

September 1, 1971

Mr. Albert Sandecki  
Chairman GPRC  
Harborside, Maine 04642

Dear Albert:

Pursuant to your letter of 8/20/71, I am sending you some general information about the x-ray instrumentation that is marketed by ES Industries. At the present time we do not handle any Atomic Absorption equipment, however, we are aware of its capabilities and are contemplating its use in our lab.

The Perkin Elmer #403 is a better instrument than the #290, and would be a necessity for the range of problems you will need to cover.

The x-ray spectroscopy units that we market and use in our commercial laboratory are capable of analyzing all the toxic metals in water. I have enclosed a copy of a comparison of the x-ray method to that of A.A.

Keep in mind that even the best A.A. units would have limitations (ie: the analysis of arsenic, selenium, phos., and sulphur). Therefore, if you feel that you could justify the price difference, and if enough state funds are available, then you should consider the x-ray coprex method.

We could offer you an x-ray spectroscopy system (for fluorine to uranium analysis) complete and installed for \$26,000.00.

As a final thought, you should have John Hurst look into an A.A. unit available from Instrumentation Labs in Lexington, Mass. I understand that they have a good unit.

PASS BOOK No. 2131

BLUE HILL, ME. SEPT 9 1971

SAVINGS DEPARTMENT

To: BAR HARBOR BANKING AND TRUST COMPANY  
BLUE HILL, MAINE

CLOSE

Please withdraw from my account \$ 197.87 + INTEREST

and  credit my Checking Account

send to me BY MAIL, at the address below, your check for

197.87 AND INTEREST DOLLARS

BAL. AFTER  
THIS TRANS. \$ \_\_\_\_\_

Albert E Sandecki  
OWNER OF PASS BOOK  
STREET 50 TANNER STREET  
CITY AND STATE HADDONFIELD, N.J.  
08033

*IM SORRY TO HAVE TO CLOSE THIS ACCOUNT.*

Friends of Goose Pond No. 2131  
Harborside, Maine  
Albert Sandecki

LUBEC

IN ACCOUNT WITH

BAR HARBOR BANKING AND TRUST COMPANY  
BLUE HILL, MAINE

BLUE HILL

MEMO	DATE	INTEREST	DEPOSITED	WITHDRAWN	BALANCE
	AUG 3'67		61.00#		61.00•
	AUG 15'67		27.00#		88.00•
	SEP 15'67		30.00#		118.00•
	<i>Oct 1-67</i>	<i>.28</i>			<i>118.28</i>
	OCT 9'67		175.00#		293.28•
	OCT 23'67		50.00#		343.28•

YOUR FULL SERVICE BANK  
TRUST  
COMPANY

	DEC 6'67			134.66-	208.62•
	<i>1-1-68</i>	<i>1.28</i>			<i>210.90</i>
	FEB 20'68		161.17#		371.57•
	<i>March 1-68</i>	<i>21.09</i>			<i>393.26</i>
	<i>July 1-70</i>	<i>15.96</i>			<i>409.22</i>
	AUG 17'70			217.15-	192.07•
	<i>Oct. 1, 1970</i>	<i>1.92</i>			<i>193.99</i>
	<i>Jan. 1971</i>	<i>1.93</i>			<i>195.92</i>
	<i>April 1971</i>	<i>1.95</i>			<i>197.87</i>

BLUE HILL OFFICE

BAR HARBOR BANKING AND TRUST COMPANY

BLUE HILL, MAINE

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To: Mr. Albert Sandecki  
Chairman GPRC (Cont'd.)

I hope that I have been of help to you, ("with a minimum of B.S."),  
and am looking forward to your safe return to Haddonfield.

Best regards,

  
G. Brown  
ES LABORATORIES

GB/blm

Encs.

**THE COMPAK 3 – A NEW, LOW PRICED X-RAY FLUORESCENCE SYSTEM**

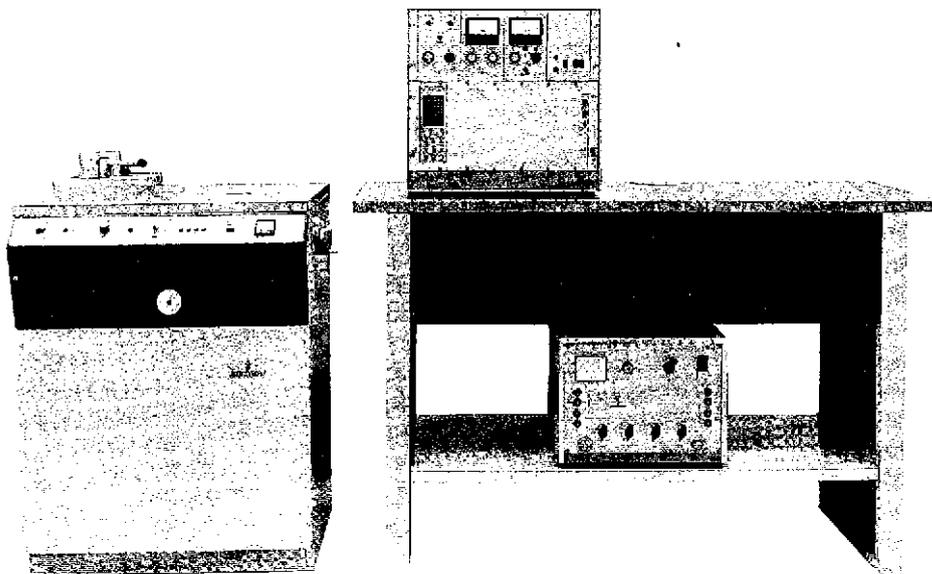


Figure 1—The new Siemens Compak-3 complete X-ray Fluorescence System. The X-ray generator sits on the bottom shelf of the table, and the electronic panel sits on the top. The VRS Vacuum X-ray Spectrometer is the console unit on the left.

A new X-ray fluorescence system, featuring many of the latest innovations in X-ray spectrometry, has just been introduced by Siemens. This system — identified as the COMPAK-3 — maintains a most modest price. It incorporates the following components:

- A new X-ray Generator — 4000 watts, full-wave output, solid state components. Expandable to constant potential and/or two tube sequential or simultaneous operation.
- High power X-ray Spectroscopy Tubes with asymmetrically positioned target.
- The completely new, type VRS X-ray Spectrometer, with close sample-to-target coupling, four analyzer crystals, two collimators, five scanning speeds, flow proportional counter, and detector change-over switch.
- A solid state Siemens Scintillation Detector.
- The new Siemens Type MT/TS Electronic Panel — A solid state panel complete with linear amplifier/pulse height analyzer, detector HV supply, count-rate meter and timer/scaler.
- Work table with marble table top, line voltage stabilizer and all necessary cables and water hoses.

This system has been introduced to make a complete, high quality, X-ray Spectrometry System available at a reasonable price — one within the reach of most research and production control laboratories. This represents a rather unique break-through in this era of rising costs, prevalent for most analytical instruments.

The COMPAK-3 X-Ray Fluorescence System will find many applications and uses throughout the U.S. today —

- In production control laboratories, such as in foundries, for chemical analysis.
- In research laboratories, interested in getting started in X-ray Spectrometry with a minimum investment.
- As a second or third unit in established X-ray laboratories, where the work-load is increasing.
- In any laboratory where limits of detectability or precision possible with existing X-ray or optical emission equipment might not approach that attainable with the COMPAK-3 system.
- As a teaching and research instrument in colleges and universities.
- For future expansion into X-ray diffractometry.

## COMPAK-3 X-RAY GENERATOR

The COMPAK-3 system begins with a new 4000 watt, full-wave X-ray Generator, equipped with a line voltage stabilizer. This generator provides up to 60KV and up to 80 ma, and it includes electromagnetic heating current stabilization to 0.5%.

It is convertible to constant potential operation by the addition of a low-cost smoothing attachment, which may be added at any time, and which provides for a ripple of less than 40V/ma.

This generator is further expandable to two-tube sequential operation by the addition of a high-voltage change-over switch. As an example of operation in this mode, a horizontal diffractometer and tube-stand can be added to the table top, adding X-ray diffractometry capabilities to the basic system for an additional \$7,500.00.

## X-RAY SPECTROSCOPY TUBES

The COMPAK-3 system has been designed to use the same high powered X-ray tubes used with the higher priced, more sophisticated instrumentation. This is one of the main reasons why such high counting rates and low limits of detectability are possible with this system. These tubes can be loaded up to 2600 watts (Cr target) or 3000 watts (Au, Mo or W target), constant potential. In addition, these tubes have an asymmetrically positioned target, which is located directly at the X-ray port, keeping the target to sample distance at an absolute minimum.

Further, these new tubes have a high radiation constancy over long periods of time, assuring precise reproducible analytical results.

