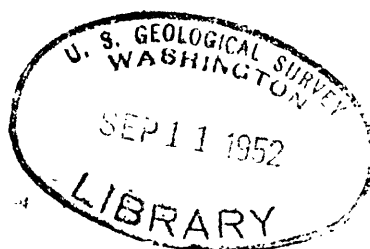


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UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Washington
1946



St. J. 1944

STINER ZINC PROSPECT, UNION COUNTY, TENNESSEE

By Deane F. Kent

ABSTRACT

The Powell River area, Claiborne and Union Counties, Tenn., has long been known for its lead and zinc deposits. The U. S. Geological Survey made an extensive study of these deposits from 1943 to 1945 and submitted drilling recommendations to the U. S. Bureau of Mines on some of the more favorable prospects. The Stiner property was selected for the first drilling as it was near the New Prospect mine. Drilling attempted to prove the presence of favorable structure, related mineralized zones, and ore in the favorable Maynardville limestone member of the Nolichucky shale below faults and below showings of mineral in the less favorable Copper Ridge dolomite. The first two were found. Thirteen holes were drilled on the project for a total footage of 5,041.1 feet. Considerable detailed stratigraphic information was amassed on the Maynardville limestone in a hitherto little-known area. Faulting was shown to be of a zonal nature and not on a single major plane. It is recommended that further drilling be done and problems which may arise are anticipated.

INTRODUCTION

The Stiner prospect is near the shore of Morris Reservoir in Union County, Tenn. It has been the subject of an earlier unpublished report by Gladstone and Nelson of the U. S. Geological Survey titled "Stiner prospects", submitted to the Survey on April 15, 1944. This report will supplement the earlier one.

The Bureau of Mines accepted the Survey's recommendation to drill the property, but after consultation it was decided to drill for slightly different objectives in different positions than were proposed in the original report. Near the Stiner prospect is the New Prospect mine which has produced approximately 100,000 tons of lead and zinc concentrates. The ore control is a strong east-west tear fault cutting the favorable zone in the dolomitized upper unit^{1/} of the Maynardville limestone member of the Nolichucky shale (Cambrian).

^{1/} Later work has indicated that the ore at the New Prospect mine is in the limestone lower unit of the Maynardville which has been locally dolomitized. The map (pl. 1) shows the earlier interpretation but will be revised for the final report being prepared on the zinc deposits of east Tennessee.

The best mineralization in the Powell River district has been found along the south sides of similar, nearly vertical tear faults which strike from N. 65° W. to east-west. No large commercial ore bodies have been found along these faults in the Copper Ridge dolomite, though a few small mines have been opened, and with the exception of the New Prospect, almost all the known mineralization occurs in the Copper Ridge. It was proposed that the Bureau of Mines drill the most favorable of the prospects to test the Maynardville limestone member of the Hellicusky shale for larger ore bodies. The three objectives were, to find the favorable structure, to find mineralization in the favorable zone associated with such structure, and to block out ore bodies in the favorable zone. The Stiner prospect was selected as the best place to start such exploration, as an east-west cross anticline brings the only occurrence of the Maynardville in the area to the surface at the New Prospect mine; at the Stiner property the Maynardville was estimated to be only 100 feet below the surface.

SUMMARY OF DRILLING RESULTS

The Bureau of Mines contracted with the Sullivan Machinery Co. of Michigan City, Ind., for the drilling. Drilling began on September 1, 1944, under the direction of Richard L. Sayre, project engineer, and William H. Hudson, district engineer.

The only difficulty in locating the first hole was the exact location of the controlling fault (extended 3,000 feet from New Prospect) due to poor outcrops. The first hole was finally located 5040 N., 5715 E.; 25° N., 8° E., elev. 1,095) on the north slope above the valley (see pl. 1) and was drilled to cut the fault. Hole 1 was bottomed at 700 feet on September 26. Several faults were cut, and the one near the bottom of the hole (see structure section pl. 2) was interpreted as the major fault.

Hole 2 (5235 N., 5731 E.; 31° N., 5°57' E., elev. 1, 142.4) was located above No. 1 on the slope to again cut the fault and allow accurate drilling for the favorable zone in the Maynardville. This hole cut a fault which was correlated with the lowest one in hole 1 (see pl.2); hole 3 (5432 N., 5752 E.; 82° N., 5°21' E., elev. 1, 178.9) was drilled on the south side of this fault to the base of the dolomite in the Maynardville. These first three holes all had traces of zinc minerals in them, particularly along the faults.

Hole 4 (5630 N., 4205 E.; 40° N., 10° E., elev. 1,048) was located on Tennessee Valley Authority property (by verbal agreement) 30 feet east of the Davis shafts. It is 500 feet east of the New Prospect mine, and was drilled to pick up the fault at an intermediate point. The hole showed no definite fault but had several cavities. One of these, at 157 feet, had intensely fractured dolomite on each side of it and was followed by a 10-foot mineralized zone (estimated at 1.5 percent Zn). The writer picked this as the most probable location of the fault from the available evidence, and this interpretation has the concurrence of the Bureau of Mines' engineers. The hole was bottomed at a depth of 222 feet on October 10, 1944.

Hole 5 (5812 N., 4928 E.; 45° S. 10° W., elev. 1,110) was drilled 730 feet east and 90 feet north of No. 4 and was located on the probable north side of the fault projection through No. 4. No faulting was found, but at the position where the projection of the fault would cut this hole there was an open cavity (236-248 feet). The hole was bottomed at a depth of 273 feet on November 11, 1944.

Hole 6 (5388 N., 6075 E.; 80° N. 10° E., elev. 1,188) was drilled 325 feet east of No. 3 and was bottomed at a depth of 515 feet on November 18, 1944. Though it was drilled through the favorable zone no zinc mineral was found. However, this fact led the writer to believe this hole would give the best stratigraphic section of the area, a fact substantiated by later drilling, and it has been used as the type section of the area. A detailed section is shown on the correlation diagram accompanying this report (pl. 3).

Hole 7 was bottomed at a depth of 556 feet on December 2 but had only traces of zinc minerals. This hole (5280 N., 6640 E.; 79° N. 10° E., elev. 1,133) was located 600 feet east of No. 6. A fault at a depth of 316.1-317 feet had an indicated relative displacement of 23 feet.

Hole 8 (5204 N., 5730 E.; Vertical, elev. 1,133) was located 30 feet south of No. 2 on the same section as Nos. 1, 2, and 3 holes. It cut a major fault zone from 183.7 to 185.4, which was also cut by hole No. 1. Traces of sphalerite and pyrite were found along this fault. The base of the upper dolomitic member was at 317 feet and the interval of 0.9 feet above this carried an estimated 15 percent zinc. Two traces of sphalerite were found within the very favorable zone 20 feet above this point. This mineralization, while not of ore grade, made the outlook on this project very encouraging, for the first two of the three objectives had been reached, i.e. favorable structure and associated mineralization in the receptive zone (see pl. 2). In order that the rest of the drilling might give the best results, all parties concerned decided that a restudy of the cores and geologic sections would be the most helpful thing. The drilling was recessed and the drill moved to the Bunch Hollow mine, Claiborne County, Tenn., on December 14, 1944, (see summary report, "Bureau of Mines drilling at the Bunch Hollow mine," by Deane F. Kent, June 1945). The drill was returned on January 16, 1945.

Hole 9 (5218 N., 5732 E.; vertical, elev. 1,142) was located 3.6 feet south of hole 2. It was bottomed at a depth of 348 feet on January 24, 1945. Only traces of sphalerite were found in the favorable zone. Other traces were found at intervals throughout the core (see pl. 2).

Hole 10 (5164 N., 5727 E.; Vertical, elev. 1,127) was bottomed at a depth of 323 feet on January 31. It had 2 percent zinc from 293-294 feet, 2 percent zinc at 303.3-306.2 feet, and 2.5 percent zinc at 309.4-311 feet. This mineralization was at the base of the dolomitic upper unit of the Maynardville and gave two "ore" holes on the section.

Hole 11 (5130 N., 5725 E.; Vertical, elev. 1,118), 30 feet farther down the hill had only traces of mineralization and those were not in the favorable zone. It was bottomed at a depth of 317 feet on February 8.

Hole 12 was located on the Stiner-T. V. A. property line (4875 N., 5418 E.; vertical, elev. 1,051). It was drilled to a depth of 251 feet (almost through the whole thickness of the Maynardville) and had no mineralization.

Hole 13 (5192 N., 5585 E.; Vertical, elev. 1,130) was drilled to find the westward extension of the mineral found in holes 8 and 10 and had traces of sphalerite in the favorable zone. The hole was bottomed at a depth of 315.5 feet on February 22, 1945, and completed the drilling program.

Thirteen holes were drilled on this project, totalling 5,081.1 feet.

CONCLUSIONS

The drilling program found two of the three things which were proposed in the original recommendations: faults in the dolomitic upper unit² of the Maynardville limestone member of the Nolichucky shale and sulphide minerals associated with them. Though no ore was blocked out, the other facts lend considerable encouragement to prospecting over the entire Powell River area where such structures exist. It must be emphasized that, if such work is done, very careful work on the fault control, possibly using geophysical methods, must be a preliminary to the actual prospecting for ore. The detailed stratigraphic information made available by the drilling will be invaluable in future prospecting, as such information regarding this formation in this area had not been known before. The mineralization was of the same two types found at the New Prospect mine, i.e., replacement of limestones or dolomites and fracture fillings. Very little brecciation was seen in any of the core.

The most significant development of the thesis of "ore in the Maynardville" was shown by the finding of many faults in the drill holes. Hitherto the concept of faulting in the area has been of one major fault. It is believed that the faulting has now been shown to be a major zone, possibly hundreds of feet wide, in which the movement has been along several vertical planes on echelon. This is further complicated by movement along the bedding, and offsets of the vertical faults have been proven. With this in mind, the future prospector can anticipate possibly several displacements of the "major fault" at depth, though it would be possible also to have none.

RECOMMENDATIONS

The writer believes that a carefully planned, long-range drilling program would find many small, high-grade ore bodies such as the New Prospect mine. There is no reason to believe that that occurrence of high-grade ore is unique in the area. Such a program should first establish the fault control and then drill for favorable zones as proposed earlier (Kent, Rodgers, and others, Powell River lead-zinc area, Claiborne and Union Counties, Tenn., U. S. Geological Survey, 1945).

²/ See footnote on page 1.

378 ft
Log 1

Kent, Deane F.
Stiner zinc prospect

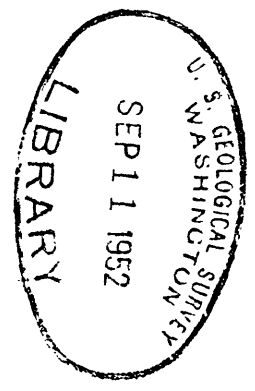
U. S. Bureau of Mines Project # 15-167

Stiner DDH # 1.

Bearing: N8E
Coordinates: 5040N, 5715E
Logged by Deane F. Kent.

Angle: 25° N
Elevation 1095

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	4.7		Surface.
4.7	5.0		Dolomite, medium gray, fine grained, somewhat mottled, (NX Core).
5.0	9.5		Dolomite, very light gray, fine grained, .1 breccia zone @ 7.5 ± dips 33° along apparent bedding.
9.5	11.2		Dolomite, dark gray, mac crystalline, 50% dark oolites, slight mottling, smelly.
11.2	11.9		Dolomite light gray, fine grained, cream colored edgewise fragments.
11.9	13.2		Dolomite, dark gray, mac crystalline, smelly mottled, .1' chert @ 12.7 replacing mottled structure.
13.2	14.7		Dolomite, medium gray, fine grained, filled with cream colored edgewise fragments.
14.7	28.2		Dolomite, dark gray, crystalline, smelly mottled, fractured, fracture with 1/8" gouge at 24.3 dips 37°.
28.2	28.6		Gouge with fragments of dolomite as above, on fault, dips 50° - core.
28.6	28.7		Dolomite, dark gray, crystalline, smelly.
28.7	30.6		Dolomite, medium gray, fine grained, fractured, edgewise fragments as above.
30.6	75.6	46° at 75'	Dolomite, dark gray, crystalline, leached, mottled, dolomite veinlets, fractured.



