

# How to Create an ADSA (<u>A</u>utosomal <u>D</u>NA <u>Segment A</u>nalyzer) Report from GEDmatch

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#### **Key Abbreviations and Terms**

ADSA	<u>A</u> utosomal <u>D</u> NA <u>S</u> egment <u>A</u> nalyzer
DNAGedcom	See <u>Here</u>
FTDNA	Family Tree DNA
GEDmatch	See <u>Here</u>
ICW	In Common With
Tier 1 GEDmatch	See <u>Here</u>
Triangulation	The process of identifying one or more DNA segments that are in common among at least 3 people (not including close relatives such as parents/children and siblings)

<u>Note</u>: In the fast-paced world of genetic genealogy, these instructions may change. We strive to keep them current, so if you have any issues or find broken links, please let us know at <a href="mailto:support2@dnagedcom.com">support2@dnagedcom.com</a>.

# **Introduction to GEDmatch-ADSA**

The <u>A</u>utosomal <u>D</u>NA <u>Segment A</u>nalyzer (ADSA) was originally developed by Don Worth as a way to organize, visualize, work with your match list and chromosome data, and determine which of your matches are also related to each other (that is, ICW = in common with) using information from Family Tree DNA's (FTDNA) Family Finder test. Now it can also be used with GEDmatch.



If you are a Tier 1 member at <u>GEDmatch</u> (see <u>Here</u>), the GEDmatch Load Tool on <u>DNAGedcom</u> (see <u>Here</u>) will combine the *Matching Segment Search* and *Triangulation* outputs from GEDmatch, so you can run various tools on <u>DNAGedcom</u>, including ADSA.

The step-by-step instructions are very detailed, so you may want to take a quick look at the Quick Guide for Creating a GEDmatch-ADSA Record on the last page before coming back here.

# What are GEDmatch and DNAGedcom?

Not infrequently, people seem to mix these up! *If you are familiar with both of these,* you can *skip this section.* 

- **GEDmatch** (available at www.gedmatch.com) is a 3rd party website, which was created by 2 volunteers, and accepts uploads of autosomal DNA (+ X-chromosome DNA) from 23andMe,<sup>1</sup> FTDNA, and AncestryDNA. In addition to being able to make 'One-to-one' comparisons between pairs of individuals, running the 'One-to-many' tool will give you a list of DNA matches, and these will include individuals from all of the "Big 3" DNA testing companies, even if you have been tested at only one company. Kit numbers on GEDmatch start with either an M, F, or A, which indicates the testing company (23andMe, FTDNA, and AncestryDNA, respectively). Because AncestryDNA doesn't provide any matching segment data (they don't provide a a chromosome browser or any tools to see how you genetically match someone), GEDmatch is the only way to be able to see the matching segment data between you and others from AncestryDNA (as well as individuals who have tested at 23andMe and FTDNA). GEDmatch has a range of utilities and is a fantastic resource for genetic genealogists. The main part of GEDmatch is totally free (although they accept donations to help with server and other costs). More recently, Tier 1 GEDmatch was introduced, which requires a minimum donation of \$10 per month (more about that <u>Here</u>). Tier 1 Membership provides additional tools (usually those that put a greater load on their servers than the free tools do), including Matching Segment Search and Triangulation, and these two tools are currently required for GEDmatch-ADSA.
- DNAGedcom (available at <u>www.dnagedcom.com</u>) is another wonderful 3rd party website for working with your autosomal DNA data, which was the brainchild of Rob Warthen. The tools and documents were originally created for the use of adoptees looking for birth family, but are by no means limited to that purpose. DNAGedcom has a range of data extraction and manipulation tools, including data from 23andMe and FTDNA (and before some of these were available on those websites!) and also from GEDCOMs [a GEDCOM file (.GED) is a universal format for the exchange of family tree data]. The autosomal DNA tools include ADSA, JWorks, and KWorks.

<sup>&</sup>lt;sup>1</sup> Unlike transfers of 23andMe data to FTDNA, where only tests based on the Version 3 Illumina DNA Sequencer chip are accepted, GEDmatch also accepts uploads of more recent 23andMe tests that used the Version 4 chip.

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In order to create your GEDmatch-ADSA output, you will need to use both <u>GEDmatch</u> (Tier 1) and <u>DNAGedcom</u>.

# **Tier 1 GEDmatch**

Although most of the GEDmatch tools are free, in October 2014, GEDmatch introduced an enhanced Tier 1 membership, which provides additional, server-intensive tools. If you have donated to GEDmatch in the past, you will have access to the Tier 1 tools for "a period of time equal to 1 month for every \$10 donated." So basically, Tier 1 GEDmatch membership costs \$120 for a full year. But you can take out membership on a month-by-month basis (without any commitments), so you can try it out for a month and then come back again whenever you donate another \$10.

You can tell whether you are a Tier 1 member from your GEDmatch Home page, which is the main page that opens when you log-in to <u>www.GEDmatch.com</u>. If you are a Tier 1 Member, this will be shown at the top left (red oval) and the Tier 1 Utilities are in the box at the bottom right (Figure 1). If you aren't a Tier 1 Member, your Home page will instead show you as a Registered User (Figure 2) and the block of Tier 1 Utilities won't be shown.





Figure 1: **GEDmatch Home Page for Tier 1 Member** 



Information		
Your Log-in	n Profile	
S	and springer	
S	.com	
Register	ed User	

### Figure 2: GEDmatch Home Page if NOT a Tier 1 Member

#### **Becoming a Tier 1 GEDmatch Member**

Figure 3:

If you already have Tier 1 Utilities at GEDmatch, you can skip this section.

1. Log-in to <u>www.GEDmatch.com</u> using your email address and password.

If you aren't registered at GEDmatch, use the same website (<u>www.gedmatch.com</u>), then left-click HERE at the red arrow in Figure 3 to register. You will need to upload your raw DNA data from either AncestryDNA, 23andMe, or FTDNA.

