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Joseph A. Porter

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April 1, 1975

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Mr. Harold Kirkemo
Chief, Office of Minerals Exploration
U.S. Geological Survey
National Center, Mail Stop 953
12201 Sunrise Valley Drive
Reston, VA 22092

Re: OME-6873 (Fluorspar, et al.)
Hicks Dome Account
Hicks Dome Property
Hardin County, Illinois

Dear Mr. Kirkemo:

Enclosed are two copies of geologic reports on holes OME-7, OME-8 and OME-9. The holes are located on the 1" = 400' scale map previously submitted.

This should complete the geologic data for the drilling stages of the program. Reports on the additional assay work will follow.

I am sending identical copies of this material to Allen Heyl directly.

With best regards,

Sincerely,

Joseph A. Porter

JAP:km
Encs.

April 1, 1975

Mr. Allen Heyl
U.S. Geological Survey
Federal Center
Denver, CO 80202

Dear Allen:

Enclosed are copies of the reports on holes OME-7, OME-8 and OME-9. This should complete the coverage for the drilling phases of the project. I am presently working up the data on the additional assaying for Nb, etc. and will send copies when completed.

With best regards,

Sincerely,

Joseph A. Porter

JAP:lm
cc. H. Kirkemo
cc.

Geologic Report
OME-7 (FSB-2)

OME-7 was drilled approximately 800 feet southwest of OME-5 (FSB-1) in an attempt to duplicate the intersection in that hole. The location is given on the 1" = 400' scale map.

The stratigraphic section was essentially normal to the depth of 1889 feet where continuous breccia was intersected in the Plattin limestone. Base of the Maquoketa was intersected at a sea level elevation of -830 feet.

The breccia can essentially be divided into three zones. They consist of 344 feet of coarse limestone breccia at the top, 261 feet of fine rock flour breccia and "purple" breccia and 51 feet of dolomite megabreccia at the bottom of the hole. The distinctions of the individual zones are not entirely clear-cut and are subject to interpretation.

The upper zone, from 1889 to 2233, consisted principally of coarse and medium, tightly interlocked fragments of Plattin limestone with very little matrix material. This zone contains several zones of finer breccia with more matrix material which was rather well replaced by purple fluorite. Best zone was from 2097.5 to 2106.5. This zone averaged 8.67% CaF_2 and 1.35% $BaSO_4$ over 57 feet.

The rock flour and purple breccia zone was encountered from 2233 to 2494, a total of 261 feet. It consisted principally of fine, medium and some coarse sub-angular fragments in a fluoritic, rock flour matrix. Finer portions generally contain more matrix material and more purple fluorite. Character of the mineralization is similar to that encountered in other purple breccia zones.

The entire 261 feet averaged 10.76% CaF_2 and 2.00% $BaSO_4$. On the basis of assay results this zone can be divided essentially into three separate zones. These are shown on the attached assay graph. The upper zone consisted of 107 feet which averaged 10.25% CaF_2 and 1.96% $BaSO_4$. This middle zone was generally finer and included several zones of "microbreccia". It contained more matrix material and mineralization was more intense. This averaged 13.83% CaF_2, 2.38% $BaSO_4$ and .22% Nb over 62 feet. This zone correlates fairly well with the better intersection in OME-5. The bottom 92 feet was rather dolomitic and uniformly mineralized. Though fragments were the dominant constituent, the matrix was rather well replaced. This zone averaged 9.27% CaF_2 and 2.02% $BaSO_4$.

Sphalerite and galena were frequently noted throughout but assays indicate insignificant amounts. Various spectrographic analysis indicated portions with significant amounts of niobium, thorium, beryllium and yttrium. Additional assays will be made for these elements.

Attached are:

1. Summary log,
2. Assay graph,
3. Detailed log of breccia zone,
4. Assay certificates.

Respectfully submitted,

Joseph A. Porter

SUMMARY LOG
OME-7 (FSB-2)

Started 9-10-73 Elevation 596.3

Completed 10-6-73 Depth 2545

FORMATION	DESCRIPTION	THICK.	DEPTH
Overburden	Bedded chert residuum and red mud.	73	73
DEVONIAN Clear Creek ls.	Fine grained, light gray, somewhat cherty.	327	400
Backbone ls.	Light gray, fine grained, crystalline.	30	430
Grassy Knob ls.	Dark gray, argillaceous limestone and abundant chert, lost samples at 770, end rotary drill.	375	805
Bailey ls.	Gray and dark gray, very fine grained to sub-lithographic, very silty, somewhat siliceous.	174	979
SILURIAN Moccasin Sprs. ls.	Very fine grained, principally light gray, pyritic, few pink streaks throughout, few wavy argillaceous or dolomitic partings.	75	1054
St. Clair - Sexton Creek ls.	Light gray, very fine grained, little medium crystalline, scattered pink rhombs throughout, few brick red streaks, abundant pyrite.	89	1143
Edgewood ls.	Very fine grained, gray to dark gray, abundant interlaminated argillaceous streaks, somewhat cherty.	104	1247
ORDOVICIAN Maquoketa sh.	Dark gray to black, hard, brittle, fairly well laminated, bottom part calcareous with little interbedded limestone and very sandy shale.	179	1426
Kimmswick ls.	Light gray, medium crystalline, rather pure, stylolitic.	69	1495
Decorah-Plattin ls.	Principally very fine grained, somewhat sugary texture, dark brownish gray, abundant interlaminated irregular dolomitic or silty streaks, little interbedded, light gray crystalline.	394	1889

FORMATION	DESCRIPTION	THICK.	DEPTH
Breccia and limestone	Mixed coarse breccia and unbrecciated limestone, breccia consists principally of angular Plattin fragments, tightly interlocked, very little matrix material, matrix sometimes contains calcite, little purple breccia from 2097.5-2106.5 with associated slickensides, little Silurian at top, at least part of this might be fault breccia.	260	2149
Coarse br. with mixed rock flour br.	Mixed fine, medium and coarse angular fragments in a rock flour matrix, matrix generally fluoritic, purple breccia type mineralization throughout in matrix, several finer breccia zones replaced to purple breccia, zone from 2162-2219 averages 8.67% CaF_2, 1.35% $BaSO_4$ over 57 feet.	84	2233
Purple br.	Fine, medium and coarse sub-angular fragments in a fluoritic rock flour matrix, matrix fairly well replaced with purple fluorite, little disseminated sphalerite and barite throughout, traces of galena, matrix rather well replaced, lower grade possibly due to abundance of coarser fragments, spec. analysis indicates abundant Nb and Y, averages 10.25% CaF_2 and 1.96% $BaSO_4$.	107	2340
Purple br.	Mostly fine, sub-rounded to sub-angular fragments in a fluoritic rock flour matrix, matrix generally well replaced with purple fluorite, bottom 30' very fine, averages 13.83% CaF_2, 2.38% $BaSO_4$, 0.22% Nb, bottom 33' at 16.5% CaF_2, 1.5% $BaSO_4$ and .21% Nb.	62	2402
Low-grade purple br.	Fine, medium and little coarse, angular to sub-angular fragments in a fluoritic, rock flour matrix, matrix fairly well replaced with purple fluorite, fair yttrium on spec. analysis, averages 9.27% CaF_2 and 2.02% $BaSO_4$.	92	2494
Dolomite megabreccia	Principally coarse, monolithologic, little mineralization on fractures and matrix, mineralized intrusive 2525-2531.	51	2545

TOTAL DEPTH

Sheet No. 10 Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
1712-1735	Limestone, very fine grained, sugary texture, gray to dark gray, fairly abundant interbedded argillaceous streaks, few stylolites, core badly broken in part, entire unit rather dense.	
1735-1752	Limestone as above.	
1752-1767	Limestone, very finely granular, sugary texture, gray to light gray, rather dense, stylolitic, fairly numerous interlaminated wavy argillaceous streaks, unit appears to be rather pure.	
1767-1807	Limestone, principally as before, abundant dark gray interwavy argillaceous or dolomitic streaks, fairly abundant dark gray chert nodules.	
1807-1821	Limestone, light gray, very fine grained, grades to medium crystalline, all rather pure, upper parts somewhat stylolitic with few wavy interlaminated argillaceous streaks, bottom part somewhat vuggy.	
1821-1841	Limestone, very fine grained, sugary, gray and dark gray, fairly abundant dark gray interlaminated streaks, core somewhat broken in part, occasional calc veinlets, few fractures commonly with oxidiation.	
1841-1883	Limestone as before, bottom part well fractured, partly oxidized, little crystalline calcite on fractures.	
1883-1889	Shaly gouge, shale appears to be dipping at about 80°, little igneous appearing breccia at top, core all badly broken, little mud in cavity at bottom.	
1889-1891	Breccia, mostly medium, little coarse, little fine, consists of tightly interlocked gray angular fragments of limestones, some few fragments of shale, very little matrix material, matrix material somewhat fluoritic, this unit contains abundant angular fragments of pink limestone, commonly pyritic, which are clearly Silurian limestones, other fragments resemble Bailey, these fragments are so angular that it is hard to visulize them moving that distance required; the only way it could be accounted for would be to have had brecciation in the Silurian with some mixing, recementing of the breccia and moving of one very large fragment to this stratigraphic position.	

Sheet No. 11 Hole No. OMB-7 FSB-2

Depth Feet	Formation	No.
1891-1935	Breccia, coarse, mostly large +6" fragments of limestones, all angular and tightly interlocked, little matrix material, matrix material is generally calcite, breccia fragments principally resemble Plattin limestones, some lighter gray and finer grained than ordinarly seen in the Plattin, calcite matrix material less than 7% of total, bottom 3 feet coarse crystalline limestone.	
1937-1965	Brecciated limestone, all coarse, little fine and medium, fragments appear to be mostly ordinary Plattin-type, few fragments resemble Kimmswick, all fragments angular, tightly interlocked, very little matrix material, calcite common in matrix, odd speck of fluorite.	
1965-1990	Breccia, coarse, principally as before, few zones fairly fine, calcite matrix more abundant in fine brecciated portions, fragments appear to consist principally of Plattin fragments.	
1990-2010	Breccia as before, possibly more fine zones, few large fragments of coarsely crystalline light gray limestone.	
2010-2027	Breccia, principally as before, seems to be containing increasingly amounts of medium breccia with more abundant matrix material and calcite, bottom part fairly fine, occasional stylolite throughout.	
2027-2046	Breccia, medium and coarse, some fine, principally tightly interlocked angular fragments in a calcite matrix, matrix material minor constituent, probably 10%, fairly abundant traces of purple fluorite in a calcite matrix, fragments are dominantly Plattin.	
2046-2067	Breccia, essentially as before, few very large fragments and few zones rather fine, matrix still principally calcite with traces of clear and light blue fluorite, few blebs and stringers of fluorite scattered throughout, pasty blue material common on fractures, possibly very fine fluorite, calcite matrix in places fairly well replaced with fluorite, bottom 3' very fine breccia.	

Sheet No. 12 Hole No. DME-7 FSB-2

Depth Feet	Formation	No.
2067-2092	Limestone, difficult to tell if this is coarse breccia or just one unit of limestone, somewhat fractured throughout with a few traces of purple fluorite throughout, generally typical Plattin limestone except for several zones which are coarsely crystalline, also few zones appear to be somewhat argillaceous, grades quickly into below.	
2092-2097.5	Breccia, upper parts fragments of above, little mixing toward bottom, occasional fragment fairly well replaced with purple fluorite, all rather tightly interlocked and very little matrix material, bottom contact rather distinct, appears to be dipping at about 50-60°.	
2097.5-2106.5	Purple breccia, all very fine, sub-rounded to sub-angular fragments in a fluoritic rock flour matrix, this unit typical of previous purple breccias, good disseminated purple fluorite, yellow sphalerite and clear barite scattered throughout, upper contact and bottom contact sharp, some slickensides on bottom contact, appears to be dipping at about a 55-60° angle to core, possibly within a fault plane.	SB-044 9' 11.0 CaF_2, 2.9 $BaSO_4$ (8.69 CaF_2, 1.96 $BaSO_4$)
2106.5-2119	Limestone, principally very fine grained, gray, sugary texture, typical Plattin, few patches brecciated with calcite matrix, some brecciation rather fine.	

Sheet No. 13

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2119-2149	Breccia, mostly coarse, angular, tightly interlocked fragments of Plattin-type limestones, few patches medium with calcite matrix, several patches of fine purple breccia, 5-8% fluorspar, over 2', grades rather quickly into below.	
2149-2162	Breccia, principally fine, sub-angular to sub-rounded fragments in a rock flour matrix, Plattin fragments appear to dominate, generally fairly well interlocked, traces of purple fluorite throughout, estimate 1%.	
2162-2171	Purple breccia, mostly very fine, sub-rounded fragments in a fluoritic rock flour matrix, rather abundant purple fluorite disseminated throughout in matrix material with clear barite and yellow sphalerite, few traces of galena, estimate spar at 12%, some patches rather rich.	SB-045 9' 9.5 CaF_2, 1.8 $BaSO_4$ (8.02 CaF_2, 1.00 $BaSO_4$)
2171-2181	Breccia, fine and medium, little coarse, sub-rounded to sub-angular fragments, limestone, dolomite and quartzite, all rather tightly interlocked in a fluoritic rock flour matrix, good show of purple fluorite throughout in matrix material, estimate 5%, good traces of yellow sphalerite and shows of galena throughout, occasional sub-angular or rounded fragment of rather rich purple fluorite.	SB-046 10' 7.2 CaF_2, 1.3 $BaSO_4$ (6.05 CaF_2, 1.08 $BaSO_4$)
2181-2190	Purple breccia, mostly very fine fragments in a fluoritic rock flour matrix, fairly abundant seams and blebs of deep purple crystalline spar, good shows of yellow sphalerite throughout, fairly abundant barite, estimate spar at 12%.	SB-047 9' 13.5 CaF_2, 1.7 $BaSO_4$ (11.31 CaF_2, 2.44 $BaSO_4$) Spec. 10,000 Ba, 1,000 Nb, 3,000 Y

Assays sampled by Skyline are underlined, by McDonald in parenthesis.
Spectrographic analysis by Skyline, parts per million.

Sheet No. 14

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2190-2197	Breccia, fine and medium angular fragments in a fluoritic rock flour matrix, generally rather tightly interlocked, fair disseminated purple fluorite in matrix material, fair barite, little disseminated sphalerite throughout, estimate spar at 6%.	SB-048 7' 9.5 CaF_2, 1.2 $BaSO_4$ (7.07 CaF_2, 0.96 $BaSO_4$)
2197-2209	Breccia, medium and coarse with some fine, rather tightly interlocked fragments of limestone in black shale in a calcite rick flour fluoritic matrix, few zones and patches clearly purple breccia, purple fluorite scattered throughout replacing calcite matrix and rock flour, fair traces of sphalerite, this unit and those above have rather abundant pyrite, estimate spar at 7%.	SB-049 12' 9.9 CaF_2, 1.1 $BaSO_4$ (7.08 CaF_2, 1.50 $BaSO_4$)
2209-2219	Breccia, tightly interlocked, medium and coarse angular fragments in a rock flour matrix sometimes fluoritic occasional patch of purple breccia, fairly abundant dark gray to black fragments of hard pyritic shale resembling Maquoketa, estimate fluorite at 4%, little fluorite on fractures.	SB-050 10' 7.2 CaF_2, .92 $BaSO_4$ (7.94 CaF_2, .96 $BaSO_4$) Spec. 7,000 Ba, 300 Nb, 1,000 Y
2219-2226	SB-005	SB-005 7' 5.0 CaF_2, .46 $BaSO_4$ (4.28 CaF_2, 1.00 $BaSO_4$)
2219-2233	Breccia, similar to as before, mostly coarse angular fragments of dark shale and limestone, few fragments of igneous appearing material, little fine scattered throughout, trace of purple fluorite in matrix and disseminated in pieces of crystalline limestone, several patches hint at being purple breccia, few fine Silurian fragments e vident, estimate spar at 2%.	

Sheet No. 15 Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2233-2243	Breccia, medium, some fine, some coarse, consists principally of tightly interlocked fragments of limestone, fairly abundant fragments of dark gray to black pyritic shale, matrix probably less than 15% of total, commonly well replaced with purple fluorite, little sphalerite throughout, little barite with fluorite, estimate spar at 4%.	SB-051 10' 9.0 CaF_2, .98 $BaSO_4$ (9.17 CaF_2, .72 $BaSO_4$)
2243-2255	Purple breccia, low grade, sub-angular fragments, various limestones, dolomite, some shale, in a fine fluoritic rock flour matrix, matrix fairly well replaced in part with purple fluorite and coarse clear crystals of barite, little disseminated zinc throughout, few traces of galena, unit typical of purple breccias except low in grade, estimate spar at 7%.	SB-052 12' 9.9 CaF_2, 1.9 $BaSO_4$ (9.07 CaF_2, .92 $BaSO_4$)
2255-2267	Purple breccia, mostly fine angular fragments in a fluoritic rock flour matrix, somewhat more matrix material in this unit than above, particularly bottom 4', fairly abundant disseminated dark gray to black specks scattered throughout, unable to identify, fluorite estimated at 10%, bottom 4' possibly 15%, whole unit very typical of purple breccias.	SB-053 12' 11.0 CaF_2, 2.7 $BaSO_4$ (10.0 CaF_2, 1.12 $BaSO_4$) Spec. > 10,000 Ba, 1,500 Nb, 3,000 Y
2267-2275	Breccia, principally fine, little medium, rather tightly interlocked sub-angular fragments of gray and dark gray limestone, few zones very finely comminuted, all somewhat fluoritic with purple fluorite principally in the matrix, few zones rather pyritic, traces of sphalerite throughout, dark gray, very fine grained mineral still evident, possibly very fine, very dark fluorite, estimate fluorite at 5%.	SB-054 8' 10.5 CaF_2, 1.5 $BaSO_4$ (9.29 CaF_2, .32 $BaSO_4$)

Sheet No. 16

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2275-2285	Purple breccia, fine, medium, some coarse fragments as before, somewhat better fluorite throughout, fairly abundant large (+1/8") crystals of clear barite, fairly abundant dark, very fine mineral as cited before, traces of sphalerite and galena, estimate spar throughout at 10%, bottom one foot fairly rich, possibly 25%.	SB-055 10' 13.0 CaF_2, 3.2 $BaSO_4$ (13.20 CaF_2, .88 $BaSO_4$) Spec. >10,000 Ba, 1,500 Nb, 2,000 Y
2285-2295	Purple breccia, essentially as before, fairly abundant large crystals of pale green barite, somewhat more sphalerite, estimate .3% sphalerite, .3% galena, fluorite estimated at 12%, purple breccia so far has all been pyritic.	SB-056 10' 12.5 CaF_2, 4.0 $BaSO_4$ (11.61 CaF_2, 1.88 $BaSO_4$) Spec. > 10,000 Ba, 1,500 Nb, 2,000 Y
2295-2300	Purple breccia as above, estimate spar at 9%.	SB-057 5' 9.0 CaF_2, 3.8 $BaSO_4$ (9.01 CaF_2, 2.90 $BaSO_4$) Spec. >10,000 Ba, 2,000 Nb, 5,000 Y
2300-2305	Purple breccia, mostly very fine with fine sub-rounded fragments floating in a very fine rock flour, fluoritic matrix, whole unit deeper purple, contains clear barite, sphalerite, galena as before, fairly pyritic, estimate fluorite at 14%.	SB-058 5' 10.0 CaF_2, 3.3 $BaSO_4$ (10.51 CaF_2, 3.04 $BaSO_4$) Spec. >10,000 Ba, 1,500 Nb, 3,000 Y
2305-2310	Purple breccia, mostly very fine, few medium, sub-rounded to sub-angular fragments in a fluoritic rock flour matrix, fairly abundant disseminated purple and clear fluorite throughout, traces of sphalerite and galena, fairly abundant pale green barite, estimated spar at 11%, appears to be relatively poorly replaced considering the fineness of the rock flour matrix.	SB-059 5' 9.5 CaF_2, 3.8 $BaSO_4$ (8.09 CaF_2, 1.90 $BaSO_4$) Spec. >10,000 Ba, 5,000 Nb, 7,000 Y

Sheet No. 17

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2310-2319	Purple breccia, fine, medium fragments in a fluoritic rock flour matrix, fragments sub-angular to sub-rounded, fair disseminated purple fluorite throughout, some zones rather well replaced, may locally be up to 20% spar, purple fluorite disseminated throughout in the matrix with fairly common pale and clear green barite crystals, traces of galena and sphalerite, estimate spar at 13%.	SB-060 9' 11.0 CaF_2, 3.1 $BaSO_4$ (10.42 CaF_2, 1.38 $BaSO_4$) Spec. >10,000 Ba, 1,500 Nb, 3,000 Y
2319-2325	Purple breccia, principally tightly interlocked, fine fragments in a fine fluoritic rock flour matrix, clearly lower grade then above, few coarse, fragments, little disseminated sphalerite and galena throughout, little clear barite, several fragments appear to be Silurian, this and the units above all contain some disseminated pyrite, fluorite estimated at 7%.	SB-061 6' 7.8 CaF_2, 3.0 $BaSO_4$ (9.08 CaF_2, .20 $BaSO_4$)
2325-2330	Purple breccia, mostly fine with sub-rounded to sub-angular, fine and medium fragments, rock flour matrix fairly well replaced with purple fluorite, fair shows of disseminated sphalerite and galena throughout, little clear barite, estimate fluorite at 13%.	SB-062 5' 12.5 CaF_2, 2.7 $BaSO_4$ (13.20 CaF_2, 1.04 $BaSO_4$)
2330-2340	Purple breccia, fairly abundant medium and fine sub-angular fragments in a fluoritic rock flour matrix, fragments somewhat more abundant in this unit, matrix fairly well replaced with purple fluorite, some zones fairly rich, little disseminated sphalerite and galena and clear barite throughout, estimate fluorite at 8%.	SB-063 10' 9.7 CaF_2, 2.8 $BaSO_4$ (7.09 CaF_2, 1.00 $BaSO_4$)

Sheet No. 18

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2340-2345	Purple breccia, partly well replaced with deep purple fluorite, partly gray rock flour breccia, fragments mostly fine, few coarser fragments, estimate fluorite at 15%, few traces of galena and sphalerite, fairly abundant clear barite.	SB-064 5' 18.5 CaF2, 2.5 BaSO4 2,800 (ppm) Nb (19.66 CaF2, 1.78 BaSO4) — McDonald Spec. >10,000 Ba, 1,500 Nb, 2,000 Y — skyline
2345-2355	Purple breccia, mostly fine, sub-rounded, sub-angular fragments in a fluoritic gray rock flour matrix, moderately well replaced with a purple fluorite throughout, fair traces of sphalerite and galena throughout, few large crystals of pale green barite, this and units above have fairly abundant pyrite as disseminated patches and crystals, estimate fluorite at 8%.	SB-065 10' 9.9 CaF2, 3.8 BaSO4 2,000 (ppm) Nb Spec. >10,000 Ba, 1,500 Nb, 2,000 Y (9.05 CaF2, 5.08 BaSO4)
2355-2365	Purple breccia, mostly fine, angular to sub-rounded fragments in a fluoritic rock flour matrix, fairly abundant clear fluorite in addition to the purple fluorite, good traces of sphalerite throughout, traces of galena and pyrite, little clear barite throughout, estimate spar at 10%, odd fragment resembling Silurian, few fragments of richer breccia possibly remobilized fragments.	SB-066 10' 8.6 CaF2, 4.2 BaSO4 2,700 (ppm) Nb (8.09 CaF2, 2.90 BaSO4) Spec. >10,000 Ba, 2,000 Nb, 2,000 Y
2365-2369	Breccia, essentially as before, more abundant, tightly interlocked fragments, estimate fluorite at 7%.	SB-067 4' (10.72 CaF2, 1.00 BaSO4) 9.9 CaF2, 2.6 BaSO4 1,500 (ppm) Nb Spec. >10,000 Ba, 1,000 Nb, 2,000 Y

Sheet No. 19

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2369-2375	Appears to be silty dolomite, possibly very fine micro-breccia, few patches of ordinary breccia scattered throughout, good disseminated fluorite throughout, fairly common dendritic streaks of dark gray to black sulphides, unable to determine whether or not this unit is breccia, this unit is fairly common in the purple breccia zones, was noticed in most of the holes but never this distinct, possibly this represents one very large fragment that has been only partially brecciated as sedimentary features appear to be evident, contains few fragments of rather rich purple breccia scattered throughout, estimate fluorite at 8%.	SB-068 6' 18.5 CaF_2, 1.7 $BaSO_4$ 2,800 (ppm) Nb (18.47 CaF_2, 1.00 $BaSO_4$) Spec. 10,000 Ba, 3,000Nb, 3,000 Y
2375-2385	Very fine grained as above, few more patches of coarser breccia, estimate fluorite at 8%.	SB-069 10' 16.0 CaF_2, 2.0 $BaSO_4$ 2,200 (ppm) Nb (16.08 CaF_2, 1.10 $BaSO_4$) Spec. 10,000 Ba, 3,000 Nb, 3,000 Y
2385-2393	As above, few interbedded zones of coarser breccia, all fairly well replaced with purple fluorite, few patches fairly rich, estimate fluorite at 11%, traces of sphalerite and galena throughout, fairly numerous interlaminated argillaceous streaks commonly pyritic, "these very fine breccia zones appear to be bedded".	SB-070 9' 16.5 CaF_2, 1.8 $BaSO_4$ 2,400 (ppm) Nb (18.27 CaF_2, 1.00 $BaSO_4$) Spec. 10,000 Ba, 2,000 Nb, 3,000 Y
2393-2402	Interbedded (?) fine breccia as above and tightly interlocked fragments of coarse breccia, fair fluorite replacement of matrix material throughout, coarse and fine breccia again, very strong impression of being bedded, coarse fragments fairly varied, few shale fragments, some rather distinct appearing Silurian fragments (?), pyrite throughout, estimate spar at 8%.	SB-071 9' 15.0 CaF_2, 1.8 $BaSO_4$ 1,300 (ppm) Nb (14.80 CaF_2, 1.50 $BaSO_4$) Spec. 10,000 Ba, 1,000 Nb, 3,000 Y

