

HISTORY
KAR LABORATORY

1956-----1983

JOHN KARNEMAAT

To Bill Rauch
Regards & appreciation
John K.

THE HISTORY OF KAR LABORATORY 1956-1983

This condensed history of Kar Laboratory covers the period from its inception through its years as a service laboratory for industry, to its present thrust as a total environmental testing laboratory.

The days and projects described were challenging and , enjoyable. They would have been more enjoyable for me if I had known how everything was going to come out, but a certain amount of pride is taken in the knowledge that no payable was ever left unpaid; no employee ever missed a paycheck, that no result of any test was ever fabricated, and that, to the best of my knowledge, no misrepresentations were ever made to any client.

I have purposely refrained from detailed descriptions of the numerous employees who were essential to the activities of Kar Lab; however I would like to acknowledge the invaluable help of a few key people who who carried the weight of many projects through the years. I would first like to acknowledge the contributions of Norb Mayer who joined me in 1960. Without his total loyalty and 100% performance, much of this history of Kar would have been different.

Others whose help as the nucleus of activities was sincerely appreciated are, in no particular order, Dan Houts, Kay Cavner, Marilyn Crowe, Ann Dick, Rich Karnemaat, Linda Kartes, Merle Wilkins, Jack Wright, Marilyn Patton, to name a few. Apologies to the many others-they too were much appreciated.

John Karnemaat

Kar Laboratory Activities 1956-1983

The scenario present in September of 1956 was fairly grim, to say the least. There was one small child, another on the way, a total gross income from laboratory services in the range of \$100.00 a month with marginal prospects for rapid improvement.

One day a call came from Bob Johnson, Director of the Kalamazoo County Health Department Laboratory asking if I would be interested in working with a man who had need for a consultant. It seems this company made two cleanser products, one a powdered copper cleaner, and the other an aluminum cleaner. It also seemed that a trusted employee who knew the formulae had absconded with said information and was in the process of setting up a competing company. The brainy character had used company stationery to request information from potential raw material suppliers!

Obviously this project was wrapped up very quickly, without court action. However a firm friendship was formed with the company owner, Tom Buchanan, which was vital for the future of Kar, and resulted in a number of projects

which were badly needed at that time, and which also made me realize that there was a need for a laboratory capable of performing odd jobs which companies were not equipped to do in house. After the former employee disappeared into the distance the relationship with Tom grew. Their two products were evaluated and a number of cost-saving modifications made. Their plastic lined containers were tested and found to be incompatible with one ingredient. This discovery prevented a huge potential loss, and really cemented our relationship.

One of the ongoing problems of the company was the addition of a liquid odor to a ribbon blender full of a powdered mixture and have it reasonably homogeneous within a short period of mixing. Using a very absorbant powder called Micro-cel E, we were able to prepare a premix containing a substantial level of the liquid in a small volume of powder, which could then be added to, and mixed easily with, the total cleanser. We improvised a drum mixer, a baffle of hardware cloth, an old scales from a grocery store, and proceeded to mix drums of odor and Micro-cel, like two or more a week, for probably five years. It was a dirty, noisy, dusty, smelly job, but it brought in rent money, and helped to see us through a very difficult period. I do have a problem deciding if it was really

needed by Tom, or if it was a form of charity on his part, but I know it was a vital step in the development of Kar.

A footnote;

This company (including the mixing process and equipment) was sold to a Carolina Company called Dumas-Milner, who sold a few years later to American Cyanamid. I do know that for quite a period the odor in the cans of "Copper-Glo" and "Alumi-glo" was unchanged.

Tom Buchanan then bought a 1/2 interest in Fitzpatrick Brothers, an old family-owned Chicago firm with one product-Kitchen Klenzer. Tom's one mistake was a loosely designed 50-50 partnership with the scion of a family whose philosophy was to never change anything. I personally believe that the frustrations of this association were instrumental in his untimely death. Beware of casual and poorly constructed 50-50 partnerships!

Six years of employment at the Upjohn Company in the late 1940s and early 50s, and the many friendships developed there were instrumental in the early survival and eventual success of Kar Lab. It is impossible to credit the individual relationships that provided opportunities to

purchase used equipment and chemicals (discarded by Upjohn), advice of all kinds, and were responsible for steering projects to us which always seemed to appear when other sources of revenue slowed down. On the other hand, a great many services were provided for the company which had real merit. Many projects were distasteful, involving cross-departmental relationships, and night-holiday-weekend work which we were always ready to provide.

The first extensive Upjohn project involved performing eosinophile estimations of blood samples taken from Jackson penitentiary prisoners. These were serial samples from individuals subjected to varying amounts of adrenal steroids or placebos. Tests ran from six to twenty-four hours, to check resulting eosinophilia. These were microscopic evaluations of somewhat unstable cells, and, it was believed, needed to be performed as rapidly as possible after drawing, by the same technician. I am sure, during a 3-5 year period that well over 10,000 of these evaluations were made.