GEDmatch Log-	-in or Registration
Email Address: Password:	
	Log in
Not Registered?	
Forgot your passy	word? Click HERE

No instructions for uploading your raw DNA data to GEDmatch are provided in this document, but detailed instructions are provided on GEDmatch, although the link for them isn't very obvious. In the Uploads block on the GEDmatch Home page, left-click on the company where you tested, then near the top (in the white area), you will see "Click HERE for detailed upload instructions".

2. Once you have logged in, scroll down to the bottom of the Home page to the Donate section (Figure 4). For a one-off payment, left-click on the "Donate" button, or if you want to set up a regular monthly



donation to ensure you always have Tier 1 membership, left-click on the "Join GEDmatch" button. Payments are made through <u>Paypal</u> or you can send a check. In order to have access to Tier 1 Utilities, the minimum donation is \$10, which will give you access for a month. After payment through Paypal, you should have access to Tier 1 Utilities within minutes – try reloading the page if you don't see them using either the "Reload Page" icon in the browser or press F5 (if using Windows) or [Cmd]-5 (Command button plus "5") if using Mac-OS (Apple). If you have the option of paying via Paypal using the same email address as you use for GEDmatch, use that to minimize the chance that they can't link your Paypal payment to your GEDmatch account.

#### Figure 4: Donate to GEDmatch

#### Donate

Basic GEDmatch programs remain free and we plan to keep them this way. Donations help cover the costs associated with running this site, and will provide you with the benefit of using the additional Tier 1 tools for a period of time equal to one month for every \$10 donated. You may use the 'Donate' button below, for a one-time donation of any amount, or the 'Join GEDmatch' button to establish a recurring \$10 per month amount. Information on canceling a recurring donation can be found HERE. Some older contributions may not have been properly credited if they were associated with a different name and email address. If you previously made a contribution under a different email address than your GEDmatch registration, and it has not been credited, send us an email at GEDmatch@gmail.com and we will make the necessary adjustments. If you do not wish to use PayPal, you can send your check or money order to GEDmatch, c/o Curtis Rogers at 710 First Avenue South, Lake Worth, FL 33460. Please write your GEDmatch email login on your check. Thank you for your generosity!



3. Once you can see the Tier 1 tools on your GEDmatch Home page (Figure 1), you are good to go. If you have made an appropriate donation and Tier 1 doesn't show up on your GEDmatch Home page within an hour (don't forget to try reloading the page), send an email to <u>GEDmatch@gmail.com</u>, letting them know your GEDmatch number and email address, as well as the email address used for the Paypal payment, and they will straighten it out. Please remember that GEDmatch (like DNAGedcom) is run by unpaid volunteers who have other commitments.

# Step-by-Step Instructions for Creating a GEDmatch-ADSA Output

Update (14 Apr 2015): A few people have reported issues when using Firefox as their browser. So if you have any problems when following the instructions precisely, try another browser. Google Chrome and Internet Explorer seem to work fine.

1. Log-in to <u>www.dnagedcom.com</u>. If you don't already have a Username, left-click on Register (Figure 5) to create a new account.



Figure 5:	DNAGe	dcom Log	-in Scree	n				
DNA							1	Log In / Register
A GEDCO	M Home	Information	DNA Kits	Family Tree DNA	23andMe	Autosomal Tools	GWorks (Gedcom)	
LOG IN								
Please enter your username	and passwor	rd. <u>Register</u> if yo	ou don't have	an account.				
Account Information Username: Password: Keep me logged in								
Reset your password here - you forget your username a be e-mailed to that account	You can also e nd your userna	nter your e-mail ame and new pas	Log In address if ssword will					

2. Hover over the menu for DNA Kits and left-click on "Upload GedMatch DNA Data" (Figure 6), which opens a screen for uploading your GEDmatch data (Figure 7).

### Figure 6: Upload GEDmatch DNA Data Link

DNA							Welcome XXXXX	X ! Log (
A GEDCOM	Home	Information	DNA Kits	Family Tree DNA	23andMe	Autosomal Tools	GWorks (Gedcom)	Members
VELCOME TO THE DN/ or help with how to download	AGEDC your 23ar	OM TOOLS	Upload Upload	I Ancestry DNA Data	a (Beta)			
you are an adoptee looking fo	or help, pl	ease visit us at <u>ł</u>	http://www.D	NAAdoption.com				
o use this site, you must <u>Regis</u> idded to this site and this will a	<mark>ter</mark> . Regist llow me t	ering simply giv o quickly make	es an ability these feature	to associate your in es and data available	formation wit to you witho	h your login. In the out additional work.	future additional feat	ures will be
f vou have anv issues, please se	nd an e-r	nail to support@	dnagedcom	n.com. Thanks for vo	ur support. P	lease remember we	are volunteers.	



Elgura 7.