Sheet No. 20

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2402-2415	Breccia, few zones fine breccia as before, mostly consists of medium, rather tightly interlocked, sub-angular to sub-rounded fragments in a fluoritic rock flour matrix, few zones fairly well replaced but generally fairly low in CaF_2, few zones pyritic, distinct pink fragments throughout, possibly Silurian, few traces of sphalerite and galena, little barite, estimate fluorite at 7%.	SB-072 13' 9.0 CaF_2, 2.70 $BaSO_4$ (8.09 CaF_2, 2.70 $BaSO_4$) Spec. > 10,000 Ba, 500 Nb, 2,000 Y
2415-2425	Breccia as above, fragments fine, medium and little coarse, very little matrix material throughout, matrix commonly fairly well replaced with fluorite, fair shows of clear green barite, little sphalerite and galena, several zones contain very small dark black sulphides, unable to identify, possibly galena, fairly abundant pyrite throughout, estimate fluorite at 6%.	SB-073 10' 8.2 CaF_2, 3.0 $BaSO_4$ (8.06 CaF_2, 2.80 $BaSO_4$)
2425-2435	Breccia, fine and medium, little coarse, sub-angular to sub-rounded fragments in a fluoritic rock flour matrix, fragments fairly tightly interlocked, matrix material approximately 25% of total, fair traces of sphalerite and galena throughout, fairly pyritic throughout, few coarse blebs of clear barite, fluorite principally purple and disseminated in matrix, few fairly rich patches, estimate fluorite at 6%.	SB-074 10' 8.6 CaF_2, 2.2 $BaSO_4$ (11.31 CaF_2, .80 $BaSO_4$) Spec. > 10,000 Ba, 500 Nb, 1,000 Y
2435-2445	Breccia, fine and medium, sub-rounded to sub-angular fragments in a fluoritic rock flour matrix, matrix material more abundant than above, somewhat more fluoritic, contains fair traces of galena and sphalerite throughout, sphalerite principally as coarse crystals, few large crystals of clear to pale green barite, fluorite disseminated in matrix and in blebs and small patches, pyrite common throughout, sometimes in fairly rich patches, would consider this unit low-grade purple breccia, estimate fluorite at 9%.	SB-075 10' 10.0 CaF_2, 1.7 $BaSO_4$ (11.24 CaF_2, .94 $BaSO_4$) Spec. > 10,000 Ba, 700 Nb, 2,000 Y

Sheet No. 21

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2445-2455	Breccia, principally fine, little medium sub-rounded fragments, several large coarse fragments in a fluoritic, purple, rock flour matrix, matrix material probably 40-50% of total, some coarse disseminated sphalerite throughout, few coarse crystals of barite, finely disseminated galena and pyrite throughout, in this unit and those above there are odd specks and traces of very fine, dark gray to black sulphide, ~~lets~~ possibly galena, estimate fluorite at 11% in this unit.	SB-076 10' 9.0 CaF2, 3.3 BaSO4 (9.50 CaF2, .82 BaSO4)
2455-2461	Breccia, mostly fine, little medium, little coarse, sub-rounded and sub-angular fragments in a gray fluoritic rock flour matrix, several zones rather well replaced and form purple matrix, little disseminated sphalerite and glaena throughout, fairly pyritic, estimate spar at 7%.	SB-077 6' 9.0 CaF2, 2.5 BaSO4 (8.83 CaF2, .90 BaSO4) Spec. > 10,000 Ba, 500 Nb, 1,500 Y
2461-2471	Purple breccia, fairly low-grade, mostly fine, sub-rounded to sub-angular fragments in a fluoritic rock flour matrix, few coarse fragments, some coarse fragments refractured with fluorite veinlets, fair shows of zinc throughout, possibly .3%, traces of disseminated galena, all rather pyritic, fluorite partly rather rich, estimate entire zone at 11%.	SB-078 10' 9.5 CaF2, 3.9 BaSO4 (10.10 CaF2, 1.10 BaSO4) Spec. > 10,000 Ba, 500 Nb, 2,000 Y
2471-2476	Low-grade, purple breccia, principally as before, somewhat less fluorite, fair disseminated, coarse crystals of yellow sphalerite, traces of galena throughout, estimate spar at 8%.	SB-079 5' 9.0 CaF2, 3.4 BaSO4 (9.08 CaF2, .10 BaSO4)
2476-2483	Purple breccia, mostly fine, sub-rounded, sub-angular fragments in a rather fluoritic matrix, matrix fairly well replaced throughout, fairly abundant coarse barite crystals, zinc possibly as much as .3%, traces of galena, estimate barite at 4%, fluorite at 14%.	SB-080 7' 10.0 CaF2, 4.2 BaSO4 (9.05 CaF2, .20 BaSO4)

Sheet No. 22

Hole No. OME-7 FSB-2

Depth Feet	Formation	No.
2483-2494	Low-grade, purple breccia, fine, medium, little coarse, angular to sub-rounded fragments in a fluoritic rock flour matrix, whole unit appears more dolomitic than before, few fragments of quartzitic sandstone, matrix fairly well replaced, some zones quite rich, good disseminated sphalerite, barite throughout, traces of very fine galena and pyrite throughout, some dark black mineral, possibly very dark fluorite, estimate spar at 9%. Note: Bottom of this zone probably represents the bottom of the mineralized zone.	SB-081 11' 9.0 CaF_2, 3.1 $BaSO_4$ (9.02 CaF_2, .36 $BaSO_4$) Spec. > 10,000 Ba, 300 Nb, 1,500 Y
2494-2506	Dolomitic, mega-breccia, various sized dolomitic zones separated by zones of fine breccia with purple fluoritic matrix, all rather well fractured, larger pieces resemble crackle breccias, fluoritic zones contain sphalerite and barite as above, little galena throughout in finer breccia zones, unit consists principally of very fine grained, light gray dolomite, bottom one foot well replaced with purple fluorite.	SB-082 12' 4.5 CaF_2, 1.70 $BaSO_4$ (5.00 CaF_2, 1.00 $BaSO_4$)
2506-2525	Dolomitic, mega-breccia, principally as before, somewhat more darker dolomite, some of which bedding is readily apparent, few fractures nearly parallel to core, little white pasty barite in some of the finer brecciated zones.	
2525-2531	Intrusive dike, fine grained, somewhat porphyritic in appearance with numerous white blebs, possibly calcite which has been altered, few green minerals scattered throughout, entire thing well fluoritized and very pyritic, possible traces of chalcopyrite, estimate fluorite at 10%.	SB-083 6' 16.0 CaF_2, .42 $BaSO_4$ (17.67 CaF_2, 1.90 $BaSO_4$) Spec. 2,000 Ba, 700 Nb, 500 Y
2531-2545	Dolomitic, mega-breccia, dark brownish gray, very fine grained, crackle brecciated throughout with abundant thin veinlets of purple fluorite, all rather well fractured. TOTAL DEPTH	

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF ANALYSIS

Job No. M-2304
January 10, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

41 Pulp Samples

Item	Sample No.	CaF_2 (%)	$BaSO_4$ (%)	Pb (ppm)	Zn (ppm)	Nb (ppm)
1.	SB-005	5.0	.46	120	20	*
2.	044	11.	2.9	520	500	*
3.	045	9.5	1.8	360	290	*
4.	046	7.2	1.3	940	280	*
5.	047	13.5	1.7	320	500	*
6.	048	9.5	1.2	200	180	*
7.	049	9.9	1.1	180	40	*
8.	050	7.2	.92	40	20	*
9.	051	9.0	.98	80	30	*
10.	052	9.9	1.9	480	130	*
11.	053	11.	2.7	380	290	*
12.	054	10.5	1.5	420	230	*
13.	055	13.	3.2	600	410	*
14.	056	12.5	4.0	740	500	*
15.	057	9.0	3.8	500	750	*
16.	058	10.	3.3	460	380	*
17.	059	9.5	3.8	360	440	*
18.	060	11.	3.1	420	430	*
19.	061	7.8	3.0	540	560	*
20.	063A	9.7	2.8	520	370	*
21.	063B	12.5	2.7	440	360	*
22.	064	18.5	2.5	440	230	2,800
23.	065	9.9	3.8	620	680	2,000
24.	066	8.6	4.2	720	870	2,700
25.	SB-067	9.9	2.6	680	600	1,500

Item	Sample No.	CaF_2 (%)	$BaSO_4$ (%)	Pb (ppm)	Zn (ppm)	Nb (ppm)
26.	SB-068	18.5	1.7	240	350	2,800
27.	069	16.	2.0	340	320	2,200
28.	070	16.5	1.8	300	270	2,400
29.	071	15.	1.8	280	340	1,300
30.	072	9.0	1.9	280	300	*
31.	073	8.2	3.0	580	600	*
32.	074 A	8.6	2.2	360	370	*
33.	074 B	10.	1.7	300	400	*
34.	076	9.0	3.3	560	480	*
35.	077	9.0	2.5	460	530	*
36.	078	9.5	3.9	680	750	*
37.	079	9.0	3.4	600	800	*
38.	080	10.	4.2	680	960	*
39.	081	9.0	3.1	720	180	*
40.	082	4.5	1.7	1,150	45	*
41.	SB-083	16.	.42	40	80	*

*Analysis not requested

Edwin V. Post
for Charles E. Thompson
Chief Chemist

Box 592
Rosiclare, Ill. 62982

V. C. McDonald
Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

OME-7 (FSB-2)

Re: Assay Results - Split Core

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
SB 044	8.69	17.70	1.96	23.82
SB 045	8.02	13.84	1.00	20.62
SB 046	6.05	13.55	1.08	21.87
SB 047	11.31	16.60	2.44	21.99
SB 048	7.07	16.08	0.96	19.88
SB 049	7.08	20.72	1.50	23.44
SB 050	7.94	23.62	0.96	25.42
SB 005	4.28	26.96	1.00	25.03
SB 051	9.17	22.64	0.72	24.50
SB 052	9.07	19.10	0.92	25.40
SB 053	10.00	19.28	1.12	25.04
SB 054	9.29	23.00	0.32	25.48
SB 055	13.20	21.00	0.88	24.37
SB 056	11.61	19.62	1.88	22.09
SB 057	9.01	17.30	2.90	23.93
SB 058	10.51	16.36	3.04	23.19
SB 059	8.09	18.84	1.90	22.48
SB 060	10.42	16.66	1.38	24.63
SB 061	9.08	18.06	0.20	25.25
SB 062	13.20	14.46	1.04	23.93
SB 063	7.09	18.00	1.00	25.40

Box 592
Rosiclare, Ill. 62982

V. C. McDonald
Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
SB 064	19.66	19.22	1.78	24.78
SB 065	9.05	14.32	5.08	26.51
SB 066	8.09	19.20	2.90	21.72
SB 067	10.72	19.78	1.00	21.79
SB 068	18.47	24.00	1.00	25.50
SB 069	16.08	28.90	1.10	24.30
SB 070	18.27	28.50	1.00	21.72
SB 071	14.80	26.90	1.50	22.31
SB 072	8.09	25.50	2.70	22.90
SB 073	8.06	27.10	2.80	23.93
SB 074	11.31	25.28	0.80	24.28
SB 075	11.24	25.10	0.94	23.56
SB 076	9.50	25.80	0.82	23.41
SB 077	8.83	25.10	0.90	23.56
SB 078	10.10	25.80	1.10	23.19
SB 079	9.08	27.18	0.10	22.97
SB 080	9.05	26.18	0.20	23.27
SB 081	9.02	25.74	0.36	22.00
SB 082	5.00	7.00	1.00	21.72
SB 083	17.67	10.16	1.90	21.78

Respectfully submitted,

V.C. McDonald, Chemist

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF ANALYSIS

Job No. M-2304-A
March 24, 1975

Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Analysis of 40 Pulp Samples

Item	Sample No.	Be (ppm)	Nb (ppm)	Item	Sample No.	Be (ppm)	Nb (ppm)
1.	SB-044	1,550	2,100	21.	SB-064	510	*
2.	045	200	750	22.	065	460	*
3.	046	300	300	23.	066	590	*
4.	047	580	500	24.	067	185	*
5.	048	105	600	25.	068	600	*
6.	049	85	600	26.	069	630	*
7.	050	65	700	27.	070	590	*
8.	051	95	600	28.	071	520	*
9.	052	205	1,250	29.	072	330	700
10.	053	190	2,150	30.	073	140	650
11.	054	250	600	31.	074A	85	550
12.	055	230	1,400	32.	074B	310	400
13.	056	275	1,550	33.	076	210	875
14.	057	340	2,150	34.	077	55	600
15.	058	340	2,800	35.	078	300	1,050
16.	059	380	3,000	36.	079	310	850
17.	060	560	2,400	37.	080	290	800
18.	061	450	1,300	38.	081	185	850
19.	062A	450	1,750	39.	082	180	400
20.	SB-062B	980	2,000	40.	SB-083	80	500

* Analysis not requested.

for Edwin U. Post
Charles E. Thompson
Chief Chemist

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF SPECTROGRAPHIC ANALYSIS

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Job No. M-2304
January 10, 1974

Values reported in parts per million except where noted otherwise, to the nearest number in the series 1, 1.5, 2, 3, 5, 7 etc.

	Sample Number					
Element	SB-047	SB-050	SB-053	SB-055	SB-056	SB-057
Fe	5%	3%	5%	5%	5%	5%
Ca	>20%	>20%	>20%	>20%	>20%	>20%
Mg	5%	2%	5%	5%	5%	7%
Ag	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500
B	30	20	20	20	20	20
Ba	10,000	7,000	>10,000	>10,000	>10,000	>10,000
Be	700	30	100	150	200	200
Bi	10	<10	10	<10	10	10
Cd	<50	<50	<50	<50	<50	<50
Co	5	<5	<5	<5	<5	<5
Cr	100	70	50	50	50	50
Cu	10	10	10	10	10	10
Ga	<10	<10	<10	<10	<10	<10
Ge	<20	<20	<20	<20	<20	<20
La	200	100	100	50	100	150
Mn	1,000	700	1,000	1,000	1,000	1,500
Mo	3	<2	<2	<2	<2	<2
Nb	1,000	300	1,500	1,500	1,500	2,000
Ni	15	10	5	5	5	5
Pb	200	30	500	500	1,000	300
Sb	<100	<100	<100	<100	<100	<100
Sc	100	30	70	50	70	100
Sn	<10	<10	<10	<10	<10	<10
Sr	>10,000	>10,000	>10,000	>10,000	10,000	>10,000
Ti	5,000	7,000	10,000	7,000	7,000	7,000
V	200	50	100	100	100	150
W	<50	<50	<50	<50	<50	<50
Y	3,000	1,000	3,000	2,000	2,000	5,000
Zn	500	<200	500	500	500	<200
Zr	150	150	150	100	100	200

Element	Sample Number SB-058	SB-059	SB-060	SB-071	SB-072	SB-074A
Fe	5%	5%	5%	5%	5%	3%
Ca	>20%	>20%	>20%	>20%	>20%	>20%
Mg	7%	7%	5%	5%	5%	5%
Ag	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500
B	20	20	20	70	50	20
Ba	>10,000	>10,000	>10,000	>10,000	>10,000	>10,000
Be	200	200	500	500	300	50
Bi	15	15	10	10	<10	<10
Cd	<50	<50	<50	<50	<50	<50
Co	<5	<5	<5	<5	<5	<5
Cr	50	50	50	100	70	50
Cu	10	20	10	15	10	10
Ga	<10	<10	<10	<10	<10	<10
Ge	<20	<20	<20	<20	<20	<20
La	200	200	200	150	20	50
Mn	1,500	1,500	1,000	1,000	700	700
Mo	<2	2	2	2	<2	3
Nb	1,500	5,000	1,500	1,000	500	500
Ni	10	15	10	20	10	7
Pb	300	200	300	200	200	200
Sb	<100	<100	<100	<100	<100	<100
Sc	100	150	100	70	50	50
Sn	<10	<10	<10	<10	<10	<10
Sr	10,000	10,000	7,000	7,000	3,000	5,000
Ti	7,000	10,000	10,000	5,000	7,000	7,000
V	200	200	150	100	150	50
W	50	70	<50	<50	<50	<50
Y	3,000	7,000	3,000	3,000	2,000	1,000
Zn	<200	<200	<200	200	<200	<200
Zr	200	150	100	200	150	150

Element	Sample Number SB-075B	SB-077	SB-078	SB-081	SB-083	SB-064
Fe	3%	3%	3%	5%	15%	3%
Ca	>20%	>20%	>20%	>20%	20%	>20%
Mg	3%	3%	2%	3%	5%	2%
Ag	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500
B	30	20	20	20	100	30
Ba	>10,000	>10,000	>10,000	>10,000	2,000	>10,000
Be	200	20	200	200	100	2,000
Bi	<10	<10	<10	<10	<10	10
Cd	<50	<50	<50	<50	<50	<50
Co	<5	<5	<5	<5	70	<5
Cr	50	50	50	100	200	30
Cu	10	10	10	10	50	7
Ga	<10	<10	<10	<10	10	<10
Ge	<20	<20	<20	<20	<20	<20
La	50	50	50	50	200	100
Mn	700	700	700	700	1,500	1,000
Mo	<2	<2	<2	<2	2	<2
Nb	700	500	500	300	700	1,500
Ni	10	5	5	10	50	10
Pb	200	500	700	1,000	20	500
Sb	<100	<100	<100	<100	<100	<100
Sc	30	50	50	50	20	100
Sn	<10	<10	<10	<10	<10	<10
Sr	3,000	7,000	3,000	3,000	2,000	2,000
Ti	7,000	7,000	7,000	5,000	10,000	5,000
V	100	50	50	70	150	50
W	<50	<50	<50	<50	<50	<50
Y	2,000	1,500	2,000	1,500	500	2,000
Zn	<200	<200	200	<200	<200	<200
Zr	150	150	150	150	100	150

Element	SB-065	SB-066	SB-067	SB-068	SB-069	SB-070
			Sample Number			
Fe	2%	5%	3%	5%	5%	7%
Ca	>20%	20%	>20%	>20%	>20%	>20%
Mg	2%	1.5%	1.5%	1.5%	2%	2%
Ag	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500
B	20	20	30	100	100	100
Ba	>10,000	>10,000	>10,000	10,000	10,000	10,000
Be	500	700	200	500	500	500
Bi	10	10	<10	15	10	10
Cd	<50	<50	<50	<50	<50	<50
Co	<5	<5	<5	5	5	5
Cr	20	30	50	70	70	70
Cu	5	10	7	15	15	20
Ga	<10	<10	<10	<10	<10	<10
Ge	<20	<20	<20	<20	<20	<20
La	100	100	20	100	100	100
Mn	1,000	1,500	1,000	1,000	1,000	1,000
Mo	<2	<2	<2	3	5	2
Nb	1,500	2,000	1,000	3,000	3,000	2,000
Ni	5	10	10	30	20	20
Pb	700	1,000	500	300	200	300
Sb	<100	<100	<100	<100	<100	<100
Sc	100	100	70	150	100	100
Sn	<10	<10	<10	<10	<10	<10
Sr	1,500	2,000	2,000	2,000	3,000	3,000
Ti	5,000	7,000	5,000	5,000	5,000	5,000
V	100	150	100	200	200	150
W	50	<50	<50	70	70	<50
Y	2,000	2,000	2,000	3,000	3,000	3,000
Zn	500	500	500	200	<200	<200
Zr	150	150	100	200	200	200

Edwin V. Post
for Charles E. Thompson
Chief Chemist

ASSAY GRAPH OME-7 (FSB-2)

ASSAY GRAPH
OME-7 (FSB-2)

045 Sample No.
9' Thickness
8.76 % CaF_2
1.40 % $BaSO_4$
Nb in ppm

Vertical Scale 1" = 20'
Horizontal Scale 1" = 10%

Box 447

Phone (618) 285-6685

Joseph A. Porter

Geologist

Rosiclare, Illinois
62982

June 11, 1974

Mr. Harold Kirkemo
Chief, Office of Minerals Exploration
U.S. Geological Survey
National Center, Mail Stop 920
12201 Sunrise Valley Drive
Reston, VA 22092

Re: OME-6873 (Fluorspar, et al.)
Hicks Dome Account
Hicks Dome Property
Hardin County, Illinois

Dear Mr. Kirkemo:

Pursuant to our recent conversations pertaining to additional assay work under the OME-Contract, I am submitting here my proposal outlining the work to be done.

Generally, the proposal calls for rather complete assaying of the better mineralized zones plus other assay work which may expand the zone of interest or give clues to factors controlling mineralization.

The amounts cited for secondary assaying are necessarily vague. Exact amounts cannot be determined until the program is at least one-half completed. Some check work will be attempted as soon as first results are in.

In view of the additional work we hereby request the contract be extended from June 26, 1974 to December 26, 1974.

Please advise if you need additional information.

Sincerely,

Joseph A. Porter

Joseph A. Porter

Enc. 1
cc. J.L. Carroll
file

PROPOSAL FOR ADDITIONAL ASSAY WORK

OME-6873 (Fluorspar, et al.)
Hicks Dome Account
Hicks Dome Property
Hardin County, Illinois

INTRODUCTION: As a result of various assay, routine spectrographic analysis and work by U.S.G.S. staff, additional assays of existing samples are indicated. Proposed assays are principally for Niobium, Yttrium, Beryllium, Lead, Zinc, $BaSO_4$ and CaF_2. Also included are assays for the rare earth elements Ytterbium, Gadolinium, Dysprosium, Holmium and Erbium. Some of the above duplicate previous work but should be done to check previous methods and results.

Completion of the program depends on results. The program can be altered according to the results of the initial assays. To this end Holes OME-1 (Hamp 5) and OME-5 (FSB-1) will be submitted first. The program may require some of the assay density be altered; either increased or decreased.

All holes drilled under the existing contract plus holes Hamp 1, Hamp 3, Hamp 4 and Pankey 2 are included in the proposed work.

An estimated five months will be required to finish the work.

COSTS: A copy of a summary of assay methods and costs submitted by Skyline Labs, Inc. is attached. Pulps of most of the samples involved are presently in their storage facility.

Total cost of the work is $15,740.00. Cost factors consist principally of 1) assay work 2) secondary assay work and 3) personnel services. Major cost elements are outlined by the following.

<u>Assay Work</u>

Hamp 1

CaF_2	21	42.00	
$BaSO_4$	21	94.50	
Nb	21	105.00	
Th	21	21.00	
ReO	21	105.00	
Be	21	63.00	
Y	21	21.00	
Pb	21	42.00	
Zn	21	42.00	$ 535.50

Hamp 3

$BaSO_4$	39	175.50	
Nb	39	195.00	
Th	39	39.00	
ReO	39	175.50	
Be	39	117.00	
Y	39	39.00	
Pb	39	78.00	
Zn	39	78.00	$ 916.50

Hamp 4

CaF_2	25	50.00	
$BaSO_4$	39	175.50	
Nb	39	195.00	
Th	39	39.00	
ReO	39	195.00	
Be	39	117.00	
Y	39	39.00	
Pb	39	78.00	
Zn	39	78.00	966.50

Hamp 5 (OME-1)

Nb	22	110.00	
Th	22	22.00	
ReO	21	105.00	
Be	21	63.00	
Y	22	22.00	
Pb	18	36.00	
Zn	18	36.00	394.00

Hamp 6 (OME-4)

Nb	26	130.00	
Th	26	26.00	
ReO	26	130.00	
Be	26	78.00	
Y	26	26.00	
Pb	26	52.00	
Zn	26	52.00	494.00

Hamp 7 (OME-6)

Nb	38	190.00	
Th	38	38.00	
ReO	38	190.00	
Be	38	114.00	
Y	38	38.00	
Pb	35	70.00	
Zn	35	70.00	710.00

Hamp 8 (OME-9)

Nb	43	215.00	
Th	43	43.00	
ReO	11	55.00	
Be	12	36.00	
Y	43	43.00	392.00

Fredricks 1 (OME-2)

$BaSO_4$	25	112.50	
Nb	29	145.00	
Th	29	29.00	
ReO	25	125.00	
Be	25	75.00	
Y	25	25.00	
Pb	25	50.00	
Zn	25	50.00	611.50

Pankey 2

CaF_2	9	18.00	
$BaSO_4$	5	22.50	
Nb	68	340.00	
Th	53	53.00	
ReO	35	140.00	
Be	28	84.00	
Y	29	29.00	
Pb	8	16.00	
Zn	6	12.00	
Spec.	5	45.00	759.50

Pankey 3 (OME-3)

Nb	22	110.00	
Th	22	22.00	
ReO	15	75.00	
Be	12	36.00	
Y	14	14.00	
Pb	5	10.00	
Zn	5	10.00	277.00

FSB-1 (OME-5)

Nb	27	135.00	
Th	27	27.00	
ReO	35	175.00	
Be	27	81.00	
Y	35	35.00	
Pb	27	54.00	
Zn	27	54.00	561.00

FSB-2 (OME-7)

Nb	36	180.00	
Th	41	41.00	
ReO	41	205.00	
Be	41	123.00	
Y	41	41.00	
Pb	11	22.00	
Zn	11	22.00	634.00

FSB-3 (OME-8)

Nb	13	65.00	
Th	14	14.00	
ReO	30	150.00	
Be	30	90.00	
Y	30	30.00	
Pb	30	60.00	
Zn	30	60.00	469.00

FSB-4 (OME-11)

CaF_2	29	58.00	
$BaSO_4$	29	130.50	
Nb	29	145.00	
Th	29	29.00	
ReO	29	145.00	
Be	29	87.00	
Y	29	29.00	
Pb	29	58.00	
Zn	29	58.00	739.00

Fredrick 2 (OME-10)

$BaSO_4$	11	49.50	
Nb	17	85.00	
Th	17	17.00	
ReO	12	85.00	
Pb	11	22.00	
Zn	11	22.00	280.50
			8,740.00

Secondary Assay Work These items are for better control and are necessarily estimates.

Check assays by other labs	1,200.00
Repeat assays by Skyline	1,200.00

Personnel Work proposed will require considerable personnel time for correlation, analysis, sample preparation, interpretation, plotting and posting of assay results. Additional core study will also be needed. The following time is estimated to be required, spread out over the life of the project.

Geologist 2 months @ $1500/mo	$ 3,000.00
Sampler & Assistant 2 months @ $400	800.00
Secretarial (posting & plotting) 2 months @ $400	800.00
Total	$ 15,740.00

Respectfully submitted,

Joseph A. Porter

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

May 31, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Dear Mr. Porter:

Thanks for visiting the lab several days ago to discuss further analysis of existing pulps and new samples from your fluorspar-barite project. I have reviewed the requirements for analytical services with Charles Thompson, and have come up with the following comments:

1. The colorimetric procedure for niobium is probably still the most precise and accurate available for the money. The method was developed by the U.S.G.S. using quantitative emission spectrographic analysis for control. We are prepared to do some research investigating the application of the procedure to your materials, and we'll see if we can obtain some standard samples containing known amounts of niobium from the Survey to use as controls. You may want to consider scanning all samples by XRF and checking only those above a certain threshold value by the colorimetric procedure.

2. Charlie feels that there may be a consistent small loss of fluorine in distillation, and there may be a slight difference in standardization, both of which could result in a more-or-less constant difference between our specific ion electrode values and your distillation values for CaF_2. At this stage, we don't know for sure which values are the more accurate, but we'll try to resolve the question as soon as possible. We'll also investigate what happens to the naturally occurring thorium during Willard-Winter assays.

3. Re-running the lead and zinc should present no problem. We'll use our quantitative technique involving an aqua regia digestion, and should get all the lead and zinc dissolved. In this range of concentration, atomic absorption should produce the most accurate values.

4. We'll have to work out a digestion procedure for the beryllium analyses to insure getting all the Be into solution, especially if it is possibly tied up with the barite. Once the beryllium is in solution, measuring its concentration by atomic absorption is straightforward.