Other projects during these years were micro titrations of non-esterified fatty acids in serum, electrolyte (sodium-potassium-chloride) estimations in urines, antibiotic assays of animal feeds, dextromethorphan assays of cough syrups, lactobacillus counts on fecal samples,

electrolyte retention in feces (to prove efficacy of Kaopectate), urine total proteins, mastitis evaluations of milk samples, serum electrophoresis studies, and perhaps 20-30 smaller studies.

Thirty-five years later the same fine relationship still exists, with an entirely new group of employees, and primarily in waste effluent monitoring, environmental projects, coupled with some areas of quality control.

During the late 1950s and early 1960s, three area companies were formed dealing with animal raising and/or drug testing. Our clinical background and certification enabled us to perform many services for them. Charles River Mouse Factory arrived on Shaver Road. Quality control was provided on air, food and water supplies. Bacterial testing of problem infections was also involved.

Norman Stoner, DVM, started a dog factory which later became Laboratory Research Enterprises. This company bred and sold beagles for drug control and research to a number of pharmaceutical concerns which required blood tests on all animals purchased prior to shipment. Many hundreds of blood counts, blood sugars, urinalyses and special tests were performed as requested.

A cooperative project in the early 1970s for Colgate Palmolive enabled both LRE and Kar to reap huge profits; animal tests (accompanied by large batteries of blood and urine analyses) involved the skin absorption, excretion, etc., of hexachlorophene and two other antiseptic agents. It is believed that the results of this study were instrumental in the removal and ban of hexachlorophene for human use. This project continued for over two years, involving much night and weekend work.

International Research and Development Corporation (IRDC) was also formed in the late 1950s. Projects have been performed occasionally for them, but a good ongoing relationship was never developed.

In the late 50s, a large chemical fertilizer plant was built by Farm Bureau Services in Kalamazoo on the corner of Kings Highway and Olmstead Road. This plant, complete with rail sidings, was designed as a granulating plant, providing fertilizer for the midwest. A small outbuilding was constructed, containing an office and a room designed for performing quality control.

Everything was fine; production, marketing, etc., rolling along on schedule, except-they were unable to attract and keep anyone capable of doing accurate analytical

work in an environment which was not pleasant at best. I had visited the company on occasion, and they were aware of Kar's existence.

One cold day I received a desperation call from Russ Vincent, saying their umpteenth "chemist" had left them, and would I be willing to perform routine QC for them on a permanent basis. Feeling the nice sensation of being in the driver's seat, I said we would if I could buy their total lab equipment, take what I wanted and let them dispose of the rest. We negotiated fees for tests, and Kar moved rapidly into the agricultural lab field. We performed these analyses for at least fifteen years, until the granulating operating operation closed and the plant became a simple blending operation.

In the 60s, Kar was approached by a group of three men from Jackson Michigan. They had formed a company called Da Roche Laboratories, and were planning to market a product called Dapper Diaper. The product was a solution of neomycin in an aerosol can for spraying on babies to prevent diaper rash. They had lots of positives; adequate financing, a pediatrician as one of the owners, marketing expertise, a well constructed plant, etc. They wanted Kar Lab to assay each lot of product produced, before bottling. The project started out like gang busters, and seemed as

though it would continue forever. However misfortune struck from every direction.

First they were sued by La Roche Laboratories, and forced to change their name to Roche. Second, FDA told them they could not sell this for spraying on babies or diapers, but only to spray into empty diaper pails. Third, in their desire to provide the best possible product they had ordered coated aluminum cans for the aerosol product. This was fine, but, if an imperfection was present in the coating (which was invariably the case in the area where the can was seamed), all the static electricity in the water-based product generated in the shipping process became concentrated at the point of the break, instead of being dissipated throughout the can. To make a long painful story shorter, the first 100,000 cases of product shipped were all returned leaking. As a final cruel blow, the man who was the president and driving force developed throat cancer, and died within a very short period. A tragic ending to a venture which appeared to have so much promise. Hindsight is very good!

It was learned during the 60s that a potential effect of residual diethylstilbesterol in consumed beef might exist, primarily in pregnant women. (based on the fact that an effect in women and their daughters was observed

following massive injections to prevent miscarriage.)
Consequently a nation-wide program of evaluation of meat
sold in the market was begun. The Dawes company of Chicago
submitted many hundreds of samples for evaluation. All use
of DES as a growth promoter in beef cattle was eventually
banned.

During this same period the Kalamazoo Milk Producers
Cooperative was having problems getting reliable help for
their required milk testing program for bacteria and
antibiotic residues. We became a certified milk laboratory,
and for many years tested 200-300 milk samples every month.
This program involved providing refrigerated containers and
collection bags to about a dozen rough truckers who had no
use for the process--another interesting phase. This program
continued until the KMPA sold to the Michigan Milk Producers
Association, and all testing was shifted to their laboratory
in Highland Park.

