxidized)			
					245-250							
					270-275				(270 - 280 mixed, 1% pyrite)			
									(280 - 355 Oxide)			
					295-300							
					320-325				(320 - [illegible] mixed)			
									[illegible] mixed			
					345-350							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-683

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)	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
					350-355						
				2					(illegible) mixed, 1% pyrite		
				3					(illegible) (oxide)		
						712					
					370-375	370-800					
			3	2			Cbx	375-(illegible) (illegible)	(illegible)-505 mixed (1% pyrite)		
					395-400						
							Trap	(illegible)			
				3	420-425		Cbx	420-(illegible) (illegible)			
								(illegible)			
					445-450						
				5	470-475			470-(illegible) (illegible)			
				3			Cbx	510			
					495-500						
									(illegible)-515 sulfide 2-3% (illegible) and (crust)		
				5				(illegible)-520 thin black carbonate			
									(illegible)-560 (illegible)		
				5	520-525		Trap	520-800 (illegible)			

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, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
			35	2	525-530		Trap	[illegible] Quartz [illegible]				
					545-550							
									(560 - 560 Oxide)			
					570-575							
									(570 - 610 Mixed 10% pyrite)			
									(610 - 620 Oxide)			
					595-600							
					620-625				(620 - 665 Mixed 10% pyrite)			
					645-650				(660 - 665 [illegible] oxidation)			
									(660 - 665 Oxide)			
									(660 - 735 Mixed 10% pyrite)			
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____

Contractor _____ Coordinates _____ Project _____ Hole No. R90-683

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	GEOLOGIC NOTES: ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinlet, Replacement)	TYPE	ASSAY: Au	Ag
			85	2	700-705		Tq p	Quart Quartz [illegible]				
					720-725							
				3					(735-780 oxide)			
					745-750							
					770-775							
				2					(790-700. [illegible] 1% pyrite)			
					795-800			800' E.O.H				
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by:

Contractor: Long | Coordinates: N46795.77 E25284.20 | Project: Expansion | Hole No.: R90-684 (Site A-72)

Drill Type: D40K | Casing Depth: | State: | Sheet 1 of 3

Hole Size: | Bearing: | Inclination: -90° | Date Started: 2/15/90 | Property: Gilt Edge (Anchor Hill)

Collar Elev.: 5492.2 | Final Depth: 465' | Date Completed: 2/16/90 | Hole Surveyed: No

Distance (feet)	Alteration (Weak / Moderate / Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	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	Assay Ag
			5	3	0-5			Fill	0-35 Fill, quartz trachyte	(0-35 Oxide)		
						7.0						
						15-150						
					20-25							
			50	2				Thtp	35-120 Hornblende trachyte (35-45 highly altered, strong bleaching of groundmass/hornblende laths)	(35-45 mixed 1% pyrite)		
				1	45-50					(45-55 Sulfide 2-3% diss and veinlet pyrite)		
				2						(55-250 Mixed 1% pyrite)		
					70-75							
					95-100				(90-120 highly altered, strong bleaching of groundmass/hornblende laths)	(90-120 Strong iron staining of chips)		
				30	120-125			Cdh	120-195 Deadwood hornfels			
					145-150	105						
						150-225						
					170-175							

GEOLOGIC NOTES

DRILL CUTTING LOG

Logged by: (Croft)

Project _____ Hole No. R90-684

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, Veining, Replacement)	Type	Assay: Au	Assay: Ag
				2	175-180							
			50		195-200		Thtp	195-200 Hornblende trachyte				
			30				Cdh	200-245 Deadwood hornfels				
					220-225							
			50		245-250		Thtp	245-265 Hornblende trachyte	(250-295 Sulfide, 2-4% disseminated and loose pyrite)			
			30				Cdh	265-270 Deadwood hornfels				
			40		270-275		Cdq	270-290 Deadwood quartzite				
			10				PE	290-395 Precambrian Amphibolite (random chips of chert throughout)	(295-310 Mixed 1% pyrite)			
					295-300			(310-340) mod "bleaching of schist"				
					320-325							
					345-350							

