

# EXHIBIT B

CONTAINS CONFIDENTIAL INFORMATION SUBJECT TO COURT ORDER

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

PA ADVISORS, L.L.C.

Plaintiff,

vs.

GOOGLE, INC., *et al.*,

Defendants.

§  
§  
§  
§  
§  
§  
§  
§  
§

Civil Action No. 2:07-CV-480 RRR

**SUPPLEMENTAL EXPERT REPORT OF DR. V. THOMAS RHYNE  
PURSUANT TO RULE 26(a)(2)(B) OF  
THE FEDERAL RULES OF CIVIL PROCEDURE**

### 3. OVERVIEW OF THE ACCUSED PRODUCTS

#### 3.1 Google Search

37. “Google Search” is the basic search system provided by Google. When entered through the *www.google.com* website, as well as other portals such as the Google Toolbar, users are provided a window into which they can enter search terms. Google then returns an ordered list of Internet locations which relate to those search items. An example of the Google Search portal is shown below:



38. Google generally refers to individuals who use Google services such as Google Search as “users.” From Google’s point of view there are two classes of “users” who use Google’s various systems to obtain information and services. One class is users who have established a log-in relationship with Google through, for example, signing up to use Google’s mail service, Gmail. Google refers to that process as signing up for a Google account. In this expert report I refer to those individuals in general as “persistent users.”<sup>8</sup> Google maintains, on a permanent basis, a great deal of information about persistent users.<sup>9</sup> Persistent users can see that set of data by

---

<sup>8</sup> Also see the Google videos entitled “Google Search Privacy: Personalized Search” available at [www.youtube.com/watch?v=UsUBnPRITbI](http://www.youtube.com/watch?v=UsUBnPRITbI).

<sup>9</sup> See [www.google.com/privacy\\_faq.html#toc-terms-cookie](http://www.google.com/privacy_faq.html#toc-terms-cookie) where Google explains that “[y]ou may access some of our services by signing up for a Google Account and providing us with some personal information (typically your name, email address and a password). This account information will be used to authenticate you when you access Google services and protect your account from unauthorized access by others. We may share personal information

CONTAINS CONFIDENTIAL INFORMATION SUBJECT TO COURT ORDER

accessing a website that Google identifies as the Google Dashboard ([www.google.com/dashboard](http://www.google.com/dashboard)) which Google provides so that persistent users can see a “[s]ummary of data stored with this account.”

39. The other class of Google users is made up of individuals such as myself who use Google Search but who do not have a log-in account with Google. In this expert report I refer to those individuals as “simple users.” Google does maintain information about the activities of simple users, but only for a short period. *See* the Horling deposition at page 40:

Page 40

- 9 Q. What about for a user that's not signed in?  
10 MR. CANNON: Objection. Form.  
11 THE WITNESS: For users that are not signed  
12 in, we retain result clicks for a very short period of  
13 time.  
14 Q. (By Mr. Rafilson): When you say “a very short  
15 period of time,” what do you mean?  
16 A. Two hours.

40. Google uses the stored information about both persistent users and simple users in order to improve the effectiveness of the search results provided to users of Google Search. Google refers to that usage as “personalization” of the search results. *See* the following portions of the Horling deposition:

Page 27

- 20 Q. And so -- I just want to make sure that I  
21 correctly understand this.  
22 The Personalized Search team is trying to  
23 improve search results for particular users. Is that  
24 correct?  
25 A. For individuals, yes.

Page 30

- 2 Q. Now, let's discuss personalized search.  
3 How would you define “personalized search”?  
4 A. A method using an individual's information to  
5 improve search quality.

Page 31

- 10 Q. Okay. Let's turn to page 2 of this document. [GOOG0079472]

---

among our various services in order to customize content and enhance our services for you. No account information is shared with anyone other than Google except as specified in the Privacy Policy or with your consent.”

CONTAINS CONFIDENTIAL INFORMATION SUBJECT TO COURT ORDER

11 And underneath the bold heading that says  
12 "Personalization," would you agree with me that the text  
13 says that:

14 "The goal of personalization is to gain an  
15 understanding of the user's preferences and  
16 intent and to tailor their Google experience  
17 accordingly"?