As our reputation grew in th agricultural field, calls
for related analyses increased. We were contacted by the
state office of Farm Bureau to become a feed testing
laboratory. We agreed, and for 10-15 years we serviced
their three feed plants; Quincy, Durand, and a new totally
automated plant in Kalamazoo. Sample preparation, analysis,
and reporting were a good portion of our activities for them

until 1973, when disaster struck in the form of accidental polybrominated biphenyl (PBB) contamination in various animal feeds sold around the midwest. Thousands of cattle, pigs, and chickens were sacrificed in order to "Cleanse the state". We performed hundreds of analyses of soil, feeds, and animal tissues--moved out of the program when they started to test human milk. (Based on the knowledge we had then, this could have been the beginning of a lifetime of court appearances--not what I had in mind!)

The result was the demise of the Farm Bureau reputation and the eventual sale of all feed and fertilizer plants. A tragic end of an era of service for Farm Bureau.

During this period we were also providing bacteriological QC for the egg marketing division of Farm Bureau in their development and marketing of frozen diced egg products. After about a year, they sold the business to Clyde Springer and Jerry Craner. This business became Country Queen Foods, Inc. For a number of years we provided consultation, QC, and prepared preservative solutions for them. Country Queen was sold to Pet Milk in 1988, and is another whole tale!.

A silage additive was also promoted by Farm Bureau during the early part of our relationship. Designed by Dr.

Eugene Hillman of Michigan State, it was basically an ammonia impregnation of acidic corn silage, to build up the protein (nitrogen) level. It experienced much success during the 1960s; consequently we were literally buried in silage samples. These were oven dried in our laboratory at 1840 South Westnedge, much to the dismay of the barber shop personnel located in the front of the building, the patrons of the girlie shows to the left of us and the patrons of Howard Johnson's Restaurant, to the right. We were also inundated with area rats who manufactured passages into the basement through holes in the foundation. Suffice to say, we had "rat contests"; every 20 rats the lab treated the employees to a dinner. I choose not to recollect how many meals we had!

As frequently happens with successful products, Fison, an English firm, designed a competitive product called "Prosil". This was well marketed and eventually forced Farm Bureau out. They also sent us hundreds of samples, were active for about three years, and suddenly, for reasons unknown to us, went out of business.

Some of the other projects in interesting areas which were served in the 1960s and 1970s are listed below:

Olabido Olusania, a Nigerian engineer contacted us for analytical and bacteriological testing of a large number of natural food products he wanted to sell in Africa. He sent copies of a number of British patents he had, including such unique things as termite traps, etc.

We tested mineral water for the Ministry of Industry of Libya. Samples were sent to us on four different occasions.

One day in 1978 a man named Jerry Vinicomb came in with a solution (liquid) to be analysed. A fairly simple evaluation indicated it was an essentially pure dilution of sodium silicate. It was being sold to General Motors as a flocculant in paint spray booths in GM auto plants. The intent of Mr. V. was to provide a replacement product for the one they had been buying. (Incidentally, from the company from which he had been summarily discharged.) Anyway, we made some solution for him and went to the Pontiac Division plant in Pontiac, to observe the process.

This man had a personality very similar to Marks; likeable, but willing to wink at propriety. He caused the supply of competitor chemical to become exhausted in Pontiac-had a tanker of his material waiting outside the gate, and moved in as a regular supplier!. I mention this project because this introduction to the "behind the scenes" activities in the world of corporate giants was a new

experience for me. The "stuff" that goes on boggles the provincial mind.

This account was, in itself, a bummer. The gentleman never paid for services directly; however a substantial side benefit was his introduction to an opportunity to purchase a new laboratory building at 219 Peekstok Road for a very reasonable price. This was accomplished, and a new phase of activities begun.

In retrospect, through the many years of Kar Lab existence, an overall direction could be detected. A basic interest in environmental problems was always present in "playtime" activities, coupled with an inherent dislike for waste of any kind, and a belief that reuse of discarded materials would eventually emerge as the only solution to an increasingly apparent problem. I felt that Kar, through its diverse contacts and broad, even though somewhat superficial knowledge of many industries, had a fine opportunity to help make one man's treasure out of another man's waste.

About 1965 I became aware of an entrepreneur in Okemos Michigan named William Redker, who had developed an electrically heated unit to combust garbage (solid waste). He had associated himself with a politician type named Young. They formed a company, and, with federal money, publicized their prototype combustion chamber as "the answer". They were financed to demonstrate at an international convention in Switzerland, and I have no idea

how many other places. We did some analytical work for them-then backed off.

We went our separate ways until a good fifteen years later their name suddenly appeared on a huge building on South Burdick street, (formerly St. Regis Panelyte Division). In addition to applying the combustion process to garbage, they had moved into "big" money and were contracted to get all of ATT's used telephones, to be dismantled for parts (cords, cases, wiring, etc.) including the little gold-plated chips (contact points). They wanted me to extract the gold, haul it to Chicago certified, in bullion form, etc. Based on projections they would recover about 50 pounds of gold per month. Although I was intrigued, I played it very carefully-watched the whole operation go down the tube; probably caused by the common loss of judgement which occurs when gold is mentioned. A word about the president of the company; Norman Kenneth was a white South African who looked and sounded like Orson Wells. I was fascinated by the romantic-intrigue-downright interesting stories he related about himself and his family (in the bakery business) in South Africa. He loved to tell these stories in his low sonorous voice-but, back to reality- as I was told, he left for Germany to work with another group using Redker-Young's secrets. My last information was that he had been caught, and was in jail in Munich. His partner, (Hand, from New York) came in and

removed all the beautiful office furniture and equipment they had installed in the South Burdick building, and that's the end of that. For some reason I have kept a little jar of the phone chips, possibly to remind myself that the whole episode really happened!

