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HISTORY OF VERMICULITE

VERMICULITE IS A NAME USED TO DESCRIBE MICACEOUS MATERIAL THAT EXFOLIATES WHEN HEATED. IT IS HYDRATED MAGNESIUM-ALUMINUM-IRON SILICATE. THE CHEMICAL COMPOSITION, COLOR, PHYSICAL APPEARANCE, AND DEGREE OF EXFOLIATION VARY. VERMICULITE, WHEN HEATED, EXFOLIATES BY EXPANDING AT RIGHT ANGLES TO THE CLEAVAGE INTO LONG WORM-LIKE PIECES. THE NAME "VERMICULITE" IS DERIVED FROM THE LATIN - VERMICULARI - WHICH MEANS "TO BREED WORMS". THE EXPANSION OF VERMICULITE OCCURS WHEN HEATED AND THE CONTAINED WATER IS CONVERTED INTO STEAM. THE OVERALL INCREASE IN BULK VOLUME OF COMMERCIALLY PREPARED VERMICULITE ORE IS 8 TO 12 TIMES THE VOLUME WHEN EXPANDED AS COMPARED TO THE PREPARED CRUDE ORE.

THE OCCURANCE OF VERMICULITE IN THE UNITED STATES HAS BEEN FOUND IN ARIZONA, CALIFORNIA, COLORADO, GEORGIA, MONTANA, NEVADA, NEW MEXICO, NORTH CAROLINA, PENNSYLVANIA, SOUTH CAROLINA, TEXAS, WYOMING AND VIRGINIA. I MIGHT HASTEN TO POINT OUT HOWEVER, THAT IN ALMOST EVERY INSTANCE ONLY TRACES, OR VERY SMALL DEPOSITS, OF VERMICULITE HAVE BEEN LOCATED, EXCEPT IN MONTANA AND IN SOUTH CAROLINA. THE OCCURANCE OF VERMICULITE IN THE OTHER STATES THAT I MENTIONED ~~HAVE~~ HAS BEEN FOUND TO BE OF SMALL TONNAGE, WHICH WOULD NOT WARRANT INVESTMENT TO ~~FIND AND~~ PROCESS THE MATERIAL.

VERMICULITE HAS BEEN LOCATED IN AUSTRALIA, BRAZIL, CHILE, CUBA,

ETHIOPIA, JAPAN, KENYA, MEXICO, RUSSIA AND THE UNION OF SOUTH AFRICA. AS WE UNDERSTAND IT, DEPOSITS IN THESE COUNTRIES HAVE ALSO BEEN SMALL IN SIZE, WITH THE EXCEPTION OF SOUTH AFRICA, WHO DOES HAVE LARGE QUANTITIES OF VERMICULITE. MONTANA IS, OF COURSE, THE LARGEST PRODUCING LOCATION, SOUTH CAROLINA IS IN SECOND PLACE AND THE UNION OF SOUTH AFRICA IN THIRD PLACE.

ALTHOUGH VERMICULITE WAS FIRST DISCOVERED, AND IT EXFOLIATING PROPERTIES DESCRIBED AS FAR BACK AS 1824, THERE WAS NO COMMERCIAL PRODUCTION UNTIL 1915, WHEN A VERY SMALL AMOUNT WAS PRODUCED NEAR SALIDA, COLORADO. DURING THE NEXT 10 YEARS COLORADO CONTINUED TO PRODUCE VERY SMALL AMOUNTS. VERMICULITE WAS DISCOVERED IN LIBBY, MONTANA IN 1918. THE DISCOVERY WAS MADE BY A GROUP OF PROSPECTORS WHO WERE EXPLORING THE MOUNTAIN FOR OTHER MINERALS AND, AS THE STORY GOES, THEY HAD A CAMPFIRE AND THEY NOTICED THE PARTICLES OF VERMICULITE ORE EXPANDING AS A RESULT OF THE HEAT OF THE FIRE. DEVELOPMENT OF THE DEPOSIT NEAR LIBBY BEGAN IN 1919. THERE WAS A COMPANY FORMED BY THE NAME OF VERMICULITE AND ASBESTOS CORPORATION, AND FOR THE NEXT SEVERAL YEARS, WHILE THERE WAS SOME WORK GOING ON, THERE WAS NO PRODUCTION; IN FACT, THE FIRST RECORD OF SHIPMENTS FROM LIBBY, WAS TWO TONS SHIPPED DURING THE YEAR 1925. SOME OF THE OLDTIMERS HAVE TOLD ME IN THE PAST THAT FROM THE START OF ASBESTOS AND VERMICULITE CORPORATION THAT THEY SOLD MORE STOCK THAN VERMICULITE FOR THE FIRST 10 YEARS. I AM INCLINED TO BELIEVE THAT THIS SAME SITUATION PERHAPS EXISTED FOR MORE LIKE 15 YEARS, SINCE ONE MIGHT SAY THAT THERE WAS VIRTUALLY NO VERMICULITE PRODUCTION UNTIL 1934