Memory information       DNA Kits       Family Tree DNA       Z3andMe       Autosomal Tools       GWorks (Gedcom)       Members         WELCOME TO THE TOOLS SECTION FOR GEDMATCH.       This tool adds GedWatch data to your system so you can run the tools on the site. It creates FTDNA style extracts, including Match list, Chromosome data and ICW.       URING a Tier 1 Matching Segment Search list. Be sure to exclude Graphic. When data is loaded, copy and paste the entire window to the box below and hit Load.         URING and Tier 1 Triangulation. Choose Show Results sorted by Kit_number, chromsome, segment start position. Stay with the default of 3000. When data is loaded, copy and paste the entire window to the box. Click Ctrl-V. You will see the data load below.         To Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below.         Load       Clear         Date Last       Date Last       Date Completed Download Kit       Clear Kit       Delet Kit       Match Count       Chromo Count       KW Count         No records to display.       State display.       Date Completed Download Kit       Clear Kit       Delet Kit       Match Count       Chromo Count       KW Count	i iguie 7.	GLDmatt	ch opioau scie	en						
Mome       Information       DNA Kits       Family Tree DNA       23andMe       Autosomal Tools       GWorks (Gedom)       Members	DNA							Welco	ome XXXXXX !	Log
WELCOME TO THE TOOLS SECTION FOR GEDMATCH.         This tool adds GedMatch data to your system so you can run the tools on the site. It creates FTDNA style extracts, including Match list, Chromosome data and ICW.         URun a Tier 1 Matching Segment Search list. Be sure to exclude Graphic. When data is loaded, copy and paste the entire window to the box below and hit Load.         URun a Tier 1 Triangulation. Choose Show Results sorted by Kit, number, chromsome, segment start position. Stay with the default of 3000. When data is loaded, copy and paste the entire window to the box and hit Load.         Too Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below.         Load:       Clear         DNAGedcom ID       Name         Date Last Loaded       Date Completed       Download Kit       Clear Kit       Match Count       Chromo Count       ICW Count         No records to display.	A BEDGOM	Home Information	DNA Kits Family Tree DNA	23andMe	Autosomal Tools	GWorks (Gedcom)	Members			
Light in a Tier 1 Matching Segment Search list. Be sure to exclude Graphic. When data is loaded, copy and paste the entire window to the box below and hit Load. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste as the Copy and Paste as the Copy and Paste as the Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below. If the Copy and Paste as the Copy and Pas	VELCOME TO THE TOO This tool adds GedMatch data	LS SECTION FOR G	EDMATCH. In run the tools on the site. It c	reates FTDNA sty	/le extracts, includi	ng Match list, Chromo	some data and ICW	V.		
Run a Tier 1 Triangulation. Choose Show Results sorted by Kit_number, chromsome, segment start position. Stay with the default of 3000. When data is loaded, copy and paste the entire window to the box I dick in the box. Click Ctrl-V. You will see the data load below.	Run a Tier 1 Matching Segme	nt Search list. Be sure to e	exclude Graphic. When data is	loaded, copy and	paste the entire v	vindow to the box bel	ow and hit Load.			
To Copy and Paste on Windows click in the windows, type Ctrl-A then Ctrl-C. Go to box below and click in the box. Click Ctrl-V. You will see the data load below.	Run a Tier 1 Triangulation. Ch nd hit Load.	noose Show Results sorted	d by Kit_number, chromsome,	segment start po	sition. Stay with th	e default of 3000. Whe	en data is loaded, co	opy and paste the ent	ire window to the	box be
Load     Clear       DNAGedcom ID     Name       Date     Last       Loaded     Date Completed       Download Kit     Clear Kit       Delete Kit     Match Count       Chromo Count     ICW Count       No records to display.     Date Completed	o Copy and Paste on Windows	s click in the windows, type	e Ctrl-A then Ctrl-C. Go to bo	below and click	in the box. Click C	trl-V. You will see the	data load <mark>belo</mark> w.			
Load Clear DNAGedcom ID Name Date Last Date Completed Download Kit Clear Kit Delete Kit Match Count Chromo Count ICW Count No records to display.				^						
Load       Clear         DNAGedcom ID       Name         Date Last       Date Completed         Loaded       Date Completed         Download Kit       Clear Kit         Delete Kit       Match Count         Chromo Count       ICW Count         No records to display.       Date Completed										
Load       Clear         DNAGedcom ID       Name       Date Last Loaded       Date Completed       Download Kit       Clear Kit       Delete Kit       Match Count       Chromo Count       ICW Count         No records to display.       Date Completed       Download Kit       Clear Kit       Delete Kit       Match Count       Chromo Count       ICW Count				~						
DNAGedcom ID Name Date Last Loaded Date Completed Download Kit Clear Kit Delete Kit Match Count Chromo Count ICW Count No records to display.	Load Clear									
No records to display.	DNAGedcom ID Name		Date Last Date Com Loaded	pleted Downloa	d Kit Clear Kit	Delete Kit	Match Count	Chromo Count	ICW Count	
	No records to display.									

 Leave the DNAGedcom screen open and open a new window or tab in your browser. Log-in to GEDmatch (Figure 3), then go to the Tier 1 Utilities block at the bottom right of the main menu screen. Left-click on Matching Segment Search (Figure 8).



CEDmatch Unload Scroon

4. On the GEDmatch DNA Segment Search screen, enter your Kit Number in the top box and at the bottom, <u>change the default radio button to No</u> for Show graphic bar for Chromosome (Figure 9). The other boxes can be left blank unless you wish to change the default settings. Left-click on the "Submit" button and then you need a little PATIENCE! It looks as though nothing much is happening, but you may see "Waiting for www4.gedmatch.com" at the bottom left of the browser window, which then disappears; you may see

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a series of asterisks showing the progress, but you may not. You should expect to wait at least 10 minutes for the output (and often much longer), depending on how busy the server is. Unless there is a message that server capacity has been exceeded, resist the temptation to either click on the Submit button again or try to run in a different tab – this will slow everything down.

igure 9:	GEDmatch Matching Segment Search Screen		
[GED <sub>match</sub> ]	Tools for Genealogy Research	н	ome Log out
	GEDmatch DNA Segment Searc	h	
This utility all	ows you to find other kits with matching chromosome segments.		
	Kit Number:		
	SNP count minimum threshold to be considered a matching segment (Leave blank for default value = 700)		
	Minimum segment cM size to be included in total: (Leave blank for default value = 7)		
	Show graphic bar for Chromosome?	◎ Yes ● No	IMPORTANT – change the default to No
		Submit	

5. Figure 10 shows the output once the DNA Segment Search has finished running. This lists your matches ordered by Chromosome and Start Position. [Note: As GEDmatch handles the X-chromosome separately from chromosomes 1-22, this output *excludes* the X-chromosome.] Copy the whole of this page (including everything above the table and everything below the table) as follows. If using Windows, left-click anywhere in the GEDmatch window, then press [Ctrl]+A (Control key plus "A"), which will select All (everything will show as blue), then [Ctrl]+C (Control key plus "C"), which will Copy everything selected. If using Mac-OS (Apple), the equivalent commands are [Cmd]+A (Command key plus "A"), then [Cmd]+C (Command key plus "C"). Each browser also has ways of selecting and copying, which can be used instead.



inguie 10. Matching Segment Search Output
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# GEDmatch Matching Segment Search