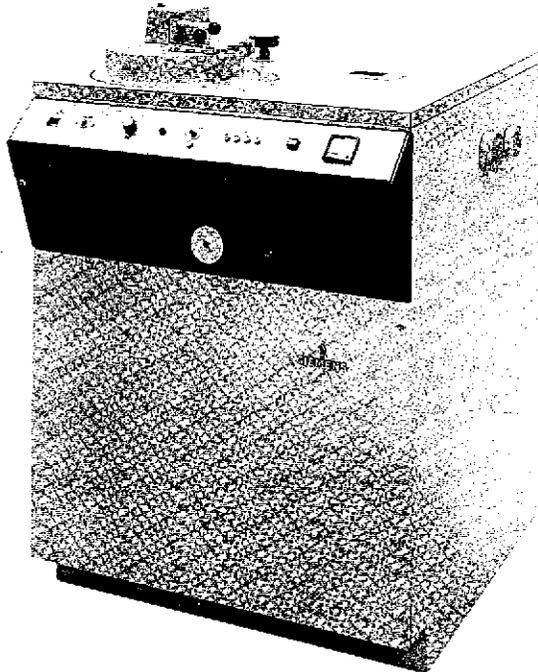


Figure 2—The VRS Vacuum X-ray Spectrometer, recently introduced by Siemens. This low-priced, sequential spectrometer incorporates the state-of-the art features required for the highest possible intensities.

## VRS SPECTROMETER

The heart of the COMPAK-3 system is the new, sequential VRS X-Ray Spectrometer, recently introduced by Siemens (see fig. 2). This unit will handle specimens up to 53.5mm in diameter and 50mm thick. Specimen holders are available with irradiated areas of 8mm, 23mm or 34mm in diameter. Special gold plated, limiting apertures are available for assurance that the primary beam strikes only the sample area, and not the specimen holder.

The sample is precisely fixed in a horizontal position, above the X-ray tube. This geometry (inverted optics) is ideally suited for the analysis of liquids, since it minimizes the effects of bubble formation, and the Siemens liquid cells pose no problem with specimen-plane variation.

Sample rotation is available as an optional accessory.

The VRS comes equipped with two collimators —  $0.15^\circ$  for high resolution, and  $0.4^\circ$  when intensity is more of a consideration. Two additional collimators ( $0.075^\circ$  and  $0.6^\circ$ ) are available as options, if the application should so dictate. The collimator change is manual and can be made while the spectrometer is under vacuum.

The spectrometer itself will accommodate up to four pre-aligned analyzer crystals, again with the manual change being easily accomplished externally. When purchased as part of the COMPAK-3 system, LiF (100 cut), LiF (110 cut), KAP and PET crystals are provided. A complete line of pre-aligned analyzer crystals, including graphite, is available for use with the VRS.

The detector change is accomplished with a motor drive. The flow counter is part of the standard VRS spectrometer, and the COMPAK-3 complements the system by the addition of a solid state scintillation detector.

Scanning speeds are 0.25, 0.5, 1.0, 2.0 and  $4.0^\circ/\text{min.}$ , in the positive and negative direction — changeable by a dial. The spectrometer is most precise and directly readable to  $0.002^\circ$  on a drum scale. The scanning ranges are—

Scintillation Detector:	0 to $117^\circ$
Flow Proportional Detector:	0 to $147^\circ$

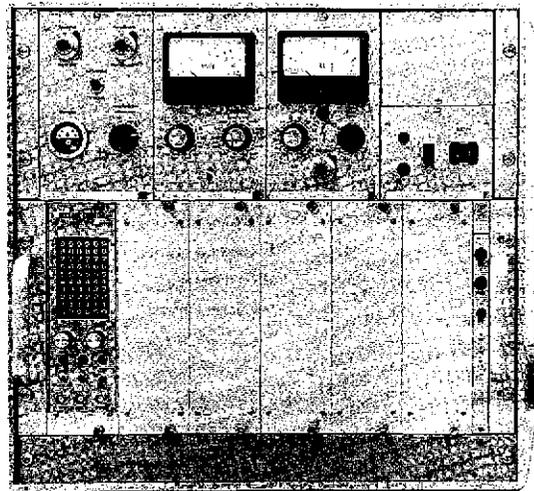


Figure 3—Electronic Panel used with the Compak-3 system. The basic panel includes Linear Amplifier, PHA, Count Rate Meter, Detector HV Supply and Timer/Scaler.

Additional optional accessories available for use with the VRS X-ray Spectrometer include an air conditioner for the entire spectrometer and a pressure control for the detector gas.

### ELECTRONIC COUNTING EQUIPMENT

The electronic counting equipment used with the COMPAK-3 system starts with the flow counter and scintillation counter, as mentioned. The panel (see fig. 3) is solid state and includes the following components:

- Power supply unit (with power supply terminal)
- A combined linear amplifier/pulse height analyzer
- A detector high-voltage supply, with up to 3000 volt output
- A count-rate meter with 12 measuring ranges
- A quartz controlled timer/scaler with power supply

This electronic panel offers several expansion possibilities—

- An interface and ASR33/35 Teletype may be added. This provides for both — a printed output and punched paper tape of time and counts for further data processing.
- A second detector high-voltage power supply may be added, with an automatic switch, when switching from one detector to the other.
- The unique Siemens Pulse Spectroscope may be added. This instrument visually displays X-ray quanta being received by the detector, as well as the setting of the pulse height analyzer. Such phenomena as higher order reflections, escape peaks and intensity shifts, immediately become discernible on a display tube. (see fig. 4).
- A Kompensograph III Recorder may be added for qualitative or semi-quantitative scans.
- A zero-suppress circuit may be added for the suppression of 0-100% on the count-rate meter.
- Magnetic tape output may be added.
- A mini-computer and interface may be added for the calculation of concentration from the raw counts.

Table I. Steel Analysis

Element	Matrix	X-ray Tube	Colli-mator	Crystal	Net Intensities 1 min. for 1%*	Background in 1 min.
S	Steel	Cr	0.15	Pet	270,000	850
Al	Steel	Cr	0.4	Pet	68,000	1,000
Si	Steel	Cr	0.4	Pet	68,000	1,600
Ni	Steel	Au	0.15	LiF	480,000	10,000
Mn	Steel	Au	0.15	LiF	1,175,000	80,000
Va	Steel	Cr	0.15	LiF	1,160,000	20,000

Detector: Flow counter in all cases except Ni, which was scintillation counter

\*Note: The net intensities are for the value of 1% of each element. This does not mean that a 1% sample was actually measured; rather, real samples of lower concentrations were measured, and their respective curves extrapolated to 1% to get the above values. Hence, these figures indicate the slope of the calibration curve.

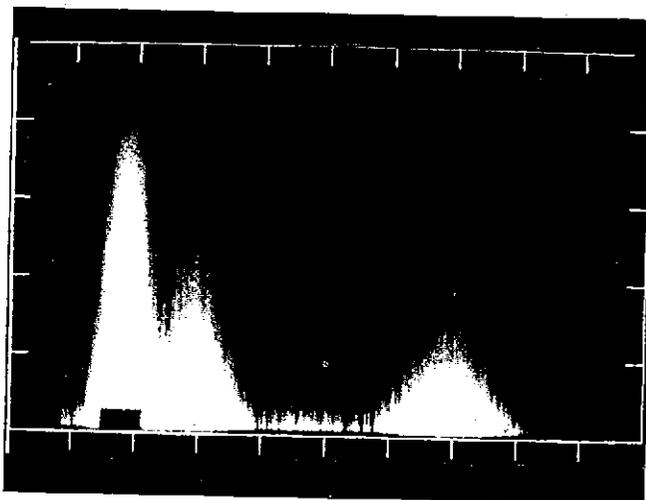


Figure 4—Actual photograph taken from the display tube of the Siemens Pulse Spectroscope. This example shows multiple peaks from a brass sample with a KAP crystal. The major peaks from left to right are P K-alpha (1st order), K K-alpha (from crystal), and Cu K-alpha (4th order). The rectangular box at the base of the P K-alpha peak illustrates the setting of the PHA.

### APPLICATION

The COMPAK-3 system may be used for the analysis of solids, powders and liquids in either air, vacuum or helium. It can be used for the analysis of elements from atomic number 9 (F) through 92 (U). The sample is simply and quickly inserted into position through a sample airlock on top of the VRS Spectrometer. By means of a control lever, the sample is rotated into the measuring position in the X-ray beam. If analysis in vacuum is required, the sample airlock is prepumped, prior to insertion of the sample into the main spectrometer. Pump down time between sample changes is of the order of 10 seconds.