Depth in feet		Dip to core and depth where taken	Description of core
From	To		
75.6	83.4		Dolomite, light gray, fine grained.
83.4	95.8		Dolomite, medium-dark gray, crystalline, white dolomite veinlets near top.
95.8	96.4	62° at 96'	Dolomite, medium gray, wavy banding, fine grained.
96.4	109.7	63° at 105'	Dolomite, dark gray, medium grained, black spots look like sand grains but are dolomite crystals, very little mottling or banding, .3 brecciation @ 96.7'.
109.7	115.1	54° at 113'	Dolomite, medium gray-brown, very fine grained, laminated, .1 white quartz masses @ 114.1 (like Felknor).
115.1	143.0		Dolomite, light-medium gray, crystalline, dark mottlings, fractured, a little white chert.
143.0	145.1		Dolomite, light gray, fine grained, a few dark laminae.
145.1	147.0	60° at 147'	Dolomite, medium-dark gray, banded.
147.0	153.1	40° at 153'	Dolomite, dark gray, crystalline, wavy mottling, smelly.
153.1	153.4		Oolite, mostly brown ools, a few black, fine.
153.4	155.2	62° at 155'	Dolomite, brown-gray, edgewise, long flat pebbles.
155.2	158.6	70° at 158	Dolomite, medium gray, fine grained, banded.
158.6	161.2		Dolomite, light gray, dark mottlings, crystalline.
161.2	165.7		Dolomite, medium gray at top grading to dark gray at base, crystalline, vuggy, (white dolomite), often leached.
165.7	167.9	50° at 166'	Dolomite, medium gray, fine grained, some mottling.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
167.9	178.5		Dolomite, light gray, crystalline, dark lines and mottling; fractured and brecciated; a little white gangue dolomite.
178.5	179.3		Dolomite, medium gray, fine-grained, fractured, stylolitic.
179.3	179.6		Breccia and gouge; fragments are light gray, fine-grained dolomite; dip on fault 50°.
179.6	181.3		Dolomite, medium-dark gray, fractured and brecciated with fault at base dipping 40°.
181.3	182.5		Dolomite, light-medium gray, fine-grained, fractured; about 0.3' white-brown chert at base. In interval traces of pyrite. Fault at base exactly perpendicular to core.
182.5	191.7		Dolomite, light-medium gray, fractured, mottled, some stylolites; a clear fault dips 50° at 187.2' Trace mineralization, 0.1%.
191.7	196.3		Dolomite, dark gray, fine grained, mottled, stylolitic, white, carbonate spots. Fault at base (196.3') 45° to bedding. At 193.2' trace of mineralization.
196.3	196.4		Breccia with ZnS and FeS ₂ .
196.4	198.5		Dolomite, dark gray, crystalline, mottled smelly.
198.5	200.8	58° at 200'	Dolomite, dark gray, fine-grained, mineralized, fractured, banded; beds dip 58°. Trace of mineralization.
200.8	206.0		Dolomite, light-dark gray, fine-grained, crystalline, mottled.
206.0	208.9		Dolomite, medium-dark gray, fine-grained, banded, faulted.
208.9	210.5		Dolomite, dark gray, crystalline, fractured.

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
210.5	214.2		Dolomite, medium gray, fine grained, mottled, stylolitic.
214.2	217.4	55° at 216'	Dolomite, light-medium gray, fine-grained, banded.
217.4	218.2		Dolomite, silicified (chert), dark brown, wavy banding.
218.2	229.2	58° at 223'	Dolomite, light-medium gray, wavy banding.
229.2	231.2		Dolomite, medium-dark gray, fine-medium grained, 0.2' gouge at base (fault dips 40°) 1/8" sand at 230.6, sand at 232.5.
231.2	234.6		Dolomite, light gray, fine-grained, banded
234.6	240.2		Dolomite, dark gray, mottled, crystalline, smelly, 0.2' brown chert at base.
240.2	251.3	63° at 242' 62° at 246'	Dolomite, fine-grained, banded, tiny faults.
251.3	254.8		Dolomite, dark gray, crystalline, mottled, stylolitic laminated.
254.8	263.0	80°(?) 256'	Dolomite, dark gray, crystalline, mottled.
263.0	265.6		Dolomite, light gray, fine-grained; 0.3' chert (or silicified dolomite) at base, with some sulphides.
265.6	267.0		Dolomite, as above, brecciated and mineralized.
267.0	270.5		Dolomite, as above, not brecciated.
270.5	276.2	50° at 272'	Dolomite, light-medium gray, fine-grained banded.
276.2	279.1	62° at 278'	Dolomite, light gray, fine-grained, light banding.
279.1	279.6		Dolomite, medium-dark gray, banded, silicified.
279.6	279.9		Chert breccia, bluish, with fault at base, dipping 70°.
279.9	281.5		Dolomite, light gray, fine-grained.

Depth in feet		Dip to core and depth where taken	Description of core.
From	To		
281.5	290.3		Dolomite, dark gray, fine grained, mottled tiny faults, at 287.1' fault dips 20° \perp to core, .5' gouge and fractured dolomite.
290.3	294.0		Dolomite, light gray, fine-grained, banded, fractured.
294.0	297.0		Dolomite, medium-dark gray, fine grained banded, tiny faults.
297.0	301.4	64° at 298'	Dolomite, light-medium gray, medium-grained, slightly silicified.
301.4	302.4		Dolomite, medium-dark gray, fine-grained, banded, tiny faults.
302.4	305.5		Dolomite, light gray, fine-grained, light banding.
305.5	306.5		Dolomite, light-medium gray, medium grained, mottled, stylolitic; upper 0.7' heavily silicified.
306.5	308.9		Dolomite, medium gray, fine-grained, mottled.
308.9	311.0	60° at 310'	Dolomite, light gray, fine-grained, banded.
311.0	314.4		Dolomite, medium gray, fine grained, mottled
314.4	315.1		Dolomite, light-medium gray, fine-grained edgewise conglomerate, banded.
315.1	315.6		Dolomite, brown, fine-grained, mottled, calcareous.
315.6	319.1		Dolomite, medium gray, fine-grained, mottled
319.1	319.7		Dolomite, fine-grained, edgewise conglomerate.
319.7	323.0		Dolomite, medium gray, fine grained, lightly banded, lower 0.5' is dark gray.
323.0	326.8		Dolomite, medium gray, fine-grained, mottled.
326.8	336.6	65° at 328'	Dolomite, medium-dark gray, fine-grained banded, tiny faults.

Depth in feet		Dip \perp to core and depth where taken	Description of core.
From	To		
336.6	337.7		Dolomite, medium-dark gray, fine-grained banded; very fine banding apparently due to dolomitization.
337.7	343.6	62° at 338'	Dolomite, light-medium gray, fine-grained, banded, from 338.0-339.1 is leached.
343.6	343.7		Dolomite, dark gray, fine-grained.
343.7	348.8		Dolomite, light gray, fine-grained.
348.8	352.5		Dolomite, light gray, wavy banding (solifluction) 1/2" blue chert at base.
352.5	360.3	58° at 358'	Dolomite, light gray, fine-grained, light banding. At 358.6 a 1/10" of dark gray dolomite.
360.3	370.0	58° at 369	Dolomite, medium-dark gray, banded, medium grained.
370.0	374.0		Dolomite, light-dark gray banded, fine grained.
374.0	375.6		Dolomite, fine grained, wavy banding, and patches of very fine pebble conglomerate; very calcareous.
375.6	383.3		Limestone, brown (dark gray), fine-grained, mottled.
383.3	385.8		Dolomite, medium gray, very well banded, fine grained.
385.8	396.0	63° at 390'	Dolomite, light-medium gray, well banded, At 394.6, fault dipping 70° to core axis, where bedding dips 60°, but dips opposite to dip of fault; fault followed by 0.6' gouge and fractured dolomite not a major tear! At 387.1 a fault zone (dip 20° \perp to core) 0.5 thick.
396.0	398.0	63° at 398'	Dolomite, light gray, fine grained, lightly banded heavily fractured and faulted.
398.0	410.0	72° at 400' 66° at 404'	Dolomite, medium-dark gray, fine grained, banded. Intensely faulted and brecciated Fractures (mostly) filled with calcite. Fault at 408' dips 76°; 1" displacement.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
410.0	410.2		FAULT ZONE, gouge. Dip 70°.
410.2	410.8		Dolomite, as above.
410.8	412.0		Dolomite, light gray, fine grained, leached. Fragments of gouge. Fractured.
412.0	415.0	63° at 415'	Dolomite, medium gray, fine grained, light banding. Slightly brecciated. Lower 1.0' intensely fractured and faulted. FAULT ZONE AT BASE.
415.0	428.7	59° at 419' 59° at 425'	Dolomite, light-dark gray, banded, fine grained. Lower 0.6' feet heavily sili- cified. Small faults offset the bands.
428.7	431.2		Limestone, medium-dark gray, fine grained mottled.
431.2	433.7		Limestone, edgewise, fine grained, brown.
433.7	435.0		Dolomite, medium gray, fine grained, very calcareous; banded.
435.0	443.2		Limestone, medium-dark gray; fine-grained mottled. Vuggy at 439.5'-440.0'.
443.2	444.0		Dolomite, light gray, fine grained, light banding. Slightly calcareous.
444.0	444.6		Limestone, brown, fine grained, mottled.
444.6	453.6	55° at 446' 62° at 452'	Dolomite, light gray, banded, tiny faults throughout.
453.6	458.0		Limestone, brown, fine grained, upper 1.0 mottled; rest is stylolitic.
458.0	460.0	60° at 459'	Dolomite, light-medium gray, fine grained banded, very calcareous; many calcite- filled fractures.
460.0	461.6		Limestone, brown, fine grained.
461.6	464.0	60° at 463'	Dolomite, light-dark gray banded, fine grained, dips 15°, fractured, Fault at 463.1, with about 0.1' fractured zone.
464.0	466.5		Limestone, as above, faulted, with dolo- mite on tiny faults.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
466.5	466.7		FAULT ZONE, gouge, fragments are light gray dolomite.
466.7	467.8		Dolomite, light-dark gray, banded, fine grained.
467.8	473.2	65° at 473'	Limestone, medium gray (brown), fine grained, mottled.
473.2	474.2		Limestone, medium-dark gray banded, fine grained, tiny faults.
474.2	478.1		Limestone, light gray, fine grained, stylolitic, some banding.
478.1	482.4		Limestone, medium gray, fine grained, mottled.
482.4	486.6	58° at 485'	Limestone, medium-dark gray, banded, fine grained, shaly partings.
486.6	489.6		Limestone, medium gray, fine grained, mottled.
489.6	490.8	51° at 490'	Limestone, medium-dark gray banded, fine grained.
490.8	492.9		Limestone, light gray, fine grained, stylolitic.
492.9	496.5		Limestone, medium-dark gray, medium grained, mottled.
496.5	502.4	50° at 501'	Limestone, banded, fine grained, medium gray, fractured.
502.4	503.7		Limestone, mixture of edgewise and banded.
503.7	510.3		Limestone, medium gray-brown, fine-medium grained; fragments of edgewise throughout.
510.3	512.7	55° at 512'	Limestone, light-medium gray banded, slightly dolomitized; "edgewise mottling"
512.3	520.7		Dolomite, (dolomitized limestone??) light gray, fine grained, mottled.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
520.7	522.5		Limestone, light-dark gray, banded, faulted and brecciated. Fault at base dips approximately 30°.
522.5	527.0	60° at 527	Dolomite, as above.
527.0	528.2		Limestone, medium-dark gray banded, fine grained tiny faults.
528.2	535.4		Limestone, medium gray, ribboned; fractured at base. Fault zone at 534.6; \perp to core. Fault at 535.4 dips 46°.
535.4	540.0		Limestone, medium gray, mottled, fine grained.
540.0	541.4		Limestone, medium gray, fine grained, light gray edgewise fragments.
541.4	541.9		Limestone, as above, silicified.
541.9	542.7		Limestone, light gray, fine grained, stylolitic; slight silification.
542.7	551.5		Limestone, medium gray, fine grained, ribboned.
551.5	558.1	54° at 555'	Limestone, light to medium gray, fine grained, banded Fault at 555.5' dips 55°.
558.1	568.5		Limestone, light gray, fine grained, slightly banded.
568.5	570.4		Limestone, as above, slightly dolomitized.
570.4	591.5	64° at 571' 59° at 579' 59° at 586'	Limestone, light gray, medium grained, slight banding; little fractures.
591.5	631.2	58° at 602'	Limestone, medium gray, fine grained, mottled, slight fracturing, fractures filled with calcite .2' fractured & leached at 627'.
631.2	632.9		Limestone, light gray, fine grained with dark gray dolomite band, calcareous. Minor fault at base dip 65°.
632.9	638.6		Limestone, brown crystalline, lower 3' is a mixture of edgewise conglomerate & true limestone breccia with heavy iron

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
632.9	638.6 continued		scattered in interstices.
638.6	651.9	50° at 640' 50° at 643' 54° at 649'	Limestone, ribboned with dolomite, fractured, ribbons offset by many tiny faults.
651.9	653.0	60° at 652.8'	FAULT ZONE * upper and lower edges mineralized (FeS and dolomite) Lower edge is silicified. Dip on upper edge of zone is 62° and beds above are dropped into it. Dip on lower edge of zone is 50° and beds below are badly fractured and no bedding remains. There is much gouge in the zone but many pieces of fractured limestone remain, also some dolomite (probably ribbons).
653.0	671.1		Limestone, brown, folded and faulted, fractures with dolomite filling, many minor faults as follows: 653.5 (dips 25° 654.4 (56°); 655.8 (25°); 656.5 (59°); 657.4 (30°); 657.7 (47°); 665.2 (65°) followed by .9' intensely fractured and weathered zone.
671.1	672.9		Limestone, medium gray, crystalline, fractured, brecciated with white gangue dolomite in interstices.
672.9	676.9		Limestone as at 671.1.
676.9	677.7		Limestone and dolomite, breccia, white gangue dolomite.
677.7	681.9		Mixture of limestone, brown, crystalline and limestone, ribboned, fine grained, faulted and folded with .6 brecciation at base.
681.9	688.5	60° at 684' 59° at 688'	Limestone, ribboned with dark dolomite, medium gray, fine grained, fractured, some tiny faults.
688.5	692.6	55° at 692'	Limestone, dark gray, fine grained, .1' fracture zone at 690.7 (dips 32°), a few dolomite filled fractures dips 30-40°.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
692.6	700.0	52° at 699'	Limestone, brown, fine grained, ribboned with dark dolomite, slightly fractured, siliceous near base.

