

Approx.

DRILL HOLE LOG - FERROUS

LAT.	+12,665.5N	ANGLE	-75°	MINE	Sunrise, Platte County, Wyoming
DEP.	+3,072.0E	BEARING	North	LOCATION	Emanuel No. 3 W $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 29, T28N, R65W
ELEV.	5,208.5	LEVEL	Surface	HOLE NO.	DDH No. 438
DATE	DRILLED		CORE		REMARKS
	FROM	TO	FEET	FT. 10ths	
1974					
					0-286 Hartville formation:
					Banding to axis of core.
					Set 15 ft NX casing.
3-15	0	11	11	0 0	0-83 Limestone, light gray.
	11	15	4	3 0	
	15	23	8	8 0	
	23	33	10	10 0	
	33	43	10	10 0	
	43	53	10	9 0	
	53	63	10	10 0	
	63	73	10	10 0	
3-16	73	83	10	10 0	82-118 Red sandstone, medium grained, Fe ₂ O ₃
	83	93	10	10 0	stained.
	93	103	10	10 0	1" green shaly sandstone at 82.
	103	113	10	10 0	
	113	123	10	10 0	113-133 Sandstone, medium grained, white.
	123	133	10	10 0	
	133	143	10	10 0	133-193 Sandstone, quartzitic, white, faint
	143	153	10	10 0	purple mottling. Purple spots 143 to 263.
	153	163	10	10 0	
	163	173	10	10 0	
	173	183	10	10 0	
3-19	183	193	10	10 0	
	193	203	10	10 0	193-286 Quartzite, light gray, purple spots to
	203	213	10	10 0	263. Purple spots continue
	213	223	10	10 0	to 263. Occasional
	223	233	10	10 0	banding at large angle
3-22	233	243	10	10 0	to core.
	243	253	10	10 0	
	253	263	10	10 0	Banding 75° to core.
	263	273	10	10 0	
	273	283	10	10 0	286-323 Guernsey formation:
3-23	283	293	10	10 0	286-321 Limestone, hard siliceous, silty, light
	293	303	10	10 0	gray mottled streaked and occasionally banded
	303	313	10	10 0	with purple.
	313	323	10	10 0	321-323 Sandstone, coarse grained, contains
					reworked schist fragments.
3-25	323	333	10	10 0	323-500 Precambrian schist, quartzitic seri-
	333	343	10	10 0	citic, chloritic, limonitic, badly distorted to
	343	353	10	10 0	60° at 331; 80° at 337.
					crenulated greenish gray to orange gray color, 70° at 344; 55° at 332.

Driller Longyear (Rush) / Longyear 38

97.4% core recovery

Core ID JW England

no analyzer

Approx.

