Instructions for locating the latitude and longitude of a coal mine or coal preparation plant and determining the datum for the location.

A datum is a set of reference latitude and longitude positions of high accuracy placed on a model of the earth as a spheroid. The request for the datum requires you to identify the datum and enter its name. Example responses include:

    NAD27 (North American Datum 1927)
    NAD83 (North American Datum 1983)
    WGS84 (World Geodetic Survey 1984)

If you use options 3 or 4 (listed below) you are required to determine and enter a datum. Options 1 and 2 have known datums.

Generally, NAD83 and WGS84 are datums used on maps prepared after 1985 and on points collected with a GPS (Global Positioning System) receiver. NAD27 often is the datum on maps prepared prior to 1985. Every latitude and longitude position has an associated datum.

Below, you will find descriptions of procedures for locating the latitude and longitude position of a coal mine or coal preparation plant and determining the datum for the location. The web-based procedures (options 1 and 2) take about 10 minutes to apply and require that you have access to the internet.

Determine which of the following options best suits your situation and then click on the hyperlinked text to go to that option:

Option 1 -- Use this option if the preprinted EIA-7A shows a latitude and longitude that you previously reported. Or use option 1 when no latitude and longitude are shown, but you have a good idea of what the latitude and longitude are. Even though you may already have a latitude and longitude location it is still necessary to check that location by following the Option 1 steps. Option 1 pairs the location with a datum as required by Federal geospatial data reporting requirements.

**You would choose among options 2 through 4, when the preprinted EIA-7A does not show a latitude and longitude that you previously reported and when you do not have a good idea of what the latitude and longitude are.**

Option 2 – Use this option if the preprinted EIA-7A **does not** show a previously-reported latitude and longitude but you know the zipcode for the location of your mine.

Option 3 – Use this option if you have a Global Positioning System (GPS) receiver and you are able to use it to obtain a location for your mine or coal preparation plant.

Option 4 – Use this option if you have or can obtain a U.S. Geological Survey quadrangle map and locate your mine on that map

**Option 1.  Use this option if the preprinted EIA-7A shows a latitude and longitude that you previously reported.**

Also, use this option if the preprinted EIA-7A does not show a latitude and longitude but you have a good idea of what the latitude and longitude are.

Logon to www.mapsonus.com.  When the site window opens
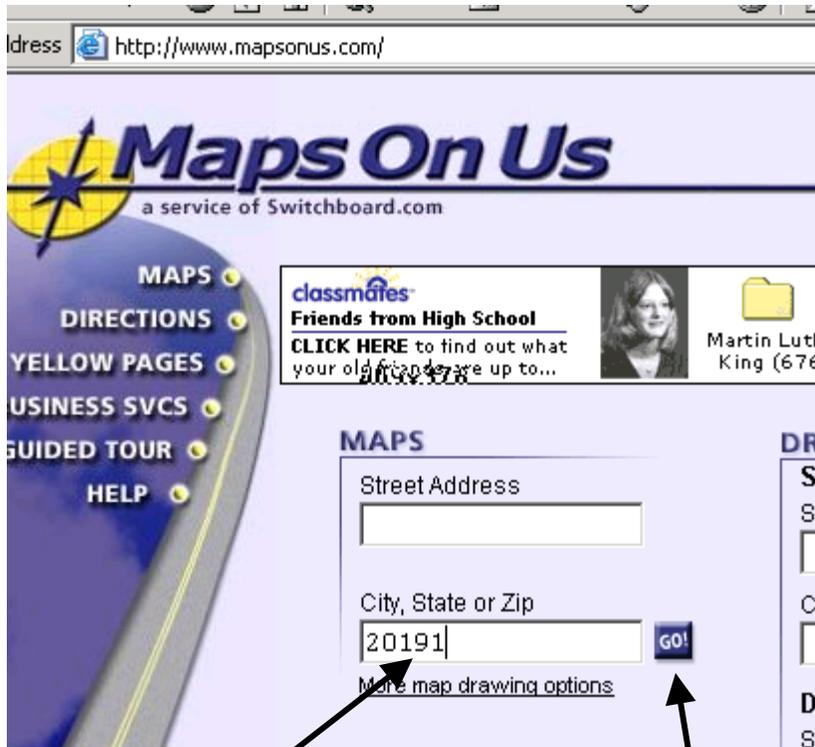