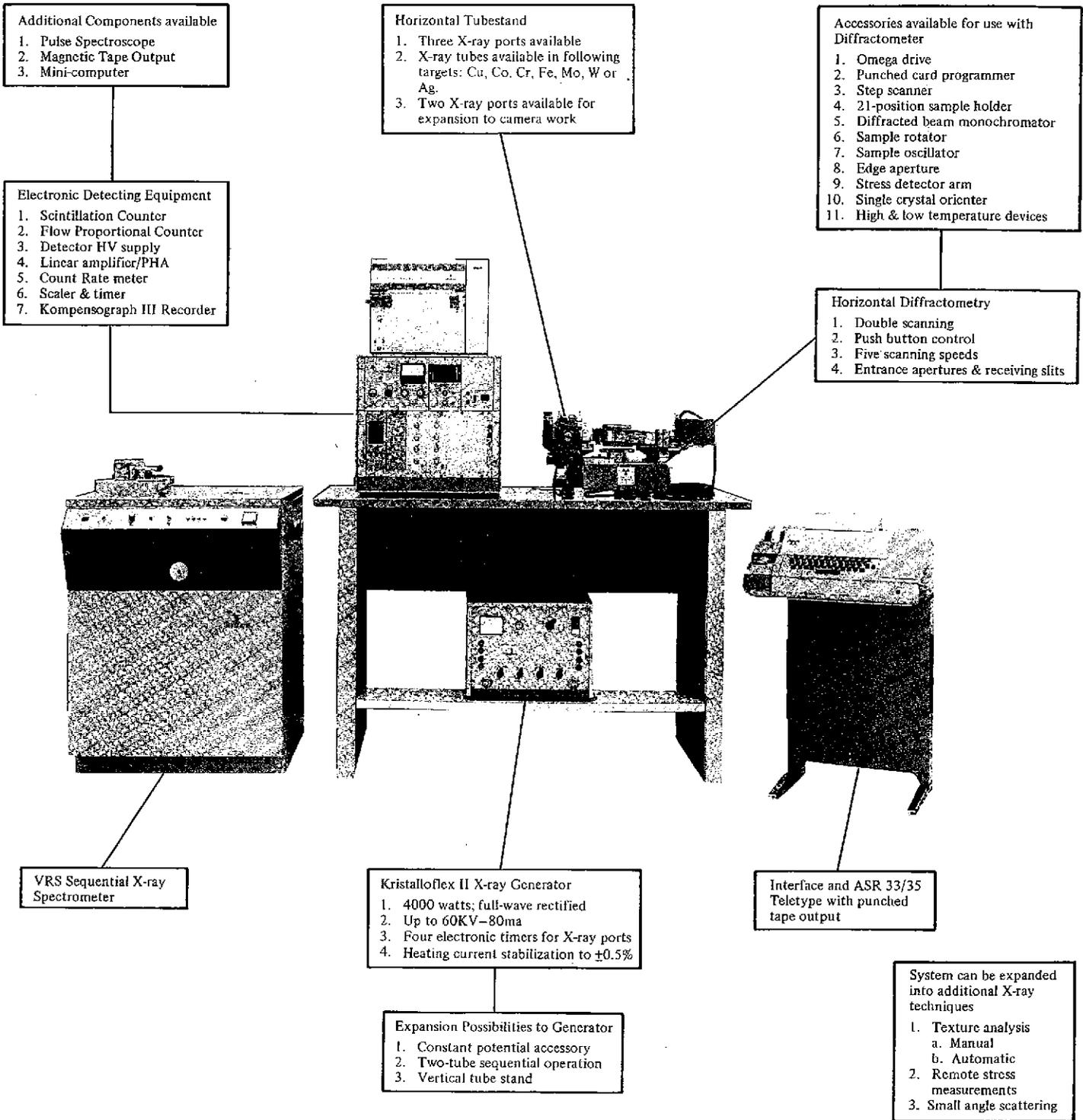
As indicated above, changes in collimator, analyzer crystal and detector can all be controlled externally with the sample in position and the spectrometer under vacuum.

Representative analyses that are possible with the COMPAK-3 system are given in tables I and II.

Table II. Synthetic Welding Flux

Element	Concentration	Net Counts/Min.	Analyzing Crystal
Mg	1.20	26,120	AdP
Mg	1.80	39,540	AdP
Mg	2.40	51,910	AdP
F	2.57	15,000	KAP
F	5.14	17,490	KAP
F	10.28	19,960	KAP
Na	1.36	9,650	KAP
Na	2.26	12,870	KAP
Na	3.17	15,420	KAP
Al	0.53	97,810	Pet
Al	1.06	164,970	Pet
Al	1.59	234,990	Pet

## EXPANSION CAPABILITIES THAT ARE POSSIBLE WITH A COMPAK-3 SPECTROMETRY SYSTEM



# ES INDUSTRIES

43 E. Main St.  
Marlton, N. J. 08053  
(609) 983-3616

295 Beverly Rd.  
Pittsburgh, Pa. 15216  
(412) 561-2299

CAPABILITIES FOR QUANTITATIVE ANALYSIS

BY ATOMIC ABSORPTION SPECTROMETRY

BY COPREX

Excellent	Very good	Good	Fair	Poor	cannot do		Very good	Good	Fair	cannot do			
Ag	Bi	Al	As	B	Ac	Lw	Ag	Li*	As	Nb	Al	Ac	N
Be	Co	Au	Er	Gd	Am	Md	B*	Mn	Br	Nd	Au	Am	Ne
Ca	Cr	Ba	Ga	Hf	Ar	N	Ba	Ni	Cd	Pd	Bi	Ar	No
Cd	Cs	Br*	Ge	Ir	At	Ne	Be*	P	Ce	Pr	Ir	At	Np
Cl*	Eu	Dy	Hg	La	Bk	No	Ca	S	Cl	Rb	Mo	Bk	O
Cu	Fe	F*	Ho	Lu	C	Np	Co	Sb	Dy	Rh	Na*	C	Os
K	Ni	In	Os	Nd	Ce	O	Cr	Sc	Er	Se	Pb	Cf	Pa
Li	Pb	Mo	Pt	Pr	Cf	Pa	Cs	Sn	Eu	Sm	Pt	Cm	Pm
Mg	Pd	P*	Ru	Re	Cm	Pm	Cu	Tb	F*	Sr	Si	Es	Po
Mn	Rb	Nb	Si	Sm	Es	Po	Fe	Ti	Ga	Te	Ta	Fm	Pu
Na	Sr	Rh	Ti	Ta	Fm	Pu	In	V	Gd	Th	U	Fr	Ra
Zn	Yo	S*	V	Tb	Fr	Ra	K	Zn	Ge	Tl		H	Re
		Sb		U	H	Rn			Hf	Tm		He	Rn
		Sc		W	He	Tc			Hg	W		Kr	Ru
		Se		Y	I	Th			Ho	Y		Lw	Tc
		Sn		Zr	Kr	Xe			I	Yb		Md	Xe
		Te							La	Zr		Mg	
		Tl							Lu				
		Tm											

Minimum amounts desirable for quantitative work of precision  $\pm 2\%$  of amount present.

Excellent	<1 $\mu$ g
Very good	1-5
Good	5-20
Fair	20-50
Poor	>50

\* Indirect determination

CALL FOR DOW'S OK ON LETTER BEING  
SENT TO BECK - NOT IN - VACATION

VENNO - QUALIFIED OK - AA UNIT NOT  
AS DESIRABLE FOR SENSITIVE  
WORK REQUIRED.

HURST CALL (633-5572)

PERK/ELMER - (ALLIANCE MACHINE)  
# 219? (NEW) VALUE \$4-5,000.00  
1/PPM + CAPABILITIES

PERK/ELMER - MODEL # 403 - \$12,000.00

WITH APPROPRIATE BULBS

10-100 TIMES MORE ACCURATE  
AA. MODEL THAT DOES  
MORE.

\$20,000 LAST OFFER SINCE ORIGINAL

\$10,000 WOULD BE GREAT HELP

IN MONITORING EQUIPMENT PURCHASE

AND FISHERIES CONSIDERATION.

LET HURST KNOW THE CATCH

NEXT WEDNESDAY -

JOHN GRAY - WAIT ON LETTER TO GET  
DOW'S PERMISSION OR AT LEAST  
HOLD UNTIL PURPOSE IS CLEAR.  
FROM F. BECK.

(AFTER MAKING COPY)

(OVER)

SNRAD CALL —

INCORPORATION VERY DESIRABLE.  
FUNDS AND CONTROL OVER  
RECLAMATION —

I EXPRESSED DOUBT ON ACCEPTING  
RESPONSIBILITY FOR TAKING RECLAMATION  
ENGINEERING AND MANAGEMENT  
~~OFF~~ OF CALLAHAN'S HANDS.

BUN GRAY NOT TOO PLEASED WITH IDEA.  
BECK WILL DISCUSS FURTHER  
ON MONDAY OR TUESDAY.

SNRAD COULD ARRANGE INCORPORATION  
PAPERS WITH FENTON IN PORT HARBOR TO  
TAKE CARE OF DETAILS.

Mr. Norman Manwell

S.P.R.C. Planning

and Engineering Dept.

(land management spec.)

\* MEETING \*

INTRODUCE THE MEMBERS PRESENT OF THE GOOSE POND RECLANATION COMM.

THE COMMITTEE WAS FORMED ON THE INITIATIVE OF THE TOWN OF BROOKSVILLE, CALLAHAN MINING CORPORATION AND THE STATE OF MAINE. WITH THE PURPOSE TO ASSEMBLE INFORMATION ON THE PROPER METHODS FOR RECLAMATION OF THE OPEN-PIT OPERATION, SPECIFICALLY THE POND BEDS AND WASTE AREAS, AS SUBJECT TO THE STATES LEASE WITH THE CALLAHAN CORPORATION AND SECTION 23, WHICH STATES, "LESSEE WILL COOPERATE WITH LESSOR, ITS VARIOUS AGENTS AND THE OFFICIALS OF THE TOWN OF BROOKSVILLE, HANCOCK COUNTY, MAINE, IN THE PLANNING, FUNDING AND IMPLEMENTATION OF A PROGRAM FOR THE REHABILITATION OF SAID LANDS UPON COMPLETION OF MINING ACTIVITIES THEREON. THE DETAILS OF SUCH PROGRAM, INCLUDING THE FUNDING AND ADMINISTRATION OF SAME AND THE SOURCE OF FUNDS TO ACCOMPLISH THE PROGRAM SHALL BE THE SUBJECT OF FURTHER DISCUSSION AND NEGOTIATION BETWEEN THE PARTIES."