5. The best approach to the analysis of the rare earth elements and thorium seems to be by X-Ray fluorescence. This can be accomplished locally with no problem.

6. We don't anticipate any problems from strontium in the barite, but will check for potential problems before embarking on routine analyses.

We can get 20 to 30 X-Ray fluorescence analyses per day, and one shift would produce about the same number of niobium, fluorine, barium etc. determinations. Thus, we're looking at about 150 samples per 5-day week on a regular basis for productivity.

Costs for this work are as follows:

Niobium (colorimetric)	$5.00
CaF_2	3.00
<10% F	2.00
Pb	2.00
Zn	2.00
Be	3:00
$BaSO_4$	4.50
Rare Earth Elements, Niobium and Thorium per element	1.00
Emission Spec Scans	9.00
Sample preparation on new samples ..... >1 lb, add $0.15/lb.	.90

If more than 1,000 samples are processed, a discount of 5 percent is applied. In practise, this is credited to all work performed exclusive of the emission specs and sample preparation, at the time 1,000 samples have been processed.

We are confident that, with a little investigation of procedures most suitable for the material at hand, we can provide accurate values adequate for an assessment of the grade of the material. It will take a few days to work out techniques, and from then on, we should be able to handle about 150 samples per week routinely.

Sincerely,

SKYLINE LABS, INC.

Edwin V. Post

Edwin V. Post

EVP:bw

Geologic Report
OME-8 (FSB-3)

OME-8 was drilled northeast of OME-5 (FSB-1) in an attempt to extend the better mineralization cut in OME-5. The location is shown on the 1" = 400' map.

A normal stratigraphic sequence was encountered to 1,294 feet where a fault zone was encountered in the lower part of the Maquoketa shale. The zone consisted of 96 feet of fault breccia and included a 33 foot cavity. The hole was lost in the cavity and subsequently wedged and redrilled at 1,255 feet. In the redrilled portion of the hole the Maquoketa was rather fractured but the base was clearly distinguished at 1,322 feet (rods), a sea level elevation of -700 feet. This was somewhat higher than anticipated.

Normal Kimmswick and Plattin were encountered down to 1,984 feet where continuous breccia was intersected. In general the breccia differed somewhat from usual in that in volume it was mostly coarse with lesser amounts of fine rock flour breccia.

The breccia can essentially be divided into an upper calcareous zone and a lower dolomitic zone. The upper zone, from 1,984 feet to 2,165 feet consisted of coarse, medium and fine angular fragments, all tightly interlocked. Lithologies were well mixed. Pink limestone fragments resembling Silurian rocks were fairly common. This zone contained two relatively thin zones of finer breccia with subangular fragments and a rock flour matrix which was replaced by purple fluorite.

The upper most zone, at the top of the breccia zone, from 1,986 feet to 2,008.5 feet averaged 12.34% CaF_2, 2.7% $BaSO_4$, 0.20% Nb and 0.16% Th over 22.5 feet. A similar zone from 2,070 feet to 2,089 feet averaged 12.8% CaF_2, 1.9% $BaSO_4$, 0.12% Nb and 0.15% Th over 19 feet. Several other thin finer breccia zones were sparingly mineralized.

The breccia became dolomitic at 2,165 feet. It was similar in character as above to 2,300 feet except that dolomite was the principal constituent. From 2,300 feet to 2,366 feet rich "purple breccia" was encountered. The 66.2 feet averaged 22.2% CaF_2, 2.89% $BaSO_4$ and 0.25% Nb. This zone correlated fairly well with the better zone in OME-5 (FSB-1).

Beneath this zone the breccia was more or less coarse to the bottom of the hole. It consisted principally of dolomitic breccia and brecciated dolomite with sparse mineralization in the zones of the finer breccia.

The hole was drilled to 2,997 feet as a test for deeper sulphide mineralization in the Knox group. No significant mineralization was encountered. Due to the brecciation, no stratigraphic interpretation could be made.

More thorough assay work is required on the mineralized zone.

Included here are:

1. Summary log,
2. Detailed log of the breccia zone,
3. Assay graph,
4. Assay certificates.

Respectfully submitted,

Joseph A. Porter

SUMMARY LOG
OME-8 (FSB-3)

Started 10-8-73 Elevation 622.0

Completed 2-1-74 Depth 2997

FORMATION	DESCRIPTION	THICK.	DEPTH
Overburden	Bedded chert residuum.	105	105
DEVONIAN Clear Creek ls.	Mostly finely crystalline, light gray and light brownish gray, cherty.	282	387
Backbone ls.	Finely crystalline, light brownish gray, rather pure.	43.5	430.5
Upper Grassy Knob ls.	Fine, crystalline, gray to dark gray, very silty, argillaceous.	62.5	493
Lower Grassy Knob ls.	Dark gray, fine, very silty, very argillaceous, very cherty, probably 50% chert as bands and irregular nodules.	208	701
Bailey ls.	Fine, gray, very silty, little argillaceous, little breccia and intrusive material at bottom.	171	872
SILURIAN Moccasin Sprs. ls.	Light gray, fine, scattered pyrite throughout, few pink streaks, little argillaceous material.	97	969
St. Clair - Sexton Creed ls.	Very fine, light gray with dolomitic, wavy streaks, disseminated pyrite, disseminated pink grains.	49.5	1018.5
Edgewood ls.	Principally fine, little crystalline, dark gray, fairly abundant argillaceous streaks, abundant irregular dark chert nodules.	98.5	1117
ORDOVICIAN Maquoketa sh.	Dark gray to black, hard and brittle, well fractured, fairly abundant calc-fluorite veinlets.	177	1294

FORMATION	DESCRIPTION	THICK.	DEPTH
Fault zone?	Mixed coarse breccia, shale and limestone, probably fault breccia, cavity from 1333-1363.	96	1390
Kimmswick ls. ?	Very fine, finely crystalline, light brownish gray.	67.5	1457.5

NOTE: Hole lost, wedged back at 1255 in an attempt to avoid cavity.

Maquoketa sh.	All highly fractured, some limestone, somewhat brecciated.	67	1322
Kimmswick ls.	Fine, medium and coarsely crystalline, very pure, gray to light gray, fairly abundant cavities.	61	1383
Decorah-Plattin ls.	Fine and medium, gray, dark wavy dolomitic or silty bands, little interbedded light gray crystalline, few patches of breccia with purple fluorite.	601	1984
Purple-gray rock flour br.	Fine, sub-angular fragments in a fluoritic rock flour matrix, fairly well replaced with purple fluorite, little pale green barite, trace of disseminated galena and sphalerite, average 12.3% CaF_2.	24.5	2008.5
Breccia	Mixed fine, medium and coarse angular fragments, tightly interlocked, little matrix material, little mineralization in finer portions.	61.5	2070
Purple breccia	As described above, average 12.8% CaF_2.	19.0	2089
Breccia	Principally angular, tightly interlocked, medium, coarse and fine sub-angular fragments of various limestones and dolomites, tightly interlocked, little matrix material, Silurian fragments common.	76	2165
Breccia	Principally as above, mostly dolomite fragments, little mineralization in finer portions, better mineralization toward bottom in finer portions, bottom contact rather sharp.	135	2300

FORMATION	DESCRIPTION	THICK.	DEPTH
Purple breccia	As described above, fluorspar considerably richer throughout, matrix very well replaced, fairly abundant barite throughout, grades rather quickly into dolomitic breccia below. Unit averages 22.2% CaF_2, 2.8% $BaSO_4$ and .25% Nb.	66	2366
Breccia	Mostly dolomitic breccia and brecciated dolomite, mostly coarse, little fine and medium scattered throughout, traces of mineralization in finer portions, little quartzite throughout.	631	2997
	TOTAL DEPTH		

Sheet No. 14 Hole No. FSB-3

Depth Feet	Formation	No.
1870-1880	Limestone, darker gray, fine crystalline, some scattering of dolomite, spotty white limestone "ovals", purple spar is common infractures, scattered pyrite; 1877-1879, quite broken, coarse white calcite abundant, purple spar associated.	
1880-1903.5	Limestone as (1802-1841), trace of pyrite.	
1903.5-1911	Limestone, gray, very fine crystalline, slightly dolomitic, stylolites are common.	
1911-1917.5	Mixture of argillaceous streaked limestone and gray limestone with large silty dark gray blocks, very broken, coarse calcite is common, some limonite.	
1917.5-1937	Limestone, gray, fine crystalline, abundant irregular argillaceous streaks, trace to some hydrocarbons, slightly dolomitic, 4" breccia at 1925 contains some spar, barite and 2-3% pyrite.	
1937-1954	Limestone, gray, fine crystalline, abundant dolomitic streaks, limestone more dolomitic than above, some darker silty patches and argillaceous streaks, stylolites are common.	
1954-1965	As above, transition to breccia, much local brecciation, well fractured throughout, stylolites are common, purple spar and barite up to 2% is found in brecciated zones, pyrite is common.	
1965-1984	Limestone, principally as above, few patches fairly well brecciated, few streaks purple and clear fluorite in brecciated portions, occasional vug in calcite veinlets, breccia more abundant toward bottom, bottom contact rather distinct, grades into below in a vertical range of about 1 foot.	
1984-1986	Gray breccia, principally fine to sub-angular fragments of limestone in a fluoritic rock flour matrix, disseminated sphalerite throughout, blebs of purple fluorite in matrix material and small fractures, estimate fluorite at 2%.	

Sheet No. 15 Hole No. FSB-3

Depth Feet	Formation	No.
	McDonald assays are underlined; Skyline assays are in parenthesis	
1986-1994	Purple-gray rock flour breccia, mostly fine angular, sub-angular limestone fragments in a rock flour matrix, few fragments of quartzite, traces of galena and sphalerite throughout, some clear pale green barite streaks in places, in places well replaced with deep purple fluorite, estimate spar at 5%.	SB-092 8' 12.61 CaF_2, 4.80 $BaSO_4$ (12.0 CaF_2, 3.4 $BaSO_4$)
1994-2002	Purple breccia mostly in rock flour matrix, fluorite occurs as disseminated specks of purple, few clear and purple blebs, some pyrite throughout, few traces of lead and zinc, clear and fluorite at 12%.	SB-093 8' 12.86 CaF_2, 2.10 $BaSO_4$ (11.5 CaF_2, 2.7 $BaSO_4$)
2002-2008.5	Purple-gray rock flour breccia, quartzite in a fluoritic gray rock flour matrix, principally as above, few patches fairly rich, generally lower in grade, estimate fluorite at 7%.	SB-094 6.5' 13.62 CaF_2, .50 $BaSO_4$ (11.5 CaF_2, 2.2 $BaSO_4$)
2008.5-2020	Breccia, mixed, fine, medium and coarse angular fragments of various limestones in a rock flour matrix, fragments generally tightly interlocked, matrix material small percent of total, finer portions and other mineralizations as above, estimate whole unit at 1% or less.	
2020-2050	Tightly interlocked angular fragments, principally as above, few zones and patches of fine breccia with purple fluoritic rock flour matrix, fine portions consistly carry most spar, few blebs and stringers of spar scattered throughout, pyrite, trace of sphalerite and galena, estimate spar at 1% or less.	
2050-2070	Breccia as above, finer and richer in purple fluorite, fairly rich in sphalerite in bottom 5'.	
2070-2080	Breccia, principally gray rock flour breccia, fragments-fairly tightly interlocked, matrix commonly well replaced with purple fluorite, estimate spar at 11%.	SB-095 10' 12.06 CaF_2, 1.20 $BaSO_4$ (9.4 CaF_2, 3.0 $BaSO_4$)

McDonald assay underlined

Skyline assay parenthesis

Sheet No. 16 Hole No. FSB-3

Depth Feet	Formation	No.
2080-2089	Breccia, purple, fairly tightly interlocked, small sub-angular fragments in a fluoritic rock flour matrix, fair disseminated sphalerite throughout, particularly with richer fluorite, estimate spar at 10%, transition to below rather abrupt.	SB-096 9' 15.14 CaF_2, 1.30 $BaSO_4$ (14.5 CaF_2, 2.2 $BaSO_4$)
2089-2110	Breccia, tightly interlocked fragments of limestone and dolomite ina dolomitic, calcareous matrix, fragments fine, medium and few coarse, few zones very fine, breccia fragments well mixed, fairly abundant shale fragments, fairly numerous fragments probably Silurian, traces of purple fluorite in matrix material and fractures, estimate fluorite at 1%, disseminated pyrite throughout.	SB-097 (2095-2106) 11' 5.04 CaF_2, 0.50 $BaSO_4$ (6.0 CaF_2, 1.1 $BaSO_4$)
2110-2140	Breccia, tightly interlocked, various colored fragments of limestone, dolomite and shale in a rock flour matrix, matrix material small percent of total, matrix partly replaced with fluorite, few traces disseminated sphalerite throughout, fiarly abundant pink fragments, probably Silurian, estimate throughout at 1%.	
2140-2165	Breccia, principally as before, more abundant patches of fine breccia, seems to be somewhat more disseminated, yellow and ruby sphalerite throughout, few finer zones with few traces of galena, Silurian fragments still fairly common, fluorite estimate at 1%.	SB-098 (2155-2165) 10' 6.98 CaF_2, 1.20 $BaSO_4$ (7.4 CaF_2, 1.2 $BaSO_4$)
2185-2205	Mixed breccia as above, dolomitic breccia, probably consists mostly of dolomite, fragments noticeably more granular than before, noticeably less mixed, probably continues to represent transition to Joachim, fluorite in matrix material probably less than 1%, traces of galena and sphalerite.	
2205-2232	Breccia, principally fine, little medium and coarse, appears to be very dolomitic, rock flour matrix sparingly replaced with purple fluorite, few blebs of purple fluorite, few zones and patches rather pyritic, traces of galena and sphalerite, consists principally of dolomite.	

Sheet No. 17 Hole No. FSB-3

Depth Feet	Formation	No.
2232-2241	Breccia, principally as above, probably finer with correspondingly more rock flour matrix, few patches fairly well replced with purple fluorite, estimate total spar at 1.5-2%, seems to grade into unit below.	
2241-2258	Breccia, principally fine, gray, dolomitic breccia with sub-rounded, sub-angular fragments in a slightly fluoritic rock flour matrix, few traces of galena and sphalerite throughout, patches fairly rich in pyrite, somewhat richer in fluorite, estimate fluoirite at 2%.	SB-099 11' 6.81 CaF_2, 0.50 $BaSO_4$ (8.2 CaF_2, 1.0 $BaSO_4$)
2258-2269	Breccia, mixed, coarse, medium and fine in a fluoritic rock flour matrix, fairly abundant pyrite throughout.	SB-100 11' 7.08 CaF_2, 2.50 $BaSO_4$ (8.2 CaF_2, 1.6 $BaSO_4$)
2269-2284	Breccia, coarse and medium, angular fragments of a dolomite and limestone matrix, matrix fairly well replaced with deep purple fluorite but matrix makes up small percent of total, fairly abundant quartzite fragments, estimate spar at 3%.	
2284-2299.8	Breccia, fine, medium and coarse angular fragments of dolomite and quartzite, some limestone in a fluoritic rock flour matrix, quartzite fairly abundant, matrix material rather well replaced with deep purple fluorite, matrix makes up small percent of total, contact rather sharp, estimate spar at 3%.	SB-101 13.8' 5.06 CaF_2, 1.32 $BaSO_4$ (6.4 CaF_2, .49 $BaSO_4$)
2299.8-2305	Purple breccia zones, rather rich deep purple fluorite with crystalline barite, disseminated pyrite, trace of sphalerite and galena, few coarse fragments relatively unreplaced, few rather distinct fragments relatively of quartzite, estimate spar at 10%, both upper and lower contacts appear to be distinct, considered to be part of the purple breccia zone.	SB-085 5.2' 18.75 CaF_2, 1.20 $BaSO_4$
2305-2309.5	Purple breccia, little mixed breccia as above, consists principally of sub-angular fragments of dolomite in a fluoritic rock flour matrix, matrix has abundant disseminated barite, fair show of galena, trace of sphalerite, few large unreplaced fragments, estimate spar at 12%.	SB-086 4.5' 19.55 CaF_2, 2.22 $BaSO_4$ (22.5 CaF_2, 3.2 $BaSO_4$)

Sheet No. 18 Hole No. FSB-3

Depth Feet	Formation	No.
2309.5-2315	Rather rich purple breccia, all very fine with sub-angular fragments of white limestone and dolomite, little quartzite, fluorine in a purple rock flour matrix, abundant crystalline pale green barite, good show of galena, some nearly coarsely crystalline and finely disseminated throughout, all rather pyritic, estimate fluorite at 18.5%, barite 3%.	SB-087 5.5' 25.24 CaF_2, 4.16 $BaSO_4$ (29.0 CaF_2, 4.8 $BaSO_4$)
2315-2325	Purple breccia, principally as before, probably richer, contains significant clear barite, mostly fine matrix, material, few larger fragments floating, estimate fluorite at 20%, barite at 4%, fair traces of galena, all rather pyritic.	SB-088 10' 25.48 CaF_2, 1.28 $BaSO_4$ (29.0 CaF_2, 4.2 $BaSO_4$)
2325-2335	Purple breccia, principally as above, fairly abundant larger fragments, bottom part appears to be somewhat altered and porous, estimate fluorite at 19%.	SB-089 10' 23.72 CaF_2, 4.50 $BaSO_4$ (26.5 CaF_2, 4.8 $BaSO_4$)
2335-2345	Purple breccia, essentially as before, matrix well replaced with deep purple fluorite, few large fragments, abundant clear and pale barite, estimate fluorite at 21%, barite at 4%, little galena and sphalerite, fairly abundant pyrite.	SB-090 10' 22.00 CaF_2, 1.20 $BaSO_4$ (26.5 CaF_2, 5.4 $BaSO_4$)
2345-2354	Deep purple breccia, matrix fairly well replaced with deep purple fluorite, some blebs and streaks of crystalline clear fluorite, abundant barite, traces of galena, sphalerite and fairly abundant pyrite, estimate fluorite at 26%, barite at 6%, bottom contact very sharp and abrupt.	SB-091 9' 22.72 CaF_2, 2.80 $BaSO_4$ (25.5 CaF_2, 5.1 $BaSO_4$)
2354-2366	Dolomite, very fine grained, gray, abundant blebs and streaks of purple and clear fluorite, abundant disseminated pyrite throughout, bedding appears to be rather well preserved might be considered a crackle breccia.	SB-102 12' 11.98 CaF_2, 1.30 $BaSO_4$ (12.5 CaF_2, .59 $BaSO_4$)

Sheet No. 19 Hole No. FSB-3

Depth Feet	Formation	No.
2354-2366	Dolomite, very fine grained, gray, abundant blebs and streaks of purple and clear fluorite, abundant disseminated pyrite throughout, bedding appears to be rather well preserved, might be considered a crackle breccia.	SB-102 12' 11.98 CaF_2, 1.30 $BaSO_4$ (12.5 CaF_2, .59 $BaSO_4$)
2366-2376	Breccia, principally as above, somewhat lighter gray in bottom portion, possibly somewhat more brecciated, matrix material fairly well replaced, but constitutes small part of total, estimate fluorite at 3%.	
2376-2395	Brecciated dolomite, fine grained, gray and light gray, more or less crackle breccia, fairly abundant small blebs of purple fluorite and small fractures, little disseminated purple fluorite commonly with barite, estimate fluorite at 1%.	
2395-2413	Breccia, dolomitic, principally coarse angular fragments of tan and gray dolomite in a fluoritic rock flour matrix, matrix makes up a small percent of total, fairly abundant pyrite throughout principally in matrix material, material fairly well replaced but constitutes small part of total, odd patch of rather rich purple breccia, estimate overall at 2%.	
2413-2420	Breccia, fairly well mixed, principally coarse and medium angular fragments in a fluoritic rock flour matrix, partly fairly well replaced with deep purple fluorite, little disseminated galena and sphalerite, rather bleached appearance.	SB-103 7' 4.41 CaF_2, 0.94 $BaSO_4$ (4.1 CaF_2)
2420-2428	Breccia, principally large fragments of dolomite, dark brownish gray, very fine grained, abundant small seams and veinlets of white calcite, little purple fluorite, few argillaceous zones with abundant disseminated pyrite.	

Sheet No. 20 Hole No. FS3-3

Depth Feet	Formation	No.
2428-2452	Breccia, principally fine, consists principally of rather rounded small fragments in a rock flour matrix, matrix appears granular possibly sandy, fairly abundant shows of clear fluorite as irregular blebs in matrix material, little pyrite scattered throughout, more calcareous than above, in general lighter zones are more calcareous and more granular in appearance.	SB-104 (2437-2448) 11' 2.52 CaF_2, 1.76 $BaSO_4$ (3.3 CaF_2)
2452-2480	Brecciated dolomite, principally as above, few patches fine, mostly coarse breccia, probably discribed best as mega-breccia, fluorite in small seams and finer brecciated portions, little dark chert, little quartzite scattered throughout, estimate fluorite at 1%, few traces of clear pale barite.	
2480-2498	Brecciated dolomite, gray, light gray and dark gray, few patches fairly fine breccia, few blebs of purple fluorite in matrix, little zones with fairly large fragments that appear to be intrusive igneous material which has been rebrecciated, little quartzite scattered throughout.	
2498-2516	Breccia, principally as before, little finer breccia at bottom, some dark gray brecciated shaly material in lower part, very little mineralization throughout.	
2516-2535	Breccia, principally small, angular fragments of dolomite in a dolomitic rock flour matrix, few dark gray fragments and light gray fragments, odd fragment of oolitic dolomite, suspect secondary dolomitization very significant here, few quartzite fragments throughout.	SB-105 (2522-2531) 9' 1.53 CaF_2, 0.36 $BaSO_4$ (2.7 CaF_2)
2535-2552	Breccia, as above.	
2552-2562	Breccia, principally as before, somewhat more dark gray argillaceous shaly dolomite stringers, very little mineralization evident.	

Sheet No. 21 Hole No. FSB-3

Depth Feet	Formation	No.
2562-2570	Brecciated limestone, dolomite and quartzite in a rock flour matrix commonly replaced by clear white calcite, little pyrite scattered throughout, few traces of purple fluorite throughout, quartzite possibly somewhat more abundant.	SB-106 8' 2.06 CaF_2, 1.06 $BaSO_4$ (2.7 CaF_2)
2570-2592	Breccia, fine, medium and coarse, principally sub-angular fragments of dolomite, some quartzite and limestone in a dolomitic rock flour matrix, rock flour matrix minor constituent, little pyrite throughout, occasional blebs of purple fluorite, occasional calc veinlet and calcite in matrix.	
2592-2621	Breccia, mostly dolomite, some limestone and quartzite fragments in a sandy, dolomitic matrix, few zones with calcite, commonly with purple fluorite and traces of chalcopyrite, little scattered pyrite throughout, few patches with peculiar yellow staining, minor zones appear to be fairly well mixed.	
2621-2646	Brecciated dolomite, gray, very fine grained, very little mixing evident, probably well recrystallized, few patches of white calcite, traces of pyrite scattered throughout, few blebs of purple fluorite, partly very vuggy.	
2646-2665	Breccia, principally fine, little medium angular fragments of various colored fine grained dolomite, occasional fragment of limestone and shale, little clear fluorite throughout in matrix, matrix material appears to be rather sandy.	SB-107 (2651-2665) 14' 1.80 CaF_2, 0.44 $BaSO_4$ (3.3 CaF_2)
2665-2688	Breccia, fine, medium and coarse, dolomitic breccia, consists principally of crystal and light gray dolomite, probably recrystallized, partly vuggy throughout, fair amounts of disseminated pyrite and light gray crystal material.	

Sheet No. 22 Hole No. FSB-3

Depth Feet	Formation	No.
2688-2713	Brecciated, dolomitic limestone, light gray, coarsely crystalline, few fragments of quartzite and dolomite scattered throughout, particularly from about 2695-2697, little scattered pyrite throughout, few zones and patches with faint yellowish tinge.	SB-108 (2695-2697) 2' 5.16 CaF_2, 0.36 $BaSO_4$ (6.0 CaF_2)
2713-2734	Brecciated dolomite and chert, mostly coarse mega-breccia, few streaks and patches fine, occasional intermixed large quartzite fragments, little purple fluorite scattered throughout principally in blebs, sometimes disseminated, fairly abundant disseminated pyrite, few traces of pale yellow sphalerite.	SB-109 (2726-2734) 8' 2.77 CaF_2, 0.48 $BaSO_4$ (3.3 CaF_2)
2734-2755	Breccia, mixed, coarse, mostly coarse, little mixed fine and medium, upper portion principally large fragments of quartzite, mostly dolomite in lower part, little purple fluorite in matrix, fairly abundant calc veinlets and seams, traces of white barite principally in vugs.	
2755-2774	Brecciated dolomite, gray to brownish gray, fine and medium crystalline grained, little quartzite scattered throughout, more brecciated portions have calcite matrix, little matrix material in total, traces fluorite throughout, little scattered pyrite throughout, all fairly vuggy, core partly broken.	SB-110 (2765-2774) 9' 4.85 CaF_2, 0.48 $BaSO_4$ (3.7 CaF_2)
2774-2800	Brecciated dolomite and quartzite principally as above, somewhat calcite, matrix fairly abundant zones of rather fine breccia with sub-angular fragments, partly vuggy, fairly well broken in part.	SB-111 (2790-2800) 10' 2.00 CaF_2, 0.32 $BaSO_4$ (3.0 CaF_2)
2800-2828	Brecciated dolomite and quartzite, principally as before, little purple fluorite in vugs scattered throughout particularly in lighter gray to white dolomites, somewhat broken, tends to break into buttons, sparse mineralization, few traces of pyrite.	
2828-2848	Brecciated dolomite and quartzite, principally as above, purple fluorite in fractures and in vugs, odd traces and zones with faint yellowish tinge in fractures, somewhat lighter in color than above.	