Hole bottomed at 700'

9/26/44

Mineralization of Stiner DDH # 1

0.1' T @ 24.3 (ZnS)

0.4' T @ 28.2 (ZnS)

0.3" T @ 96.7 (FeS₂)

18-20% @ 178.5 (ZnS)

@
0.1' T @ 191.7 (ZnS) and (FeS₂)

T @ 196.3 (ZnS)

0.1' T @ 196.4 (ZnS) and (FeS₂)

2.3' T @ 200.8 (ZnS)

T @ 265.6

2.0% @ 264.0 (ZnS) - slight FeS₂ (3.0')

T @ 323.0 (ZnS)

T @ 363.0 (ZnS)

Sampled 9/30/44 by R. L. Sayrs, U.S.B.M.

179.5 - 181 (10%)

Kent, Deane F

Stiner zinc prospect

U. S. Bureau of Mines Project # 15 - 101

Stiner DDH # 2

Bearing: N 5° 57' E

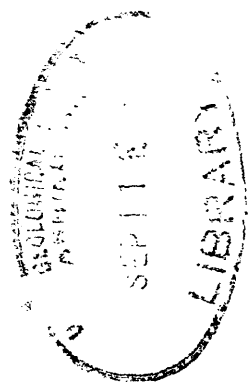
Angle: 31°

Coordinates: N 5234.9 E 5731.20

Elevation: 1142.4

Logged by Deane F. Kent

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	5.0		Dolomite, dark gray, crystalline, fractured, smelly. BX casing core fragments.
5.0	6.5		Dolomite, as above (40% recovery).
6.5	10.8		Dolomite, medium gray, fine grained, some lamination, weathers brown (30% recovery).
10.8	14.2		Dolomite dark gray, crystalline, white dolomite mottlings.
14.2	15.0 ⁺		Dolomite, light gray, fine grained.
15.0	25.6		Dolomite, medium-dark gray, crystalline, to fine grain, white dolomite mottling, a little fracturing. (Base BX core, top AX core 20.0')
25.6	32.0		Dolomite, medium gray, medium grained, heavily silicified with some white chert.
32.0	36.5		Dolomite, dark gray, crystalline, white dolomite in fractures, smelly.
36.5	37.1		Dolomite, as above, heavily brecciated, may be some oxidized zinc in fractures.
37.1	41.2		Dolomite, as above, no brecciation but heavily fractured, iron stained at base.
41.2	47.4 ⁺		Dolomite, light gray, fine grained, .2' brecciation at 44.5.
47.4	58.4		Dolomite, dark gray, crystalline, fractures with white gangue dolomite, smelly.



Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
58.4	58.8		Dolomite as above, heavily fractured.
58.8	63.9		Dolomite, dark gray, crystalline, fault at 61.4 dips 45° .
63.9	64.4		FAULT ZONE, dips 35° - 38° (nearly vertical) dark dolomite and gouge, dolomite and gouge are silicified.
64.4	258.6		Dolomite, dark gray, crystalline, smelly fractured, upper .5' intensely fractured under fault, a little iron staining, mud seam at 74.5'. Vuggy and sections are quite porous, fault (1/8" gouge) at 122.9 dips 70° \perp to core. 0.2' Fault zone at 162.4 dips 35° 1/2" " " " 165.4 " 45° 1/4" gouge off fract 166.1 " 20° 0.2' Fault zone at 232.5 dips 20°
258.6	261.7	60° at 260'	Dolomite, dark gray oolitic, fine grained to crystalline, vuggy.
261.7	268.1		Dolomite, dark gray, crystalline, vuggy fault at 265.5 dips 38° \perp to core.
268.1	279.7	68° at 274'	Dolomite, dark gray, fine grained, laminated, fractured and faulted, fault at 272.7 dips 22° \perp to core (very little gouge, fault at base with 1/8" gouge to core with 1.0' fracture zone above (no dip)).
279.7	284.5	45° at 284'	Dolomite, dark gray, crystalline, mottled smelly, white carbonate spots.
284.5	288.4	73° at 287'	Dolomite, light-medium gray, fine grained partly laminated.
288.4	288.9		Dolomite as above with wavy contorted banding.
288.9	291.3		Dolomite, dark gray, crystalline, smelly, mottled.
291.3	298.0		Dolomite, dark gray, fine grained, mottled in basal 2.0'.
298.0	298.4		Dolomite, light gray, fine grained, mottled fractured at base \perp to core.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
298.4	306.9		Dolomite, dark gray, fine grained, mottled smelly, .3' breccia at 306.6.
306.9	309.1		Dolomite, dark gray, crystalline , mottled, vuggy.
309.1	311.8		Dolomite, light-medium gray, mottled, some banding.
311.8	325.4	57° at 314'	Dolomite, dark gray, crystalline, mottled .1' dark oolite with 1" fault at 312.6 followed by .5' faulted zone with several small parallel faults dipping 35° in opposite direction of bedding. (May make large displacement).
325.4	330.2		Dolomite, dark gray, fine grained, (lower 1.0' dark gray)
330.2	365.7		Dolomite, dark gray, mottled, fine grained, smelly siliceous, 0.3' dark mottled chert at 360.4 0.2' fault zone dips 20° at 364.0'. Mineralization N of this fault.
365.7	383.6		Dolomite, light gray, fine grained, dark mottlings; fractured; fault at 383.2 dips 33° mineralized 378.3-384.0.
383.6	392.0	62° at 387' 67° at 392'	Dolomite, medium gray, medium grained, basal 0.2' crystalline.
392.0	393.7		Dolomite, dark gray, laminated; tiny faults; strong drag in bedding 0.1' chert at base.
393.7	399.4		Dolomite, dark gray, fine grained, crystalline, mottled, smelly.
399.4	401.8	69° at 400'	Dolomite, dark gray, fine grained, 0.2' fault zone at base dips 44°.
401.8	408.6	58° at 408'	Dolomite, medium gray, fine grained, leached; dark spots.
408.6	415.2	60° at 412' 58° at 415'	Dolomite, dark gray, fine grained, laminated; Fracture zone at 414.2; dips 25° in direction of bedding.
415.2	415.7		Dolomite, as above, brecciated, mineralized.

Depth in feet		Dip to core and depth where taken	Description of core.
From	To		
415.7	420.1		Dolomite, dark gray, fine grained, fractured; 1.4' breccia at base 1/2" gouge on fault at base dips 60°.
420.1	423.8	72° at 421'	Dolomite, dark gray, fine grained, laminated.
423.8	435.0		Dolomite, light-medium gray, fine grained, mottled; upper 0.6' siliceous.
435.0	439.0	62° at 437'	Dolomite as above, not heavily mottled.
439.0	450.0		Dolomite, as above, mottled.
450.0	453.5		Dolomite, dark gray, fine grained, white carbonate spots; vuggy, few fractures.
453.5	463.9		Dolomite, light gray, fine grained, slightly mottled, fractured, mineralized
463.9	469.0	72° at 465'	Dolomite, light gray, fine grained, laminated.

Bottomed at 469.0, 10/6/44

Mineralization on Stiner DDH # 2

1/2" Pyrite @ 158.5

T ZnS @ 64.5

T ZnS @ 67.3

T FeS @ 72.6

~~1% ZnS from 75.5-77.0~~

T ZnS @ 83.7

T FeS @ 84.1

4% Zn 364.0-365

T Zn 379.3-384.0

High FeS₂ 415.2-415.7

Trace ZnS

High FeS₂ 417.7 417.8

Trace ZnS

T ZnS @ 431.3 also FeS₂

T ZnS 453.5-463.9

Sample # 3 75.5-77.5 1%

8 pr
in fine prospect
3

U. S. Bureau of Mines Project #15-167
Stiner DDH #3

Bearing: 150°
Coordinates: 43211, 5752 E ✓
Logged by Deane F. Kent.

Angle: 82°
Elevation: 229

Depth in feet		Dip to core and depth where taken		Description of core.
From	To			
0	12.0			Overburden.
12.0	48.8	20°	at 39'	Dolomite, medium-dark gray, fine-grained, laminated.
48.8	50.7	22°	at 49'	Dolomite, dark gray, fine-grained, very mottled, much white gangue dolomite.
50.7	64.2	18°	at 60'	Dolomite, dark gray, fine-grained, banded (base BX core at 60').
64.2	69.5			Dolomite, dark gray, fine-grained, mottled, smelly.
69.5	75.3	18°	at 72'	Dolomite, dark gray, fine-grained, laminated.
75.3	92.8	18°	at 93'	Dolomite, dark gray, fine-grained, smelly fractured, partly mottled, vuggy.
92.8	94.3			Dolomite, dark gray, fine-grained, laminated, fractured.
94.3	99.1			Dolomite, dark gray, crystalline, mottled vuggy, smelly.
99.1	99.5			Chert, white-brown, mottled.
99.5	103.6			Dolomite, dark gray, fine-grained, laminated, fractured.
103.6	104.7			Dolomite, dark gray, mottled, smelly, crystalline.
104.7	110.2	13° 18°	at 105' at 109'	Dolomite, light gray, fine-grained, dark lamination,

Depth in feet		Dip to core and depth where taken	Description of core.
From	To		
110.2	111.7		Dolomite, dark gray, crystalline, smelly, vuggy.
111.7	124.6		Dolomite, dark gray, oolitic, crystalline smelly, fault (1/2" gouge) at 121.2' dips 63° opposite to bedding.
124.6	134.2		Dolomite, dark gray, fine-grained-crystalline, parts are oolitic, fractured.
134.2	179.9		Dolomite, dark gray, crystalline, smelly mottled, vuggy.
179.9	184.5	19° at 180'	Dolomite, medium-dark gray, fine-grained, laminated.
184.5	185.3	15° at 185'	Dolomite, dark gray, crystalline, mottled, smelly, fault at 184.9' dips 54° opposite to bedding.
185.3	185.6		Dolomite, white, gangue, some dark gray dolomite, fragments in it, fluorite crystals (purple, cubic) weight and cleavage shows barite.
185.6	185.8		Dolomite, dark gray, as above.
185.8	185.9		Chert, black, oolitic, some light ools.
185.9	187.1		Dolomite, dark gray, fine-grained, laminated.
187.1	188.2		Dolomite, dark gray, crystalline, mottled.
188.2	189.6		Dolomite, dark gray, fine-grained, laminated.
189.6	190.7		Dolomite, dark gray, mottled, crystalline.
190.7	191.7		Dolomite, light gray, fine-grained, mottled.
191.7	195.2	17° at 195'	Dolomite, dark gray, crystalline, smelly, mottled, fractured.
195.2	196.4		Dolomite, light gray, fine-grained, mottled.
196.4	196.8		Chert, medium gray, massive.

Depth in feet		Dip to core and depth where taken	Description of core.
From	To		
196.8	218.3		Dolomite, dark gray, crystalline, mottled smelly basal 10' seems to have some chert in dolomite matrix.
218.3	224.0		Dolomite, light-medium gray, crystalline dark mottled, vuggy, (poor core recover 222.8-224.0).
224.0	232.7		Dolomite, dark gray, crystalline, smelly, mottled, etc.
232.7	239.6	21° at 233'	Dolomite, dark gray, partly laminated, and partly mottled, fine-grained-crystalline, .1' light chert at base.
239.6	243.0	27° at 243'	Dolomite, dark gray, laminated, fine-grained.
243.0	243.1		Chert, dark, mottled.
243.1	258.6		Dolomite, light gray, mottled, fine-grained, vuggy. 0.2' fault gouge at 250.2'.
258.6	263.0	18° at 261'	Dolomite, light gray, fine-grained, laminated 0.1' white-brown chert at base.
263.0	267.1		Dolomite, dark gray, crystalline, mottled
267.1	269.7		Dolomite, medium gray, fine-grained, laminated, white carbonate spots.
269.7	270.0	23° at 270'	Chert, black.
270.0	277.4		Dolomite, light-medium gray, medium grained, mottled. 1" black shale at 272.7'.
277.4	279.5		Dolomite, medium gray, fine-grained, mottled, fractured. 1" edgewise conglomerate at base.
279.5	280.0		Dolomite, light gray, fine-grained.
280.0	281.4	25° at 281'	Dolomite, dark gray, fine-grained, fracture dip 82° opposite bedding. Banding.
281.4	282.1		Dolomite, dark gray, crystalline, oolitic Fragmentary. "Calico Rock".

Depth in feet		Dip to core and depth where taken		Description of core.
From	To			
282.1	283.7			Dolomite, dark gray, fine-grained, mottled
283.7	287.0			Dolomite, light gray, fine-grained, mottled.
287.0	288.6			Dolomite, dark gray, crystalline, vuggy.
288.6	290.7			Dolomite, light gray, fine-grained, mottled, vuggy.
290.7	293.6			Dolomite, medium gray, fine-grained, banded.
293.6	294.4			Dolomite, as above, silicified. $ZnCO_3$ in vugs.
294.4	297.7	21°	at 297'	Conglomerate, medium gray, chert pebbles.
297.7	299.7			Dolomite, medium gray, fine-grained, banded.
299.7	300.1	24°	at 300'	Dolomite, dark and light gray, speckled.
300.1	301.9			Dolomite, medium gray, fine-grained, mottled
301.9	304.1			Dolomite, light gray, fine grained, laminated. 0.1' sand at 303' and 0.2' at 303.4'.
304.1	305.0			Dolomite, dark gray, crystalline, mottled.
305.0	311.6	30°	at 308'	Dolomite, light-medium gray, fine-grained, banded.
311.6	313.9			Dolomite, dark gray, crystalline, mottled, vuggy.
313.9	316.2	20°	at 314'	Dolomite, light-medium gray, banded. 0.1' edgewise oolite at base.
316.2	319.3			Dolomite, dark gray, fine-grained, banded and mottled.
319.3	321.3	22°	at 321'	Dolomite, medium gray, fine-grained, shale, 0.1 blue-gray oolite at base.
321.3	323.2			Dolomite, medium gray, fine-grained.
323.2	326.3			Limestone, dark gray, fine-grained, mottled.
326.3	336.1	21° 18°	at 331' at 336'	Dolomite, light gray, fine grained, banded, 0.4' dark gray shale dolomite/gypsum? at 327.4-327.8. 0.7 very fine sand and edgewise 331.4. 0.2' black and white chert at 335'.