MEMBERS OF THE COMMITTEE ARE:

MR. ALBERT SANDECKI, AS CHAIRMAN

MR. JOHN GRAY, AS VICE CHAIRMAN AND BROOKSVILLE SELECTMAN

MR. ROBERT L. DOW, MARINE RESEARCH DIRECTOR FOR THE DEPT. OF SEA & SHORE FISHERIES  
*PAUL VERRINO*

MR. ROBERT G. DOYLE, ADMINISTRATOR OF THE MAINE MINING BUREAU

MR. FRED BECK, AS SECRETARY AND ~~GEOLOGIST~~ <sup>EXPLORATION MANAGER</sup> FOR CALLAHAN MINING CORPORATION

THIS GROUP SOUGHT THE ADVICE OF; MR. ROBERT DOW, WHO IS CONCERNED WITH MARINE BIOLOGY / MR. ROBERT DOYLE . ON INVESTIGATING THE AVAIL\* - ABILITY OF STATE FUNDS/ MR. FRED BECK, AS CONSULTANT FROM THE CALLAHAN MINING CORPORATION AND MAINE MINING COMMISSION/ MR. JOHN GRAY REPRESENTING TOWN AND CONTINUING ECONOMIC USES IN THE AREA/ DR. RUTH PATRICK, AS CONSULTANT ON THE ECOLOGY OF WATERS AND CURATOR OF

THE DEPARTMENT OF LIMNOLOGY AT THE ACADEMY OF NATURAL SCIENCES./  
and MR. HAROLD B. STALEY, CONSULTANT ON WATER TREATMENT FORMERLY  
WITH THE MONSANTO CORPORATION/

ON JULY 30TH THE COMMITTEE HEARD THE RECOMENDATIONS OF THESE  
PEOPLE and CONSIDERING THE INVOLVED NATURE OF THE PROBLEM  
THE COMMITTEE WISHES TO EMPHASIZE THAT THIS MEETING BE CONSIDERED  
AS AN INTERIM REPORT TO THE TOWNSPEOPLE AND IS NOT TO BE REGARDED  
AS A FINAL REPORT.

AFTER THE BUSINESS SESSION OF THE MEETING IS COMPLETED I WILL  
OUTLINE THE RECOMENDATIONS OF THOSE CONSULTED TO DATE. THE MINUTES  
AND THE RECOMENDATIONS OF THOSE CONSULTED DO NOT CONSTITUTE A  
COMPLETED SET OF RECOMENDATIONS.

MR. JOHN GRAY WILL THEN ACT AS MODERATOR FOR QUESTIONS YOU  
MAY HAVE FOR THE COMMITTEE.

MR. BECK, WOULD YOU READ THE MINUTES PLEASE :---

DOES THE COMMITTEE APPROVE THE MINUTES OR ARE THERE ANY SUGGESTED  
ADDITIONS OR AMENDMENTS TO THE MINUTES ? ----- YES *DOW, SANDRICKI, GRAY  
ROGERS, (NOW FROM BECK)*

IS THE COMMITTEE READY TO ACCEPT THE MINUTES AS AMENDED ? -- YES

*ANY FURTHER BUSINESS - ALL IN FAVOR TO CLOSE BUSINESS MTG -  
CLOSE MTG*  
I WILL NOW READ THE RECOMMENDATIONS GATHERED TO DATE BY THE  
COMMITTEE ON THE SUGGESTED RECLAMATION PROCUDURES : --- ✓

\* RECOMENDATIONS \*

\* RECOMENDATIONS \*

READ AT GPRCS PUBLIC  
MEETING 17 AUG 71

TO FILL AND SEAL AS MUCH OF THE OPEN-PIT BY MUD AND ROCK WASTE NOW EXISTING IN THE POND BED BEFORE FLOODING THE PIT AREA. TO PROVIDE NATURALLY EXISTING MATERIAL TO ACT ON THE TOXIC METAL IONS AND EXPOSED SULFIDES WHEN THE WATER ENTERS THE PIT AREA.

REDUCING MUD AND WASTE ROCK IN THE POND BED TO SOME COMMITTEE APPROVED LEVEL BELOW NORMAL SALT WATER LOW TIDE LEVEL. THE LOW AND HIGH WATER BENCHMARKS PRIOR TO THE MINING ACTIVITY ARE ON RECORD WITH THE CALLAHAN CORPORATION. <sup>Backlogs</sup> THE PURPOSE WOULD BE TO ELIMINATE FUTURE NAVIGATIONAL HAZARDS.

THE PRESENT CONCRETE DAM TO BE RETAINED UNTIL A BALANCE OF TOXICITY LEVEL IS REACHED WITHIN THE PIT AREA'S WATERS AND THOSE OF GOOSE COVE. THIS WILL REQUIRE CAREFUL MONITORING . A BASELINE FOR THE MONITORING MAY HAVE TO BE OBTAINED FROM AN UNAFFECTED AREA SIMILAR TO THAT OF GOOSE COVE BEFORE THE MINING OPERATION BEGAN.

POSSIBLE REENFORCING <sup>GP</sup> THE SECONDARY DYKE IN THE LOWER POND BED AND INSTALATION OF A FLOOD CONTROL GATE TO ALLOW SALT WATER INTO THE PIT AREA AND TO CONTROL OUTFLOW OF THE IMPOUNDED WATERS IN THE EVENT OF HEAVY RAINS. AN ALTERNATE METHOD TO FLOOD THE PIT WOULD BE THE USE OF PUMPS.

DAMMING OF THE WEIR COVE OUTLET TO A PROPER LEVEL TO <sup>PREVENT</sup> ~~RESTRICT~~ SOUTHERLY FLOW OF ANY DRAINAGE. TO PREVENT CONTAMINATION OF THE WEIR COVE AREA.

THE RESHAPING OF THE WESTERLY WALL OF THE PIT FROM LOW WATER MARK TO <sup>CREATE</sup> ~~FACE~~ AN IRREGULAR AS OPPOSED TO A SHEAR SURFACE AS A SAFETY CONSIDERATION FOR ANYONE FALLING INTO THE WATER FILLED PIT AREA. AND TRYING TO GET OUT

GRADE THE WASTE ROCK DUMP AREA TO A COMBINATION OF SLOPE AND TERRACES TO FACILITATE REVEGETATION AND PREVENT EROSION. DEGREES OF SLOPE SHOULD CONFORM TO THOSE RESEARCHED BY THE U.S. DEPARTMENT OF AGRICULTURE.

ALLOW THE TAILINGS POND TO STABILIZE DOING NECESSARY GRADING TO PERMIT DRAINAGE AND VEGETATIVE COVER.

\*\*\*\*\*

THESE EIGHT RECOMENDATIONS REPRESENTS THOSE GATHERED BY THE COMMITTEE TO DATE. THE COMMITTEE WILL ARRIVE AT A SET OF FIRM RECOMMENDATIONS AT A MEETING IN THE NEAR FUTURE (HOPEFULLY)

ALL OF THESE RECOMMENDATIONS ARE SUBJECT TO AVAILABILITY OF FUNDS:

CALLAHAN MINING, HAS EXPRESSED AN INTEREST IN RECLAMATION OF THE MINED AREA ~~AND~~ THEIR FUNDS ARE LIMITED, BUT ~~THEY~~ THEY HAVE MEN AND EQUIPMENT AVAILABLE FOR SUCH WORK. MR. BECK AS A MEMBER OF THE MAINE MINING COMMISSION IS LOOKING INTO FUNDS FOR RECLAMATION EXISTING WITH THE MAINE MINING COMMISSION.

MR. ROBERT DOW, <sup>1978 CONTRACT</sup> DR. CAWLEY, DIRECTOR OF THE FEDERAL WATER QUALITY ADMINISTRATION AND THE OFFICE OF WATER RESOURCES IN REGARD TO BASIC RESEARCH GRANTS, UNDER EITHER TITLE 1 (no matching funds) or TITLE 2 (matching funds).

MR. CARL ROGERS, ON A COUNTY LEVEL IS TO SEEK FUNDS THROUGH THE E.D.A. AS TECHNICAL ASSISTANCE GRANTS ON THE DEVELOPMENT OF COASTAL MINING RESEARCH DATA.

\*\*\*\*\*

THIS IS WHAT HAS BEEN DONE TO DATE BY THE GOOSE POND RECLAMATION COMMITTEE ~~ON~~ MR. JOHN GRAY, <sup>SELECTMAN</sup> BROOKSVILLE WILL ACT AS MODERATOR FOR ANY QUESTIONS YOU MAY HAVE FOR THE COMMITTEE.

*I will  
AT DOWS O.K.*

\* TELEPHONE NOTICE TO PAPERS \*

Meeting decided upon afternoon of the  
10th. Fred Beck, John Gray, Sandeckl

"There will be an open meeting & dis-  
cussion on the reclamation of Goose  
Pond. Sponsored by the GPRC, on TUES.

AUGUST 17th at 7 pm at the BROOKSVILLE  
COMMUNITY HALL, South Brooksville, Me.

CALLED:

9:05 am (Jerry) Ellsworth American 667 2545

9:15 am (gordon) Weekly Packet 374 5643

9:20 am (barrows) Island Advantages 367 2200

9:30 am (langley) Maine Times 729 0126

Asked for repeat of notice no billing  
for notice from all papers except the  
Packet. *Packet Billing 1.65*

WROTE :

Bangor Daily News (mills)

A.E.S.