This chronicle of lab activities should also relate a period of working with an individual named Bud Bender. He was another opportunist from the paper chemical industry who had designed and was promoting a product/process capable of recovering recycled pulp to make quality paper, aptly named The Upgrade Corporation. He sold his process to a group of Japanese. I was involved in helping him "prove" the process; also, in a considerable amount of bacteriological work on another concept. After a year or so he faded into the woodwork, and our normal hectic life resumed. A company was formed by a group of his former coworkers, called Kal-Chem. I believe this concern is still in existence, performing some function for somebody.

We did a substantial amount of work on the design and preservation of a coolant preparation for Curtis Industries, a London-based firm entering the U.S. market. (He heard of us from somebody sitting in a pub in London! (Our reputation was beginning to spread!)

We evaluated fireworks for North American Distributing of Elkhart, testing 30 different kinds for their explosive content (as opposed to non-explosive). Rendered opinions in

Federal Court in three successive years as to their non-hazardous nature.

For 2-3 years we provided laboratory service for the Chef Pierre Pie Company in Traverse City. Frozen pies were sent by Greyhound once a week for testing (Lots of uses for extra samples). As frequently happened, after a few years of expanding business, they found it expedient to set up their own lab.

Another area of Kar Lab. services which has spread over probably twenty years, and has become one of the most frustrating as well as lucrative "projects", is that of testing well water for nitrates and bacteria (formerly also included nitrites and surfactants) The Kalamazoo Health Department (courtesy of my old friend Bob Johnson) decreed that this testing was not a public health matter, and refused to run the tests. Therefore the State lab was the only source of testing- turnaround 4-6 weeks.

A period of adjustment ensued. For a while Kar went all over the county picking up samples. Then the Health Department saw an opportunity to make money by "checking sewer lines", etc., and put the Kar Lab out of the pick-up business. For the past 6-8 years Kar has not picked up samples. The realtors of Kalamazoo are primarily the "carriers", and "payers" of the samples - as a group probably one of the most difficult to work with that could

be designed. Kar has profited greatly from these tests, but also painfully, as anyone who has been involved will agree.

About 1966 two gentlemen walked into the lab at 1840 South Westnedge, whose inputs and ensuing activities and contacts were to have a profound effect on the future of Kar. Sam Paradiso, a mechanical engineer at the Upjohn Company, and a spare time consultant for the Michigan Organic Fertilizer Company, brought with him a man named Alfred Lind Marks. Marks could be described as a gentle, pushy, intelligent, loud, aggressive character in his early 30s, with a big smile and a confident overbearing personality that could be extremely persuasive. He had developed and patented a process for pressure-cooking peat moss plus fertilizer ingredients to make a "slow release" organic fertilizer for home lawn use. He had sold rights to this process to a group of investors who had money and greed, but no idea what they were getting into. (McClusky from Battle Creek (Whitehall Ice Cream); Dick Wagner, CPA, two or three people from Chicago, a couple more from Minneapolis, etc.). They had leased a building (former city power plant on the corner of Mill Street and E Michigan), had installed large pressure vessels, dryers, granulators, etc., really without knowing anything. They then hired Paradiso to coordinate things; hence their arrival at Kar Lab.

The next few months were, in retrospect, a comedy (not funny) of huge fatal mistakes. Hundreds of NPK analyses, including tests for slow release nitrogen were performed; a trip was made to Amherst, New Jersey, to convince fertilizer authorities of the validity of the process, and several field trials-one at Purdue-were conducted. Payments were made to Kar for services rendered, until money ran out. The business was then sold-first managed by a Chicago millionaire named William Mayle, then by Dick Wagner, a Kalamazoo CPA. The Michigan Organic Fertilizer project sailed along for a year or so. Everything seemed in place. Then, for a number of reasons, mainly production problems, things started to go awry. At the persistence of Marks the project proceeded, building up payables until finally we decided-no more.

MOF, after two or three gasps, went bankrupt, and another nice program and more than \$7000.00 bit the dust.

You would think that a reasonably intelligent person would learn from this experience that Marks was not a choice working associate; however I didn't qualify, so when he came in with a concept for preparing a "humic concentrate" from peat, I readily climbed aboard. This process involved cooking peat in a basic slurry in a pressure vessel and then neutralizing with phosphoric acid and screening the resulting precipitated mass which had the odor and consistency of pureed prunes. This material, when diluted

1:10,000? and applied to foliage, had extraordinary powers, according to Marks. These ranged from larger plants, more seed production, resistance to frost, drought, you name it. Kar made probably 200 gallons of this concentrate; shipped it for tests to perhaps ten universities, and conducted our own field trial in Three Rivers on five acres of soybeans.

