



CENTENNIAL DEFINITIVE
STUDY GROUP NEWSLETTER

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NOTES FROM YOUR EDITOR:

Thanks for the note of encouragement that many people included with their dues; a special thanks to the people who donated more than their dues to the Study Group: Peter Lehman, Michael Charette, Alfred Hermes, Ed Butler, John Reynolds, Ray Metcalf and Alan Crowther. Your contributions ensure the continuation of the newsletter and allows us to undertake special projects as they come along. I would also like to thank Andrew Chung (via John Aitken) for passing along the Cole Covers article which originally appeared in "Canadian FDC Specialist" by Marcel Cool Vol 1 No 7 (Feb '85). The Article on Fluorescent Dyes in Paper was kindly supplied by John Jamieson of Saskatoon Stamp Centre and reprinted here with the kind permission of the author, A.E. Hutton, Jr. As a chemist myself, I found this article particularly interesting because it is the most accurate, easy to read explanation of modern papermaking that I have yet to run across.

Once again, Scott Traquair has done a fabulous job of the annual auction. Participation in the auction (as consignor and bidder) is crucial to the continued success of the auction; now is not too early to submit material for the next auction. Please note the changes to the terms for vendors on p. 574, especially the \$15 minimum reserve bid.

I have had no response to my request for material for a one frame exhibit at the BNAPS meeting in Edmonton. I can now understand the reluctance of members to trust their treasured centennial material to Canada Post. I see now that such a venture would have to be put together by someone who had the material available and was personally attending the meeting. Unfortunately, pressure at work (actually a lack of free time) and the fact that I may not be able to attend annual meetings on a regular basis are the reasons I cannot carry through with this project by myself. I still would like members to think about how to carry out this worthwhile project.

Correction: Elmore von Hagen phoned me to point out an error on the last line on page 555 of the last newsletter: change the "perf 10" to "perf 12 1/2 x 12".

I took a copy of Mike Painter's article on the BK 64 flaws that appeared in No. 63 with me to a recent stamp show to aid in finding the elusive twelfth booklet (booklet L) in the series. I found it quite easy to classify booklets with Mike's article. We are still looking for Booklet L. *Please check row 6 in your copies of BK64 and let me know if you have booklet L.*

I have been using the Centennial Slogan cancel on the masthead of the newsletter, and you may have noticed that I am beginning to recycle the same ones- I have London, Moncton, Saskatoon, Toronto and Winnipeg in my collection. According to David Proulx in his book "Slogan Cancels of Canada" (last page) this slogan (he calls it the EXPO slogan), was issued to the two largest postal centers in each of the ten provinces (one in Manitoba and PEI) as well as Hamilton, London, Ottawa and Goderich in Ontario. The second center in Quebec is "Cite-de-Jacques Cartier" (but not Quebec City). Please send me a xerox of any of the cities I am missing and I will use it on the masthead.

What have you been doing with your Centennials lately? Please drop me a line (or phone) with any comments, questions, news, etc, and I will put them in the next newsletter:

Leonard Kruczynski

19 Petersfield Place

Winnipeg, MB R3T 3V5

Area code 204 -269-4708

I have started to put together a reference collection with mint copies of as many of the paper varieties as listed in the Keane and Hughes book as I can get my hands on, cross-referenced to the Unitrade Specialized Canadian Catalogue. I hope to put together a number of identical copies of the reference collection (without the pricier items) and make them available to study group members in the near future.

PAPERMAKING &

FLUORESCENT WHITE DYES IN PAPER

By Alexander E. Hutton, Jr.

In the 1950's, fluorescent dyes came into common use in the paper industry. These dyes were known as optical brighteners and were used to increase the visual brightness and whiteness. The high white, bright paper achieved by the addition of these dyes improved the legibility of the paper because of the contrast between the white and the printed area. With these qualities, it was inevitable that these dyes would find their way into paper being used to print postage stamps.

The fluorescent dyes were characterized by having the ability to generate visible light when exposed to ultraviolet radiation. The papermaker, along with the dye manufacturers, devised the best methods to utilize these dyes which consisted mainly of additions to the wet end, the sizepress, or combination of the two, and if coated, may have additions to the coating.

Papermaking

In order to understand the terms used, a brief, simplified explanation of machine papermaking is presented. There are two types of mills: integrated, which make their own pulp, or non-integrated mills, which buy pulp in sheet or roll form. Probably all the mills that make paper for postage stamps for Canada or the United States are non-integrated mills.