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. K90-689

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

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	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
					350-355							
					370-375							
				1					(380-390 Sulfide 2-4% disseminated and loose pyrite)			
				2					(390-465 Mixed 1% pyrite)			
			60		395-400		~~P~~	395-405 Tremolite porphyry	(395-405 1-2% pyrite)			
			10				PE	405-465 Porphyritic quartz mica schist				
					420-425							
					445-450							
								465 E.O.H.				
					470-475							
					495-500							
					520-525							

Logged by: _____

Contractor: LANG | Coordinat-- N46994.64 E24780.92 | Project: EXPANSION | Hole No. R90-685 (A29)

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

Hole Size: | Bearing: — | Inclination: -90 | Date Started: 2/16/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5529.4 | Final Depth: 565' | Date Completed: 2/17/90 | Hole Surveyed: N/A

Distance (feet)	Graphic Logs: Alteration (Tr, Strong)	Total Sulfides % (vol %)	Rock Code	Ore Code	Down Hole Location: Distance Down Hole (feet)	Structure	Formation	Rock Type	Geologic Notes: Description (Mineralogy, Alteration, Textures, Grain Size, Fragment Size)	Mineralization: Distribution (Massive, Disseminated, Veinlets, Replacement)	Type	Assay Au	Assay Ag
		Oxide	1	3	0-5	710 0-5		Fill	0-30 Fill, colluvium of Tqtp & Thtp	0-30 Oxid (mostly oxide of Fill)			
					20-25								
		tr	50	2				Thtp	30-155 Hornblende Trachyte porphyry m.g. dark gray to greenish-black w/ black 0.5 to 1mm hornblende laths abund.	30-90 Mix, tr. pyrite w/ minor FeOx 90-465 Sulfide tr. f.g. disseminated pyrite			
				1	45-50								
					70-75								
					95-100								
					120-125								
					145-150								
				3a				Cdh	155-225 Cambrian Deadwood Hornfels dark gray, green, cream & black color.				
					170-175								

DRILL CUTTING LOG

Logged by: S. Ringlestter

Project _____ Hole No. K90-685

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
		tr	30	1	175-180		Cdh					
					195-200							
					220-225							
			50				Thfp	225-265 Hornblende Trachyte Porph. As Above (50-155) 1-3% Cdh. frags!				
					245-250							
			30				Cdh	265-360 Anth. Deadwood Hornfels As Above (155-225)				
					270-275							
					295-300							
					320-325							
								(330-360) Sucrosic texture, traces pyrite veinlets & possible qtz. vn/ts?				
					345-350							

Contractor _____ Coordinates _____ Project _____ Hole No. R90-685

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, Veinlet, Replacement) / TYPE	ASSAY Au / Ag
		tr	30	1	350-355		Edh			
		1-2	50				Thtp	360-425 Hornblende Trachyte Porph. as above (225-265).	(360-425) 1-2% fig. dissm pyrite	
					370-375					
					395-400					
					420-425					
		2-3	40				Edq	425-520 Ambrina Deadwood Quartzite inc. sucrosic overall w/ 5-10% of fragic chert-like.	(425-520) 2-3% fig. dissm & unit. pyrite	
					445-450					
		tr-1	2		470-475			(465-470) 15-20% frags of Thtp w/ some Edh. contamination s/or sm. sill/dike?	465-480 Mix, mostly sulfide. tr-1% fig. dissm. pyrite	
		2-3	1					(470-525) 15-20% of frags chert-like, possible PE chert from (470-525)??	480-565 Sulfide (480-520) 2-3% pyrite	
					495-500					
		tr-1	10		520-525		PE	520-545 PE Qtz. Mica Schist.	(520-565) tr-1% pyrite	

DRILL CUTTING LOG

Logged by:

Drill Type _____ Casing Depth _____ State _____ Sheet 4 of 9

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
		fr-1	40		525-530		PE					
			60		545-550		TP	545-550 Tractolite boulders, pale greenish-cream color 3-7% Pentlands				
			10					550-565 PE Qtz. Mica Schist.				
								Hole TD @ 565'				
					570-575							
					595-600							
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by:

