

## Once You Have the Evidence – Then What?

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Getting electronic data from the other side is only the beginning. Once you get it, you need to determine how to use it in your case. What follow are some suggestions for accomplishing that goal.

### **I. If You Need Help, Get Help**

When you receive the package from the other side containing a Zip disk and cover letter stating, “Enclosed and produced upon you please find...,” you may not know what to do with the disk. If you don’t know, get help.

Help may be just down the hall. If you have an information services department, consider going there. They might not understand what you mean by a discovery request, but they may be able to help you convert the contents of the disk over to something you can look at. If you have a litigation support group, consider contacting them. They may have the tools you need to look at and start working with the data you just got. Even if there is no formal entity within your office dedicated to dealing with technological issues, there may be informal resources. Perhaps there is a techno-geek attorney who lives for these issues. Maybe you have a legal assistant who can help you with these problems. Possibly one of your legal secretaries was an Access programmer before coming to you, or perhaps your firm administrator just finished taking an Excel course for a master’s program, and can better inform you about what to do.

Even if help is not down the hall, help may be outside the door. Your client may have the resources you need. Your expert witnesses, assuming you have some, may be able to sort out the data for you. If you are using a litigation support vendor, that organization may be able to bring skills to bear.

And, of course, don’t forget the professionals, the ones who deal with electronic data for a living. Groups such as Computer Forensics, Inc. (206-324-6232, [www.forensics.com](http://www.forensics.com)) and

Ontrack Data Recovery, Inc. (800-872-2599, [www.ontrack.com](http://www.ontrack.com)) address these issues regularly and potentially can be excellent resources.

## **II. Convert the Data**

Before you can do anything with the data you got from the other side, you need it on a medium and in a format you can work with.

### **A. Get the Data on a Useable Medium**

You need to get the data onto a medium you can use, if it is not already on one. Data can come on a variety of media, such as data tapes, Zip disks, CD-ROM disks, 3.5 inch floppy disks, and 5.25 inch floppy disks.

If you receive electronic data on an 8-millimeter data tape, chances are that you will not have an 8-mm tape drive at your desk. Even if you have a drive, it may not be able to read that specific tape. You need to get the data onto a medium your computer can read, which these days generally means a 3.5 inch floppy or a CD disk. How do you do this? About six months ago we received an 8-mm data tape containing a series of autoCAD files. We needed to get those files onto a medium we and our experts could use. Because we did not have a drive capable of reading that type of tape, we used an outside vendor to copy the files from the tape onto three sets of three CDs each. (Because the files were already in the format we wanted, we did not have any file conversion issues.)

Zip disks are simpler. The cost of Iomega Zip drives ([www.iomega.com](http://www.iomega.com)) is so low that we keep one on hand just to copy data from Zip disks we receive (and to copy data to Zip disks when others request data from us on that medium).

CDs are even simpler, as CD drives have become commonplace on PCs. Similarly 3.5 inch disks generally pose no problem.

5.25 inch floppy disks have started to become problematic, as fewer and fewer PCs have the drives in them. Older sizes of floppies can be even more difficult; when we have received electronic data on them we have had to engage outside vendors to move the data over to media we can work with.

## **B. Put the Data in a Useable Format**

Having data on a useable medium is useless unless it also is in a useable format. At times this is not an issue. If the data comes in a format that you already use, then you can begin to work with it as soon as you get it off the media. The formats most likely to be useable without conversion are word processing files (principally WordPerfect and Word files), spreadsheet files (principally Excel and Lotus) and presentation files (principally PowerPoint files).

### **1. "Useable" Formats**

Even if the data is in a format that appears to be one you already use, conversion may be necessary. The format may be too new. For example, you will not be able to open a Word 97 file if you are using WordPerfect 5.1 or even Word 7. The problem is a basic one. When those programs were written, Word 97 did not yet exist. As a result, they do not have in them the pieces of code needed to read Word 97 files. You will need to find a machine with a word processing package capable of reading Word 97 files. Alternatively, you will need to get a program such as Word for Word that can recognize and work with many different files types.

