ALASKA LEGISLATURE COMMITTEE FILES 1983-1984 8672

3213 ST HCR 29 - HCR 44

3213

PROCEDURE:

1. Mix the water and acid in the drum;
2. Introduce the limestone slowly to avoid foaming;
3. Stir for about 1 day;
4. Let stand (to settle) for several days;
5. Remove the liquid and place in a second drum;
6. Recycle the solid material settled from the drums;
7. Add NaOH solution (about 50-50% NaOH/water);
8. Continue to add NaOH solution until pH = 7 (It may be necessary to add water if a precipitate forms. This merely means that the solution is oversaturated with CMA);
9. CMA is ready to use..

DISCUSSION:

The neutralization reaction is difficult to control since NaAc forms a buffer solution. In practice, it may not be possible to obtain a pH of 7. A typical neutralization is plotted in Figure 1.

As can be seen in Figure 1, it was necessary to add water at points (1) and (2) to redissolve CMA which had precipitated out

of solution. With practice, the correct amount of water could initially be added to avoid this problem.

In general, it is undesirable to allow CMA to precipitate because it tends to form a gel-like solution which is difficult to stir and to redissolve. Selecting the right amount of water to add with the NaOH will depend on the limestone purity. Hence, it is possible to determine only an approximate range for application.

Figure 2 shows a plot of pH versus volume NaOH solution added. In this format, the aided water correction does not appear and a more "normal" neutralization curve is obtained.

To further complicate neutralization, the reaction is not instantaneous. Figure 3 shows the response of pH with time following the additon of NaOH. About 5 minutes will elapse between the time of the NaOH addition and the final pH.

The reaction rate for this process can be monitored by measuring the CO_2 evolution. In general, the dissolution of 1 mole of $CaCO_3$ releases 1 mole of CO_2. Figure 4 shows a plot of reaction rate versus time measured in this manner. As is evident, the reaction rate declines rapidly, dropping over 3 orders of magnitude in the first several hours. Figure 5 shows a plot of cumulative CO_2 production versus time. It is evident that long reaction times on the order of several days are

required. This behavior is typical of batch reactions. The reaction time can be shortened by using continuous reaction equipment, which maintains concentrations in the first reaction range.

FIGURE 1

Neutralization of CMA Solution

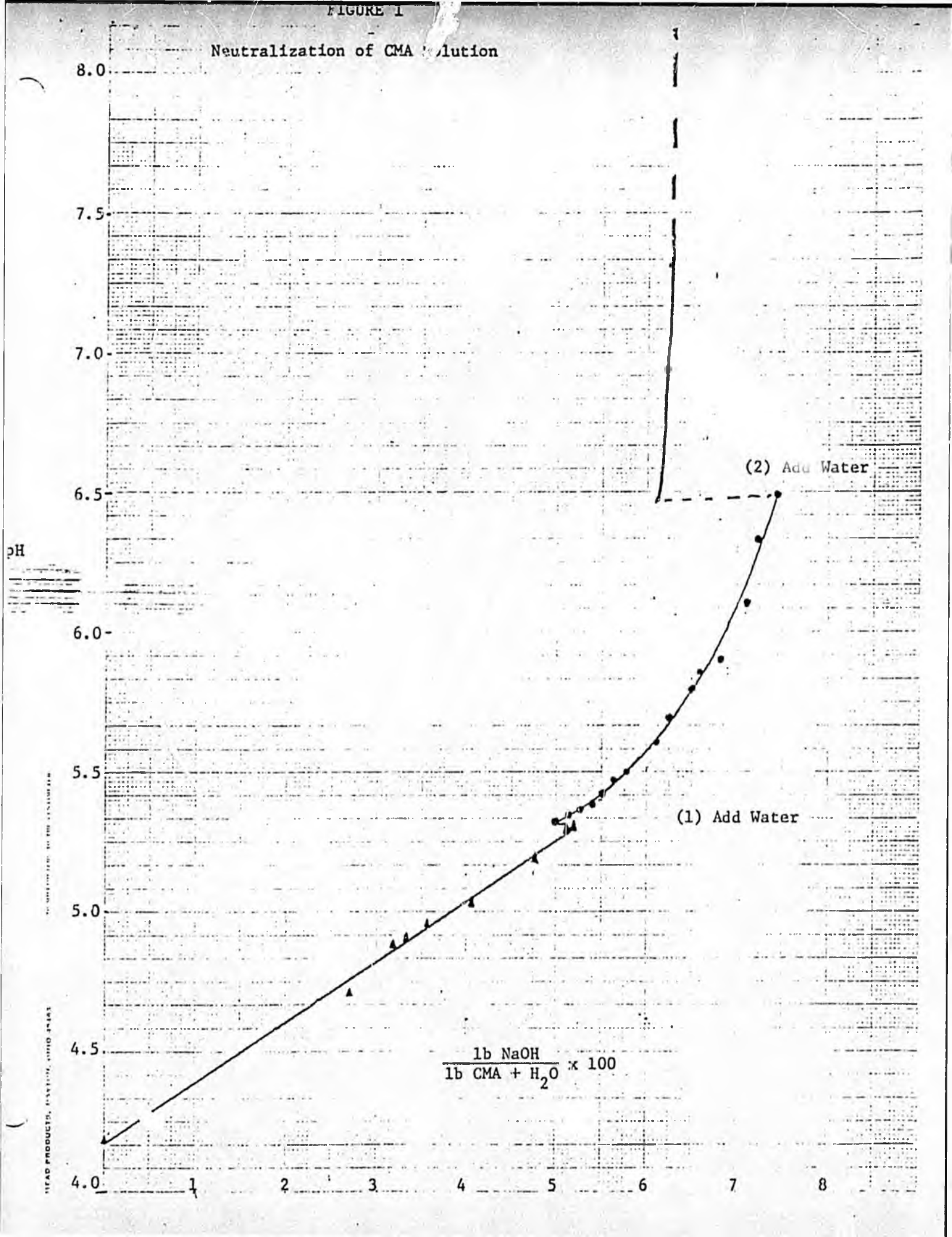


FIGURE 2

Titration of an Unknown Solution of CMA

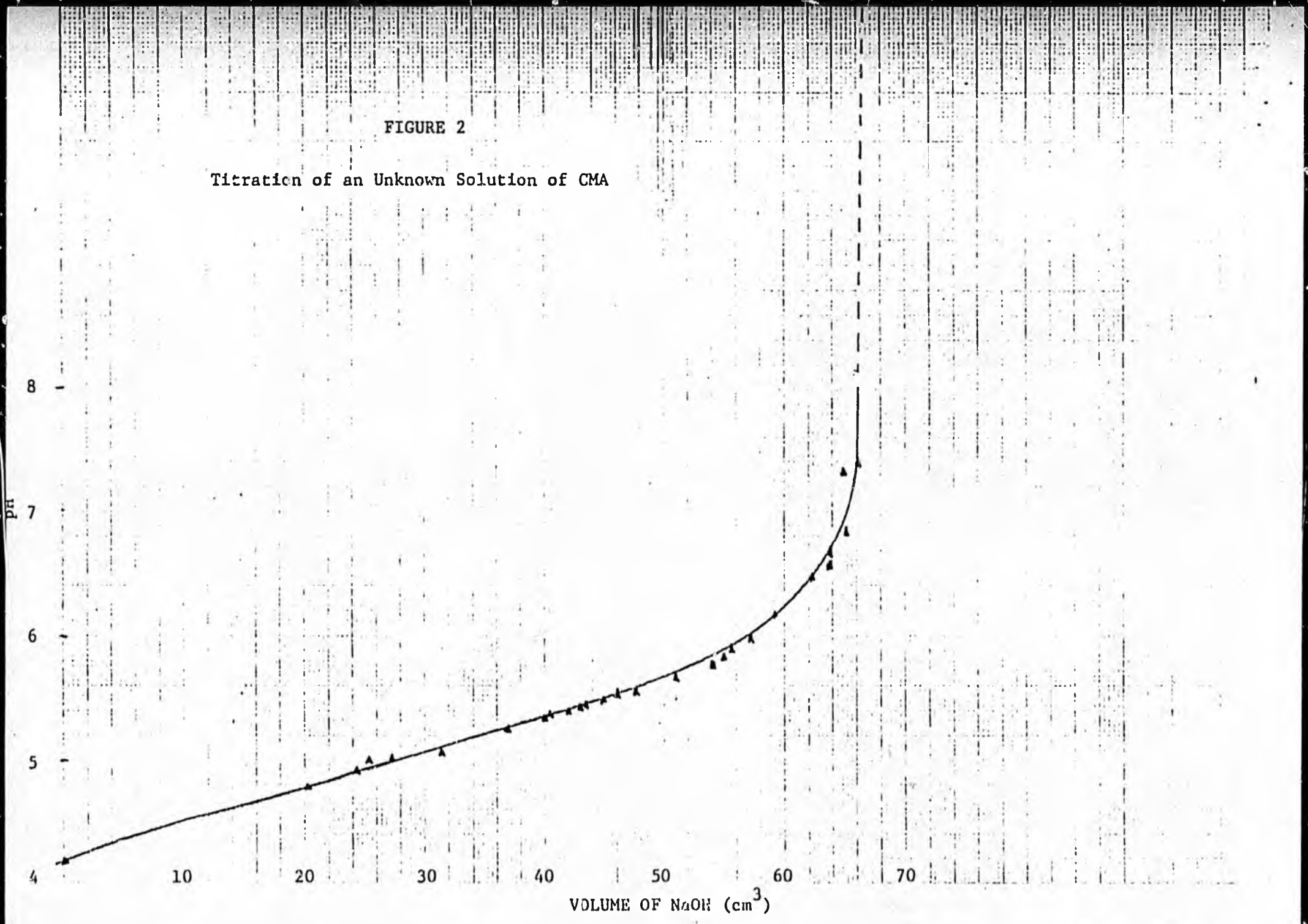


FIGURE 3

Evolution of pH versus time after adding some NaOH to the solution near equivalence point.

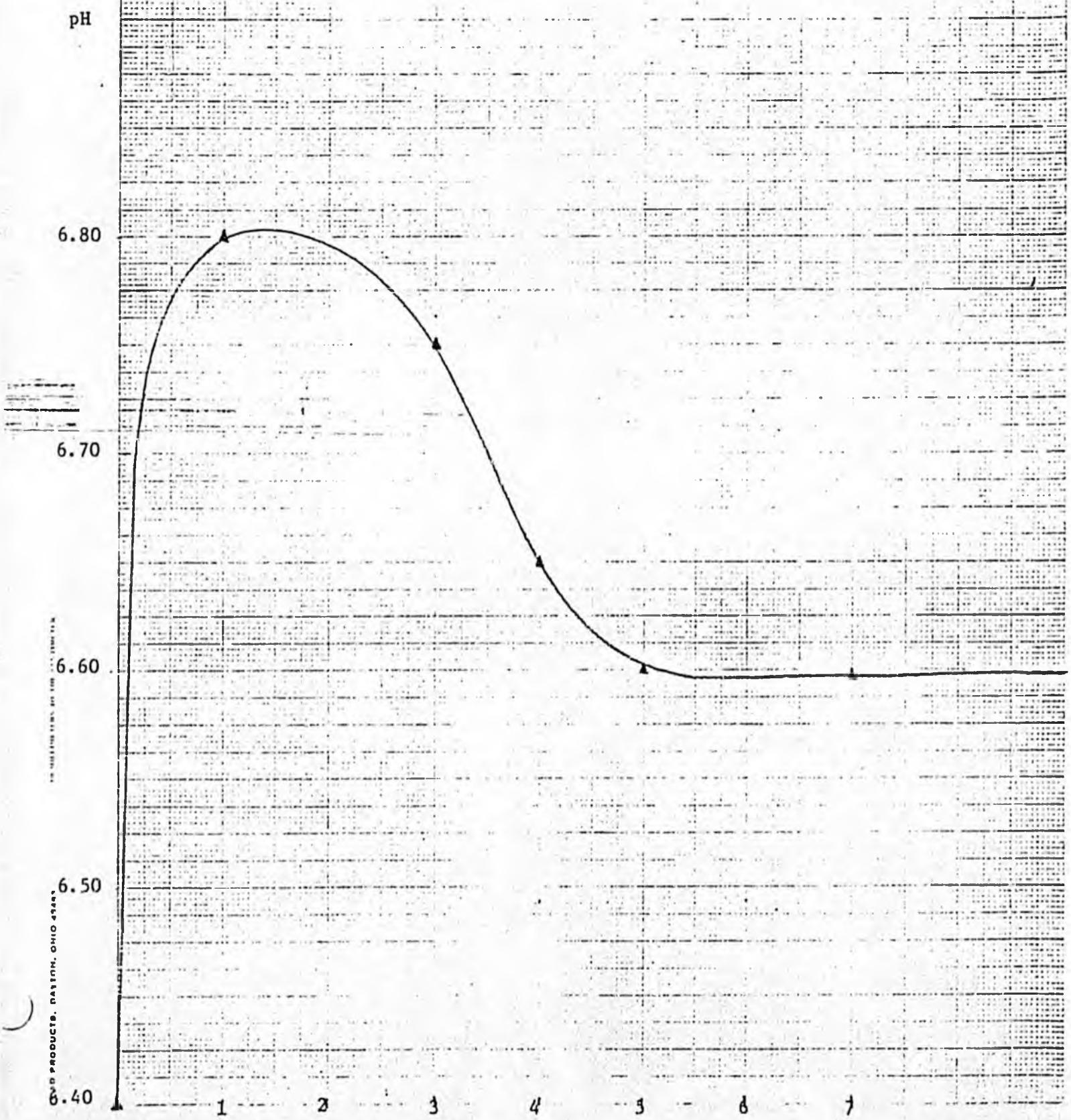
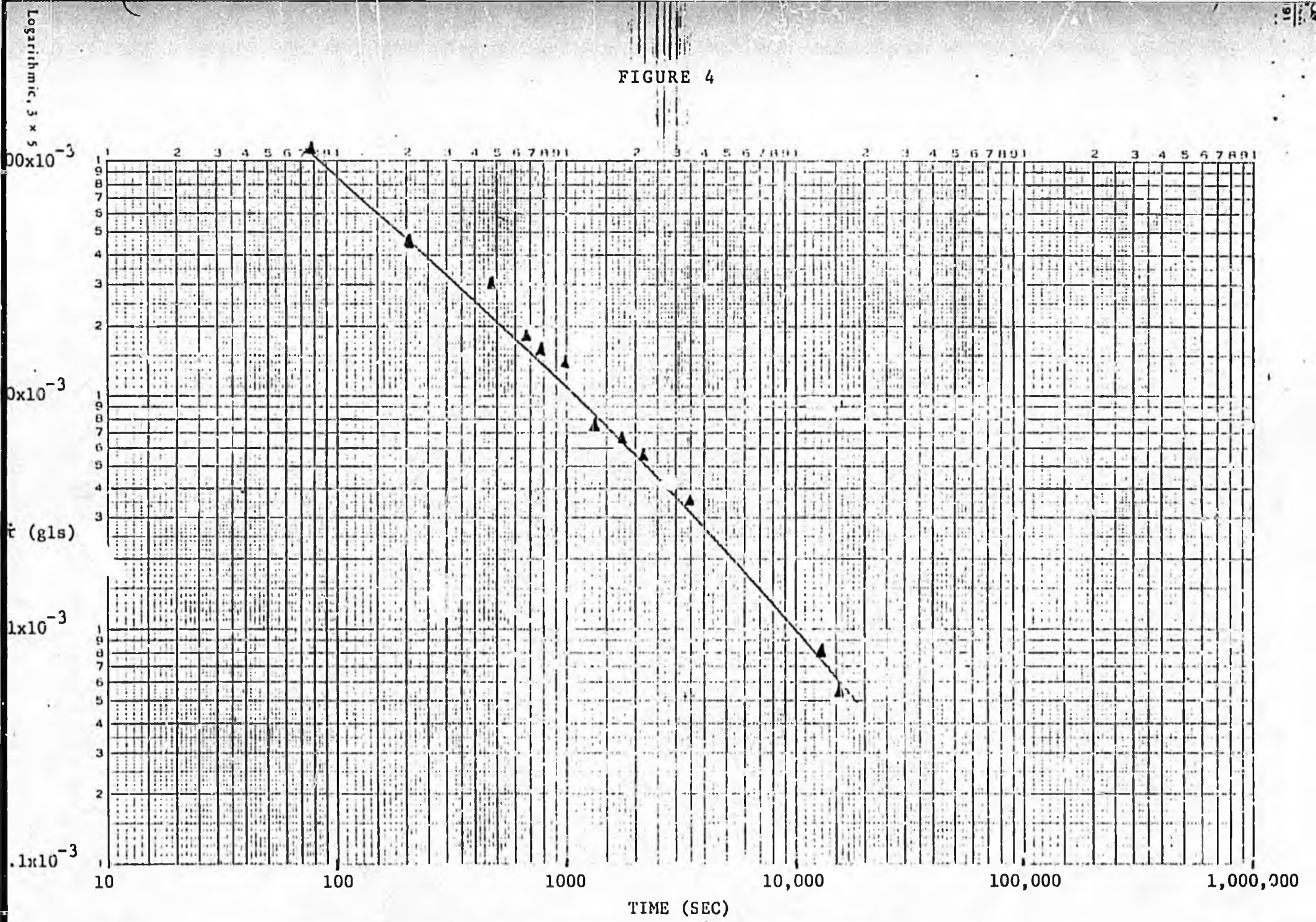