IN THAT YEAR FROM LIBBY THEY SHIPPED 4,000 TONS. THE FIRST EXPANDING PLANT TO BE DESIGNED AND ERECTED WAS ABOUT 1932 IN SPOKANE, WASHINGTON. A LOCAL CITIZEN THERE PUT UP THE PLANT AND HAD A FRANCHISE AS A LICENSEE FOR A GIVEN AREA AROUND SPOKANE.

I MIGHT MENTION, ABOUT 1930, A GROUP OF PEOPLE FROM CHICAGO HEADED BY A MR. A. T. KEARNEY AND TWO OF THE DECENDANTS OF THE FOUNDER OF THE ARMOUR MEAT PACKING COMPANY TOOK OVER THE MINING CLAIMS OF THE OLD VERMICULITE AND ASBESTOS CORPORATION. THEY HAD CLAIMS ON ONE SIDE OF THE MOUNTAIN AND THE REMAINING PORTION OF THE AREA WAS COVERED BY CLAIMS FROM A GROUP IN DETROIT, AND THE PEOPLE IN DETROIT WHO WERE INVOLVED WERE TWO OF THE ORIGINAL BROTHERS WHO FOUNDED THE FISCHER BODY CORPORATION, AND LATER SOLD OUT TO GENERAL MOTORS. THESE TWO GROUPS, THAT IS, THE GROUP FROM CHICAGO AND THE GROUP FROM DETROIT WERE, FOR ABOUT 8 OR 9 YEARS ARCH EMENIES. THE CHICAGO GROUP, ABOUT 1934, PUT IN AN EXPANDING PLANT IN CHICAGO, AND ABOUT THE SAME TIME THE FISCHER GROUP PUT IN AN EXPANDING PLANT IN DETROIT. BOTH OF THESE COMPANIES, THE CHICAGO GROUP, KNOWN AS THE UNIVERSAL INSULATION COMPANY, AND THE DETROIT GROUP, KNOWN AS THE ZONOLITE COMPANY WERE ENDEAVORING ALL ALONG TO SET UP LICENSEES, SINCE NEITHER GROUP WANTED TO PROVIDE THE MONEY TO PUT IN THEIR OWN EXPANDING PLANT? AS A RESULT, A NUMBER OF PLANTS WERR CONSTRUCTED BETWEEN 1934 AND 1937. I KNOW DURING THIS PERIOD PLANTS WERE CONSTRUCTED IN CALIFORNIA, UTAH, KANSAS, MISSOURI, NEBRASKA AND MINNESOTA.

AS I MENTIONED EARLIER, THERE WAS A GREAT DEAL OF ANIMOSITY

BETWEEN THE PRINCIPALS OF THE UNIVERSAL INSULATION COMPANY IN CHICAGO AND THE ZONOLITE COMPANY IN DETROIT, AND ACCORDING TO STORIES THAT I HAVE HEARD, ABOUT 1936, MR. KEARNEY SET OUT TO MAKE A DETERMINED EFFORT TO BRING THE TWO GROUPS TOGETHER. AFTER NEGOTIATING FOR ALMOST THREE YEARS, IN 1939, A MERGER WAS ARRANGED BETWEEN UNIVERSAL INSULATION COMPANY AND THE ZONOLITE COMPANY. THE NEW COMPANY WAS THEN NAMED UNIVERSAL ZONOLITE COMPANY, AND THAT NAME CONTINUED TO BE USED UNTIL 1945, WHEN THEY DROPPED UNIVERSAL AND JUST CALLED THE COMPANY THE ZONOLITE COMPANY.