The pinnacle was achieved when 25 gallons was shipped behind the Iron Curtain, to Czechoslovakia via the Cyrus Eaton Foundation arm called Tower Inc. They paid Marks' trip over to consult, and things looked pretty encouraging. About this time we learned of certain potentially fraudulent claims Marks was making. I consulted with Ray Blanchard, a patent attorney, who advised me to "get away from that guy and stay away". So at that point a decision was made to abandon the program in favor of other less hazardous undertakings.

In fairness I should state that Kar suffered no financial loss from this project. I was saddened to learn of Al Marks' death in 1975. He was a most interesting person, and in his way had a profound effect on the later development of Kar Lab. In 1989 I was informed that there is a company in Texas selling a humic acid extract which can be astronomically diluted, and which, in fact, makes about the same claims Marks was making. So much for another "opportunity"!

Several contacts developed from the work with Marks which occupied the next phase of Kar activities. These were due to the appearance of some reputable gentlemen from Chicago, and Valparaiso, Indiana. Joe Cvengros, Art Bowes, and Ken Harrington. They came to investigate the potential of Michigan Organic Fertilizer, and left after setting up a program with Kar to develop a lawn and garden fertilizer from composted garbage. This was in the early days of such environmentally attractive programs, and prospects seemed bright, though undefined. I came up with a patentable product they approved of; we generated a mutually satisfactory licensing agreement, obtained patents on the process in a number of countries, and were off and running. Pilot runs were completed at Strong-Scott in Minneapolis, I.C. in Chicago Heights, and the McKee Equipment Company in Cleveland. Marketing studies were completed at Sears and Ortho in San Francisco. A corporation called Organic Nutrients was formed, an agreement signed with Metropolitan Waste Conversion of Wheaton Il., and with the city of Houston, for their separated garbage. It seemed that all angles were covered. Then a number of things occurred which I never really understood. Marketing problems developed, and the Houston City fathers, realizing someone was about to make money from their waste, decided against providing it. Suffice to say, money ran out and the decision was made in Chicago to abandon the project. Disappointed, but looking

at the positive side, we came out of this financially, with lots of good trips, experiences, and contacts which would serve as springboards to other interesting projects.

The next offshoot of our agricultural testing facet was in the field of hydroponics. An Indiana firm called Hydroponics Inc., headquartered in Vincennes Indiana, designed a system for growing soil-less grains for animal feed. The unit was called "Eternal Spring", and was composed of an insulated steel building lined with trays and fluorescent lights. Briefly, a farmer placed a 3 X 5 pan of sprouted oats on a shelf and dripped nutrient solutions through the oats for six days under controlled conditions of temperature and humidity. The oats grew to about six inches, and were then dumped into ribbon blenders with hay, silage, or whatever, or were fed alone. Fascinating product!. Cows feeding on it produced a clean odorless manure. Chickens loved the runoff, and thrived on it. (Coincidentally, we were instrumental in saving the deer herd at the park in Coloma. They had developed a severe dysentery, and were not responding. This easily digested material brought them around.)

Again, (story of my life), problems developed. The process as designed was expensive and very labor intensive. After a couple of years the venture was sold to a company in Victoria B.C. They promoted it for a while, and then, I believe, went out of business. Since then hydroponically

grown items have appeared from time to time, primarily vegetables. I saw an application owned by Arthur Godfrey in Sunnydale California while on a project discussed later. I understand he also had an operation in Hawaii.

Another little diversion occurred in the early '80s. My friend Tom Higgins, had moved his family to Naples Florida, and gone into real estate, with a certain amount of time on his hands in case anyone came along with a "bell ringer". He sent me a sample of a material being sold down there as a treatment for eye glass lenses, and asked me what I thought of it. I had it analyzed-put together a non-competing product which produced similar results, and we were off and running.

We called the product Crystal Shield, and the company Gulf Shore Laboratories. Through Tom's marketing efforts we sold about 500 gallons of the stuff. This lasted two or three years, and was worth several trips to Florida. (resulting in the purchase of a house in Naples). Then we sold the entire business to a man in Vermont. This was worth a new Honda Accord. Not a bad deal for a small quickie business, but I believe it could have been a better one, except for some marketing problems. So much for that.

It was also during this period that a number of industrial trends and economic changes began to appear. Kar Lab was continuing to provide services for a large base of industrial clients, but the requests were increasingly for

more sophisticated tests, especially in the area of environmental pollution control. We were doing PCB analyses, BODs, and other water analyses, but requests came in for TOCs and organic analyses, for which I was not inclined to gear up. Then laws were passed concerning the transporting of hazardous materials, requiring analyses such as cyanides, flash points, etc,. We worked with Tom Leep of the DNR and area waste haulers to design a manifest which had to accompany loads.