Sheet No. 23 Hole No. FSB-3

Depth Feet	Formation	No.
2848-2870	Brecciated dolomite and quartzite as before, possibly somewhat less quartzite.	
2870-2882	Breccia, fine, medium, sub-angular fragments of dolomite in a fluoritic sandy, rock flour matrix, disseminated clear fluorite throughout in matrix, fairly abundant large crystals of clear barite.	SB-112 2' 1.29 CaF_2, .60 $BaSO_4$
2882-2997	Brecciated dolomite, little quartzite, mostly light gray, very fine grained, little clear barite, some pyrite.	SB-113 (2886-2997) 11' 1.47 CaF_2, .20 $BaSO_4$

TOTAL DEPTH

ASSAY GRAPH FSB-3 (OME-8)

HICKS DOME ACCT. - OME
Assay Graph
OME-8 (FSB-3)

Vertical Scale 1" = 20'
Values 1" = 10%

Box 592
Rosiclare, Ill. 62982

V. C. McDonald
Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

Re: Assay Results - Split Core
FSB-3 (OME-8)

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
SB-084	12.62			
SB-085	18.75	12.88	1.20	21.43
SB-086	19.55	13.28	2.22	24.30
SB-087	25.24	9.12	4.16	20.04
SB-088	25.48	8.12	1.28	24.28
SB-089	23.72	10.10	4.50	24.30
SB-090	22.00	11.20	1.20	23.12
SB-091	22.72	14.40	2.80	23.50
SB-092	12.61	23.62	4.80	21.00
SB-093	12.86	19.08	2.10	23.20
SB-094	13.62	20.90	0.50	22.87
SB-095	12.06	17.02	1.20	25.52
SB-096	15.14	21.20	1.30	23.53
SB-097	5.04	22.00	0.50	23.66
SB-098	6.98	19.38	1.20	19.55
SB-099	6.81	16.72	0.50	19.02
SB-100	7.08	24.78	2.50	18.69
SB-101	5.06	20.96	1.32	18.09
SB-102	11.98	16.04	1.30	21.28

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
SB-103	4.41	10.54	0.94	20.55
SB-104	2.52	12.40	1.76	19.22
SB-105	1.53	23.84	0.36	16.57
SB-106	2.06	21.68	1.06	14.91
SB-107	1.80	14.78	0.44	18.56
SB-108	5.16	13.56	0.36	18.49
SB-109	2.77	20.72	0.48	16.23
SB-110	4.85	15.52	0.48	18.43
SB-111	2.00	13.68	0.32	18.82
SB-112	1.29	26.50	0.60	16.23
SB-113	1.47	12.30	0.20	19.55

Respectfully submitted,

V.C. McDonald, Chemist

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF ANALYSIS

Job No. M-2378
March 1, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclaire, Illinois 62982

Analysis of 6 Pulp Samples

Item	Sample No.	CaF_2 (%)	$BaSO_4$ (%)	Pb (ppm)	Nb (ppm)
1.	SB-086	22.5	3.2	3,800	2,100
2.	087	29.	4.8	4,360	2,700
3.	088	29.	4.2	300	4,100
4.	089	26.5	4.8	50	3,200
5.	090	26.5	5.4	70	4,500
6.	Sb-091	25.5	5.1	150	3,200

Charles E. Thompson
Chief Chemist

SKYLINE LABS, INC.
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REPORT OF SPECTROGRAPHIC ANALYSIS

Job No. M-2378
March 1, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclaire, Illinois 62982

Values reported in parts per million, except where noted otherwise, to the nearest number in the series 1, 1.5, 2, 3, 5, 7 etc.

Element	Sample Number SB-086	SB-087	SB-088	SB-089	SB-090	SB-091
Fe	2%	3%	2%	2%	3%	2%
Ca	20%	20%	>20%	20%	20%	20%
Mg	7%	5%	7%	5%	7%	10%
Ag	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500
B	10	20	20	20	20	15
Ba	>10,000	>10,000	>10,000	>10,000	>10,000	>10,000
Be	50	100	150	700	1,000	1,000
Bi	<10	10	10	10	10	10
Cd	<50	<50	<50	<50	<50	<50
Co	<5	<5	<5	<5	<5	<5
Cr	30	30	30	30	30	30
Cu	30	20	20	15	15	20
Ga	<10	<10	<10	<10	<10	<10
Ge	<20	<20	<20	<20	<20	<20
La	70	100	100	70	100	100
Mn	1,000	1,000	1,000	1,000	1,000	1,500
Mo	<2	<2	<2	<2	<2	<2
Nb	1,500	2,000	3,000	3,000	3,000	2,000
Ni	20	20	15	10	5	5
Pb	5,000	5,000	200	50	70	150
Sb	<100	<100	<100	<100	<100	<100
Sc	50	70	70	50	50	50
Sn	<10	<10	<10	<10	<10	<10
Sr	1,500	2,000	2,000	2,000	3,000	2,000
Ti	3,000	5,000	7,000	5,000	5,000	5,000
V	150	200	100	100	150	50
W	<50	50	50	50	<50	<50
Y	1,500	2,000	2,000	1,500	2,000	1,500
Zn	<200	<200	<200	<200	<200	<200
Zr	50	100	150	100	100	70

Charles E. Thompson
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REPORT OF ANALYSIS

Job No. M-2426
April 11, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Analysis of 20 Pulp Samples

Item	Sample No.	CaF_2 (%)	$BaSO_4$ (%)	Nb (ppm)	Th (ppm)
1.	SB-092	12.	3.4	3,000	1,600
2.	093	11.5	2.7	1,400	1,600
3.	094	11.5	2.2	1,500	1,500
4.	095	9.4	3.0	900	1,300
5.	096	14.5	2.2	1,500	1,700
6.	097	6.0	1.1	650	410
7.	098	7.4	1.2	750	650
8.	099	8.2	1.0	1,300	580
9.	100	8.2	1.6	1,000	410
10.	101	6.4	.49	550	170
11.	102	12.5	.59	225	180
12.	103	4.1	*	*	350
13.	104	3.3	*	*	*
14.	105	2.7	*	*	*
15.	106	2.7	*	350	60
16.	107	3.3	*	*	*
17.	108	6.0	*	1,500	2,100
18.	109	3.3	*	*	*
19.	110	3.7	*	275	330
20.	SB-111	3.0	*	*	*

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* Analysis not requested

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REPORT OF SPECTROGRAPHIC ANALYSIS

Job No. M-2426
April 11, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Values reported in parts per million, except where noted otherwise, to the nearest number in the series 1, 1.5, 2, 3, 5, 7 etc.

Element	Sample Number SB-092	SB-093	SB-094	SB-095	SB-096	SB-097	SB-098	SB-099
Fe	2%	3%	3%	5%	7%	2%	3%	5%
Ca	>20%	>20%	>20%	>20%	>20%	>20%	20%	15%
Mg	3%	5%	2%	2%	2%	2%	5%	5%
Ag	<1	<1	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500	<500	<500
B	20	30	30	50	70	20	20	15
Ba	>10,000	>10,000	10,000	>10,000	>10,000	2,000	3,000	3,000
Be	1,500	500	500	1,000	2,000	300	500	100
Bi	10	10	10	10	<10	<10	<10	<10
Cd	<50	<50	<50	<50	<50	<50	<50	<50
Co	<5	<5	<5	5	<5	<5	<5	10
Cr	70	50	70	70	200	30	50	50
Cu	10	10	10	10	5	5	10	10
Ga	<10	<10	<10	<10	<10	<10	10	<10
Ge	<20	<20	<20	<20	<20	<20	<20	<20
La	70	70	50	100	50	70	100	200
Mn	700	700	500	700	1,500	700	1,000	1,000
Mo	<2	<2	2	2	<2	<2	3	3
Nb	2,000	1,000	1,000	700	1,000	500	500	1,000
Ni	10	15	15	15	10	10	10	10
Pb	300	700	150	200	500	100	150	50
Sb	<100	<100	<100	<100	<100	<100	<100	<100
Sc	200	200	200	200	500	50	50	50
Sn	<10	<10	<10	<10	<10	<10	<10	<10
Sr	3,000	3,000	2,000	5,000	10,000	1,500	2,000	5,000
Ti	5,000	3,000	3,000	5,000	10,000	1,500	2,000	5,000
V	100	150	200	200	300	70	200	300
W	<50	<50	<50	<50	<50	<50	<50	<50
Y	3,000	2,000	2,000	3,000	7,000	1,000	1,500	300
Zn	<200	<200	<200	300	500	<200	<200	<200
Zr	150	100	100	100	50	100	100	30

Element	Sample Number SB-100	SB-101	SB-102	SB-103	SB-106	SB-108	SB-110
Fe	5%	3%	2%	3%	2%	7%	3%
Ca	20%	15%	>20%	20%	>20%	>20%	15%
Mg	7%	7%	7%	10%	10%	10%	7%
Ag	<1	<1	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500	<500	<500
B	20	30	30	10	10	10	20
Ba	7,000	1,000	1,500	1,500	700	10,000	700
Be	50	10	3	<2	<2	15	10
Bi	<10	<10	<10	<10	<10	10	<10
Cd	<50	<50	<50	<50	<50	<50	<50
Co	5	<5	<5	<5	<5	10	<5
Cr	50	50	70	30	70	70	50
Cu	10	7	7	5	7	10	10
Ga	<10	<10	<10	<10	<10	<10	<10
Ge	<20	<20	<20	<20	<20	<20	<20
La	200	30	<20	200	20	500	20
Mn	1,000	1,000	500	1,500	700	3,000	700
Mo	3	5	<2	70	10	10	10
Nb	700	300	150	300	300	1,000	150
Ni	10	5	7	5	5	10	5
Pb	30	50	10	30	20	50	10
Sb	<100	<100	<100	<100	<100	<100	<100
Sc	30	10	20	10	15	50	10
Sn	<10	<10	<10	<10	<10	<10	<10
Sr	2,000	500	700	500	700	1,500	300
Ti	2,000	1,500	1,000	1,500	1,000	700	500
V	100	100	50	100	150	150	100
W	<50	<50	<50	<50	<50	<50	<50
Y	300	200	300	150	150	300	200
Zn	<200	<200	<200	<200	<200	<200	<200
Zr	50	<20	50	<20	20	50	20

Charles E. Thompson
Chief Chemist

Geologic Report
OME-9 (Hamp 8)

This hole was drilled southwest of OME-4 (Hamp 6) in an attempt to extend the mineralization cut in earlier Hamp holes. Its location is shown on the 1" = 400' map.

The stratigraphic section is essentially normal. The hole was drilled rather high on the structure and intersected the base of the Maquoketa and continuous breccia considerably higher than the other Hamp holes. The base of the Maquoketa was intersected at -724 sea level elevation. Continuous breccia was intersected at -996 sea level elevation in the bottom part of the Kimmswick limestone. This is considerably higher stratigraphically than in the other Hamp holes.

The upper part of the breccia zone, from 1,378 feet to 1,777 feet (rods), consisted principally of coarse, medium and fine angular fragments, generally tightly interlocked with little matrix material. Traces of fluorite, sphalerite, galena and pyrite were scattered throughout. This unit graded into the unit below in the bottom 10 feet.

Gray rock flour breccia was encountered from 1,757 feet to 2,071 feet, a total of 314 feet. It consisted typically of small sub-angular fragments in a generally abundant gray to dark gray rock flour matrix. The upper 219 feet was calcareous and the bottom 96 feet generally dolomitic.

The rock flour was considered "favorable" in that it closely resembled the "purple breccia" in character. It was however, very poorly mineralized. The entire zone averaged 4.2% CaF_2. Highest assay in the zone was 6.0% CaF_2. The mineralization was typical of "purple breccia". It consisted of fine, disseminated purple fluorite, clear or pale green barite with trace of disseminated sphalerite and galena. Grade was slightly higher in the calcareous breccia.

Brecciation persisted from 2,071 feet to 2,392.5 feet, the bottom of the hole. It consisted principally of tightly interlocked dolomite fragments with some mixed quartzite. Fragments varied in size but it is probable that brecciation was somewhat more intense than is usually seen in this zone. Several of the finer zones were fairly well mineralized. One zone, from 2,274.5 feet to 2,291 feet assayed 10.3% CaF_2 and probably could be considered "purple breccia".

Since grade was so low the samples were assayed by McDonald only. Assays for Nb, Th, Y, Be and ReOs are being carried out under the current reassay program.

Included here are:

1. Summary log,
2. Detailed log of breccia zone,
3. Assay graph,
4. Assay certificates.

Respectfully submitted,

Joseph A. Porter

Joseph A. Porter

SUMMARY LOG
OME-9 (Hamp 8)

Started 10-25-73 Elevation 596.5

Completed 1-16-74 Depth 2392.5

FORMATION	DESCRIPTION	THICK.	DEPTH
Overburden	Chert residuum and red clay.	70	70
DEVONIAN Clear Creek ls.	Principally fine grained, light brownish gray, rather cherty.	180	250
250-266	Drilled with rotary, lost circulation, no sample.	426	676
Grassy Knob ls.	Chert, dark gray, fine grained, argillaceous limestone with abundant chert.	2.5	678.5
Bailey ls.	Very silty, very fine grained to sublithographic, light brownish gray, little irregular chert nodules.	175.5	854
SILURIAN Moccasin Sprgs.	Very fine grained, gray to light gray, little crystalline pyrite, fairly abundant brick red and pale green streaks.	99	953
St. Clair - Sexton Creek ls.	Very fine grained, gray and light gray, rather abundant coarse scattered pink grains, generally pyritic throughout, fairly abundant brick red streaks.	70	1023
Edgewood ls.	Gray and dark gray, finely crystalline, abundant interlaminated argillaceous streaks, fairly abundant chert.	88	1111
ORDOVICIAN Maquoketa sh.	Dark gray to black, well laminated, brittle, hard, little shaley sandstone and limestone toward bottom, fairly well fractured throughout with abundant calcite and fluorite in veinlets.	209	1320

FORMATION	DESCRIPTION	THICK.	DEPTH
Breccia	Coarse, medium, tightly interlocked fragments, well mixed, abundant Silurian and Maquoketa fragments, all rather tightly interlocked, very little matrix maerial, few fine zones, traces of fluorite, galena and sphalerite.	213.5	1592
Breccia	Principally tightly interlocked fragments Plattin limestone, medium, coarse, some fine, little shale, no Silurian fragments, very little matrix material, grades into below in bottom 10 feet.	165	1757
Gray rock flour breccia	Mostly fine, sub-angular fragments in a rock flour matrix, matrix commonly well replaced with purple fluorite, some zones purple, little barite and sphalerite throughout, generally typical of purple breccias, though more poorly replaced.	218	1975
Gray rock flour breccia	Mostly dolomitic, principally fine, sub-angular fragments in a dolomitic, rock flour matrix, little disseminated purple fluorite throughout, little calcareous material, generally poorly replaced, somewhat altered in appearance.	96	2071
Breccia	Mixed fine, medium and coarse, dolomitic, becoming more coarse toward bottom, dolomitic rock flour matrix sparingly replaced with purple breccia type mineralization, several zones appear altered, little quartzite.	321.5	2392.5

TOTAL DEPTH

Sheet No. 8 Hole No. H-8

Depth Feet	Formation	No.
	Kimmswick ls.	
1313.5-1320	Limestone, coarsely crystalline, gray to light gray, stylolitic, appears to be very pure, upper parts fairly pyritic.	
1320-1340	Limestone, gray and light gray, fine and medium crystalline, finer portions has floating calcite rhombs and darker brown masses, rather stylolitic and pure throughout, somewhat fractured, slightly brecciated toward bottom, odd patch of crystalline sphalerite disseminated in limestone.	
1340-1378.5	Limestone, mostly coarsely crystalline, gray and light brownish gray, stylolitic, few finer zones, entire unit appears to be very pure, few fractured zones, bottom contact rather sharp and distinct.	
1378.5-1395	Breccia, fine, medium and coarse, tightly interlocked fragments, very little matrix material in general, fragments rather varied, consists principally of various limestones and shale, matrix commonly replaced by pale blue fluorite with traces of sphalerite and galena, little galena scattered throughout, pyrite scattered throughout, shale resembles Maquoketa.	H-338 10' 4.42 CaF2, 0.22 BaSO4
1395-1408.5	Breccia, rather tightly interlocked, coarse, medium and fine angular fragments in a fluoritic, calcite and rock flour matrix, several patches fairly rich in galena with associated fluorite, several odd patches well replaced by purple fluorite resemble purple breccias, shale fragments abundant and coarse, abundant coarse fragments toward bottom.	
1408.5-1417	Breccia, very fine, tightly interlocked, angular fragments, approximately 50% shale, rest mixture of various limestones, appears to be a dike dipping at about 70°, little sphalerite scattered throughout as distinct and isolated crystals, some pyrite and traces of fluorite throughout.	

Sheet No. 9 Hole No. H-8

Depth Feet	Formation	No.
1417-1440	Upper part essentially one thick block of limestone and the rest consists of medium sized angular fragments all rather tightly interlocked, numerous fragments probably Silurian, very little matrix material, matrix commonly fluoritic, fairly abundant pyrite scattered throughout particularly in Silurian fragments, fragments fairly well mixed as to character, gray and light gray, abundant interlaminated wavy streaks possibly dolomitic and silty, few zones somewhat more coarsely crystalline, few traces of purple fluorite in fractures, breccia zones and disseminated throughout, fairly pyritic in part particularly in pinker streaks.	
1440-1457	Coarse breccia as above, numerous large fragments plus 3" of Silurian units, both Mocassin Springs and Sexton Creek or St. Clair, little calcite matrix, little purple fluorite in matrix, shale fragments till fairly abundant, fragments generally rather angular, pyrite fairly common, core partly broken and vuggy.	
	Reduced hole to BX	
1457-1488.7	Breccia, principally tightly interlocked fragments of limestone, some shale, limestone fragments principally are Silurian fragments, some zones abundant coarse grained Kimmswick, little purple fluorite matrix throughout, few odd traces of galena, pyrite scattered throughout in Silurian limestones and matrix material, little white pasty mineral possibly sericite or barite, fragments still angular and rather tightly interlocked.	
1488.7-1491.3	Cavity	
1491.3-1506	Breccia, principally as before, bottom five feet all very fine with abundant small angular shale fragments giving a distinct speckled appearance.	
1506-1538	Breccia, principally as before, consists of fine, medium and coarse angular fragments, all rather tightly interlocked in a rock flour calcite matrix, matrix material small percent of total, abundant shale fragments, fairly abundant easily recognizable Silurian fragments and Kimmswick fragments, core slightly oxidized and partly	

Sheet No. 10 Hole No. H-8

Depth Feet	Formation	No.
1506-1538 cont.	broken, few calc veinlets, commonly traces of purple fluorite, little fluorite in matrix, moderately abundant pyrite scattered throughout.	
1538-1560	Breccia, principally as before, core somewhat broken, Silurian fragments still easily indentifiable.	
	Note: Amount of easily indentifiable Silurian fragments much greater in this hole than in previous seen.	
1560-1592	Breccia, mostly medium, little fine, little coarse, all tightly interlocked Silurian limestones, black shale and other limestones, Silurian rather abundant and easily identifiable, matrix principally calcite and rock flour but comprises very little of total, scattered pyrite throughout, few traces of galena, purple fluorite in matrix material, little soft pasty material in matrix.	
	Note: This appears to be a contact between different types of breccia, above this mixing is very evident and pronounced, beneath this mixing is far less evident and pronounced, the units below appear to consist principally of Plattin, there are some shale units but no easily recognizable Silurian.	
1592-1602	Breccia, as before, slightly more calcite, little soft pasty material in matrix.	
1602-1638	Brecciated limestone, fine, medium and coarse angular fragments, Plattin-type limestones, brecciation less intense, mixing much less evident in this zone, core broken in part, partly vuggy, fairly abundant stylolites, some nearly parallel to core.	

Sheet No. 11 Hole No. H-8

Depth Feet	Formation	No.
1638-1657	Brecciated Plattin limestone, principally as above, few zones and patches containing abundant smaller angular fragments of limestones and shales.	
1657-1661.5	Micro-breccia, tightly packed in small angular fragments of various limestones with few coarser fragments of shale, all very fine and uniform, little crystalline calcite, faint trace of purple fluorite.	
1661.5-1676	Mostly brecciated Plattin-type limestones, upper part has abundant angular shale fragments, almost no matrix material, limestone probably fairly well recrystallized, occasional calc veinlet, few vugs and cavities lined with crystalline calcite.	
1676-1705	Breccia, some fine with abundant black shale fragments, unit consists mostly of Plattin limestones with limited mixing, probably well recrystallized, few stylolites.	
1705-1724	Brecciated Plattin limestone, little mixed shale fragments and darker gray fragments, one possible igneous fragment, few veinlets with crystalline calcite, fairly pyritic in spots, traces of galena throughout, traces of purple fluorite in matrix, matrix material minor constituent.	
1724-1752	Breccia, mostly fine and fairly fine fragments of very tightly interlocked and possibly well recrystallized, few shale fragments scattered throughout, one distinct rounded igneous fragment, few traces of purple clear fluorite, odd traces of galena and sphalerite. Note: This unit probably represents a gradual transition into finer gray rock flour type breccias.	

Sheet No. 12 Hole No. H-8

Depth Feet	Formation	No.
1752-1781	Breccia, principally fine gray rock flour breccia, fine sub-angular sub-rounded fragments in a gray rock flour matrix, commonly fairly fluoritic, transition from the units above into gray rock flour breccias is fairly gradual and probably takes place over about the upper 10', purple fluorite occurs as disseminated in the rock flour matrix and in small veinlets and as rich sub-rounded fragments which appear to consist of high grade purple breccia, traces of sphalerite and galena, this unit is typical of the gray rock flour breccias.	
1781-1791	Purple-gray rock flour breccia, all very fine, little medium and coarse, rather abundant matrix material with fair shows of disseminated fluorite in matrix and some in veinlets, few specks and traces of sphalerite and galena, little clear barite.	H-339 10' 4.04 CaF_2, 0.00 $BaSO_4$
1791-1801	Gray-purple rock flour breccia, mostly very fine, abundant rock flour matrix with slightly disseminated purple fluoritic throughout, little purple fluorite in veinlets, traces of sphalerite and galena, few specks of clear barite, estimate fluorite at 2.5%.	H-340 10' 4.36 CaF_2, Tr $BaSO_4$
1801-1811	Gray rock flour breccia, essentially as above, seems to consist principally of Plattin, middle portion appears to have been rebrecciated and recemented with principally calcite but some fluorite, estimate fluorite at 2%, few traces of sphalerite and galena throughout, fairly abundant disseminated pyrite as distinct crystals and isolated patches.	H-341 10' 2.55 CaF_2, 0.10 $BaSO_4$

Sheet No. 13 Hole No. H-8

Depth Feet	Formation	No.
1811-1821	Purple-gray rock flour breccia, principally very fine with fair disseminated purple fluorite in matrix and small veinlets, traces of galena and sphalerite, fairly abundant disseminated pyrite, seems to be getting richer, estimate fluorite at 3.5%.	H-342 10' 5.05 CaF_2, 0.12 $BaSO_4$
1821-1831	Gray-purple rock flour breccia, principally very fine, essentially as before, all rather pyritic, few large crystals of sphalerite, estimate fluorite at 2.5%.	H-343 10' 4.41 CaF_2, 0.32 $BaSO_4$
1831-1841	Gray-purple rock flour breccia, all very fine, few small veinlets and seams with deep purple crystalline fluorite, bottom portions seem to be somewhat richer, few traces of sphalerite and galena throughout, estimate fluorite at 3.5%.	H-344 10' 5.05 CaF_2, 0.10 $BaSO_4$
1841-1851	Purple-gray rock flour breccia, essentially as before, seems to be getting slightly coarser crystalline fluorite in matrix material and in small veinlets and seams, estimate fluorite at 4%, traces of sulphides as before.	H-345 10' 5.80 CaF_2, 0.60 $BaSO_4$
1851-1861	Purple-gray rock flour breccia, very fine, principally as before, somewhat more purple fluorite and disseminated yellow sphalerite, purple fluorite disseminated in matrix and in isolated blebs and streaks, sphalerite generally associated with richer fluorite, scattered pyrite as before, traces of galena and barite, estimate fluorite at 5%.	H-346 10' 5.68 CaF_2, 0.16 $BaSO_4$
1861-1871	Purple-gray breccia, essentially as before, possibly somewhat richer with purple fluorite, few larger grains of barite, fairly abundant isolated patches of rich, deep purple crystalline spar, possibly making decent contribution to the grade, estimate fluorite at 6%.	H-347 10' 6.03 CaF_2, 0.50 $BaSO_4$

Sheet No. 14 Hole No. H-8

Depth Feet	Formation	No.
1871-1881	Purple-gray rock flour breccia, essentially as before, few rich patches of deep purple fluorite, commonly with good yellow sphalerite, pyritic throughout, few traces of galena, estimate fluorite at 5.5%.	H-348 10' 5.29 CaF_2, 0.34 $BaSO_4$
1881-1892	Purple-gray rock flour breccia, essentially as before with streaks, blebs and disseminated purple fluorite in matrix, commonly with good associated sphalerite, estimate fluorite at 5%, barite fairly common as clear crystals and richer crystalline fluorite.	H-349 11' 5.08 CaF_2, 0.80 $BaSO_4$
1892-1902	Purple-gray rock flour breccia, essentially as before, few zones and patches with rich deep purple fluorite, mineralization essentially as before, estimate fluorite at 5%.	H-350 10' 5.06 CaF_2, 0.92 $BaSO_4$
1902-1911	Purple-gray rock flour breccia, essentially as before, core broken in part, few fractures nearly parallel to core, estimate fluorite at 4%.	H-351 9' 5.04% CaF_2, 0.62 $BaSO_4$
1911-1920.5	Purple-gray rock flour breccia, mostly very fine with purple fluorite and rich deep purple fluorite in patches, veinlets and stringers, little sphalerite, little galena throughout, some clear pale barite, fairly abundant disseminated pyrite, estimate spar at 6%.	H-352 9.5' 5.93% CaF_2, 1.58 $BaSO_4$
1920.5-1929.5	Mostly core loss, core recovered essentially as above, only about 2' of core has been redrilled, loss due to core falling out of tube when retrieveing.	
1929.5-1941	Gray rock flour breccia, fair, disseminated and purple fluorite scattered throughout, little yellow soft barite, all rather pyritic, breccia generally fine, mostly tightly interlocked, purple fluorite replacing matrix material, disseminated in small veinlets and patches, few fragments of Silurian, estimate fluorite at 3.5%.	H-353 11.5' 4.41 CaF_2, 0.26 $BaSO_4$

Sheet No. 15 Hole No. H-8

Depth Feet	Formation	No.
1941-1952	Breccia, mixed, fine, medium and coarse, tightly interlocked fragments in a fluoritic rock flour matrix, disseminated purple fluorite scattered throughout principally in matrix, little disseminated pyrite, traces of sphalerite and galena, fairly numerous coarse fragments of black shale, few fragments of Silurian, estimate fluorite at 3%.	H-354 11' 2.77 CaF_2, 0.50 $BaSO_4$
1952-1959	Breccia, as before, few fragments possibly rebrecciated material, possibly dike material, estimate fluorite at 2.5%.	H-355 7' 2.52 CaF_2, 0.80 $BaSO_4$
1959-1975	Very fine grained, apparently well bedded silty dolomite, (possibly this unit represents the very fine micro-breccias that are commonly well replaced with purple fluorite), entire unit rather uniform, streaks and patches with fairly well replaced disseminated purple fluorite, possibly some clear fluorite, estimate fluorite at 5%.	H-356 16' 5.05 CaF_2, 0.86 $BaSO_4$
1975-1991	Gray to light greenish-gray, principally very fine, fragments all fairly well rounded, all have a distinct altered appearance, disseminated pyrite - fluorite throughout, fluorite sometimes in fairly rich patches, estimate fluorite at 4%.	H-357 16' 2.24 CaF_2, 0.92 $BaSO_4$
1991-2001	Breccia, essentially as before, still somewhat soft, slightly porous and altered in appearance, fairly rich and disseminated pyrite, very little calcium carbonate, unable to identify this material, it has certain visual affinities to the intrusive dikes, estimate fluorite at 3%.	H-358 10' 2.71 CaF_2, Tr $BaSO_4$