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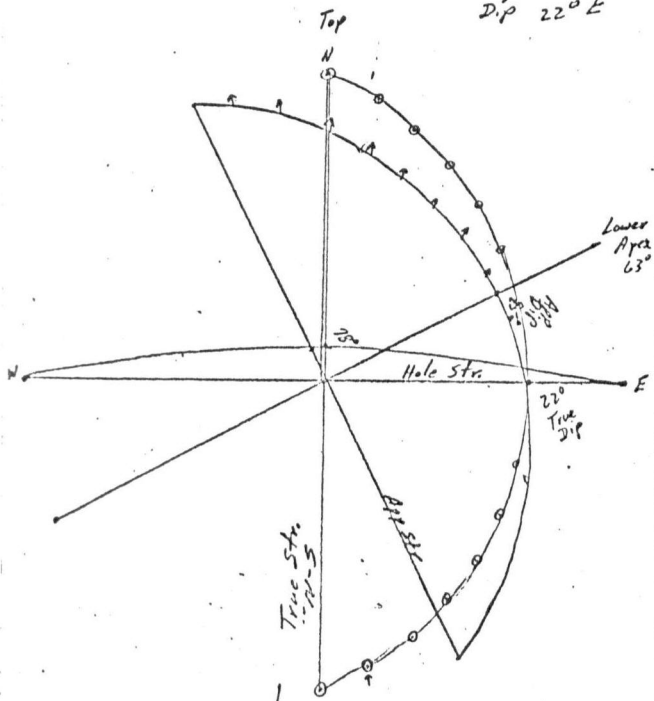
LAT.	+12,665.5N	ANGLE	-75°	MINE	Sunrise, Platte County, Wyoming		
DEP.	+3,072.0E	BEARING	North	LOCATION	Emanuel No. 3 W½ SW¼ SW¼ Sec. 29, T28N, R65W		
ELEV.	5,208.5	LEVEL	Surface	HOLE NO.	DDH No. 438		
DATE	DRILLED			CORE		MATERIAL	REMARKS
1974	FROM	TO	FEET	FT.	10ths		
						Wide bands of quartz, at 326 to 336; 392 to 440; 467 to 475.	Banding to axis of core.
3-25	353	363	10	10	0		70° at 359.
	363	373	10	10	0		Core orientation 401-403;
3-26	373	383	10	10	0		413-415; 453-455; 495-498;
	383	393	10	10	0		498-500.
	393	401	8	8	0		70° at 366.
	401	403	2	2	0		80° at 381.
	403	413	10	10	0		65° at 387.
	413	415	2	2	0		60° at 395.
3-27	415	425	10	10	0		75° at 410.
	425	435	10	10	0		80° at 421.
	435	445	10	10	0		60° at 430.
	445	453	8	8	0		70° at 441.
	453	455	2	2	0		
3-28	455	465	10	10	0	Very little oxidation below 460.	70° at 463.
	465	475	10	10	0		80° at 471.
	475	485	10	10	0		80° at 484.
	485	495	10	10	0		
	495	498	3	3	0		
	498	500	2	2	0		
	Bottom of hole.					No noticeable radiation, and very slightly magnetic.	Cap set.
3-29	15 ft NX casing	standpipe left					
	in hole.						
1977						Re-Enter	
10-21	500	510	10	10		Graphite sericite chlorite schist with occasional quartz lenses up to 2 inches. Highly contorted. Oxidized pyrite at 527'.	NQ casing.
	510	518	8	8			
	518	528	10	10			
10-24	528	533	5	4			
	533	542	9	9			
	542	552	10	10			
	552	562	10	10			
	562	572	10	10			
	572	582	10	10			
	582	592	10	10			
10-25	592	602	10	10			
	602	612	10	10			
	612	622	10	10		622' END OF HOLE.	

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ELEV.	5,208.5	LEVEL	Surface	HOLE NO.	DDH No. 438

DATE	DRILLED			CORE		MATERIAL	REMARKS
	FROM	TO	FEET	F'			
1974							
						Core Orientation Survey 401-403	
						Schistosity 65° to core (secondary)	
						Upper apex of bedding 55° clockwise from reference line on core. Top of acid tube is 172° clockwise or 188° counterclockwise from reference mark on tube. Inclination angle 81° uncorrected; 78° corrected.	
						Strike N30°E, Dip 25°S60°E.	
						Core Orientation Survey 413-415	
						Good schistosity and banding 55° to core. Upper apex of bedding 15° clockwise from reference line on core. Top of acid tube is 35° clockwise from reference mark. Inclination angle is 81°, corrected angle 78°. Strike N40°E, Dip 35°S50°E.	
						Core Orientation Survey 453-455	
						Schistosity 70° to core (secondary). Upper apex of bedding is 83° clockwise from mark on core. Top of acid tube is 178° clockwise from reference mark on tube. Inclination angle 80° uncorrected; corrected angle 77°. Strike N20°E, Dip 20°S70°E.	
						Core Orientation Survey 498-500	
						Schistosity 75° to core (secondary). Upper apex of bedding 180° clockwise from reference line on core. Top of acid tube is 50° counterclockwise or 310° clockwise from reference mark on tube. Inclination angle 81° uncorrected, 78° corrected. Strike N30°E, Dip 15°S60°E.	