## ISLAND ADVANTAGES

TUESDAY, AUGUST 17

There will be an open meeting and discussion on the reclamation of Goose Pond, sponsored by the Goose Pond Reclamation Committee, at 7:00 p.m. at the Brooksville Community Hall, Brooksville.

## WEEKLY PACKET

### PUBLIC NOTICE

There will be an open meeting and discussion on the reclamation of Goose Pond sponsored by the Goose Pond Reclamation Committee, Tuesday, August 17, 7 p.m. at the Brooksville Community Hall, South Brooksville.

37x

## ELLSWORTH AMERICAN

### GROUP TO DISCUSS

### GOOSE POND RECLAMATION

There will be an open meeting and discussion on the reclamation of Goose Pond, sponsored by the Goose Pond Reclamation Committee on Tuesday, Aug. 17, at 7 p. m., at the Brooksville Community Hall, South Brooksville.

RONALD W. GREEN, COMMISSIONER



STATE OF MAINE

## DEPARTMENT OF SEA AND SHORE FISHERIES

STATE HOUSE

AUGUSTA, MAINE 04330

August 12, 1971

Mr. Albert Sandecki  
Harborside, Maine 04642

Dear Mr. Sandecki:

This is to acknowledge your letter of August 11 notifying me of the August 17 meeting and enclosing Dr. Patrick's report on her recommendations with respect to Goose Cove and Callahan Mining. At present it looks rather doubtful that I will be able to attend the meeting on August 17.

You are correct in assuming that I have received a copy of the minutes of the meeting on July 30 forwarded to me by Mr. Scott. Since there are several errors in Mr. Scott's minutes, I would like to comment on those.

On page 2 I am quoted as saying that the Department had spent \$10,000 and the U. S. Government \$46,000 (actually almost \$47,000) in monitoring shellfish and other organisms in the area. Mr. Scott then went on to say "He did not state exactly what this testing had yielded." This testing yielded the report issued by the Department of the Interior, a copy of which I gave you, and it involved the sampling, meetings, discussions with Callahan Mining, and other activities by the Department, including several field trips to the area as a result of complaints by local citizens of activities by Callahan Mining. I think that the point this emphasizes is that research, including monitoring, is very expensive and in a sense serves as a subsidy by the State and Federal Governments of the Callahan Mining operation. This expenditure of time and money also means that other important work has had to be shelved in order to do the monitoring that was done at Harborside.

Our monitoring could have been much more effective had we been given any favorable consideration by the Maine Mining Bureau in

Albert Sandecki

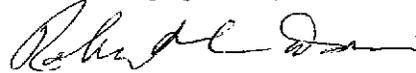
-2-

August 12, 1971

connection with the purchase of an atomic absorptive analyzer for the use of Sea and Shore Fisheries scientists.

One other error in the minutes is on page 4 where it is stated "The chairman observed that Mr. Staley's recommendations were not in accord with those of Dr. Patrick and Mr. Dow." You can, of course, answer that better than I. I certainly did not understand you to make this statement and obviously if you did make the statement your appraisal of the situation was in error. Mr. Staley did comment on things which were not covered by Dr. Patrick or by me, but this should not be inferred to mean that there was any difference or discrepancy in our general views.

Sincerely yours,



ROBERT L. DOW,  
Marine Research Director

RLD/jwu

Harborside,  
Maine 04642  
August 11, 1971

Mr. Paul Venno  
North Edgecomb  
Maine 04556

Dear Paul:

I have just written to Mr. Dow advising of the date of the public meeting and told him I would send you a note of the date, time and Place. Hope you can attend to help field some of the many questions we will probably be asked.

Recent developments indicate the GPRC may be able to gain some authority at least on a state level.

The date of the public meeting is the 17th of August at 7 pm. at the Brooksville Community Hall in South Brooksville.

Sincerely,

Albert Sandecki

Harborside,  
Maine 04642  
August 11, 1971

Cooperative Extension Service  
Box 360 P.O. Building  
Ellsworth, Maine 04645

Mr. Carl Rogers  
Extension Agent

Dear Mr. Rogers:

Thank you again for attending the Goose Pond Reclamation meeting of the 30th.

Last evening a date was set for the public meeting I hope you will be able to attend, the date and time is as follows: August 17th, 7 pm. at the Brooksville Community Center, South Brooksville.

Sincerely,

Albert Sandecki  
Chairman GPRC

Harborside,  
Maine 04642  
August 11, 1971

The Academy of Natural Sciences  
19th & The Parkway  
Philadelphia, Pennsylvania 19103

Dr. Ruth Patrick, Ph.D.  
Curator of Limnology

Dear Dr. Patrick:

Enclosed is a copy of the minutes of the Goose Pond Reclamation Committee's meeting of the 30th of July.

We will be having an open public meeting on the 17th of August and will be presenting the information gathered to date on the various proposals put forward.

On page 4 of the minutes Mr. Scott has referred to sources for funds, this is a bit of a question to me as I was under the impression that Mr. Carl Rogers of the UDSA (county extension agent) was taking this information down at the time you stated the sources for funds.

Therefore I would like to ask if you could send me a listing of these agencies, hopefully in time for the next meeting on the 17th. You also made mention of a trip to Washington with possible information from there in regard to the problem at Goose Pond. If anything new has developed I would appreciate a call at anytime (collect).

Lastly, please do not hesitate to send me a statement for your preliminary survey. Thank you again for your help to date.

Sincerely,

Albert Sandeck  
Chairman GPBC

Telephone 207 326 4675

Harborside,  
Maine 04642  
August 11, 1971

State of Maine  
Forestry Department  
Augusta, Maine 04330

Mr. Robert G. Doyle  
Administrator Maine Mining Bureau

Dear Bob:

Possibly Fred Beck has contacted you about the public Meeting on the 17th at 7 pm, Brooksville Community Hall, South Brooksville.

I hope you will be able to make this meeting as I expect there will be a good turnout and many questions that you might be in a position to answer.

Thanks for your letter of the 6th and would like to hear if you can attend the coming meeting.

Sincerely,

Albert Sandeck  
CPRC

Harborside,  
Maine 04642  
August 11, 1971

State of Maine  
Department of Sea & Shore Fisheries  
State House Annex  
Augusta, Maine 04330

Mr. Robert L. Dow  
Marine Research Director

Dear Mr. Dow:

Enclosed is a copy of Dr. Patrick's recommendations as she rather briefly put them in a letter form, I thought you might like to have them. I am under the impression that you have been sent a copy of the minutes of the meeting of the 30th of July.

Last night a date was set for the public meeting of the Goose Pond Reclamation Committee and I hope if it is at all possible you might attend. I understand there will be a strong turnout and imagine there will be many questions that you might be able to help us answer. The date and time is as follows:

August 17th, Tuesday

7 pm.

Brooksville Community Hall

South Brooksville, Maine

I would like to hear from you at your earliest convenience as to whether you can attend. I will write to Paul Venno letting him know of the meeting.

Thank you again for coming to the last meeting and I sincerely hope there is some chance of seeing the right method of reclamation employed here at Goose Pond.

Sincerely,

Albert Sandeck  
Chairman GPRC

August 9th

10am John Gray called in regard to note of the 4th requesting an evening time for a meeting (public) and his acting as moderator. Agreed to both.

12-12:20pm

Mrs. Lynne Langley, reporter for the Maine Times called to confirm much of the article which appeared in the Island Advantages on the meeting of the 30th. Emphasized the need to maintain a cooperative mood on behalf of the State, Town & mine towards getting anything done in the way of restoration, and hoped she would consider this in any article she might be contemplating.

(request for the minutes of the meeting of the 30th and any other information on the recommendations made by Dr. Patrick and Robert Dow.) will send as soon as copys can be made.

A.E.S.

## Philip Wagner: A non-homogenized town



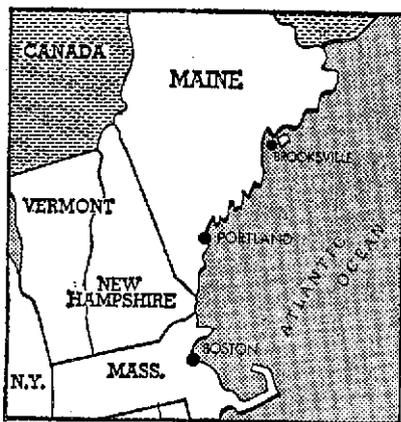
# Brooksville, Me., does things modestly

Portland, Me. — Some years ago President Johnson's Advisory Commission on Civil Disorders came out with the alarming statement that we were well on the way to becoming a divided nation — "the permanent establishment of two societies" antagonistic to each other.

The commission was thinking in racial terms: inner city blacks vs. outer-city and suburban whites. The divergence is that all right, and no one will want to underestimate its dangers. That is what all the plans, programs, moneys, legislation, court activity and the like are about — to build bridges wherever practical and so encourage a *modus vivendi* if not the full integration of some people's dreams.