Sheet No. 16 Hole No. H-8

Depth Feet	Formation	No.
2001-2011	Gray breccia, mostly very fine, sub-rounded to sub-angular fragments in a gray fluoritic rock flour matrix, all has rather altered appearance, fair disseminated purple fluorite, some clear fluorite, rather rich and disseminated pyrite, some zones with small dark specks, too small to identify, looks to have better replacement by fluorite, unalbe to tell visually, all rather low in clacium carbonate, generally not reactive to HCL.	H-359 10' 3.02 CaF_2, 0.86 $BaSO_4$
2011-2021	Gray, rock flour breccia, principally as before, possibly somewhat less pyrite, estimate disseminated fluorite at 5%, unit has a rather granular appearance as if rock flour consisted of a high percentage of sand grains, has distinct altered appearance.	H-360 10' 4.03 CaF_2, 1.60 $BaSO_4$
2021-2031	Gray breccia, principally as before, somewhat richer in pyrite and fluorite, occasionally trace of galena particularly in small fluorite veinlets, a few traces of pale disseminated sphalerite.	H-361 10' 3.24 CaF_2, Tr $BaSO_4$
2031-2041	Gray, rock flour breccia, principally as before, somewhat more clear, small, angular fragments, possibly little grains of barite.	H-362 10' 2.58 CaF_2, Tr $BaSO_4$
2041-2051	Gray, rock flour breccia, principally as before, somewhat more pyrite, estimate fluorite at 5%, some core grinding here, only about 6' of core recovered, appears to have been either a mislatch or core dropped out of the inner tube.	H-363 10' 3.87 CaF_2, Tr $BaSO_4$
2051-2061	Gray, rock flour breccia, essentially as before, considerably less rock flour matrix material, fragments somewhat more larger and tightly interlocked, beginning to get more of a dolomitic appearance, estimate spar at 4%, few patches of purple breccia with traces of sphalerite, barite and galena.	H-364 10' 2.34 CaF_2, Tr $BaSO_4$

Sheet No. 17 Hole No. H-8

Depth Feet	Formation	No.
2061-2071	Breccia, coarse, medium and fine, principally fragments of gray dolomite, few large fragments of white crystalline limestone, some quartzite scattered throughout, appears to be little matrix material, in places resembles more of a crackle breccia, less disseminated fluorite and pyrite, estimate fluorite at 3%.	H-365 10' 1.53 CaF_2, 0.32 $BaSO_4$
2071-2081	Breccia, principally as before, somewhat more coarse fragments, few zones fine with fairly abundant rock flour matrix, sparingly mineralized, estimate fluorite at 2%, little pyrite, core somewhat broken in part.	H-366 10' 3.35 CaF_2, 1.08 $BaSO_4$
2081-2100	Dolomitic and silicious breccia, mostly fine, gray and dark brownish gray, sub-rounded to sub-angular fragments in a dolomitic rock flour matrix in a fairly hard, possibly partly silicified, has bleached appearance, fragments fairly mixed, little disseminated fluorite throughout, fair disseminated pyrite, possible faint trace of chalcopyrite, spar estimated at 1.5%.	
2100-2120	Breccia, principally as above, somewhat more disseminated pyrite throughout, possibly finer, unit has a slight green-gray cast, all rather suggestive of previously cited intrusive material.	H-367 6.5' 1.29 CaF_2, 0.38 $BaSO_4$
2120-2140	Greenish-gray, very fine breccia, principally as before, fairly abundant blebs and stringers of clear and purple fluorite, unit generally very pyritic, this unit is probably represents an intrusive.	H-368 8' Tr CaF_2, 0.30 $BaSO_4$
2140-2157	Gray to greenish-gray, very fine grained breccia, more pyritic, this unit strongly resembles intrusive material.	H-369 2151-2157.7 6.7' 11.01 CaF_2, 0.92 $BaSO_4$
2157-2171	Greenish gray, very pyritic, all very fine, principally as above, resembles intrusive.	H-370 13.3' 2.90 CaF_2, Tr $BaSO_4$
2171-2187	Breccia, all very fine, principally as above, appears to be igneous, little purple fluorite disseminated throughout and has distinct blebs, estimate fluorite at 1.5%.	H-371 2177-2187 10' 3.51 CaF_2, 0.00 $BaSO_4$

Sheet No. 18 Hole No. H-8

Depth Feet	Formation	No.
2187-2206	Breccia, as above, somewhat more pyrite as distinct elliptical patches, occasional small veinlet of pyrite.	H-372 9' 4.90 CaF_2, 0.00 $BaSO_4$
2206-2224	Breccia, principally as above, few zones and patches appear to be somewhat richer in fluorite, spar throughout at about 2%.	H-373 9' 3.07 CaF_2, 0.00 $BaSO_4$
2224-2244	Breccia, principally as above, less matrix material, correspondingly less pyrite, fragments seem to be fairly well rounded, zones and patches with rich purple breccia fragments, possibly indicating rebrecciation.	H-374 10' 2234-2244 6.72 CaF_2, 0.00 $BaSO_4$
2244-2264	Gray rock breccia, slightly greenish cast, principally fine, sub-angular fragments in a rock flour matrix, matrix dolomitic and sandy, partly replaced with purple fluorite, fairly pyritic throughout, few coarse fragments throughout, few traces of yellow sphalerite (looks less like intrusive material than some of that above), estimate spar 1.5%.	H-375 2253-2264 11' 4.51 CaF_2, 0.00 $BaSO_4$
2264-2274.5	Breccia, similar to previous breccia except matrix material very dark gray to black, considerable pyrite throughout as distinct crystals and blebs.	H-376 10.5' 7.47 CaF_2, 0.44 $BaSO_4$
2274.5-2291	Breccia, gray rock flour breccia, principally as above, little disseminated pyrite and fluorite throughout, few patches fairly well replaced, clear barite throughout, resembles breccia in Hamp 1.	H-377 2282-2291 9' 10.32 CaF_2, 0.70 $BaSO_4$
2291-2303	Breccia, appears to be low-grade purple breccia, particularly in upper portion, breccia principally as before, somewhat more coarse fragments, all sub-angular as was common in other holes.	H-378 12' 5.00 CaF_2, 0.30 $BaSO_4$

Note: Seems to indicate that the rich purple breccia did exist but was rebrecciated and the distinct purple breccia was obliberated and scattered.

Sheet No. 19 Hole No. H-8

Depth Feet	Formation	No.
2303-2338	Medium to sub-angular rounded fragments of various dolomites and some limestone, all very tightly interlocked, very little matrix material throughout, mineralized, occasional rich patch of fluorite in matrix material, fragments seem fairly well mixed, less than 1%, very fine rock flour breccia to more tightly interlocked breccias.	
2338-2361	Breccia, very tightly interlocked, fine, medium and coarse sub-angular fragments ina rock flour matrix material, small percent of total sparingly mineralized throughout with disseminated pyrite and little disseminated fluorite, few fragments of quartz, zones rather vuggy, core occasionally tends to break into buttons.	H-379 10' 2338-2348 2.90 CaF_2, 0.33 $BaSO_4$
2361-2392.5	Brecciated quartzite and dolomite, coarse angular fragments, tightly interlocked, core badly broken throughout.	H-380 10' 2375-2385 1.61 CaF_2, 0.20 $BaSO_4$

TOTAL DEPTH

Box 592
Rosiclare, Ill. 62982

V. C. McDonald
Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

Re: Assay Results - Split Core
Hamp 8 (OME-9)

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
H-338	4.42	28.88	0.22	24.82
H-339	4.04	6.10	0.00	31.95
H-340	4.36	6.22	Tr	33.00
H-341	2.55	6.40	0.10	33.95
H-342	5.05	10.42	0.12	32.32
H-343	4.41	6.88	0.32	32.61
H-344	5.05	7.00	0.10	32.76
H-345	5.80	8.30	0.60	32.40
H-346	5.68	8.24	0.16	32.28
H-347	6.03	10.30	0.50	31.22
H-348	5.29	9.16	0.34	30.49
H-349	5.08	18.46	0.80	30.36
H-350	5.06	10.08	0.92	29.82
H-351	5.04	10.50	0.62	28.83
H-352	5.93	12.92	1.58	27.17
H-353	4.41	17.14	0.26	23.46
H-354	2.77	19.84	0.50	23.62
H-355	2.52	13.44	0.80	24.79
H-356	5.05	13.16	0.84	19.22
H-357	2.24	20.08	0.92	17.10
H-358	2.71	22.56	Tr	16.04

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
H-359	3.02	28.24	0.86	14.25
H-360	4.03	24.94	1.60	14.91
H-361	3.24	24.20	Tr	15.84
H-362	2.58	16.80	Tr	17.23
H-363	3.87	19.00	Tr	17.62
H-364	2.34	20.30	Tr	17.23
H-365	1.53	13.68	0.32	18.69
H-366	3.35	29.12	1.08	14.05
H-367	1.29	27.42	0.38	18.09
H-368	Tr	10.28	0.30	19.35
H-369	11.01	27.08	0.93	15.31
H-370	2.90	14.58	Tr	29.02
H-371	3.51	14.98	0.00	27.98
H-372	4.90	15.31	0.00	27.20
H-373	3.07	14.32	0.00	34.80
H-374	6.72	17.23	0.00	27.00
H-375	4.51	15.31	0.00	32.00
H-376	7.47	36.60	0.44	15.24
H-377	10.32	21.00	0.70	18.29
H-378	5.00	25.50	0.30	16.57
H-379	2.90	57.00	0.33	17.63
H-380	1.61	55.00	0.20	16.57

Respectfully submitted,

V.C. McDonald, Chemist

Box 447 Telephone (618) 285-6685

Joseph A. Porter

Geologist

Rosiclare, Illinois
62982

February 24, 1975

2/26/1975
HK

Mr. Harold Kirkemo
Chief, Office of Minerals Exploration
U.S. Geological Survey
National Center, Mail Stop 953
12201 Sunrise Valley Drive
Reston, VA 22092

Re: OME-6873 (Fluorspar, et al.)
Hicks Dome Account
Hicks Dome Property
Hardin County, Illinois

Dear Mr. Kirkemo:

Enclosed are geologic reports for holes OME-10, OME-11 and OME-12 and a copy of a map made from the air photo at 1" = 400' showing the location of all the OME holes. I will try to get reports in on the other holes as soon as possible.

I am sending one copy to Allen Heyl.

With best regards,

Sincerely,

Joseph A. Porter

JAP:km
Enc. 4

See Map folder
Envelope marked Feb. 24, 1975

GEOLOGIC REPORT
OME-10 (Fred. 2)

This hole was drilled on the southwest flank of the structure in an attempt to reach the margins of the mineralized zone. It intersected the base of the Maquoketa at -977 feet sea level elevation, the deepest intersection of this horizon to date.

The location is shown on the map submitted separately.

Stratigraphy encountered was essentially normal to a depth of 2022 feet where continuous brecciation was intersected.

The breccia consists of four separate zones. The upper zone, from 2022 to 2090 feet consisted of coarse, angular, tightly interlocked fragments of Plattin limestone with little matrix. It contained traces of fluorite mineralization.

Fine, gray calcareous rock flour breccia was encountered from 2090 to 2142 feet, a total of 52 feet. Though this was considered the favorable zone, it was poorly replaced with purple breccia type mineralization. The zone averaged 4.97% CaF_2, .08% Nb and .183% Th. Barite, lead and zinc were negligible.

The transition to dolomitic breccia below was rather abrupt. This is reflected not only in lithology but in the amounts of Th, Nb, Y and to a lesser extent CaF_2.

Beneath the gray, calcareous rock flour breccia, from 2142 to 2246, was 104 feet of rather fine dolomite breccia with a dolomitic rock flour matrix. It contained somewhat less matrix material and coarser fragments than above. The bottom 46 feet of the zone was not assayed.

From 2246 to the bottom of the hole at 2467.5 the breccia consisted principally of coarse dolomite fragments and contained little matrix material. Traces of mineralization was scattered throughout.

Included here are the following.

1. Summary log,
2. Detailed log of breccia zone,
3. Assay graph,
4. Assay certificates.

Respectfully submitted,

Joseph A. Porter
February 22, 1975

SUMMARY LOG
OME-10 (Fred. 2)

Started 1-28-74 Elevation 556.3

Completed 3-15-74 Depth 2467.5

FORMATION	DESCRIPTION	THICK	DEPTH
Overburden	Bedded chert residuum.	66.6	66.6
DEVONIAN Clear Creek ls.	Principally fine grained, light brownish gray, cherty.	391.4	458
Backbone ls.	Medium, fine and coarsely crystalline.	16	474
Upper Grassy Knob ls.	Fine, light brownish gray, crystalline, fairly abundant chert, few zones with argillaceous streaks.	103	577
Lower Grassy Knob ls.	Dark brownish gray, argillaceous, very cherty.	206	783
Bailey ls.	Very fine, gray, very silty, little chert as irregular nodules.	233	1016
SILURIAN Moccasin Sprgs. ls.	Fine grained, gray and light gray, fairly abundant brick red streaks, few pale olive streaks, somewhat pyritic throughout.	108	1124
St. Clair - Sexton Creek ls.	Principally very fine grained, light gray, slight pink cast, fairly abundant coarse pink grains, generally pyritic.	85	1209
Edgewood ls.	Gray to dark brownish gray, cherty, abundant argillaceous streaks.	109	1318
ORDOVICIAN Maquoketa sh.	Hard, dark gray to black, little interbedded limestone, little interbedded sandstone toward bottom.	215	1533
Kimmswick ls.	Gray to light brownish gray, medium grained, stylolitic, pure.	81	1614

FORMATION	DESCRIPTION	THICK.	DEPTH
Decorah-Plattin limestone	Gray to brownish gray, mostly very fine grained, abundant interlaminated wavy argillaceous or dolomitic streaks, few zones lighter gray.	408	2022
Brecciated Plattin ls.	All very tightly interlocked, very little matrix material, very little mixing.	56	2078
Breccia	Principally as before, grades into below.	12	2090
Gray rock flour breccia	Fine, sub-angular fragments in a rock flour matrix, matrix partly replaced with purple fluorite, clear barite and disseminated sphalerite, mineralization typical of purple breccias though generally poorly replaced.	52	2142
Brecciated dolomite	Principally fine, angular fragments in a dolomitic rock flour matrix, all rather poorly replaced with purple fluorite as above, somewhat more coarse fragments, grades into below over bottom 20 feet.	104	2246
Brecciated dolomite	Principally coarse, little fine brecciation scattered, sparsely mineralized.	221.5	2467.5

TOTAL DEPTH

Box 592
Rosiclare, Ill. 62982

V. C. McDonald

Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

Re: Assay Results - Split Core
Fredricks 2 (OME-10)

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
F-601	5.42	8.96	Tr	31.33
F-602	4.50	8.50		30.46
F-603	4.90	8.90		33.61
F-604	4.05	7.20		32.24
F-605	5.68	11.50		27.81
F-606	2.37	11.70	Tr	19.66
F-607	3.61	14.20	Tr	19.05
F-608	1.06	9.42	Tr	20.51
F-609	2.37	6.80	Tr	20.43
F-610	3.21	8.24	Tr	20.85
F-611	4.90	9.04	0.46	21.55
F-612	3.08	11.40	0.40	19.74
F-613	3.02	11.02	0.29	20.51
F-614	1.02	7.84	0.24	21.13
F-615	1.93	9.20	0.38	19.81
F-616	2.31	7.00	0.41	20.93

V.C. McDonald, Chemist

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF ANALYSIS

Job No. 138001
June 18, 1974

Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Analysis of 17 Pulp Samples

Fred. 2 (OME-10)

Item	Sample No.	CaF_2 (%)	Nb (ppm)	Th (ppm)	Zn (ppm)	Pb (ppm)	Y (ppm)
1.	F-601	4.7	600	900	25	20	2,000
2.	602	5.1	1,300	2,900	*	*	*
3.	603	4.5	1,100	2,500	480	*	2,000
4.	604	5.8	500	1,400	360	*	1,000
5.	605	5.1	500	900	165	*	700
6.	606	3.5	100	300	*	*	200
7.	607	*	300	65	*	*	200
8.	608	*	70	210	40	300	70
9.	609	*	300	350	*	*	*
10.	610	*	200	280	*	*	*
11.	611	*	300	65	*	*	*
12.	612	*	950	770	*	*	*
13.	613	*	150	300	*	*	*
14.	614	*	50	70	*	*	*
15.	615	*	150	65	*	*	*
16.	616	*	70	70	*	*	*
17.	F-617	*	50	140	*	*	*

* Analysis not requested

Charles E. Thompson
Chief Chemist

Sheet No. 9 Hole No. F-2

Depth	Formation	No.
1862-1896	Limestone, very finely crystalline, somewhat sugary texture, dark brownish gray with some lighter gray, rather abundant irregular, interlaminated streaks, silty or dolomitic, several odd patches somewhat brecciated particularly toward bottom, few calc veinlets, occasional bleb of purple fluorite in fracture and micro-fracture.	
1896-1934	Limestone, very finely crystalline, brownish gray and light brownish gray, few zones with micro-fractures filled with calcite, core badly broken in part with fractures nearly parallel to core.	
1934-1980	Limestone, essentially as before, few patches somewhat brecciated, bottom five feet fairly well fractured with fractures apparently dipping at about 75°, few calc veinlets throughout.	
1980-2000	Limestone, very fine grained, dark gray, sugary texture, fairly abundant interlaminated darker gray dolomitic streaks, several zones fairly well fractured with thin calc veinlets, few zones partly brecciated.	
2000-2022	Limestone, essentially as before, somewhat more zones lighter gray and apparently higher calcium, few patches slightly brecciated, little disseminated purple and clear fluorite throughout, principally in small fractures.	
	Reduced to BX at 2022	
2022-2026	Limestone, fairly well brecciated, abundant calcite matrix, core all badly broken, possibly some ground, appears to be getting into breccia zone.	
2026-2040	Two foot core recovery, all badly broken, unable to determine if core ground or simply lost, essentially brecciated limestone as above.	

Sheet No. 10 Hole No. F-2

Depth	Formation	No.
2040-2050	Brecciated plattin limestone as above, mostly coarse, few fine zones all tightly interlocked, very little matrix material, traces of purple fluorite, core somewhat broken throughout.	
2050-2078	Brecciated plattin limestone, tightly interlocked fragments, coarse, medium and fine, almost no matrix material, more like crackle breccia, occasionally matrix contains calcite, particularly in finer portions, little purple fluorite as blebs and stringers scattered throughout, less than 1%, little pyrite disseminated throughout.	
2078-2090	Breccia, principally as before, finer portions more finely brecciated, little more abundant rock flour matrix and purple fluorite toward bottom.	
2090-2100	Breccia, principally very fine, little medium, little coarse, appears to be transition toward breccia, fragments rather tightly interlocked with rock flour matrix, commonly well replaced with purple fluorite, fairly abundant blebs of deep purple fluorite scattered throughout, moderately pyritic, traces of sphalerite, estimate fluorite at 1.5%, few small veinlets of acid spar.	601 10' 5.42 CaF2, Tr BaSO4 4.7 CaF2
2100-2110	Breccia, upper portions fine grades to very fine purple gray rock flour breccia in bottom half, fairly well replaced with purple fluorite throughout, some patches rather rich, fine portions show better replacement, few specks of yellow sphalerite throughout, fairly abundant pyrite, bottom portions resembles little gray-purple breccias, occasional patch well replaced with rich purple breccia with clear barite, estimate fluorite at 4.5%.	602 10' 4.50 CaF2, 0.00 BaSO4 5.1 CaF2

Skyline assays underlined
McDonald assays above

Sheet No. 11 Hole No. F-2

Depth	Formation	No.
2110-2120	Breccia, fine, gray, rock flour breccia, moderately fluoritic throughout, principally fine, tightly interlocked fragments, principally plattin limestone in a fluoritic rock flour matrix, fair disseminated purple fluorite throughout in matrix, fair disseminated yellow sphalerite, traces of ruby sphalerite, fluorite also in small blebs and streaks, estimate spar at 3.5%, zinc at .2%, few zones with abundant, very fine, dark mineral.	603 10' 4.90 CaF_2, 0.00 $BaSO_4$ 4.5 CaF_2
2120-2130	Breccia, principally fine, gray rock flour breccia, rather tightly interlocked plattin fragments in a calcareous, dolomitic, fluoritic matrix, little disseminated purple fluorite throughout, few isolated, rather rich patches, generally pyritic, better pyrite with better fluorite, traces of yellow sphalerite throughout, few black specks, esti. fluorite at 3.5%.	604 10' 4.05 CaF_2, 0.00 $BaSO_4$ 5.8 CaF_2
2130-2142	Gray rock flour breccia, principally as above, somewhat less fluorite, estimate 2.5%, little disseminated yellow and ruby sphalerite throughout, fairly common, small, black specks throughout, changes from calcareous to dolomitic very abruptly at bottom.	605 12' 5.68 CaF_2, 0.00% $BaSO_4$ 5.1 CaF_2
2142-2150	Breccia, dolomitic, somewhat lighter incolor, consists principally of tightly interlocked dolomite fragments, probably all recrystallized, upper contact rather abrupt, little matrix material, few calc veinlets scattered throughout, traces of purple fluorite, estimate spar at 1%, contains some quartz, probably partly silicified.	606 8' 2.37 CaF_2, Tr $BaSO_4$ 3.5 CaF_2

Note: This unit probably represents top of Joachim Dolomite.

Sheet No. 12 Hole No. D-2

Depth	Formation	No.
2150-2160	Dolomitic breccia, coarse, medium and fine, light and dark gray dolomite fragments in a dolomitic, rock flour matrix, somewhat more abundant pyrite as rich patches and disseminated, little purple fluorite throughout, core somewhat broken and fractured, estimate spar at 1%.	607 10' 3.61 CaF_2, Tr $BaSO_4$
2160-2170	Dolomitic breccia, upper parts fine, generally more coarse toward bottom, sparsely mineralized, little fluorite throughout, occasional rich streak of galena on fracture, several zones with fairly abundant pale yellow material in fractures.	608 10' 1.06 CaF_2, Tr $BaSO_4$
2170-2180	Dolomitic breccia, principally as before, somewhat more fine material with dolomitic rock flour matrix, matrix sometimes with fairly good purple fluorite, few zones with disseminated pale yellow material scattered throughout matrix.	609 10' 2.37 CaF_2, Tr $BaSO_4$
	Note: Seen very little quartzite or sandstone fragments in this hole, possibly a reflection of the best mixing, possible indications that the quartzites are from lower in the Joachim.	
2180-2190	Dolomitic breccia, principally as before, fairly abundant large fragments, few fragments with sub-rounded quartz grains, few fragments of quartzite and siltstone, little disseminated sphalerite, little purple fluorite in matrix.	610 10' 3.21 CaF_2, Tr $BaSO_4$
2190-2200	Dolomitic breccia, principally fine, little medium, angular fragments in a dolomitic and fluoritic rock flour matrix, fragments fairly well interlocked, some zones fairly well replaced with purple fluorite commonly with pyrite, traces of galena scattered throughout, estimate fluorite at 3%, several small fragments of quartzite.	611 10' 4.90 CaF_2, 0.46 $BaSO_4$

Sheet No. 13 Hole No. F-2

Depth	Formation	No.	
2200-2210	Breccia, principally as before, finer portions tend to have more matrix material, matrix rather poorly replaced, estimate spar at 2%, possibly somewhat more light gray to white limestone and more abundant quartzite fragments.		
2210-2221	Breccia, principally as before, mostly fine, sub-angular to sub-rounded fragments of limestone and dolomite, few large fragments of quartzite in a fluoritic, calcareous rock flour matrix, partly replaced with purple fluorite, bottom 2' has abundance of igneous fragments, possibly replacement of matrix by this material with traces of sphalerite and galena, estimate spar throughout at 3%.	612	11' 3.08 CaF_2, 0.40 $BaSO_4$
2221-2246	Breccia, principally as before, tending to have more coarse fragments, fragments consist of limestone, dolomite, some quartzite, matrix rather poorly replaced with purple fluorite, scattered pyrite, galena and sphalerite, estimate spar at 2%, few fractures or shears with fluorite veinlets, dark brownish gray fragments possibly becoming more abundant, grades into below.		
2246-2258	Brecciated dolomite, principally large fragments of dark gray, very fine grained dolomite, entire unit appears to be bleached, possibly recrystallized, some fine zones with fluoritic, rock flour matrix, quartzite fairly common, few calc patches in matrix material, occasional bleb of purple fluorite, estimate spar throughout at 1%.		
2258-2266	Breccia, principally coarse and medium, somewhat light gray in color, fragments rather tightly interlocked, little good purple fluorite in matrix with clear barite, entire zone looks somewhat bleached, few patches with calcite matrix, occasional bleb of purple fluorite, estimate spar at 2%.	613	8' 3.02 CaF_2, 0.29 $BaSO_4$

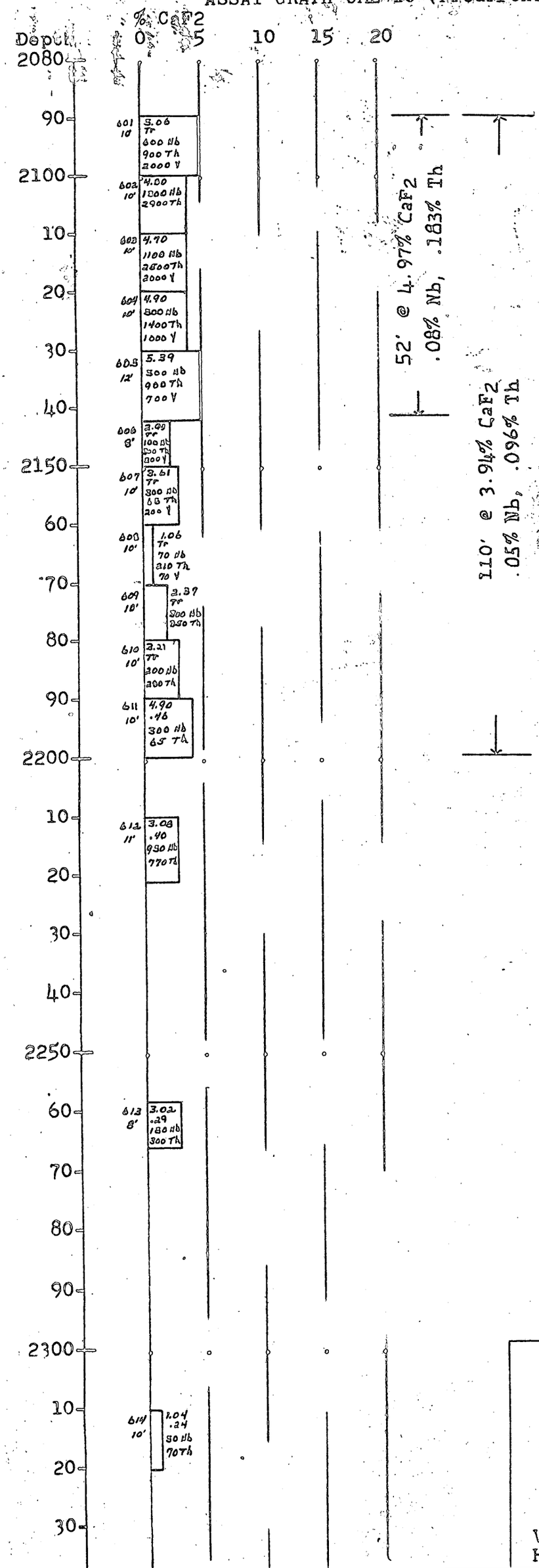
Sheet No. 14 Hole No. F-2

Depth	Formation	No.
2266-2286	Breccia, principally as before, core seems to be somewhat water worn, possibly softer, breccia fragments principally brown, fairly coarse grained dolomite, few patches fine breccia, mixed throughout commonly more matrix material, in portions more thoroughly replaced, estimate spar at 1%, few traces of sphalerite and galena throughout.	
2286-2292	Dolomite, well brecciated, more like crackle breccia, mostly light gray, very fine grained with some disseminated pyrite in breccia fragments, some calcite and fluorite in matrix, core all rather soft, appears to be bleached.	
2292-2322	Crackle brecciated dolomite, very fine grained, dark brownish gray, fragments generally fine, tightly interlocked and rather uniform throughout, odd piece of chert, upper portion appear to be somewhat bleached, few patches of fine breccia with fluoritic rock flourm few rich patches of purple fluorite, estimate spar throughout less than 1%.	614 (2310-2320) 10' 1.04 CaF_2, 0.24 $BaSO_4$
2322-2350	Dolomite, fairly well brecciated throughout, principally a crackle breccia, some zones fairly fine and mixed, all dark brownish gray and fine grained, matrix commonly calcite, fairly abundant little calcite veinlets, breccia best described as crackle breccia, few fine zones with fair replacement fluorite, fluorite throughout less than half percent, parts have somewhat bleached appearance, little crystalline calcite in bottom in matrix.	
2350-2378	Brecciated dolomite, principally as before, few zones somewhat mixed and highly brecciated, fairly abundant thin calc seams as matrix, sugary calcite vein from 2374-2376, finer portions generally have more purple fluorite, estimate fluorite throughout at one-half percent.	