Starting with the hydropulper, which is generally referred to as the "pulper" and resembles a large Waring blender, pulp, fillers, size, color, and other chemicals are added to water to produce a consistency of about 6% (94% water and 6% fiber). Once thoroughly mixed, further water is added and the pulp is refined by Jordans or Refiners. The insides of Jordans or Refiners consist of a pattern of bars and grooves with the pulp passing through the bar patterns resulting in shortening and fibrillating of the fiber. Fibrillating is a bruising of the fiber which causes the fiber to open up resulting in greater surface area rendering the fiber more swollen with bound water. These changes of shortening and fibrillating enable the papermaker to form the desired sheet of paper.

The pulp slurry reaches a final consistency of .1-.5% (99.9%-99.5% water) at the headbox. At the headbox the pulp slurry is spread uniformly across a plastic wire where the removal of water begins. Under the wire are foils which are plastic bars angled to aid the removal of water. The first solid materials to pass through the wire are the very short fibers (called fines) and fillers. The longer fibers remain on the wire. As the longer fibers build up a matt, the fines and fillers are retained. The bottom side of the sheet against the wire is called the wire side and the top side is called the felt side. The felt side contains more fillers and fines and this explains why there is a difference between the two sides.

After passing over a number of foils, the web of paper passes over suction boxes for more aggressive removal of water. Over the suction boxes is a roll called a Dandy. This hollow roll is wrapped with screen and is used to smooth the top surface of the paper. The Dandy can be equipped with wires soldered to the screen to form a design. This design produces a watermark or laid mark by thinning the web of paper where the soldered design occurs.

The web of paper is still mostly water as it enters the press section. Wet pressing comes in a number of configurations, but in all cases the web is pressed against felts that absorb and remove water from the paper web. The felts, depending on how they are made, will alter the surface of the web. Compression of the web takes place which remains even after the finished web is wetted (such as soaking a used stamp off an envelope). So called wire marks are caused by the fourdrinier wire on the wire side, but can also be on the felt side caused by the Dandy or either side by the felts (Felt mark).

The web now enters the main drying section which consists of a large number of 4 foot to 6 foot in diameter drying cans heated by saturated steam up to 125 p.s.i. The web is dried to about 2–6% moisture content.

After drying, the web passes through a size press which applies a surface treatment to both sides and usually consists of starch (for printing papers), but could be other materials.

The web is again dried in a short section of dryer cans down to about 5–6% moisture. The final step is to pass the web through the calender stack consisting of steel rolls that can be utilized to give no pressure to very high pressure. The calender stack both compacts the web and smooths the surface. If the resulting paper is immersed in water as previously mentioned in wet pressing, the paper will tend to at least partially return to its state before calendaring.

The finished paper is wound into a jumbo roll which is subsequently rewound and slit into shipping rolls or rolls which will be processed into sheets.

WET END ADDITIONS

The most common place to add the dye is to the hydropulper (generally called pulper) which replaced the beater in modern day papermaking. Another method is to continuously meter the dye to the wet end between the pulper and the headbox prior to going on the paper machine. Metering has the advantage of fast control of the dye needed to meet the brightness and whiteness requirements but requires precise controls.

The dye readily attaches itself to the fiber; however, the addition of alum or wet strength as a dyefixing agent will give maximum dye retention. In both cases, the paper is acidic and is not recommended for archival paper. The trend in the paper industry for printing papers is to make them neutral or slightly alkaline buffered with calcium carbonate to prevent deterioration of the paper due to acid either from the pulp, touching with the hands (acidic), or acids in the air. The visual brightness improves when paper is made neutral or alkaline.

Fluorescent dye added at the wet end is throughout the sheet and offers a greater degree of permanence before the dye is totally converted by the photochemical reaction. It takes more dye at the wet end to achieve the same brightness as when applied to the surface by the sizepress. More dye throughout the sheet increases the time necessary for full conversion by UV light to a yellow dye.

SURFACE APPLICATION

The sizepress is the universal method of applying a surface application on the paper machine, although there are other methods such as a calender box. The sizepress applies a surface treatment to both sides of the paper to enhance printing qualities. Fluorescent dye may be added which

will minimize two sidedness of the paper due to the wire side of the sheet having more fiber and less filler. The dye added to the surface gives the maximum brightness at the lowest cost, but also is the least permanent.

COATINGS

Paper is coated to improve the surface and enhance the ink holdout. The coating will probably completely cover the surface of the paper and mask any fluorescence that is in that paper.