FIGURE 4



Production Rate of CMA (Limestone 14.5%, H_2O 58.6%, HAc 26.9%)

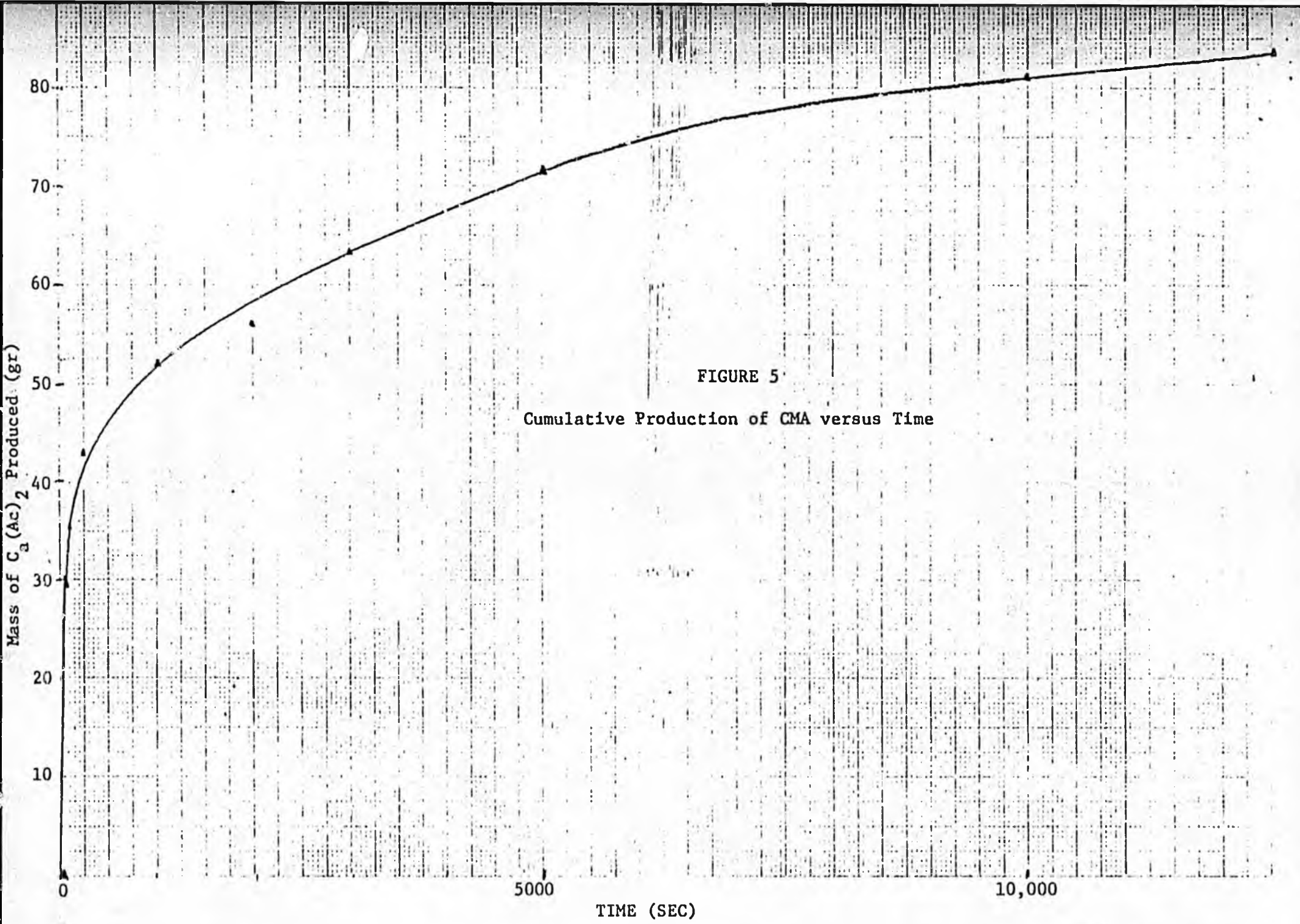


FIGURE 5

Cumulative Production of CMA versus Time

TO: MM

FROM: dz

DATE: 13/April 1983

RE: HCR 29/Calcium Magnesium Acetate

Complaints regarding rusting automobiles in Juneau prompted introduction of this resolution.

When trying to find statewide statistics on salt damage to automobiles, it was also found that salt has corrosive effects on bridge structures. Four bridge structures were replaced in Fairbanks at a cost of $641,000.00. It is estimated that damage to bridges in Anchorage and the Southeast, where salt is used more frequently, is significantly higher. Unfortunately, there are no statewide Dept. of Transportation statistics regarding corrosive damage. Estimates on corrosion costs to automobiles alone in Alaska are approximately $40 million annually. Attached are federal statistics.

Sodium Chloride (common salt) and Calcium Chloride are compounds that are presently used for de-icing.

Previous studies with Calcium Magnesium Acetate (CMA) have shown that it exhibits excellent de-icing characteristics. CMA is also non-corrosive, does not harm plants and does not pollute water. It has in fact been shown to be benificial to soil. CMA also can work as a de-icing agent at temperatures below 20°F whereas salt can't.

Nowhere is CMA manufactured in bulk so that wide-scale testing can be done. The University of Alaska does have a bench scale pilot plant ready to produce this material. (U of A requested $196. to complete the pilot plant. Bettisworth has put $158.4 into his capital supplemental to fund this project.)

CMA can be produced from limestone, water, and acetic acid. Limestone is readily available in Alaska (Cantwell area is reported to have large quantities of this material). Currently, acetic acid must be imported from the Lower 48, but could be produced locally from refinery by-products if a market were shown available. This may open the doors for the state to become a major producer and exporter of CMA to a national or international market.

This resolution, if passed, will encourage the Dept. of Transportation to use CMA as a non-corrosive ice control agent and continue research on this material. By D. O. T. working with the University of Fairbanks and completion of the pilot plant, the effectiveness of CMA as a de-icing and dust control agent could be done in comparison with salt. Read fiscal note analysis.

Attached is a technical report from Massachusetts regarding salt damage. Finding indicate that the level of salt use should be reduced because of the harmful effects that it has on pollution of water supplies. I don't know if we want to get into the technical end of this. . . but encourage continued research.

(907) 465-3900

June 4, 1982

Re: Ice Control Methods
and Materials

Honorable Bill Ray
Alaska State Senate
State Capitol
Pouch V
Juneau, Alaska 99811

Dear Senator Ray:

In reply to your April 5 inquiry, attached is a copy of my reply to Mr. R. A. Sundy regarding ice control methods and materials used in the Juneau area.

For your information, I have also attached copies of some recent articles regarding an alternative (Calcium Magnesium Acetate (CMA) for salt. Our own DOT&PF Research Section advises that their efforts are being directed to studying methods of producing CMA from industrial grade acetic acid and Alaska limestone so that an economically feasible process can be developed to produce CMA in Alaska. The Cantwell area is reported to have a large quantity of the raw materials for CMA. The University of Alaska is working on our study and a summary report of the work should be available in about three months.

Sincerely,

Robert W. Ward
Commissioner

Attachments
bcc: Patrick P. Ryan
John Bates
Larry Sweet

RWW:PPP:csb

Road deicing chemical called superior to salt

Iowa Deparunent of Transportation researchers have developed a deicing material that is less corrosive than salt, effective at a lower temperature and is not harmfui to the environment. If it proves out in tests this winter, the agency expects to patent the compound and convince a manufacturer in the state to produce it in large quantities.

The material, consisting of sand coated with calcium magnesium acetate, was developed last month by DOT's chief chemist, Wallace Rippie. So far the compound has been tremendously expensive to produce — [illegible] compared with [illegible] for salt, according to Charles Huisman, a DOT highway engineer who is heading the research. "But we are doing it now with a beaker and a mixer in a laboratory," he says. Huisman [illegible]

[illegible] Huisman says that its use could double the life of bridge decks. In addition, it does not harm plants or pollute water, he says, and in fact is beneficial to soil. Also, indications are that the compound can be formulated to work at temperatures below -20°F, the lowest limit of salt's effectiveness.

One drawback is that it can cause concrete to spall slightly, says Huisman. "But we don't think it would be so detrimental as to preclude its use." □

From: Engineering News Record Jan 28 1982

40 315057

ALTERNATE HIGHWAY DEICING CHEMICALS. EXECUTIVE SUMMARY

A search has been made for road deicing chemicals to replace sodium chloride (NaCl). The impetus for this search stems from the numerous drawbacks associated with the prevalent use of NaCl as a road deicer. All types of chemical compounds were reviewed. Selections were made on the basis of criteria such as water solubility and freezing point lowering, corrosion, toxicity, relative cost or cost potential, effect on soils and plants and water supplies, flammability, concrete compatibility, traction, friction, highway performance, etc. Information was sought first in the literature, then supplemented or verified in the laboratory as needed. Two candidate deicers were found to be as effective as sodium chloride. One, methanol, reacts almost immediately upon contact with snow and ice but is less persistent than NaCl. The other candidate, calcium magnesium acetate (CMA), acts at about the same rate as NaCl in the temperature range of common activity and shows about the same persistence. It gives rise to about the same decreases in coefficients of braking traction and skidding friction as NaCl. In strong contrast to NaCl, CMA is a corrosion inhibitor, is beneficial to most soils and has no potential for harming drinking supplies. The unpurified CMA derived from solid wastes, primarily cellulose, gives improved traction and reduces production costs. The methodology for CMA production, cost evaluated above, is unsophisticated 19th Century technology. Application of modern technology may further lower production costs. (FHWA)

Dunn, SA Dunn, A Schenk, RU
Bjorksten Research Laboratories, Incorporated. Federal Highway Administration Final Rpt. FHWA-RD-79-109, Mar. 1980. 17 p.

Contract DOT-FH-11-9100

ORDER FROM. NTIS

FAIRBANKS, ALASKA, FRIDAY, OCTOBER 22, 1982 35¢ Per Copy 28 Pages

Snow great for skiing but it's war for these crews

By SCOTT YATES
Staff Writer

With nearly 400 miles of road to plow in the Fairbanks area, the state Department of Transportation and the city's Public Works garage shuddered under the load of snow dumped here Monday and Tuesday.

In addition to the DOT's 12 pieces of snow removal equipment, four private graders were hired for anywhere from $50 to $80 an hour to help punch open the roads. The city, which hasn't hired outside help since the witer of 1970-71, was on the verge of employing private help itself when the snow stopped.

This week's heavy, wet snow presented special difficulties in a city accustomed to dry, light flakes that blow away in the backwash of passing vehicles.

"The wet snow we had the other day is the absolute worst," said John Horn, regional director of the DOT's Maintenance and Operations. He said it's heavier to push and it does not cast as well. When it does move, it's more likely to damage objects such as mailboxes along the road.

Speed is of the essence after a wet snowfall. Unless it is plowed early, Horn said, traffic can beat the snow down into an almost impenetrable snowpack.

Which roads get attention first are decided by DOT highway superintendents. Mostly, Horn said, it has to do with which roads have the most traffic.

Airport Way heads the priority list for the DOT, partly because it's a major city thoroughfare and partly because it's right outside the department's door. Other roads within that first category include the Richardson Highway to Eielson, the Steese to Fox and the Parks Highway halfway to Nenana.

College Road, Cushman Street, Illinois, University Avenue, Geist Road, Farmers Loop, the Davis Road area and Chena Hot Springs Road are included within the second priority listing.

Horn is quick to point out that Birch Hill Road, where he has a house, is among the 54 roads with the lowest priorities. "I can tell you I receive no special treatment," he said.

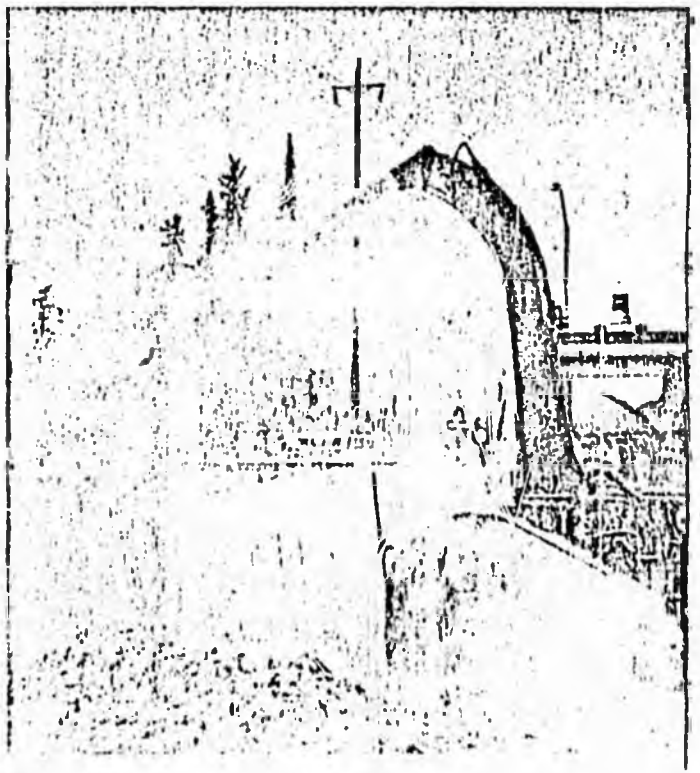
Bud Weber, assistant superintendent of the Public Works Garage, said after a snowfall, the first city roads to be plowed are the one-way streets downtown: Barnette, Lacey, Noble and Gaffney.

Upon completion, the graders are split into two teams, one on each side of the river. South Cushman, Cowles, Lathrop, 23rd and 17th avenues are among the secondary priorities for the city. The hospital entrance, the fire department stations and streets around local schools are all areas which are cleared early.

Some areas like Slaterville, Arctic Park or Island Homes are normally not plowed at all, Weber said. Plowing on the such narrow streets narrows them even more, Weber explained. "It's a question of putting up with a big windrow or fighting the snow on the street." Given the amount of snow that fell in the last storm, Weber decided on the latter.

Although the DOT has more miles to plow than the city (250 miles to 132 miles), Weber said the state agency has the advantage be-

(See SNOW, page 2)



FALL CLEANUP—A snowblower followed by a road scraper works on Trainor Gate Road Thursday afternoon, still cleaning up the snow dumped on the Fairbanks area earlier this week. Snowfall was as much as a foot in outlying hills. City and state road crews worked frantically to first open the roads, then to clear the snow. *(Staff photo by Joe Cortese)*

SNOW . . .

(Continued from page 1)

cause of it has a night crew on duty. Weber is alerted to heavy snows by the police or other city employees who call him at home.

Monday morning he was awakened at 3 a.m. and went into the office to call out more crews.

