

Bacteria Is Working To Aid Metal Recovery

OTTAWA (CP) — Scientists have put bacteria to work to aid in recovering metals from mine ores, but they still don't know exactly how the process works.

"We've known about the process since 1947 and mines at Elliot Lake have been recovering uranium from waste ore since 1960," Victor Harrison of the mines department's extraction metallurgy division said in an interview Monday.

"Right now we're trying to find out just how the bacteria works so we can extend its use to recover base metals like zinc, nickel and molybdenum."

In a paper presented Monday to the conference of metallurgists here, Mr. Harrison said the soil-type bacteria, a rod-like micro-organism, has made its way from the earth into water in the underground workings of the mine.

"We think it attacks sulphides in the rock, and together with the air reacts to convert the water to a weak solution of sulphuric acid and ferric sulphate."

The sulphuric acid dissolves

the uranium and the uranium can be recovered from the solution by conventional recovery means."

Mr. Harrison has been working on the process with William Gow of the mines department and Dr. Karl Ivarson of the agriculture department's soil research institute.

"When we started work we didn't know what was causing the process but we suspected it might be some form of bacteria. We asked the agriculture department for help and they managed to isolate and identify the bacteria involved."

The mines department is working in co-operation with producing mines at Elliot Lake in Northern Ontario to investigate the actual process and look for other possible applications. In Elliot Lake, the mines are washing out completed mine stopes and waste ore with the chemically-active mine water. After leaving the water to act on the ore for periods up to a couple months, the water is drained off, pumped to surface and put through the regular recovery process.

ON THE AIR

THURSDAY PROGRAMS

- CFCY-TV
- 5:00 p.m.—Musical
 - 5:30 p.m.—Vacation Time
 - 6:00 p.m.—Survival
 - 6:30 p.m.—20/20
 - 7:00 p.m.—Tom Fowell Show
 - 7:30 p.m.—Gazette
 - 8:00 p.m.—CFCY TV News
 - 8:30 p.m.—Keyboard Melodies
 - 9:00 p.m.—My Favorite Martian
 - 9:30 p.m.—Father Knows Best
 - 10:00 p.m.—Petticoat Junction
 - 10:30 p.m.—Gomer Pyle
 - 11:00 p.m.—Portrait
 - 11:30 p.m.—Defenders
 - 12:00 p.m.—Alfred Hitchcock Hour
 - 12:30 p.m.—CBC TV News
 - 1:00 a.m.—Local Weather and Sports Scores
 - 12:14 a.m.—Sign Off
- CKCW-TV
- 1:43 p.m.—Station Sign On
 - 1:45 p.m.—Visit to England
 - 2:15 p.m.—News, Weather & Sports
 - 2:30 p.m.—Peyton Place
 - 3:00 p.m.—Gale Storm
 - 3:30 p.m.—Moment of Truth
 - 4:00 p.m.—Vacation Time
 - 5:00 p.m.—Woody Woodpecker
 - 6:00 p.m.—20/20
 - 6:30 p.m.—Jungle Jim
 - 7:00 p.m.—News, Weather & Sports
 - 7:30 p.m.—Lionel Playhouse
 - No Time for Tears
 - 8:30 p.m.—My Favorite Martian
 - 9:00 p.m.—Gomer Pyle
 - 9:30 p.m.—Portrait
 - 10:00 p.m.—The Defenders
 - 11:00 p.m.—The Saint
 - 12:00 p.m.—CBC TV News
 - 12:15 a.m.—Viewpoint
 - 12:30 a.m.—Lionel Television News
 - 12:25 a.m.—Station Sign Off