Enter any zipcode to get to next screen.  Then click:  GO

In the next window, click on General Options

**Maps On Us**

**MAPS**
Draw New Map
Current Map
Map Settings
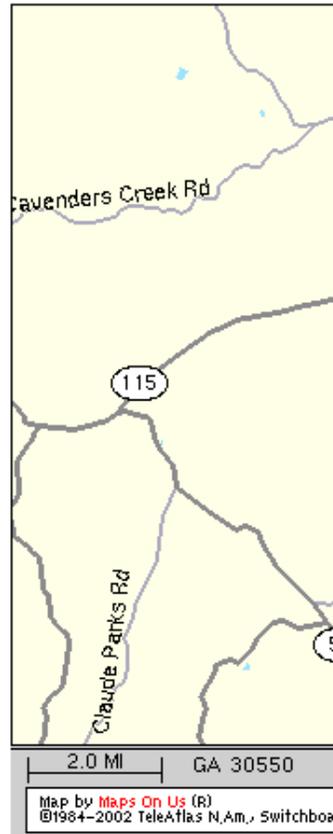Mail Map

**ROUTES**
Plan A Route

**YELLOW PAGES**
Name Search
Category Search

**ADDRESS BOOK**
My Addresses

**TOOLS**
Register
General Options

**SWITCHBOARD SERVICES**
Find a Person
Find Email

HELP   FAQ
CONTACT US

**Student Loan Consolidat**
started student loan repaym
Student Consolidation Loan.
lower your interest rate to 2.

avenders Creek Rd

115

Claude Parks Rd

5

2.0 MI    GA 30550

Map by Maps On Us (R)
©1984-2002 TeleAtlas N.Am., Switchboar

**Scale (mi/in):** 2.0

In the next window, toggle on **Show Latitude & Longitude.**

Then click on:  **Set General Options**

**Maps On Us®**

**MAPS**
Draw New Map
Current Map

**ROUTES**
Plan A Route

**YELLOW PAGES**
Name Search
Category Search

**ADDRESS BOOK**
My Addresses

**TOOLS**
Register
General Options
Map Settings

**SWITCHBOARD SERVICES**
Find a Person
Find Email

HELP   FAQ
CONTACT US

classmates

SET GENERAL OPTIONS

**Verbosity Level:** Verbose ▾
This controls the amount of explanatory text on various
information you're looking for. We suggest that you sta
**Distance Units:** miles ▾
**Default State:** AL
**Show Latitude & Longitude:** ☑
This option displays longitude & latitude information at
Futhermore, this adds a ``Draw Map Of Lat/Long'' box t
**For unique URLs**, check this box: ☐
We assume that your browser always refreshes ``post-r
by inserting a sequence number into each URL, so each

**Your Maps On Us usage:**
3 Maps   2 Addresses
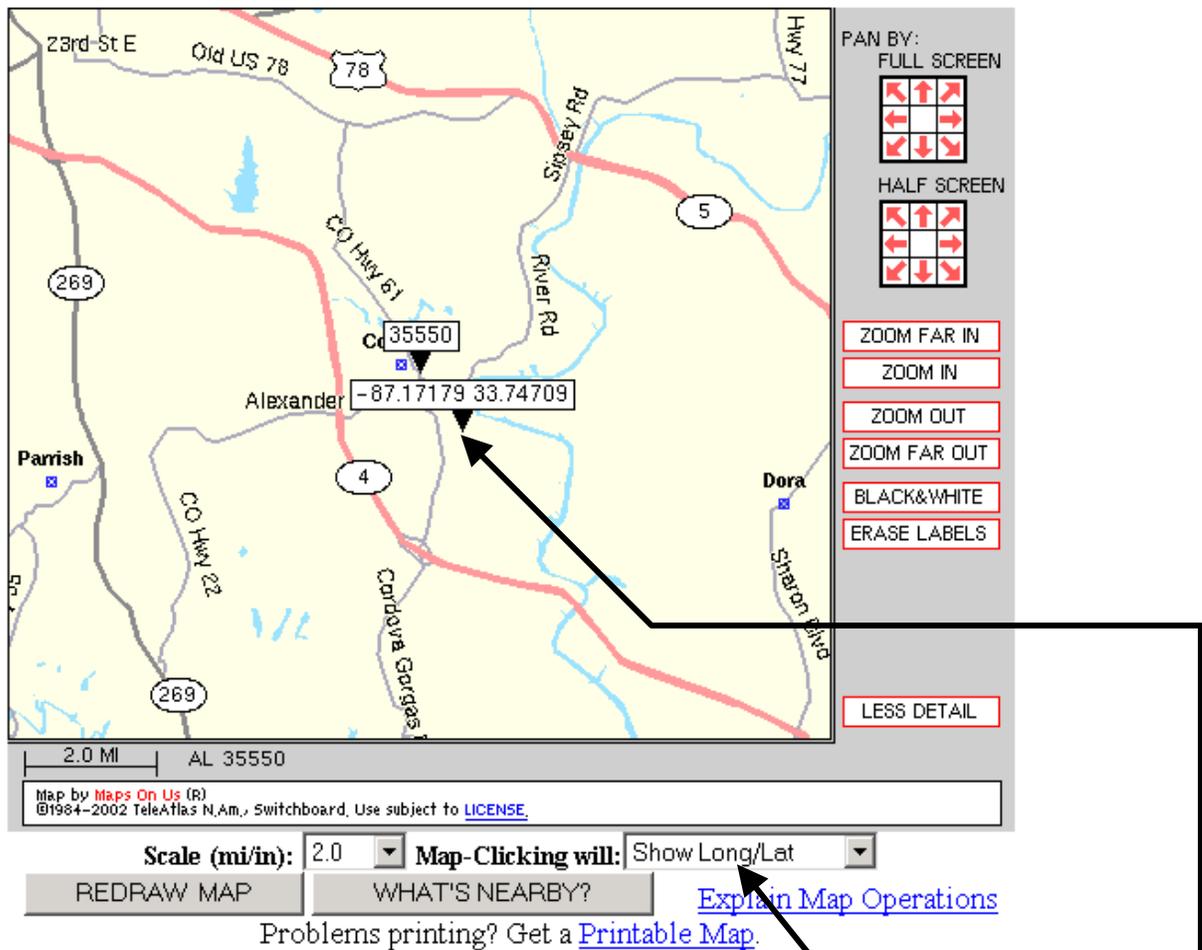
In window that opens, click:  **Draw New Map**