### A melting pot?

And yet this alarming simplification left out quite a lot. I know a good many inner-city blacks (and work in daily intimacy with several) who betray no sign of such a total cleavage. Moreover, this is and always has been a nation not of one or two societies but of many — a potful of many religions, racial and cultural ingredients that remain as different as the potatoes, carrots, onions and chunks of meat in a beef stew. They do not homogenize into a human mix of uniform consistency, and in my view their contin-



Bulletin map by Don D. Meje

uing is a source of strength and joy and is to be encouraged. (Onion and carrot meet in the stew and both give it savor, but they retain their identity.)

If anyone doubts this country's multi-social character, let him read the 153rd annual report (for 1970) of the town of Brooksville, Maine, as I have been doing.

Brooksville operates under the town-meeting form of government, harking straight back to the 18th Century. The meeting is held under a "Warrant," signed by the three Selectmen and beginning: "To Donald How-

ard, a Constable of the Town of Brooksville, GREETING." Constable Howard is in this way "required to notify and warn the voters of the Town of Brooksville qualified by law to vote in town affairs, to meet at the Town House" at such and such a time.

Having met, they choose by secret ballot for the ensuing year three Selectmen, Assessors, Overseers of the Poor, a Tax Collector and some few other officers. That done, they deal with all budget recommendations one by one; and having done that they proceed to dispose of such other business as the voters bring before it, as: "To see if the Town will vote to permit any business not included within the exemptions in the Blue Law to remain open for business on the days set forth in said chapter."

Or, "To see if the Town will vote to accept from Dr. and Mrs. Kendall Emerson a scholarship fund for \$100 given in memory of Mrs. Oliver Bakeman Sr."

### Excerpts from report

A few excerpts from the Selectmen's Report suggest its flavor. Here is one:

With the municipal year 1970 past, it is with privilege and honor that we submit this annual report to the people of our town. This has

not been an easy year for all concerned. Our problems have been many. We have tried to do our duty in a manner that is of the best interests of all concerned, but by this we are reminded that perfection on earth has never been attained.

Here is another:

Six of our local residents passed away during the year 1970 (here follow their names). To their families and friends we express our condolences. May we carry on our lives in a way to be remembered by Him, ever remembering the uncertainty of life.

And a third:

Brooksville does things on a modest scale. The appropriation last year for civil defense was \$882.29. No expenditures. Balance to surplus, \$882.29. That for support of the poor last year was \$400.00. No expenditures. Balance to surplus, \$400.00. The undeserving don't get a break in Brooksville. Yet the mainly volunteer home nursing service was able to report that "no patient, regardless of ability to pay, who is under a doctor's care, is ever denied home health care." The five doctors who "gave their time to our health programs" are named in the report, with thanks. Brooksville is a poor town by contemporary standards, but doesn't seem to know it.

*Sum. & Acc. Philip. Bul. — all's well here  
nothing new*

**REPORT TO ROBERT L.  
DOW TO MEMBERS OF THE  
MAINE MINING BUREAU**

Rehabilitation of  
this area poses an  
important heavy  
metal toxicity

program. Some heavy metals are acutely toxic to marine organisms at various levels above background. Significant and substantial increases in the heavy metal content of soft shell clams in Goose Pond Cove have occurred since the operation of the separation plant at Harborside. The enclosed table shows the levels in soft shell clams before and after operation of the separation plant.

By retaining the dam which excludes sea water, the pit created by extraction of the ore body can serve as a settling basin comparable in many respects to a large-scale tailings pond. Such retention should appreciably reduce the amount of toxic ions being carried directly into sea water by tidal flushing after termination of the mining operation.

Should the dam be removed and free flow of tide-water in and out of the area permitted, it is probable that the level of toxic metals would increase above the levels indicated by 1968 and 1969 monitoring samples.

It can be anticipated that in the near future the Federal Government, through the F.D.A., will establish heavy metal limits for human foods and that the levels of some metals found in Goose Pond Cove will likely exceed these tolerances.

# Committee Outlines Possible Reclamation Procedure For Callahan Pit

The Callahan Mining Corporation's Penobscot Unit is now phasing out its mining operation after four years of production. Once mining ceases, the Goose Pond Cove Reclamation Committee will spearhead a program designed to restore the area's land and water to a natural balance. Currently in the process of defining that specific program, the reclamation committee met Friday, July 30 at the Callahan Mine Office in Harborside.

During the two-hour closed meeting, six members of the committee listened to recommendations by Mr. Robert Dow, Marine Research Director of Sea and Shore Fisheries Department, and Dr. Ruth Patrick of the Department of Limnology of Philadelphia's Academy of Natural Science. Although familiar with similar fresh water mine reclamations, Dr. Patrick reports that Goose Pond Cove is unique as a coastal mining operation and therefore will be an experimental challenge to rehabilitate.

Of prime concern to the committee is the precipitation and neutralization of heavy metal toxins found in the mine's open pit and waste pond. According to Mr. Dow, an uncontrolled flow of metal toxins from the area would further contaminate the already highly toxic marine organisms in Goose Pond Cove. For this reason, the committee and Dr. Patrick supported the following recommendations made by Mr. Dow:

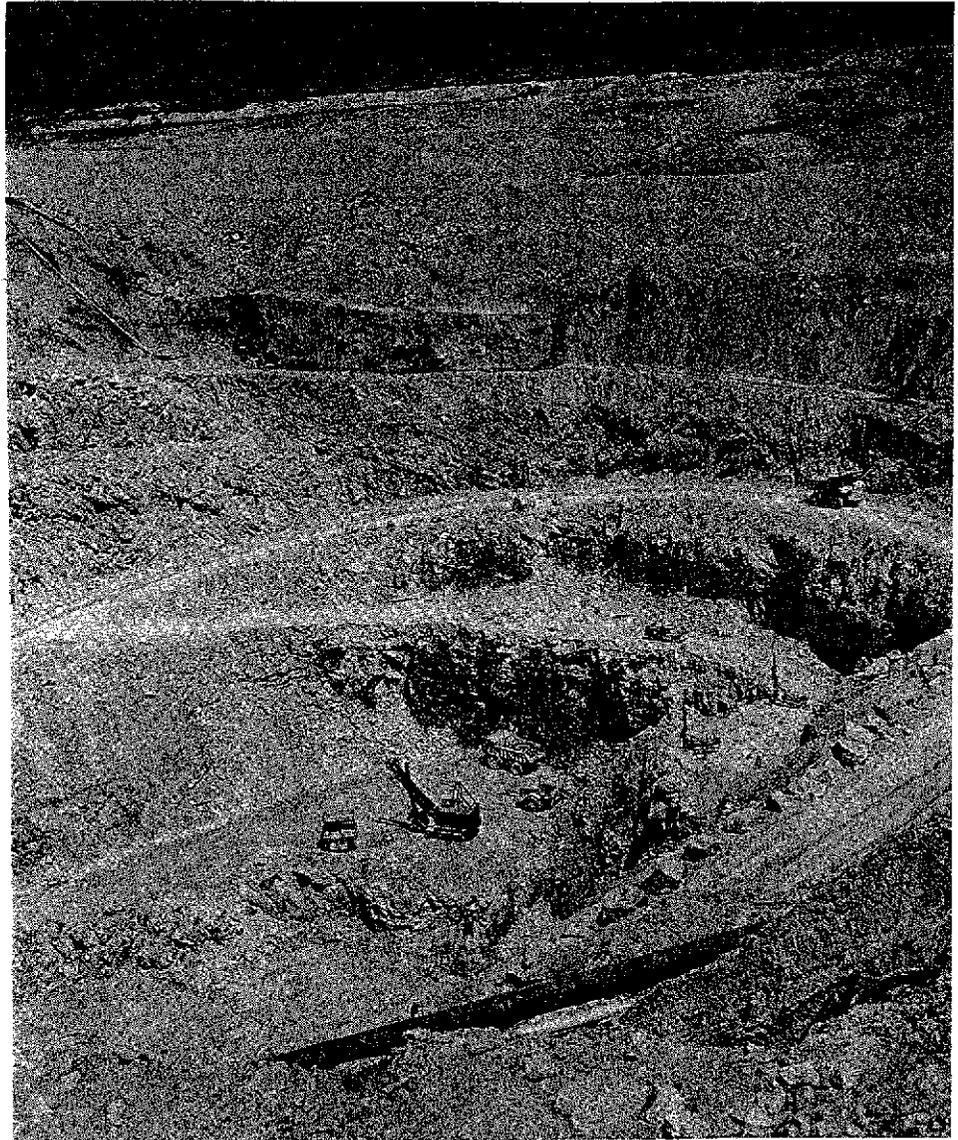
1. Block the flow of water in and out of the open pit mine by retaining the dam into Goose Cove and utilizing the muds to seal off sea water. The pit would then become "a metallic septic tank" for settling ions.
2. Fill the pit and perhaps the waste pond with either salt water or brackish water to accelerate the precipitation of metallic ions.
3. Stabilize the mud of the waste pond and use chemical agents to neutralize metallic ions there. Once the ions are reduced, contour and seed the waste pond basin with a vegetative cover that will grow in mud and isolate and insulate the toxins.
4. Constantly monitor the area to control possible toxin flow into Goose Pond Cove.

At present, there is no federal regulation of the metallic content of effluents discharged into the ocean. However, Mr. Dow claims that legislation is pending which would set a limit below the amount of toxic residue that would be carried into Goose Pond Cove unless precautionary measures (as outlined) are taken.