CFCY RADIO

- THURSDAY
- 6:30—News and Weather
 - 6:45—Morning Roundup
 - 6:55—Island W. and Mar. Temp.
 - 7:00—Morning Roundup
 - 7:15—News and Weather
 - 7:30—Farm Report
 - 7:45—Morning Roundup
 - 7:55—Island W. and Mar. Temp.
 - 8:00—Sports Capsule and Scoreboard
 - 8:05—News
 - 8:11—Weather
 - 8:15—Morning Roundup
 - 8:45—Weather
 - 8:50—Atlantic News Roundup
 - 9:00—CBC National News—CBC
 - 9:11—Preview Commentary—CBC
 - 9:16—Notes and Music
 - 10:00—News and Weather
 - 10:05—Notes and Music
 - 10:40—Mr. Co-op Program
 - 10:50—Notes and Music
 - 11:00—Notes and Music
 - 11:05—News and Views on Groceries
 - 11:20—Notes and Music
 - 11:30—Montague Entertains
 - 11:40—Notes and Music
 - 11:45—Bulletin Board
 - 11:50—Notes and Music
 - 11:55—Atlantic News Roundup
 - 12:00—Weather
 - 12:05—Town and Country Time
 - 12:30—News and Weather
 - 12:45—Town and Country Time
 - 1:00—News and Weather
 - 1:05—Town and Country Time
 - 1:45—Town and Country Time
 - 2:00—News and Weather
 - 2:05—Mostly Music
 - 3:00—News Headlines and Weather
 - 3:03—Trans-Canada Matinee—CBC
 - 3:30—Tops in Pops
 - 4:00—News Headlines and Weather
 - 4:03—Canadian Roundup—CBC
 - 4:10—Tops in Pops
 - 5:00—News and Weather
 - 5:05—The Outposts
 - 5:25—20—Marine Weather
 - 5:28—The Outposts
 - 6:00—News and Weather
 - 6:15—On Parliament Hill—CBC
 - 6:20—Today's Editorial—CBC
 - 6:25—Sports Parade
 - 6:30—Business Barometer—CBC
 - 6:35—Tonight's Music
 - 7:00—Back to the Bible
 - 7:30—News and Weather
 - 7:45—Program Schedule
 - 7:46—Red Cross Program
 - 8:00—Assignment—CBC
 - 8:30—Tonight's Music
 - 8:58—News Headlines and Weather
 - 9:00—Citizens' Forum—CBC
 - 9:30—Winnipeg Pops Orchestra—CBC

Reforms Suggested For Legal Procedure

SYDNEY, Australia (CP)—A former president of the Canadian Bar Association has called for reform of the country's legal procedures to limit use of the right of appeal and revamp the rules of evidence.

E. C. Leslie of Regina presented his views in a brief to the eight-day Commonwealth and Empire Law Conference which concluded here.

Mr. Leslie, who has argued cases before provincial courts, the exchequer and Supreme Courts of Canada and the judicial committee of the Privy Council, said the present system of appeals, under which a case may be heard two or three times, results in great delays.

"It is not time that this right of appeal should be limited? ... No one can be sure that any of the judgments, whether of the trial court, the intermediate court of appeal or the final court of appeal, is right in the sense that it disposes with infinite wisdom of all the issues of fact and law."

WANTS RIGHT CURBED

"There is no doubt, of course, that certain types of judgment, and possibly judgments in which certain amounts of money are involved, should be appealable. But it is time that the merits of an unrestricted right of appeal should be weighed against the delays which the system necessarily entails."

As one solution, Mr. Leslie suggested that panels of three judges replace juries in most civil cases. The decisions of such judges would be final.

He did not have experience and special training in that field. Other judges in the same court might be much better equipped to handle commercial cases."

- 10:00—CBC Nat. News, on Par. H. and Speaking Personally—CBC
- 10:30—Variety Showcase—CBC
- 11:00—News and Regional Weather
- 11:05—Starlight Serenade
- 11:30—News and Weather
- 11:35—Starlight Serenade
- Sport—CBC
- 12:00—CBC News, Weather and
- 12:15—CBC News and Music—CBC
- CBA RADIO
- THURSDAY
- 6:00—The Morning Show, Part 1
- 7:00—The Morning Show, Part 1
- 8:00—CBC News and Inland Weather
- 8:15—Maritime Sportscast
- 8:22—The Morning Show, Part 2
- 8:45—Leave It To Bennett
- 9:00—CBC News
- 9:11—Commentary
- 9:16—A.M. Chronicle
- 10:30—To Market With Music
- 11:00—CBC News
- 11:05—Morning, Conn. Peggy MacFarlane
- 11:15—For Consumers
- 11:20—Record Album
- 11:30—The Archers
- 11:45—Two Far A Quarter
- 12:00—Jamboree Junction
- 12:15—Boy Meets Girl
- 12:30—Maritime Farm 'n' C'ast
- 1:00—CBC News and Weather
- 1:15—The Alex Reid Show
- 1:45—The Open Road Show
- 1:59—D.O.—Time Signal
- 2:00—The Open Road Show
- 2:45—Stories from the Commonwealth
- 3:00—CBC News
- 3:03—Trans-Canada Matinee
- 4:00—CBC News
- 4:03—Canadian Roundup
- 4:10—Music In The Air
- 5:00—Mar. Fish 'n' Cast
- 5:20—Tempo, CBC Notebook
- 6:00—CBC News
- 6:15—On Parliament Hill
- 6:20—Today's Editorial
- 6:25—Inland Weather and Sports Scores
- 6:30—Business Barometer
- 6:35—Music In The Evening
- 7:30—Maritime Magazine
- 8:00—Assignment
- 8:30—Reserved For Music
- 9:00—Fourth Estate
- 9:30—Winnipeg Pops Orchestra
- 10:00—CBC National News, on Parliament Hill and Speaking Personally
- 10:30—Couching Conference
- 11:30—Concert Hour
- 12:00—CBC News
- 12:03—Sports Scores, Inland and Maritime Weather
- "Best of Dixie"
- 12:00—CBC News
- 12:15—Music In The Night