**MAPS**
Draw New Map
Current Map
Map Settings
Mail Map

**ROUTES**
Plan A Route

**YELLOW PAGES**
Name Search
Category Search

**ADDRESS BOOK**
My Addresses

**TOOLS**
Register
General Options

**SWITCHBOARD SERVICES**
Find a Person
Find Email

HELP    FAQ
CONTACT US

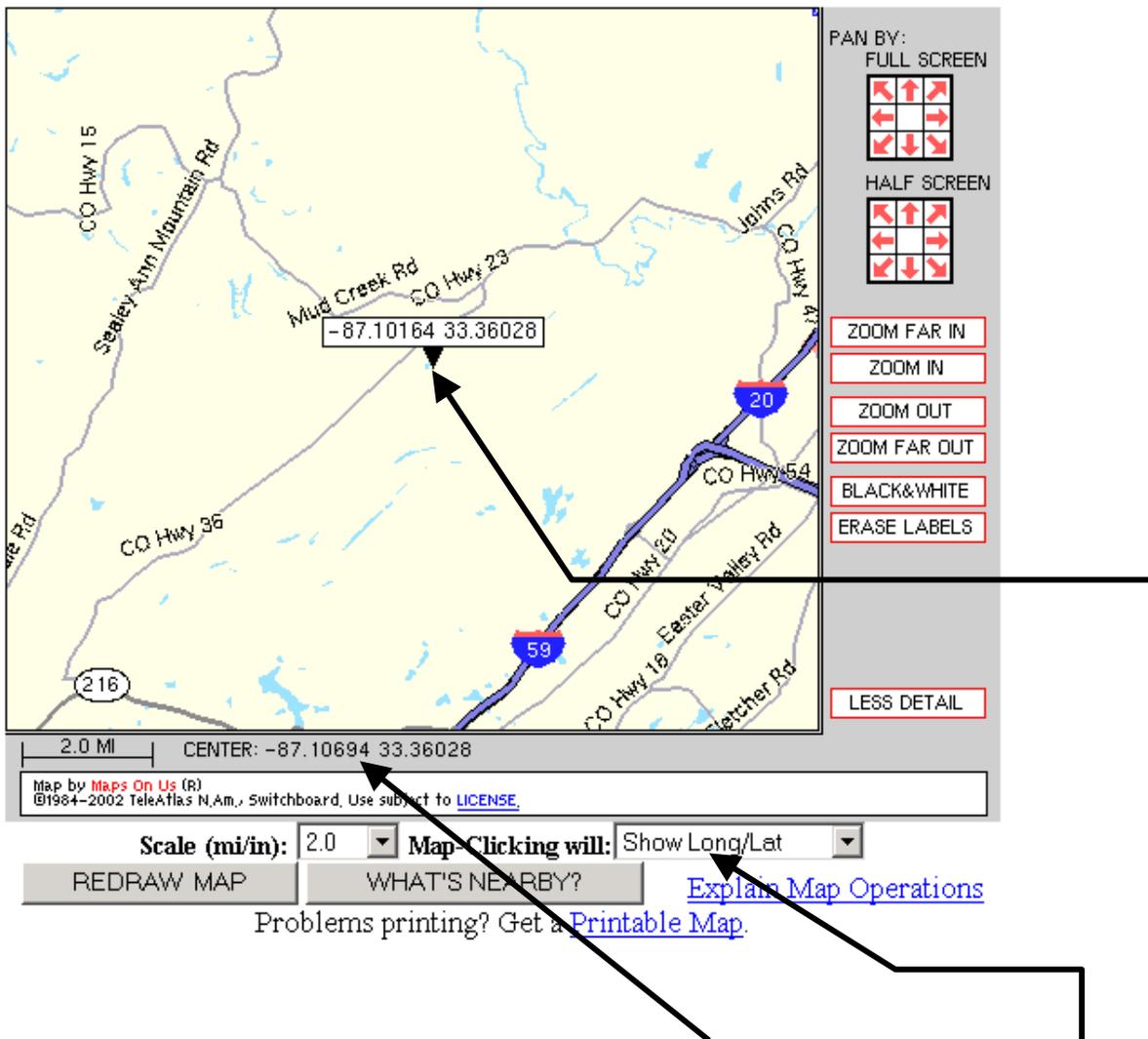2.0 MI    CENTER: −77.35256 38.93714

Map by Maps On Us (R)
©1984−2002 TeleAtlas N.Am., Switchboard. Use subject to LICENSE.

Scale (mi/in): 2.0    Map-Clicking will: Zoo
REDRAW MAP    WHAT'S NEARBY?

**To make changes in the new window, follow these steps:**

1. From your preprinted EIA-7A form or other information, you have a preliminary reading on the latitude and longitude for your mine. We are using that location to make any necessary adjustments in the mine location.

2. Convert latitude & longitude (degrees, minutes, seconds) to decimal degrees:

   Example:   33 degrees                                  33.

                  21 minutes          $21/60 =$       0.35

                  37 seconds          $37/3600 =$     0.010278

   Add to obtain latitude in decimal degrees:          33.360278

   Example:   87                                        **-87.**

                  06 minutes          $06/60 =$       - 0.10

                  25 seconds          $25/3600 =$     - 0.006944

   Add to obtain longitude in decimal degrees:       **-87.106944**

   **Note that longitude in the U.S. is a <u>negative #</u>. Make sure you make longitude negative.**

3. Enter decimal **negative** longitude and latitude into the boxes on the screen.

4. Click: Draw Map

In this window, notice that the map is centered on the longitude and latitude that you entered in the previous window.

To find or adjust the longitude and latitude for your mine, follow these steps:

Step 1: Toggle the Map-Clicking window to: **Show Long/Lat**

Step 2: Use the roads and road labels to visually orient yourself to the mine location.