18 A. I would agree that's what it says.

19 Q. Do you agree that this is the goal of  
20 personalization?

21 A. I would agree.

22 Q. So does personalization impact the search  
23 results that are displayed to a user?

24 A. It does.

Page 32

24 Q. Can you give me an example of how  
25 personalization would be used to improve the search

Page 33

1 results displayed to a specific user.

2 A. If we have inferred that a user has a  
3 preference for a particular category and they issue a  
4 search in the future containing a result that we believe  
5 is related to that category, we may promote that result.

6 Q. And how does Google determine that a user has  
7 a preference for a particular u- -- or a particular  
8 category?

9 A. Based on their historical clicks on search  
10 results.

Page 34

12 Do you see in the second section of this  
13 document [GOOG0135075] the portion of this document that states that:

14 "Search algorithms" -- "As the video  
15 explains, search algorithms that are designed  
16 to take your personal preferences into account,  
17 including the" -- "the things you search for  
18 and the sites you visit, have better odds of  
19 delivering useful results for you"?

20 A. I do.

21 Q. And did I read that correctly?

22 A. You did.

23 Q. And do you see the portion right after that  
24 that states:

25 "So if you've been checking out sites

Page 35

1 about the Louvre and you search for 'Paris,'  
2 you're more likely to get results about the  
3 French capital than the celebrity heiress"?  
4 A. I do.  
5 Q. Is there anything that I've just read that you  
6 disagree with?  
7 MR. CANNON: Objection. Form.  
8 THE WITNESS: No.  
9 Q. (By Mr. Rafilson): Do you agree with these  
10 statements that I've just read?  
11 A. Yes.

### **3.2 Google's Placement of Advertisements**

41. Google has developed an advertising system that invites advertisers to create advertisements which, when stored at Google, become candidates for display to potential buyers on at least two types of screens. The first are the screens that Google displays to searchers when showing those searchers the results of their searches (whether the searches are initiated on the *www.google.com* website, Google partner websites or on third party sites that incorporate the Google search engine). I refer to these systems as "AdWords" or "AdSense for Search," or simply "AFS," in this expert report. AdWords refers to advertisements that are provided to a user in response to a search query entered on a Google property, such as *www.google.com*. AdSense for Search or AFS refers to advertisements that are provided to a user in response to a search query entered in a third-party website, such as *www.cnn.com*. The second are the screens created by websites which have agreed to allow Google to place advertisement on their websites. I refer to that system as "AdSense for Content" or "AFC" in this expert report.

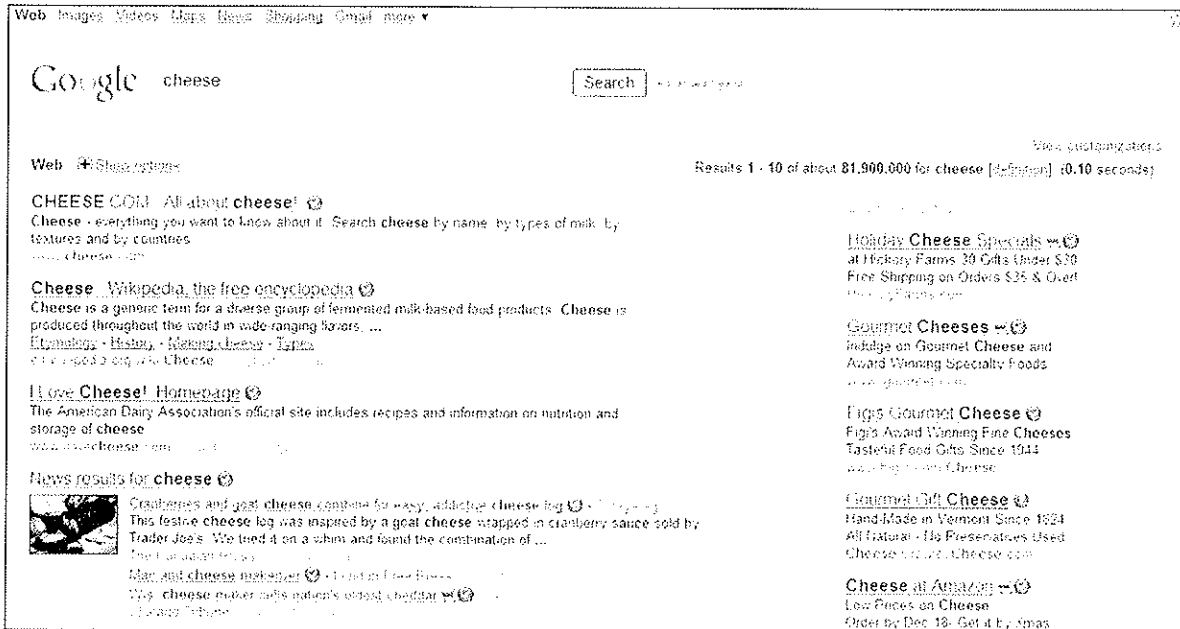
42. The goal of Google's AdWords, AdSense for Search and AdSense for Content systems is to show both searchers and website-viewers a set of advertisements which relate to the interests which those individuals have demonstrated during their searching or website-selection activities. I describe those systems in more detail in the following subsections.