In a similar vein, you may have get the data converted if it comes to you in a format that is too old or runs on a different operating system. We recently encountered these issues with a couple of Excel spreadsheet files produced by opposing counsel. The files had been prepared on an old Macintosh. The combination of a different operating system and an older format was too formidable for our version of Excel.

Finally, you may encounter problems of the WordPerfect-versus-Word ilk. Although simpler files created with one company's software generally can be opened without problem using a competitor's comparable product, this often does not hold true for more complex files. Thus, Word documents formatted using "styles" or containing complex tables may not be fully readable by WordPerfect (the same holds true when going from WordPerfect to Word.)

## **2. "Unusable" Formats**

You may get electronic data in a format that you cannot use "out of the box." When that happens, you have to convert the files to a format you can use – or find someone to do the conversion for you. We have encountered these issues with a variety of files including electronic mail files, database files from mainframe systems, and ".txt" files containing data dumped from database files. Anyone who has undertaken this task can attest that it is potentially a difficult and painstaking process.

Any time you suspect that you will have to convert data, there are some steps you can take to facilitate the process. Initially, try to get as much information about how the files were created and maintained as you can. Whether you intend to try the conversion yourself or rely on outside resources to get the work done, the more you know about the files the better your chances of a successful conversion. For example, if you receive a ".txt" file that appears to contain information from a database file, try to find out, among other things, the make and model of computer the file came from, the name and version of the operating system the computer ran, the name and version of the database program used, the name of the database file, a list of all fields in the database, and descriptions of each field with the descriptions including the type, length and other characteristics of the field.

Further, get sample printouts if possible. If you get these, they may provide answers to some of the questions listed above. They may show how the data was laid out – and hence how it was used. They also may give clues about electronic data that you should have received, but did not.

### **3. Converting Files**

If you are going to attempt converting the data yourself, you may be fortunate enough to have received electronic data that you can convert directly into programs such as Access or Excel using the Wizards built into those programs. This can be the case with “.txt” files. Sometimes the first row in a file you are converting may even contain the names of the fields that need to be created, further simplifying your task. If that information is not in the file itself, then try to get the field names and descriptions from the producing party. Should you fail at that, you may have an exceedingly difficult time carrying out a meaningful conversion.

Sometimes data will not be in a format amenable to immediate conversion. E-mail files are a common example. In one case we took on the challenge of converting a year’s worth of Unix e-mail messages from binary files on backup tapes to records in an Access database so that we could search the messages more effectively than we could if we loaded them onto a Unix system. We dumped the files into Word, ran a specialized macro that takes out extraneous characters, converted certain hard returns into a rarely-used character, and performed some other clean-up functions. Then we fed the modified file into Access where the rarely-used character served as a delimiter to indicate where one field ended and another began and where the newly-fielded data was assigned to the right predetermined fields. After that we ran additional functions that further rearranged and consolidated the data so that we could search in the ways

needed for the case. Finally, we added fields to the database so that the attorneys and paralegals working with the data could add value to the data as they searched and reviewed it.

### **III. Get the Right Software, Hardware and Personnel**

Concomitant with getting the data into a useable format is getting the right software, hardware and personnel to work with the format you choose. For software, we have found that Access, Excel and Concordance meet most of our needs, but there are, of course, a plethora of other good tools available.

Hardware requirements will vary greatly depending upon specific circumstances. Ten kilobytes of data can be handled by most any machine and across most any network. Ten gigabytes, however, poses substantial challenges in terms of hard drive space, backups, network traffic, and, for that matter, performance. When faced with data of that quantity, we have set up dedicated machines that do not pass queries or results across our network.

Personnel requirements present the greatest challenge. If you are going to make sense of the electronic data you have received, converted, and loaded, you need know how to use the tools yourself or, failing that, rely upon someone who can use the tools for you. As discussed above, you may already have the personnel you need in your own office or you may have to turn to outside resources.

### **IV. Check the Data**

Once you are in a position to work with the electronic data you got from the other side, check that the data is what it ought to be.

#### **A. Did You Get All the Data?**

Check to see whether you received all the data you should have received. Prepare an inventory of what you received and compare it against what you requested. This may be as

simple as preparing and comparing lists of file names. More likely, however, it will require that you develop short descriptions of the data you received and then match the descriptions with your discovery requests. It may even mean that you will have to closely analyze the data to see whether gaps emerge that indicate some failure by the other side to produce all that it ought to have produced.