Once the roads are punched open, "the first lick," Horn said, the real work begins. That includes smoothing off the snowpack and winging back the windrows.

Providing traction for vehicles on hills and at intersections usually begins after the snow has been plowed.

The state uses both salt and sand on the roads. Horn explained that salt is only effective at plus 21 degrees, so it is not used the majority of the winter.

He acknowleged the corrosive effects of salt, and said that DOT researchers are working on an alternative to the tender eating salt.

The city is also experimenting with non-toxic chemicals which act as an anti-freeze on the roadway. Those are only experiments, however, and Weber said the city mostly relies on spreading different sizes of gravel.

A checklist of icy spots are compiled each day for dispatching the city's two sanding trucks.

COMM = ST
DATE = 052483
TIME = 1330
YEAR = 83
DOC ID st 0524831330

HEADING

SENATE TRANSPORTATION
STANDING COMMITTEE
May 24, 1983
1:30 p.m.

Members Present: Senator Pappy Moss, Chairman
Senator Don Gilman
Senator Jan Faiks

Members Absent: Senator Bettye Fahrenkamp
Senator Jalmar Kerttula

CALENDAR HCR 29 Amended Title: Encouraging the Department of Transportation and Public Facilities to use calcium-magnesium acetate as an ice and dust control agent.

WITNESS REGISTER

WITNESS:

Representative M. Mike Miller, Prime Sponsor
Alaska State Legislature
Pouch V
Juneau, Alaska 99811
Position Statement: Testified on HCR 29.

WITNESS:
Dick Hamilton, Acting Director
Maintenance and Operations, Southeast Region
Department of Transportation and Public Facilities
P.O. Box 3-1000
Juneau, Alaska 99801
Position Statement: Testified and answered questions.

PREVIOUS ACTION

HCR 29 No previous action to record on HCR 29.

ACTION NARRATIVE

TAPE#18, SIDE A.
Recording
Number 000 Chairman Moss brought the meeting of the Senate Transportation Committee to order at 1:36 p.m. Senator Faiks announced that SCR 27 had

favorably impressed the Rules Committee which was going to calendar that resolution as soon as possible. Chairman Moss announced that HB 321 and HB 322 would go to a Subcommittee, the chairman of which would be Senator Kerttula who would select other members if necessary, and work in whatever time-frame is necessary to study the merits of those two bills. Moss then brought HCR 29 to the floor and introduced Representative M.M. Miller as the prime sponsor.

Number 048

Representative Miller noted that currently in the Southeast and Interior Regions chloride salts were being used for both ice and dust control, but that these were responsible for at least $20 million in damage to cars through rust. Senator Faiks asked about the use of salt on the road in Juneau as compared to its use in Anchorage.

Number 101

Representative Miller stated that a representative from the Department of

Transportation and Public Facilities was available to answer that, but that chloride salts were used all over the state. Miller explained that there had been developed a substance called calcium-magnesium acetate (CMA) which is not currently on the market but the ingredients of which are available in Alaska; limestone and petroleum by-products. Miller stated that the University was successfully mixing the CMA on an experimental basis, but on a small scale. Miller noted that Representative Bettisworth had money in the University budget now for research on a larger scale, and he stated that if the CMA worked out as expected, the state would probably want to hand it over to private industry. Miller stated that CMA had the potential to become an exported product and that the resolution simply encouraged the Department to continue as they are.

Number 164

Representative Miller described CMA further as a

non-corrosive non-polluting substance, an effective de-icer, the ingredients of which were readily available, and he pointed out that the acetic acid could be produced as a refinery by-product.

Number 189 Senator Gilman asked if CMA had the same dust-controlling capability as calcium chloride. Representative Miller replied that CMA had the same effect as a dust-controlling substance.

Number 230 Dick Hamilton, Acting Director for Maintenance and Operations for the Southeast Region of the Department of Transportation and Public Facilities, introduced himself and noted that CMA acted in the same way as calcium chloride in that it sucked moisture from the atmosphere, and was being studied at this time as a dust-controlling agent. Hamilton added that in comparing de-icing in Juneau and Anchorage, a greater quantity of liquid calcium chloride was used because of the warmer temperatures in

Juneau which were responsible for a greater amount of black ice. Hamilton pointed out that at colder temperatures sand and other methods could be used. Hamilton noted that liquid calcium chloride was used over dry chemical because it cut the consumption by 50 percent, and it had an almost instant de-icing capability. Hamilton stated that if CMA were available it would be used in the same manner as the calcium chloride and that calcium chloride was used rather than sodium chloride because it was less corrosive.

Number 300 Senator Gilman asked the cost of a ton of calcium chloride. Mr. Hamilton replied that it was $400 per ton, and that sodium chloride was about $150 par ton, adding that preliminary reports indicate that CMA would be equivalent in cost to calcium chloride. Gilman asked how many tons were used used each year statewide. Representative Miller noted that Alaska used

830,000 tons of a mix including sand and gravel and 688 tons of calcium chloride and 76,000 tons of sodium chloride.

Number 350

Chairman Moss noted that cost of the material was not the primary concern, but the dollars spent on automobiles, concrete, and bridges. Moss quoted from a report on cathodic protection of concrete bridge decks in Alaska, "The corrosion of rebar in bridge decks is similar to what occurs in many types of galvanic cells, such as the lead-acid automobile battery...In a bridge deck, different parts of the reinforcing steel become anodic or cathodic due to differences in residual stresses and impurities in the steel, cracks, moisture content, and aeration of the concrete, and other factors," and mentioned that the article pointed out that reinforced concrete was commonly used for bridge decks, and that there was an alarming increase in delamination and spalling.

Number 374

Chairman Moss asked whether CMA could be used in the same manner as urea at airports but without the detrimental effects. Representative Miller pointed out that the urea could probably be replaced with CMA which was much less expensive. Mr. Hamilton commented that the Department used urea extensively as the FAA required that they not use a chloride de-icer. Senator Faiks explained that the high temperatures caused by jet takeoffs reacted with the substance used on the runways and created a blue smoke of pollutants. Moss asked whether CMA would cause that type of problem and was told by Hamilton that it would not.

Number 435

Mr. Hamilton stated that the Department of Transportation was in favor of HCR 29, and informed the Committee that DOT had put in $42,000 along with Senator Bettisworth's $158,000 to do the pilot plant study. Hamilton noted that the pilot plant was finished and they

expected to have 5,000 gallons of CMA ready for the coming winter, but that product was not yet available commercially although a North Pole refinery had expressed interest as far as contracting their own engineering study on how they could produce acetic acid. Hamilton explained that the industry didn't want to make the capital investments required before they were satisfied that everything would work, but he suspected that if DOT put out a request for bid proposals they'd find out whether or not there was interest in producing CMA.

Number 488

Chairman Moss noted that Limestone would be available locally in areas where it was needed. Mr. Hamilton restated that the production of CMA was a simple process. Senator Faiks asked about the white residue left by CMA. Representative Miller pointed out that the white residue left by chlorides was corrosive whereas that left by CMA was not. Moss noted that the Committee had

seen a series of bills recently that addressed the future, including the one addressing the High Float Emulsion asphalt and the one before the Committee, and he stated that it represented great strides forward in the maintenance and construction of the highways of the State.

Number 520

Chairman Moss asked for a motion to move HCR 29 out of the Transportation Committee. Senator Faiks moved HCR 29 out of Committee with individual recommendations. As there were no objections it was so ordered by Chairman Moss.

Number 525

Chairman Moss adjourned the Senate Transportation Committee meeting to a close at 2:00 p.m.

END OF DOCUMENT

COMMITTEE REPORT

HOUSE

(9)

FURTHER:

3/30/83

Date: 4/14/83

Mr. Speaker:

The Committee on TRANSPORTATION has had HCR 29

Encouraging the Department of Transportation and Public Facilities to use calcium-magnesium acetate as an ice and dust control agent.

under consideration and reports it back as follows:

[ ] do pass [ ] do not pass

[ ] do pass with attached amendments(s)

[ ] replace with CS for _____ [ ] same title [ ] new title

and recommends _____

[ ] AND attaches a "Letter of Intent" [X] New Fiscal Note

[X] reports it back without recommendation [ ] Zero Fiscal Note Attached

[ ] referred to the _____ Committee

MEMBERS SIGNING
DO PASS

Mike Davis Do Pass

M.W. Miller Do Pass

MEMBERS HAVING
OTHER RECOMMENDATIONS:

M.W. Miller Vice Chairman

CHAIRMAN

H 60

TO: MM

FROM: dz

DATE: 13/April 1983

RE: HCR 29/Calcium Magnesium Acetate

Complaints regarding rusting automobiles in Juneau prompted introduction of this resolution.

When trying to find statewide statistics on salt damage to automobiles, it was also found that salt has corrosive effects on bridge structures. Four bridge structures were replaced in Fairbanks at a cost of $641,000.00. It is estimated that damage to bridges in Anchorage and the Southeast, where salt is used more frequently, is significantly higher. Unfortunately, there are no statewide Dept. of Transportation statistics regarding corrosive damage. Estimates on corrosion costs to automobiles alone in Alaska are approximately $40 million annually. Attached are federal statistics.

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Attached is a technical report from Massachusetts regarding salt damage. Finding indicate that the level of salt use should be reduced because of the harmful effects that it has on pollution of water supplies.

SUMMARY
Economic Analysis -- Environmental Impact Highway De-Icing

320 references provided this data:

* Total annual national cost of salt related damages = $3 billion

  (about 15 times the annual cost for salt & application)
  (6 times the entire annaul national budget for snow & ice removal)

* largest cost from vehicle damage

* most serious damage seems to be water pollution & degradation of health which may result
  (can't put a dollar figure on this)

Findings DO indicate that salt use should be reduced. Amount of reduction should be determined on basis of local conditions. Damages are very large but not uniform across all locations.

There is a huge dollar figure on annual cost to the states from road salt use. (SEE attached - pg. 1)

Heavy salt use can upset the natural ecological balance -- this cannot be assigned a dollar figure.

Several states have found increases of salt in groundwater and surface drinking water -- this has been directly linked to de-icing salts.

EPA/600/2-76/105
May 1976

PB 253 268

Environmental Protection Technology Series

An Economic Analysis of the Environmental Impact of Highway Deicing

Municipal Environmental Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency

TECHNICAL REPORT DATA

(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-600/2-76-105		PB-253 268

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5. REPORT DATE
May 1976 (Issuing Date)

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7. AUTHOR(S)
Donald M. Murray
Ulrich F. W. Ernst

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55 Wheeler Street
Cambridge, Massachusetts 02138

10. PROGRAM ELEMENT NO.
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68-03-0442

12. SPONSORING AGENCY NAME AND ADDRESS
Municipal Environmental Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency
Cincinnati, Ohio 45268

13. TYPE OF REPORT AND PERIOD COVERED
Final 8/74 to 7/75

14. SPONSORING AGENCY CODE
EPA-ORD

15. SUPPLEMENTARY NOTES
Hugh Masters, Project Officer, FTS 342-7541

16. ABSTRACT

This study involves an analysis of the cost of damages that result from the use of salt (sodium chloride and calcium chloride) on highways to melt snow and ice. A large literature search and several surveys were carried out in order to determine the types and extent of damages that have occurred. The report contains over 320 references.

An in-depth analysis was performed on all of the data obtained. The major cost sectors examined were: Water supplies and health, vegetation, highway structures, vehicles, and utilities. For each of the sectors a cost estimate was developed. The total annual national cost of salt related damage approaches $3 billion dollars or about 15 times the annual national cost for salt purchase and application. While the largest costs result from damage to vehicles, the most serious damage seems to be the pollution of water supplies and the degradation of health which may result. It is particularly difficult to assign costs in this latter area and therefore the estimate may substantially understate the actual indirect costs to society.

These findings indicate that the level of salt use should be reduced. The amount of the reduction should be determined on the basis of local conditions.

PRICES SUBJECT TO CHANGE

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Deicers Snowstorms Ice Control Economic Analysis Sodium Chlorides Water Pollution	Salt Stormwater Runoff Environmental Impact Snow Control	13E

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS (This Report)	21. NO. OF PAGES
Release to Public	Unclassified	
	20. SECURITY CLASS (This Page) Unclassified	

SECTION 1

FINDINGS AND CONCLUSIONS

1.1 SUMMARY OF FINDINGS

There have been a substantial number of reports of salt related damage in the literature. Most of the reports are deficient in hard cost data. Consequently, by examining different small subsets of the data, various individuals have arrived at opposite conclusions: in some cases that salt damage is insignificant and in other cases, that road salting must be discontinued completely. Examination of all of the literature and contact with hundreds of persons and agencies who are aware of salt related damage has led to the finding that, in general, the damages are very large although not uniform across all localities. Through analysis of all of the available data, the best estimate (in many cases the lower bound) of the annual cost to the snowbelt states that results from the use of road salt is as follows:

	Total (in millions)
Water Supplies and Health	$ 150
Vegetation	50
Highway Structures	500
Vehicles	2,000
Utilities	10
Salt Purchase and Application	200
Total	$ 2.91 Billion

damage to vehicles alone is x10 x the salt purchase & applic. cost ~$4,000,000 in Alaska

($\frac{500,000}{250,000,000}$ $2,000,000,000) $4,000,000 very rough

Furthermore, heavy salt use in many instances upsets the natural ecological balance resulting in damages which cannot be assigned a dollar figure. This is one of the many reasons that the above dollar amounts must be considered as lower bounds. The most potentially serious of all these damages are the irreversible ones, such as the risk of increased hypertension that results from the heightened levels of sodium in water supplies. For example, groundwater supplies have been most severely affected. Over 90 communities in Massachusetts have one or more supplies

with a sodium content greater than 20 mg/liter, the maximum allowed for persons on low sodium diets. Over 30 water supplies in Connecticut contain more than 20 mg/l sodium and the number is increasing. As much as 5% of the population consuming water contaminated by road salt may be adversely affected.

The use of salt for winter maintenance generally results in better traction on the highways, but because of a number of confounding factors, especially driver behavior, the link between salt and safety has not been proved. While several studies have reported that salt reduces accidents, the methods of data collection and analysis have been found to be mathematically unsound.

Finally, carefully designed reduced salting policies seem to have gained public acceptance as a result of public information programs. The most notable case is the State of Connecticut where state salt use was reduced by 33% because of rising sodium content in water supplies. There is every reason to believe that the residents of individual cities and towns or other states would accept a salt reduction if the salt related damages were made known to them.

1.2 CONCLUSIONS

In the past a number of claims have attempted to downgrade the seriousness of road salt related damage by placing emphasis on the comparisons of the effectiveness of salt and sand, or by concentrating on the lack of importance of vegetation in comparison to human lives (i.e., safety on the roads). Because these claims do not address the whole problem, they are superficial, misleading, and in a few cases, irresponsible. The facts are:

- Several states have experienced significant increases of salt in groundwater and surface drinking water supplies that have been directly linked to the use of deicing salts.

- In particular cases, the levels exceed Public Health Service safety standards set in 1962 and in most cases the levels exceed the standards set by leading researchers, heart specialists and the American Heart Association.

- The cost in terms of permanent health degradation is extremely difficult to measure, but is likely to be very high.

- The cost of actual damage to vehicles, highways and structures, utilities, and vegetation are immense. The annual damage costs at a very lower bound, approach $3 billion. This "hidden" cost is almost 15 times the annual national budget for the purchase and application of road salt, and about 6 times the entire annual national budget for snow and ice removal.

The implications of these facts are clear. Without a doubt the most serious problem is our water supplies. While the cost of damage to bridge decks and vehicles is high, but reversible, the damage to health may not be reversed. We can no longer afford to ignore the fact that we are depositing large quantities of salt into the water that nature provides us and upon which are dependent every moment of our lives. The most advanced medical research indicates that water with more than 20 mg/l sodium is unhealthy and detrimental to a substantial fraction of the population. The American Heart Association supports this fact. Disregard for the quality of drinking water in this and any instance is extreme negligence and we must face the issue squarely. Road salt may be only one of the many serious pollutants in our environment, but that is no excuse to allow the present situation to exist any longer. In order to avoid further damage and high costs, salt use for winter maintenance must be reduced in many areas.