I THINK IT IS INTERESTING TO NOTE THAT ALTHOUGH THERE WAS WORK DONE ON VERMICULITE DURING THE 1920'S, NO ONE AT THAT TIME REALLY KNEW WHAT USE COULD BE MADE OF THE MATERIAL. IT WAS PROBABLY ABOUT 1925 OR 26, SOMEONE CAME UP WITH THE IDEA THAT IT WOULD BE A GOOD INSULATION MATERIAL FOR HOUSES AND OTHER STURCTURES. OF COURSE, AT THAT TIME THERE WAS REALLY NO INSULATION OF ANY TYPE ON THE MARKET. THE CONCEPT OF INSULATING BUILDINGS WAS NON-EXISTANT. IT IS INTERESTING TO NOTE THAT THE INTRODUCTION OF VERMICULITE AS AN INSULATING MATERIAL PRE-DATED THE INTRODUCTION OF ROCK-WOOL, WHICH CAME ALONG IN THE EARLY 30'S, AND OF COURSE, IN THE LATER 30'S GLASS FIBER INSULATION WAS DEVELOPED. I THINK IT WOULD BE FAIR TO SAY THAT THE ONLY THING THAT PRE-DATED ZONOLITE AS AN INSULATING MATERIAL WAS SAWDUST, WHICH WAS, OF COURSE, USED FOR MANY YEARS AS AN INSULATING MATERIAL IN ICE HOUSES AND THAT SORT OF THING. ACCORDING TO THE OLDTIMERS, IT WAS A REAL TASK TO GET THE INTEREST OF ANYONE, INSOFAR, AS USING A MATERIAL TO

INSULATE THEIR HOUSE. SOMETIME IN THE EARLY 30'S THE GROUP IN DETROIT TOOK TWO TWIN HOUSES, INSULATING ONE WITH ZONOLITE, AND LEAVING THE OTHER UN-INSULATED AND THEY CARRIED THIS EXPERIMENT THROUGH AN ENTIRE YEAR. THESE TWO HOUSES WERE EMPTY AND THEY KEPT A RECORD OF THE FUEL COST. I DON'T RECALL THE SAVINGS AS A RESULT OF USING ZONOLITE, BUT IT WAS VERY VERY SIGNIFICANT. THERE WAS SOME PUBLICITY ON THIS. THE LICENSEES AND THE EARLY PIONEERS IN THE BUSINESS IN THE 30'S ACTUALLY WENT OUT AND PUT INSULATION IN PEOPLES ATTIC FOR LITTLE OR NO COST JUST TO PROVE THAT THE CONCEPT WAS A SOUND ONE. I COULD NUMERATE MANY MANY STORIES I HAVE HEARD FROM SOME OF THE OLD PIONEERS IN THE BUSINESS, BUT I WON'T BORE YOU WITH THEM, OTHER THAN TO SAY THAT GETTING ZONOLITE ACCEPTED AS THE FIRST INSULATION MATERIAL AVAILABLE COMMERCIALLY WAS TRULY A PIONEERING JOB. DURING THE EARLY 40'S VERMICULITE WAS USED EXPERIMENTALLY IN MAKING HIGH TEMPERATURE BRICKS AND REFRACTORY MATERIALS. OF COURSE, WE WERE IN A WAR AT THAT TIME AND OTHER MATERIALS WERE SHORT. ALSO, DURING THE EARLY 40'S SOME WORK WAS DONE ON THE USE OF VERMICULITE AS A PLASTER AGGREGATE TO REPLACE SAND, AGAIN, THE SELLING APPROACH WAS THAT IT MADE A LIGHTER WEIGHT MATERIAL, IT WAS INSULATING AND OFFERED FIRE RESISTANCE. THE FIRST PLASTER JOB, AS I UNDERSTAND IT, WAS DONE ON A CHURCH IN MONTANA IN THE ~~EARLY 40~~'S. DURING THE WAR SOME WORK WAS DONE IN ~~HOUSTON~~, ~~TEXA~~S, AS WELL AS WASHINGTON, D. C., AND PERHAPS SOME OTHER AREAS SUBSTITUTING VERMICULITE AS AN AGGREGATE IN LIGHTWEIGHT CONCRETE. THE FIRST MAJOR JOB WAS DONE BY A LICENSEE IN WASHINGTON, D. C., BY THE NAME OF WALTER SIMPSON, AND THE JOB WAS THE PENTAGON. ABOUT THE SAME TIME, ANOTHER JOB WAS DONE IN ST. LOUIS