Contractor: CANZ | Coordinates: N47053.34 E25106.58 | Project: Expansion | Hole No.: R90-686 (A-90)

Drill Type: D90K w/o Aux Air | Casing Depth: | State: SD | Sheet 1 of 5

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 2/18/90 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5576.8 | Final Depth: 805' | Date Completed: 2/19/90 | 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: Structure 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	712	Fill	0-5 Fill, colluvium of Tatd.	0-465 Oxide (no visible sulfides)			
			85			0-805	Tatd	5-805 Quartz Trachyte Porphyry. Med. Overall orange-brown color w/ zones of stronger maroon colored FeOx as noted. Frag size generally 2-5mm w/ zones of very coarse frags to ~3cm as noted.				
					20-25							
					45-50							
					70-75			(70-80) mod. "leaching" of g-mass & phenos. (80-155) yellowish-brown color (Jarosite? staining?).				
					95-100							
					120-125							
					145-150							
								(155-200) Stronger maroon FeOx ⇒ fract zone.				
					170-175							

DRILL CUTTING LOG

Logged by: S. Rigby Loffer

Project _____ Hole No. K90-686

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
	Oxide		85	5	175-180		Tgtp					
					195-200							
								(210-215) Stronger maroon FeOx ⇒ fract zone				
					220-225			(225-235) mod. strong maroon FeOx ⇒ fract zone. (~10-20% of chips)				
					245-250							
								(260-265) Stronger maroon FeOx ⇒ fract zone (265-280) mod. "bleaching" of porph.				
					270-275							
								(280-295) mod. strong maroon FeOx ⇒ fract zone.				
					295-300							
								(315-425) Strong maroon FeOx ⇒ large fract/structural zone.				
					320-325							
								(340-380) Yellowish-brown color.				
					345-350			(345-365) 1-2cm chip size ⇒ strong fract. zone (H2O increase)				

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. R90-686

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, Veinlets, Replacement)	Type	Assay: Au	Assay: Ag
		Oxide	25	3	350-355		Tgtp					
								(365-390) 2-3% Fe Amphibolite/schist & Camb. quartzite frags. ⇒ breccia zone or altered xenoliths.				
					370-375							
					395-400							
					420-425							
					445-450							
		tr-1		2	470-475			(465-565) Yellowish-cream & brown color. Jarosite?	465-530 Mix. tr-1% fg. dissm. pyrite			
					495-500							
		tr-2							(510-520) 1-2% fg. dissm. pyrite			
		tr-1			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	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	85	2	525-530		Tatp					
		Oxide		3					530-550 Oxide,			
					545-550							
		tr-1		2					550-565 Mix, tr-1% f.g. dissm. pyrite			
		Oxide		3				(565-580) Strong MAROON FeOx ⇒ fract zone.	565-650 Oxide			
					570-575			(575-605) mod. strong MAROON FeOx ⇒				
					595-600							
								(605-630) 1-3cm frag size ⇒ very strong fract/structural zone.				
					620-625							
					645-650							
		tr-1		2				(655-805) cream-gray color trace -1% oxidized frags. mostly un-altered porphyry. (some light "bleaching")	650-655 Mix, tr-1% f.g. dissm. pyrite			
		1-2		2					655-805 Sulfide, 1-2% f.g. dissm. pyrite			
					670-675			(675-700) 2-5% Camb. Deadwood Quartzite frags ⇒ xenolith or near contact breccia zone?				
					695-700							

DRILL CUTTING LOG

Logged by: [illegible]

Contractor _____ Coordinates _____ Project _____ Hole No. R90-686

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
		1-2	85	1	700-705		Tgtp	(710-715) Tr. PE schist frag.				
					720-725							
					745-750							
					770-775							
					795-800			Hole TD @ 805'				
					820-825							
					845-850							
					870-875							

DRILL CUTTING LOG

Logged by: _____

Contractor: CMC | Coordinates: 76117.31N 24916.14E | Project: EXPANSION | Hole No.: K89-692 (site A-30)