NaCl gram molecule

Na 22.99

35.45

= 58.44 grams

.051 gram salt / lt.

(20 ppm)

.393 gm Na / gm of NaCl

.051 gm NaCl / l

University of Alaska
PETROLEUM ENGINEERING DEPARTMENT
ROOM 17, DUCKERING BUILDING
FAIRBANKS, ALASKA 99701

PETROLEUM ENGINEERING (907) 474-7734

April 11, 1983

Representative Mike Miller
Democrat, Juneau
Pouch V
Mailstop 3100
Juneau, AK 99811

Dear Representative Miller:

I am quite pleased with your demonstrated interest on the problems of deicing and our work to develop effective alternative deicing agents. The Research Section of the Alaska D.O.T. has already exercised a significant amount of effort on the subject and they have been most supportive and cooperative with us. Your resolution will certainly help our combined efforts.

I would like to take this opportunity to supply you with certain facts on the benefits and costs of road deicing.

A report by the Institute for Safety Analysis (Brenner and Moshman, 1976) indicates the following benefits associated with road deicing.

TABLE 1

ANNUAL ECONOMIC BENEFITS FROM ROAD DEICING

Category	Amount (In $ Millions)
Reduced Wage Losses	
(i) Lateness to work	12,200
(ii) Work Absenteeism	4,800
Reduced Production Losses	11,300
Reduced Losses in Goods Shipments	970
Reduced Fuel Costs	330
TOTAL	29,600

The numbers in Table 1 are inflated figures from Brenner and Moshman (1976) including 61% inflation to date.

While the annual economic benefits to the "national good" are unassailable, there are certain major costs associated with using the present deicing agents.

Sodium chloride (the common salt) and calcium chloride are the presently used compounds. By depressing the freezing temperature of water, they allow the melting of ice and, therefore, its removal either by natural runoff or by the movement of vehicles. Murray and Ernst (1976) have estimated the costs of road deicing.

TABLE 2

ANNUAL COST OF ROAD-SALTING

Category	Amount (In $ Millions)
Water Supplies and Health	242
Vegetation	81
Highway Bridge Decks	805
Vehicles	3,220
Utilities	16
Salt Purchase and Application	332
TOTAL	4,686

NO AUTO REPAIR!

The numbers in Table 2, also inflated since the 1976 figures, offer several interesting conclusions. The ratio between the annual benefits (Table 1) and the annual costs is 6.3 offering substantial reasons why road deicing, when viewed on the national scale, is a desirable undertaking.

However, a comparison between the cost of salt purchase to the damages that are associated with its use (1/15) leads to the obvious conclusion that alternative, noncorrosive and environmentally benign deicers are extremely attractive.

My estimates are that in Alaska, the corrosion costs to automobiles alone are approximately $40 million annually. This figure was derived by assuming 400,000 vehicles in Alaska sustaining an average of $100 corrosion damage annually. Considering that no salts are used for deicing in the Interior, the bulk of the damage must be assessed to southeast and south central Alaska. Bridge deck replacement in Fairbanks cost several hundred thousand dollars, recently.

Furthermore, as Murray and Ernst (1970) point out, "heavy salt use...upsets the natural ecological balance" causing irreversible damanges which cannot be assigned an actual dollar cost. These include the risk of increased hypertension. This item cannot be underestimated. Groundwater supplies have been severely affected. In the east of the country, several potable water sources have a salt content of more than 20 mg/liter, the maximum allowable for persons on low sodium diets. This has been directly linked to the use of salt as a deicing agent. Hence, while the cost on the permanent health degradation may be difficult to assess, it is likely to be very high.

Our research on calcium-magnesium acetate (CMA) has resulted in a compound that may be produced by using native Alaskan raw materials and at prices in the region of the acquisition costs of chloride salts. The environmentally benign and noncorrosive nature of CMA offer a compelling rationale in its favor.

We would like to explore with you the logistics of undertaking a controlled test in Juneau and elsewhere in the southeast. Sometime next winter, we could coordinate our efforts with the D.O.T. people. We have a limited supply of CMA on stock and we could have a significantly larger quantity by then.

Let us know how we could be of help

Sincerely,

Michael J. Economides
Assistant Professor
Petroleum Engineering Department

P.S. A copy of the Northern Engineer with one of our papers on CMA is enclosed.

References:

Brenner, R. and Moshman, J.: "Benefits and Costs in the Use of Salt to Deice Highways", Institute of Safety Analysis, Washington, DC, Nov. 1976.

Murray, D.M. and Ernst, V.F.W.: "An Economic Analysis of the Environmental Impact of Highway Deicing", U.S. E.P.A. Rept., EPA-600/2-76-105. May, 1976.

cc Larry Sweet
MJE:bb

STATE OF ALASKA

Bill Sheffield, Governor

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

MAINTENANCE AND OPERATIONS, INTERIOR REGION

2301 PEGER ROAD
FAIRBANKS, ALASKA 99701
PHONE: (907) 452-1911

March 25, 1983

Ms. Denise Zachery
c/o Representative Mike Miller
House Democrats Office
Pouch V
Juneau, AK 99811

Dear Ms. Zachery:

Enclosed for your information is a draft copy of the interim report on the second phase of this Department's study into the possible production of Calcium Magnesium Acetate (CMA) for use as a deicing agent on Alaskan roads.

We feel that it is an appropriate time to perform a demonstration project to test both the economics of commercial production of this chemical and its effectiveness in comparison with the salts commonly used to deice roads. The results of the research conducted to date by the Petroleum Engineering Department of the University of Alaska and our own lab tests have been encouraging.

Potential suppliers of both acetic acid and limestone, the two ingredients necessary to make CMA, have contacted the Department to indicate their interest in participating in a CMA demonstration.

A demonstration could be performed by the private sector in cooperation with DOT/PF personnel.

Sincerely,

John D. Horn
Acting Deputy Commissioner
Interior Region

cc: Daniel A. Casey, Commissioner

attachment

A PROCESS DESIGN, BENCH SCALE PILOT PLANT AND WIDE FIELD APPLICATIONS OF CALCIUM ACETATE

AN INTERIM REPORT

by

Michael J. Economides
Russell D. Ostermann
Bertrand Theuveny
Andrew H. Thomas

Department of Petroleum Engineering
University of Alaska
Fairbanks, Alaska 99701

MARCH, 1983

Prepared for:

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DIVISION OF PLANNING AND PROGRAMMING
RESEARCH SECTION
2301 Peger Road
Fairbanks, Alaska 99701

INTRODUCTION

This project is a continuation of the previously funded "Preliminary Design and Feasibility Study for a Calcium-Magnesium Acetate Unit" (Reference Project F15631-CMA).

Calcium-Magnesium Acetate (CMA) exhibits excellent de-icing characteristics, yet is non-corrosive, and not harmful to plants. In our previous work, a process concept was developed for the production of CMA from native Alaskan limestone and acetic acid, based on laboratory scale reaction experiments. The next logical step in the development process was the construction and operation of a small scale pilot plant to gather specific process data necessary for a full-scale process design. That is the subject of the current project.

In addition to our design work, we undertook to produce about 500 gallons of CMA solution from a batch process based on our limited laboratory studies. This interim report gives a brief summary of our progress.

The next step in the development process will be the design, construction and operation of a demonstration plant to serve the dual purpose of proving the viability of the process, and to provide enough CMA for field tests. It should be noted that nowhere is CMA manufactured in bulk and, therefore, is unavailable in the amounts necessary for wide-scale testing. A

proposal has been submitted to the State of Alaska through the Fairbanks North Star Borough. Approval is pending.

It has recently been suggested that CMA may be useful as a dust-control agent as well as a de-icing agent, however, this has not presently been verified. We have designed a set of experiments to test the utility of CMA in dust control, but expect that a road test will be required for positive determination. Funds are currently being sought for this research.

BACKGROUND

Road and runway de-icing are serious problems in the northern latitudes. The problem is most pronounced in the coastal regions of Alaska where freeze-thaw cycles occur several times during the winter. Sodium chloride (salt) and calcium chloride have been used for many years as de-icing agents, however, these materials are highly corrosive to automobiles, airplanes and roadway bridge structures.

Recently, several salt-damaged bridge structures were replaced in Fairbanks at a cost of over $600,000. The cost of

salt-related damage to bridges in the Anchorage and Juneau areas where salt is used more frequently are correspondingly higher.

Furthermore, road salts are injurious to most forms of plant life. In the spring, a drive along heavily salted roadways in Anchorage reveals a virtual moonscape with dead or stunted plants. The success of ongoing roadway beautification projects in Anchorage and Fairbanks will be questionable with the continued use of road salts.

In a report entitled "Alternate Highway De-Icing Chemicals" published by the Bjorksten Research Laboratories, a mixture of calcium and magnesium acetate (CMA) was identified as an effective, non-corrosive, de-icing compound. In the solid form, CMA is a white powder resembling powdered sugar. It can be applied as a solid or in a saturated solution. The effective temperature range is about the same as common road salt. In contrast to salts, however, CMA is non-corrosive, not harmful to plant life, and has no potential to harm drinking water supplies.

In previous work at the University of Alaska, funded by the State Department of Transportation (DOT), we have demonstrated that CMA can be produced from limestone, water, and acetic acid. The preliminary report of our reaction studies has been presented in a previous report to the State DOT. This funding is of significance, since limestone is readily available in Alaska. Acetic acid must currently be "imported" from the "lower

48", but could be produced locally from refinery by-products if a market were available.

In simple terms, CMA is the reaction product of the dissolution of limestone in acetic acid and water.

$$CaCO_3 + 2CH_3COOH \rightarrow Ca(CH_2COOH)_2 + H_2O + CO_2$$

The dissolution process is slightly exothermic (gives off heat) and produces considerable amounts of CO_2. The resulting solution remains acedic, and must be neutralized with sodium or calcium hydroxide.

Limestone is composed of calcium and magnesium carbonates in varying amounts. Pure magnesium acetate, which could be produced from pure magnesium carbonate, is superior to calcium acetate. Dolomites contain relatively larger amounts of magnesium carbonte and can approach 50% in composition. Unfortunately, the benefits of a 50-50 mixture over pure calcium acetate are not very significant. Therefore, it is most appropriate to use readily available limestone regardless of the magnesium carbonate content.

PILOT PLANT STUDIES

Unfortunately, we have met with several delays in the construction and operation of our pilot plant unit. The reaction assembly is in place, but the necessary fume vents have not yet been installed. This delay is due to local construction backlogs and was beyond our control. However, it would appear that the fume hoods will be installed shortly and we can begin operation.

BATCH STUDIES

Due to the lack of availability of the pilot plant, we concentrated our efforts on the batch production of CMA for road tests. Numerous difficulties were encountered in the conduction of the reactions; many more than anticipated. However, after much experimentation, we have arrived at an acceptable process scheme. In this manner, the batch studies have fulfilled (at least qualiitatively) part of the goal of the pilot plant studies.

BATCH PRODUCTION OF CMA

The procedure we settled on for CMA production is outlined below. It should be emphasized that this is by no means finalized; it is merely a procedure that works.

Our reactor for use in these experiments was a 55 gallon plastic drum equipped with a large agitator. In our initial studies, the agitator was replaced by a small circulating pump. This was found to be totally inadequate. A high degree of agitation is required to keep the carbonate particles suspended in the reacting liquid.

Foaming was another problem of critical severity. Unless the reaction was conducted at a moderately controlled rate, a very stable foam forms, necessitating removal.

MATERIALS:

20% (wt)	acetic acid (pure)
20%	limestone (crushed)
60%	water

PROCEDURE:

1. Mix the water and acid in the drum;
2. Introduce the limestone slowly to avoid foaming;
3. Stir for about 1 day;
4. Let stand (to settle) for several days;
5. Remove the liquid and place in a second drum;
6. Recycle the solid material settled from the drums;
7. Add NaOH solution (about 50-50% NaOH/water);
8. Continue to add NaOH solution until pH = 7 (It may be necessary to add water if a precipitate forms. This merely means that the solution is oversaturated with CMA);
9. CMA is ready to use..

DISCUSSION:

The neutralization reaction is difficult to control since NaAc forms a buffer solution. In practice, it may not be possible to obtain a pH of 7. A typical neutralization is plotted in Figure 1.

As can be seen in Figure 1, it was necessary to add water at points (1) and (2) to redissolve CMA which had precipitated out

of solution. With practice, the correct amount of water could initially be added to avoid this problem.

In general, it is undesirable to allow CMA to precipitate because it tends to form a gel-like solution which is difficult to stir and to redissolve. Selecting the right amount of water to add with the NaOH will depend on the limestone purity. Hence, it is possible to determine only an approximate range for application.

Figure 2 shows a plot of pH versus volume NaOH solution added. In this format, the added water correction does not appear and a more "normal" neutralization curve is obtained.

To further complicate neutralization, the reaction is not instantaneous. Figure 3 shows the response of pH with time following the additon of NaOH. About 5 minutes will elapse between the time of the NaOH addition and the final pH.

The reaction rate for this process can be monitored by measuring the CO_2 evolution. In general, the dissolution of 1 mole of $CaCO_3$ releases 1 mole of CO_2. Figure 4 shows a plot of reaction rate versus time measured in this manner. As is evident, the reaction rate declines rapidly dropping over 3 orders of magnitude in the first several hours. Figure 5 shows a plot of cumulative CO_2 production versus time. It is evident that long reaction times on the order of several days are

required. This behavior is typical of batch reactions. The reaction time can be shortened by using continuous reaction equipment, which maintains concentrations in the first reaction range.