In addition to the control of metal toxins, the committee also discussed the contouring and covering of the huge slag heaps to reduce danger and enhance the area. Once the metal toxins have been neutralized, it will be possible to landscape and restore much of the area to its original beauty.

Since Goose Pond Cove is the pioneer mining area along the coast, no one is sure how long the restoration will require. Nor is the committee sure of financial support of the project. To date, the State of Maine has invested \$10,000 and the federal government \$50,000 in a four year "skeletonized monitoring" program deemed by Mr. Dow as largely ineffective.

Chairman of the reclamation committee, Albert Sandecki, says that the committee will continue to investigate all facets of the rehabilitation process in an attempt to clarify their position and present a specific plan to



Since Goose Pond Cove is the pioneer mining area along the coast, no one is sure how long the restoration will require. Nor is the committee sure of financial support of the project. To date, the State of Maine has invested \$10,000 and the federal government \$50,000 in a four year "skeletonized monitoring" program deemed by Mr. Dow as largely ineffective.

Chairman of the reclamation committee, Albert Sandecki, says that the committee will continue to investigate all facets of the rehabilitation process in an attempt to clarify their position and present a specific plan to the public. Mr. Sandecki hopes that the committee will be ready to convene within one or two weeks for a public meeting. Despite obstacles and opposition, the committee is in agreement on one central point: with time enough, funds enough, and interest enough, Goose Pond Cove will become clean, green, and lovely once more.

S.T.

## MEMBERS OF THE GOOSE POND COVE RECLAMATION COMMITTEE

### Members -----

\*Paul Venno)

\*Robert Dow ) Sea and Shore Fisheries

\*John Hurst )

Fred Back or Bill Scott\* - Callahan representatives

Robert Doyle\* - State Geologist, Department

Economic Development

Carl Rogers\* - Hancock County Extension Agent

John Gray\* - Brooksville selectman

Albert Sandecki\* - Chairman

\* present at July 30th meeting.



State of Maine  
**FORESTRY DEPARTMENT**

Augusta, Maine 04330

TEL. 207-289-2791



AUSTIN H. WILKINS  
FOREST COMMISSIONER

FRED E. HOLT  
DEPUTY FOREST COMMISSIONER

WHITE PINE CONE AND TASSEL  
STATE FLORAL EMBLEM  
ADOPTED BY THE LEGISLATURE - 1895

August 6, 1971

Albert E. Sandeck, Chairman  
Goose Pond Reclamation Committee  
Harborside, Maine 04642

Dear Al:

From our conversation last week and a review of Dr. Patrick's memorandum, I have a firm idea of the possibilities for rehabilitation of the Callahan Mine area.

The following specific recommendations are my summary of the present position.

1. Filling and sealing of the mine pit by mud slide and waste rock material to prevent future metal and sulfide material entering the estuarine system. Some salt water filling of the pit might also be accomplished to speed up ionic eH activity.
2. Buildup of the check dam wall between the pit and bridge to insure that metal contaminants from the pit and waste rock piles do not reach the estuary.

Complementary to this suggestion is consideration of the timing for removal of the steel door under the bridge.

3. Continual periodic monitoring of the mine area and nearby waters to check on the pH, metal content and quality of the water in the mine area. It is assumed that a free flow of salt-fresh water between the Goose Falls estuary and the mine pond would be allowed when the mine area background parameters reach an acceptable low level.

Albert E. Sandecki, Chairman  
August 6, 1971  
Page 2

4. Damming up of the Weir Cove outlet at the south end of Goose Falls Pond to prevent possible contamination of Weir Cove.

There is also mention of filling in the entire length of the diversion ditch to the Cove. I was not sure what conclusion was reached regarding this action.

5. Re-shaping and then planting of the high waste rock dump which lies between the pit and the mill area. Dr. Patrick seemed to feel that the present configuration of the pile would not support growth.
6. A general recommendation regarding area cleanup, safety near the pit and removal of the buildings.

I am in general agreement with all of these thoughts. The engineering studies and physical implementation will take some time and real investigation. But I do feel that progress on each recommendation should take place as soon as possible. The financing will also be a subject for discussion and the actual details of rehabilitation tailored to available money.

You have done a good job in getting things moving, and I am sure that the Mining Bureau will cooperate as much as possible to implement the recommendations.

Very truly yours,

MAINE MINING BUREAU



Robert G. Doyle  
Administrator

RGD:pm

# Hey Ed!

Dear Sir:

Your July 29 editorial "Muscle Bound" with its thinly-veiled innuendos was a very unfair attack on a citizen's committee, and particularly its chairman Mr. Albert Sandecki; who are doing their best to unravel the very substantial problem created at Harborside by the imminent closing of the Callahan mine.

This committee, as I understand it, is composed of vitally concerned individuals representing Callahan, the Town of Brooksville, the State of Maine, and owners of property adjoining the mine. The committee seeks a cooperatively acceptable solution to fulfill Callahan's publicly expressed promise to restore the Goose Falls-Goose Pond area in a manner acceptable to Brooksville people. A very commendable objective, indeed! And one without legal overtones for, I believe, there is not one whit of legal force that the State of Maine, Hancock County, or the Town could exert to "force" Callahan to do any restoration whatever.

The committee is acting wisely to bring in expertise to recommend what reclamation should be undertaken and what methods should be used. And it occurs to us that when this committee of reasonable men has something factual and substantive to report the press will hear of it. Until then it seems to us the committee should be allowed to deliberate, to sift out information, and arrive at some conclusions without news-hawks continually peering over their shoulders.

Your claim of "vested interests" by committee members is pure balderdash--a figment of an editor's imagination. What further interest does Callahan have? They've taken their "pound" of ore from the bowels of Goose Pond! The Falls View House lost its summer boarders when the "falls view" ceased to be and its owners will not reopen it. And the restoration of a place of beauty and solitude--an

objective of Brooksville and Harborside members, notably artist Sandecki, can hardly be called a "vested" interest.

It should not be forgotten that for five long years the good folks of Harborside have endured the day and night staccato of pneumatic drills, the announced and the unannounced roar of dynamite blasting. Some nearest the mine have withstood showers of flyrock beating a tattoo on their roofs (one large rock pierced through into Mr. Sandecki's kitchen which would have killed anyone in its path.) Five families lost their water supply and have been dependent upon Callahan for drinking water delivered in jugs. What will they do for water when Callahan finally moves out?

Your attack on Mr. Sandecki shows a lack of knowledge of the man or his motives. As the spokesman for his friends and neighbors, in defense of his own and his family's property rights, and with a deep concern for the natural beauty of the Maine coast, Mr. Sandecki has expended much time, money and energy on the complex Goose Pond-Callahan Mine problem. He deserves the commendation of everyone in the Peninsula area for his leadership in this-our common problem.

Callahan came. Callahan saw. Callahan conquered (as big-money interests usually do). Veni! Vidi! Vici! Now the cup is almost empty! What will be left behind? A huge unsightly spoil bank of blasted rock containing no organic material to sustain a cover crop? A ditch of stagnant, insect-breeding water across the Cape to Weir Cove? A substantial loss of tax income by Brooksville?

We hope that the Goose Falls Reclamation Committee will bend every effort to reduce these losses to a bare minimum. We think they deserve your support--not your condemnation.

Edward H. Young  
W. Brooksville

W/P 5 Aug 71

GOOSE POND RECLAMATION COMMITTEE

- Minutes -

Date: July 30, 1971

Present:

from Brooksville: Albert Sandecki - Chairman  
John Gray  
from the State: Robert Dow  
Paul Venno  
Spencer Apollonio  
John Hurst  
from the County: Carl Rogers  
from Callahan: B. C. Scott

The meeting was called to order by the Chairman in the offices of Callahan Mining Corporation at 10:10 AM. At the request of the Chairman, Dr. Ruth Patrick of the Academy of Natural Sciences of Philadelphia stated her qualifications to study the problems of Goose Pond rehabilitation as they relate to marine life for the committee, but also stated that she could not expect to know all about the marine environment after only one day's study.

Robert Dow told the committee that the Maine Department of Sea and Shore Fisheries had collected the marine data used in the reports on Goose Cove published to date. He went on to say that copper in undetermined amounts are toxic to lobsters. He stated that bait worms are also sensitive to metal poisoning, and that the lead content in clams is worrisome to S&S.

Dr. Patrick observed that copper and zinc combinations were shown to be toxic to several marine forms. She said that Federal standards for heavy metals content in marine foods have not yet been established, but should come out in about 6 months.

Mr. Scott asked Mr. Dow if there had been any samples of shellfish tested for metal content prior to Callahan's activities, to serve as a base for comparison. Mr. Dow replied that there had not, but that there had been mining activity in the area earlier, so there was heavy metal around earlier.

The Chairman then asked Mr. Dow if he had recommendations for the reclamation of Goose Pond to be presented to the Committee. Mr. Dow presented the following recommendations (copy appended) by the Department of Sea and Shore Fisheries:

- 1) Drainage to Wier Cove should be closed
- 2) The dam under the reversing falls bridge should be retained so there is no intrusion of tide water. The pit would then serve as a settling pond for

A.S. AMEND  
05 RECOMMEND  
ACTION  
NEW FED STAND  
MID JAN 72  
WHEN DID  
PROCESSING  
START?

ionic action in the water. The dam should be retained until the testing of marine life is completed.