Other labs with more specialized interests and technical personnel and equipment started to appear, and Kar was forced to subcontract to them, or lose customers. One such laboratory was Environmental Data in Grand Rapids, a subsidiary of Williams & Works Engineering; another was Western Michigan Environmental services in Holland (an arm of Dell Engineering.) Although our work level was holding its own, the handwriting was on the wall, and it was becoming increasingly evident that some type of adjustment would have to be made.

I had "subbed" several projects to the lab in Holland, and thought this might be a potential association which would benefit all concerned. Consequently I paid a visit to Holland-had lunch with LeRoy Dell and Bill Bouma, his partner and laboratory Director. I outlined the operation I had, and approached them about a conceptual merger. A week or so later I received a call indicating they had no

interest; however a few days later I got another call from Bill Bouma, saying "Lets talk".

We met for a couple of discussions in Allegan, sharing our personal frustrations with the status quo, and after what was really a minimal amount of negotiation, agreed that we each had assets that were needed by the other. After some more discussion, it was agreed that Bill should enter the Kar Lab fold as principle stockholder, and Laboratory Director. This transaction was accomplished with remarkably few problems, in July 1983. The ensuing years and continued growth and prosperity of KAR Laboratories has shown that the association was well timed, well suited and most fortunate for everyone concerned.

The next chapter of the metamorphosis of KAR Laboratories remains to be written-by someone else!

John Karnemaat
1990



History of Dimesa Project

In 1971 I met a man who introduced me to what was probably the most interesting, challenging, and at the same time, frustrating project I had ever been involved in. John (Jay) Black was an energetic, hard living, hard driving, self-made man. He was a bomber pilot during the second World War; came out of the service and started a manufacturing company making grocery cart wheels at a company named Pemco Wheel. Jay was destined to be a pioneer; if no frontiers were around, he would create one. About 1970 he became interested in Mexico--specifically Yucatan. He devised a plan whereby raw materials--parts--could be exported to the coast of Mexico, fabricated with Mexican labor, and shipped back with no duties, tariff, etc. (This was all to be done in compliance with laws existing at that time). His company was named Dimesa, and was pretty much in operation when I first met him. On one of his trips there, he had learned of an industry which had been in operation for at least 150 years; viz., the processing of the long leaves of the Agave Fouroides (Henequen) plant (a form of sisal, or agave). These leaves were decorticated, (the long, tough fibers were removed), and the fibers subsequently washed, dried, and wound into long strands of twine, creating the binder twine in great demand in midwest grain farms with the advent of the McCormack reaper. This decortivating proces resulted in probably 80% of the pulpy

part of the leaves being discarded into huge dumping areas surrounding the plantation haciendas. These haciendas were for the most part, in sad states of decay, but still in a condition that one could envision the grandeur of past years. Back to the project; it was this waste material which piqued Jay's curiosity, and made him wonder what kind of applications could be found for it.

Jay and I complemented each other. I could get him very excited about concepts, and he would motivate me with his "let's get going" philosophy. At the risk of overkill, I am including at this point in my narrative, a report I wrote to him about activities conducted in one of the five trips I made to Mexico during the next six years, and a copy of the letter written to Mexican authorities when we finally reached the point we believed we could accomplish no more without native assistance. Suffice to say, Latin people for the most part are very difficult to conduct business with!

Trip # 4 March 16th 1975

I left Kalamazoo at 7:10 A.M. Sunday. Arrived in Chicago at 7:50. Left Chicago at 9:00, arriving in New Orleans at 11:10. Left New Orleans at 2:45 and arrived in Merida at 4:10. No trouble getting chemicals through customs-didn't even have to open box. Took taxi to hotel (Pan Americana), registered, and went for a swim. No messages. Went for a walk to the market. At dinner I met an old banker from Gainsville Mo. Had dinner and a fine chat.

Victor Trava called about 9:00. He will meet me to set up agenda. He speaks broken English, but sharp. He first took me to his father's house-very nice-had short visit, and learned the following; Cordamex has the fiber business tied

up; they set price, and long fibers cannot be sold by anyone else, period. Limestone is very abundant. Then we drove out past the airport, past the Carta Clara beer factory, though Uman and Xtepan to Yaxcopoil, a community of about 15000, where a decortivating plant is operating. This seems to be the only activity in the village. The plant, powered by a 1913 steam engine in excellent shape (they have a backup engine made in 1912), is very clean, and run in a most business-like manner. The Henequen leaves, brought up on wagons from several plantations, are tied in bundles of 50 (simplifies payment to workers). They are unloaded, untied, and go up a conveyor to a place they are firmly grasped at the center by a mechanism like a very narrow brass caterpillar tractor track. They are conveyed along into a silo-filler like mechanism where first all of the fibers on the butt end are stripped clean of pulp. This slides down a chute accompanied by a little water to help the movement, and, I assume to keep the tines of stripping blades clean. Then, about three feet farther on, still grasped firmly in the center area, the same process is repeated on the point end. The cleaned fibers slide down a ramp to the basement, where they are tied in convenient packets and put on carts to be strung on wires to dry and bleach in the hot sun for one week. The pulp winds up in small carts (much smaller than at the Krupp plant on the road to Progreso), and are pulled perhaps 200 yards from the plant.