The coating can be applied by on-machine coating or off-machine coating. On-machine coaters are an integral part of the paper machine while off-machine coaters are a separate operation. It is quite likely that the coated paper used for stamps is done by an off-machine coater.

The coatings consist of a binder (materials such as starch and latex), and fillers (materials such as titanium dioxide and clay). Fluorescent dyes may also be added but are adversely affected by the fillers. Coated paper is being used for postage stamps and the British call this "chalk surfaced paper".

FACTORS AFFECTING BRIGHTNESS, WHITENESS, AND FLUORESCENCE

There are many factors affecting brightness, whiteness, and fluorescence, but of major importance are color of the water used in papermaking, brightness of the pulps, acidity of the system, and types of pigments or fillers being used. The amount of fluorescent dye used depends on all these factors and of particular importance are the fillers. All fillers have an adverse affect, which means they decrease the brightness obtained by the fluorescent dyes, with titanium dioxide the worst. Clay also is quite detrimental while barium sulfate, calcium sulfate, and calcium carbonate are less adverse. As previously mentioned, the trend is toward making neutral papers buffered with calcium carbonate, and this neutrality is beneficial for improvement of brightness and whiteness when fluorescent dyes are added. Surface treatment overcomes many of the difficulties encountered by additions at the wet end.

LEVELS OF FLUORESCENCE

The papermaker is not specifically concerned with the level of fluorescence, the main concern is the level of brightness and the visual appearance. In order to measure brightness, the brightness instrument has the reflected beam of light filtered or monitored to show greater brightness as a result of using fluorescent dyes. The dye increases the total reflectance and the added blue makes the reflectance more uniform.

Visual examination is either in daylight or under a light source that is equivalent to daylight. The light source is very important since there is different energizing from different parts of the UV range.

Since the level of fluorescence isn't the prime concern for paper makers, variations within a run, and from run to run, will occur. Authors have set levels of fluorescence to be used as a guide for stamp collectors. Dead, dull, low, and hibrite are easily discernible, but medium to high is often questionable — and is there enough real difference to separate them?

LONGEVITY OF FLUORESCENT DYES

Fluorescent dyes are not considered permanent to light or storage. The dyes work by a photochemical reaction where ultraviolet light reacts with the dye to generate visible light in the blue or violet range. The residue of this reaction is a yellow dye. The longevity depends on the storage conditions. I examined mint stamps that were hibrite issued over 30 years and they still show as hibrite. The life of the fluorescence is not known but it would appear to be quite long.

FLECKING IN PAPER

In papermaking, waste is created called broke. This broke occurs from the startup of the paper machine, a break of the paper web during a run, offgrade paper, and trim from the rolls and sheets. This broke is returned to the pulper during a run as much as possible, and the balance is saved in bales to be used in a future run. If the broke contains fluorescent dye and it is used in a future run, that does not use fluorescent dye, or if the broke with the dye is much brighter than the run it is being used in, then flecking will occur which shows up under UV light.

It is the hope that this article will provoke thought about how to define the ranges of fluorescence, keeping in mind that changes will occur over time. Also realize that over-defining the ranges of fluorescence may be impractical and cause confusion. Changes in brightness can be detected by a brightness meter equipped to measure UV. Using this equipment to measure brightness of samples six months old, even though the samples were wrapped in black plastic and stored under refrigeration, the samples showed loss of brightness. This is particularly noticeable on samples in the hibrite range.

A scientific study to determine the shelf life of paper treated with optical brighteners under various storage conditions would be helpful to the specialized stamp collector in determining how to judge optically brightened paper.

Comments and questions can be addressed to Alex Hutton, Jr., c/o Saskatoon Stamp Centre, Box 1870, Saskatoon, SK S7K 3S2, Canada, and will be forwarded to Alex.