You also can search the electronic data for references to electronic files that should have been produced to you but were not. This can be done through a manual review. The manual review can be enhanced if the software you are using to review the data allows you to search for strings of characters. If it does, you can search for filename extensions that are typically associated with the types of files you want to find. Examples include .doc, .htm, .html, .htx, .rtf, .mcw, .txt, .wps and .wpd for word processing files; .csv, .dbf, .dif, .txt, .wk1, .wk3, .wk4, .wks, .wq1, .xls and .xlw for spreadsheet files; and .asc, .csv, .dbe, .dbf, .htm, .html, .mda, .mdb, .mde, .mdw, .tab, .txt and .xls for database files.

If you received spreadsheet or database files in their native format, you can scrutinize them for signs of links to files that were used in connection with the files you got but nonetheless were not produced to you. In a spreadsheet file such as an Excel file, this might mean searching the cells for extensions such as the ones listed above. It also can mean checking the “properties.” If you are asked whether you want to reestablish link when you open the file, that is a clear sign of potentially missing files; keep track of the file names and check to see whether you received them. In a database file such as an Access file, this means closely examining all tables, queries, forms, reports, macros and modules for references to other files.

**B. Did the Data Come From the People You Thought It Would?**

Files often contain indications as to who created them, who worked on them, and who last saved them. If you go to **File | Properties**, you can sometimes find this information.

#### **IV. Look for “Hidden” Data**

Electronic files often contain “hidden” data – information that does not show up on any printouts of the file – which can potentially prove useful.

Go to **File | Properties** where you may be able to find out a host of details about the file that the people sending it to you may never have known went with it. These can include: when the file was created, when it was last modified, who created it, what comments have been added, what title was given to the file, whether intentionally or automatically, what subjects have been assigned to the file, who last saved the file, and how many revisions the file has gone through.

In word processing files, look for comments that display on the screen but do not automatically print out. If there are tables containing numbers, check them for formulae that calculate the figures displayed in the tables. If there are objects embedded in the word processing file, such as portions of spreadsheet files, try to ascertain the names of source files.

In spreadsheet files, look at the formulae; these show the true work being done by the spreadsheet file in a way that a printout never can. (Figure 1.) Check the formulae for references to other files. Look for hidden columns. (Figure 2.) If the column listing across the top goes “A B C E H,” that means that there are at least three hidden columns – D, F and G – that might contain information of greater value than anything shown. Watch for comments; in Excel 97 these may initially only show up as small red triangles at the upper right corners of cells. (Figure 3.) Beware of cells that appear to be empty but are not. We recently discovered that whole sections of an expert’s spreadsheet files produced to us by the other side in a hotly contested case had been whited out so that it appeared as if they were empty. Actually the cells

were full of information ... and it was information that their expert had explicitly testified had not been gathered or used by him. (Figure 4.)

In database files, look for explanation of field names or contents; in Access you might find this by looking at the database tables in “design” mode. Look for links to files you did not receive; in Access this might be indicated by small arrows to the left of the table icons. Look for tables, queries, forms, reports, macros and modules that you did not know about. In tables, look for hidden fields.

## **V. Test the Data**

Test the electronic data to determine how complete, how accurate, and how reliable it is. You can test the data against itself. Look for inconsistencies. For example, we received Access database tables from opposing counsel. The tables contained information taken from executed survey instruments. Two tables contained information taken from the same surveys. The information in one of the tables was different than the information in the other table even though it should have been identical. Look for errors as well. We received a file from opposing counsel that came from their client’s mainframe computer. The file tracked a broad range of sales information on a unit-by-unit basis. That information included addresses which in turn included state abbreviations and zip codes. By querying the data to obtain a list of abbreviations used and compare that list against zip codes in the records, we were able to determine that the party abbreviated Minnesota in over a dozen different ways including MA, MI, and MT. We then were able to confirm that by incorrectly abbreviating Minnesota, they had assigned product sales to the wrong states. This in turn potentially weakened both the liability and the damages side of their case.