Hole 438
 403 ft
 Incl. 78° N
 True Str. N-S
 Dip 22° E



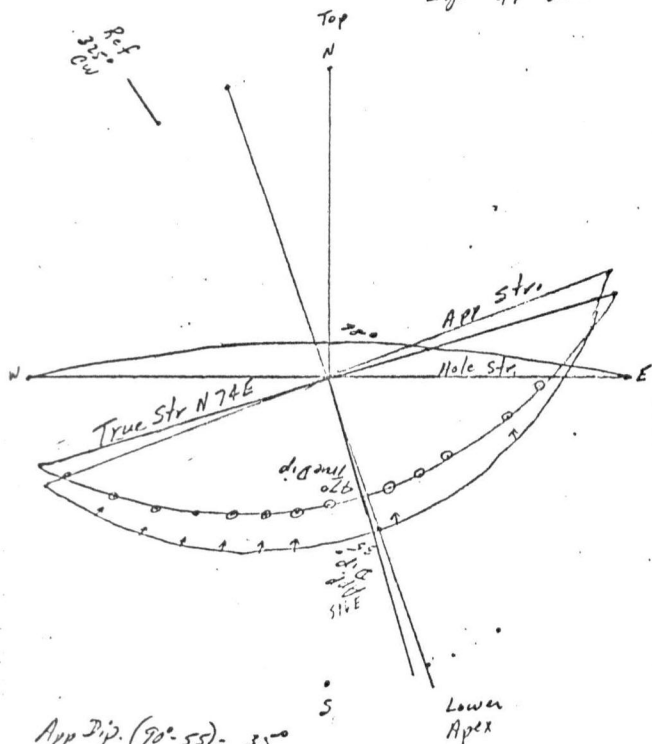
App Dip $(90-65) = 25^{\circ}$
 Rotate $(90-78) = 12^{\circ}$