Depth in feet		Dip \perp to core and depth where taken	Description of core.
From	To		
336.1	340.1		Dolomite, dark gray, fine-grained, mottled.
340.1	347.9	20° at 347'	Dolomite, light-medium gray, banded, fine-grained.
347.9	351.5		Dolomite, light gray, fine-grained, mottled. upper 0.4' cherty.
351.5	354.4	17° at 352'	Dolomite, light-medium gray, banded and mottled.
354.4	355.2		Dolomite, medium gray, large edgewise conglomerate.
355.2	365.4		Dolomite, medium-dark gray, fine-grained, banded.
365.4	366.9		Dolomite, light gray, dark bands, fine-grained.
366.9	369.9	20° at 367'	Dolomite, as above, badly fractured. Strong fault at 368.7' dips 60°. 1/2" gouge. 1/2" dark to oolite at base.
369.9	376.8		Dolomite, medium gray, fine-grained.
376.8	377.8	24° at 377'	Oolite, light gray-brown. thick outer shell-light gray.
377.8	380.0		Dolomite, medium gray, banded, fine-grained, limy, Basal 1.1' is edgewise (contorted).
380.0	386.5		Limestone, brown, fine-grained. Lower 0.5' is leached.
386.5	397.7	15° at 388' 18° at 394' 15° at 397'	Dolomite, medium gray, banded, fine-grained, limy. Lower 0.3' silicified.
397.7	400.1		Limestone, brown-gray, fine-grained, Large edgewise conglomerate, fragments throughout, particularly near base.
400.1	405.3		Limestone, ribboned, medium-dark gray, fine-grained.
405.3	410.9		Dolomite, light gray, banded, fine-grained, limy.

Depth in feet		Dip \perp to core and depth where taken	Description of core.
From	To		
410.9	412.3		Limestone, medium gray, fine-grained, stylolitic.
412.3	415.6	19° at 415'	Dolomite, as above, 0.1' very fine edge-wise conglomerate at base.
415.6	436.1	21° at 430' 22° at 436'	Limestone, light-medium gray, fine-grained, ribboned and banded.
436.1	438.4		Dolomite, light-medium gray, banded, fine-grained, limy.
438.4	443.0		Limestone, medium gray, banded, fine-grained.
443.0	449.0		Dolomite, light gray, fine-grained, mottled, vuggy.
449.0	478.1		Limestone, ribboned, fine grained, light to dark gray. 0.1' edgewise at 469.6'.
478.1	483.0		Limestone medium gray, fine grained, small edgewise fragments throughout, Limestone, medium gray, fine grained stylolitic, fracture cuts core from 490-496.1' nearly vertical.

Bottomed at 496.1'.
10/14/44

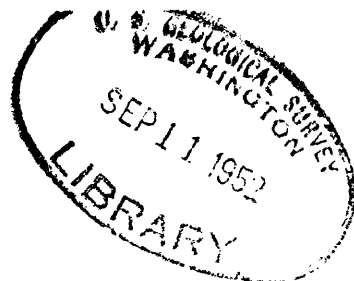
Mineralization

T FeS at 103.6'

St 8 pr

4

U. S. Bureau of Mines Project #15-167
Stiner #4



Bearing: N10E
Coordinates:

Dip 40° N
30' from Davis S shaft

Logged by Deane F. Kent

Stiner zinc prospect

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	77.5		Overburden.
77.5	80.0		Limestone, medium gray, fine-grained, mottled, badly weathered (48% core recovery) Lost Water at 80.0'.
80.0	86.1	58° at 86'	Limestone as above, Fault dips 82° at 84.8-85.4'.
86.1	88.1		Dolomite, light-medium gray, banded, fine-grained, slightly fractured,
88.1	90.0		Limestone, medium gray, crystalline, edgewise fragments.
90.0	91.2		Dolomite, as above.
91.2	93.1		Limestone, medium gray, fine-grained, edgewise and p. c. fragments. Fault at base with 0.1' gouge; dips 65°.
93.1	95.0		Dolomite, light gray, fine grained; grades into limestone at base.
95.0	99.1		Limestone, light-medium gray, fine-grained, a few ribbons of dolomite at top. Bottom contact is stylolitic.
99.1	101.7	56° at 101.7'	Limestone, light-medium gray, many edgewise fragments.
101.7	103.1		Limestone, dolomitic, light gray; scattered sand grains at base.
103.1	125.0		Limestone, medium gray, fine-grained, slightly fractured. 0.2' weathered zone at 120.0'.

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
125.0	137.3	52° at 137.3'	Limestone, as above but mottled. Fault dips 33° at 128.8'. Weathered at 131.8' 133.1 (on 80° joint).
137.3	138.4		Limestone, medium gray, oolitic.
138.4	152.1		Limestone, medium gray, fine-grained, mottled, slightly weathered zones at 141.1, 143.3, 148.4' (0.2' weathering) no core loss.
152.1	157.0		Limestone, dolomitized, weathered, fractured; some white gangue dolomite. 1.3' core loss.
157.0	170.5		Limestone, brecciated, partly dolomitized mineralized Zn & Fe. Weathered zone at 158.5; 167.2; 167.8.
170.5	178.3		Limestone, medium gray, oolitic, slightly fractured, stylolitic.
178.3	201.8	56° at 180' 56° at 198' 55° at 200'	Limestone, banded, medium gray, fine-grained, with some dolomite ribbons. Cavity at 185.0-186.0. 1.2' fractured and tiny faults at 190.2. Cavity at 198.0-200.4, slightly fractured below tiny faults above.
201.8	207.4		Limestone, medium gray, fine-grained, weathered at 205.8 with fracturing 1' above and below.
207.4	216.1		Limestone, ribboned, light-medium gray, fine-grained, ribbons are brecciated in places but was probably primary (during sedimentation) very little fracturing.
216.1	222.0	55° at 220'	Limestone, medium gray, fine-grained, some banding, fault at 217.1 dips 40° \perp to core, strikes \perp to bedding.

Bottomed at 220'
10/25/44.

Mineralization on Stiner DDH #4

	ZnS	FeS ₂
159.0-161.0	Tr.	Tr.
161.0-162.0	3.0	"
162.0-163.0	4.0	"
164.0-165.0	Tr.	-
165.0-166.0	Tr.	Tr.
166.0-167.0	"	"
167.0-168.0	"	2.5%
168.0-169.0	1.0	Tr.
169.0-170.0	Tr.	-
170.0-171.0	8.0	Tr.

U. S. BUREAU OF MINES PROJECT

Stiner DDH #5

Coordinates: 5812N, 4928E

Bearing: S10°W

Started: 10/28/44

Angle: 45° S

Elevation: 1110'

Completed: 11/3/44

Logged by Deane F. Kent

Stiner zinc prospect

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	8.0		Surface.
8.0	9.2		Dolomite, dark gray, crystalline, oolitic, smelly.
9.2	27.4		Dolomite, dark gray, coarse grained, vuggy, cryptozoan structures scattered throughout, several vugs filled with white gangue dolomite. (Base of core at 30'), very poor core recovery in upper part of this section.
27.4	29.5		Dolomite, light gray, fine grained.
29.5	32.8		Dolomite, dark gray, as above.
32.8	34.2		Dolomite, medium gray, fine grained.
34.2	37.5	43° at 35'	Dolomite, light gray, fine grained, slight mottling.
37.5	38.5		Cavity.
38.5	40.3	42° at 40'	Dolomite, medium-dark gray, fine grained, mottled.
40.3	41.8		Dolomite, light gray, fine grained, some lamination.
41.8	49.8		Dolomite, dark gray, crystalline, smelly, poor recovery.
49.8	51.5		Dolomite, light gray, fine grained.
51.5	53.1	41° at 53'	Dolomite, light-dark gray, banded, fine grained.

Depth in feet		Dip 1 to core and depth where taken	Description of core
From	To		
53.1	58.1		Dolomite, dark gray, fine grained, mottled, smelly, .1' black chert at base.
58.1	82.3	43° at 79'	Dolomite, light gray, fine grained, vuggy, light mottling, fractured.
82.3	88.4		Dolomite, dark gray as above. (Copper Ridge).
88.4	98.2		Dolomite, light gray, as above (Copper Ridge).
98.2	125.8	42° at 117' 42° at 125' (on ss)	Dolomite, light-medium gray, banded, more limy than above sand streaks from 125' to 126.8'. No core recovered from 106' to 116.0'.
125.8	127.7		Dolomite, light gray, fine grained, mottled, badly weathered with pebbles at 126.6, some are white chert, upper part has some chert.
127.7	138.8	39° at 131' 42° at 137'	Dolomite, light-medium gray banded, 1.2' breccia at 133.5' with some pyrite in interstices, whole more limy than good Copper Ridge.
138.8	141.8		Dolomite, dark gray, crystalline, very vuggy.
141.8	144.9		Dolomite, light-medium gray, fine grained, some wavy solifluction banding.
144.9	149.0		Dolomite, dark gray, fine grained, mottled.
149.0	151.5	37° at 150'	Dolomite, shaly, medium gray, fine grained, scattered sand (.1') at base.
151.5	156.4		Dolomite, light gray, fine grained, light banding.
156.4	159.6		Dolomite, dark gray, mottled, crystalline-fine grained.
159.6	162.7	41° at 161'	Dolomite, light gray, fine grained, light banding.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
162.7	163.9		Dolomite, dark gray, fine grained, banded.
163.9	169.8		Dolomite, light gray, fine grained, banded, .1' black chert at 167', scattered sand at 165.5 (.1').
169.8	174.5		Dolomite, dark gray, fine grained, mottled.
174.5	181.7	46° at 176'	Dolomite, light gray, fine grained, light banding.
181.7	183.7		Dolomite, light-medium gray, fine grained, somewhat mottled, vuggy, fault at base dips 37° minor.
183.7	188.0	44° at 186'	Dolomite, light gray, fine grained, banding, minor fault 186.4 same direction as bedding dips 21°. 1" edgewise at base.
188.0	189.7		Dolomite, dark gray, fine grained, mottled.
189.7	192.2		Dolomite, light-medium gray, banded, fine grained, patches of edgewise.
192.2	195.6		Dolomite, dark gray, fine grained, mottled (dolomitic limestone?)
195.6	197.2	42° at 196'	Dolomite, light-medium gray, banded, fine grained, .2' edgewise at base.
197.2	201.2	41° at 201'	Dolomite, medium gray, fine grained, some banding.
201.2	209.8	41° at 207'	Dolomite, light-medium gray, banded, fine grained, minor fault at 202.7 dips 50° opposite bedding.
209.8	214.7		Dolomite, light-medium gray, fine grained, light -banding mottled.
214.7	220.2		Dolomite, medium gray, fine grained, light banding.

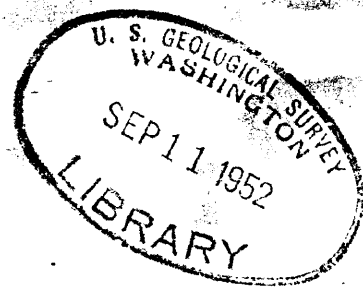
Depth in feet		Dip to core and depth where taken	Description of core
From	To		
220.2	223.1	42° at 222'	Dolomite, light gray, fine grained, 1' white chert at 220.7', .4' edgewise at 222.0'.
223.1	224.9		Dolomite, dark gray, fine grained, banded and mottled.
224.9	225.8		Dolomite, light-medium gray, fine grained, very contorted with small masses of edgewise.
225.8	232.2	42° at 227' 42° at 231'	Limestone, brown, fine grained, banded and mottled.
232.2	236.0		Dolomite, light-medium gray, banded, fine grained, some fractures and tiny faults.
236.0	248.0	41° at 244'	Cavity, (may be main fault).
248.0	252.7		Dolomite as above, badly fractured and many small faults, different dips.
252.7	261.5		Limestone, brown fine grained, patches of edgewise, mottled and banded.
261.5	267.7	40° at 263' 40° nat 266'	Dolomite, light gray, banded, badly weathered at top, whole is cut by many small faults dipping 43° oppo- site bedding.
267.7	269.2		Cavity, evidently weathering on top of limestone.
269.2	273.0		Limestone, brown, mottled, fine grained
Bottomed at 273.0'			

Mineralization

Tr. FeS at 128.0'
Tr. FeS at 134.5'

U. S. BUREAU OF MINES PROJECT

Stiner DDH #6



Coordinates: 5388N, 6075E
Bearing: N10°E
Started: 11/6/44

Angle: 80°N
Elevation 1188'
Completed: 11/18/44

Logged by Deane F. Kent

Stiner zinc prospect

Depth in feet		Dip to core and depth where taken.	Description of core
From	To		
0	22.0		Overburden (no core) (base Bx core at 60.0').
22.0	22.5		Dolomite, light gray, fine grained, mottled.
22.5	27.5		Dolomite, dark gray, crystalline, mottled, smelly.
27.5	59.3		Dolomite, light gray, fine grained, mottled (.6' dolomite dark gray at above at 44.0')
59.3	100.1		Dolomite, dark gray, fine grained, mottled, smelly (very poor recovery.)
100.1	110.1		Dolomite, dark gray, fine grained, mottled and ribboned, lower 1.0' is "calico rock".
110.1	123.1	15° at 120'	Dolomite, dark gray, fine grained, banded.
123.1	144.0		Dolomite, dark gray, mottled, crystalline, smelly, with patches "Calico rock" much white gangue dolomite in fractures.
144.0	145.2		Cryptozoan chert, white.
145.2	149.5		Dolomite, dark gray, as above.
149.5	154.8	16° at 154'	Dolomite, light gray, banded, fine grained.