Kit:		ar (18	

Minimum Minimum Please wai Analysis p ********* ********	thresh segme t for D rogres	old size to be in ent cM to be in DB search. This is is shown by a	ncluded in tota cluded in total may take a few a string of aster	1 = 700 = 7.0 c w minu risks ('' *****	) SNPs M ites *') on th ****** ******	e lines below:	********* <mark>*</mark> ******* *******************	***
Kit	Chr	Start Position	End Position	сM	SNPs	Name	Sex	Email
F315	1	72017	37672760	66.3	9731	*Sue	F	@gmail.com
F308	1	72017	3913951	10.3	732	Robert	М	@hotmail.com
F358	1	72017	3912332	10.3	725	*PB	F	@gmail.com
F249	1	742584	3912332	10.3	742	G	F	@sbcglobal.ne
F286	1	4689039	9045144	8.3	1302	Wayne	М	@ .net
A515	1	9465199	13717352	8.5	889	*P	М	@gmail.com
F155	1	9702632	13688708	8.2	839	W	М	@com
F149	1	10158989	13827313	7.9	819	R	F	@comcast.net

<u>Hint</u>: A common error made in this step is to copy only the data in the table. As indicated above, the WHOLE PAGE (including the text above the table and the text below the table) is required. Using the Select All command, followed by the Copy command (see above for the quick keys) ensures that everything needed is copied.

6. After copying the Matching Segment Search output from GEDmatch, go back to the DNAGedcom tab, which should have the GEDmatch Upload Screen open (as shown in Figure 7). Left-click in the blank space in the box, then if using Windows, press [Ctrl]+V (Control key plus "V"), or if using Mac-OS (Apple), press [Cmd]+V (Command key plus "V"). This will paste everything from Step 5 into the box, as shown in Figure 11. Then left-click the "Load" button.



Figure 11:

			C	Dutput									
8		A									Wel	come XXXXXXX I	Log Out
X	BED	COM	Home	Information	DNA Kits	Family Tree DNA	23andMe	Autosomal Tools	GWorks (Gedcom)	Members			
ina ma	di ta ta ta		mar										
WELCON This tool	AE TO TH adds Geo	IE TOOLS S	ECTION to your	FOR GEDM	ATCH. can run the to	ols on the site. It cre	ates FTDNA s	tvle extracts, includi	ng Match list. Chromo	osome data and	ICW.		
110						- his sade as data in h							
I)KUN a He	er 1 Mato	ning segme	nt Search	i list. Be sure t	o exclude Grap	onic. When data is lo	aded, copy ar	io paste the entire v	vindow to the box bel	ow and hit load	101 1		
2)Run a Tie	er 1 Trian	gulation. Ch	oose Sho	ow Results sor	ed by Kit_num	nber, chromsome, se	gment start p	osition. Stay with th	e default of 3000. Wh	en data is <mark>lo</mark> ade	d, copy and paste t	he entire window t	o the box
below and	hit Load	÷											
To Copy a	nd Paste	on Window:	s click in t	the windows, 1	ype Ctrl-A the	n Ctrl-C. Go to box b	elow and clic	k in the box. Click C	trl-V. You will see the	data load below	f		
				0000000000			7						
b EN1	@mindl 22 4722	ess.com 9943488036	1481 70	BD	м	@hotmail.com							
F26	22 4727	5597495286	258.7 92	4 R	M	@gmail.com							
F21	22 4727	5597 <mark>49</mark> 5286.	258.7 92	1 V	F								
500	@gma	il.com											
F23	22 4/28	4959488270	207.8 /1	20	F	@gmail.com							
<u>110</u>	@gma	4939400000. il.com	237.0 70		IVI								
A59	22 4739	0958495286	258.0 87	1 T	М								
	@gmail.	com											
<u>A34</u>	22 4739	0958489608	557 <mark>.4</mark> 70	17 * <u>w</u>	М	@live.com							
Total 1869	segment	<											
10101 2005	, segment	5											
Ver: Feb 2.	2 2015 18	:15:26					6						
Load	Clear						1						
DNAG	G <mark>e</mark> dcom II	D Name			Date Last Loaded	Date Completed	Download	l Kit Clear Kit	Delete Kit	Match Count	Chromo Count	ICW Count	
No rec	ords to di	splay.											
		- P											

GEDmatch Upload Screen in DNAGedcom after Pasting Matching Segment Search

7. It takes <1 minute for the data to load to DNAGedcom – you may see "Waiting for response from dnagedcom.com" at the bottom left of the browser window. After the upload is complete, the box will scroll back so that the top of the pasted data is visible and the kit that was loaded will be in the table at the bottom of the screen, with the Match Count (number of matches from GEDmatch) and Chromo Count (number of matching segments) shown (red rectangle) – see Figure 12. At this stage, ICW Count (at the bottom right) shows 0 if this is the first time you have uploaded a particular kit. [Note: If you are uploading a kit that is already in the system (to add new matches), it will overwrite the previous data. You don't need to delete the old kit.]</p>

After you have verified that the Match Count and Chromo Count are in the system, left-click the "Clear" button (red oval) and the large box will be empty again.