BY A MAN NAMED FRANK JOHN. THIS JOB WAS A SMALL ARMS PLANT IN ST. LOUIS. IN BOTH CASES, THE VERMICULITE FILL WAS PLACED OVER STRUCTURAL CONCRETE. AT THAT TIME THEY DID NOT KNOW ANYTHING ABOUT AIR ENTRAINING, SO THEY ENDED UP WITH A VERY DENSE MATERIAL THAT WAS DIFFICULT INDEED TO DRY OUT AND BOTH JOBS OVER THE YEARS CAUSED A LOT OF PROBLEMS. ONE OF THE PIONEERS IN THE ZONOLITE BUSINESS, A MAN BY THE NAME OF GLENN SOCIETTIE, WHO WAS QUITE AN ENTREPRENEUR IN HIS OWN RIGHT, CAME UP WITH THE IDEA OF USING AN AIR ENTRAINING AGENT. THAT WAS REALLY THE BIG STEP TOWARD OUR BEING ABLE TO MAKE A SATISFACTORY CONCRETE.

I GUESS ONE COULD SAY THAT UNTIL THE MID-40'S, PRACTICALLY ALL ZONOLITE THAT WAS SOLD WAS INSULATING FILL, OF COURSE, THIS WAS THE LARGE SIZE GRANUAL. IN THE LATE 40'S PLASTER BEGIN TO CATCH ON, AND BY 1947, 48 AND 49, THE DEMAND FOR PLASTER AGGREGATE WAS SO GREAT THAT WE COULD NOT SUPPLY THE MATERIAL. JUST TO GIVE YOU AN IDEA, IN 1950 OUR DEARBORN PLANT SHIPPED OVER ONE MILLION BAGS OF PLASTER AGGREGATE AND YET WE COULD NOT TAKE CARE OF THE DEMAND, AND IT LEFT THE DOOR OPEN FOR PERLITE, WHO WERE JUST BEGINNING TO EMERGE, COME IN AND WITHIN A PERIOD OF THREE OR FOUR YEARS THEY MUST HAVE PUT IN 50 OR 60 PLANTS WITH LICENSEES ACROSS THE COUNTRY AND AS A RESULT THEY TOOK A GREAT DEAL OF THE PLASTER AGGREGATE BUSINESS THAT WE HAD DEVELOPED. OF COURSE, ALL ALONG DRY WALL WAS GROWING AND NOW IT HAS VIRTUALLY REPLACED BOTH VERMICULITE, PERL AS WELL AS SAND, INSOFAR, AS MOST CONSTRUCTION IS CONCERNED.