Depth in feet		Dip to core and depth where taken		Description of core
From	To			
154.8	157.7			Dolomite, dark gray, fine grained, banded.
157.7	227.9			Dolomite, dark gray, crystalline, mottled, smelly, patches of "calico rock".
227.9	234.7	21°	at 234'	Dolomite, dark gray, fine grained, banded.
234.7	236.6			Dolomite, dark gray, crystalline, mottled, smelly, etc.
236.6	240.0	32°	at 238'	Dolomite, medium gray, fine grained, banded.
240.0	241.6			Dolomite, dark gray, as above, fractured.
241.6	242.9			Dolomite, mixture (breccia?) of light and dark gray dolomite. fine grained with some white chert.
242.9	244.9			Dolomite, dark gray as above, vuggy.
244.9	246.2			Dolomite, light gray, fine grained, light mottlings.
246.2	272.8			Dolomite dark gray as above, fault at 252.0 dips 65° opposite bedding. Some parts siliceous, cryptozoan structures in basal 10'.
272.8	273.9	22°	at 277'	Dolomite, light-medium gray, crystalline
278.9	295.3			Dolomite, dark gray, fine grained, mottled, smelly. Fault 292.5-298.2.
295.3	298.2	16°	at 296'	Dolomite, light-medium gray, banded brecciated.
298.2	309.0			Dolomite, light gray, crystalline, vuggy, mottled. 0.1' white chert at 307.6'.
309.0	310.9			Dolomite, medium gray, medium grained, mottled.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
310.9	314.8		Dolomite, light gray, fine grained, mottled.
314.8	321.7	16° at 320'	Dolomite, medium gray, fine grained, banded.
321.7	331.6		Dolomite, light-medium gray, fine grained, mottled, vuggy.
331.6	341.9	19° at 340'	Dolomite, medium-dark gray, fine grained, banded.
341.9	342.2		Dolomite, medium gray, fine grained, mottled.
342.2	346.5		Dolomite, medium-dark gray, fine grained, banded 0.5' oolitic chert at base.
346.5	350.6	20° at 348'	Dolomite, medium-dark gray, banded, fine grained.
350.6	351.8		Dolomite, dark gray, crystalline, white gangue dolomite (calico rock).
351.8	352.8		Dolomite, medium gray, fine grained, mottled.
352.8	354.8		Dolomite, light gray, fine grained, light banding 0.4' fine sand at 354.0'
354.8	356.1		Dolomite, dark gray as above.
356.1	364.5		Dolomite, medium-dark gray, banded, fine grained.
364.5	365.8		Dolomite, dark gray as above.
365.8	369.5	20° at 368'	Dolomite, light-medium gray, banded, fine grained.
369.5	372.0		Dolomite, dark gray, crystalline, vuggy.
372.0	373.9		Dolomite, medium gray, shaly.
373.9	374.2		Chert, blue oolitic.
374.2	377.0		Dolomite, light-medium gray, fine grained

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
377.0	378.9		Dolomite, dark gray, fine-grained, 0.1' gray chert at base.
378.9	384.2		Dolomite, light-dark gray banded, 0.3' mixed sand and oolitic chert at base.
384.2	388.9		Dolomite, light gray, fine grained.
388.9	393.6	19° at 393'	Dolomite, medium-dark gray, crystalline mottled.
393.6	401.1	18° at 397'	Dolomite, light-dark gray, banded, fine grained.
401.1	403.5		Dolomite, light gray, fine grained, mottled base partially silicified.
403.5	408.5		Dolomite, medium gray, fine grained, mottled and banded.
408.5	412.3		Dolomite, brown, dense, patches of edgewise conglomerate.
412.3	424.8	21° at 413'	Dolomite, light-medium gray, banded, fine grained.
424.8	425.5		Dolomite, medium gray, fine grained, mottled. Basal 10.4 fine oolite.
425.5	433.5	16° at 427'	Dolomite, medium-dark gray, fine grained, banding (0.1 blue oolitic chert 427.5)
433.5	439.5	20° at 434'	Dolomite, limy, medium gray, fine grained, banded slump structure.
439.5	442.0		Dolomite, dark gray, fine grained, mottled.
442.0	453.1		Dolomite, light gray, fine grained, shaly.
453.1	460.6	19° at 454'	Limestone, brown ribbon, fine grained, patches of edgewise.
460.6	466.0		Dolomite, light-medium gray, fine grained, banded fractured, calcium filled.

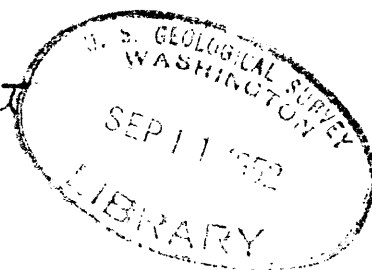
Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
465.0	471.1		Limestone, brown, mottled.
471.1	473.4		Dolomite, light gray, fine grained.
473.4	483.8		Limestone, brown, banded, fine grained.
483.8	485.9		Limestone, brown, medium grained, edge- wise conglomerate.
485.9	489.7	22° at 486'	Dolomite, light gray, banded, fine grained, limy.
489.7	492.4		Limestone, brown, fine grained, mottled.
492.4	494.3		Dolomite, light medium gray banded, fine grained.
494.3	497.7	25° at 495'	Dolomite, light gray, fine grained, mottled.
497.7	498.4		Dolomite, medium gray, fine grained, mottled.
498.4	501.5		Dolomite, light medium gray banded, fine grained.
501.5	515.0		Limestone, ribbon-medium-dark gray, fine grained, Traces pyrite.

Hole bottomed at 515.0'

No Mineralization

100 (200)
188
7

Kent, Deane F
Stiner zinc prospect



BUREAU OF MINES PROJECT

Stiner DDH #7

Coordinates: N5280; E6640
Bearing: N10°E
Started: 11/23/44

Elevation: 1133
Dip 79°N
Completed: 12/2/44

Logged by A. L. Brokaw.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	10		Surface.
10.0	26.6		Dolomite, medium-dark gray, fine grained, weathered, some white gangue dolomite.
26.6	30.0		Dolomite, medium gray, fine grained, slightly weathered.
30.0	39.3		Dolomite, light gray, fine grained, abundant chert. 50% core recovery.
39.3	50.0	30° at 45'	Dolomite, medium gray, fine grained, banded. end of BX core.
50.0	54.6		Dolomite, medium gray, fine grained, slight fracturing, 50% recovery.
54.6	61.0		Dolomite, medium gray as above. 0.1' sand near base 50% recovery.
61.0	72.6		Dolomite, medium gray, fine grained, brown chert, core all broken 10% recovery.
72.6	89.5	30° at 86'	Dolomite, dark gray, fine grained shattered, mottled, stylolitic, some coarse white dolomite, banded.
89.5	112.0		Dolomite, dark gray, crystalline, mottled white gangue dolomite.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
112.0	120.5		Dolomite, medium gray, crystalline, sand at 120.3'.
120.5	138.0		Dolomite, dark gray, crystalline, medium grained, fractured, white gangue dolomite.
138.0	146.6		Dolomite, medium gray, dark gray, cryst- alline, fractured, white gangue dolomite.
146.6	146.8		Sand.
146.8	148.7		Dolomite, medium-dark gray, crystalline mottled.
148.7	180.0		Dolomite, medium gray, fine grained, fractured, very poor core recovery, less than 25%.
180.0	187.0	32° at 181'	Dolomite, dark gray, fine grained, crystalline in lower part.
187.0	191.1	40° at 191'	Dolomite, dark gray, fine grained, fractured, white gangue dolomite.
191.1	195.0		Dolomite, medium gray, fine grained, banded. Cryptozoan chert at 194.6'.
195.0	198.0		Dolomite, medium-dark gray, mottled white gangue dolomite.
198.0	200.6		Dolomite, medium gray, fine grained, fractured (some crystalline).
200.6	201.0		Chert, light gray-blue.
201.0	211.0		Dolomite, medium gray, fine grained, crystalline, mottled light gray and medium gray. Cryptozoan chert at 205'. 0.1' oolitic at 209.5'.
211.0	234.0		Dolomite, medium-dark gray, fine grained, mottled, white dolomite, fractured.
234.0	239.0		Dolomite, medium-light gray, fine grained, 0.5' light gray chert at 235'.

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
239.0	244.6	20° at 244'	Dolomite, medium-dark gray, fine grain- ed, some crystalline near base.
244.6	245.8		Dolomite, medium-dark gray, crystalline
245.3	249.6	27° at 249.6	Dolomite, medium gray, fine grained, banded (Calico?).
249.6	254.0	20° at 250'	Dolomite, medium gray, fine grained, mottled, white dolomite.
254.0	256.5		Dolomite, medium gray, fine grained, banded.
256.5	260.0		Dolomite, medium-light gray, mottled crystalline near top.
260.0	266.7		Dolomite, light gray, fine grained, mottled.
266.7	268.7		Dolomite, medium gray, crystalline, vuggy.
268.7	272.0	30° at 272'	Dolomite, light gray, fine grained, mottled in lower part.
272.0	276.2		Dolomite, medium gray, banded, pyritic.
276.2	279.0		Dolomite, dark gray, fine grained, fractured (fault dips 80° as beds.)
279.0	279.4		Dolomite, edgewise--chert oolitic-dark.
279.4	280.4		Dolomite, medium gray, fine grained, light bands.
280.4	282.5		Dolomite, light gray, fine grained, mottled.
282.5	284.9		Dolomite, dark gray, fine grained, mottled and fractured.
284.9	290.7	20° at 290'	Dolomite, light-medium gray, fine grained, mottled.
290.7	292.7		Dolomite, medium gray, fine grained, banded, small faults.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
292.7	294.0		Dolomite, dark gray, fine grained.
294.0	296.4		Dolomite, light gray, fine grained, mottled.
296.4	302.4		Dolomite-dark gray, fine grained, patches zinc pyrite at 299.8.
302.4	308.7	21° at 304'	Dolomite, light gray, medium grained, bands.
308.7	313.0		Dolomite, light-dark gray, fine grain- ed, badly fracture.
313.0	317.0	23° at 314'	Dolomite, light gray, fine grained, light bands (fault at base, fault from 316.1-317').
317.0	319.0	20° at 318'	Dolomite, light gray, fine grained, badly fractured.
319.0	321.5		Dolomite, light-medium gray, fine grained, mottled.
321.5	325.9		Dolomite, light-medium gray, fine grained, banded, small faults 1- vertical distance. Dips 75° 1 dip beds.
325.9	329.0		Dolomite, dark gray, crystalline, mottled, white chert. trace zinc.
329.0	331.8		Dolomite, light-medium gray, fine grained, fractured.
331.8	334.3		Dolomite, dark gray, as above.
334.3	336.4		Dolomite, medium gray, fine grained, banded.
336.4	338.7		Dolomite, medium gray, crystalline, mottled, fractured.
338.7	341.7		Dolomite, light gray, fine grained, light banding.
341.7	343.2	25° at 343'	Dolomite, medium gray, fine grained, light banding.
343.2	348.4		Dolomite, light gray as above.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
348.4	352.5	27° at 349'	Dolomite, medium-dark gray.
352.5	354.5		Dolomite, light gray, fine grained, light mottling.
354.5	359.0	27° at 358'	Dolomite, medium-dark gray, banded, fine grained.
359.0	360.6		Dolomite, light gray, fine grained.
360.6	363.4		Dolomite, light-medium gray, mottled, (limestone?) 0.1' zinc at base.
363.4	370.0		Dolomite, light to dark gray banded, fine grained 0.2' edgewise at 366'.
370.0	373.2		Dolomite, medium gray, fine grained, mottled (limestone?) basal 1.0' silicified.
373.2	378.5	27° at 375'	Dolomite, light-dark gray banded, fine grained. 1.2' black chert at base oolitic).
378.5	387.5		Dolomite, light gray, fine grained, banded.
387.5	400.0	27° at 394'	Dolomite, medium-dark gray, banded, 0.1' sand at 393.0. 0.3 edgewise sand at 394.1. 0.2' fine sand edgewise at 396.9.
400.0	402.5		Dolomite, medium gray, fine grained, mottled (limestone).
402.5	405.0	24° at 405'	Dolomite, light medium gray, fine grained, banded.
405.0	407.3		Dolomite, shaly, grayed tinges.
407.3	413.8		Dolomite, medium gray, fine grained, banded.
413.8	415.9		Limestone, brown, fine grained, edge- wise.
415.9	416.6		Dolomite, light gray, fine grained.