Sheet No. 15 Hole No. F-2

Depth	Formation	No.
2378-2389	Breccia, principally dark gray, fine grained, dolomite fragments, generally very tightly interlocked, few zones rather fine with better clear and purple fluorite, matrix commonly calcite, constitutes a small percent, few odd fragments of igneous material.	615 11' 1.93 CaF_2, 0.38 $BaSO_4$
2389-2415	Brecciated breccia, principally fine, medium, angular fragments of dark gray, very fine grained dolomite in a dolomitic matrix, little purple and clear fluorite in blebs, few zones igneous lookin~ material toward top, breccia fragments somewhat more mixed than usual in this section, fairly abundant calcite stringers and blebs in matrix, fluorite estimate at 1%.	
2415-2431	Principally brownish gray and light brownish gray dolomite fragments in a dolomitic rock flour matix, mostly fine, little medium, little coarse, little purple and clear fluorite scattered throughout as blebs, some pyrite, traces of sphalerite, core rather badly broken throughout, some calcite and white barite in blebs in matrix.	616 (2420-2431) 11' 2.31 CaF_2, 0.41 $BaSO_4$
	Note: Not seeing much quartzite.	
2431-2450	Breccia, principally as before, core rather broken, some zones somewhat soft, appears slightly altered, breccia generally fine, appears to be somewhat less mixing in this hole than in other holes.	
2450-2467.5	Breccia, principally as before, all fairly fine, somewhat more calcite in matrix, little barite, few traces of purple and clear fluorite, generally less than 1%, fluorite mostly filling vugs and fractures, core generally rather soft, breccia principally fine and medium.	617 (2460-2467.5) 6.5'
	TOTAL DEPTH	

ASSAY GRAPH OME-10 (Fredricks 2)



ASSAY GRAPH
OME-10 (Fred. 2)

601 — Sample No.
10' — Thickness
5.06 — % CaF_2
Tr — % $BaSO_4$

Nb, Th, Y in ppm

Vertical Scale 1"=20'
Horizontal Scale 1"= 10%

GEOLOGIC REPORT
OME-11 (FSB-4)

This hole was drilled in an attempt to extend the mineralization in Holes OME-5 and OME-7. The location is given on the 1"=400' map.

This hole intersected continuous breccia in the Bailey limestone at a depth of 928.5. The base of the Bailey, the first good stratigraphic marker, was obscured by the brecciation.

From 928.5 to 2043.5 feet the breccia fragments were generally coarse (+1"), tightly interlocked, angular and contained little matrix material. Lithologies were mixed but commonly fragments of one formation dominated. Dominate fragments crudely reflected normal stratigraphy. Matrix consists of rock flour and calcite with calcite increasing in the bottom 300 feet. Minor zones of finer brecciation were scattered throughout. Fragments in the finer zones were more highly mixed, generally less angular and contained more matrix material.

Scattered mineralization was seen throughout. Fluorite occured as small blebs and stringers filling fractures and disseminated in matrix. Little disseminated sphalerite was scattered in both matrix and fragments. Several of the minor zones of fine breccia were fairly well replaced with typical purple breccia type mineralization. These generally contained the clear barite and disseminated sphalerite as is usually seen in the purple breccias.

Fine rock flour and low grade purple breccia was encountered from 2043.5 to 2320 feet. The upper contact was sharp. At the bottom it graded into the coarse dolomitic breccia over 77 feet. The breccia consisted principally of small sub-angular fragments with varying amounts of rock flour matrix.

The favorable fine breccia was 267 feet thick and more or less mineralized throughout. It was in general rather poorly replaced with better mineralization in the portions with more matrix material. The upper 101 feet of the breccia from 2053 to 2154 feet averaged 6.6% CaF_2, 2.8% $BaSO_4$, .061% Nb and .08% Th. Best zone was from 2154 to 2243 feet. The 88.5 feet averaged 9.27% CaF_2, 2.78% $BaSO_4$, 0.117% Nb and 0.104% Th. Beneath this zone brecciation was somewhat less intense. It became more coarse, dolomitic, contained less matrix and was poorly mineralized. It averaged 6.0% CaF_2, 2.9% $BaSO_4$, .09% Nb and .08% Th over 77 feet.

From 2320 feet to the bottom of the hole the breccia was generally coarse and sparsely mineralized except for a thin, rich zone from 2478 to 2492 feet which averaged 17.82% CaF_2, 1.44% $BaSO_4$, .102% Nb and .084% Th.

The following material is included.

1. Summary log,
2. Detailed log of fine breccia,
3. Assay graph of fine breccia,
4. Skyline and McDonald assay certificates.

Respectfully submitted,

Joseph A. Porter
February 21, 1975

SUMMARY LOG
OME-11 (FSR-4)

Started 2-2-74 Elevation 550

Completed 4-6-74 Depth 2516'

FORMATION	DESCRIPTION	THICK.	DEPTH
Overburden	Chert residuum.	64	64
DEVONIAN Clear Creek ls.	Finely crystalline, light brownish gray, abundant chert nodules, several dikes.	202	266
Backbone ls.	As above, lighter in color, questionable correlation.	27	293
Upper Grassy Knob ls.	Finely crystalline, light brownish gray, some dark gray with argillaceous material, cherty, difficult to distinguish from Clear Creek.	281	574
Lower Grassy Knob ls.	Limestone and chert, argillaceous with abundant argillaceous streaks.	184	758
Bailey ls.	Dense, gray, very fine grained, very silty, few shows fluorite.	170.5	928.5
Breccia	Tightly interlocked, mostly coarse, little medium and fine, principally Bailey and Silurian, little Grassy Knob.	72.5	1001
Breccia	Mostly medium, mixed limestone, few igneous fragments, finer portions with patches of purple breccia type mineralization, traces of sphalerite.	189	1190
Breccia	Principally coarse, mixed fragments, tightly interlocked, angular, few finer zones, traces fluorite, more abundant in finer zones, Silurian and Maquoketa fragments becoming more abundant.	313	1503
Breccia	Principally calcite matrix, coarse, some medium, fine, angular fragments, principally Silurian and Maquoketa, traces mineralization.	398	1701

FORMATION	DESCRIPTION	THICK.	DEPTH
Breccia	70% coarse Maquoketa fragments, little Plattin.	41	1742
Breccia	Coarse, angular fragments dominately Kimmswick, little Plattin, calcite matrix.	21	1773
Breccia	Coarse angular fragments in calcite matrix, Maquoketa fragments dominate.	95	1868
Breccia	Coarse, angular fragments, tightly interlocked, principally Plattin fragments somewhat more rock flour, traces mineralization, bottom contact very sharp.	175.5	2043.5
Rock flour and purple breccia	Fine, mixed sub-angular fragments in a rock flour matrix, matrix commonly replaced with purple fluorite, barite, sphalerite, better mineralized zones have more matrix, all rather low grade.	199	2243
Breccia	Mixed fine, medium and coarse, principally dolomite in dolomitic rock flour, finer portions fairly well replaced, represents gradational from above to below.	77	2320
Breccia	Mostly coarse, angular dolomite fragments, few finer zones with fluorite, little matrix in coarser portions.	158	2478
Purple breccia	Fairly rich, typical purple breccia type mineralization.	14	2492
Brecciated dolomite	Mostly coarse, little fine.	24	2516

TOTAL DEPTH

Sheet No. 17 Hole No. FSB-4

Depth Feet	Formation	No.
1981-2018	Breccia, fine, medium and coarse, tightly interlocked angular fragments in principally a calcite matrix, finer portions commonly rock flour, fragments fairly well mixed, generally tightly interlocked, little scattered purple fluorite throughout in matrix, fairly abundant dark black specks, possibly very dark fluorite in isolated zones particularly finer breccia zones, few calc veinlets throughout.	SB-127 (1983-1993) 10' Trace CaF_2 (2.0 CaF_2)
2018-2043.5	Breccia, principally as before, tightly interlocked mixed limestone fragments, little calcite and rock flour matrix, little purple fluorite and black specks scattered throughout in matrix material, few zones fairly pyritic, bottom contact very sharp.	
2043.5-2073	Gray rock flour breccia, medium and fine angular and sub-angular fragments of Plattin-type limestone in a gray, dolomitic, slightly fluoritic, rock flour matrix, matrix material makes up approximately 30% of total, fragments appear to be floating in gray rock flour matrix, little purple fluorite in matrix material and as purple blebs, matrix material appears to be dolomitic and relatively insoluble compared to the fragments, few specks of clear barite and yellow sphalerite, typical of purple breccia type mineralization, several patches of fairly rich purple fluorite, core approaching purple breccia in character toward bottom.	SB-128 (2053-2063) 10' 3.10 CaF_2, 0.77 $BaSO_4$ (3.5 CaF_2) SB-129 (2063-2073) 10' 3.05 CaF_2, 0.60 $BaSO_4$ (4.5 CaF_2)
2073-2083	Low-grade, purple breccia, principally fine, some angular fragments in a fluoritic, rock flour matrix, matrix contains fairly abundant disseminated purple fluorite, some clear, pale green barite and scattered disseminated sphalerite, all typical of purple breccia type mineralization, matrix material probably 40% of total, fragments appear to be fairly well mixed, limestone with few sub-rounded fragments of quartzite scattered throughout, estimate fluorite at 6%.	SB-130 10' 6.45 CaF_2 (7.2 CaF_2, 1.3 $BaSO_4$)

Sheet No. 18 Hole No. FSB-4

Depth Feet	Formation	No.
2083-2093	Breccia, generally tightly interlocked, fairly coarse fragments separated by patches of finer fragments, finer zones generally with fluoritic rock flour matrix, few rich purple blebs in matrix, little disseminated sphalerite throughout commonly along edges of breccia fragments, fluorite estimate at 2%.	SB-131 10' 3.87 CaF_2 (3.9 CaF_2, .63 $BaSO_4$)
2093-2103	Gray rock flour breccia, partly fluoritic, few zones of very coarse fragments, parts consisting of finer breccia generally have more purple fluorite in matrix material, few patches might be considered purple breccia, estimate fluorite at 3%.	SB-132 10' 3.08 CaF_2 (4.3 CaF_2)
2103-2113	Purple-gray rock flour breccia, principally small angular to sub-angular fragments of fluoritic rock flour matrix, matrix commonly well replaced with purple fluorite, coarse blebs of clear, pale green barite, fairly abundant traces of yellow sphalerite and few traces of galena, slightly pyritic throughout, mineralization typical of purple breccias, estimate 7% spar.	SB-133 10' 6.97 CaF_2 (7.0 CaF_2, 1.6 $BaSO_4$)
2113-2123	Mixed purple and gray rock flour breccia, principally as before, better replacement where matrix finer where matrix more abundant, some zones look to be rather rich, mineralization as before, occasional fragment of rich purple fluorite, possibly mobilized fragments, estimate fluorite at 6%.	SB-134 10' 7.10 CaF_2 (7.6 CaF_2, 1.4 $BaSO_4$)
2123-2133	Breccia, principally as before, mixed purple breccia and gray rock flour breccia, patches appear to be quite rich with well developed purple breccia type mineralization, at 2131 there is a rich patch of fluorite replacing the matrix with fairly abundant sphalerite associated with the fluorite, estimate fluorite throughout at 6%.	SB-135 10' 6.04 CaF_2 (7.0 CaF_2, 1.2 $BaSO_4$)

heet No. 19 Hole No. FSB-4

epth Feet	Formation	No.
133-2143	Purple breccia, mixed with gray rock flour breccia which is partly fluoritic, few patches of purple breccia appear to be fairly rich mineralization typical, few small odd fragments of rich purple fluorite, little sphalerite and galena throughout, some scattered pyrite throughout this unit and those above, estimate 7.5% spar.	SB-136 10' 8.64 CaF_2 (8.2 CaF_2, 1.9 $BaSO_4$)
143-2154.5	Mixed purple breccia and gray rock flour breccia, essentially as before, more fluorite in zones with more matrix material, mineralization as before, quartzite fragments still fairly abundant, estimate 6%, grades into below in a distance of about 3-4".	SB-137 11.5' 8.72 CaF_2 (8.2 CaF_2, 1.3 $BaSO_4$)
154.5-2159.5	Purple breccia, sub-angular to sub-rounded fragments of qurtzite, limestone and dolomite in a very fluoritic rock flour matrix, fairly abundant disseminated yellow sphalerite throughout, abundant clear barite, estimate fluorite at 15%.	SB-138 5' 11.27 CaF_2 (10.53 CaF_2, 3.4 $BaSO_4$)
159.5-2168	Purple breccia, principally as before, somewhat richer in purple fluorite, possibly fair amounts of sand grains in matrix material, mineralization as above, estimate 19% spar.	SB-139 8.5' 12.87 CaF_2 (12.5 CaF_2, 4.3 $BaSO_4$)
168-2177	Breccia fragments and purple fluoritic breccia, few zones rather rich, particularly where there is more rich material, probably should consider this zone purple breccia, fair yellow sphalerite scattered throughout, some ruby sphalerite, traces of galena, fluorite estimate at 11%.	SB-140 9' 7.06 CaF_2 (7.6 CaF_2, 3.4 $BaSO_4$)
177-2189	Breccia, mostly mediu, fairly tightly interlocked fragments, little matrix material, matrix material well replaced with purple fluorite where present, mineralization typical of purple breccia, estimate 5% fluorite.	SB-141 12' 6.90 CaF_2 (6.0 CaF_2, 1.2 $BaSO_4$)

Sheet No. 20 Hole No. FSB-4

Depth Feet	Formation	No.
2189-2200	Breccia, mixed, medium and fine, finer portions purple breccia, partly well replaced with purple fluorite, fairly abundant yellow sphalerite and clear barite, few large coarse fragments of clear barite, estimate spar throughout at about 7%.	SB-142 11' 8.06 CaF_2 (8.6 CaF_2, 3.1 $BaSO_4$)
2200-2210	Breccia, principally fine, purple-gray rock flour breccia, few coarse and medium fragments, matrix fairly well replaced with purple fluorite, fair disseminated sphalerite throughout, fairly abundant rather large fragments of clear barite, estimate 9%, little disseminated sphalerite and fairly abundant little black specks, possibly dark fluorite.	SB-143 10' 10.81 CaF_2 (10.5 CaF_2, 2.3 $BaSO_4$)
2210-2223	Breccia, mostly fine, little mixed medium and coarse, tightly interlocked finer portions in a fluoritic rock flour matrix, several patches well replaced, purple breccia with pale green barite and fairly abundant sphalerite, some scattered disseminated pyrite throughout, core somewhat soft, estimate 8.5% spar.	SB-156 13' 8.03 CaF_2, (8.2 CaF_2, 2.0 $BaSO_4$)
2223-2233	Purple breccia, mostly fine little medium and coarse, sub-angular to sub-rounded fragments floating in a fluoritic rock flour matrix, some portions quite rich, fairly abundant clear barite and disseminated yellow sphalerite throughout, estimate fluorite at 12%.	SB-144 10' 10.32 CaF_2 (10.5 CaF_2, 2.5 $BaSO_4$)
2233-2243	Purple breccia, rather patchy, coarser zones less well mineralized, fine zones appear to be quite rich, mineralization as before, this unit and those above have fairly abundant small dark specks, unable to identify, fluorite estimate here at 10%.	SB-145 10' 8.07 CaF_2 (9.0 CaF_2, 2.5 $BaSO_4$)

Sheet No. 21

Hole No. FSB-4

Depth Feet	Formation	No.
2243-2253	Purple breccia, mostly fine angular fragments of limestone with some quartzite in a fluoritic, fine, rock flour matrix, several patches fairly rich, somewhat more disseminated sphalerite throughout, few traces of galena, few stylolites parallel to core, estimate fluorite at 8%.	SB-146 10' 7.01 CaF_2 (7.8 CaF_2, 2.5 $BaSO_4$)
2253-2263	Breccia, principally fine, angular to sub-rounded fragments in a fluoritic, rock flour matrix, fragments generally fairly well interlocked, few patches of finer breccia contain richer calcium fluorite, fair disseminated sphalerite and traces of galena throughout.	SB-147 10' 5.00 CaF_2 (7.8 CaF_2, 3.4 $BaSO_4$)
2263-2273	Breccia, principally as before, somewhat more tightly interlocked fragments fewer rich patches, mineralization similar to as before in character, estimate fluorite at 5%.	SB-148 10' 5.16 CaF_2 (6.2 CaF_2, 3.4 $BaSO_4$)
2273-2283	Breccia, principally tightly interlocked medium fragments, various limestone and dolomite, some quartzite, matrix material generally well replaced with purple fluorite, one foot patch of 2279 of rich purple breccia, richer purple breccia zones commonly have more abundant yellow sphalerite and more traces of galena, fine dark specks fairly common throughout in matrix material, fluorite estimate at 6%.	SB-149 10' 5.03 CaF_2 (6.0 CaF_2, 2.7 $BaSO_4$)
2283-2293	Low-grade, purple breccia, principally mineralized as before, few rich patches generally fairly abundant sphalerite is associated with better fluorite, traces of galena, fairly abundant amount of small dark specks, estimate fluorite at 6%.	SB-150 10' 7.00 CaF_2 (8.2 CaF_2, 2.5 $BaSO_4$)

Sheet No. 22 Hole No. FSB-4

Depth Feet	Formation	No.	
2293-2303	Breccia, mixed, purple and gray rock flour, fairly abundant zones with tightly interlocked, medium and coarser fragments, matrix material well replaced with purple fluorite-type mineralization, few zones look somewhat sheared, fairly abundant sphalerite scattered throughout, richer sphalerite associated with rich fluorite zones, estimate fluorite throughout at 6%.	SB-151 5.08 CaF2 (6.2 CaF2,	10' 2.5 BaSO4)
2303-2313	Breccia, mixed, purple and tightly interlocked fragments of fine and medium and coarse, purple breccia in patches throughout, consists of zones with more matrix material, purple fluorite mineralization replacing fine matrix, some gray rock flour matrix, relatively unreplaced, locally fairly rich, few patches somewhat crystalline, richer zones have clear barite, sphalerite and pyrite as common in purple breccia.	SB-152 5.06 CaF2	10'
2313-2320	Breccia as above, few rich patches of purple breccia with clear barite, sphalerite and galena, fragments generally medium and rather tightly interlocked, lacks matrix material.	SB-153 5.08 CaF2	7'
2320-2332	Dolomite, somewhat brecciated, few patches of fine breccia commonly replaced with purple fluorite, entire unit somewhat crackle brecciated, dolomite sublithographic to finely crystalline, light gray to white, few blebs of purple fluorite throughout in fractures or brecciated zones, estimate fluorite at 1.5%.	SB-154 3.09 CaF2	12'
2332-2361	Breccia, principally medium and coarse, angular fragments of dolomite in a fluoritic rock flour matrix, purple breccia in matrix material very common, in general matrix material fairly well replaced but unit contains very little matrix, estimate spar throughout at 3%, rich purple fluorite approximately .3' thick at 2345.	SB-155 (2343-2353) 4.07 CaF2	10'

Sheet No. 23 Hole No. FSB-4

Depth Feet	Formation	No.
2361-2370	Brecciated dolomite, mostly light gray, coarsely crystalline, few zones darker gray, finer grained and slightly more mixed, some disseminated fluorite in matrix, traces of sphalerite, several patches approaching purple breccia, estimate fluorite throughout at 2%, several fractures nearly parallel to core, occasional purple and clear fluorite veinlet nearly parallel to core.	
2370-2398	Brecciated dolomite, mostly light gray, medium crystalline, fairly abundant dark finer zones, finer crystalline material, very little matrix material, commonly calcite, little disseminated fluorite throughout, odd patch and streak of pale yellow.	SB-158 10' 3.03 CaF_2 (2382-2393)
2398-2425	Breccia, principally as before, several small zones fairly rich purple breccia, matrix replaced throughout with deep purple fluorite, little matrix material present, estimate fluorite at 3%.	SB-159 (2415-2425) 10' 7.05 CaF_2
2425-2455	Breccia, principally tightly interlocked dolomite fragments, mixed light gray, medium crystalline and very fine grained dark brownish gray, matrix generally well replaced with purple fluorite with minor percent of total, little sphalerite and barite associated, estimate fluorite at 2%.	
2455-2478	Brecciated dolomite, mostly dark brownish gray, very finely crystalline, matrix principally calcite, constitutes small percent of total, little pyrite throughout, little purple fluorite scattered throughout and odd trace of coarse grained, clear barite, several patches of clear purple fluorite in matrix near bottom, whole unit probably less than 2% spar.	

Sheet No. 24 Hole No. FSB-4

Depth Feet	Formation	No.
2478-2488	Purple breccia, sub-angular to sub-rounded fragments in a very fluoritic, rock flour matrix, more matrix material present, it is rather thoroughly replaced with deep purple fluorite, barite, some zinc scattered throughout, rather abundant fragments appear to be altered dike material, few possible fragments of mobilized, rich, purple breccia, estimate fluorite throughout at 15%.	SB-160 10' 17.71 CaF_2 (12.5 CaF_2, 1.5 $BaSO_4$)
2488-2492	Rich purple breccia, fine, medium and coarse angular fragments in a well replaced deep purple fluoritic matrix, several one foot zones probably +60%, matrix almost totally replaced with purple fluorite and clear barite, little sphalerite and galena, few patches pale yellow, probably sericite, estimate fluorite at 40%.	SB-161 4' 20.18 CaF_2 (29.0 CaF_2, 1.3 $BaSO_4$)
2492-2516	Brecciated dolomite probably could be considered mega-breccia, mixed brownish gray and light gray very fine grained dolomite, fragments tightly interlocked, principally coarse, few patches of medium and fine, finer portions have fairly replaced purple fluorite, estimate entire zone at 1.5%.	

TOTAL DEPTH

ASSAY GRAPH FSB-4 (OME-11)

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REPORT OF ANALYSIS

Part I
Job No. 138003
July 17, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Analysis of 44 Pulp Samples

Item	Sample No.	CaF_2 (%)	Nb (ppm)	Th (ppm)	Y (ppm)	Zn (%)	Pb (%)	Be (ppm)
1.	FSB 117	4.1	50	<50	*	*	*	*
2.	119	*	50	*	*	.015	*	*
3.	121	*	70	<50	*	*	*	*
4.	124	2.0	100	*	*	*	*	*
5.	126	*	200	<50	150	*	*	*
6.	127	2.0	150	360	*	*	*	*
7.	128	3.5	200	660	300	*	*	50
8.	129	4.5	300	550	300	*	*	34
9.	130	7.2	500	1,100	500	.030	*	30
10.	131	3.9	350	1,100	300	*	*	*
11.	132	4.3	300	840	300	.015	*	*
12.	133	7.0	1,000	600	300	.035	.020	*
13.	134	7.6	700	660	500	.025	*	*
14.	135	7.0	300	400	300	.20	*	48
15.	136	8.2	800	630	500	.045	*	*
16.	137	8.2	750	770	500	.030	*	*
17.	138	10.5	1,100	1,200	500	.060	.045	32
18.	139	12.5	1,500	1,300	500	.075	.050	*
19.	140	7.6	1,300	1,200	500	.070	.030	*
20.	141	6.0	300	400	300	.015	*	*
21.	142	8.6	1,250	900	300	.065	*	*
22.	143	10.5	1,250	1,300	500	.030	*	*
23.	144	10.5	1,500	1,100	300	.045	*	*
24.	145	9.0	1,300	1,200	700	.065	*	*
25.	FSB 146	7.8	900	600	300	.085	.030	*

Item	Sample No.	CaF_2 (%)	Nb (ppm)	Th (ppm)	Y (ppm)	Zn (%)	Pb (%)	Be (ppm)
26.	FSB 147	7.8	1,050	1,000	500	.075	*	*
27.	148	6.2	1,100	800	300	.090	*	*
28.	149	6.0	900	720	500	.125	*	*
29.	150	8.2	800	1,000	300	.090	*	*
30.	151	6.2	850	720	300	.080	*	*
31.	152	*	600	630	500	.085	*	*
32.	153	*	750	1,300	700	.075	*	*
33.	154	*	100	250	200	.005	*	*
34.	155	*	300	230	200	.005	*	*
35.	156	8.2	1,350	1,100	500	.035	*	*
36.	159	*	250	150	200	*	*	*
37.	160	12.5	1,000	990	200	.005	*	*
38.	FSB 161	29.	1,150	700	300	*	*	*

* Analysis not requested

NOTE: Samples received - 115, 116, 118, 122, 123, 158 - Analysis was not requested

for Edwin U. Post
Charles E. Thompson
Chief Chemist

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF ANALYSIS

Part II
Job No. 138003
July 19, 1974

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Analysis of 25 Pulp Samples

Item	Sample No.	$BaSO_4$ (%)
1.	FSB 117	.16
2.	130	1.3
3.	131	.63
4.	133	1.6
5.	134	1.4
6.	135	1.2
7.	136	1.9
8.	137	1.3
9.	138	3.4
10.	139	4.3
11.	140	3.4
12.	141	1.2
13.	142	3.1
14.	143	2.3
15.	144	2.5
16.	145	2.5
17.	146	2.5
18.	147	3.4
19.	148	3.4
20.	149	2.7
21.	150	2.5
22.	151	2.5
23.	156	2.0
24.	160	1.5
25.	FSB 161	1.3

for Charles E. Thompson
Chief Chemist

Box 592
Rosiclare, Ill. 62982

V. C. McDonald
Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

Re: Assay Results - Split Core
FSB-4 (OME-11)

Sample #	CaF2	SiO2	BaSO4	T. Ca
114	1.29	22.20	0.40	32.33
115	1.03	8.00	0.31	33.23
116	Tr	10.02	0.43	32.60
117	Tr	13.80	0.38	26.28
118	Tr			
119	2.12			
120				
121	3.08			
122	Tr			
123	1.43			
124	1.29	19.92	1.88	27.46
125	1.09	8.68	0.71	34.76
126	Tr	6.00	0.44	34.83
127	Tr	6.20	0.61	34.55
128	3.10	7.84	0.77	33.44
129	3.05	6.20	0.60	32.67
130	6.45			
131	3.87			
132	3.08			
133	6.97			
134	7.10			
135	6.04			

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
136	8.64			
137	8.72			
138	11.27			
139	12.87			
140	7.06			
141	6.90 & 5.03			
142	8.06			
143	10.81			
144	10.32			
145	8.07			
146	7.01			
147	5.00			
148	5.16			
149	5.03			
150	7.00			
151	5.08			
152	5.06			
153	5.08			
154	3.09			
155	4.07			
156	8.03			
157	omitted			
158	3.03			
159	7.05			
160	17.71			
161	20.18			

V.C. McDonald, Chemist

GEOLOGIC REPORT
OME-12 (Fred. 3)

OME-12 was drilled 400 feet west of OME-2 (Fred. 1). The location is shown on the 1"=400' map submitted separately.