The waste is spread out carefully, about six inches deep. After a period, the material containing short fibers and pieces of dried pulp are sold (not to Cordamex) for packing materials. The long fibers, after bleaching, are then baled and hauled to Cordamex. The present price is 120 pesos for a 180 Kg. bale. (present rate of exchange: 12.5 pesos for one U.S. dollar) It seems most logical that the waste from the butt end of the decortivating process should be that which demands attention. It is more moist, lighter in color, and more voluminous. It is ejected first, and could easily be segregated by pulling two carts under a chute at a time. There is about a two foot distance between the tip or butt fractions.

Victor also took me on a tour of the hacienda. It is probably 20 feet wide and 200 feet long. It has 15 foot ceilings, and about six huge rooms. Each has a beautiful tile floor, an ornate hanging lamp in the center (electrified now), and from 15-20 pieces of antique furniture, dating from about 1850. One room is decorated with four rows of ancient Mayan pottery recovered from burial grounds on the plantation. Doors on each side of each room are about 12 feet high. Most are divided so the top can be opened separately. (This was their air conditioning). The hacienda is presently only used for

large parties, etc. (one of which will be held in 10 days in honor of Victor's new son.

Any or all of this once gorgeous place has been made available (I am told!) for our use, for staying in, laboratory, etc. Changes in wiring, plumbing, etc., were offered, if needed. There are perhaps 24 goats wandering around the waste area. I was told they eat nothing but henequen waste.

We then returned to Merida to keep our 10:00 appointment with Sr. Rubio. We were ushered into his office; then a few minutes later he came in. His comments and attitude were most cordial. Last Friday there was a meeting; it was decided to consolidate and coordinate all henequen research. He mentioned Armour Co., Syntex, National Lab (Guterriez Rahos) and a couple other places. This "report" is to be ready within a month, and a copy will be available for me. I plan to push it at our meeting on Wednesday. It would be most desirable. Perhaps Rubio can bring it with him to Kalamazoo.

He also said to his knowledge, no organized feeding studies have ever been run. At this time it is my opinion this would be of such interest it ought to be financed by the government. It seems to me we might consider doing it at their expense at Yaxcopoil. The physical setup and cooperative spirit are most favorable.

After leaving Rubio, I returned to the hotel with samples and experimented as indicated elsewhere. Miscellaneous comments are as follows:

1. The solid waste, after being compressed to remove moisture, breaks apart easily (no tining needed). This can be placed directly on an agitated platform with 1/2 inch mesh screen. Essentially no fibers come through, and most of the non-fibrous portion does. This could easily be fortified with urea, etc. I have very little doubt it could be digested by ruminants, and, with proper additives, converted into a useful roughage type product.

2. I was able to effect a good fiber bleach with both sodium bisulfite, and chlorine. It is probable that the ultraviolet in the sun bleach is not good, but as we are interfering with both Cordamex and tradition, at this time I did not spend any more time on this concept.

About 5:00 Victor picked me up and we went to his father's office. I felt a good rapport with him. He gave me calcined limestone, presently selling for 11 pesos per 25 Kg. bag. Ground rock sells for 80 pesos per cubic yard. He also gave me two small bags (he has 10 big ones) of a products someone tried to make several years ago, viz. dried

henequen juice.. Looks somewhat like buffalo chips. This was to have been sold as a chicken-cattle food in the United States. I plan to analyze this material soon. He said it was merely dried in huge troughs, then chipped out and bagged. He said it was unsuccessful, probably because the motivating man died.

Tuesday, March 18, 1975. Victor picked me up at 9:00 and took me to the institute. Met Josephina, and was escorted to the lab area. Most kindly treated by all concerned. Borrowed a little glassware and went to work. They had a vacuum line, gas and a centrifuge; all I needed. By 2:00 I had completed some 30 experiments, mostly on the juice which had started to ferment by this time. There is no future in trying to export juice without preservation!

Several significant findings are noted-----.

N.B. For some obscure reason I have retained all my notes derived from this and other trips. I am not going to include them here, except to the point of showing what a fascinating period this was, and why these trips were of such interest. In July of 1976 I wrote a dear John letter to the government, saying it was time for some mutual (financial) effort to be made; that we had, at our expense, developed an economically viable program; we were willing to share the costs, but not absorb them entirely. Their sudden loss of interest made me realize with sadness, that a one-way street existed, and that it was time to cut the program, in spite of the huge potential to really help the area economy. I certainly hope to return at some point in the future.

A period of about five years elapsed with very little contact with Jay Black. Then, one day in early 1980 I received a call from him asking what I knew about the impact of uranium tailing runoff on the environment. It seems in

the intervening years he had shifted his interests to the four corners area of Colorado. He had purchased a cattle ranch about thirty miles north of Cortes, and had cattle feeding rights on several hundred acres. In one location, a uranium mining company was preparing to construct a mill directly across the road from a feeding area, and he was rightfully concerned that there could be a pollution problem.