Depth in feet		Dip 1 to core and depth where taken		Description of core
From	To			
416.6	422.0			Limestone, brown, dolomite ribbons.
422.0	429.2	23°	at 424'	Dolomite, light-medium gray, banded, fine grained.
429.2	433.3	22°	at 430'	Limestone, brown, ribboned, dense.
433.3	435.5			Dolomite, light-medium gray, banded, fine grained, wavy.
435.5	439.6			Limestone, as above.
439.6	441.8			Dolomite, light gray, fine grained, light banding.
441.8	473.0	22°	451'	Limestone, as above, light gray at top .6'.
		23°	at 456'	
		23°	at 472'	
473.0	478.2			Dolomite, light gray, mottled (re- crystalline?), fractured, some silification.
478.2	501.0	21°	at 482'	Limestone, brown, dense, ribboned.
		24°	at 496'	
501.0	510.8			Limestone, brown, fine grained, fine edgewise patches, no ribbons.
510.8	512.0	23°	at 511'	Limestone, brown, fine grained, ribboned.

Hole bottomed at 512.0'

578-pr
8

Kent, Deane F

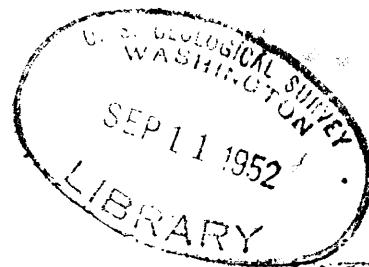
Stiner zinc prospect

BUREAU OF MINES PROJECT

Stiner DDH #8

Coordinates: N5204; E5730
Bearing and Dip - Vertical
Started: 12/5/44

Elevation: 1133
Logged by D. F. Kent
Completed 12/13/44



Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	12.0		Overburden.
12.0	82.5		Dolomite, medium-dark gray, crystalline mottled, fractured with white gangue dolomite, smelly (Base BX core at 40.0' lower 0.3' cherty.
82.5	87.9		Dolomite, dark gray, fine grained, light banding.
87.9	90.8		Dolomite, dark gray, crystalline, mottled, smelly.
90.8	92.5		Dolomite, dark gray, fine grained, light banding.
92.5	95.7		Dolomite, dark gray, mottled, fine grained, smelly upper 0.9' "calico rock".
95.7	96.8	37° at 96'	Dolomite, light-medium gray, fine grained, some mottling.
96.8	97.9		Dolomite, dark gray, mottled, fine grained, smelly.
97.9	99.6		Dolomite, light gray, fine grained, light mottling.
99.6	101.0		Dolomite, dark gray as above.
101.0	102.5		Dolomite, medium-light gray, fine grained, light fracturing, light mottling.
102.5	125.2		Dolomite, dark gray as above, 0.8' cherty and cryptozoan structure at 114.6'. 42

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
125.2	127.1		Dolomite, medium gray, fine grained.
127.1	133.5		Dolomite, light gray, fine grained, mottle (dark), fractured.
133.5	139.4		Dolomite, dark gray as above. 0.1' cryptozoan chert at 136.0'.
139.4	141.9		Dolomite, medium gray, fine grained, light fractures.
141.9	148.8		Dolomite, dark gray, fine grained, wavy banding, some fracturing.
148.8	151.4		Dolomite, medium gray, fine grained, light banding. 0.2' chert at base mottled with FeS ₂ (silicified).
151.4	165.7		Dolomite, light gray, medium grained, fractured.
165.7	166.5		Dolomite, dark gray, crystalline, mottled, fractured.
166.5	170.0		Cavity.
170.0	174.3		Dolomite, medium-light gray, fine grained Upper 0.2' brecciated.
174.3	175.6		Dolomite, medium-dark gray, scattered oolites throughout, fine grained.
175.6	178.3		Dolomite, light gray, fine grained, mottled, lower 0.7' badly brecciated. Fault plane dips 75°.
178.3	180.8		Dolomite, medium gray, fine grained, fractured.
180.8	182.0		Dolomite, dark gray, crystalline, (calico).
182.0	183.5		Dolomite, medium gray, fine grained, mottled.
183.5	183.7		Dolomite, light gray, fine grained, fractured, fault at base, banded, dips 65° - 90° from bedding.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
183.7	184.5		Dolomite, medium gray, fine grained, banded, black shale parting at base.
184.5	185.4		Dolomite, dark gray, crystalline, mottled, fault at base with 0.05' gouge dips 70°.
185.4	191.1	20° at 189'	Dolomite, medium-dark gray, banded, fine grained, fractured.
191.1	192.7		Dolomite, dark gray, mottled, fine grained (limestone??).
192.7	195.3		Dolomite, light gray, fine grained, light banding, 0.2' fine sand in middle.
195.3	196.2		Dolomite, dark gray as above.
196.2	198.6		Dolomite, light-medium gray, banded, fine grained.
198.6	204.4		Dolomite, medium-dark gray, mottled, upper 1.4' badly fractured, fine grained (1% FeS ₂ and ZnS).
204.4	208.3		Dolomite, light gray, fine grained.
208.3	210.5		Dolomite, medium gray, fine grained, light banding.
210.5	211.5	19° at 211'	Dolomite, edgewise with scattered fine sand, fine grained, light gray.
211.5	213.4		Dolomite, light gray, fine grained, 0.4' mixed oolite and sand at base with 0.3' mixed edgewise and sand above that.
213.4	217.0		Dolomite, light gray, fine grained, light banding.
217.0	219.4	23° at 218'	Dolomite, dark gray, fine grained, banded, mottled.
219.4	229.4		Dolomite, medium-dark gray, banded, fine grained, patches of edgewise tiny faults.

Depth in feet		Dip to core and depth where taken	Description of core.
From	To		
229.4	237.0	20° at 236'	Dolomite, light gray, fine grained, mottled, upper 0.6' partially sili- cified.
237.0	239.7		Dolomite, medium-dark gray, fine grained, mottled (limestone??).
239.7	251.5	20° at 243'	Dolomite, medium-dark gray, banded, fine grained.
251.5	253.5		Dolomite, light gray, fine grained, banded.
253.5	262.4		Dolomite, medium gray, fine grained, mottled.
262.4	267.2		Dolomite, light gray as above.
267.2	270.1	21° at 270'	Dolomite, medium-dark gray, banded, fine grained.
270.1	272.6		Dolomite, light gray, fine grained, banded.
272.6	273.8		Dolomite, dark gray as above. 0.5' blue oolite at base.
273.8	275.3		Dolomite, light gray, fine grained, banded upper 0.7' fine-coarse edge- wise.
275.3	277.7		Dolomite, medium-dark gray, fine grained, mottled, some replacement ZnS at top.
277.7	284.2	21° at 281'	Dolomite, light gray, fine grained, finely laminated.
284.2	288.7		Dolomite, light-dark gray, banded, fine grained.
288.7	289.5		Limestone, brown, fine grained, mottled.
289.5	294.4	26° at 290'	Dolomite, light gray, fine grained.
294.4	296.6		Limestone, ribboned, brown, fine grained.
296.6	300.6		Limestone light gray, fine grained, banded.

Depth in feet		Dip 1 to core and depth where taken	Description of core.
From	To		
300.6	305.8		Limestone, ribboned, brown, finegrained.
305.8	309.2		Dolomite, light gray, fine grained, ribboned.
309.2	310.7		Limestone, brown, banded, tiny faults.
310.7	312.7		Dolomite, light-medium gray, banded, fine grained.
312.7	315.2		Dolomite, light gray, fine grained, mottled.
315.2	317.0		Dolomite, medium gray, fine grained, (limestone)
317.0	317.8		Dolomite, light-medium gray banded, fault at base dips 60° 90° bedding.
317.8	319.9		Limestone, brown, partially dolomitiz- ed. Fault at 319.0' dips 65°.
319.9	322.8		Limestone-light-medium gray, fine grained, fractured 0.8' edgewise at top.
322.8	342.0	20° at 328' 19° at 335'	Limestone brown, ribboned. 327.6'-0.1' mixed edgewise and banded. 0.1' dark oolitic chert 334.5'

Hole bottomed at 342.0'

Mineralization

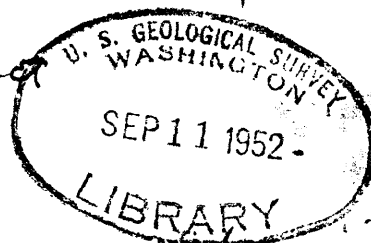
146-147.3	Trace ZnS
184.5-185.4	Trace FeS
198.6-199.0	1% FeS ₂ and ZnS
275.4-275.6	Trace ZnS
312.7-312.9	Trace ZnS
307.5-307.8	Trace ZnS
316.0-316.9	15% ZnS

Kent, Deane F

Stiner zinc prospect

BUREAU OF MINES PROJECT #13

Stiner #9.



Coordinates: 1521°; E5732
 Bearing:
 Started: 1/12/45

Dip: 90°
 Elevation: 1142
 Completed: 1/24/45

Logged by Deane F. Kent and Robert Laurence

Depth in feet		Dip to core and depth where taken		Description of core
From	To			
0	2.0			Surface.
2.0	12.0			Dolomite, dark gray, mottled, crystalline, vuggy, white carbonate spots, smelly; 0.5' cryptozoan chert at 6.2'. (base of core at 5.0').
12.0	13.2	18°	at 13'	Dolomite, dark gray, fine grained, banded. Scattered sand grains.
13.2	14.2			Dolomite, light gray, fine grained, light banding, (weathered).
14.2	56.0	28°	at 41'	Dolomite, dark gray, same as at 2.0-12.0. 0.2' weathered at 40.0'. 0.6' "calico" at 41.0'. 0.6' leached breccia at 51'.
56.0	65.4			Dolomite, dark gray, fine grained, ribboned banding.
65.4	92.6			Dolomite, dark gray, mottled, crystalline, vuggy, smelly, white carbonate spots, 0.2' chert at base.
92.6	98.8	20° 19°	at 96' at 98'	Dolomite, dark gray, fine grained, banded. 0.1' blue colite at 98.5'.
98.8	102.0			Dolomite, dark gray - same as 65.4-92.6'.
102.0	107.0	17°	at 105'	Dolomite, light-medium gray, fine grained, banded.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
107.0	108.2		Dolomite, dark gray, (same as 65.4-92.6)
108.2	109.6		Dolomite, light gray, fine grained, banded.
109.6	120.4		Dolomite, dark gray, crystalline, mottled, vuggy, smelly, white carbon- ate spots, 0.2' gouge at 120.2'.
120.4	133.0		Dolomite, dark gray, crystalline, mottled, vuggy, smelly, white carbon- ate spots. Crypts through upper 4'. Small fault dips 85° at 128.0'. Faulting at 131.6' - variable dip.
133.0	138.7		Dolomite, light gray, crystalline, dark mottling.
138.7	147.7		Dolomite, dark gray as above. Small fault dips 85° at 141.3'. 0.1' black chert at base.
147.7	148.9	30° at 148'	Dolomite, dark gray, fine grained, banded.
148.9	153.1		Dolomite, dark gray, mottled, crystal- line, etc. as above. 0.1' brown chert at base.
153.1	167.7		Dolomite, light-medium gray, medium grained. Small fault at 159.6, dip 82° striations dip 80°. Small fault at 165.0', dip 70° (at least 3" displace- ment).
167.7	169.0	17° at 169'	Dolomite, shaly, greenish-gray, some weathered brown.
169.0	170.3		Dolomite, light gray, fine grained, vuggy
170.3	173.2		Dolomite, dark gray, crystalline, etc. as above, brecciated, fractured, and mineralized.
173.2	174.4	24° at 174'	Dolomite, medium gray, fine grained, banded.
174.4	176.1		Dolomite, light gray, medium grained, mottled.
176.1	179.0		Dolomite, dark gray, mottled, crystal- line, etc. as above.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
179.0	185.6		Dolomite, light-medium gray, mottled, fine grained.
185.0	186.4		Dolomite, light gray, fine grained.
186.4	192.0		Dolomite, dark gray, fine grained, mottled. 0.4' gouge at 190.0 probable fault.
192.0	195.0	17° at 194'	Dolomite, medium-dark gray, banded, fine grained. 0.3' edgewise at 194.1'
195.0	196.8		Dolomite, medium-dark gray, mottled, fine grained, white carbonate spots.
196.8	200.1	29° at 199' 34° at 200.1'	Dolomite, light-medium gray, banded, fine grained, tiny faults. Fault at base dips 65° in direction of bedding
200.1	204.4		Dolomite, dark gray, fine grained, banded.
204.4	207.6	21° at 205'	Dolomite, light gray, fine grained, fractured. 0.2' sand and edgewise at 206.1'.
207.6	216.0	20° at 210'	Dolomite, light-dark gray, banded, fine grained.
216.0	218.1		Dolomite, dark gray, mottled, crystalline, etc. as above.
218.1	220.4		Dolomite, light gray, some dark bands, fine grained.
220.4	224.1		Dolomite, dark gray as at 216.0-218.1 0.1' fine edgewise at 224.1'.
224.1	225.4		Dolomite, shaly, greenish-gray. 1/2" fine edgewise at base.
225.4	225.7		Chert, blue gray, fine oolite.
225.7	228.5	7° at 228'	Dolomite, light-medium gray, banded, fine grained.
228.5	228.8		Dolomite, dark gray, crystalline, (stylolitic boundary).
228.8	231.7		Dolomite, medium gray, fine grained, Fault at base-see next below.

