

PENNSYLVANIAN	UPPER TORNADO PEAK LS.	LOCKE ET AL	HERSHEY	#1 WORKINGS (NORTH CONTACT)	CHRISTMAS WORKINGS (SOUTH CONTACT)
		240 Fairly uniform gray, fine-grained limestone with cherty bands and chert nodules. Some beds fossiliferous.	120 Series of heavy beds, possibly separated by thin shales of hard blue-gray limestone with scattered debris of crinoids and other fossils and some white flint.	Sill	Sill
		15 Finely laminated shale	10 Slope, probably shaly limestone. Somewhat broken down but apparently rather heavy bedded blue-gray limestone.	50	Pinnacle ore bed
		105 Shaly limestone with sill of fine-grained porphyry.	35 Evidently alternation of shales and blue limestone.	25 Shale	Shale and sill
			6 Blue-gray limestone with crinoidal fragments. Slope peculiar rounded limestone fragments, much epidote and a greenish basic eruptive	Ore 50 Upper copper knob bed	28 Shale
			40 Heavy-bedded blue-gray limestone with only scattered crinoidal debris but much nearly white flint.	16 Shale	Ore shale and 32 Quarry ore beds
		140 Light-gray, fine-grained dense limestone with cherty bands and chert nodules.	70 Slope with debris of thin bedded blue-gray limestone and sill rocks. Probably rapid alternation of thin beds of limestone and shales. Some red and gray chert agglomerate.	Ore 20 Lower Copper knob bed	Ore SH. Ore SH. Ore "J" Beds 35 Main ore beds south contact.
			60 Dark compact and light-gray crinoidal limestone, probably alternating with thin black shales	Ore 10 Upper Johnny ore beds	Ore 20 Shale and sill
		75 Thin-bedded, shaly limestone with thin porphyry.	40 Light blue-gray, heavy bedded limestone in large part crinoidal.	Ore 11 Shale	Ore "K" bed
		20 Light gray crystalline limestone.	65 Debris-covered slope, probably shaly limestone.	Ore 20 Lower Johnny ore bed	sh. ore 117
		25 Flat slope probably white fine-grained shaly limestone.	25 Dark gray limestone	65 Shale and limestone	Limestone and shale
		5 Flat slope, probably shale.	18 Brownish gray limestone	Ore 65 Upper Las Movias stopes	
		70 Cliff. Light-gray to white thick bedded crinoidal limestone.	10 Light gray, coarse grained crinoidal limestone.	Ore 68 Las Movias ore horizon	Ore ore Zone of sills
		35 Slope moderate-gray limestone	90 precipitous face of massive blue-gray limestone.	50 Largely limestone and shale	17
		75 Gray fine-grained fossiliferous limestone.	40 Heavy bedded blue-gray limestone with traces of fossils		
		65 Sheer cliff. Fine-grained gray limestone. Fossiliferous.	70 Sill of porphyry, much altered with biotite hornblende as conspicuous original minerals.		SILL Tornado Peak sill
		60 Steep slope. Fine grained, gray fossiliferous limestone.	SILL 95 Dark gray limestone		
		SILL 110 Porphyry sill. Feldspars and hornblende most prominent minerals. Little biolite. Occasional bebo epidote. Somewhat altered.	2 Bed of honey-yellow and light brown garnet with quartz and specularite in rings		
		15 Altered limestone with green garnet. Light and dark gray crystalline limestone. Medium grained, some marble.	125 Blue-gray, heavy bedded limestone with traces of fossils		
		10 Slope. Dense fine-grained gray limestone. Upper half is altered light colored shale.	35 Light gray shaly limestone		
		40 Slope, soft material, probably shale.	45 Dark brown, laminated siliceous shales		
		20 Cliff. Light to dark gray, hard shale.	20 Much altered, shaly limestone		
		50 Light to dark gray, thin-bedded shale.	20 Thin bedded impure light gray shaly limestone. No fossils.		
		10 Ore bed. Much pale, greenish garnet. Some epidote staining. Little oxidized copper.	50 Very fine-grained white and light gray, soft, heavy-bedded limestone.		
		40 Banded, gray limestone.	65 Very fine-grained gray to black weathering ashen, limestone. No fossils.		
		20 Massive white marbleized limestone. Shale weathered and float covered.	35 Much altered impure limestone with much limonite and some copper carbonates. (London-Arizona ore bed)		
		5 Hard gray to white marbleized limestone. 2 to 3 foot blue members.	6 Light greenish gray impure quartzite.		
		95	15 Sill of porphyry with hornblende needles.		
		40 Carroll ore bed. Meta limestone with garnet, limonite and oxidized copper minerals.	50 Dark greenish gray shales.		
		15 Talus covered slope. Some gray shaly limestone and some porphyry in float.	15 Dark gray, weathering reddish brown impure quartzite.		
		20 Flat talus covered slope. First 15 ft. is greenish shale, upper part bluish.	45 Dark greenish gray shales with much chlorite.		
		15 Dark red quartzite and siliceous shale. Prominent outcrop.	Hard reddish, brown weathering, quartzite.		
		20			
		50 Flat talus covered slope. Greenish chlorite shale. Possibly diabase sill of unknown thickness.			
			Quartzite beginning at top of escape-ment of reddish brown quartzite.		

U.S. BUREAU OF MINES  
**COLUMNAR SECTIONS**  
 AT TORNADO PEAK  
 CORRELATED WITH SECTIONS IN  
**CHRISTMAS MINE**  
 CHRISTMAS, GILA COUNTY, ARIZONA.  
 CORRELATION BY H. A. SCHMITT  
 IN REPORT FOR CHRISTMAS COPPER CORPORATION  
 VERTICAL SCALE - 1 in. = 50 Ft.  
 MADE FROM ABOVE REPORT BY:  
 O. M. BISHOP, ENGINEER      JUNE 1942.