AS MENTIONED BEFORE CONCRETE WAS USED IN THE 40'S WITH SOME SUCCESS, BUT THE MATERIAL WAS PLACED BY READY MIX COMPANIES AND NO ONE WAS REALLY KNOWLEDGEABLE IN THE USE OF THIS MATERIAL, AND AS A RESULT, BY 1950 OUR CONCRETE BUSINESS BEGIN TO DWINDLE, EVEN THOUGH IT NEVER HAD BEEN VERY GREAT. IT WAS AT THIS TIME THAT WE DECIDED TO GO INTO THE SUBCONTRACTING BUSINESS IN ATLANTA, FORMING A COMPANY CALLED VERMICULITE PLACING COMPANY. I MIGHT REMINISCE JUST FOR A MOMENT AND TELL YOU ACTUALLY HOW WE MADE THIS DECISION. A YOUNG MAN BY THE NAME OF BILL MARRIOTT AND I WERE IN CHARLESTON, SOUTH CAROLINA ENDEVORING TO SELL A CONTRACTOR THERE ON USING ZONOLITE CONCRETE ~~TO~~ as a FILL OVER 12 many BARRACKS BUILDINGS. THE CONTRACTOR, WHILE INTERESTED IN THE MATERIAL, SAID HE DIDN'T WANT ANY PART OF PUTTING THAT STUFF ON THE ROOF, AND THE ONLY WAY HE WOULD CONSIDER ITS USE WOULD BE IF WE WOULD PUT IT ON. BEING YOUNGER AND HAVING MORE NERVE THEN THAN I HAVE TODAY, I TOLD HIM "~~AL~~ All RIGHT, WE'll TAKE THE JOB IN PLACE". MARRIETT KNEW A LITTLE MORE ABOUT PLANS THAN I DID, MADE THE TAKE OFF, OF COURSE HE USED THE FLOOR PLANS RATHER THAN ROOF PLANS AND THERE WAS A 6 FEET OVER-HANG, WHICH WE NEGLECTED TO FIGURE, AT ANY RATE, WE TOOK THE JOB - THEN WE WONDERED HOW IN THE WORLD WOULD WE GET THE MATERIAL MIXED AND UP TO ROOF, BUT WE HAD A COMMITMENT AND WE HAD TO DELIVER. ABOUT THAT TIME I HEARD OF A MACHINE ~~KNOWN AS~~ called A MIXER MOBILE. I LOCATED ONE UP IN AIKEN, SOUTH CAROLINA AND WE QUICKLY PURCHASED SAME. THIS WAS USED ON THE CHARLESTON JOB, WHILE WE DIDN'T MAKE ANY MONEY, IN FACT, LOST SOME, WE LEARNED A GREAT DEAL - WE HAD A SATISFIED CUSTOMER - AND WE WERE IN THE CONTRACTING BUSINESS. I HAVE OFTEN SAID THE BEST WAY TO

SOLVE A PROBLEM IS TO CREATE ONE AND BY TAKING THE JOB AS WE DID ON THE SPOT, WE CREATED A PROBLEM AND THEN OUR JOB WAS TO SOLVE IT.

AFTER USING THE MIXER MOBILE FOR A YEAR OR MORE WE FELT THERE MUST BE AN EASIER WAY TO GET THIS MATERIAL MIXED AND PUT ON THE ROOF SO WE BEGAN WORK WITH PUMPING THE ZONOLITE CONCRETE MIX. THERE WAS A FIRM HERE IN ATLANTA WHO HAD A SMALL #4 MOANO PUMP THAT THEY USED FOR PUMPING BUTTER. WE PURCHASED A SIMILAR UNIT, BOUGHT A THREE-QUARTER TON 1947 DODGE PICK-UP TRUCK AND MOUNTED BOTH THE MIXER AND THE SMALL MOANO PUMP TO THIS VEHICLE WITH A POWER TAKE-OFF AS THE DRIVE. NEEDLESS TO SAY, WE HAD LOTS OF PROBLEMS, BUT IN DUE COURSE OF TIME WE WERE ABLE TO PUMP 10 OR 12 FEET IN THE AIR. BY THAT TIME WE HAD AN APPLICATOR SET UP IN SOUTH CAROLINA BY THE NAME OF STANLEY SMITH, WHO WAS INTRIGUED WITH THIS IDEA AND KNEW A GOOD MACHINE SHOP IN COMUMBIA RUN BY A MAN BY THE NAME OF MR. DOLAN. HE CAME OVER AND SAW WHAT WE WERE DOING AND DESIGNED, AND, WITHIN 6 MONTHS OR SO, BUILT A PROTOTYPE PUMP, WHICH WAS KNOWN AS THE DOLAN PUMP, AND QUITE A NUMBER OF THESE WERE SOLD DURING THE NEXT SEVERAL YEARS AS WE SET UP NEW APPLICATORS. IN THE MEANTIME, A THEN ZONOLITE APPLICATOR BY THE NAME OF BILL STRO IN ARKANSAS BECAME INTERESTED AND, AS A RESULT, STARTED TO DEVELOP AND BUILD PUMPS, AND HAS DONE SO EVER SINCE.