FIGURE 1

Neutralization of CMA Solution

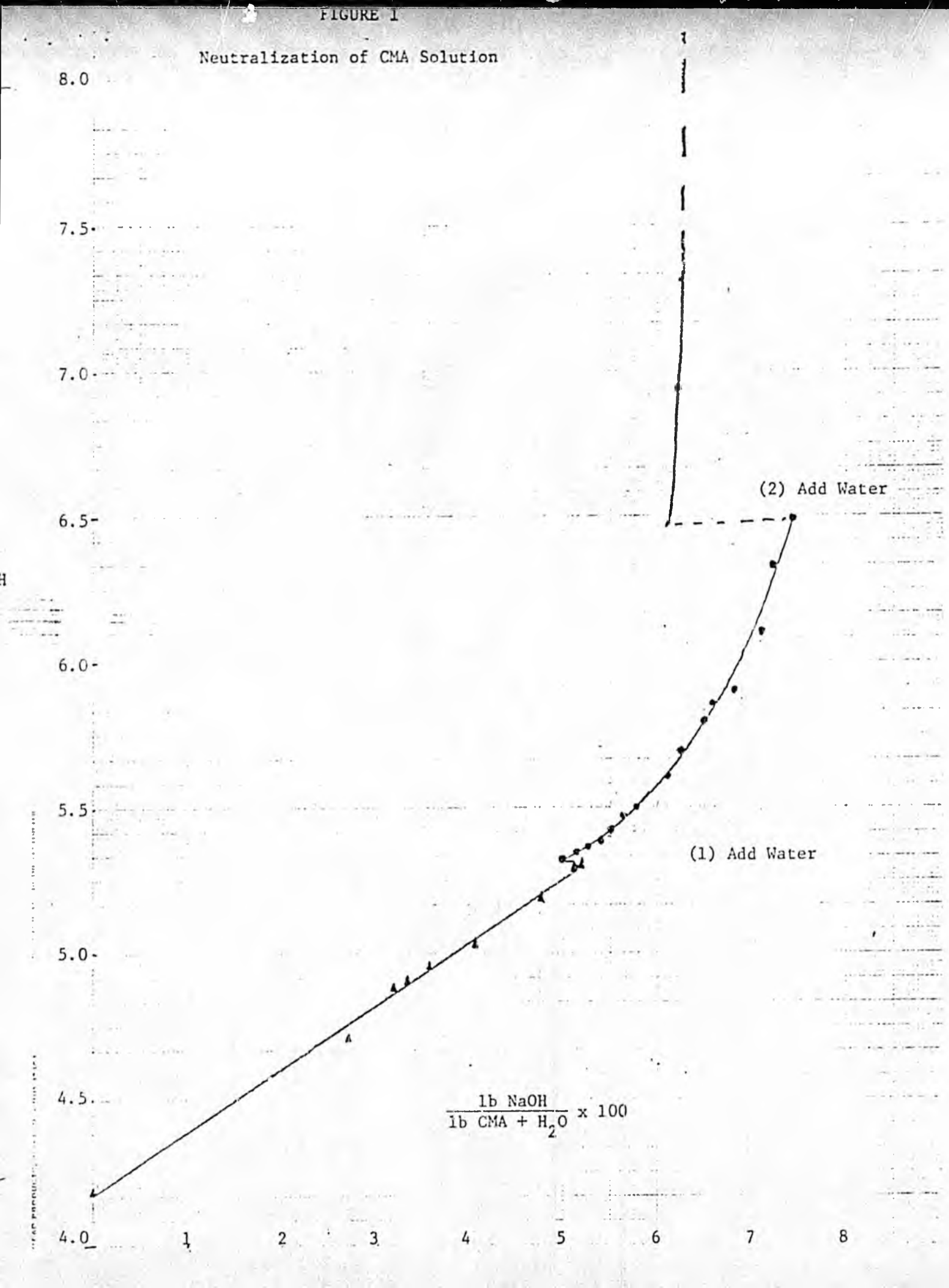


FIGURE 2

Titration of an Unknown Solution of CMA

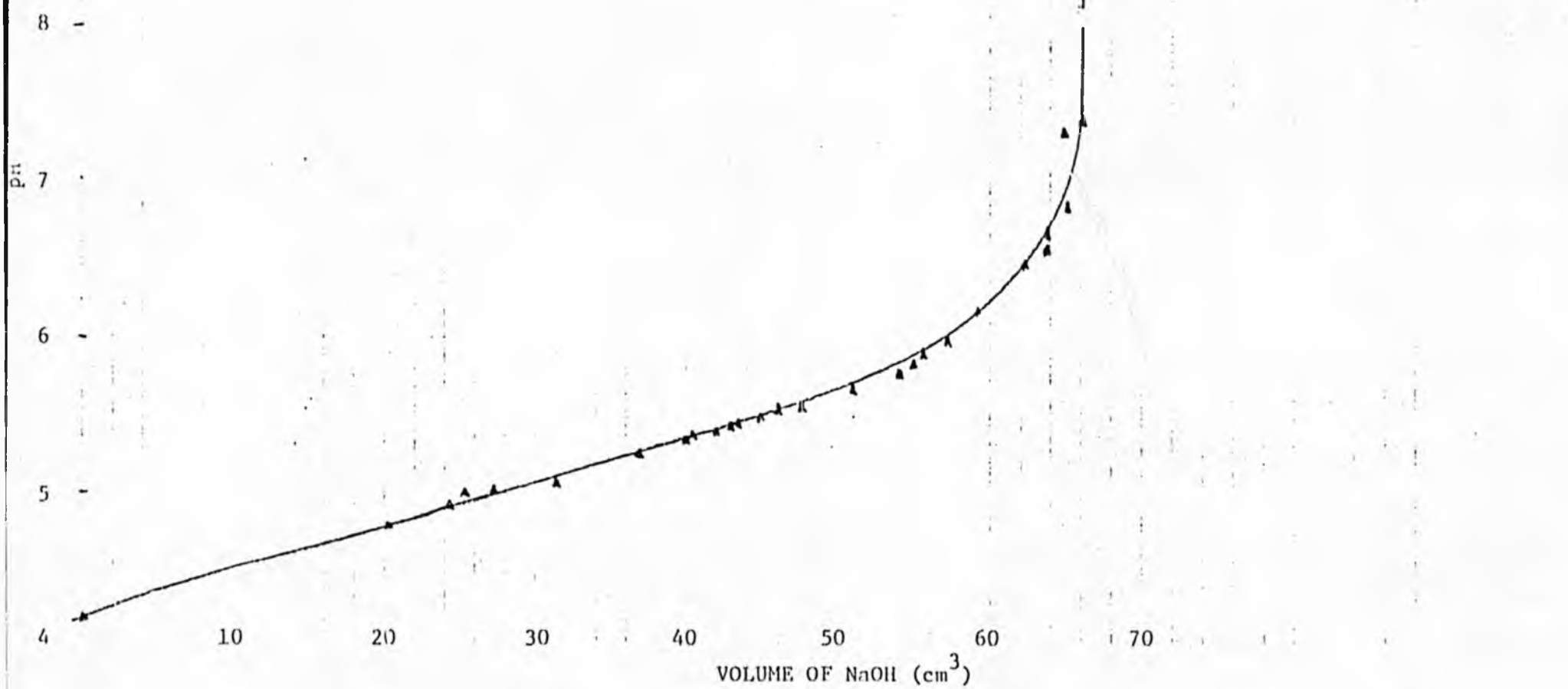


FIGURE 3

Evolution of pH versus time after adding some NaOH to the solution near equivalence point.

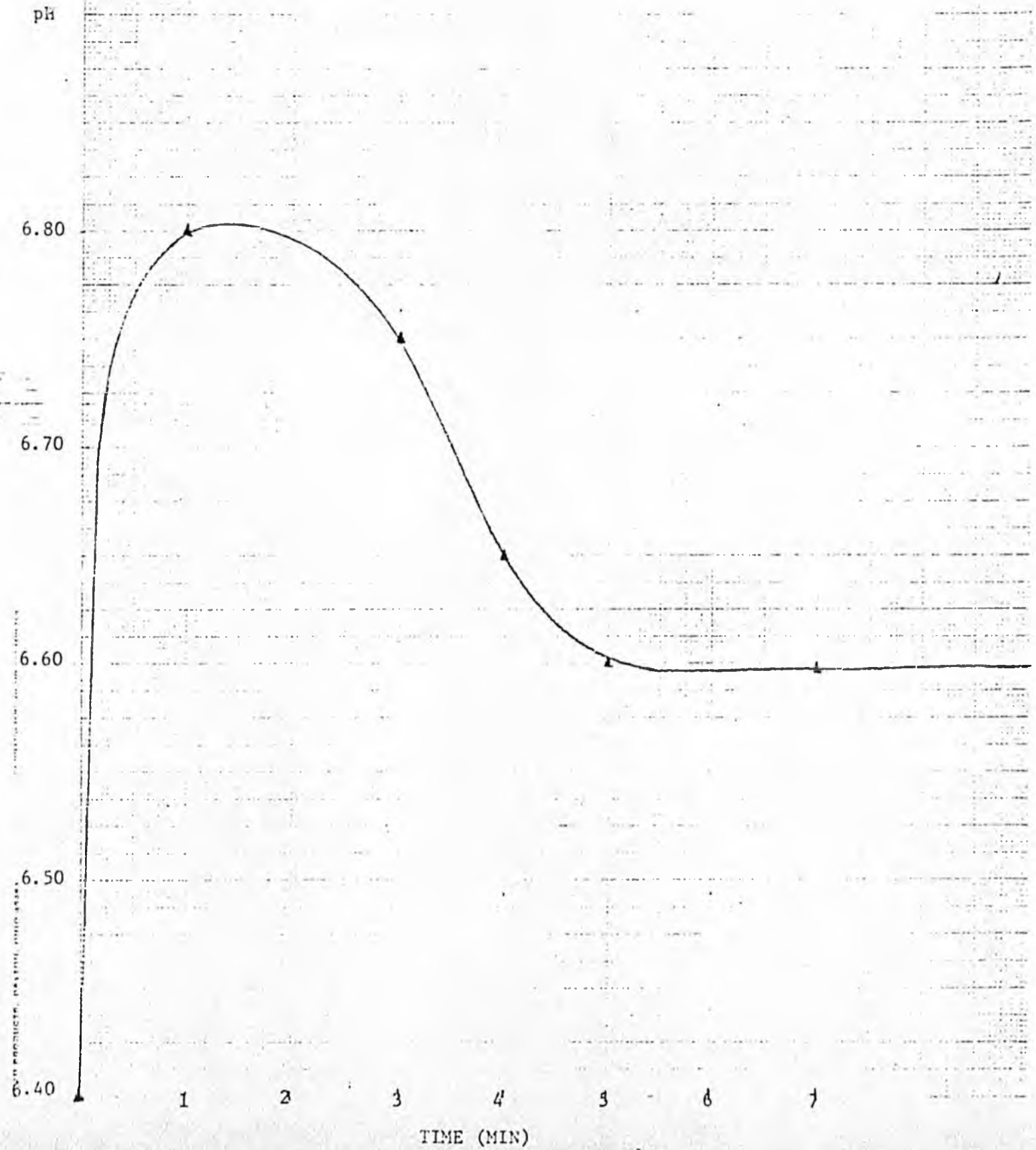
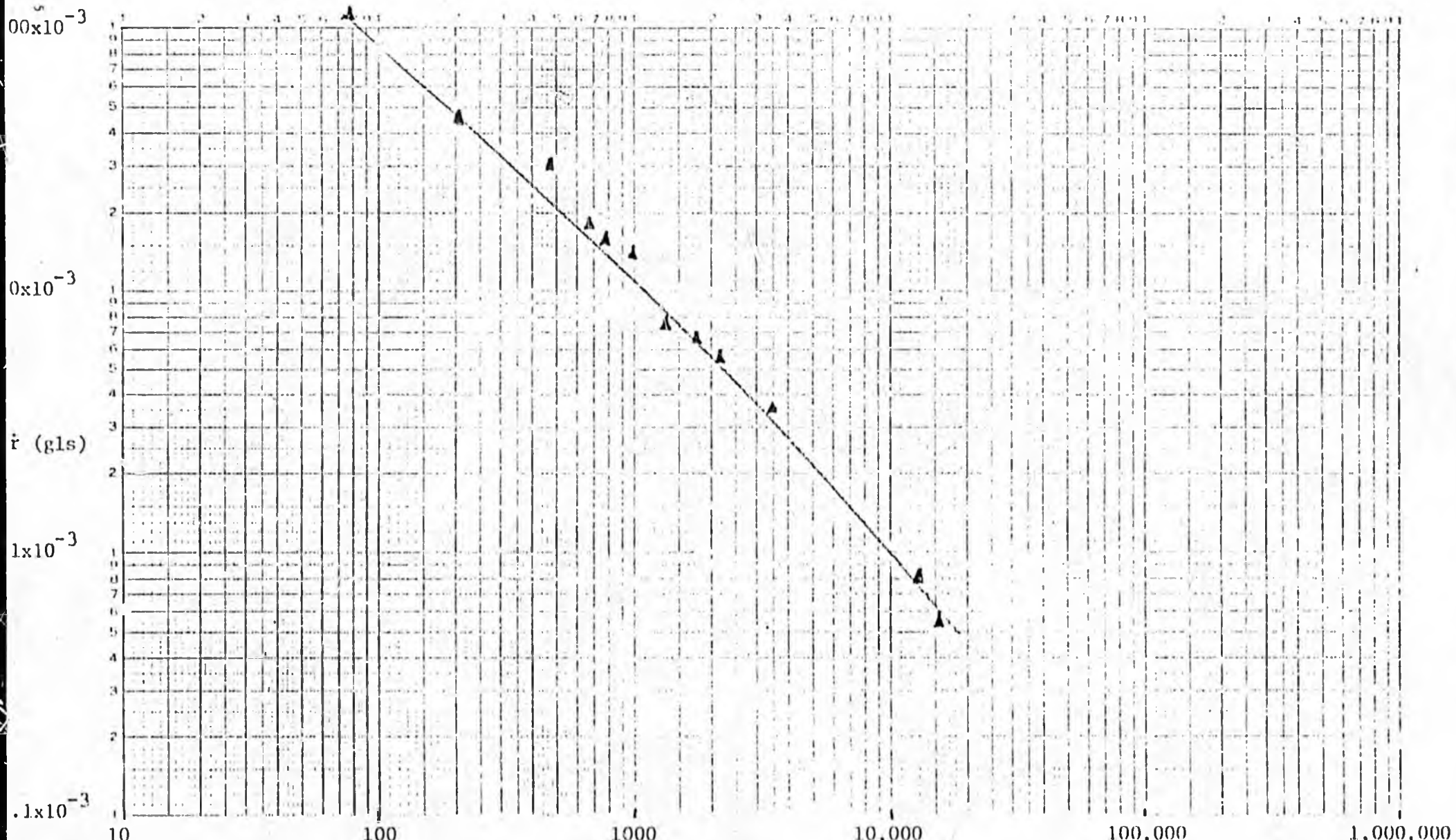


FIGURE 4



Production Rate of CMA (Limestone 14.5%, H_2O 58.6%, HAc 26.9%)

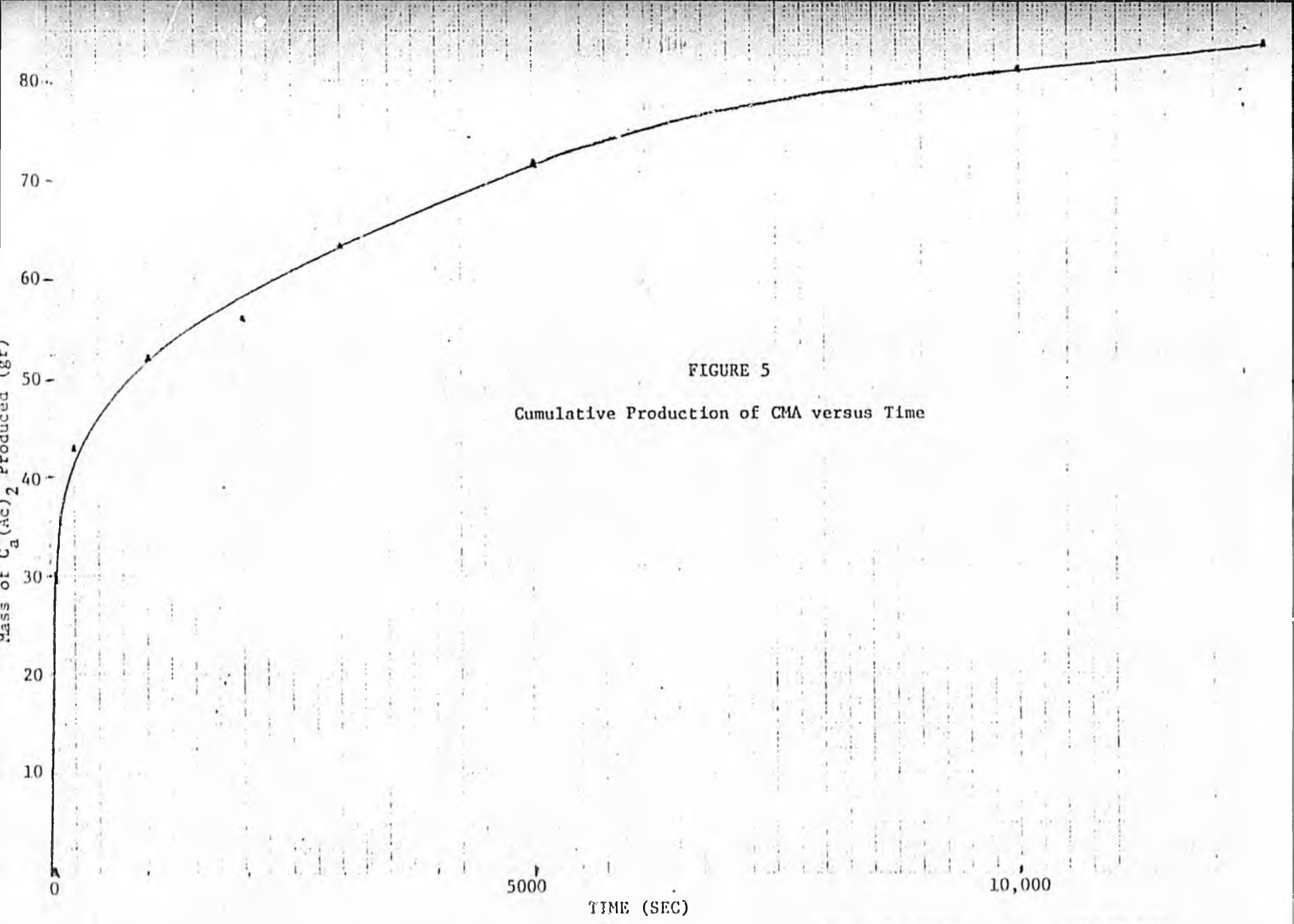


FIGURE 5

Cumulative Production of CMA versus Time

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DIVISION OF PLANNING AND PROGRAMMING
RESEARCH SECTION

2301 PEGER ROAD
FAIRBANKS, ALASKA 99701-6394
PHONE: (907) 479-2241

December 9, 1982

Re: CMA Pilot Plant
Design, F21551

Dr. Michael Economides
Dr. Russell Ostermann
Petroleum Engineering Department
University of Alaska, Fairbanks

Dear Drs. Economides and Ostermann.