Where feasible, the electronic data can be compared to underlying documents, again to determine the completeness, accuracy and reliability of the data. This comparison can highlight coding errors made when creating the database such as wrong numbers, wrong dates, and wrong names. It also can reveal categories of information that were not added to the electronic data, which if they had been added, would have affected the results one obtains by searching the data. One example of this is a database file we received from the other side in a commercial dispute involving allegations of product failure due to a putatively defective component. The other side excluded from its file many, although not all, of the claims made against for this specific failure when the claim involved product it manufactured before it switch from another company's component to our client's component. When we discovered the discrepancy, we added in the missing complaints and found that a pattern of complaints emerged that was fundamentally inconsistent with the allegations they were making.

Just as electronic data can be compared to underlying documents, so also can it be compared to data in other electronic files, the contents of other documents, and information available through the Internet. In one case, we were able to compare complaint data in electronic form with a list of distributors available through the opposing party's web site. Both sets of information contained zip codes, and with both sets dumped into Access we were able to identify potentially significant correlations between where distributors were located and where complaints were made.

## **V. Work the Data**

Examples of how one can work with the other side's electronic data are offered above. And what one can do really is limited more by one's imagination than anything else. That said, there are several general suggestions that can be offered: Put the data into tools you can use.

Spreadsheet programs can allow one to perform calculations, prepare pivot tables that can quickly summarize data across several dimensions (Figure 5), develop charts to graphically present trends in the data (Figure 6), and map out information geographically (Figure 7).

Database programs can permit one to search or query the databases in complex and subtle ways, perform calculations, and generate a broad range of reports. Sharing the data you receive and the knowledge you glean from it with you client, your experts, and other colleagues as appropriate can offer you the opportunity to more effectively handle your case.