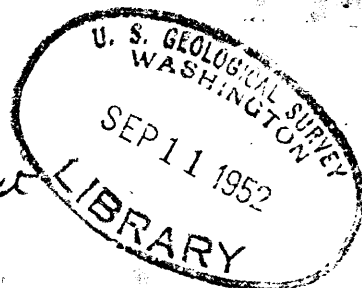
Depth in feet		Dip to core and depth where taken	Description of core
From	To		
231.7	232.0		Fault zone. Dips 50°.
232.0	237.1	15° at 234'	Dolomite, medium-dark gray, fine grained, light banding, strongly fractured. Small fault at 233.7, with thin vein of fluorite dips 58°; strike at right angle to bedding, dip opposite bedding.
237.1	238.3		Dolomite, medium-dark gray, fine grained, silicified, mottled.
238.3	240.3		Dolomite, light gray, fine grained, mottled.
240.3	245.2		Dolomite, light gray, fine grained, banded, weathered 1" above base for 1"
245.2	247.0	19° at 246'	Dolomite, dark gray, fine grained, mottled and banded, .1' blue oolite at base.
247.0	257.7	22° at 257'	Dolomite, light-medium gray, banded, fine grained, fractured in upper 1.3', 1/2" black shale parting at base.
257.7	262.5		Dolomite, light-medium gray, fine grained, .2' fine dark oolitic chert at base.
262.5	269.0		Dolomite, dark gray, medium-coarse grained, (recrystalline??).
269.0	269.4		Dolomite, light gray, fine grained, patches of edgewise throughout.
269.4	271.7	20° at 270'	Dolomite, medium-dark gray, banded, wavy banding at base.
271.7	277.0		Dolomite, dark gray, medium grained, mottled, white carbonate spots.
277.0	288.5	20° at 280' 20° at 285'	Dolomite, light-medium gray, fine grained, banded, .3' green shale parting at 280.2'.
288.5	291.0		Dolomite, light-dark gray, fine grained, brecciated.
291.0	292.7		Dolomite, dark gray, medium grained, mottled.

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
292.7	302.4	13° at 299.5' 7° at 300.5'	Dolomite, light-medium gray, fine grained, tiny faults throughout, fault at 295.0 dips 40° opposite bedding (1" gouge); fault at 300.0' dips 60° opposite bedding (1" gouge).
302.4	303.0		Dolomite, light gray, .2' brecciation at top with zinc, fine grained.
303.0	309.0		Open Cavity.
309.0	315.0	17° at 314'	Limestone, ribboned, brown fine grained, edgewise fragments.
315.0	316.4		Dolomite (recrystalline??) light gray, fine grained, banded.
316.4	321.6		Limestone, light-medium gray, fine grained, banded.
321.6	323.0		Limestone light gray, fine grained, mottled.
323.0	327.8		Limestone, brown, fine grained, ribboned and mottled, patches of coarse grained limestone in it.
327.8	329.6		Dolomite, light-medium gray, banded, fine grained, edgewise at base.
329.6	331.5		Limestone, brown, ribboned, fine grained.
331.5	334.6	17° at 334'	Limestone, brown, fine grained, banded.
334.6	336.3		Limestone, brown, fine grained.
336.3	341.1		Limestone, brown, ribboned, fine grained, fault at 339.6 dips 67°.
341.1	342.0		Limestone, brown, fine grained, banded, light gray edgewise fragments.
342.0	347.0		Limestone, brown, ribboned, dense.
347.0	348.0		Limestone, brown, crystalline.

Bottomed at 348.0'.

Mineralization on Stiner DDH #9

Trace pyrite at 41.4'
Trace ZnS at 166.4-.67.7'
Trace FeS₂ at 167.7-169.0
Strong trace Zng at 170.3-.73.2
Trace ZnS at 178.1
Trace CaF₂ at 205.6
Trace ZnS and FeS₂ at 228.5-228.8
Trace FeS₂ at 231.7-232.0
Trace CaF₂ at 233.7
Trace CaF₂ at 277.5
Trace ZnS at 302.5



Kent, Deane F.

Stiner zinc project

BUREAU OF MINES PROJECT # 11

Stiner # 10

Coordinates: N5164 E5727
Started 1/25/45
Vertical

Elevation 1127
Completed: 1/31/45

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
0	10.0		Surface.
10.0	42.0		Dolomite, dark gray, mottled, vuggy, (white carbonate), crystalline, (Base EX core at 42.0').
42.0	44.3		Cavity 5% recovery.
44.3	69.5		Dolomite, as above, white oolitic chert at 67.3.
69.5	73.5		Dolomite, medium gray, fine grained.
73.5	75.3		Dolomite, dark gray, as above.
75.3	79.8		Dolomite, light-medium gray, fine grained.
79.8	82.3		Dolomite, dark gray as above, small fault at 81.0' dips about 80°.
82.3	83.4		Dolomite, light gray, fine grained, badly fractured.
83.4	111.0		Dolomite, dark gray, as above, crypt- ozoan chert at 87.0'; 1.0' cryptozoan chert at 100.0'; fault at 107' dips 65°.
111.0	114.5		Dolomite, light-medium gray, fine grained, lower 0.3' banded.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
114.5	119.0		Dolomite, dark gray as above.
119.0	135.3		Dolomite, greenish gray, shaly.
135.3	138.0		Dolomite, dark gray, as above, 0.1' black banded chert at base.
138.0	141.6	25° at 140'	Dolomite, light-medium gray, banded, fine grained.
141.6	147.0		Dolomite, light-dark gray, mottled, crystalline.
147.0	151.0		Dolomite, light gray, crystalline, light mottling.
151.0	153.7		Dolomite, medium gray, fine grained, banded.
153.7	154.4		Calico rock.
154.4	159.2	17° at 157'	Dolomite, medium-dark gray, mottled, fine grained, 0.4' edgewise at 156.0.
159.2	159.3		Thin edgewise.
159.3	167.7		Dolomite, light gray, fine grained, banded.
167.7	172.8	17° at 169'	Dolomite, medium gray, fine grained, banded.
172.8	175.3		Dolomite, light gray, fine grained, lightly banded, scattered sand in lower 0.6'.
175.3	176.7		Dolomite, dark gray, crystalline, mottled.
176.7	185.6		Dolomite, light-medium gray, fine grained, few tiny faults.
185.6	187.5		Dolomite, medium-dark gray, banded, fine grained.
187.5	191.2	16° at 190'	Dolomite, dark gray, crystalline, mottled.
191.2	193.8		Dolomite, light-medium gray, banded, fine grained.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
193.8	196.0		Dolomite, dark gray, mottled, crystalline. 0.2' edgewise at base.
196.0	196.7		Dolomite, greenish gray, shaly. 0.3' edgewise and fine ool.
196.7	199.6	15° at 199'	Dolomite, light-medium gray, banded, fine grained, scattered sand grains in upper 1.0'
199.6	202.0		Dolomite, dark gray, fine grained, mottled, banded.
202.0	204.8		Dolomite, light gray, fine grained.
204.8	205.1		Dolomite, greenish gray, shaly.
205.1	207.0		Dolomite, medium gray, fine grained, banded.
207.0	208.4		Dolomite, light gray, fractured and brecciated.
208.4	210.4	20° at 210'	Dolomite, light gray, fine grained, light banding.
210.4	215.4	15° at 215'	Dolomite, medium-dark gray, fine grained, mottled.
215.4	221.5		Dolomite, light gray, fine grained, banded.
221.5	224.6		Dolomite, light to dark gray, mottled, faulted, brecciated, silicified, small fault at top dips 65°, fault at base dips 60°.
224.6	229.4	17° at 227'	Dolomite, medium-dark gray, banded, fine grained, fractured.
229.4	237.9		Dolomite, light gray, fine grained, light banding. 0.1' black chert at base.
237.9	245.0		Dolomite, medium gray, fine grained.
245.0	246.0		Cavity.

Depth in feet		Dip 1' to core and depth where taken		Description of core
From	To			
246.0	247.8			Dolomite as above, cryptozoan chert at 246.7, black chert at 247.7.
247.8	250.6			Dolomite, medium gray, fine grained, mottled and banded.
250.6	257.9	18°	at 255'	Dolomite, light gray, fine grained, banded.
257.9	259.7			Limestone, brown, fine grained, mottled.
259.7	260.9			Dolomite, light gray, fine grained, banded, 1.1' edgewise at top.
260.9	265.2			Limestone, brown fine grained, ribboned.
265.2	269.7	20°	at 267'	Dolomite, light gray, fine grained, full of tiny faults, weathered at 267.8', upper 1.6' is silicified.
269.7	272.0	20°	at 272'	Limestone, brown, fine grained, mottled
272.0	275.9			Dolomite, light-medium gray, banded, fine grained, tiny faults.
275.9	277.7			Limestone, brown, fine grained, mottled
277.7	283.0			Cavity ("sand cave").
283.0	287.5			Dolomite, light gray, fine grained, light banding, brecciated.
287.5	293.5			Limestone, brown, fine grained, edge- wise at base, mottled.
293.5	295.8			Dolomite, light gray, fine grained, solifluction, 0.3' edgewise at top.
295.8	300.3	19°	at 286'	Limestone, brown, fine grained, upper 1.6' silicified and dolomitized also filled with edgewise for this interval.
300.3	306.2			Dolomite, (was limestone) fine grained, brown, fractured, mottled.
306.2	309.4	18°	at 308'	Dolomite, light gray, fine grained, banded, fractured, with tiny faults with a general dip 65° opposite bed- ding.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
309.4	311.0		Dolomite, (was limestone) brown, fine grained, fractured.
311.0	317.8		Limestone, brown, fine grained, fractured, some weathering.
317.8	319.1	17° at 318'	Dolomite, light gray, fine grained, banded.
319.1	323.0		Limestone, brown, fine grained, mottled and ribboned, intensely fractured.

Hole bottomed at 323.0'

Mineralization on Stiner #10

Trace FeS_2 at 139.0'

Trace ZnS at 517.9'

1.5% ZnS at 159.2-159.8

Trace FeS_2 and ZnS at 181.8

Trace CaF_2 at 191.0

Trace ZnS at 275.9

2% ZnS at 293-294 (293-5)

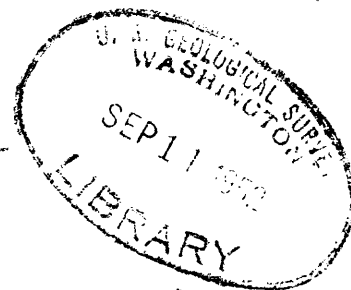
2% ZnS at 303.3-306.1

2.5% ZnS at 309.4-311.0

15-444
 548.0
 Log 11

Kent, Deane F.

Stiner zinc project



BUREAU OF MINES PROJECT #15

Stiner #11

Coordinates: N5130 E5725
 Started 2/2/45
 Vertical

Elevation: 1118
 Completed: 2/8/45

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	18.0		Surface.
18.0	26.6		Dolomite, dark gray, 50% fault gouge. Ex. gouge at 25'.
26.6	38.3		Dolomite, dark gray, crystalline, vuggy Small fault (vertical) at 32'. 34.5- 36.5' brecciated.
38.3	42.0		Dolomite, light-medium gray, fine grained.
42.0	44.7		Dolomite, dark gray as above. 1/2" black shale parting at base.
44.7	46.0		Dolomite, light gray, fine grained.
46.0	49.7		Dolomite, dark gray as above.
49.7	54.8		Dolomite, light gray, fine grained.
54.8	58.0		Dolomite, medium gray, fine grained.
58.0	81.0	25° at 65'	Dolomite, dark gray, crystalline, mottled, fractured, smelly. 1' fine grained dolomite at 64' (Bottom of BX core at 50') 0.5' cryptozoan structure at 67.0' and from 71.3- 75.3'.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
81.0	83.8		Dolomite, dark gray, fine grained.
83.8	88.0		Dolomite, light gray, fine grained.
88.0	92.5		Dolomite, dark gray as above. 0.2' white chert at 89.0'.
92.5	99.0	25° at 98'	Dolomite, dark gray, fine grained, light banding. 0.2' black banded oolitic chert at 97.9'.
99.0	102.2		Dolomite, dark gray, mottled, crystalline, smelly.
102.2	104.6		Dolomite, medium gray, fine grained, light banding.
104.6	105.4		Dolomite, light gray, crystalline, mottled, silicified.
105.4	120.1		Dolomite, light gray, medium grained, light mottling.
120.1	121.4		green-gray, shaly. Dolomite.
121.4	124.7		Dolomite, dark gray, fine grained, mottled. 0.2' white chert at 121.7' 0.1' black banded chert at base.
124.7	127.2		Dolomite, medium-dark gray, banded fine grained.
127.2	137.8		Dolomite, dark gray, crystalline, mottled.
137.8	138.4	21° at 138'	Dolomite, light-medium gray, fine grained, edgewise.
138.4	145.5	20° at 143'	Dolomite, medium-dark gray, banded, 0.7' "calico" at 138.0' 0.1' edgewise at 141.9'.
145.5	147.7		Dolomite, light-medium gray, mottled, fine grained.
147.7	151.6		Dolomite, light-medium gray, banded, fine grained, 0.4' banded chert at base.