CONTRACT BRIDGE

By E. JAY BECKER

North dealer. Neither side vulnerable.

NORTH

♠ Q 10 7
♥ K J 9 5
♦ K 7 3
♣ 7 3 2

WEST

♠ 8 6 4
♥ 10
♦ Q 10 2
♣ A K Q 10 8 5

EAST

♠ 7 5
♥ Q 8 7 6 2
♦ Q 8 5 4
♣ J

SOUTH

♠ A K J 9 3
♥ A 4 3
♦ A 6
♣ 9 6 4

The bidding:

North East South West

2 ♠ Pass 1 ♣ 2 ♠

3 ♠ Pass 3 ♣ 4 ♠

Opening lead—king of clubs.

There are things in life you take for granted without giving them much thought. You know that if you drop an object it will fall down, not up; you know that the sun rises in the east, not the west; and you know many other things which experience or education may have taught you.

In bridge you know that there are 52 cards in the deck; that there are 13 cards in each suit; and that each player is dealt 13 cards. You may not always use this knowledge, but it is there to be taken advantage of at the right time.

For example, take this hand which West is in four spades. West cashes the A-K of clubs and shifts to a trump. Declarer draws three rounds of trumps and is now faced with the danger of losing a heart trick.

Note that if South plays the ace and another heart at this point, which many declarers would do, he goes down. The finesse he intended to take against the queen can no longer succeed when West shows out on the second heart lead.

But note also that if South plays correctly, he makes 11 tricks. Before tackling hearts he cashes the A-K of diamonds. These apparently useless plays assist South because he learns that West, who is known to have started with precisely six clubs and three spades, also had three diamonds.

It follows that West cannot have more than one heart—and that nothing can be gained by leading the ace of hearts. Instead declarer leads the three of hearts towards the king, hoping that West's heart is the queen, is the queen or the ten.

When West, in the actual hand, produces the ten, South has a sure thing going for him. He plays the king from dummy and returns the jack, knowing full well that the finesse is bound to succeed.

The Guardian, Charlottetown, Thurs. Sept. 2, 1965. 15

where such finding was based on demeanor of witnesses.

Mr. Leslie said that as the first step toward speeding up the judicial process, Canadian lawyers should be classified as barristers or solicitors as in England. This would mean that solicitors would research the law and leave the actual courtroom work to barristers who would be more familiar with procedure.

shares when Atlantic went into receivership June 17 after defaulting on a \$5,000,000 note that matured June 14.

"We will probably suffer a total loss of the cost of the shares but it is hoped that the secured notes may be paid in full, though the final outcome is not yet known," committee chairman Wilfrid P. Grezory of Stratford, Ont., reported. The report was adopted without comment.

Bar Association Is Caught In Atlantic Troubles

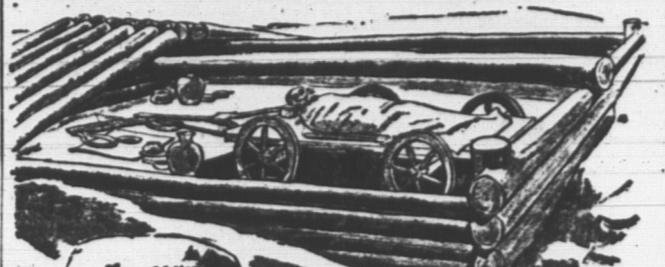
TORONTO (CP)—The legal lights of the Canadian Bar Association learned here that their organization was caught in the financial troubles of Atlantic Acceptance Corp.