Figure 12:	GEDmatc	h Upload	Screen i	n DNAGe	dcom af	ter Upload	d of Matc	hing Segr	ment Searc	h
	Output									
DNA							-	Welco	ome XXXXXX I	Log Out
	Home Information	DNA Kits Fai	mily Tree DNA	23andMe Aut	osomal Tools   (	GWorks (Gedcom)	Members			
WELCOME TO THE TOOLS SI This tool adds GedMatch data 1)Run a Tier 1 Matching Segmer 2)Run a Tier 1 Triangulation. Cho	ECTION FOR GEDMAT to your system so you ca nt Search list. Be sure to e pose Show Results sorted	CH. n run the tools or xclude Graphic. V by Kit_number, c	n the site. It creat When data is loac thromsome, segr	es FTDNA style en led, copy and pas nent start positior	dracts, including te the entire winc n. Stay with the de	Match list, Chromo low to the box belo efault of 3000, Whe	some data and IC w and hit Load. n data is loaded, o	N. copy and paste the	e entire window to tl	ne box
below and hit Load. To Copy and Paste on Windows GEDmatch	click in the windows, type	e Ctrl-A then Ctrl	-C. Go to box be	low and click in th	e box. Click Ctrl-\	/. You will see the c	lata load below.			
Kit: A22 (Sue Griffith)										
Minimum threshold size to be inc Minimum segment cM to be inclu Please wait for DB search. This ma Analysis progress is shown by a st	luded in total = 700 SNPs ided in total = 7.0 cM ay take a few minutes tring of asterisks (***) on the	lines below:	******							
**** **** Kit Chr Start Position Fnd Pos	tion cM SNPs Name	- Sex Fmail	······							
Load Clear	arton divisi tanut i Milin								1	
DNAGedcom ID Name		Date Last Loaded	Date Completed	Download Kit	Clear Kit	Delete <mark>Kit</mark>	Match Count	Chromo Count	ICW Count	
> DG25 Sue Griffit	th	4/12/2015 9:02:45 PM	4/12/2015 9:02:51 PM	Download	Clear	Delete	1607	1869	0	

Hint: If the Match Count and Chromo Count don't update automatically, reload the page using either the "Reload Page" icon in the browser or press F5 (if using Windows) or [Cmd]-5 (Command button plus "5") if using Mac-OS (Apple).

8. Go back to the GEDmatch tab. You may need to log-in again due to a time-out. Return to the Tier 1 Utilities block on the Home page, and this time left-click on Triangulation (Figure 13).



## Figure 13: GEDmatch Segment Triangulation Link





9. This will take you to the Segment Triangulation screen (Figure 14). Insert your GEDmatch Kit Number in the top box. Change the radio button from the default (bottom option) to the middle option (Show results sorted by "kit\_number, chromosome, segment start position"). Leave the Upper Segment Threshold Limit at the default of 3000 cM. Then left-click on the "Triangulate" button. You need to be REALLY PATIENT with this tool – even more patient than with the Matching Segment Tool! GEDmatch warns that it can take up to 45 minutes. As with the Matching Segment tool, it looks as though nothing much is happening, but you may see "Waiting for www4.gedmatch.com" at the bottom left of the browser window, which then disappears; you may see a series of asterisks showing the progress, but you may not. Don't click on the Triangulate button again or try to run in a different tab – this will slow everything down.

#### Figure 14: GEDmatch Segment Triangulation Screen

#### **GEDmatch Segment Triangulation**

This utility finds people who match you with your top matches as shown in the one-to-many results and below the upper threshold limit that you specify. It then compares those matches against each other. Results can be sorted by chromosome and position, or by kit number, chromosome and position, and then displayed in tabular and graphical format for each matching segment larger than 5cM. Close relatives can be excluded from results by specifying an upper segment threshold limit. All kits must have completed batch processing to be included in results.



10. Figure 15 shows the output once the Segment Triangulation tool has finished running. Presumably because of the server requirements to run this, it includes only the closest 400 matches. As in Step 5, copy the whole of this page (including everything above the table and everything below the table) as follows. If using Windows, left-click anywhere in the GEDmatch window, then press [Ctrl]+A (Control key plus "A"), which will select All (everything will show as blue), then [Ctrl]+C (Control key plus "C"), which will Copy every selected. If using Mac-OS, left-click anywhere in the GEDmatch window, then press [Cmd]+A (Command key plus "A"), then [Cmd]+C (Command key plus "C"). Each browser also has ways of selecting and copying, which can be used instead.

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# Figure 15: Segment Triangulation Output

G	EDm	natch Segn	nent Triangulatio	on					
All k with Mato Segi Proc	ts show a total n hes abc nents sh cessing ress is s	n in columns Kit1 and natching segment cour ove 3000 cM (total) are nown are larger than 7 <b>may take as much as</b> shown by a string of 40	Kit2 are taken from the closest 40 nt less than 3000 cM. not shown. .0 cM and 500 SNPs. 45 minutes. DO NOT refresh th 00 asterisks (**) on the lines below	00 matches to A e screen or lea v:	ve this page during tha	t time.			
***** *****	**********	**************************************	• • • • • • • • • • • • • • • • • • •	** <mark>*</mark> *********************************	******				
To p Hove Hove	ut this ir er over t er over t	nto a spreadsheet: Ctrl he kit number to see th he colored segment to	-A, Right-Click/Copy, In Excel: Ri ne name and email. see the start and end position of	ght-Click/Paste each part.	-Special(HTML)				
Triar	ngulated	results sorted by Kit N	lumber Chromosome Start Posi	tion:					
10.11			Kit1	1		Kit2	Start	End	CM
20	A00	Charles	Kit1 charlie@com	A39	B	Kit2 b @hotmail.com	Start 398,704	End 4,023,934	cM 9.5
20 20	A00 A00	Charles Charles	Kit1 charlie@ .com charlie@ .com	A39 A50	B	Kit2 b @hotmail.com d @q.com	Start 398,704 398,704	End 4,023,934 3,972,512	cM 9.5 9.4
20 20 20	A00 A00 A00	Charles Charles Charles	Kit1 charlie@ .com charlie@ .com charlie@ .com	A39 A50 A54	B B Matt	Kit2 t @hotmail.com d @q.com me@ .com	Start 398,704 398,704 337,881	End 4,023,934 3,972,512 4,173,573	cM 9.5 9.4 10.2
20 20 20 20	A00 A00 A00 A00	Charles Charles Charles Charles	Kit1       charlie@       com         charlie@       .com         charlie@       .com         charlie@       .com         charlie@       .com	A39 A50 A54 A63	B B Matt	kit2       b     @hotmail.com       d     @q.com       me@     .com       linda     @twc.com	Start 398,704 398,704 337,881 337,881	End 4,023,934 3,972,512 4,173,573 4,206,071	CM 9.5 9.4 10.2 10.3
20 20 20 20 20	A00 A00 A00 A00 A00	Charles Charles Charles Charles Charles Charles	Kit1       charlie@       com         charlie@       .com         charlie@       .com         charlie@       .com         charlie@       .com         charlie@       .com         charlie@       .com	A39 A50 A54 A63 A76	B B Matt *J Patrick	Kit2         b       @hotmail.com         d       @q.com         me@       .com         linda       @twc.com         patrick       @hotmail.com	Start           398,704           398,704           398,704           337,881           337,881           337,881	End 4,023,934 3,972,512 4,173,573 4,206,071 4,206,071	cM 9.5 9.4 10.2 10.3 10.3
20 20 20 20 20 20	A00 A00 A00 A00 A00 A00	Charles Charles Charles Charles Charles Charles Charles	Kit1       charlie@       .com         charlie@       .com	A39 A50 A54 A63 A76 F29	B B Matt *J Patrick Barbara	kit2       b     @hotmail.com       d     @q.com       me@     .com       linda     @twc.com       patrick     @hotmail.com       barb     @rogers.com	Start           398,704           398,704           398,704           337,881           337,881           337,881           398,704	End 4,023,934 3,972,512 4,173,573 4,206,071 4,206,071 4,206,071	cM 9.5 9.4 10.2 10.3 10.3 10.0