Depth in feet		Dip to core end depth where taken	Description of core
From	To		
151.6	156.6		Dolomite, medium-dark gray, banded, fine grained.
156.6	157.3		Dolomite, light-medium gray, mottled, fine grained.
157.3	159.5	17° at 158'	Dolomite, light gray, fine grained, light banding. 1.0' scattered sand at base.
159.5	160.8		Dolomite, light-medium gray, mottled, fine grained.
160.8	167.5	16° at 163'	Dolomite, light-medium gray, banded.
167.5	170.6		Dolomite, medium gray, mottled, coarse grained.
170.6	173.8		Dolomite, light-medium gray, banded, fine grained.
173.8	177.0		Dolomite, medium gray, mottled, coarse grained.
177.0	179.1		Dolomite, green-gray, fine grained, 0.6' oolitic blue chert at base.
179.1	182.1	15° at 180'	Dolomite, light gray, light banding, fine grained, scattered sand at top.
182.1	183.0		Dolomite, dark gray, banded, shale.
183.0	190.1		Dolomite, light-medium gray, weathered fine grained, 0.5' mixed oolite and edgewise at base.
190.1	192.2	18° at 191'	Dolomite, light gray, fine grained, light banding.
192.2	196.9		Dolomite, medium gray, medium grained.
196.9	203.3	17° at 202'	Dolomite, light-medium gray, banded, fine grained.
203.3	206.4		Dolomite, light gray, fine grained, mottled, dark chert throughout.
206.4	207.7		Dolomite, medium gray, fine grained, mottled.

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
207.7	214.2	16° at 209'	Dolomite, light-medium gray, fine grained, light banding.
214.2	216.2		Dolomite, medium gray, fine grained, mottled, .3' edgewise at base.
216.2	221.9	17° at 220'	Dolomite, light-medium gray, banded, fine grained.
221.9	225.9		Dolomite, light gray, banded, fine grained, .3' dark dolomite at 224.0'
225.9	226.6		Dolomite, dark gray, fine grained, mottled.
226.6	229.0		Dolomite, light gray, banded, fine grained.
229.0	236.2	17° at 231'	Dolomite, dark gray, coarse grained,
236.2	239.8		Dolomite, light gray, fine grained, .1' edgewise and chert at top, 1' wavy banding with black chert at base.
239.8	255.7	18° at 245'	Dolomite, light-medium gray, fine grained, partly weathered, limy 241.1-242.5'.
255.7	265.0	17° at 260'	Cavity, (open).
265.0	271.0		Limestone, brown, fine grained, banded, mottled.
271.0	276.5	18° at 273'	Dolomite, light gray, fine grained, banded, edgewise (.6' at base.
276.5	278.5		Limestone brown, fine grained.
278.5	280.9		Dolomite, light gray, fine grained, mottled, vuggy.
280.9	283.3		Limestone, brown, fine grained, mottled.
283.3	287.0		Limestone, gray-brown, fine grained, banded.
287.0	289.2		Limestone, ribboned, fine grained, brown, .3' fault gouge at base with horizontal, dolomitized plane.

Depth in feet		Dip 1 to core and depth where taken	Description of core
From	To		
289.2	290.2		Limestone, edgewise, fine grained, brown.
290.2	303.4	17° at 294'	Limestone, ribboned, brown, fine grained.
303.4	308.6	18° at 307'	Limestone, brown, fine grained, banded.
308.6	312.7		Limestone, brown, ribboned, fine grained
312.7	317.0	18° at 316	Limestone, brown, fine grained, full of tiny edgewise fragments.

Bottomed at 317.0'

Mineralization

Trace ZnS at 59.6-60.6

Trace FeS₂ at 102.2

Trace ZnS and FeS₂ at 104.6-105.4

Trace FeS₂ at 121.3

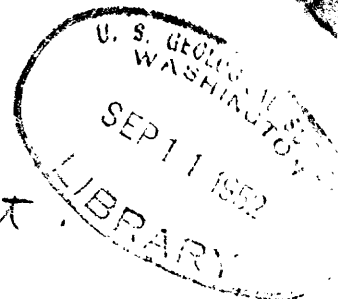
Trace ZnS at 176.0

Trace ZnS at 179.0

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548pr
fig 12

Kent, Deane F.

Stiner zinc prospect



BUREAU OF MINES PROJECT #16

Stiner DDH #12

Coordinates: N4875 ⁵⁴¹⁸ E5725
Started 2/10/45
Vertical

Elevation 1051
Completed 2/15/45

Logged by D.F. Kent

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	12.0		Overburden.
12.0	18.4	8° at 15'	Dolomite, light gray, fine grained, some light banding, .5' light gray wavy banded chert at base.
18.4	27.4		Dolomite, light-medium gray, fine grained, a little dark mottling.
27.4	30.0	20° at 30'	Dolomite, dark gray, fine grained, mottled, (looks like dolomitized limestone) (Base BX core at 30').
30.0	31.1		Dolomite, light-medium gray, banded, fine grained, .3' edgewise at base.
31.1	35.5	12° at 35'	Dolomite, dark gray, medium grained, banded.
35.5	41.1		Dolomite, light gray, fine grained, banded, .2' fine edgewise at base.
41.1	43.3		Dolomite, medium gray, fine grained, banded, 1/2" blue oolitic chert at 42.2'.
43.3	44.5		Dolomite, light-medium gray, fine grained, .2' blue oolitic chert at 44.0'.

Depth in feet		Dip to core and depth where taken	Description of core.
From	To		
44.5	54.0	12° at 50'	Dolomite, medium-dark gray, fine grained, banded, 8' wavy banding with 1/2" black chert at base at 53.2'.
54.0	56.9		Limestone, brown, mottled, fine grained .1' black shale parting at base.
56.9	60.1		Dolomite, medium gray, fine grained.
60.1	61.2		Dolomite, greenish-gray, fine grained, SILLY.
61.2	68.2	12° at 63'	Dolomite, light-medium gray, fine grained, banded, .3' silification at base.
68.2	70.5		Limestone, brown, fine grained, mottled, with patches edgewise at top 1.5'.
70.5	72.0		Cavity.
72.0	76.5		Limestone as above.
76.5	82.6	13° at 78'	Dolomite, light-medium gray, banded, fine grained.
82.6	86.0		Limestone, brown, fine grained, few stylolites.
86.0	89.8	12° at 88'	Limestone, brown, fine grained, banded.
89.8	93.6		Limestone, brown, fine grained, mottled.
93.6	97.6		Dolomite, limy, light gray, medium grained.
97.6	112.0	14° at 102' 16° at 112'	Limestone, brown, fine grained, patches of edgewise conglomerate, basal 1.5' dolomitic.
112.0	114.7		Limestone, light gray, fine grained, mottled.
114.7	120.2		Limestone, brown, mottled, fine grained mottled and banded.
120.2	123.9		Limestone, brown, fine grained, ribboned.
123.9	125.5		Limestone, light gray, fine grained, banded, poor core recovery.

Depth in feet		Dip \perp to core and depth where taken	Description of core
From	To		
125.5	144.4	16° at 139'	Limestone, brown, mottled, fine grained, 1.5' fine edgewise at base.
144.4	145.6		Dolomite, light gray, fine grained, mottled.
145.6	251.0	14° at 160' 12° at 180' 12° at 190' 18° at 196' 26° at 202' 38° at 206' 54° at 212' 60° at 224' Fault 21° at 233' zone! 22° at 237' 30° at 239' Fault 12° at 249'	Limestone, brown, fine grained, mottled and ribboned, tiny faults throughout much of the unit; fault at 226.4' dips 53° \perp to core (1' zone) .3' fine breccia at 238'; fault at 243' dips 56° \perp to core and has .5' brecciation above and below it has 3' of fracturing, slightly dolomitized limestone.

Hole bottomed at 251.0'

NO MINERALIZATION.

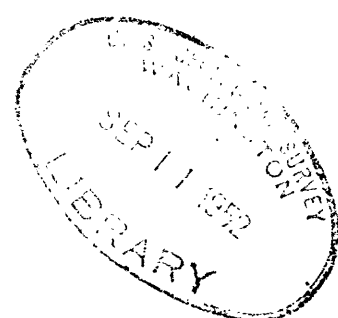
2000

8 Apr

13

Kent, Deane F

Stiner zinc prospect



BUREAU OF MINES PROJECT (#17)
Stiner DDH #13

Coordinates: N5192 E5585
Vertical Hole
Elevation 1130

Started: 2/16/45
Completed 2/22/45

Logged by Deane F. Kent.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
0	13.5		Overburden.
13.5	17.0		Dolomite, dark gray, crystalline, mottled, vuggy, smelly, fractured, (base NX core at 17').
17.0	40.0		Dolomite as above (Base BX core at 40').
40.0	45.0		Dolomite, as above.
45.0	48.3		Dolomite, light gray, fine grained.
48.3	53.7		Dolomite, dark gray as above, 2" white chert at base.
53.7	56.0	14° at 54'	Dolomite, light gray, fine grained.
56.0	60.1		Dolomite, dark gray, fine grained, cream colored edgewise fragments throughout.
60.1	63.2		Dolomite, light gray, fine grained.
63.2	99.0		Dolomite, dark gray, crystalline, vuggy, smelly, poor core recovery, mottled.
99.0	100.7		Dolomite, medium gray, fine grained, .1' white chert at base.
100.7	106.8		Dolomite, dark gray, fine grained, cryptozoan chert at top.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
106.8	117.8		Dolomite, light gray, crystalline, vuggy, slightly mottled.
117.8	119.6		Dolomite, dark gray, fine grained, mottled.
119.6	123.8		Dolomite, light-medium gray, crystalline, mottled.
123.8	128.0		Dolomite, dark gray, fine grained, .2' white-blue chert at top.
128.0	130.6		Dolomite, light gray, crystalline, mottled.
130.6	134.4		Dolomite, dark gray, crystalline, vuggy, smelly, fractured.
134.4	135.6		Dolomite, light gray, fine grained, mottled.
135.6	137.4		Dolomite, dark gray as above.
137.4	144.7		Dolomite, light-medium gray, fine grained, light mottling, 1.1 gray edgewise at 140 followed by .2' dark gray "calico" dolomite.
144.7	146.2		Dolomite, medium-dark gray banded, fine grained.
146.2	148.7		Dolomite, medium gray, mottled, fine grained, vuggy.
148.7	159.8	15° at 156' 15° at 158'	Dolomite, medium gray, fine grained, dark banding, .7' dark gray dolomite at 156.1'.
159.8	161.6	14° at 163'	Dolomite, medium-dark gray, 50% white chert.
161.6	164.5		Dolomite, light-medium gray, banded, fine grained.
164.5	166.8		Dolomite, dark gray, fine grained.
166.8	167.8		Dolomite, dark gray, crystalline, mottled, white carbonate spots.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
167.8	173.3		Dolomite, light-dark gray, banded, fine grained.
173.3	176.8		Dolomite, dark gray as above.
176.8	178.1	15° at 173'	Dolomite, greenish gray, fine grained laminated.
178.1	180.5		Dolomite, light gray, light banding, fine grained, 1" blue oolitic chert .7' below the top.
180.5	182.6		Dolomite, dark gray, as above.
182.6	186.0		Dolomite, light gray, fine grained, light banding.
186.0	188.1	17° at 188'	Dolomite, dark gray, fine grained, banded.
188.1	193.9		Dolomite, light-medium gray, fine grained, banded, .3' edgewise at 188. .3' blue fractured chert at 191.0'.
193.9	197.3		Dolomite, medium gray, crystalline, mottled.
197.3	203.4		Dolomite, medium-dark gray, banded, fine grained, fractures filled with white carbonate, .2' blue chert with light gray edgewise fragments in it at base.
203.4	204.5		Dolomite, light-medium gray, fine grained, mottled.
204.5	207.8		Dolomite, light gray, fine grained, light mottling, fault at base dips 60° to core.
207.8	213.6	18° at 213'	Dolomite, dark gray, fine grained, mottled, some banding, 1/2" blue chert at base.
213.6	215.5		Dolomite, light gray, fine grained, fine banding, fault at base dips 75° to core.
215.5	217.0		Dolomite, light-medium gray, banded, fine grained, fractured.

Depth in feet		Dip to core and depth where taken	Description of core
From	To		
217.0	223.4		Dolomite, dark gray, fine grained.
223.4	227.1		Dolomite, medium gray, fine grained, edgewise at base.
227.1	230.2		Dolomite, limy, dark gray, fine grained mottled.
230.2	239.0	16° at 233'	Dolomite, light-medium gray, fine grained, banded.
239.0	246.7		Limestone, medium gray, fine grained, mottled and banded.
246.7	251.6		Dolomite, light-medium gray, banded, fine grained.
251.6	252.4		Limestone, brown, fine grained, laminated breccia.
252.4	255.7	18° at 253'	Limestone, brown, fine, grained, laminated.
255.7	260.0	25° at 260'	Limestone, light gray, fine grained, light mottling.
260.0	278.0	16° at 277'	Limestone, brown, fine grained, mottled, and banded, .4' edgewise at base.
278.0	281.0		Dolomite, light gray, fine grained, mottled.
281.0	315.0	20° at 282' 15° at 296' 14° at 313'	Limestone, brown, mottled, ribboned and banded, fine grained, patches of edgewise.

Bottomed at 315'

Mineralization

Trace ZnS at 191.0'
Trace ZnS and FeS at 213.6'
Trace ZnS at 259.9'