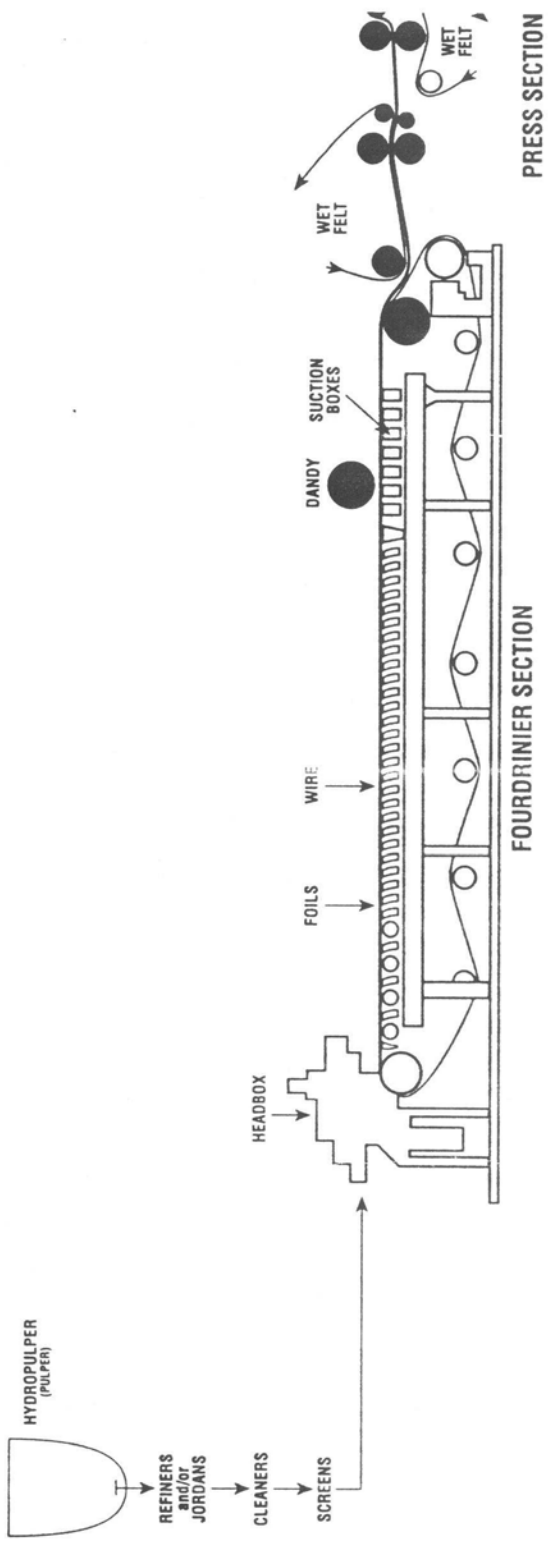
Alexander E. Hutton, Jr., Biography

Papermaking Experience - 36 years in the Paper Industry

Westfield River Paper Co.	2 years	Development Chemist
	3 years	Laboratory Supervisor
Fitchburg Paper Co.	2 years	Plant Chemist
	3 years	Manager of Technical Services
	5 years	Technical Director
Monadnock Paper Mills	1½ years	Director of Research
	19½ years	Vice-President in charge of Research, Quality Control, Process Control, Customer Service, and entire Coating Operation (Both Technical and Manufacturing).

Chairman, New England Section of the Technical Association of the Pulp and Paper Industry, 1963-64.

Husky Offset
Smooth Finish
84 Brightness
Made in Saskatchewan



COLE COVERS

Robert (Bob) Cole

Ottawa, Ontario

8 September 1965 - 20 Oct. 1971

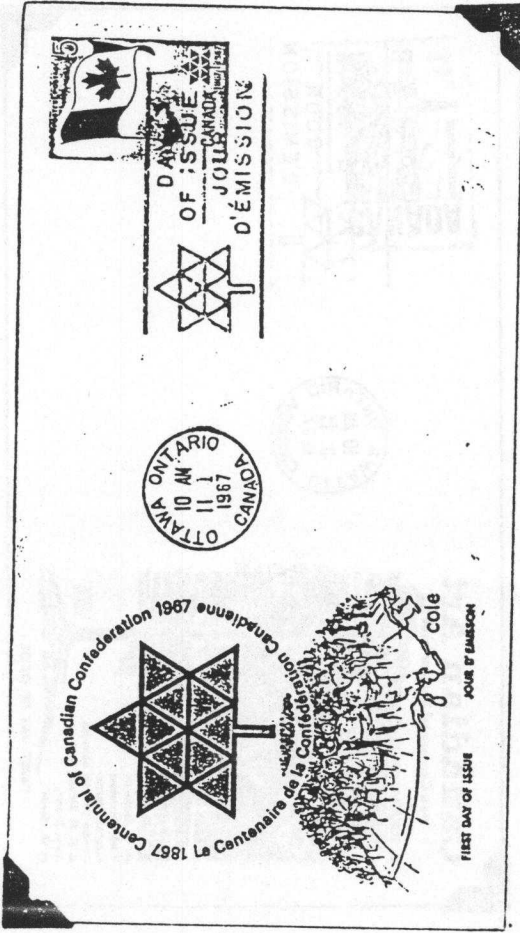
PART TWO

By: Robert (Bob) Cole

Canada's Centennial in 1967 had great import for collectors of Canadian First Day of Issue cacheted covers. It was Canada's 100th birthday. Prior to 1867, there was but a handful of scattered British colonies on the Atlantic coast, along the St-Lawrence River and the Great Lakes. In 1867 four of these, Nova Scotia, New Brunswick, Ontario and Quebec banded together in a Confederation of the Dominion of Canada.