<u>Hint</u>: A common error made in this step is to copy only the data in the table. As indicated above, the WHOLE PAGE (including the text above the table and the text below the table) is required. Using the Select All command, followed by the Copy command (see above for the quick keys) ensures that everything needed is copied.

11. After copying the Segment Triangulation output from GEDmatch, go back to the DNAGedcom tab, which will have the GEDmatch Upload Screen open. If the large box in the center isn't empty, it means you forgot to left-click the "Clear" button in Step 7, so go ahead and do that now. Left-click in the blank space in the box, then if using Windows, press [Ctrl]+V (Control key plus "V"), or if using Mac-OS, press [Cmd]+V (Command key plus "V"). This will paste everything from Step 10 into the box, as shown in Figure 17. Then left-click the "Load" button.

#### Figure 16: GEDmatch Upload Screen in DNAGedcom after Pasting Segment Triangulation Output



	DN	A									Welco	ome XXXXXXX	! Log Out
-A-	GED	MDS	Home	Information	DNA Kits	Family Tree DNA	23andMe	Autosomal Tools	GWorks (Gedcom)	Members			
	و 11 و و و و و و و	e Dava da	ui.										
WEL This	COME TO THE tool adds GedN	TOOLS S latch data	ECTION F to your sy	OR GEDMAT /stem so you ca	CH. In run the too	ols on the site. It cre	ates FTDNA st	yle extracts, includi	ng Match list, Chromo	isome data and	ICW.		
1)Run	a Tier 1 Match	ng Segme	nt Search	list. Be sure to e	exclude Grapi	nic. When data is lo	aded, copy an	d paste the entire w	indow to the box bel	ow and hit Load	d.		
2)Run below	a Tier 1 Triang and hit Load.	ulation. Ch	oose Shov	v Results sorted	l by Kit_numb	er, chromsome, seg	gment start po	sition. Stay with the	e default of 3000. Wh	en data is loade	d, copy and paste th	e entire window	to the box
To Co	py and Paste o	n Windows	click in th	ne windows, typ	e Ctrl-A then	Ctrl-C. Go to box b	elow and click	in the box. Click Cl	rl-V. You will see the	data load below	v.		
k 16 k 16 k 16 k 16 k S Ver: N Elapse Triang	©gmail.con 498 K ©yahoo.con 498 Kennet ©yahoo.con 498 K ©gma far 20 2015 01:1 ed Time: 1166.34 yulated Segmen	74,802,1 k 74,802,1 h Day k n 74,923,3 k Lcom 74, 4:05 Seconds. s Displayed	79 78,5 ©gr 79 78,5 ©gr 32 78,5 ©gr 802,179 d: 1336	i19,835 10.6 mail.com A19 i26,291 10.6 mail.com A32 i26,291 10.5 mail.com F31 78,509,723	*R *m *S 10.5								
Web s	ite and content	©Copyrig	ht 2011-20	15 by <u>GEDmatch</u>	ι, Inc.		-						
Load	Clear												
C	NAGedcom ID	Name			Date Last Loaded	Date Completed	Download	Kit Clear Kit	Delete Kit	Match Count	Chromo Count	ICW Count	
> 0	0G25	Sue Griffi	th		4/12/2015 9:02:45 PM	4/12/2015 9:02:51 PM	<u>Download</u>	<u>Clear</u>	Delete	1607	1869	0	

12. It takes <1 minute for the data to load to DNAGedcom – you may see "Waiting for response from dnagedcom.com" at the bottom left of the browser window while it is running. After the upload is complete, the box will scroll back so the top of the pasted data is visible and the record that was loaded will be in the section at the bottom of the screen, this time with the In Common With (ICW) Count shown (red rectangle) – see Figure 17. [Note: If you are uploading a kit that is already in the system (to add new matches), it will overwrite the previous data. You don't need to delete the old kit.]</p>