#### **3.2.1 AdWords**

43. Google uses the term "AdWords" in a variety of ways. For example, there are certain documents that refer to AdWords as Google's entire ad serving system. See, for example, GOOG6333. In this report, I use the term "AdWords" to refer only to ads that are served on

CONTAINS CONFIDENTIAL INFORMATION SUBJECT TO COURT ORDER

Google properties. An example of those advertisements is shown on the right side of the following screenshot. There, a search query for “cheese” resulted in the display of both a number of search results (on the left) and of advertisements for a number of sellers which have signed up with Google to be “Sponsored Links” (on the right). Clearly, the advertisements which have been selected for display on the right of the Google results screen are related to the search for “cheese.”



### 3.2.2 AdSense for Search

44. As I noted above, AFS is a Google system that provides targeted advertisements along with the search results on non-Google properties. AFS and AdWords share the same process in serving ads to users. See Furrow Dep. Tr. at 162:11-163:11 (noting that AdWords and AdSense for Search are generally the same). An example of those advertisements is shown on the right side of the following screenshot taken from *www.cnn.com*, which provides search capabilities that are actually implemented by Google. There, a search query for “cheese” resulted in the display of both a number of search results (on the left) and of advertisements for a number of sellers which have signed up with Google to be “Sponsored Links” (on the right). Clearly, the advertisements which have been selected for display on the right of the Google results screen are related to the search for “cheese.”

The screenshot shows a search results page for the keyword "cheese" on the CNN website. The page is divided into several sections:

- Search Bar:** The word "cheese" is entered in the search bar, with a magnifying glass icon and a "Feedback" link.
- Advanced Search:** A link for "Advanced search" and a list of "Related Searches" including "Travel and Tourism", "Food and Cooking", "Air Travel", and "Books".
- Showing 1-10 of 1103 CNN results for cheese:** This section lists search results with filters for "All Results (1103)", "Stories (105)", and "Videos (41)". It includes a "Sort By" dropdown menu set to "Date" and a "Filter" icon.
- Sponsored Links:**
  - How I Get Free Cheese:** GroceryCardsOnline.com - Thanks to this website, I never have to pay for cheese anymore.
  - Organic Valley Cheese:** www.organicvalley.coop - Try Our Family Of Organic Cheeses Cheddar, Colby, and Muenster Too!
- See more sponsored links for cheese:** gourmet cheese basket, cheese gift, buy cheese online, farmer's cheese
- Food, fear and business success:** Taking risks in life with her career, and less so at the buffet table, have served Mireille Guiliano and her readers well.
- Genius behind the 'Joy of Cooking':** The ubiquity of the "Joy of Cooking" is staggering. More than 18 million copies have sold since the Great Depression -- when a Midwestern widow named Irma Rombauer published her recipes and anecdotes in the hope of lifting America's spirits.
- The Fareed Challenge: Best of 2009:** Have you been paying attention to the news? Answer these questions and find out.
- What can I eat for a really healthy breakfast?:** What are my options for a nutritious breakfast? Cereal doesn't feel healthy any more, and neither does a "bacon, egg and cheese." What should I eat to stay healthy and fit?
- Books men want:** For the men in your life, here are some heroic biographies that make great gifts.