My wife Louise and I, (she did most of the office work and I designed and produced the cacheted envelopes), were proud to take an active part on this historic occasion. Canada's Centennial was a catalyst in developing and maturing our national personality and price. There were fantastic programmes going on in every province. Philatelically, where in 1966 there were eight postage stamps issued, in 1967 Canada issued twenty-two ! Many of the COLE COVERS produced that year contributed to documenting these events alone, and in co-operation with the Post Office.

The first stamp issued in 1967 was the Centennial stamp, Scott #453, issued 11 Jan. 1967. The cachet I designed was in two colours, light blue and red. It combined the Centennial symbol and title; colour complimented the stamp with Canada outlined on world and included an ethnic variety of Canadians. The First Day of Issue cancellation also incorporated the centennial symbol for this and most stamps issued in 1967.



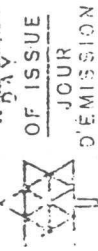
COLE cachet for Canada's Centennial stamp Scott #453

The next issue on 8 Feb. 1967 was hectic. Twelve stamps with a total face value of \$ 2.43. When you consider that in 1967 the first class postage rate was 5¢ (the equivalent of 32¢ today) and processing approximately 5,000 covers was a considerable outlay so early in the game. The total number of cachets printed was about 40,000, three designs. The majority of these were serviced by individuals and dealers themselves. We serviced covers as well as selling the finished product. Every issue varied. No one had time to keep track of numbers. All our energy was spent meeting Post Office service deadlines.

For the regular issues I designed two cachets both with Queen Elizabeth II portraits. The background colours were varied, not an expensive proposition when printing letterpress (relief). In the one where there is an island in the foreground only the overlay is thermographed (raised printing). In the one with the lighthouse in the foreground both colours were thermographed, but notice that I had to leave an open space around her head. The reason was two thermographed colours could not be allowed to touch.

Regional Views

of Canada from Sea to Sea



Thermography or raised printing was and still is (business cards) a way of making the cachet look and feel like an expensive engraving. To get this raised effect the printer mixed some rosin in the ink and the printed envelopes were then passed under heat lamps, the heat caused the treated ink to blister. It cost about a penny more per envelope but often it was worth it. I was not very happy with either of these designs.

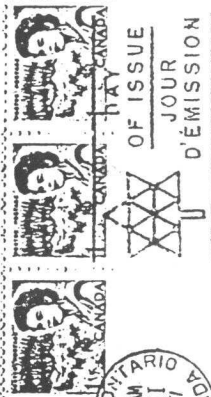
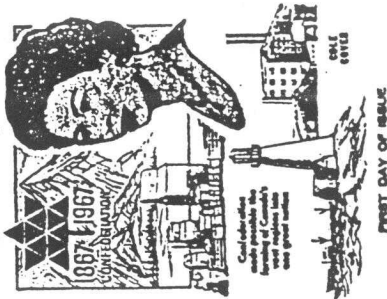
I was more pleased with the single cachet I designed for the 8¢, 10¢, 15¢, 20¢, 25¢, 50¢ and \$1.00 Canadian Art 1967 definitives. I combined the work of two artists and listed the seven painters. The design could not take up too much space because a number of dealers and collectors wanted plate blocks on cover.

The Post Office would not service covers with only a 1¢ or 2¢ regular definitive. The minimum was three 1¢, for the 2¢ a pair. This was no real hardship. The hardship was putting on and taking off thousands of peelable self address labels. It was at this time the P.O. allowed us to just pencil in our P.C. Box (having a P.O. Box in Ottawa Main P.O. was a must) when boxed in quantities of 500. The Post Office was quite rightly concerned about possible mix-ups. The P.O. workers were very careful and very considerate.

The next major philatelic involvement in Canada's Centennial was Expo 67 and the Queen's visit to Canada. COLE covers was very much involved....