The hole encountered a normal stratigraphic section with contacts 70 to 100 feet lower than in OME-2. Brecciation was encountered from 1157 to 1391 feet in the lower part of the Edgewood limestone and the upper part of the Maquoketa shale. The top of the Edgewood and the base of the Maquoketa were easily distinguished and indicated a normal thickness for these two units. The conclusion was the breccia represented a breccia dike or sill and not a fault.

Unbrecciated Maquoketa, Kimmswick and Plattin were penetrated from 1391 to 2025 feet where continuous brecciation was intersected.

The breccia consisted of three zones, more or less distinct. The upper 35.5 feet of the breccia zone consisted of tightly interlocked Plattin fragments with sparse mineralization in the matrix. This was followed by 25 feet of fine breccia with a purple, fluoritic rock flour matrix. This unit graded rather quickly into generally coarse dolomite breccia which was generally poorly mineralized except in scattered zones of fine brecciation.

Though the mineralized purple breccia zone was encountered at approximately the proper place it was thin and rather poorly mineralized. The 25 feet averaged 7.87% CaF_2, 2.97% $BaSO_4$, 0.09% Nb and 0.22% Th. Spectrographic analysis indicated 1,000 ppm Y and 150 ppm Be.

Several zones of fine breccia in the dolomitic zone had fair matrix replacement by fluorite but did not have appreciable Nb or Th.

The following material is included.

1. Summary log,
2. Assay graph of the breccia zone,
3. Detailed log of breccia zone,
4. Skyline and McDonald assay certificates.

Respectfully submitted,

Joseph A. Porter
February 20, 1975

SUMMARY LOG

OME-12 (Fredricks 3)

Started 3-18-74 Elevation 586

Completed 5-10-74 Depth 2509'

FORMATION	DESCRIPTION	THICK.	DEPTH
Overburden	Chert residuum	79.5	79.5
DEVONIAN Clear Creek Backbone ls.	Limestone, fine grained, dense, gray to light brownish gray, few cherty zones, unable to distinguish Backbone.	449.5	529
Grassy Knob	Limestone, fine grained, very cherty, abundant interlaminated dark argillaceous streaks.	242	771
Bailey ls.	Very fine grained, dense, very silty, light brownish gray to gray, few irregular chert nodules.	172	943
SILURIAN Moccasin Sprs. ls.	Very fine grained, light gray, fairly numerous argillaceous streaks, few zones distinct brick red and pale olive.	113	1056
St. Clair - Sexton Creek ls.	Mostly fine grained, light gray, abundant brick red streaks, little disseminated pyrite throughout, fairly abundant pink phenocrysts scattered throughout.	79	1135
Edgewood ls.	Principally fine grained, dark brownish gray, rather abundant scattered chert throughout, fairly abundant argillaceous streaks.	22	1157
Breccia	Principally coarse angular fragments, rather tightly interlocked, matrix principally calcite, traces of galena and traces of purple fluorite.	57	1214
Breccia	Principally medium and coarse, tightly interlocked fragments in a calcite matrix, fragments principally Silurian, shale fragments very rare, several identifiable fragments of upper Silurian.	67	1281

FORMATION	DESCRIPTION	THICK.	DEPTH
Breccia	Principally fine, medium and coarse fragments of Maquoketa shale, few patches limestone breccia, shows galena and fluorite.	9	1290
Breccia	Principally medium and coarse, mixed fragments of Maquoketa shale and limestone, generally calcite matrix, few traces of galena and purple fluorite in matrix, bottom contact appears nearly normal to core.	101	1391
ORDOVICIAN Maquoketa sh.	Principally dark gray, hard, brittle, little interbedded limestone and very sandy limestone toward bottom, few calc veinlets.	47	1438
Kimmswick ls.	Medium and coarsely crystalline, gray and light gray, little brownish gray, stylolitic.	78	1516
Decorah-Plattin ls.	Principally very fine grained, dark brownish gray, fairly abundant interlaminated argillaceous streaks, few interbedded zones light gray, crystalline limestone, few patches of breccia in bottom part.	509	2025
Brecciated ls.	Principally brecciated Plattin limestone, all fairly fine, rather tightly interlocked, fragments consist almost entirely of Plattin limestone, grades into below over 4'.	35.5	2060.5
Purple breccia	Fine, sub-angular fragments in a fluoritic, rock flour matrix, fairly well replaced with purple fluorite, little pale green barite, disseminated sphalerite, all typical of purple breccia zone, average approximately 9% CaF_2.	25	2085.5
Brecciated dolomite	Principally coarse, mostly megabreccia, little fine breccia sometimes fairly well mineralized.	423.5	2509
	TOTAL DEPTH		

OME-12

Sheet No. 13 Hole No. F-3

Depth Feet	Formation	No.	Width
1849-1897	Limestone, dark brownish gray, very finely crystalline, abundant interlaminated argillaceous streaks and dark gray streaks, all distinct characteristic of Plattin, bedding appears to be dipping at approximately 15° angle.		
	Reduce hole to BX		
1897-1950	Limestone, very finely grained, gray to light gray, somewhat interlaminated argillaceous streaks, few zones somewhat more coarse, few dark argillaceous streaks, few zones slightly brecciated with purple fluorite in matrix, somewhat more braccia toward bottom.		
1950-1983	Limestone, light gray, very fine grained, very abundant irregular dark silty or dolomitic streaks, very typical of Plattin limestone.		
1983-1986	Breccia, principally angular fragments of limestone, like above in calcite matrix, possible small breccia dike, core somewhat broken.		
1986-2005	Limestone, principally as before, few parts somewhat brecciated, patches of breccia possibly becoming somewhat more abundant.		
2005-2025	Limestone, very fine grained, dark gray, abundant interbedded dark argillaceous partings, few patches somewhat brecciated.		
2025-2046	Brecciated limestone as above, fragments generally fairly small but not well mixed, would consider low-grade breccia, brecciation seems more infrequent and more intense toward bottom.		
2046-2056	Brecciated limestone, principally as above, brecciation somewhat more intense throughout bottom, transition to breccia described below rather abrupt.		

Sheet No. 14 Hole No. F-3

Depth Feet	Formation	No.	Width
2056-2060.5	Breccia, mostly fine, all rather tightly fragments of limestone, all rather tightly interlocked, very little matrix material, little purple fluorite in blebs and matrix material partly replacing matrix, whole unit rather pyritic, estimate fluorite at 3%.	F-624 5.4 CaF_2 (Skyline) 4.07 " , 1.80 $BaSO_4$ (McDonald)	4.5'
2060.5-2068	Purple breccia, fine, angular, sub-rounded fragments in a fluoritic rock flour matrix, matrix fairly well replaced with purple fluorite, clear, pale green barite, disseminated yellow and ruby sphalerite, mineralization typical of purple breccias, few fractures and blebs of crystalline fluorite, possibly becoming richer toward bottom, fluorite estimate in entire unit at 9%.	F-625 8.8 CaF_2 (Skyline) 8.09 " 1.22 $BaSO_4$ (McDonald)	7.5'
2068-2078	Purple breccia, all fairly rich, consists of mostly fine, little medium, angular to sub-rounded limestone fragments in a very fluoritic rock flour matrix, fairly abundant barite and disseminated yellow sphalerite, estimate fluorite at 15%. Note: There was a mislatch on a run from 2069-2079 and attempt was made to recover the dropped core. As a result, approximately 3' of core was lost, probably between 2069-2078, what core that has been recovered is overdrilled, core is rather irregular and fairly well fractured and broken up.	F-626 9.0 CaF_2, 4.0 $BaSO_4$ (Skyline) 8.00 " 0.80 " (McDonald)	10'
2078-2085.5	Purple breccia, principally as before, somewhat more abundant rather rich zones, few coarse blebs of crystalline fluorite, mineralization as before, seems to contain increasing number of light gray to white fragments, estimate fluorite at 15%.	F-627 9.9 CaF_2, 4.1 $BaSO_4$ (Skyline) 8.00 " , 4.4 " (McDonald)	7.5'
2085.5-2090	Brecciated limestone, light gray to white, finely crystalline, few small stringers and blebs of clear and purple fluorite, essentially rather barren, bottom somewhat more brecciated.		

Sheet No. 15 Hole No. F-3

Depth Feet	Formation	No.	Width
2090-2117	Brecciated dolomite, possibly mega-breccia, principally large fragments with patches and zones of finer brecciation, some of the finer brecciation well replaced with purple fluorite, few blebs of purple fluorite throughout, traces of galena.	F-628 (2099-2109) 5.8 CaF_2, .60 $BaSO_4$ (Sky) 4.05 " 1.60 " (McDonald)	10'
2117-2129	Breccia, principally dark gray dolomite as above, bottom 5' consists of thin calcite-fluorite veinlets nearly parallel to core, some 2' of core loss probably in this section.		
2129-2151	Brecciated dolomite, appears to be a crackle breccia, few patches somewhat mixed, mostly dark brownish gray, very fine grained, rather abundant thin streaks of calcite, possibly filling late fractures.		
2151-2159	Breccia, somewhat mixed throughout, principally as before, several zones and patches of rather rich, purple breccia, typical purple breccia type brecciation, generally pyritic throughout, little traces of galena throughout, estimate fluorite at 4%.	F-629 7.4 CaF_2, 2.5 $BaSO_4$ (Sky) 6.04 " 1.70 " (McDonald)	8'
2159-2179	Brecciated dolomite, mostly very fine grained, dark gray little apparent mixing, few zones rather fine, little purple fluorite scattered throughout principally in matrix and as distinct blebs, traces of galena, all appears rather barren.		
2179-2200	Dolomitic breccia, principally as before, possibly somewhat more mixing, more mixed zones have fairly abundant sub-rounded quartzite fragments, half-foot of fairly rich purple fluorite at 2196.		
2200-2218	Brecciated dolomite, fine, medium and coarse, rather poorly mixed, appears to be somewhat recrystallized, all rather dense, few patches of finer breccia commonly with purple fluorite, trace of purple fluorite, pyrite and dark specks, little pyrite scattered throughout, odd speck of sphalerite.		

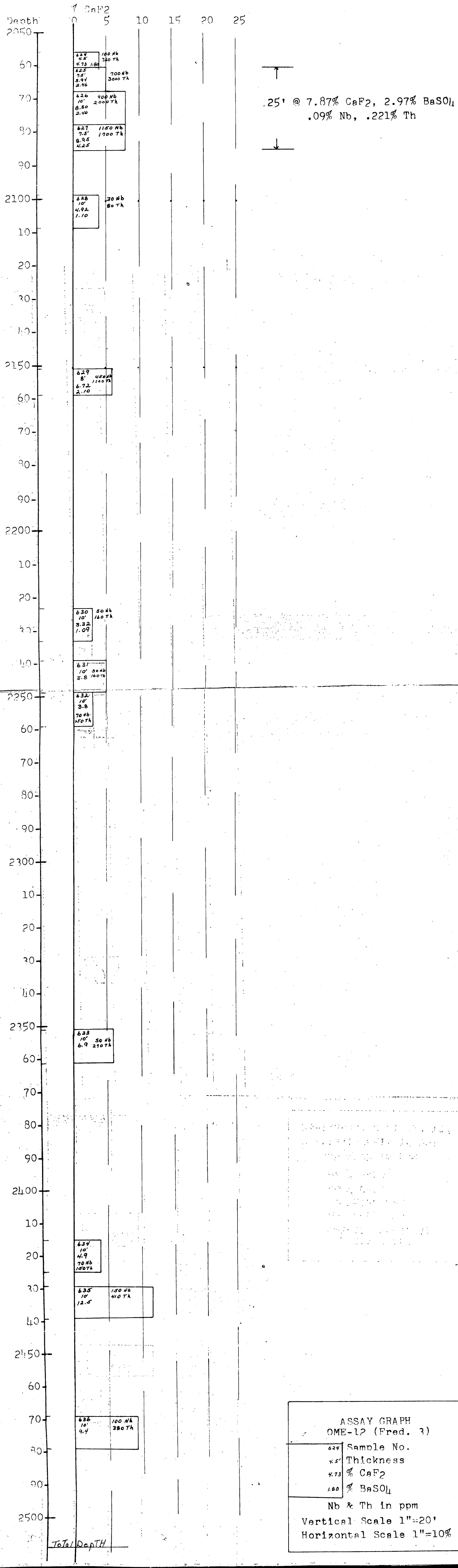
Sheet No. 16 Hole No. F-3

Depth Feet	Formation	No.	Width
2218-2239	Brecciated dolomite, principally as before, somewhat more matrix material, matrix material commonly contains fairly abundant dark specks, traces of galena, dark specks very fine, probably pyrite and very small specks of dark purple fluorite.	F-630 (2223-2233) 3.6 CaF_2, .76 $BaSO_4$ (Sky) 3.05 " 1.42 " (McDonald)	10'
2239-2249	Breccia, principally fine and medium, tightly interlocked fragments in a dolomitic, rock flour matrix, all rather dolomitic, possibly recrystallized, purple fluorite, pyrite fine, disseminated black mineral in matrix material, show of chalcopyrite, fluorite less than 2%.	F-631 5.8 CaF_2 (Skyline)	10'
2249-2261	Breccia, principally fine as before, possibly somewhat more dark specks scattered throughout.	F-632 (2249-2259) 3.8 CaF_2 (Skyline)	10'
2261-2279	Breccia, similar to as before except more abundant, coarse, several streaks and blebs of rather pyrite toward bottom.		
2279-2299	Breccia, principally coarse and medium, little fine scattered throughout, principally light gray crystalline dolomite, matrix material minor constituent but principally as above.		
2299-2322	Breccia, principally as before, more coarse grained, brownish gray dolomite, commonly with fairly abundant dark specks and blebs scattered throughout, resemble bitnum, traces of chalcopyrite, fluorite less than 2%, little matrix material in this unit.		
2322-2241	Breccia, principally as before, few more patches of fine, mineralization as before.		
2241-2361	Breccia, principally fine with fairly abundant dark rock flour matrix, purple fluorite in matrix, all rather pyritic with abundant fine disseminated, dark mineral, matrix fairly fluoritic, estimate fluorite at 4%.	F-633 (2351-2361) 6.9 CaF_2 (Skyline)	10'

Sheet No. 17 Hole No. F-3

Depth Feet	Formation	No.	Width
2361-2383	Breccia, dolomitic, coarse, medium and fine, all appears to be recrystallized, little matrix material, few traces of dark mineral, fluorite less than 1%.		
2383-2400	Principally light gray dolomite, brecciated, recrystallized, partly broken into buttons, light colored zones appear to have fair amounts of disseminated black, traces of fluorspar, traces of sphalerite.		
2400-2425	Breccia, principally fine, medium and medium fragments in a dolomitic, rock flour matrix, matrix material contains fluorite, some clear barite and fairly abundant dark specks, possible traces of galena.	F-634	(2415-2425) 10' 4.9 CaF_2 (Skyline)
2425-2439	Breccia, fine, medium and coarse, few zones and patches of purple breccia with matrix replaced by purple fluorite, clear barite, fairly abundant disseminated sphalerite, black specks fairly common throughout, estimate fluorite at 3%.	F-635	(2429-2439) 10' 12.5 CaF_2 (Skyline)
2439-2458	Breccia, principally fine and medium, sub-angular in a crystallized, dolomitic, rock flour matrix, little matrix present, traces of fluorite in matrix, traces of sphalerite and dark specks.		
2458-2479	Breccia, principally fine, sub-rounded, sub-angular fragments with few medium, few coarse, all in a dolomitic, rock flour matrix sparingly replaced with purple fluorite, lighter color zones have abundant, very fine dark specks.	F-636	(2469-2479) 10' 9.4 CaF_2 (Skyline)
2479-2493	Breccia, upper parts principally as before grades into coarse breccia toward bottom, matrix material mineralized as before, bottom 2' consists of calcite matrix with traces of pale green spar.		
2493-2509	Brecciated dolomite, principally very fine grained, light gray, large fragments of dolomite, bottom 3' breccia as before.		
	TOTAL DEPTH		

ASSAY GRAPH OME-12 (Fredricks 3)



F-3

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
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REPORT OF ANALYSIS

Job No. 130002
July 11, 1974

Mr. Joseph A. Porter
P.O. Box 447
Roodoloro, Illinois 62982

14 Pulp Samples

Item	Sample No.	CaF_2 (%)	$BaSO_4$ (%)	Zn (%)	Nb (ppm)	Th (ppm)
1.	P 620	.17	*	*	*	*
2.	624	5.4	*	*	100	720
3.	625	8.8	3.7	.020	700	3,000
4.	626	9.0	4.0	.030	900	2,000
5.	627	9.9	4.1	.020	1,150	1,700
6.	628	5.8	.60	.010	30	80
7.	629	7.4	2.5	.020	450	1,100
8.	630	3.6	.76	.010	50	160
9.	631	5.8	*	*	50	160
10.	632	3.8	*	*	70	150
11.	633	6.9	*	*	50	270
12.	634	4.9	*	*	70	150
13.	635	12.5	*	*	150	410
14.	P 636	9.4	*	*	100	380

*Analysis not requested.

Charles L. Thompson
Chief Chemist

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
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REPORT OF SPECTROGRAPHIC ANALYSIS

Mr. Joseph A. Porter
P.O. Box 447
Roseclare, Illinois 62982

Job No. 138002
July 11, 1974

Values reported in parts per million, except where noted otherwise, to the nearest number in the series 1, 1.5, 2, 3, 5, 7 etc.

Element	Sample Number P 618	P 619	P 621	P 622	P 624
Fe	.30	.50	20	30	.50
Ca	>200	100	100	50	>200
Mg	.10	10	.70	.20	1.50
Ag	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500
B	<10	10	15	10	10
Ba	>10,000	1,000	500	200	1,000
Be	2	<2	5	10	50
Bi	<10	<10	<10	<10	<10
Cd	<50	<50	<50	<50	<50
Co	<5	<5	<5	10	<5
Cr	20	30	50	300	30
Cu	2	<2	5	15	2
Ga	<10	<10	<10	10	<10
Ge	<20	<20	<20	<20	<20
La	50	20	20	20	30
Mn	300	200	300	300	300
Mo	<2	<2	<2	2	<2
Nb	30	50	20	30	100
Ni	5	10	100	5	7
Pb	200	1,500	70	1,000	150
Sb	<100	<100	<100	100	<100
Sc	<10	<10	10	15	50
Sn	<10	<10	<10	<10	<10
Sr	1,500	3,000	1,000	300	3,000
Ti	200	500	1,000	1,500	1,000
V	20	20	50	50	50
W	<50	<50	<50	<50	<50
Y	100	100	100	150	300
Zn	<200	<200	<200	<200	<200
Zr	20	30	50	50	70

Element	Sample Number F 626	F 627	F 628	F 629	F 630
Fe	1.50	1.50	10	10	.70
Ca	100	150	100	100	70
Mg	30	50	50	70	70
Ag	<1	<1	<1	<1	<1
As	<500	<500	<500	<500	<500
B	15	15	20	15	15
Ba	10,000	10,000	300	2,000	500
Be	150	150	20	50	7
Bi	10	10	<10	<10	<10
Cd	<50	<50	<50	<50	<50
Co	<5	<5	<5	<5	<5
Cr	30	30	15	20	20
Cu	3	3	<2	2	2
Ga	<10	<10	<10	<10	<10
Ge	<20	<20	<20	<20	<20
La	50	50	<20	20	<20
Mn	700	500	700	500	700
Mo	<2	<2	2	2	7
Nb	500	1,000	30	300	50
Ni	5	5	<5	<5	10
Pb	1,000	100	20	200	20
Sb	<100	<100	<100	<100	<100
Sc	70	70	15	30	<10
Sn	<10	<10	<10	<10	<10
Sr	5,000	5,000	700	2,000	700
Ti	1,500	2,000	150	1,500	200
V	50	100	30	50	30
W	<50	50	<50	<50	<50
Y	1,000	1,000	100	300	100
Zn	<200	500	<200	<200	<200
Zr	70	100	<20	70	20

Charles E. Thompson
Chief Chemist

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V. C. McDonald

Chemist Assayer
Lab. Flotation Research

Telephone 285-6823
(Area Code 618)

Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

Re: Assay Results - Split Core
Fredricks 3

Sample #	CaF_2	SiO_2	$BaSO_4$	T. Ca
618	2.26	8.12	0.26	21.34
619	NIL	14.36	6.04	26.72
620	NIL	11.22	3.80	32.08
621	NIL	22.84	9.00	23.51
622	NIL	51.12	7.28	8.63
623	Tr			
624	4.07	4.00	1.80	24.04
625	3.09	6.09	1.22	27.32
626	8.00	8.04	0.80	20.26
627	8.00	10.26	4.40	21.00
628	4.05	2.92	1.60	22.42
629	6.04	8.80	1.70	20.68
630	3.05	7.18	1.42	21.12

V.C. McDonald

Stage IV

SKYLINE LABS, INC.

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50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

E

INVOICE NO.: 3482
JOB NO.: 138006
P. O. NO.:

DATE: August 1, 1974

TERMS: NET 30 DAYS

SOLD TO: Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Hole No. FSB-1 (OME-5)

Analysis of 33 Pulp Samples

26 Lead (Assay) @ $2.00	$	52.00
26 Zinc (Assay) @ $2.00		52.00
26 Niobium @ $5.00		130.00
26 Beryllium @ $3.00		78.00
33 X-Ray Fluorescence Scans @ $5.00		165.00
TOTAL	$	477.00

CERTIFIED TRUE COPY

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 3483
JOB NO.: 138005
P. O. NO.:

DATE: August 1, 1974

TERMS: NET 30 DAYS

SOLD TO: Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Hole No. Hamp 5 (OME-1)

Analysis of 22 Pulp Samples

18 Lead (Assay) @ $2.00	$ 36.00
18 Zinc (Assay) @ $2.00	36.00
22 Niobium @ $5.00	110.00
21 Beryllium @ $3.00	63.00
22 X Ray Fluorescence Scans @ $5.00	110.00
TOTAL	$ 355.00

CERTIFIED TRUE COPY

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 4460
JOB NO.: 138010
P. O. NO.:

DATE: October 21, 1974

TERMS: NET 30 DAYS

SOLD TO: Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Hamp 6 (OME-4)

Hamp 7 (OME-6)

Analysis of 55 Pulp Samples

55 Lead (Assay) @ $2.00	$ 110.00
55 Zinc (Assay) @ $2.00	110.00
55 Niobium @ $5.00	275.00
55 Beryllium @ $3.00	165.00
55 X-Ray Fluorescence Scan @ $5.00	275.00
TOTAL	$ 935.00

CERTIFIED TRUE COPY

DUPLICATE INVOICE

SPRAGUE & HENWOOD, Inc.

SCRANTON 2, PA., U. S. A.

C 16626

ADDRESS ALL COMMUNICATIONS
TO MAIN OFFICE
BOX 446
SCRANTON 2, PA.

CONTRACTORS FOR
DIAMOND DRILLING
SHOT DRILLING · SOIL SAMPLING · PRESSURE GROUTING
WATER WELLS & CHURN DRILLING

CH-077-002

Hicks Dome Account
Hicks Dome, Illinois

LOCATION

Hicks Dome, Illinois
PARTIAL BILLING

VIA.

CE DATE	INVOICE NO.	YOUR ORDER NO.	ORDER DATE	TERMS: NET CASH NO DISCOUNT ALLOWED	CONT. NO.	ENTERED BY:
1/74	99905			10 days	15,884	

DESCRIPTION

'o charge account for NX-BXW/L drilling at the above mentioned site in the period
'arch 1, 1974 to March 29, 1974 -

:OLE NO. F-2 - Completed 3/13/74, depth 2,467'
(OME-10) Previously billed 1,980'
487'

:TEM 2 - Core drilling -

NXW/L - 1,980' to 2,000' - 20' @ $6.25/L.F.....$ 125.00
2,000' to 2,022' - 22' @ $6.95/L.F.....$ 152.90
BXW/L - 2,022' to 2,467' - 445' @ $6.65/L.F.....$2,959.25

TEM 4 - Moving between sites, setting casing, cleaning out holes, surveying holes -

DATE	REMARKS	HOURS
3/13/74	Surveying	9
3/15/74	Moving	9
3/18/74	Setting up	7

25 Hrs. @ $25.00/hr.....$ 625.00

:TEM 5 - Standby time -

3/14/74 - 4½ hrs. @ $19.00/hr.....$ 85.50

:OLE NO. F-3 - Not completed - Depth 619'
(OME-12)

CERTIFIED TRUE COPY

(CONTINUED)

SUE & HENWOOD, INC. SECOND SHEET DUPLICATE INVOICE

icks Dome Account
ontract No. 15,884
nvoice No. 99905

rilling surface materials and bedrock to depths of 500' -

DATE	DRILLER'S NAME	HOURS
3/18/74	Sam Grathler	2
3/19/74	Sam Grathler	8
3/20/74	Sam Grathler	10
3/21/74	Sam Grathler	9
3/22/74	Sam Grathler	9
3/25/74	Sam Grathler	4½
3/25/74	Robert Grathler	4½
3/26/74	Sam Grathler	5
3/26/74	Robert Grathler	9
3/27/74	Sam Grathler	6

Rotary drilling

67 hrs. @ $25.00/hr.....$1,675.00

Core drilling below 500' -
NXW/L - 500' to 619' - 119' @ $5.80/L.F.....$ 690.20

TOTAL AMOUNT DUE THIS INVOICE.....$6,312.85

Note: Diamond bits and reamer shells used for depths from 0' to 500' to be billed at a later date.