Figure 1: Formulae

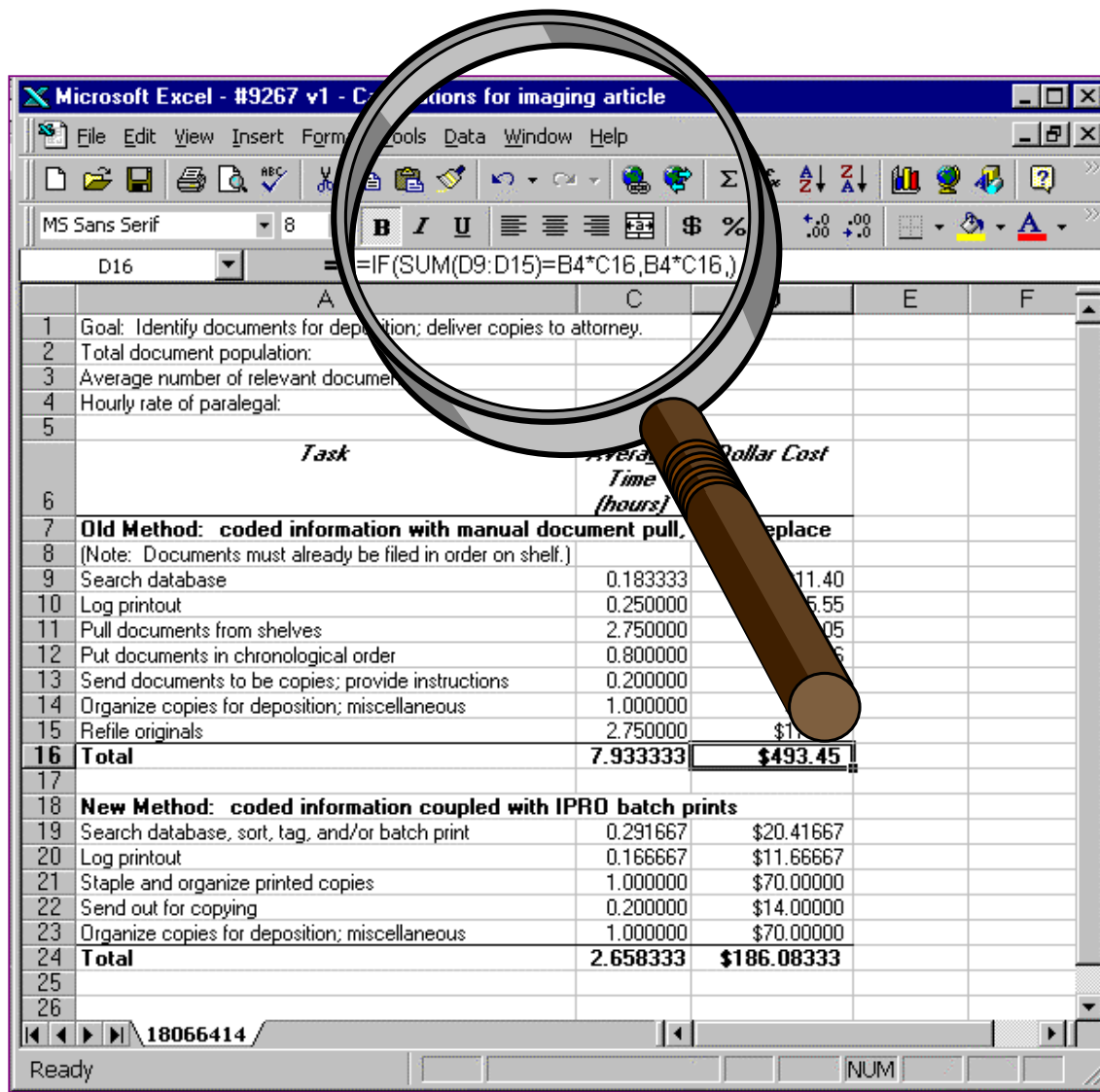


Figure 2: Hidden Columns

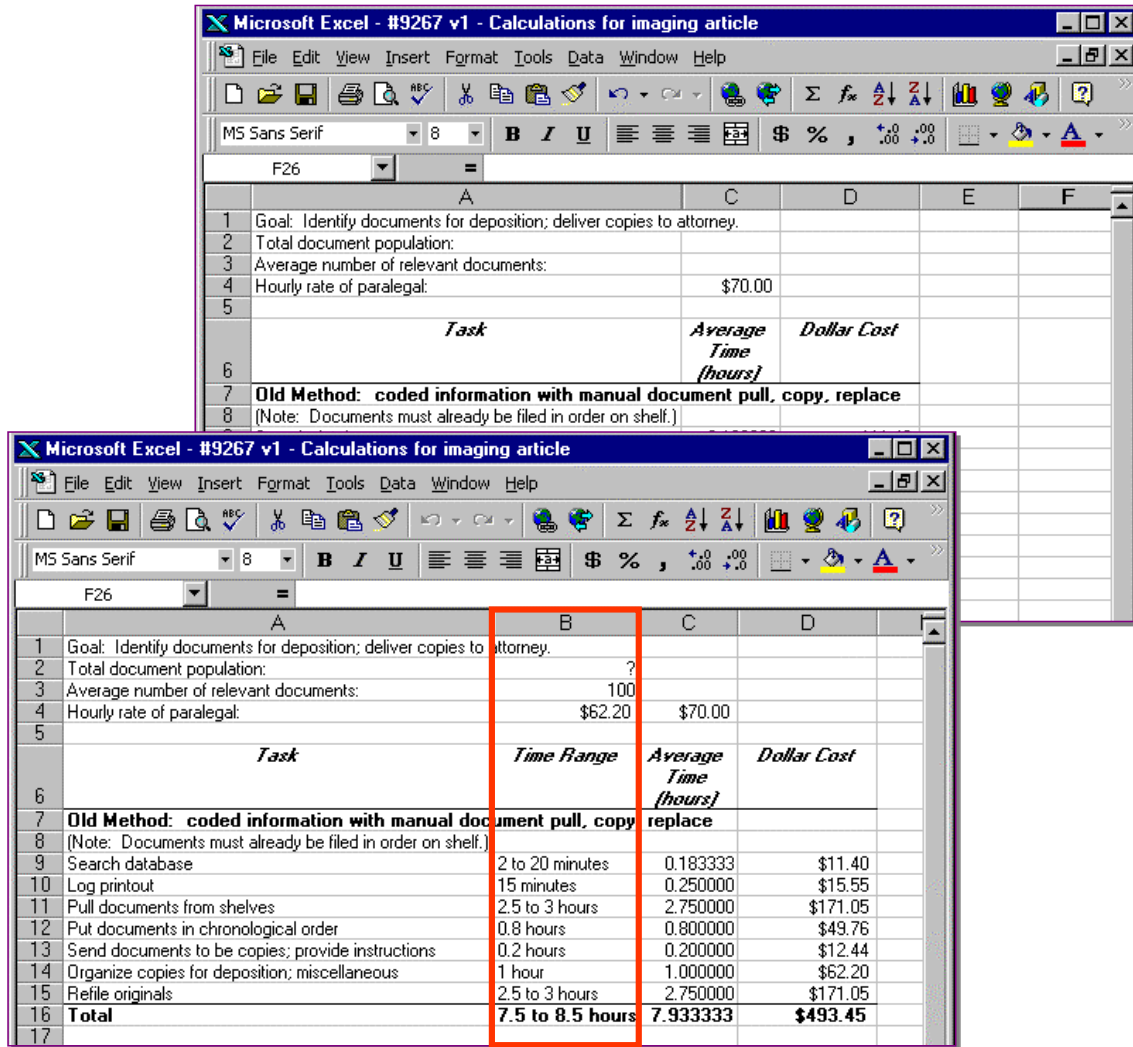


Figure 3: Comments

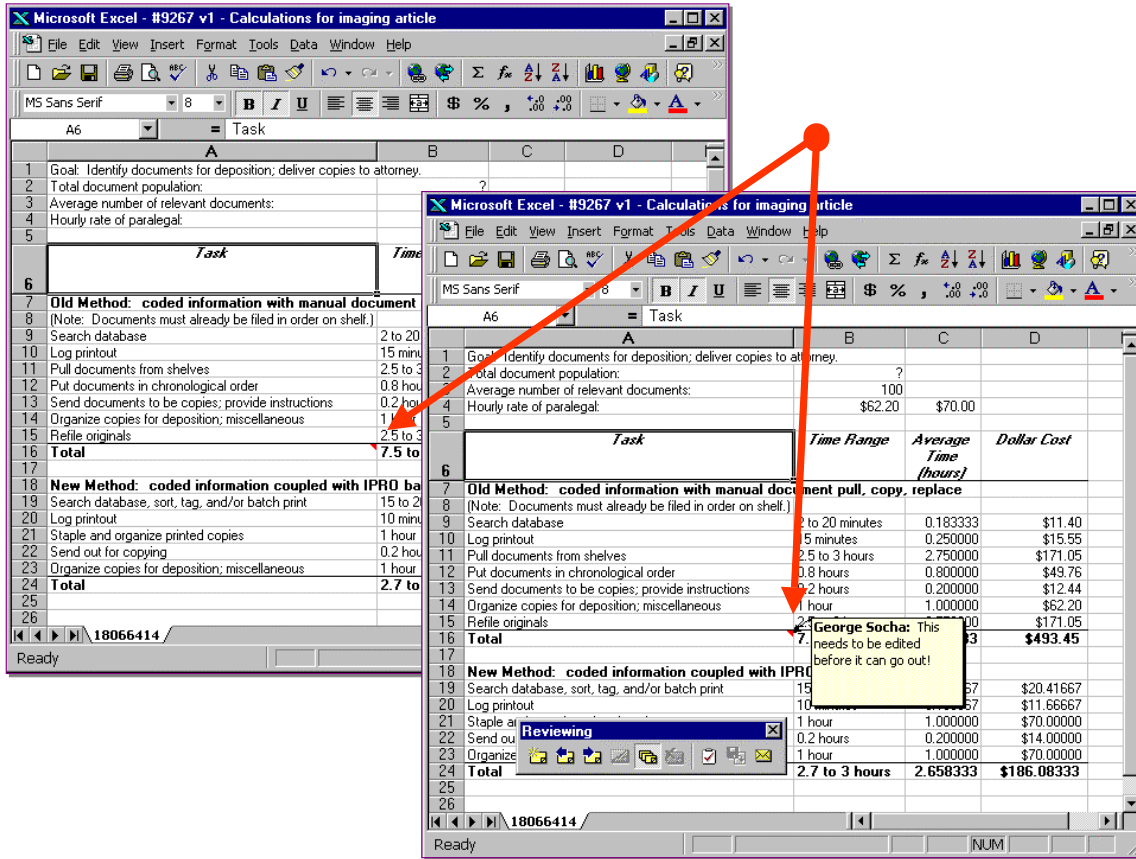
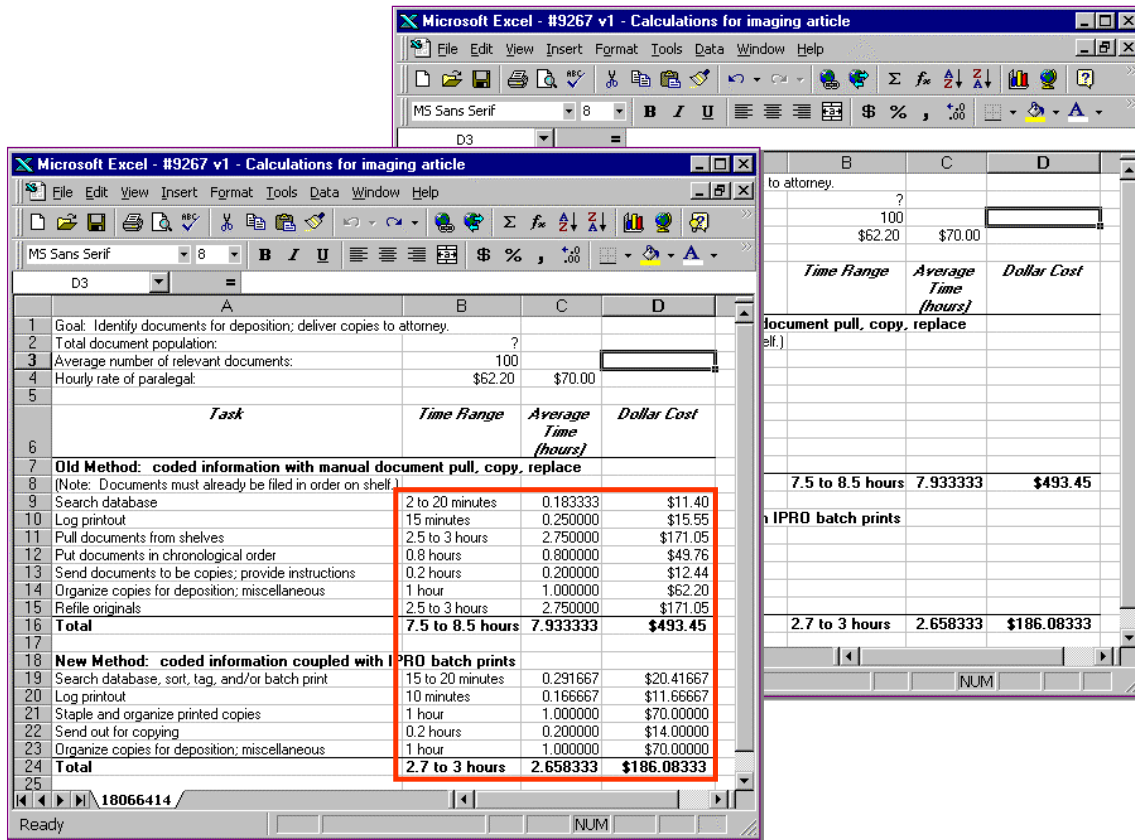


Figure 4: Hidden Text



Microsoft Excel - X1401!.xls

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	A	B	C	D	E	F	G	H	I	J	K
1	Manufacture Year2	IPBC Years									
2											
3	Sum of Sum of Frames and Panels	Complaint Year									
4	Manufacture Year	1990	1991	1992	1993	1994	1995	1996	1997	Grand Total	
5	1990	6	30	119	226	273	889	2794	1143	5480	
6	1991		3	5	79	413	495	893	894	2782	
7	1992				23	42	203	1078	397	1743	
8	1993				3	47	34	398	103	585	
9	1994					4	8	100	172	284	
10	1995						5	98	34	137	
11	1996								1	1	
12	1997								3	3	
13	Grand Total	6	33	124	331	779	1634	5361	2747	11015	
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Ready