The association's investment committee reported at the annual meeting that it was holding \$40,000 in Atlantic's secured notes and \$5,370 in its preferred

SABOTAGE RULED OUT

HONG KONG (AP)—A U.S. marine investigation team reported Tuesday there was "no indication of sabotage" in the Aug. 24 crash of a transport plane which killed 59 American servicemen en route to war duty in South Viet Nam. The preliminary report also ruled out any operational error at Hong Kong's Kai Tak airport as responsible for the crash. Investigators did not say what caused the four-engine C-130 Hercules to plunge into Hong Kong Bay.

RIPLEY'S BELIEVE IT OR NOT



THE TOMB OF A PRINCE found in Radom, Czechoslovakia, STILL HELD THE 4-WHEELED HEARSE IN WHICH THE BODY OF THE PRINCE WAS DRIVEN TO THE UNDERGROUND GRAVE 3,000 YEARS AGO



RICHARD MARSHAL KILGORE
OF CLEVELAND, OHIO, NAMED HIS 6 SONS RICHARD MARSHAL KILGORE JR., RANDALL MICHAEL KILGORE, RAYMOND MATTHEW KILGORE, RONALD MARK KILGORE, RONALD MURRAY KILGORE, RUSSELL MARTIN KILGORE

SIGN AT MEN'S BATHING LOCKERS IN TOWN OF FORTY FOOT, IRELAND

DAILY CROSSWORD

- ACROSS**
1. Close
 2. Mease
 3. Noisy
 4. One hundred
 5. lacs
 6. Nest-building fish
 7. Monsoon weather
 8. Misplaces
 9. Where the starting sits
 10. Small perfumed bag
 11. Compass point
 12. Descended
 13. From prefix
 14. Unstable
 15. Norse war god
 16. Past
 17. Stitchbird
 18. Viper
 19. Ming or Han
 20. Guido's low note
 21. Biblical king
 22. Hawaiian bird
 23. Idle talk
 24. Yelp
 25. Run away and marry
 26. Mother-of-pearl
 27. Vexes
 28. Species of iris

- DOWN**
1. River in British India
 2. Stir up
 3. River in Italy
 4. Fawner's word
 5. Poising
 6. In a titled fashion
 7. Am. humorist
 8. Avaricious
 9. Ugly old woman
 10. Plant having spear-shaped leaves
 11. Capuchin monkey
 12. Dullest
 13. Knock
 14. Silver; sym.
 15. Contraction
 16. In a clamorous
 17. Am. boring tool
 18. Impassive
 19. Bark
 20. Hot harness
 21. Popular
 22. Only
 23. Unadorned
 24. Part of a plantation
 25. Blow

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48

DAILY CRYPTOQUOTE — Here's how to work it:

AXYDLBAAXE is LONGFELLOW

One letter simply stands for another. In this sample A is used for the three L's, X for the two O's, etc. Single letters, apostrophes, the length and formation of the words are all hints. Each day the code letters are different.

A Cryptogram Quotation

CQR ORLRC ZM VRYXJ U VZLR
YO CZ CRTT RBRLLHCQYXJ.—BZT-CUYLR

Yesterday's Cryptoquote: FLEAS CAN BE TAUGHT NEARLY ANYTHING THAT A CONGRESSMAN CAN—MARK TWAIN

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OUR BOARDING HOUSE MAJOR HOOPLE



AS THE BARD WROTE: "THERE IS SOME ILL-A-BREWING TOWARDS MY REST FOR I DID DREAM OF MONEY-BAEG TONIGHT." EVEN A PROLIFIC POET OF MY STATURE WOULD BE HARD-PRESSED TO PRODUCE THE QUANTITY OF VERSE WE NEED! BUT I HAVE A PLAN!

COME ON, AMOS, MAKE US FAMOUS, UN!

WITH HIS VERSE WE'LL GET OUR PURGE—OH, KNOCK IT OFF!

WARMING UP



THAT WAS GRANDMA ON THE PHONE?

SHE'S CALLED 3 TIMES THIS WEEK TO ASK IF WE NEED A BABY-SITTER!