415 ft

Incl. $78^{\circ}N$

True Str. N 74 E

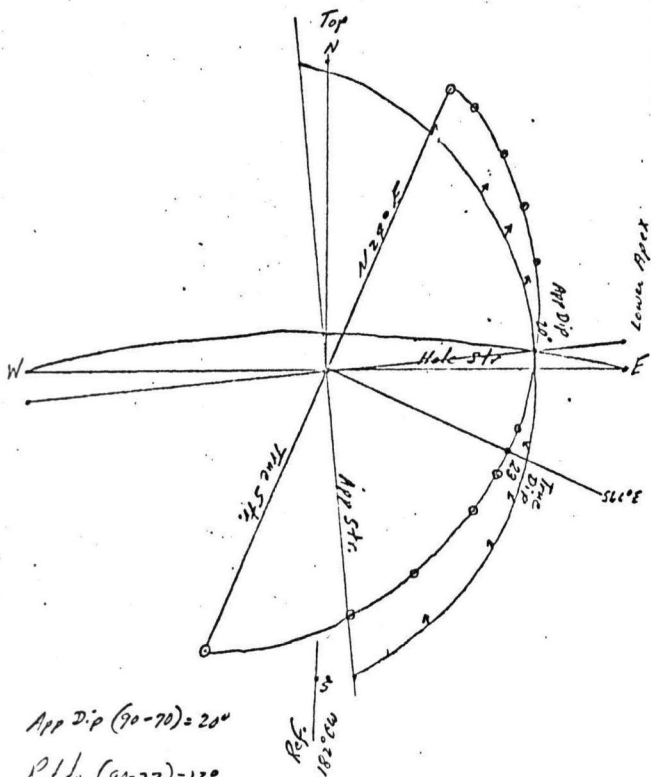
Dip 47° S16E



$$\text{App Dip. (90°-55)} = 35^\circ$$

$$\text{Rotate } (90-78) = 12^\circ$$

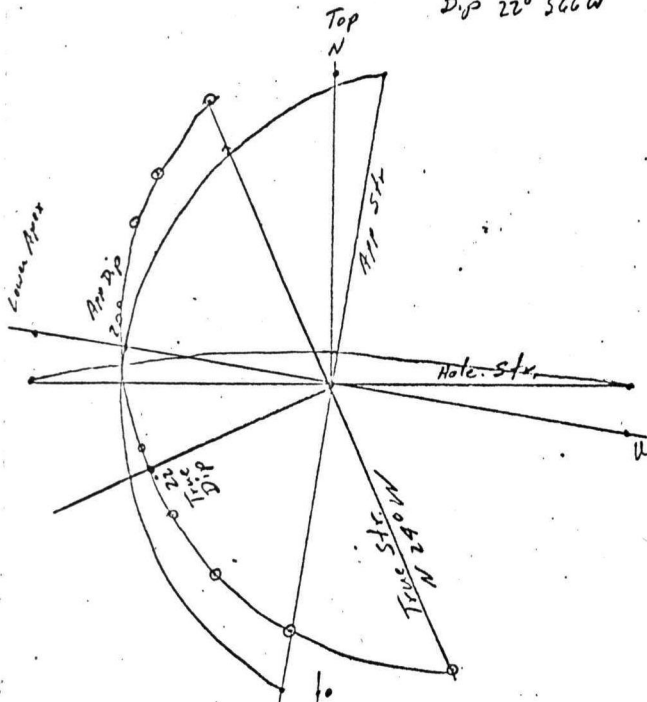
Hole 938
 455 ft
 Incl. $77^{\circ}N$
 True Str. $N29^{\circ}E$
 Dip $23^{\circ}56'E$



$$\text{App Dip } (90 - 70) = 20^{\circ}$$

$$\text{Pch. } (90 - 77) = 13^{\circ}$$

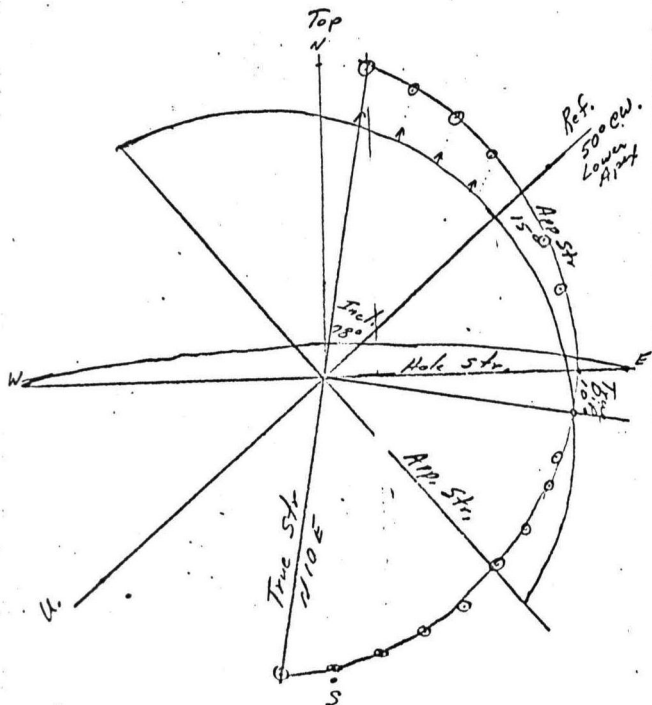
Hole 438
 455 ft
 Incl. 77° N.
 True str. $N 24^{\circ} W$
 Dip 22° S66W



App Dip $(90^{\circ} - 70^{\circ}) = 20^{\circ}$
 Rotate $(90^{\circ} - 77^{\circ}) = 13^{\circ}$

Wrong
 Angle on
 Lower Apex
 from Ref.
 should be $263^{\circ} CW$

Hole 438
 500 ft.
 Incl. 78°
 True str $N10^\circ E$
 Dip $10^\circ S 80^\circ E$



$$\text{App. Dip. } (90^\circ - 75^\circ) = 15^\circ$$

$$\text{P.L. rate } (75^\circ - 78^\circ) = 12^\circ$$