Regional Views

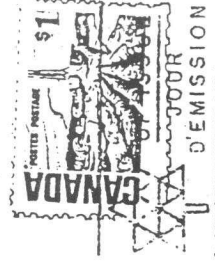
New Centennial Regular Issues



COLE cachets designed for use with low value definitive stamps of 1967.

Canadian Art

New Centennial Regular Issues



COLE cachet designed for use with high value definitive stamps of 1967.

The following 35¢ Registered covers with captions were submitted by Doug Irwin:



-15¢ Airmail + 35¢ Registration + 15¢ Acknowledgement of Receipt to Lichtenstein, Feb 18/67



MR JOHN GILBERT
 STROAN
 SOUTH BREWT
 DEVON, ENGLAND

-15¢ Airmail + 35¢ Registration to UK, April 14/67

The 35¢ Registration rate is scarce because, according to Andy Liptak's article in Vol 13 No 3 (June 1994) pages 524 & 525, the registration fee went up to 50¢ on June 1, 1967. This means the 35¢ rate was in effect for only four months (Feb-May 1967). See John Aitken's article in No 42 & 43 of the newsletter for an explanation of the AR fees. I'm a bit puzzled by the 15¢ AR fee prior to June 1, 1967; (John gives the AR + foreign(airmail) rate as 10¢ prior to June 1, 1967: see page 266 of newsletter No 43).

**CDSG / QE II JOINT MAIL SALE #4
PRICES REALIZED / COMMENTS**

REVISED JUNE, 1995

STUDY GROUP MAIL SALE - TERMS FOR VENDORS

1. MINIMUM RESERVE OF \$15 PER LOT.
2. LOTS TO BE SOLD TO THE HIGHEST BIDDER, MEETING OR EXCEEDING THE RESERVE, FOR ONE (1) INCREMENT OVER THE SECOND HIGHEST BID OR IN CASES WHERE ONLY ONE BID IS RECEIVED, THE LOT WILL SELL FOR THE RESERVE PRICE.
3. RESERVE OR MINIMUM BIDS MUST BE STATED.
4. COMMISSION CHARGES WILL BE 15% PER LOT BASED ON THE REALIZED PRICE.
5. UNSOLD LOTS WILL BE RETURNED TO THE VENDOR, VIA REGISTERED MAIL, AT THE TIME OF FINAL SETTLEMENT. RETURN POSTAGE WILL BE CHARGED TO THE CONSIGNOR.
6. FINAL SETTLEMENTS WILL BE MAILED TO VENDORS APPROXIMATELY 45 DAYS AFTER CLOSING.
7. LOTS FOR FUTURE MAIL SALES SHOULD BE SENT TO:

SCOTT TRAQUAIR
PO BOX 52558
1801 LAKESHORE ROAD WEST
MISSISSAUGA, ONTARIO
L5J 4S6

PLEASE USE REGISTERED MAIL FOR ALL SUBMISSIONS.
I WILL ACKNOWLEDGE ALL RECEIPTS AS SOON AS POSSIBLE.

ALL PROCEEDS FROM COMMISSIONS, AFTER EXPENSES OF COPYING AND MAILING WILL BE SPLIT BETWEEN THE STUDY GROUPS.

Thanks to all consignors and bidders.

Please contact Scott Traquair for details regarding consignment of lots.

New terms include a \$15 minimum reserve and a 15% commission

I would be happy to hear from any member with suggestions on improving the sale.

All proceeds, after expenses of copying / mailing, go to the study groups.

LOT	SOLD	LOT	SOLD	LOT	SOLD
1		31	36	61	12.00
2		32		62	36.00
3		33		63	
4		34		64	11.00
5		35		65	10.00
6		36	41.00	66	10.00
7	21.00	37	15.00	67	20.00
8	21.00	38	76.00	68	26.00
9	21.00	39		69	23.00
10	16.00	40		70	20.00
11		41	15.00	71	150.00
12		42	19.00	72	22.00
13		43	3.50	73	28.00
14	60.00	44	14.00	74	19.00
15		45	21.00	75	21.00
16		46	62.00	76	26.00
17	30.00	47	15.00	77	41.00
18	25.00	48	13.00	78	
19	10.00	49	11.00	79	
20	10.00	50		80	
21	15.00	51		81	
22		52		82	24.00
23		53	19.00	83	34.00
24		54	16.00	84	27.00
25		55	16.00	85	34.00
26		56	40.00		
27		57			
28	42.00	58	17.00		
29		59	16.00		
30		60			
				TOTAL:	\$1,330.50