Figure 17:	GEDmatch	Uploa	d Screen	in DNAGe	edcom a	fter Uploa	d of Segn	nent Triar	gulation	
	Output									
DNA								Welco	ome XXXXXXX !	Log Out
SEDCOM	Home Information I	DNA Kits   F	Family Tree DNA	23andMe Aut	osomal Tools	GWorks (Gedcom)	Members			
and Annalasian (III at Mark Ann	<u>ec.</u>									
WELCOME TO THE TOOLS SEC	TION FOR GEDMATCH	1.								
This tool adds GedMatch data to	your system so you can i	un the tools	on the site. It crea	tes FTDNA style e	ktracts, includir	ig Match list, Chrom	osome data and IC	W.		
1)Run a Tier 1 Matching Segment	Search list. Be sure to exc	lude Graphic	. When data is loa	ded, copy and pas	te the entire w	indow to the box be	low and hit Load.			
2)Run a Tier 1 Triangulation. Choo	ose Show Results sorted b	y Kit number	, chromsome. sea	ment start positio	n. Stay with the	default of 3000. Wh	nen data is loaded.	copy and paste th	e entire window to th	ne box
below and hit Load.			**************************************	100000 CONTRACTOR				200 F.V. 200 F. 200		
To Copy and Paste on Windows c	lick in the windows, type (	Ctrl-A then Cl	trl-C. Go to box be	elow and click in th	e box. Click Ct	'l-V. You will see the	data load below.			
GEDmatch Segment Triangulation			*							
All kits shown in columns Kit1 and	Kit? are taken from the clos	act 400 match	ar to A22							
with a total matching segment cou	nt less than 3000 cM.	est 400 match	ies to A22							
Matches above 3000 cM (total) are Segments shown are larger than 7.	not shown. 0 cM and 500 SNPs.									
Processing may take as much as 45	minutes. DO NOT refresh t	he screen or l	eave <mark>thi</mark> s page							
Progress is shown by a string of 40	0 asterisks ('*') on the lines l	pelow:								
****	****************************	*************	*******							
*****	*****	***********	*******							
****										
****	******	************	•							
Load			-11							
									1	
DNAGedcom ID Name	D	ate Last baded	Date Completed	Download Kit	Clear Kit	Delete Kit	Match Count	Chromo Count	ICW Count	
> DG25 Sue Griffith	4, 9:	/12/2015 07:59 PM	4/12/2015 9:08:03 PM	Download	Clear	Delete	1629	1869	2414	

13. In order to use the files generated by the Gedmatch downloader in JWorks or KWorks, download them from the list by clicking on the download link.

Lo	oad Clear								
	DNAGedcom ID	Name	Date Last Loaded	Date Completed	Dow and Kit	Clear Kit	Delete Kit	Match Count	Chromo Count
>	DG25	Sue Griffith	4/12/2015 9:07:59 PM	4/12/2015 9:08:03 PM	Download	Clear	Delete	1629	1869

14. Now that the Match Count and Chromo Count (from Step 7) and the ICW Count (from Step 0) are in the DNAGedcom system, ADSA can be run – and you can go back to ADSA whenever you like without having to run everything again from GEDmatch. (You will want to repeat the steps above from time to time to pick up new matches that have been added in GEDmatch, however.)

To open the ADSA screen, hover over the menu for Autosomal Tools and left-click on Autosomal DNA Segment Analyzer (Figure 18).





* DI	NA										Welcome XXXX	ox I	Log Out
A BEI	D C C M	Home	Information	DNA Kits	Family Tree DNA	23andMe	Autosomal Tools	GWorks (Gedcom)	Members	1			
							Autosomal DN	IA Segment Analyzer					
	ICUA SHARE	NOL:					JWorks - Auto KWorks - Auto	somal Grouping Tool (E isomal Grouping Tool (	Excel) Web)				
WELCOME TO This tool adds G	O THE TOO edMatch data	LS SECT to your sy	TION FOR <b>G</b> /stem so you ca	EDMATC	H. ols on the site. It cre	ates FTDNA s	style extracts, includi	ng Match list, Chromo	osome data a	nd ICW.			
1)Run a Tier 1 Ma	tching Segme	nt Search	list. Be sure to	exclude Grap	hic. When data is lo	aded, copy ai	nd paste the entire w	vindow to the box bel	ow and hit Lo	ad.			
2)Run a Tier 1 Tria	ngulation. Ch	oose Shov	w Results sorted	d by Kit_num	ber, chromsome, se	gment start p	osition. Stay with the	e default of 3000. Whe	en data is loa	ded, copy and	l paste the entire win	dow to	the box

16. The screen for creating the ADSA report is shown in Error! Not a valid bookmark self-reference.. If you have previously used the ADSA for FTDNA's data, this will be familiar to you, as both FTDNA-ADSA reports and GEDmatch-ADSA reports are created using the same tool. Select the kit number from the box at the bottom of the screen. IMPORTANT: If you already have one or more FTDNA kits in the system, you can differentiate the GEDmatch kits from FTDNA kits by the GEDmatch kits starting with an A, F, or M – in contrast, FTDNA kits will either start with a number or a different letter (e.g., B, H).

There are many options for creating an ADSA report, which are covered within the <u>ADSA Manual</u> (link also available on the ADSA screen at the red rectangle). Note there are special instructions for those with <u>Ashkenazi ancestry</u> (link also available on the ADSA screen, at the blue rectangle). If you are new to using the ADSA, try just changing the minimum segment length to 10 cM and run using all the defaults (leave all the other boxes blank) – you can try different options when you are more familiar with it. This is one step where you <u>don't</u> need patience, as the ADSA report is created really quickly.