The results of your research project entitled "Preliminary Design and Feasibility Study for a Calcium-Magnesium Acetate Unit" and the current Phase II project "CMA Pilot Plant Design" have generated a great deal of interest for the use of this non-corrosive substitute for the salt that is presently being used for snow and ice control on Alaskan highways.

The possible use of CMA as a dust control agent and soil stabilizer for highway surfaces in the summer, which was not envisioned in the original proposals, has increased the interest in making full scale operational tests.

This morning I learned that the Transportation Committee of the Fairbanks Chamber of Commerce intends to endorse your proposal to the Borough for the demonstration of the effectiveness of CMA on a Borough road. I also learned that officials of the North Pole Refinery are not waiting for the results of your current pilot plant project but are doing design studies of their own to investigate the factors involved in production of acetic acid on a large volume scale.

I have been repeatedly asked about the status of the pilot plant project because of the new found potential use of this product on the Dalton Highway.

I know that there have been many delays in assembling your pilot plant. It appears that it may now be almost ready for operation. However, the types of demonstration projects that are being discussed could involve thousands of gallons of CMA where your pilot plant is only capable of producing 15-20 gallons per day.

If there is anything that I can do to expedite getting your plant in operation, please let me know. For sometime now this project has been of extreme interest and the questions your project is seeking to answer are vital. Please keep me informed.

Sincerely,

Larry Sweet

Larry Sweet
Research Manager

LS/emc

cc: Bel Frol
Staples Brown

VOLUME 10-82 DATE: 10/8/82

Bob Chuck Matt

CALCIUM MAGNESIUM ACETATE - CMA

M & R's research effort has continued on calcium magnesium acetate, better known as CMA. This is a substitute for salt. We have been working very closely with industry and have produced in our M & R backyard a 40 lb. batch of CMA utilizing our concrete mixer for 10 minutes of agitating. The ingredients were a 10% solution of acetic acid provided by W. R. Shurtleff (at no cost) and 50 lbs. of coarse dolomitic limestone, courtesy of Lime Products Corp. The 10 minutes of agitation allowed the acid to extract the calcium and magnesium to form in a solution. This was then evaporated by solar means during the period 6/24 - 7/16.

With the small test batch behind us, staff undertook a more ambitious project by mixing the same ingredients but in a large concrete mixer at the Union plant of Lime Products Corp. On August 11, 8,000 lbs. of fine dolomitic limestone, 1600 gal. water and 200 gal. of glacial acetic acid were mixed and placed in evaporation chambers. This may be one of the earliest and probably largest produced batches of CMA to date.

Recognizing the process is now a valid method, Lime Products Corp. is proceeding to evaluate the economics of producing CMA in a continuous flow-evaporation cycle.

DEER MIRRORS

FHWA's Technical Report RD-82/061 is entitled "Evaluation of Deer Mirrors for Reducing Deer-Vehicle Collisions". In the transmittal from the Director of the Office of Research, FHWA, dated August 4, it was noted "During the past 10 years numerous methods have been tried to reduce the more than 200,000 deer-vehicle collisions which occur each year on the nation's highways. Some techniques, such as properly maintained deer fencing and underpasses, have been successful. Others, such as fixed signing, have not. Reflective devices (deer mirrors) are supposed to create a visual barrier when car headlights strike them to arrest deer movement. In recent years, at least eight states have employed reflective devices along the roadside; however, because of a lack of an organized data collection program, results were either inconclusive or misleading.

This memorandum distributes the subject report which concludes that "deer mirrors" are not effective in reducing deer-vehicle collisions. The cost of their installation and maintenance is not justified. The report (1) documents the results of a four year study in south-central Maine and (2) reviews the literature concerning the effectiveness of reflective devices in reducing deer-vehicle collisions. The report will be of interest to wildlife researchers, wildlife biologists, environmental specialists, traffic and maintenance engineers, and state wildlife agencies."

This effort was undertaken thru a cooperative effort by many Maine DOT staff. Particular appreciation is extended to the individual snowplow operators who for four years maneuvered their plow blades around 30" posts, recognizing in the seat of the cab these plow operators have difficulty in seeing objects within the first 40 feet of their front tire; also to the maintenance supervisor who reported deer-vehicle impacts plus the State Police who patrol the area. The Department of Inland Fish & Wildlife was instrumental in documenting the deer-vehicle collisions. The mirrors were installed under construction contract (federal-state) change order. The project was designed by Dr. James Gilbert, Wildlife Unit at the UMO Campus. He was funded for the study directly by the Federal Highway's Office of Research. This was the first project which directly evaluated the effectiveness of the deer-vehicle mirrors. It is regrettable that after 16 months the impact-vehicle rate ceased although the study was carried for three more years. Hunters have always said the deer are smart animals and perhaps this study indicates the degree of their intelligence!

AASHTO ROAD TEST

The AASHTO Road Test was conceived, designed, constructed and tested to measure the actual destruction effect of various wheel loadings on numerous test sections of different thicknesses.

COMMITTEE REPORT

SENATE

FURTHER:

4/2/83

Date: May 24, 1983

Mr. President:

The Committee on TRANSPORTATION has had HCR 29

Encouraging the Department of Transportation and Public Facilities to use calcium-magnesium acetate as an ice and dust control agent.

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

[X] do pass   [ ] do not pass

[ ] do pass with attached amendments(s)

[ ] replace with CS for ______ [ ] same title [ ] new title

and recommends ______

[ ] AND attaches a "Letter of Intent"   [ ] New Fiscal Note

[ ] reports it back without recommendation

[ ] referred to the ______ Committee

MEMBERS SIGNING
DO PASS

[signature]

Don Gilman

[signature]

MEMBERS HAVING
OTHER RECOMMENDATIONS:

[signature]
CHAIRMAN

HCR

AA

Alaska State Legislature

House of Representatives

Representative Mike Szymanski

Official Business

SR-A-Box 1304B
Anchorage, Alaska 99502
Phone (907) 349-3373

While in Session:
Pouch V
State Capitol
Juneau, Alaska 99811

February 10, 1983

TO: Representative Bette Cato

FROM: Representative Mike Szymanski

SUBJECT: HCR 44

I am enclosing some back-up information on HCR 44. I would very much appreciate it if this bill could be scheduled for hearing as soon as possible and would also like to request that a teleconference be set up during the hearing.

Thank you.

Alaska State Legislature

House of Representatives

Representative Mike Szymanski

SR-A-Box 1304B
Anchorage, Alaska 99502
Phone (907) 349-3373

While in Session:
Pouch V
State Capitol
Juneau, Alaska 99811

Official Business

JAN 27 1984

January 26, 1983

TO: Representative Bette Cata

FROM: Representative Mike Szymanski

SUBJECT: HCR 44

When you schedule HCR 44, relating to requesting a speed zone on the Seward Highway, in the House Transportation Committee, I would appreciate it very much if the hearing could be teleconferenced with the communities involved.

Thank you.

Alaska State Legislature

House of Representatives

Representative Mike Szymanski

Official Business

SR-A-Box 1304B
Anchorage, Alaska 99502
Phone (907) 349-3373

While in Session:
Pouch V
State Capitol
Juneau, Alaska 99811

March 23, 1984

TO: Rhonda

FROM: Jane

Additional back-up for HCR 44 (to accompany "contributing factors report").

Thanks.

Number of accidents involving excess speed as the contributing factor on mile 100 - 103.5 of the Seward Highway (through Bird/ Indian)

DATE		NUMBER OF ACCIDENTS	DEGREE OF INJURY
1977		4	4 minor injuries
1978		3	3 minor injuries
1979		3	3 minor injuries 3 major injuries
1980		3	2 minor injuries
1981		4	4 minor injuries
1982		1	1 fatal injury
1983	(until Sept.)	3	4 minor injuries

Alaska State Legislature

House of Representatives

Representative Mike Szymanski

Official Business

SR-A-Box 1304B
Anchorage, Alaska 99502
Phone (907) 349-3373

While in Session:
Pouch V
State Capitol
Juneau, Alaska 99811

October 10, 1983

Mr. Dave Haugen
Deputy Commissioner
Central Region
Department of Transportation
and Public Facilities
State of Alaska
Pouch 6900
Anchorage, Alaska 99502

Dear Dave:

Just a short note to bring you up-to-date on the Bird/Indian public meeting the other night which covered a request they have made to establish a speed zone in their area.

Mr. Don Morefield of your staff did an outstanding job of presenting the technical aspects of the speed study but, unfortunately, it was very difficult for the people to understand why a zone is not warranted with the high rates of speed existing in this area.

While I understand from a technical perspective the highway is well designed to accommodate the 55+ mile per hour traffic, it does not appear to accommodate the evergrowing residential area in the Bird Creek community.

Enclosed is a copy of the draft speed zone resolution I anticipate introducing during the next legislative session, but before it is actually introduced, I would like to suggest possibly another meeting be scheduled with one of your Design/Construction representatives, Highway Safety Planning Agency and/or Municipality of Anchorage Public Safety official to discuss the establishment of the speed zone and any alternatives that may be possible.

It is my understanding from Mr. Morefield's presentation that the highway can more than accommodate the high speed traffic that is running on it now and that past statistics related to accidents and fatalities cannot be used toward the current speed zone request. I am a little concerned with the fact that we will have to have additional fatalities/automobile accidents before the safety conditions warrant a speed zone or other alternatives to be recognized by the department. This is unacceptable to me and I will not wait for more deaths to occur before pursuing the matter further.

Also enclosed for your information and consideration is a letter from Renee Wilson of Bird Creek which clearly sets forth the community concern.

Your suggestions and thoughts and a meeting with the community would be greatly appreciated.

Sincerely,

Mike Szymanski
Representative

xc: Turnagain Arm Community Council
Senator Paul Fischer
Senator Don Gilman
Assemblyman Dana Brockway
Assemblyman Don Smith

Alaska State Legislature

House of Representatives

Pouch V
State Capitol
Juneau, Alaska 99811

Official Business

January 24, 1983

Mr. Pat Durkin
President
Boretide-Indian Community
Council
SRA Box 8705
Anchorage, Alaska 99540

Dear Pat and Council Members:

I would like to take this opportunity to formally thank all of you for having taken the time to meet with me on January 5. I was very pleased with both the turnout and the seriousness of the conversation. The meeting was informative and better prepared me to represent your interests here at the capitol.

Now that I've had a few weeks to nose around, I thought I would fill you in on what I found out on some of the projects we discussed. Before I left Anchorage, my staff and I attended a series of meetings with State and Municipal officials. Here is the word or the status of various projects:

1. Bike Path: I have been assured by Municipal and State officials that the bike path planning is on schedule and that the path will be completed this coming summer. I was also told that $250,000 was sufficient for the project. Please note enclosure from Department of Transportation which shows a breakdown on expenditures to date.

2. School Bus Stop Signs: I asked Dick Armstrong of DOT about the procedure for erecting signs and he informed me that the signs would be posted as soon as construction in the area is completed. He said that this is normal DOT procedure.

3. Bird House/No Passing Zone: Dick and his staff were not really aware that this was a problem, but agreed to study it. He said that if there was a history of accidents in the area, as you mentioned, he saw no problem with changing that section to no passing. One of his staff suggested that perhaps it had been designated for passing because of the relative lack of acceptable passing zones on the Turnagain Arm part of the highway.

They will most likely wait until construction is complete to make a decision. I'll pester them.

4. Speeding Problem Through Indian: DOT is aware of the problems and plans to monitor conditions once the highway is finished. Although federal regulations dictate 55 mph for interstate highways, Dick said that there can be exceptions and this may be one. It is a volatile issue with many groups opposing a rezoning. The final determination will be made after traffic and density studies are complete. Be assured that I'm with you and will fight for reduced speed.

5. Boat Ramp: DOT suggested that not only is a boat ramp probably not desirable, but that there are some technical problems as well. They suggested that while the ramp would benefit experienced Inlet boaters, it would also encourage foolhardy Cheechakos and would no doubt prove a burden to emergency rescue operations in the area. There are also some DOT restrictions on constructing off-ramps, etc., which preclude the construction of a ramp at that site.

6. Reflectors at Driveway Entrances: DOT does not erect reflectors as a rule. They could, but it would set an expensive precedent and would cost the State about ten times what a private individual can do it for. However, DOT has no restriction against individuals erecting reflectors themselves.

7. Ball Parks: Chip Dennerlein, Director of Public Services, and his executive staff met with me for over four hours. We discussed several South Anchorage issues, including your park. He said that there is no problem with constructing a simple playing field area which could be maintained locally. The Municipality of Anchorage is not averse to the use of the old dump site and are looking into the possibility of converting it. $250,000 is available in the 1984 CIP for an Indian Ballpark.

8. People Mover Service/Commuter Trains: The extension of bus service to the Turnagain Arm is already being studied. Apparently, ridership is the determining factor and, as yet, there are not sufficient numbers to warrant the cost. Express buses (twice a day) and/or contract bussing has also been considered. While the possibility of extending service to the Arm has been studied, in Chip's words, "it is probably still a few years away." The same is true for commuter train service.

I realize that the above is brief and does not represent everything we talked about on the 5th. I am still investigating some of the other projects we discussed (e.g.: airstrip, campsite) and will keep you informed of any progress. If any of you wish to discuss these

projects in more detail, or anything else, please don't hesitate in contacting me or my staff (Mark Higgins and Joan Metcalf) in Juneau at 465-4978. You can also write to me care of Pouch V, Juneau 99811.

Please don't be strangers, and count on hearing from me soon.

Kindest regards,

Mike Szymanski
Representative

Enclosure

P.S. I would like to set up a teleconf. for the next council meeting. With advance notice, you can check the phone equipment out of the Leg-Affairs office in Anchorage.

DEPARTMENT OF PUBLIC SAFETY

POSITION PAPER - HCR 44

Support

January 3', 1984

HCR 44 - "An act relating to requesting a speed zone on (the) Seward Highway."

Our initial indications reveal that the lowering of the speed limit on this portion of the Seward Highway would not be in the overall best interest of the public. However, since the resolution requests that Department of Transportation "investigate the possibility" of lowering the speed limit in this area, we concur that this would be a worthwhile effort.

Robert J. Sundberg
Commissioner

Alaska State Legislature

House of Representatives

Representative Mike Szymanski

Official Business

SR-A-Box 1304B
Anchorage, Alaska 99502
Phone (907) 349-3373

While in Session:
Pouch V
State Capitol
Juneau, Alaska 99811

March 20, 1984

TO: Representative Bette Cato
Chair, House Transportation Committee

FROM: Representative Mike Szymanski

SUBJECT: Scheduling of HCR 44, legislation requesting a speed zone on the Seward Highway.

I would like to request that HCR 44, legislation requesting a speed zone on the portion of the Seward Highway that passes through the community of Bird/Indian, be heard before the Transportation Committee.

Attached is back-up information which includes a petition from the residents of this community in support of the resolution and accident statistics for this portion of the highway over a seven year period.

Your attention to this request would be appreciated.