I proceeded to tap all sources available for information; got detailed topographical and tomographic descriptions, and went into the history of the area. I checked all types of minerals present, and finally got all the literature available at that time concerning the leaching of uranium wastes. Armed with this, I appeared before the hearing conducted by the Colorado Department of Health. Whatever the reason, the mill was never built by Pioneer Uranium.

This experience (encompassing three trips) was certainly another highlight. We flew out privately twice, and commercially once. Had an unforgettable tour of the Continental Divide, a chance to pan for gold in the Dolores River in the San Juan Mountains, and cross country tours of the areas where uranium was mined for the Manhattan Project (the first atomic bomb). Coupled with these activities was a modified geological evaluation of the ranch area with a Denver Geologist, and the systematic collection of ore

samples from the alluvial deposits of the Dolores River.

These activities, although taking place a number of years ago, remain as treasured memories, and ones which I would be happy to revive and continue with the slightest encouragement.



Addendum- History of Collagenase Project as
a treatment for advanced cancer

One morning in 1972, I came to work with the expectation of a nice normal routine kind of day. About 9:00 A.M. I recieved a call which would turn the next few weeks into mayhem. Bill Parfet, (now president of Upjohns), asked me if I could come and see him right away. Of course the answer was yes. He revealed the following tale: One of the Gull Lake "group", a personal friend of his, had been diagnosed with terminal cancer. He had exhausted every USA source in his search for help-had finally gone in desperation to Jamaica, where he had recieved treatment to which he had "miraculously" responded. This involved injections of a collagenase (enzyme). He went into immediate remission, etc., etc. However, for some reason unknown to me, the supply of the medication had been cut off. He had called his Upjohn friends, who said, "sure we can get someone in the company to make this". When the proper people in the legal division were informed of this, they were absolutely adamant that no one in Upjohn should touch it. Thus, through an unknown line of contacts, Kar Lab became the center of attention as the last hope.

My first reaction was similar-don't get involved. However as the conversations and phone calls continued, I weakened. "The entire resources of The Upjohn Company are at your disposal. Access to whatever equipment, chemicals, advice, etc., you need. We have the detailed method of preparation. We will back you legally, etc."

Then a pleading call came from Jim Gilmore (another of "the group"), who said he would personally underwrite any problems which might develop, left me thinking positively. Despite the advice of my attorney, who said "don't", I decided to see if I could help. This all happened in a period of about six hours!

Two days of feverish self-education concerning bacterial collagenases then took place. I sent for the appropriate Clostridium cultures, procured equipment and supplies from "the company", and began a four week program of growing cultures, purifying and concentrating extracts, proving sterility, and demonstrating cellulytic activity on rat femurs. This was a pressure-packed, but fascinating project.

Then storm clouds began to appear. The internist in Battle Creek who had assured "the group" he would inject the material changed his mind. I am not sure they ever found anyone to replace him, but I was saddened and relieved to learn the unfortunate patient died about three days before my testing was completed.

At this writing, many years later, I remain convinced that we may have had a real interesting future if he had lived to get the material. Much has been done subsequently in the use of collagenases for the destruction of tumors, but the main problem is that natural products cannot be legally protected, and thus are not pursued by drug

companies because they have no economic potential. One of the Jamaican doctors told me the medical profession and research institutes in the US are not pursuing cures for cancer-only treatments, because that is where the profit is. I choose not to believe this.

This whole project disappeared about as fast as it came, leaving me with another education in another field. Except-about three months after the project was terminated, the door of the lab opened one day, and three men burst in identifying themselves as FDA representatives. They circled about asking questions and taking photographs for about three hours. They would have done Monty Python proud!

If I had been a little more worldly I wouldn't have been so apprehensive. After they left, I called Upjohn Legal Department. They said I shouldn't have let them in or answered questions. As I have heard nothing for twenty years, I assume the matter has been closed!

SUPERLINE INCORPORATED

George Watson, the animal nutritionist at Farm Bureau Services was a fun-loving, golf-playing refugee from Texas-always flew a Texas flag in his front yard in East Lansing. We had a good relationship, and, when he decided to leave Farm Bureau and start a feed consulting business with another feed salesman friend named Jerry Flory, he invited me to become a 10% partner. I readily agreed, and an S corporation named Superline was formed.

The first year everything was rosy. He sat in his office in East Lansing, called his large farm customers and designed feeding programs for them. Then he would call Sauder Mills in Indiana, who would mix and grind the appropriate formulations and deliver them to the customer. A nice profit was generated, and the first year saw a gala celebration including a fun weekend in East Lansing.

The next year was also a good one; however the third year two fatal mistakes were made. First, George decided to sponser his son in a business enterprise-an Indian jewelry store on the campus. This was bad news from day one. The second error was going out on a limb for one feed customer for about \$20000. The customer went bankrupt, and Superline's obligations to the manufacturing mill went unpaid. I remained solvent and relatively uninvolved, but both of the other partners assets were "attached".

Another pattern of stress evolved (His son went to prison), and within a year George had a massive stroke and

heart attack. He lived for a few more years after this,
totally helpless. This was another experience for me-learn
what can be learned from it.

John Karnemaat