#### Figure 19: Screen for Creating ADSA Report

can find it there.	PORTS GEDMATCH! You will need to use GEDM There is a <u>GEDMATCH Quick Start Guide</u> , availa	ATCH to gather the data and the ble. Detailed instructions for log	en load it into DNAgedcom's database so ADSA <mark>ading GEDMATCH data</mark> are also available.
ADSA only w	orks with GEDMATCH and the Family Finder tes	t from Family Tree DNA. It does	not work with 23andMe or AncestryDNA yet.
The Autosomal DN juxtaposed with a of multiple spreadshe segments and ICW page. The web pag locally or offline in <u>sample output</u> for <b>PLEASE READ TH</b> just want to get sta	A Segment Analyzer constructs tables that include customized, color-coded In-Common-With (ICW) m eets or on different web pages. Additional informati 's on other chromosomes is provided by hovering of pe produced by this program does not depend on a your browser. You can also email the saved report a single chromosome, but the default option is for <b>ADSA MANUAL</b> or step-by-step instructions for arted without a lot of reading, <u>you can follow the st</u>	match and segment information a natrix that will permit you to triang on, such as ancestral surnames, su over fields on the screen. You may iny other files and may be saved a as an attachment. If you want to c all chromosomes to be displayed. using the tool and a section on tr eps in the <u>Family Tree DNA Quick</u>	as well as a visual graph of overlapping segments, gulate matching segments without having to look in aggested relationship ranges, and matching also generate emails to persons you match from th is a stand-alone .html or .htm file that will function quickly see what this does, you can try out a workin oubleshooting problems you may encounter. If you start Guide or the GEDMATCH Quick Start Guide
There are also spec direct questions ar	cial instructions for people with <u>Ashkenazi ancestry</u> nd comments to Don Worth at <u>worth@ucla.edu</u> . You may select a report type in the dro	If you wish, you may still run the	older version of ADSA (Version 1) from files. Please
There are also spec direct questions ar	cial instructions for people with <u>Ashkenazi ancestry</u> nd comments to Don Worth at <u>worth@ucla.edu</u> . You may select a report type in the dro	If you wish, you may still run the o down menu below which will ch Classic ADSA	older version of ADSA (Version 1) from files. Please ange the input options.
There are also spec direct questions ar	cial instructions for people with <u>Ashkenazi ancestry</u> ad comments to Don Worth at <u>worth@ucla.edu</u> . You may select a report type in the drop Chromosome to Graph (1-22, X, or blank=all) Minimum Segment Length in cM (5 or greater S	If you wish, you may still run the o down menu below which will ch Classic ADSA Base Pairs: STRONGLY recommended)	older version of ADSA (Version 1) from files. Please ange the input options. to
There are also spec direct questions ar 10 500 500	cial instructions for people with <u>Ashkenazi ancestry</u> ad comments to Don Worth at <u>worth@ucla.edu</u> . You may select a report type in the drop Chromosome to Graph (1-22, X, or blank=all) Minimum Segment Length in cM (5 or greater S Minimum SNPs in a segment Width of segment graph in pixels	If you wish, you may still run the o down menu below which will ch Classic ADSA Base Pairs: Base Pairs: TRONGLY recommended) Display raw data in a table so (Do not check if you want t	older version of ADSA (Version 1) from files. Please ange the input options. to to full formatting)

17. Figure 20 shows the top part of the GEDmatch-ADSA Report, which was run to show all chromosomes. The arrow indicates that this report is from a GEDmatch Kit. The rectangle indicates the minimum segment length (in cM) that was selected in Step 16. GEDmatch kit number is shown in the left-hand column (see oval).

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#### Figure 20: GEDmatch-ADSA Report

Sue CLA GED Page Data	Sue Griffith CLASSIC REPORT GEDMATCH KII # A22 Page created on: Mon, 13 Apr 2015 02:45:56 -0700 Data last updated: Mon, 13 Apr 2015 05:32:20 -0700				Chromo Minimur Minimur Width o	some to Graph (1-22, X, o n Segment Length in cM n SNPs in a segment f segment graph in pixels	r blan (5 or ) A22	k=all) greater S	Base STRONGL Disp (De ue Griffith	e Pairs Y recc lay ray p not i	: mmenc v data ii check if	ed) i a table you wan	so it cant full fo	to n be copied t rmatting) UN REPORT	o a si	preadsheet		
CHRON 46 mate Longes	IOSOME 1 hing segments it is 66.30 cM, Graph = 494 I	KBP/pixel																
E25	*DP	5TART	2012222	CM	SNPS EN	/AIL @gmail.com			TTTTT	m	111	cw	TTT			10.20		SEGMENTS
F30	Pohort	72017	2012051	10.30	723	@gmail.com @hotmail.com									-	10.30		
F30	*Suo's Mat Aunt	72017	27672760	66.20	0721	@riotmail.com										10.30	66.20	
F24	G	742584	201 2222	10.20	742	@shcalohal.n		1								10.20	00.30	
124	*c	14654067	19021505	10.00	1000	@uphoo.com										10.30	5	
F22	Packy	14654067	10001505	10.40	1200	@yahoo.com	₩									10.40	2	
A12	Doppy	15035343	10017099	10.40	1200	eyanoo.com					++++					10.40	0	
A15	the maine	15023542	10722242	10.00	1204	@ amail ag m					++++	+++++				10.00		
F24	Containe	103550074	19722245	15.00	1524	@gmail.com										10.00	U 15 00	
F31	"Sue's Pat. Uncle	18501900	50105995	15.80	3070	@gmail.com	₩										15.80	
F31	Sue's Pat. Uncle	30579741	59124034	32.50	0033	@gmail.com						•					32.50	
A02	David	39933600	55604619	13.10	3305	@gmail.com											13.10	
M13	David	39933600	55605939	13.10	1376	@gmail.com											13.10	
F35	*EM	39972441	59124034	19.00	4366	@gmail.com	Ш	Ш					Ш		Ш		19.00	
F35	*SM	39972441	59124034	19.00	4370	@gmail.com	111										19.00	
A74	Bing the second	65357158	81382888	13.40	3592	@sbcglobal											13.40	
M12	*A	68146345	81413918	10.20	2843		m										10.20	

The GEDmatch-ADSA report is very similar to the FTDNA-ADSA report. For more information about how to use the report, identify triangulated groups, interpret your results, as well as troubleshooting, read the full <u>ADSA Manual</u>.

There are a few differences in the GEDmatch-ADSA report:

- There are a lot more segments, so setting the minimum segment length to 10 cM (as suggested in Step 16) is recommended
- The ICWs are only available for the top 400 matches (which is a limitation of GEDmatch's Triangulation tool)
- Segments from close relatives aren't shown (which is a limitation of GEDmatch's Matching Segment tool)
- The GEDmatch-ADSA doesn't include the X chromosome
- Certain fields in the pop-out windows on the FTDNA-ADSA report (on hovering over the Match Name and Segment blocks) aren't available on the GEDmatch-ADSA report: Match Date (which shows as "12/31/1969" for everyone), Relationship /Relationship Range/Known Relationship, Total Shared and Longest Block (which show up as 0 cM), Notes, and Haplogroups

For those who may wish to use the Gedmatch downloader with JWork/KWorks, please see the documentation here: <u>https://www.dnagedcom.com/docs/GEDmatch\_Downloader\_2015-07.pdf</u>



# Quick Guide for Creating a GEDmatch-ADSA Record



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