STATE OF ALASKA 1984 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date:

REQUEST
Bill/Resolution No.: HCR 44
Title: "...requesting a speed zone on (the) Seward Highway."
Sponsor: Representative Szymanski
Requestor: House Transportation
Date of Request: 2-9-84

FISCAL DETAIL
Agency Affected: Public Safety
Program Category Affected: Administration of Justice
BRU, Program or Subprogram(s) Affected: Alaska State Troopers

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89
OPERATING						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 SUPPLIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS						
800 MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	0.0	0.0	0.0	0.0	0.0	0.0
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

ANALYSIS: Attach a separate page for analysis

Prepared By: Francis C. Allan F.C.A. mcl Phone: 269-5691
Division: Alaska State Troopers Date: 01/31/84

Approved by Commissioner: Robert G. Sundberg Date: 2/14/84
Agency: Public Safety

Distribution (by Agency preparing fiscal note):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

12/1/83

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CONTRIBUTING FACTOR REPORT

ROUTE	MIPT	DATE	NUMBER	FATAL	MAJ INJ	MIN INJ	STREET	CROSS STREET	CONTRIBUTING FACTORS
130000	100.03	790828	7908270			4	NEW SEWARD HWY	MI 99.5	62 50 - -
130000	100.36	830201	8302069				MI 100 SEWARD HWY		15 74 01
130000	100.36	830212	8302821			2	MI 100 SEWARD HWY		21 04
130000	100.48	770628	7709433				SEWARD HWY MP 100		X X
130000	100.48	780614	7806834				SEWARD HWY	MILE 100	15 - - -
130000	100.48	790705	7905939			1	SEWARD HWY	MI 100	46 -
130000	100.48	800626	8006655		1		SEWARD HWY	MI 100	04 -
130000	100.48	800726	8007531			1	MI 100 SEWARD HWY		01 - 22 -
130000	100.53	780113	7800688			1	MI 100 SEWARD HWY		21 74
130000	100.68	810111	8100438		1		MILE 100.2	SEWARD HWY	21 74
130000	100.86	821220	8219007				MI 100.5 SEWARD HWY	N/B	21
130000	100.92	820404	8205054				MI 100.9 SEWARD HWY		06 09 01
130000	101.01	780317	7803640				MI 100.5 SEWARD HWY		09 - 01 -
130000	101.03	770813	7711748		3	1	SEWARD HWY	THE BIRD HOUSE	22 06 06 -
130000	101.05	800728	8007753				SEWARD HWY	BIRD HOUSE P/L	X X X X
130000	101.05	801207	8015772				MI 100.8 SEWARD	BIRD HOUSE P/L	21 - 01 - 01 -
130000	101.05	810419	8104059				NEW SEWARD HWY	BIRD HOUSE BAR	15 -
130000	101.13	770729	7711010				SEWARD HWY	BIRD HOUSE	15 - - -
130000	101.22	770603	7708166			2	SEWARD HWY	SCOTTISH INN	01 - 01 - 01 -
130000	101.22	770603	7708182				SEWARD HWY	SCOTTISH INN	01 -
130000	101.25	810325	8103421				MI 101.8 SEWARD HWY	BIRD CREEK BRIDGE	09 - 01 -
130000	101.28	801102	8012825				SEWARD HWY	MI 106.8	27 21 - -
130000	101.28	801127	8012949				SEWARD HWY		X X X X
130000	101.28	801127	8015753				SEWARD HWY	MP 100	22 - 22 -
130000	101.30	770701	7709612				SEWARD HWY		X X X X
130000	101.30	770827	7712400			1	SEWARD HWY	BIRD CREEK CAMP GRND	04 21 01 -
130000	101.30	780725	7808683				SEWARD HIGHWAY	BIRD CK CAMPGROUND R	15 - 20 -
130000	101.41	770122	7701178				SEWARD HWY	101 MI	X X
130000	101.41	770521	7707567			1	NEW SEWARD HWY	MILE 101	02 -
130000	101.41	780619	7807038				101 MI POST SEWARD H		61 -
130000	101.41	781203	7815950				NEW SEWARD	MI 101	74 - - -
130000	101.41	790217	7901141				MI 101 SEWARD HWY		21 - 01 - 01 -
130000	101.41	791110	7911742				MI 101 SEWARD	DRIVEWAY	22 -
130000	101.41	810620	8106701			1	MI 101 SEWARD	DUMP RD	22 - 01 -
130000	101.41	820106	8200192				SEWARD HWY	MILE 101	
130000	101.41	820531	8207385			2	SEWARD HWY	AT MI 101 SB	15 20
130000	101.41	820820	8211969			2	SEWARD HWY SB	MILE 101	15 -
130000	101.41	821222	8219780			1	SEWARD	AT MP 101	64 07
130000	101.41	830718	8309959				MI 101 SEWARD		21
130000	101.41	830807	8311788				MP 101	SEWARD HWY	02
130000	101.41	830822	8313099			2	SEWARD HWY	2000' S BIRD CRK BRI	21 01 01
130000	101.41	830904	8313539				SEWARD HWY	AT MI 101	11 01 01
130000	101.59	830818	8312955				MI 101	BIRD CK CAMPGD	01 -
130000	101.60	821215	8220511		1		SEWARD HWY APPROX	MI 101.7	20 15 02
130000	101.71	810516	8105262			3	SEWARD HWY MI 101.5	BIRD CRK BRIDGE	04 21
130000	101.81	810614	8106350			1	MI 101.7 SEWARD	BIRD CREEK BRIDGE	15 21 01 -
130000	101.81	820524	8207082				MI 101.7 SEWARD HWY	BIRDCRK BRIDGE	10 18
130000	101.83	780822	7810336			2	SEWARD	BIRD CREEK BRIDGE	04 21
130000	101.83	810729	8107509				SEWARD HWY	BIRD CREEK BRIDGE	11 -
130000	101.85	801102	8012822			2	MI 101.6 SEWARD HWY	BIRD CRK BRIDGE	21 74 - -
130000	101.85	811206	8115385				SEWARD HWY	BIRD CRK BRIDGE	73 -
130000	101.85	820820	8211473				SEWARD HWY	NEAR BIRD CREEK	78 06 01
130000	101.87	820819	8211451				SEWARD HWY	BIRD CK BRIDGE	11 78 78

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CONTRIBUTING FACTOR REPORT

ROUTE	MIPT	DATE	NUMBER	FATAL	MAJ INJ	MIN INJ	STREET	CROSS STREET	CONTRIBUTING FACTORS
130000	101.88	770625	7709290				SEWARD HWY	BIRD CREEK	15 - 01 -
130000	101.88	771203	7717456			1	SEWARD HWY	BIRD CK CAMP	01 - - -
130000	101.88	790930	7912207	1		1	SEWARD HWY	MI 102	03 43 01 -
130000	101.88	810121	8100766				SEWARD HWY	MI 101	74 - 22 -
130000	101.88	810718	8107318				SEWARD HWY	MI 101.5	04 05 01 -
130000	101.88	810816	8108418				SEWARD HWY	BIRD CREEK	06 - - -
130000	101.90	820407	8205136				SEWARD HWY	17 MI S ANCH	
130000	101.91	770127	7701468				SEWARD WAY	BIRD CREEK BRIDGE	- -
130000	101.91	770405	7705575			3	SEWARD HWY	ANCHORAGE	04 (21)
130000	101.91	770819	7712050			1	SEWARD HWY	MI 101.5	10 04
130000	101.91	780123	7801194				MILE 101.5 SEWARD		64 -
130000	101.91	790122	7918788			2	SEWARD HWY MI 101.5	BIRD CREEK BRIDGE	04 74
130000	101.91	790611	7906410				SEWARD HWY	BIRD CREEK BRIDGE	42 - - -
130000	101.91	790804	7907218				BIRD CRK BRIDGE	SEWARD NEW HW	06 - 06 -
130000	101.91	800816	8008899				SEWARD HWY	MI 101.5	- -
130000	101.93	810521	8105426				MILE 101.8 SEWARD	BIRD CREEK BRIDGE	15 07 01 -
130000	101.93	810612	8106024		1		MI 101.5 SEWARD HWY	BIRDCRK BRIDGE	X - 01 -
130000	101.95	771202	7717403		1		SEWARD HWY	BIRD CREEK BRIDGE	06 -
130000	101.95	780525	7805594				MI 101 SEWARD	BIRD CREEK BRIDGE	15 - 15 -
130000	101.99	800823	8010568				SEWARD HWY	BIRD CREEK	(21) - 62 -
130000	102.01	790101	7917804		3	3	SEWARD HWY	MI 101.6	04 (21) - -
130000	102.01	811111	8113501				SEWARD HWY	BIRD CRK BRIDGE	06 04
130000	102.01	830508	8305917			1	SEWARD HWY	AT MI 101.6	10
130000	102.21	790111	7919228				SEWARD HWY	BIRD CREEK	X X
130000	102.25	801102	8013310			2	SEWARD HWY	BIRD CREEK	74 47 74 47
130000	102.34	811206	8115366				SEWARD HWY	MCHUGH CREEK	X X X X
130000	102.35	790305	7901895				MI 102 SEWARD		(21) 74
130000	102.35	790414	7903855				MI 102 SEWARD		10 21 01 -
130000	102.35	791130	7912945				NEW SEWARD	MI 102	61 74
130000	102.35	800619	8008219				SEWARD HWY	SEWARD	01 -
130000	102.35	810605	8105883				MI 102 SEWARD HWY		61 -
130000	102.35	830422	8305539				SEWARD HWY	MI 102	-
130000	102.47	770113	7700721				SEWARD HY	MILE POST 102	(21) -
130000	102.75	780523	7805552			1	SEWARD HWY AT	MI 102.4	61 -
130000	102.75	790908	7909211			1	SEWARD	MI 102.4	16 - 63 -
130000	102.86	791103	7911610			3	MI 102.5	SEWARD HWY	04 09 01 -
130000	102.88	780224	7802868	1			MILE 102.5 SEWARD HY		01 63 01 -
130000	102.88	800916	8013690				SEWARD HWY	MI 102 1/2	01 01 48 -
130000	103.15	790512	7904600				MI 102.8 SEWARD		22 -
130000	103.17	790803	7907113				SEWARD HWY		X X X X
130000	103.22	800203	8002755				MI 102.9 SEWARD HWY	DIMOND JIMS BAR	09 - 01 -
130000	103.22	810721	8107285				SEWARD HWY	INDIAN CK BRIDGE	06 09 01 -
130000	103.22	810929	8111535				NEW SEWARD HWY	DIAMOND JIMS CLUB	11 -
130000	103.29	790119	7918626				SEWARD HWY	INDIAN CREEK BRIDGE	X X
130000	103.31	770217	7702760				SEWARD HWY	103	- - 15 -
130000	103.31	771230	7719097				SEWARD HWY	MI 103	07 (21) 07 21
130000	103.31	780205	7801838		1		SEWARD HWY	MI 103	22 30 22 80
130000	103.31	780615	7806867				SEWARD HWY	MP 103	X X X X
130000	103.31	780722	7808603				SEWARD HWY	MILE 103	06 07 20 06
130000	103.31	781227	7817523				MI 103 SEWARD	INDIAN CREEK	(21) - 01 - 21 -
130000	103.31	790804	7907214				MI 103 SEWARD HWY		X X X X
130000	103.35	790528	7905198				SEWARD HWY	INDIAN CREEK BR	22 - - - 11 -
130000	103.41	820501	8206174				MI 103 SEWARD HWY	AT ENT TO MORE TIDE	22 15 01

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CONTRIBUTING FACTOR REPORT

ROUTE	MIPT	DATE	NUMBER	FATAL	MAJ INJ	MIN INJ	STREET	CROSS STREET	CONTRIBUTING FACTORS
130000	103.61	790710	7906005		1	1		SEWARD NEW HW	22 -
130000	103.64	820630	8208794				SEWARD HWY	12.3 MI S WEIGH STAT	
130000	103.68	810626	8106425				SEWARD HWY 1/8 MI		X X X X
130000	103.81	790413	7903704			1	MI 103.5 SEWARD		07 21
130000	103.81	791221	7913786				MI 103.8 SEWARD	INDIAN HOUSE	09 - 01 -
130000	103.81	800306	8003130				MI 103.5 SEWARD HWY		06 -
130000	103.81	800530	8005890				MI 103.9 SEWARD HWY	INDIAN HOUSE BAR	09 - 01 -
130000	103.81	820101	8200009				SEWARD HWY	INDIAN HOUSE	06 09 01
130000	103.81	830823	8313125			2	SEWARD HWY	MI 103.5	
130000	103.96	780802	7809904				SEWARD HWY	DEARMON	X X
* 130000	TOTALS:		116 ACCIDENTS		3 FATALITIES		12 MAJOR INJURIES	53 MINOR INJURIES	

MORE
INFORMATION FOR FIELD CONFAC :

THIS IS A CODED ITEM WHICH INDICATES THE CONTRIBUTING FACTORS ASCRIBED TO THIS VEHICLE IN THIS ACCIDENT. THIS COMES FROM FORM 12-208 BOXES 22(ITEM #450) & 23(ITEM #460) IF THIS IS THE LEFT VEHICLE RECORDED ON THE FORM OR BOXES 24(ITEM#470) AND 25(ITEM #480) IF THE RIGHT VEHICLE RECORDED ON THE FORM.

VALID CODES AND MEANINGS:

-	NOT APPLICABLE
X	UNKNOWN
01	NONE
02	ALCOHOL TEST GIVEN
03	ALCOHOL-NO TEST GIVEN
04	ALCOHOL SUSPECTED,NOT PROVEN
05	BACKING UNSAFELY
06	DRIVER INATTENTION
07	DRIVER INEXPERIENCE
08	DRUGS (ILLEGAL)

MORE

09	FAILURE TO YIELD
10	FELL ASLEEP
11	FOLLOWING TOO CLOSELY
12	ILLNESS
13	LOST CONCIOUSNESS
14	PASSENGER DISTRACTION
15	PASSING OR LANE USAGE IMPROPER
16	PEDESTRIAN ERROR/CONFUSION
17	PHYSICAL DISABILITY
18	PRESCRIPTION MEDICATION
19	TRAFFIC CONTROL DEVICE DISREGARDED
20	TURNING IMPROPERLY
21	UNSAFE SPEED
22	OTHER HUMAN FACTOR
41	ACCELERATION DEFECTIVE
42	BRAKES DEFECTIVE
43	HEADLIGHTS DEFECTIVE
44	OTHER LIGHTING DEFECTS
45	OVERSIZED VEHICLE
46	STEERING FAILURE
47	TIRE FAILURE/INADEQUATE
48	TOW HITCH DEFECTIVE
49	WINDSHIELD INADEQUATE

MORE

50	OTHER VEHICULAR FACTOR
61	ANIMAL'S ACTION
62	GLARE
63	VIEW OBSTRUCTED/LIMITED
64	OTHER ENVIRONMENTAL FACTOR
71	LANE MARKING IMPROPER/INADEQUATE
72	CONSTRUCTION DEBRIS
73	PAVEMENT DETERIORATED
74	PAVEMENT SLIPPERY
75	SHOULDERS
76	SIGNS MISSING/INOPERATIVE
77	TRAFFIC SIGNAL INOPERATIVE
78	CONSTRUCTION AREA
80	OTHER ROADWAY FACTOR

WE, THE UNDERSIGNED, RESIDENTS OF INDIAN AND OF BIRD CREEK, ALASKA - ON TURNAGAIN ARM- RESPECTFULLY REQUEST YOUR SUPPORT IN OUR APPEAL TO THE STATE'S DEPARTMENT OF TRANSPORTATION TO CREATE A SPEED ZONE ON THAT STRETCH OF THE SEWARD HIGHWAY THAT PASSES THROUGH OUR TWO COMMUNITIES. WE FEEL THAT THE ABOVE IS A PARTICULARLY DANGEROUS (AND WELL-TRAVELED) PIECE OF HIGHWAY, ONE THAT BY ITS VERY STRAIGHTNESS AND OPENES ENCOURAGES MOTORISTS TO DRIVE AT HIGH SPEED THROUGH OUR RURAL, RESIDENTIAL COMMUNITIES.