H-M... IS HER TV SET BROKEN AGAIN?



OH—DID YOU WANT TO SEE THE CLOTHES I AUNT MINNIE?

I WAS JUST SENDING A SIGNAL TO ALVIN!



DON'T YOU CONSIDER ME A GOOD WATCHDOG?!

SURE THING, TATER!

AND DON'T YOU THINK I'M 100% BRAVE AND COURAGEOUS?!

COURSE I DO!



DON'T BE A FOOL, KATYA! CALL HIM OFF!

I'LL CALL HIM OFF, ANTARES!

AFTER YOU HAND ME THE MICROFILM!

SURE! IT'S RIGHT HERE IN MY POCKET!



ALL THE KIDS ARE GOING DOWN TO GET BILLY BINGO'S AUTOGRAPH!

COLLECTING AUTOGRAPHS OF ALL THE SILLY HOBBIES!

BUT GEE, MOMS! AN OLD-TIME MOVIE STAR'S SIGNATURE SOLD FOR TWENTY-FIVE DOLLARS!

TWENTY-FIVE DOLLARS??

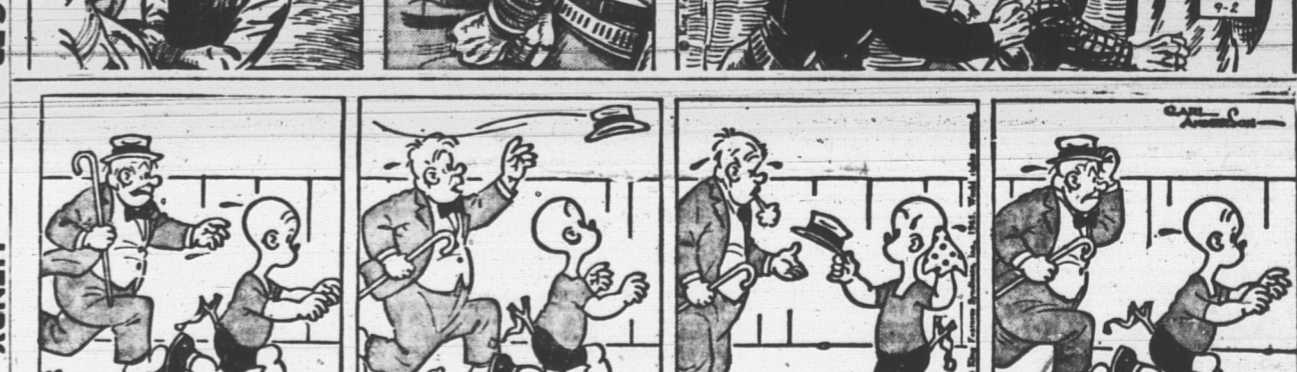


YOU HAVEN'T BEEN WASTING YOUR TIME, NOW, HAVE YOU, PAM?

SOON AS I'M FREE, PADDY, I'LL CUT YOU LOOSE AND—

DAN! THEY'RE COMING BACK!

RITZPATRICK HAS NOWHERE!



NO, HE'S JUST HOLDING OUT ON US! BUT HE'LL CHANGE HIS MIND WHEN HE SEES THE FUN TRAPS WE'VE SET FOR HIS TRICKS!



OKAY? HAVE YOU SEEN ENOUGH? NOW WHY DON'T YOU GO AWAY AND LEAVE ME ALONE?

KEN... WHY?

THAT'S THE WAY I AM, AND THAT'S THE WAY I'M ALWAYS GOING TO BE! S'LONG JOE!

KEN! WAIT!!



NOT ME! WHATEVER IT WAS...

I'VE BEEN RIGHT HERE READING A MYSTERY BOOK!



BUT HOW KIN WE GIT NEAR 'EM? THEY IS ALWAYS SURROUNDED BY COPS AN' SCREECHIN' L'L GALS!?

I HAVE THAT ALL WORKED OUT!?

GET INTO THESE COSTUMES!?

AT LAST WRIGLEY'S SPEARMINT IS IN THE MODERN dime PACK

Get some soon!

WRIGLEY'S SPEARMINT CHEWING GUM 10¢

More to enjoy! Wrigley's Spearmint, Doublemint and Juicy Fruit Gum are now available everywhere in the Big Dime Pack.