- Web results:**
- CHEESE.COM:** All about cheese! Cheese - everything you want to know about it. Search cheese by name, by types of milk, by textures and by countries.
- Wikipedia:** Cheese is a generic term for a diverse group of milk-based food products. Cheese is produced throughout the world in wide-ranging flavors, textures, ...
- I Love Cheese!, Homepage:** The American Dairy Association's official site includes recipes and information on nutrition and storage of cheese.
- Gourmet Cheese | Cheese Gift Baskets | Artisanal Cheese:** Finest artisanal cheeses, cheese gift baskets, premium quality imported, gourmet, and domestic artisanal cheeses available online and shipped anywhere in ...
- iReport search:** iReports are stories from the CNN audience. Learn more >

45. For reference, I have expanded the "Sponsored Links" portion of the *cnn.com* search page below. Clearly, the ads shown there also relate to m search for "cheese."

**How I Get Free Cheese**  
GroceryCardsOnline.com - Thanks to this website, I never have to pay for cheese anymore.

**Organic Valley Cheese**  
www.organicvalley.coop - Try Our Family Of Organic Cheeses Cheddar, Colby, and Muenster Too!

See more sponsored links for. cheese, gourmet cheese basket, cheese gift, buy cheese online, farmer's cheese

### 3.2.3 AdSense for Content

46. As the well-known basis for most of its activities, Google traverses the Internet (a process commonly referred to as "web crawling") to identify and analyze the content found on the identified websites, looking for information that can be used to characterize the nature of that



## CONTAINS CONFIDENTIAL INFORMATION SUBJECT TO COURT ORDER

content. That characterization process allows Google to identify websites which will likely be useful to individuals performing searches using Google Search.<sup>10</sup> For each identified website Google identifies the textual information found on that website and maps that content against a set of interest categories which are later used to match the mapped website's content against search requests entered into Google Search. Google also uses that information as part of its "AdSense for Content" process for placing relevant advertisements on those websites which have agreed to allow Google to do that. The placed ads are denoted by the "Ads by Google" identifier on those webpages.

### **4. INFRINGEMENT OF THE ASSERTED '067 CLAIMS**

#### **4.1 Independent Claim 1**

47. Claim 1 is a method claim having nine steps. In my opinion it is infringed by use of Google's Search, AdWords, and AFS system.

##### **4.1.1 Preamble**

*1. A data processing method for enabling a user utilizing a local computer system having a local data storage system to locate desired data from a plurality of data items stored in a remote data storage system in a remote computer system, the remote computer system being linked to the local computer system by a telecommunication link, the method comprising the steps of:*

##### **4.1.1.1 Claim Constructions**

###### **4.1.1.1.1 Google Search**

48. I have assumed that the Preamble of claim 1 is not a limitation on that claim, although it is clear that Google provides the method of claim 1 for users of Google Search. A fundamental part of that Google process involves the identification of websites ("data items") and the

---

<sup>10</sup> See GOOG1617859 which explains that at Google "Crawling and indexing occur ahead of time, on machines dedicated to those purposes. Serving occurs in real-time on other machines, when someone (or some program) enters a query ... Crawling the Web visits web pages (content), finds new content, and stores the content locally ... Indexing the content determined what's in the individual pages. It stores static information about those pages in an index that maps words or phrases to documents."

**4.8.1 Opinion of Infringement**

263. In each of the infringement analyses I performed for claim 45, the data that is parsed by Google is “personal textual data” provided by (a) the website publisher, (b) the user during a search session, or (c) a website creator who accepts “Ads by Google.” Thus, all of those Google systems meet limitations added to claim 45 by claim 47, thereby infringing claims 45 and 47.

**4.9 Dependent Claim 61**

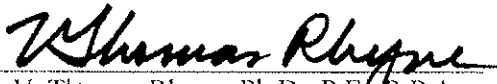
*61. The method of claim 1, wherein the remote computer system comprises a plurality of computer systems connected to the Internet and the World Wide Web.*

264. Claim 61 incorporates all of the limitations of claim 1. I explained my opinion that use of Google Search meets the limitations of claim 1 in § 4.1 above.

**4.9.1 Opinion of Infringement**

265. The Google servers used to support Google Search are attached to the Internet and, hence, to the World Wide Web. Those connections meet the limitations added to claim 1 by claim 61, thereby infringing claims 1 and 61.

Executed on January 22, 2010

  
V. Thomas Rhyne, Ph.D., P.E., R.P.A.