IN THE LATE 40'S AND EARLY 50'S WE HAD A PRODUCT CALLED ACOUST PLASTIC, WHICH WAS USED FOR CEILINGS. IN ABOUT THE MID-50'S SOMEON CAME UP WITH THE IDEA THAT THIS COULD BE A VERY GOOD FIREPROOFING

MATERIAL, SO WE RAN TEST AT UNDERWRITERS' IN CHICAGO, AND IN 1957 WE STARTED TO SELL OUR ACOUSTICAL MATERIAL AS A FIREPROOFING PRODUCT. WE HAD MANY HEARTACHES BECAUSE THE BINDER WAS BENTONITE, AND OF COURSE BENTONITE REQUIRES A GREAT DEAL OF WATER, SO WHILE WE COULD PLACE THE MATERIAL AND FIREPROOF THE STRUCTURE, WHEN THE MATERIAL DRIED OUT SOMETIMES WE WOULD HAVE CRACKS 2 AND 3 INCHES WIDE, PARTICULARLY IF THE MATERIAL WAS PUT ON IN GREAT THICKNESSES. IN 1960 WE DEVELOPED WHAT IS NOW KNOWN AS MONO-KOTE AND IN ESSENCE WAS THE SAME COMPOSITION AS MK-3 THAT WE SOLD UP UNTIL THE TIME OF THE BAN IN CONNECTION WITH ASBESTOS. just a year or two ago

I MENTIONED EARLIER THAT WE HAD A GREAT SURGE IN THE USE OF VERMICULITE AS A PLASTER AGGREGATE IN THE LATE 40'S AND EARLY 50'S. THIS WAS A GREAT BENEFIT TO ZONOLITE BECAUSE IT UTILIZED AND GAVE US A MARKET FOR THE SMALL SIZE ORE. BY 1955 OR 56 AS A RESULT OF THE DECREASE IN THE PLASTER BUSINESS, AND THE STRONG IMPACT THAT PERLITE HAD MADE IN THE PLASTER MARKET, OUR PLASTER BUSINESS HAD DWINDLED TO A VERY LOW EBB, WHICH IN TURN CAUSED US A REAL BALANCE PROBLEM IN CONNECTION WITH OUR ORE BECAUSE WE WERE ACCUMULATING VAST QUANTITIES OF #3 SIZE WITH NO MARKET. ABOUT THIS TIME, GLEN SOCIETTIE, WHOM I REFERRED TO PREVIOUSLY AS HAVING DEVELOPED THE AIR ENTRAINING AGENT FOR CONCRETE, CAME UP WITH A PATENT WHICH INVOLVED THE COATING OF VERMCIULITE WITH ASPHALT IN ORDER TO MAKE IT WATER-REPELLENT. AS A RESULT OF THIS, WE INTRODUCED MASONRY FILL IN 1957. I MIGHT ADD THAT IT WAS, I'M SURE, SIMILAR TO THE SITUATION THAT THE EARLY PIONEERS FACED IN REGARD TO SELLING PEOPLE ON THE NEED OF USING INSULATION IN ATTICS. OVER THE YEARS THE CONCR BLOCK INDUSTRY HAD CONVIENCED ARCHITECTS AND ENGINEERS THAT BECAUSE