Mr. Sandeck then asked if Mr. Dow knew of any reports that would show the amount of drainage into the pond, that is, would there be enough drainage to offset evaporation, etc. so the pond would not become stagnant. Mr. Dow replied that there might be such reports, but that he did not definitely know of them.

*JCS  
CARL ROGERS*

At the request of the Chairman, John Gray stated the position of the Town of Brooksville:

- 1) The Town is interested in the best solution to the question of Goose Pond reclamation
- 2) The Town would like to have the pond returned to salt water if possible
- 3) The Town would like to keep employment available in the area.

The Chairman told the committee that the Maine Department of Parks and Recreation had stated an interest in cooperating with Callahan in developing picnicing, etc. on the Callahan side of the pit. Unfortunately, there was no representative of that department present at the meeting.

Mr. Dow stated that the Maine Department of Sea and Shore Fisheries had spent \$10,000 on shellfish monitoring in the area since 1967, and that the U. S. government had spent \$46,000 in the same period. (He did not state exactly what this testing had yielded.) He said that he had recommended to the Maine Mining Bureau that the royalties paid to the Mining Bureau by Callahan be used to purchase an Atomic Absorption unit to be used for testing at the Northeast Shellfish Sanitation laboratory, but that the Mining Bureau had turned down his request.

*AMEND  
FOR DOC  
TESTING HAD PROGR  
THE AUG-70 REP  
ON PART BY  
F. W. Q. A.*

At the request of the Chairman, Mr. Carl Rogers stated the interest of the County Extension Service in the project. Mr. Rogers stated that:

- 1) The Extension Service's interest is in the people of the area, and in educational benefits. He said that he had worked with the Callahan group and the local residents, serving as a middle man with recommendations for action through the county Technical Action Panel.
- 2) Extension wants to foster cooperative action by Callahan, the State, County and Town.
- 3) He recommended that funds from all sources, State, Callahan, Brooksville and surrounding towns, etc. be used in the reclamation project. Extension funds might be available if their use leads to employment opportunities for Town residents.

*MARINE  
RESEARCH  
(MUSSELS GIBBER)  
M.A.A.'S  
OCEANOGRAPHIC  
CURRICULUM*

Mr. Venno suggested that a rehabilitation program be laid out and started as soon as possible.

Mr. Apollonio suggested that it would take a great deal of money to make the pit area safe for recreational purposes. *PUSHING WASTE ROCK & MUD BELOW LOW WATER LEVEL - NAV. HAZARD*

*AVOID  
LOW WATER  
PIT HAZARD  
SAFETY  
HAZARD  
ET*

Mr. Dow stated that he felt the greatest employment opportunities in the project lay in the research and monitoring associated with it.

Mr. Rogers stated that it might be possible to get an EDA technical assistance grant for study of the rehabilitation to serve as a guide for salt water mining projects elsewhere in the U.S. He also stated that moneys were available for setting up employment.

At the request of the Chairman, Mr. Scott stated that Callahan is interested in reclamation of the mined area; that its funds for such work were limited but that it had men and equipment available for such work if it is done while the operation is still in existence, and that it was consulting with firms and individuals experienced in similar rehabilitation programs.

The Chairman then asked Dr. Patrick to present her recommendations to the committee. Dr. Patrick started her statement by observing that federal funds were available for such projects as this; that the recycling system used in the Callahan mill was a good one for controlling metal ions; and that ion exchange systems should be used for precipitation of metal ions whenever possible. Dr. Patrick then presented the following recommendations:

- 1) The drainage to Wier Cove should be closed
- 2) The dam under the bridge should not be removed until study shows that there will be no damage to marine life by water coming from the mine area
- 3) The mine dumps and tailing pond should be re-vegetated, with contours changed where necessary to prevent erosion
- 4) Marine mud <sup>rock</sup> should be allowed to slide into the pit to seal and cover the pit bottom
- 5) The pit as it now exists would be dangerous as a recreation area
- 6) Salt water would be better than fresh water for precipitation of harmful metal ions.

*AMEND A.E.S  
ADDITORS*

Mr. Sandeckl suggested the possibility of allowing salt water to move in above the dike separating the pond area from the pit. This would require removal of the dam under the bridge, or at least opening it to allow inflow of salt water.

Mr. Dow suggested that to meet Dr. Patrick's recommendation for salt water in the pit to help control metal ions, salt water could be pumped into the pit first, then the pit be

*BRUCE'S ADDITION AMEND A.E.S. (INTERFACE)*

*ADDITION AMEND A.E.S.*

allowed to become fresh, rather than salt water, as a result of natural runoff. Dr. Patrick then restated her recommendation that marine muds <sup>BECK</sup> be allowed to move into the pit, adding that this should be done before any water is allowed in.

Mr. Sandecki told the committee that there were two legal obligations to removal of the dam under the bridge, these being Callahan's agreement with the Grays, and the legislative requirements for its removal. Mr. Venno stated that the dam would have to be altered in any case, so the legal requirements could be met as a consequence.

*PAUL??*

Dr. Patrick suggested that the committee contact Dr. William Cowley, Chief of the Federal Grants of the Federal Water Quality Administration, requesting funds for a rehabilitation study. Mr. Scott asked Dr. Patrick if her recommendations on sources of available funds would be presented in writing to the committee--Dr. Patrick replied that she would be happy to orally give these recommendations to the Chairman.

*TRIP TO ... AMEND DR. PATRICK GOVT SPECIFIC SOURCES T CARL ROBERTS & MR. (CONGR. GRANTS)*

Mr. Gray asked that part of the mud available to the pit be retained for hydro-sealing of the tailing dumps.

At Mr. Scott's request that Dr. Patrick present her recommendations to the committee in writing, Dr. Patrick agreed to give her recommendations orally to the Chairman.

*MR. ITZEL REC'D + COPIES SENT TO COM. MEMBERS 1 AUGUST*

Mr. Venno stated that he felt that Callahan should be asked to start immediately on a rehabilitation program. Mr. Scott replied for Callahan that such a program could not be started without a detailed work plan. Mr. Sandecki stated that Mr. Beck would be working on such a plan within two weeks.

The Chairman presented to the committee the recommendations of Mr. Harold B. Staley, specialist in water treatment (attached). (The chairman observed that Mr. Staley's recommendations were not in accord with those of Dr. Patrick and Mr. Dow.)

*FRESH WATER STATION*

*REFERENCE TO E.S. INDUSTRIES REPORT AND NOT THAT OF MR. STALEY (WHICH I DID NOT HAVE ADDITIONAL COPIES OF)*

The Chairman stated that the recommendations would be given to Mr. Beck for study and inclusion in his rehabilitation work plan.

The Chairman had invited members of the press and public to meet with the committee at the close of the meeting, and asked members to cooperate in answering questions put to the committee.

Meeting adjourned at 12:20 PM.

Respectfully submitted,

B. C. Scott, for  
Frederick M. Beck, Secretary

DR. RUTH PATRICK'S REPORT TO THE GOOSE POND RECLAMATION  
COMMITTEE, JULY 30, 1971

I have read many articles concerning the effects of strip mining in general in the environs of Cape Rosier and particularly of the Callahan Mining Company. These have included the following reports: the acute toxicity evaluation of wastes from the mine by S.C. DeWick; the report of Robert Dow on toxic metals in the marine environment; the report on the probable composition of the tailing wastes; the August 1970 report of the Department of the Interior on the effect of Strip-Mine Discharges on the Marine Environment.

I have spent one day examining the fresh water pond, the dump pond, Goose Cove and the general environs of the mine.

I understand the mine is to close as of December 31, 1971, and that they will be given or have been given certain exemptions under the stripmining law or the law about to be enacted.

Because I have so little data that I or my staff have developed it is impossible for me to make any exhaustive statement. However, certain things are evident.

1. The shellfish in the area and particularly those from the vicinity of Goose Cove exceed the amounts of heavy metals which will probably be allowable according to Federal Standards. Dr. Mount of Duluth tells me they are recommending concentrations in food similar to those in drinking water. These standards I believe are now being developed. Therefore in view of natural releases of heavy metals all releases from mining activities should be strictly controlled.

2. I believe it is the moral responsibility of the mine if not the legal responsibility to leave the mine pit and the mine waste piles in such a condition that they cannot continue to degrade the environment. As conditions are now the pit if left unguarded is a great hazard and the appearance of the waste piles will forever degrade the value of the area for recreation and living. Therefore I would recommend the following:

1. The mine veins be sealed and the lower part of the mine be sealed to best extent possible so they will not seep mine minerals into the water. The mine pit should be so managed that it will not be a hazard to human life. If a lake is developed, shallow areas should be developed so that anyone who falls in can get out. Perhaps it would be better to fill it with mud or to partially fill it and develop paths so one could walk down to a bog garden.

2. The waste heaps should be regraded and covered in a method to support vegetation. Pennsylvania has developed extensive data on how to do this and it is being done at the present time. When this is done the area becomes attractive for living and recreational use.

As of the present time I have not been able to make extensive enough studies to determine the amount of degradation that has occurred to Goose Cove. But from the Dept. of Interior report and from talking with others it would appear some damage has been done and the accumulation of heavy metals in sea weeds and mollusks is high. I would strongly recommend that waste discharge to Weir Cove be stopped so as to confine or localize any effects as much as possible.

The mine is to be commended for having developed a method for recycling most of their waste water.

Dr. Ruth Patrick

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RP/JS