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

Hole Size: | Bearing: — | Inclination: -90° | Date Started: 12/1/89 | Property: Gilt Edge/Anchor Hill

Collar Elev.: 5534.8 | Final Depth: 600' | Date Completed: 12/2/89 | Hole Surveyed: N/A

Distance (feet)	Alteration (Weak, Moderate, Strong)	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, Veinlet, Replacement)	Mineralization Type	Assay Au	Assay Ag
		Oxide	1	3	0-5		Fill	0-15 Fill, colluvium of Quartz Trachyte porph.	0-15 Oxide (No visible sulfides)			
		tr	50	2	20-25		Thtp	15-165 Hornblende Trachyte Porph. Mg. dark greenish-gray w/ black & "bleached"-black Hornblende phenocrysts. 2-5% oxidized frags. mostly unaltered porphyry.	15-45 Mix. tr. pyrite & unox. hornblende laths. Oxidation along surface of frags.			
					45-50				45-165 Sulfide tr. pyrite. Hornblende phenos unaltered. (45-240) tr. pyrite.			
					70-75							
					95-100							
					120-125							
					145-150							
				30			Cdh	165-310 Cambrian Deadwood Hornfels	165-220 Mix. tr. pyrite, mostly oxidized frags.			
				1	170-175							

DRILL CUTTING LOG

Logged by: S. Ringhoffer

Contractor _____ Coordinates _____ Project _____ Hole No. K89-642

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, Veinlet, Replacement) / Type	Assay: Au	Assay: Ag
		tr	50	2	175-180		Cdh				
					195-200						
				1	220-225				220-330 Sulfide tr pyrite, tr. FeOx.		
		1-2						(240-250) 10-20% Fracture? rippl. frags	(240-250) 1-2% fg. Disem. pyrite Assoc. w/ 7% frags		
		1-2			245-250						
		tr									
					270-275						
					295-300						
		tr-1							(300-340) tr-1% fg. disem. pyrite.		
					320-325						
					2			330-345) Quartz frags in Cdh.	330-340 Mix tr-1%		
					4			Appear sucrosic - like Quartzite?	pyrite 10-30% frags		
					1			340-370) Larger, Altered Cdh frags	FeOx staining		
					345-350			to ~ 0.5 cm	RAR 370		

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. 189-642

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	30	2	350-355		Cdh					
			40	2	370-375			370-410 Cambrian Leadwood Quartzite. Fg., cream to "dirty" cream color. Broken w/ FeOx staining along fracts. Frag. size to ~3cm (<1%)	370-560 Mix. tr-1% f.g. to m.g. cream & unlt. pyrite. FeOx along fract. & frag surfaces.			
					395-400							
			10		420-425			410-445 PE Quartz Mica Schist. black & FeOx stained, 2-5% PE chert frags, light "bleaching" & brecciation.				
			20		445-450			445-470 PE Banded Chert, cream & light gray w/ light FeOx staining along fracts.				
			10		470-475			470-600 PE Qtz. Mica Schist As Above (410-445). Light "bleaching" & FeOx staining w/ 2-3% PE chert frags.				
					495-500			(445-560) 20-30% Banded PE chert frags. Large, > 3cm frag size with moderate brecciation & "bleaching" of schist & chert. Entire interval probably a fault/shear zone.				
					520-525			Orange-brown FeOx along fracts.				

DRILL CUTTING LOG

Logged by:

Contractor _____ Coordinates _____ Project _____ Hole No. 84-692

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, Veining, Replacement)	Type	Assay: Au	Assay: Ag
		tr-1	10	2	525-530		PE	PE schist cont.				
					545-550							
		tr.		1					560-600 Sulfide, tr. pyrite w/ tr. ox. & light "bleaching" of schist.			
								565-600 2-3% PE chert stgr.				
					570-575							
		↓	↓		595-600		↓	Hole TD @ 600'				
					620-625							
					645-650							
					670-675							
					695-700							

DRILL CUTTING LOG

Logged by: _____