CERTIFIED TRUE COPY

INVOICE

SPRAGUE & HENWOOD, Inc.

SCRANTON 2, PA., U. S. A.

C 16667

ADDRESS ALL COMMUNICATIONS
TO MAIN OFFICE
BOX 446
SCRANTON 2, PA.

CONTRACTORS FOR
DIAMOND DRILLING
SHOT DRILLING · SOIL SAMPLING · PRESSURE GROUTING
WATER WELLS & CHURN DRILLING

CH-077-002

Hicks Dome Account
Hicks Dome, Illinois

LOCATION Hicks Dome, Illinois
Partial Billing

VIA.

VOICE DATE	INVOICE NO.	YOUR ORDER NO.	ORDER DATE	TERMS:	CONT. NO.	ENTERED BY:
5/9/74	99933			NET CASH 10 days NO DISCOUNT ALLOWED	15,884	.

DESCRIPTION

To charge account for NX-BXW/L drilling at the above mentioned site in the period April 1, 1974 to April 30, 1974 -

HOLE NO. F-3 - Not completed, depth 2,299'
(OME-12) Previously billed 619'
1,680'

Core drilling below 500' depth -

NXW/L - 619' to 1,000' - 381' @ $5.80/L.F.....$ 2,209.80
1,000' to 1,500' - 500' @ $6.35/L.F.....$ 3,175.00
1,500' to 1,897' - 397' @ $6.95/L.F.....$ 2,759.15

BXW/L - 1,897' to 2,000' - 103' @ $6.65/L.F.....$ 684.95
2,000' to 2,299' - 299' @ $7.45/L.F.....$ 2,227.55

HOLE NO. ROSE I -

Mobilization and demobilization 2nd drill rig -
LUMP SUM $800.00 @ 50% .....$ 400.00

Drilling surface materials and bedrock to depths of 500' -

DATE	DRILLER'S NAME	HOURS
4/24/74	A. Trapasso	9
4/25/74	A. Trapasso	9
4/26/74	A. Trapasso	9
4/29/74	A. Trapasso	9
4/30/74	A. Trapasso	9

45 hrs. @ $25.00/hr.....$ 1,125.00

CERTIFIED TRUE COPY

(CONTINUED)

HENWOOD, INC. SECOND SHEET INVOICE

.s Dome Account
ontract No. 15,884
nvoice No. 99933

OLE NO. F-2 - (OME-10)

Use of diamond bits and reamer shells for depth from 0' to 500' -

BIT UMBER	DIA. SIZE	BIT SIZE	VALUE OF NEW DIAMONDS	VALUE OF SALVAGE	DIA. LOSS	BLANK AND SETTING	TOTAL COST
71442	30-40	3½"	195.00	100.90	94.10	35.00	$129.10
71859	40-50	NXWL	275.42	156.92	118.50	44.50	$163.00
72594	40-50	NXWL	301.04	267.18	33.86	44.50	$ 78.36
73568	40-50	NXWL	307.90	241.71	66.19	44.50	$110.69
73569	40-50	NXWL	296.31	277.86	18.45	44.50	$ 62.95
73576	40-50	NXWL	295.09	190.47	104.62	44.50	$149.12
T6854	40-50	NXWL	39.60	25.00	14.60	42.00	$ 56.60

$ 749.82

.0 bags cement (per xerox).....$ 29.93

TOTAL AMOUNT DUE THIS INVOICE.....$13,361.20

Note: Diamond bits and reamer shells used for depths from 0' to 500', for Holes F-3 and Rose I, to be billed at a later date.

CERTIFIED TRUE COPY

TRIPLICATE INVOICE

SPRAGUE & HENWOOD, Inc.

SCRANTON 2, PA., U. S. A.

C 16705

ADDRESS ALL COMMUNICATIONS
TO MAIN OFFICE
BOX 446
SCRANTON 2, PA.

CONTRACTORS FOR
DIAMOND DRILLING
SHOT DRILLING - SOIL SAMPLING - PRESSURE GROUTING
WATER WELLS & CHURN DRILLING

CH-077-002

Hicks Dome Account
Hicks Dome, Illinois

LOCATION: Hicks Dome, Illinois (PARTIAL BILLING)

VIA.

ICE DATE	INVOICE NO.	YOUR ORDER NO.	ORDER DATE	TERMS:	CONT. NO.	ENTERED BY:
/06/74	99962			NET CASH 10 Days NO DISCOUNT ALLOWED	15884	

DESCRIPTION

o charge account for NX-BXW/L drilling at the above mentioned site in the period ayl, 1974 to May 31, 1974:

OLE NO. F-3 - Completed 5/03/74 - Depth 2,509'
(OME-12) Previously billed - 2,299'
210'

ore drilling below 500' depth (BXW/L)
2,299' to 2,509' - 210' @ $ 7.45/l.f.....$ 1,564.50

urveying hole -

DATE	DRILLER'S NAME	HOURS
5/03/74	Sam Grathler	2
5/07/74	Sam Grathler	6½

8½ @ $ 25.00/hr.....$ 212.50

OLE NO. H-9 - Not completed, depth 310'
Drilling surface materials and bedrock to depths of 500'

DATE	DRILLER'S NAME	HOURS
5/10/74	Sam Grathler	9
5/13/74	Sam Grathler	9
5/14/74	Sam Grathler	9
5/15/74	Sam Grathler	9
5/16/74	Sam Grathler	9
5/17/74	Sam Grathler	9
5/20/74	Sam Grathler	9
5/21/74	Sam Grathler	9
5/22/74	Sam Grathler	5
5/23/74	Sam Grathler	9
5/24/74	Sam Grathler	9
5/25/74	Sam Grathler	-
5/28/74	Sam Grathler	5
5/29/74	Sam Grathler	6
5/30/74	Sam Grathler	5½
5/31/74	Sam Grathler	9

CERTIFIED TRUE COPY

HENWOOD, INC. SECOND SHEET TRIPLICATE INVOICE

Home Account
Contract No. 15884
Invoice No. 99962

Moving between sites and setting up on hole -

DATE	DRILLER'S NAME	HOURS
5/08/74	Sam Grathler	9
5/09/74	Sam Grathler	8

17 hrs. @ $ 25.00/hr.....$ 425.00

ROSE I - Not completed, Depth 1,618'
Drilling surface materials and bedrock to depths of 500'

DATE	DRILLER'S NAME	HOURS
5/01/74	A. Trapasso	9
5/02/74	A. Trapasso	9
5/03/74	A. Trapasso	9
5/06/74	A. Trapasso	9
5/06/74	Robert Grathler	9
5/07/74	A. Trapasso	9
5/07/74	Robert Grathler	9
5/08/74	A. Trapasso	2

65 hrs. @ $ 25.00/hr.....$ 1,625.00

Core drilling below 500' depth (NXW/L)

500' to 1,000' - 500' @ $ 5.80/l.f.....$ 2,900.00
1,000' to 1,500' - 500' @ $ 6.35/l.f.....$ 3,175.00
1,500' to 1,618' - 118' @ $ 6.95/l.f.....$ 820.10

Total Amount Due This Invoice.....$13,734.60

NOTE: Diamond bits and reamer shells used for depths from 0' to 500' for holes F-3, Rose I and H-9 to be billed at a later date.

CERTIFIED TRUE COPY

TRAIN CABOT INC

EARNINGS	HOURS	AMOUNT	DEDUCTIONS			YEAR TO DATE	
REGULAR		75000	FICA TAX	4388 FED. TAX	11267	GROSS PAY	22500
			STATE TX	1458 GRP INS	1120	FICA	3376
						FED TAX	7500
						STATE TAX	1120

FOR PERIOD ENDING 04-15-74

NET PAY 567.67

TOTAL EARNINGS 75000 TOTAL DEDUCTIONS 18233

JOSEPH A PORTER 501 1 020 30044 NON-NEGOTIABLE

5755
1.5MM 2-73

STATEMENT OF EARNINGS AND DEDUCTIONS

TRAIN CABOT INC

EARNINGS	HOURS	AMOUNT	DEDUCTIONS			YEAR TO DATE	
REGULAR		75000	FICA TAX	4388 FED. TAX	11267	GROSS PAY	[illegible]
			STATE TX	1458 GRP INS	1120	FICA	[illegible]
						FED TAX	[illegible]
						STATE TAX	[illegible]

FOR PERIOD ENDING [illegible]

NET PAY [illegible]

TOTAL EARNINGS 75000 TOTAL DEDUCTIONS [illegible]

JOSEPH A PORTER 501 1 020 30044 NON-NEGOTIABLE

5755
1.5MM 2-73

STATEMENT OF EARNINGS AND DEDUCTIONS

TRAIN CABOT INC 005685250

EARNINGS	HOURS	AMOUNT	DEDUCTIONS			YEAR TO DATE	
REGULAR		75000	FICA TAX	4388 FED. TAX	11267	GROSS PAY	6750
			STATE TX	1458 GRP INS	1120	FICA	304
						FED TAX	1014
						STATE TAX	131

CERTIFIED TRUE COPY

FOR PERIOD ENDING 05-15-74

NET PAY 567.6

TOTAL EARNINGS 75000 TOTAL DEDUCTIONS 18233

April 16, 1974

Mr. Douglas Andersen
P.O. Box 57
Elizabethtown, IL 62931

Dear Doug:

Enclosed find a check in the amount of $435.07 representing wages earned April 1 thru 15, 1974. Amount due was calculated as follows:

		$ 550.00
State Tax	$ 10.56	
Income Tax	72.20	
Social Security	32.17	- 114.93
		$ 435.07

Sincerely yours,

Joseph A. Porter

CERTIFIED TRUE COPY

JAP:kt
Enc. 1

May 1, 1974

Mr. Douglas Andersen
P.O. Box 57
Elizabethtown, IL 62931

Dear Doug:

Enclosed find a check in the amount of $435.07 representing wages earned April 16 thru 30, 1974. Also enclosed is $146.64 for expenses. Amount due was calculated as follows:

		$ 550.00
State Tax	$ 10.56	
Income Tax	72.20	
Social Security	32.17	- 114.93
		$ 435.07

Sincerely yours,

Joseph A. Porter

JAP:kt
Enc. 2

CERTIFIED TRUE COPY

Joseph A. Porter

May 16, 1974

Mr. Douglas Andersen
P.O. Box 57
Elizabethtown, IL 62931

Dear Doug:

Enclosed find a check in the amount of $435.07 representing wages earned May 1 thru May 15, 1974. Amount due was calculated as follows:

		$ 550.00
State Tax	$ 10.56	
Income Tax	72.20	
Social Security	32.17	- 114.93
		$ 435.07

Sincerely yours,

Joseph A. Porter

JAP:kt
Enc. 1

CERTIFIED TRUE COPY

Joseph A. Porter

June 3, 1974

Mr. Douglas Anderson
P.O. Box 57
Elizabethtown, IL 62931

Dear Doug:

Enclosed find two checks in the amount of $435.07 and $170.80 representing wages earned and expenses incurred May 16 thru 31, 1974. Amount due was calculated as follows:

		$ 550.00
State Tax	$ 10.56	
Income Tax	72.20	
Social Security	32.17	114.93
		$ 435.07
Mileage on personal car - 1220 mi.		$ 170.80

Sincerely yours,

Joseph A. Porter

JAP:kt
Enc. 2

CERTIFIED TRUE COPY

June 15, 1974

Mr. Douglas Andersen
P.O. Box 57
Elizabethtown, IL 62931

Dear Doug:

Enclosed find a check in the amount of $435.07 representing wages earned June 1 thru 15, 1974. Amount due was calculated as follows:

		$ 550.00
State Tax	10.56	
Income Tax	72.20	
Social S.	32.17	- 114.93
		$ 435.07

Sincerely yours,

Joseph A. Porter

JAP:rb
Enc. 1

CERTIFIED TRUE COPY

April 15, 1974

Mrs. Kay Thornberry
P.O. Box 444
Rosiclare, IL 62982

Dear Kay:

Enclosed find a check in the amount of $155.98 representing wages earned April 1 thru 15, 1974. Amount due was calculated as follows:

81½ hrs. x $2.25 =		$ 183.38
S.T.	$ 2.47	
I.T.	14.20	
S.S.	10.73	- 27.40
		$ 155.98

Sincerely yours,

Joseph A. Porter

CERTIFIED TRUE COPY

JAP: kt
Encl. 1

April 30, 1974

Kay Thornberry
Rosiclare
Illinois

Dear Kay:

Enclosed find a check in the amount of $138.15 representing wages earned April 16 thru 30, 1974. Amount due was calculated as follows:

71 hrs. x $2.25 =		$ 159.75
SE.	$ 1.85	
I.T.	10.40	
S.S.	9.35	21.60
		$ 138.15

Sincerely,

Joseph A. Porter

CERTIFIED TRUE COPY

STATEMENT

April 3, 1974

TO: Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

FROM: Ruth McClendon
P.O. Box 444
Rosiclare, IL 62982

50 sample bags @ $0.50 each = $ 25.00

Ruth McClendon

Ruth McClendon

CERTIFIED TRUE COPY

STATEMENT

TO: Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

DATE

June 1974

FROM: V. C. McDonald
P.O. Box 592
Rosiclare, IL 62982

FSB-4 (OME-11)

Please detach and return upper portion with your remittance. $ 329.00

DATE	CHARGES AND CREDITS	BALANCE
	47 CaF_2 samples @ $4.00 each	188.00
	47 $BaSO_4$ samples @ $3.00 each	141.00
		$ 329.00

CERTIFIED TRUE COPY

V.C. McDonald, Chemist

Your Check is Your Receipt

STATEMENT

TO: Joseph A. Porter
P.O. Box 147
Rosiclare, IL 62982

DATE
August 1974

FROM: V. C. McDonald
P.O. Box 592
Rosiclare, IL 62982

Fredricks 2 (OME-10)

Please detach and return upper portion with your remittance. $ 119.00

DATE	CHARGES AND CREDITS	BALANCE
	17 CaF_2 samples @ $4.00 each	68.00
	17 $BaSO_4$ samples @ $3.00 each	51.00
		$119.00

V.C. McDonald

V.C. McDonald, Chemist

Graphic "SNAP-A-WAY" FORM 41-001 (1-68)

Your Check is Your Receipt

CERTIFIED TRUE COPY

STATEMENT

TO: Joseph A. Porter
P.O. Box 447
Rosiclare, IL 62982

DATE
September 1974

FROM: V.C. McDonald
P.O. Box 592
Rosiclare, IL 62982

Fredricks 3 (OME-12)

Please detach and return upper portion with your remittance. $ 126.00

DATE	CHARGES AND CREDITS	BALANCE
	18 CaF2 samples @ $4.00 each	72.00
	18 BaSO4 samples @ $3.00 each	54.00
		$126.00

CERTIFIED TRUE COPY

V.C. McDonald

V.C. McDonald, Chemist

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 3211
JOB NO.: 138002
P. O. NO.:

DATE: July 11, 1974

TERMS: NET 30 DAYS

SOLD TO: Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Fredricks 3 (OME-12)

Analysis of 18 Pulp Samples

6	Zinc (Assay) @ $2.00	$ 12.00
14	Fluorine @ $2.00	28.00
10	Semi-quant spectrographic analysis @ $9.00	90.00
6	Barium @ $4.50	27.00
4	Niobium @ $5.00	20.00
6	Niobium @ $2.00	12.00
13	Thorium @ $1.00	13.00
	TOTAL	$ 202.00

CERTIFIED TRUE COPY

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 3324
JOB NO.: 138003
P. O. NO.:

DATE: July 19, 1974

TERMS: NET 30 DAYS

SOLD TO: Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

FSB-4 (OME-11)

Analysis of 44 Pulp Samples

5	Lead (Assay) @ $2.00	$ 10.00
28	Zinc (Assay) @ $2.00	56.00
29	Fluorine @ $2.00	58.00
1	Fluorine (>10%)@ $3.00	3.00
25	Barium @ $4.50	112.50
38	Niobium @ $5.00	190.00
36	Thorium @ $1.00	36.00
33	Yttrium @ $2.00	66.00
5	Beryllium @ $2.00	10.00
	TOTAL	$ 541.50

CERTIFIED TRUE COPY

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 2954
JOB NO.: 138001
P. O. NO.:

DATE: June 18, 1974

TERMS: NET 30 DAYS

SOLD TO: Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Fred 2 (OME-10)

Analysis of 17 Pulp Samples

2	Lead (Assay @ $2.00)	$ 4.00
5	Zinc (Assay @ $2.00)	10.00
6	Fluorine @ $2.00	12.00
17	Thorium @ $1.00	17.00
17	Niobium @ $5.00	85.00
7	Yttrium @ $2.00	14.00
	TOTAL	$ 142.00

CERTIFIED TRUE COPY

Attage IV

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

E

INVOICE NO.: 3482
JOB NO.: 138006
P. O. NO.:

DATE: August 1, 1974

TERMS: NET 30 DAYS

SOLD TO: Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Hole No. FSB-1 (OME-5)

Analysis of 33 Pulp Samples

26 Lead (Assay) @ $2.00	$	52.00
26 Zinc (Assay) @ $2.00		52.00
26 Niobium @ $5.00		130.00
26 Beryllium @ $3.00		78.00
33 X-Ray Fluorescence Scans @ $5.00		165.00
TOTAL	$	477.00

CERTIFIED TRUE COPY

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 3483
JOB NO.: 138005
P. O. NO.:

DATE: August 1, 1974

TERMS: NET 30 DAYS

SOLD TO: Mr. Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Hole No. Hamp 5 (OME-1)

Analysis of 22 Pulp Samples

18 Lead (Assay) @ $2.00	$	36.00
18 Zinc (Assay) @ $2.00		36.00
22 Niobium @ $5.00		110.00
21 Beryllium @ $3.00		63.00
22 X Ray Fluorescence Scans @ $5.00		110.00
TOTAL	$	355.00

CERTIFIED TRUE COPY

SKYLINE LABS, INC.

SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • • WHEAT RIDGE, COLORADO 80033
TEL.: (303) 424-7718

INVOICE

INVOICE NO.: 4460
JOB NO.: 138010
P. O. NO.:

DATE: October 21, 1974

TERMS: NET 30 DAYS

SOLD TO: Joseph A. Porter
P.O. Box 447
Rosiclare, Illinois 62982

Hamp 6 (OME-4)

Hamp 7 (OME-6)

Analysis of 55 Pulp Samples

55 Lead (Assay) @ $2.00	$ 110.00
55 Zinc (Assay) @ $2.00	110.00
55 Niobium @ $5.00	275.00
55 Beryllium @ $3.00	165.00
55 X-Ray Fluorescence Scan @ $5.00	275.00
TOTAL	$ 935.00

CERTIFIED TRUE COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Branch of Financial Management
Reston, Va. 22092

ADMINISTRATIVE SUSPENSION STATEMENT

Name and Address of Payee: Hicks Dome Account
c/o Gilbert Kerlin, Esq.
Shearman and Sterling
53 Wall St.
New York, NY 10005

Amount Claimed:	Differences (Explained Below)	Amount Approved
$53,268.91	$332.60	$52,936.31 $26,468.16 (Govt. Par 50%)

Bu. Voucher No.	Payee's Invoice No.	Period
Ø5309A	Docket #6873 - Contract #2306	Jan., Feb., Mar. 1974

EXPLANATION

1. Claimed $134.40
   Allowed 129.60
   Disallowed $ 4.80 - Contract allows $8.10/ft. for drilling NXWL from 2500 to 3000 ft.

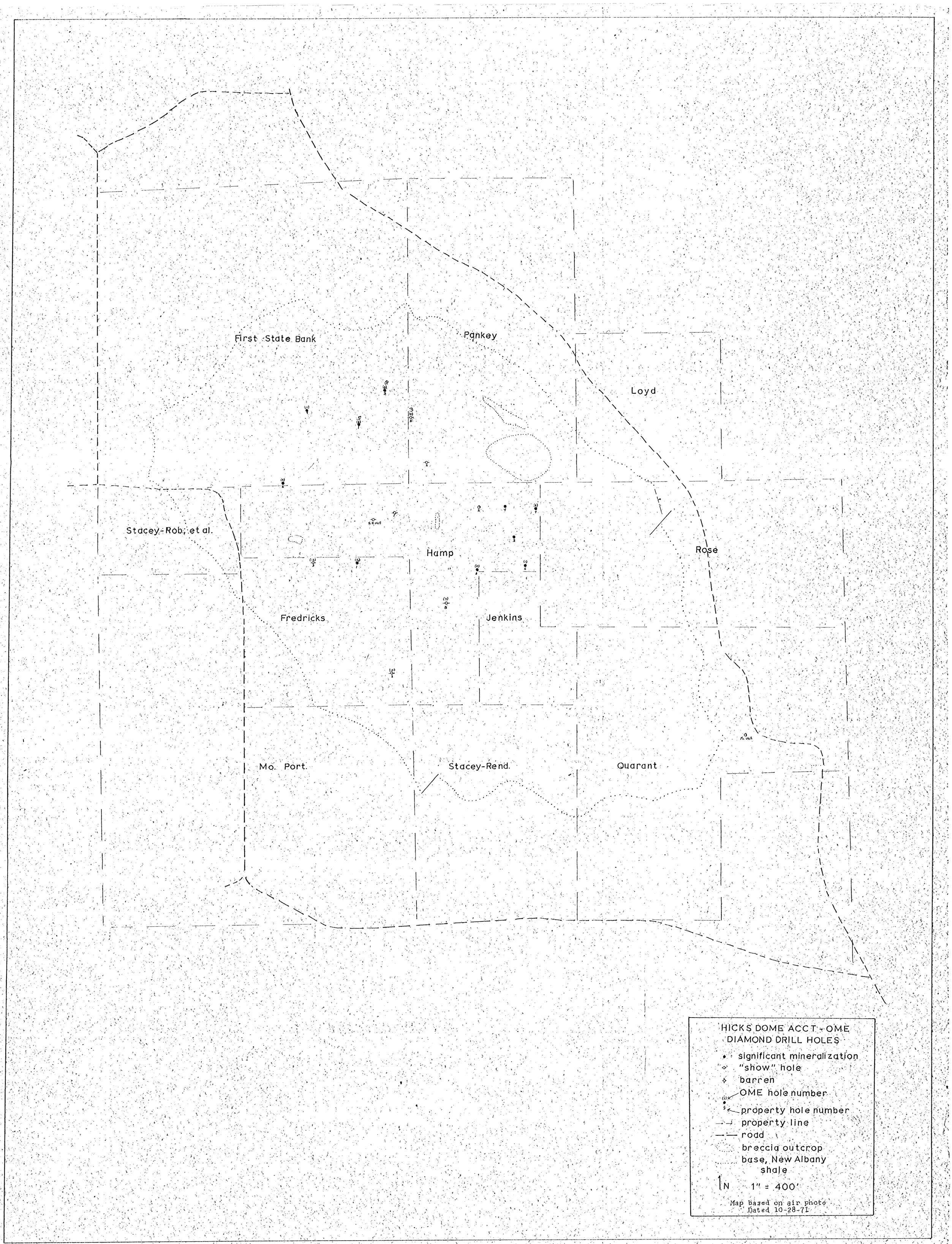
2. Claimed $913.90
   Allowed 586.30
   Disallowed $327.60 - Allowable footage for excess bit wear appears to be 902 ft. rather than 1401 ft. as claimed according to Christensen Diamond Products Co. invoices F.R. 19261, 19262, 19263, 19264, and 19265 all dated Feb. 7, 1974. May be revised if the invoices are misinterpreted or additional data furnished.

3. Claimed $513.56
   Allowed 513.36
   Disallowed .20 - Boyles Bros. invoice 33-3, March 4, 1974, indicates rental at $513.36.

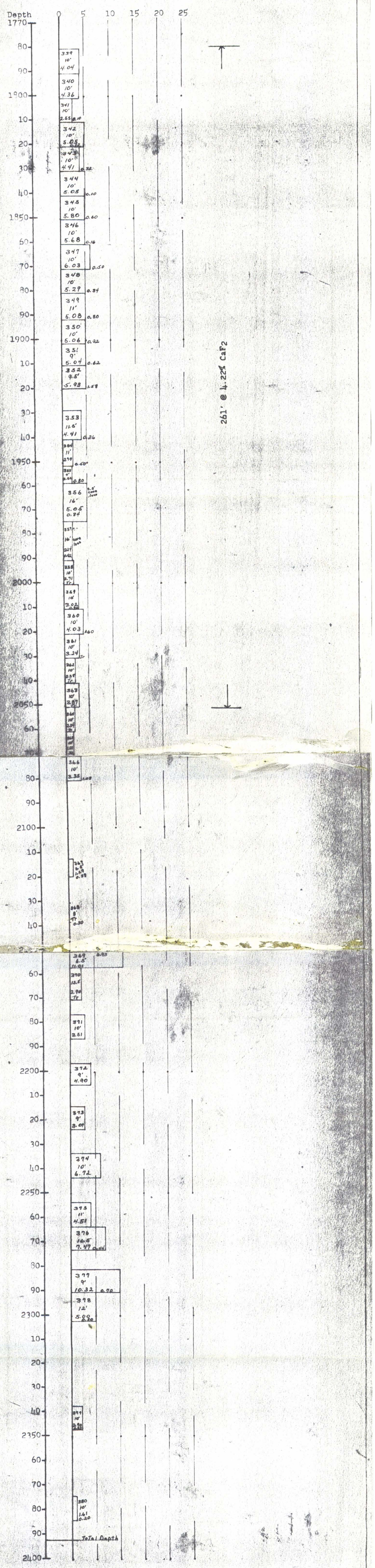
Total Disallowance $332.60

Any reclaim for items deducted must be included as a separate item on subsequent monthly voucher and supported by the original of this statement.

sg
Branch of Financial Management


First State Bank
Pankey
Loyd
Stacey-Rob., et al.
Hamp
Rose
Fredricks
Jenkins
Mo. Port.
Stacey-Rend.
Quarant
HICKS DOME ACCT - OME
DIAMOND DRILL HOLES
significant mineralization
"show" hole
barren
OME hole number
property hole number
property line
road
breccia outcrop
base, New Albany shale
N
1" = 400'
Map based on air photo
Dated 10-28-71

ASSAY GRAPH HAMP 8 (OME-9)



ASSAY GRAPH
OME 9 (Hamp 8)
McDonald Assays
% CaF_2 & $BaSO_4$
Vertical Scale 1" = 20'
Horizontal Scale 1" = 10%