(PLEASE PRINT)

NAME MAILING ADDRESS

Duncan D. Connell	Box 8700 Indian
Vivian Newman	Box 8700 Indian
Kenneth Wilkins	Box 8700 Indian
Clarence R. Johnson	Box 8745 Indian
David Hooper	Box 8575 Indian
Barbara A. Hooper	Box 8575 Indian
Mary Lou Redmond	Box 8700 Indian
William N. Johnston Jr.	Box 8500 Bird creek, AK
Harold M. Deane	Box 8500 Bird Creek AK
Deborah D. Hagan	Box 8606 Bird Creek AK.
Kay Russell	Box 8540 Bird Creek AK.
Richard Redmond	Box 8700 Indian creek AK.
Lynn Hansen	Box 8540 Bird Creek
Hyrle J. Hagan	Box 8606 Bird creek Ako.
John Burp	Box 8501 Bird Creek Alaska
Steven L. Matter	Box 8501 Bird Creek AK.
Mike Parker	Box 8642 Bird Creek AK.
Harley K. Palmer	SR. Box 8515 Bird Creek AK
Carry Bushnell	P.O. Box, 583 Girdwood AK 99587
Nancy Emily Embly	% Birdhouse Bar Bird Creek
Jack D Porter	SR 8606 Bird Creek AK
James Coyle Coyle	SR Box 8642 Bird Creek AK

We, the undersigned, residents of Indian and of Bird Creek, Alaska - on Turnagain Arm - respectfully request your support in our appeal to the State's Department of Transportation to create a speed zone on that stretch of the Seward Highway that passes through our two communities. We feel that the above is a particularly dangerous (and well- traveled) piece of highway, one that by its very straightness and openess encourages motorists to drive at high speed through our rural, residential communities.

(PLEASE PRINT)

NAME	MAILING ADDRESS
Lee Miller	Box 8755 Indian ak. 99540
CHAD McGREW	.44 & Feather ak 99540
Cody Myles	SRA 8800 Indian AK 99540
[illegible]	SR Ind 8745 Indian Ak 99540
John Grimmett	Box 8801 Indiana AK 9954
Nancy Nix	Box 8565 Indian AK. 9954
[illegible] Mohar Mohar	Bird Creek, Al.

Lethie Collins SRBox 8800 Indian 653-7686
Jim Veroniek Box 8820 Indian 653-7640
LOREN Stout Rt 5 Box 8800 INDIAN 653 7803
Rodney G. Vost BX 8735 - Rural Rt Indian AK 99540
Grace Gordon Box 832 Soldotna, Ak.
Arthur Gordon Soldotna Ak. 283-8479
Rebecca Sue Hunter 9 INDIAN ak. 653-7313
~~[illegible]~~
Mary Flynn SR Box 8800 Indian 653-7903
Warren D Braddock SR Box 8855 Indian 653 7502
William Curtice PO Box 8531 Indian AK 563-5822
Gloria A Young Anch., AK. 562-5438
David Young Anch, AK " "
Timothy K. Bundy SRA 8654 Indian AK
Dennis Rose SRA 8800 Indian Ak 6537313
Rick Wendt SR Box 8800 Indian Ak
Brian D. Benson SRA 8654 Indian AK
J. E. Johnston (J.E. Johnston) SRA 8800 INDIAN, ALASKA 653-7313
Dee Olson Box 8790 Indian, AK. 653-7647
Robert Marshall Box 8765 Indian AK 653-7234
H. D. Antoman Box 8535 INDIAN AK 653-7732
[illegible] Hartness SRA Box 8800 Indian AK. 653-7680
Tia McDonald SR Box 8810 Indian Ak 653-7212
William J. Khamis 3rd Indian AK. 653-7211
Kimberly Gibson Box 8790 INDIAN ALASKA 653-7647
[illegible] Box 8800 INDIAN, ALASKA 653-7313
[illegible] Kotuch Box 8585 Indian ALASKA 653-7203
James David SRA 8800 INDIAN ALASKA 653-7313
Linda Kessler SRA BX 8855 Indian ak 653-7502
Jack [illegible] SRA Box 8855 Indian, AK. 653-7502
Tom Wieber SRA Box 8855 Indian AK 653-7502
BETTY A. YOUNG SRA BOX 8725 INDIAN 653-7732
YOLANDA CASTRO SRA BOX 8663 INDIAN- 653-7[illegible]

Steve Rubinglit Box 8515 Bird Creek 99540

NANCY E. MCDONALD ST.RT. BOX 8810 INDIAN. AK. 99540

CECILIA R. BRAUND SRA 8154 INDIAN AK 99540

Karlee Wilson Box 8515 Bird Creek 99540

Chan Daniels Box 470 Girdwood 99587

Frank Elwithey Box 431 Girdwood 99587

HUGH CRUIKSHNK JR. % THE BIRD HOUSE BIRD CREEK 9954

[redacted]

Cato

HCR 44 –

Symanski – Can you move it –

AL

Slower Speed

Only Bill

Introduced: 1/13/84
Referred: Transportation

IN THE HOUSE BY SZYMANSKI AND MALONE

HOUSE CONCURRENT RESOLUTION NO. 44

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTEENTH LEGISLATURE - SECOND SESSION

Relating to requesting a speed zone on Seward Highway.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS travelers who patronize the establishments on Seward Highway from mile S 100 to mile S 103.5 need slower traffic for safer access to and from the highway; and

WHEREAS use of commercial buildings and other activities between mile S 100 and mile S 103.5 near Chugach State Park and Alyeska ski resort have at times created a significant density of pedestrian and motor traffic; and

WHEREAS a speed zone of 45 miles per hour will help to ensure the safety of pedestrians and motorists in this area;

BE IT RESOLVED by the Alaska State Legislature that the governor is respectfully requested to direct the commissioner of transportation and public facilities to investigate the possibility of establishing a speed zone of 45 miles per hour on Seward Highway between mile S 100 and mile S 103.5 in the Greater Anchorage Area Borough.

Introduced: 1/13/84
Referred: Transportation

file - staff folder passed out of committee

IN THE HOUSE BY SZYMANSKI AND MALONE

HOUSE CONCURRENT RESOLUTION NO. 44 am

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTEENTH LEGISLATURE - SECOND SESSION

Relating to requesting a speed zone on Seward Highway.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS travelers who patronize the establishments on Seward Highway from mile S 100 to mile S 103.5 need slower traffic for safer access to and from the highway; and

WHEREAS use of commercial buildings and other activities between mile S 100 and mile S 103.5 near Chugach State Park and Alyeska ski resort have at times created a significant density of pedestrian and motor traffic; and

WHEREAS a speed zone of 45 miles per hour will help to ensure the safety of pedestrians and motorists in this area;

BE IT RESOLVED by the Alaska State Legislature that the governor is respectfully requested to direct the commissioner of transportation and public facilities to investigate the possibility of establishing a speed zone of 45 miles per hour on Seward Highway between mile S 100 and mile S 103.5.

SB 298 cont'd

Senator Bennett, Co-Chairman, and Senator Josephson signed "do pass". Senators Ferguson, Mulcahy, Vic Fischer and Faiks signed "no recommendation".

Fiscal note is zero.

SENATE BILL NO. 298 was referred to the Rules Committee.

SB 369

The Transportation Committee considered SENATE BILL NO. 369 (planning, designing, and construction of agriculture and forestry facilities by the Department of Natural Resources) and recommended do pass with an amendment:

Page 1, lines 19, 22 and 23: delete "research"

The report was signed by Senator Moss, Chairman and concurred in by Senators Gilman, Kerttula, Faiks and Fahrenkamp.

SENATE BILL NO. 369 was referred to the Rules Committee.

SB 481

The Finance Committee considered SENATE BILL NO. 481 (cemetery associations, nonprofit cemetery corporations and cemetery lots) and recommended it be replaced with

CS FOR SENATE BILL NO. 481 (FIN)

with a majority do pass. The report was signed by Senator Bennett, Co-Chairman and concurred in by Senators Faiks, Ferguson, Josephson, Vic Fischer and Mulcahy.

SENATE BILL NO. 481 was referred to the Rules Committee.

HCR 44

The Transportation Committee considered HOUSE CONCURRENT RESOLUTION NO. 44 am (speed zone on Seward Highway) and a majority of the committee recommended do pass. The report was signed by Senator Moss, Chairman and concurred in by Senators Gilman, Kerttula and Fahrenkamp. Senator Faiks signed "no recommendation".

HOUSE CONCURRENT RESOLUTION NO. 44 am was referred to the Rules Committee.

COMMITTEE REPORT

HOUSE

(1)

FURTHER:

1/13/84'

Date: 4-24-84

The Committee on TRANSPORTATION has had HCR 44
"Relating to requesting a speed zone on Sew rd Highway.

under consideration and recommends:

[✓] do pass [ ] do not pass

[ ] do pass with attached amendments(s)

[ ] replace with CS for ______ [ ] same title [ ] new title

and recommends ______

[ ] AND attaches a "Letter of Intent" [ ] New Fiscal Note [ ] Zero Fiscal Note Attached

[ ] reports it back without recommendation

[ ] referred to the ______ Committee

MEMBERS SIGNING DO PASS

Mike Davis

[illegible] It [illegible]

Mike [illegible] - Speed Kills?

M.W. Miller

Bette Cato

MEMBERS HAVING OTHER RECOMMENDATIONS:

[illegible signatures]

Bette Cato

CHAIRMAN

COMMITTEE REPORT

SENATE

FURTHER:

5/3/84

Date May 15, 1984

Mr. President

The Committee on TRANSPORTATION considered HCR 44 am

requesting a speed zone on Seward Highway.

and (a majority of the committee) (the committee) reports it back with the following recommendations:

[X] do pass

[ ] do pass with attached amendment(s)

[ ] replace with/or adopt CS for _____
[ ] new title
[ ] same title and recommends _____

[ ] and attached a "LETTER OF INTENT" [ ] NEW FISCAL NOTE

[ ] reports it back without recommendation

[ ] recommends referral to _____ Committee

MEMBERS SIGNING
DO PASS

Ann Kohnen

MEMBERS HAVING
OTHER RECOMMENDATIONS

Chairman

Chairman recommendation

MAY 10 1984

Alaska State Legislature

House of Representatives

Representative Mike Szymanski

Official Business

SE Box 1304B
Anchorage, Alaska 99502
Phone (907) 349-3373

While in Session:
Pouch V
State Capitol
Juneau, Alaska 99811

May 8, 1984

TO: Senator Moss
Chair, Senate Transportation Committee

FROM: Representative Szymanski

SUBJECT: HCR 44, requesting a speed zone on the Seward Highway

Attached is back-up information for your committee on HCR 44, legislation that would study the possibility of a speed zone on the portion of the Seward Highway that passes through the community of Bird/Indian.

This legislation has been identified by the Bird/Indian Community Council as a priority concern of the residents of this community.

I appreciate your prompt attention to this measure.

Dear Mike Szymanski,

I would like to express to you the great need to have the speed limit lowered in Bird-Indian between Indian Road and the Bird House.

Now that we have our wonderful bike trail (which we dearly love) our children have to cross the highway to get on the trail. Personally, I am very concerned for my daughter's safety as where she crosses (near Tesoro) is a straight-away where vehicles speed up and pass.

I really don't think people will mind slowing down here; they will most probably be glad to be made aware that it is a residential area with children present and crossing the highway, and bus stops at designated areas.

I have calculated that by slowing down to 45 mph for the 3½ mile stretch between Indian Road and the Bird House, a driver will lose 17.2 seconds. I feel that we can all easily donate these few seconds for the sake of safety.

Thank you for your on-going concern and support.

Yours truly,
Renee Williams
SRA 8609
Bird Creek, Ak. 99340

phone # 753-7272

STATE OF ALASKA 1984 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date:

REQUEST
Bill/Resolution No.: HCR 44
Title: "...requesting a speed zone on (the) Seward Highway."
Sponsor: Representative Szymanski
Requestor: House Transportation
Date of Request: 2-9-84

FISCAL DETAIL
Agency Affected: Public Safety
Program Category Affected: Administration of Justice
BRU, Program or Subprogram(s) Affected: Alaska State Troopers

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89
OPERATING						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 SUPPLIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS						
800 MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	0.0	0.0	0.0	0.0	0.0	0.0
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

ANALYSIS: Attach a separate page for analysis

Prepared By: Francis C. Allan F.C.A. mcl Phone: 269-5691
Division: Alaska State Troopers Date: 01/31/84

Approved by Commissioner: Robert D. Sundberg Date: 2/14/84
Agency: Public Safety

Distribution (by Agency preparing fiscal note):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

12/1/83

DEPARTMENT OF PUBLIC SAFETY

POSITION PAPER - HCR 44

Support

January 31, 1984

HCR 44 - "An act relating to requesting a speed zone on (the) Seward Highway."

Our initial indications reveal that the lowering of the speed limit on this portion of the Seward Highway would not be in the overall best interest of the public. However, since the resolution requests that Department of Transportation "investigate the possibility" of lowering the speed limit in this area, we concur that this would be a worthwhile effort.

Robert J. Sundberg
Commissioner

Number of accidents involving excess speed as the contributing factor on mile 100 - 103.5 of the Seward Highway (through Bird/ Indian)

DATE		NUMBER OF ACCIDEN.	DEGREE OF INJURY
1977		4	4 minor injuries
1978		3	3 minor injuries
1979		3	3 minor injuries 3 major injuries
1980		3	2 minor injuries
1981		4	4 minor injuries
1982		1	1 fatal injury
1983	(until Sept.)	3	4 minor injuries

MORE
INFORMATION FOR FIELD CONFAC :

THIS IS A CODED ITEM WHICH INDICATES THE CONTRIBUTING FACTORS ASCRIBED TO THIS VEHICLE IN THIS ACCIDENT. THIS COMES FROM FORM 12-200 BOXES 22(ITEM #450) & 23(ITEM #460) IF THIS IS THE LEFT VEHICLE RECORDED ON THE FORM OR BOXES 24(ITEM#470) AND 25(ITEM #480) IF THE RIGHT VEHICLE RECORDED ON THE FORM.

VALID CODES AND MEANINGS:

-	NOT APPLICABLE
X	UNKNOWN
01	NONE
02	ALCOHOL TEST GIVEN
03	ALCOHOL-NO TEST GIVEN
04	ALCOHOL SUSPECTED,NOT PROVEN
05	BACKING UNSAFELY
06	DRIVER INATTENTION
07	DRIVER INEXPERIENCE
08	DRUGS (ILLEGAL)

MORE

09	FAILURE TO YIELD
10	FELL ASLEEP
11	FOLLOWING TOO CLOSELY
12	ILLNESS
13	LOST CONSCIOUSNESS
14	PASSENGER DISTRACTION
15	PASSING OR LANE USAGE IMPROPER
16	PEDESTRIAN ERROR/CONFUSION
17	PHYSICAL DISABILITY
18	PRESCRIPTION MEDICATION
19	TRAFFIC CONTROL DEVICE DISREGARDED
20	TURNING IMPROPERLY
21	UNSAFE SPEED
22	OTHER HUMAN FACTOR
41	ACCELERATION DEFECTIVE
42	BRAKES DEFECTIVE
43	HEADLIGHTS DEFECTIVE
44	OTHER LIGHTING DEFECTS
45	OVERSIZED VEHICLE
46	STEERING FAILURE
47	TIRE FAILURE/INADEQUATE
48	TOW HITCH DEFECTIVE
49	WINDSHIELD INADEQUATE

MORE

50	OTHER VEHICULAR FACTOR
61	ANIMAL'S ACTION
62	GLARE
63	VIEW OBSTRUCTED/LIMITED
64	OTHER ENVIRONMENTAL FACTOR
71	LANE MARKING IMPROPER/INADEQUATE
72	CONSTRUCTION DEBRIS
73	PAVEMENT DETERIORATED
74	PAVEMENT SLIPPERY
75	SHOULDERS
76	SIGNS MISSING/INOPERATIVE
77	TRAFFIC SIGNAL INOPERATIVE
78	CONSTRUCTION AREA
99	OTHER ROADWAY FACTOR