THEIR WALL HAD A HOLLOW CORE IN IT, THAT IT WAS A VERY GOOD INSULATING MATERIAL, AND IT WAS A MOST DIFFICULT JOB TO CONVIENCE THE SPECIFYING TRADE THAT IT WAS ECONOMICALLY WORTHWHILE TO FILL THE CORES OF CONCRETE BLOCKS AS WELL AS CAVITIES IN CAVITY WALL CONSTRUCT WE HAD TO DEVELOP AND CONDUCT TESTS TO PROVE THE VALUE OF USING MASONRY FILL IN HEAVY WEIGHT BLOCKS AND IN LIGHTWEIGHT BLOCKS AND IN CAVITY WALLS. WE SPENT A GREAT DEAL OF TIME AND MONEY, AND EVEN THOUGH AT THAT TIME - IN THE YEARS OF 1957 AND 1958, I DON'T THINK I'M EXAGGERATING WHEN I SAY THAT 25% OF OUR SELLING EFFORT TIME WAS DEVOTED TO MASONRY FILL, BECAUSE IT WAS CRITICAL THAT WE DEVELOP A MARKET THAT WOULD CONSUME THE SMALL SIZE ORE. EVEN WITH ALL OF THIS EFFORT, I REMEMBER VIVIDLY THAT IN 1958 WE SOLD ~~LESS THAN~~ about ~~10,000~~ 9,500 BAGS OF MASONRY FILL IN THE EASTERN PART OF THE COUNTRY. I SAY THE EASTERN PART OF THE COUNTRY BECAUSE AT THAT TIME ALL OF THE WESTERN PART OF THE COUNTRY WAS HANDLED BY LICENSEES, AND I DO NOT HAVE A VIVID RECOLLECTION OF JUST WHAT THEY DID, BUT I'M SURE IT WAS EVEN MUCH LESS. I THINK I COULD SUM IT ALL UP BY SAYING THAT - BASED ON MY OBSERVATION AND AS A RESULT OF TALKING TO MANY OF THE OLDTIMERS - THIS BUSINESS OF BUILDING ZONOLITE OR VERMICULITE WAS REALLY A PIONEERING TASK - AND IT TOOK A SPECIAL TYPE PERSON TO BE SUCCESSFUL IN THIS ENDEAVOR. ALMOST WITHOUT EXCEPTION - USE THAT WERE DEVELOPED FOR VERMICULITE ~~WHEREBY~~ were ENTREPRENEURS WHO WERE WILLING TO STICK THEIR NECK OUT AND TRY NEW THINGS. IT WAS NOT AS A RESULT OF WORK DONE IN RESEARCH AND IN THAT AREA. I COULD GO ON AN

ON AND TELL YOU A LOT OF THINGS THAT WE TRIED THAT WERE FAILURES. I'LL JUST RELATE ONE PERSONAL EXPERIENCE THAT I HAD WHEN I FIRST CAME INTO THE BUSINESS. WE HAD A CALL FROM A GARGAGE IN CARTERSV GEORGIA FROM A MAN WHO WAS LOOKING FOR A MATERIAL THAT WOULD ABSO GREASE. I THOUGHT THIS WAS A REAL NATURAL AND I RUSHED UP THERE WITH SEVERAL BAGS OF MATERIAL, LEFT IT WITH HIM - AND A FEW DAYS LATER HE CALLED ME AND SAYS "YOU KNOW THAT DAMN STUFF ABSORBS GRE BUT YOU GOT ANOTHER PROBLEM, HE SAID THE PROBLEM IS IF YOU WALK O IT AFTER IT ABSORBS GREASE - YOU ARE TAKING YOUR LIFE IN YOUR HAN BECAUSE I TRIED IT AND ~~DOGGONE~~ NEAR KILLED MYSELF".

WELL, SO MUCH FOR THIS LITTLE RESUME' OF VERMICULITE BUSINES I JUST LIKE TO CLOSE BY GOING OVER WITH YOU BRIEFLY - SOME OLD DA I THINK YOU MIGHT FIND INTERESTING. THIS IS A BOOK THAT I ACCUMU OVER THE YEARS THAT DOES GIVE (PERHAPS) MORE FACTS AND FIGURES O THE BUSINESS IN THE EARLY STAGES THAN ONE COULD FIND ANYWHERE EL

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