**PivotTable**

PivotTable

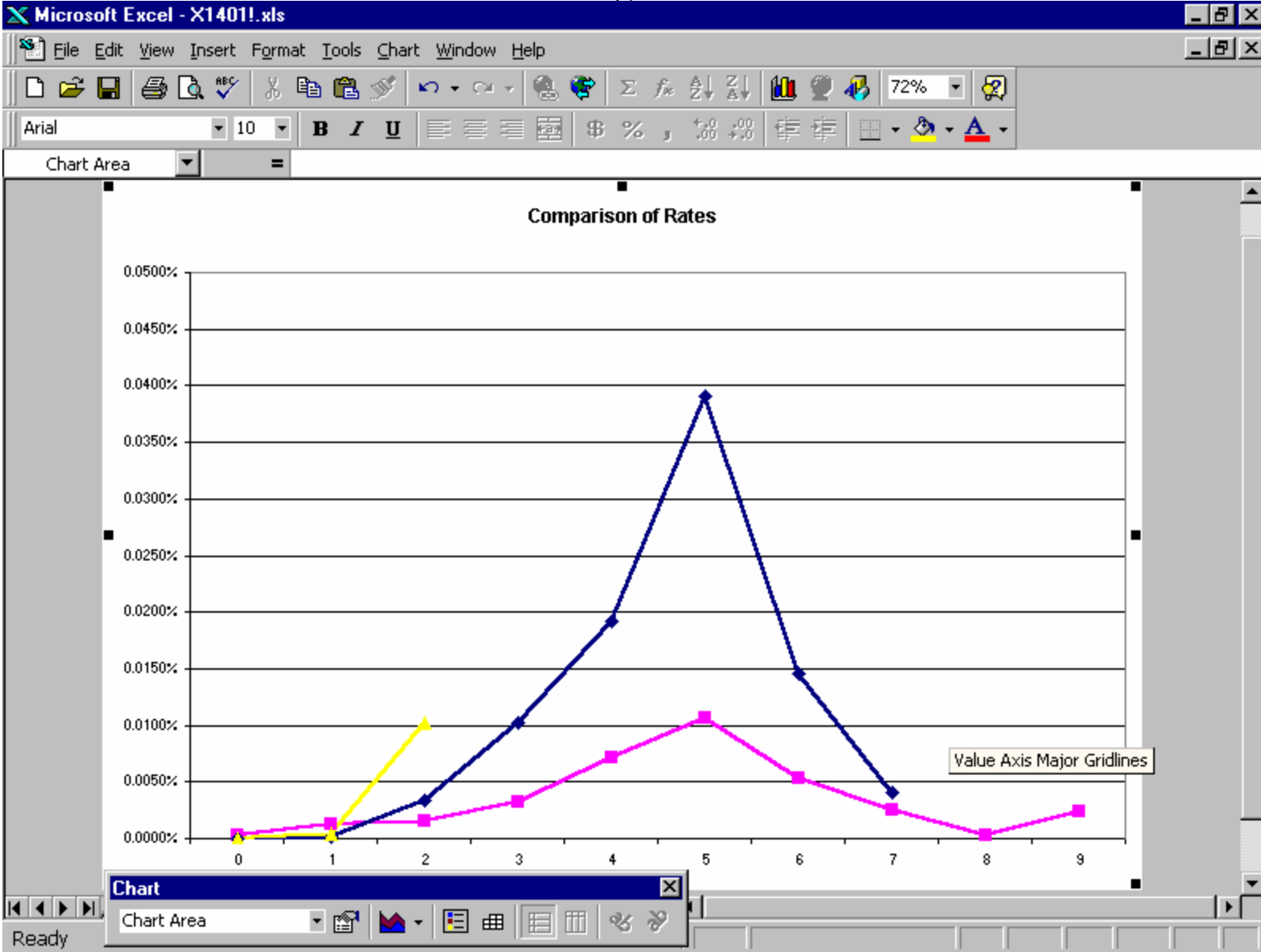


Figure 7: Maps