Step 3: Visually pick the point that represents the best current location of your mine.

Step 4: Click that point to place a label that reports the longitude and latitude

Step 5:  Use Zoom In and Half Screen pan buttons to uncover more roads and road names.

Step 6:  If you decide your selection is not a good choice, then click at new point.

Step 7:  Convert the decimal longitude and latitude to degrees, minutes, and seconds

Example:       -87.10260                        Retain          87 degrees
               0.10260 x 60 = 6.156            Retain            6 minutes
               0.156 x 60 = 9.36              Retain            9 seconds

Example:       33.36194                         Retain          33 degrees
               0.36194 x 60 = 21.7164         Retain          21 minutes
               0.7164 x 60 = 42.984           Retain          43 seconds


Step 8:  If latitude and longitude are different than on the preprinted EIA-7A, then mark through the existing numbers and enter latitude and longitude in degrees, minutes, and seconds.

Step 9:  Check the box at **J (a) i** on the EIA-7A form.  The datum for the point is the datum used by mapsonus, namely:

                    NAD27 for locations in the continental U.S.
                    NAD83 for locations in Alaska
                    1950 ellipsoid for Hawaii

EIA uses the list above and the location of your mine to determine and record the datum.


Click here to return to the top of the screen

**Option 2.  Use this option if the preprinted EIA-7A does not show a previously-report latitude and longitude but you know the zipcode where your mine is located.**

Logon to www.mapsonus.com.  When the site window opens



Enter the zipcode where your mine is located.  Then click:  GO

In the next window, click on General Options

**Maps On Us ®**

**MAPS**
Draw New Map
Current Map
Map Settings
Mail Map

**ROUTES**
Plan A Route

**YELLOW PAGES**
Name Search
Category Search
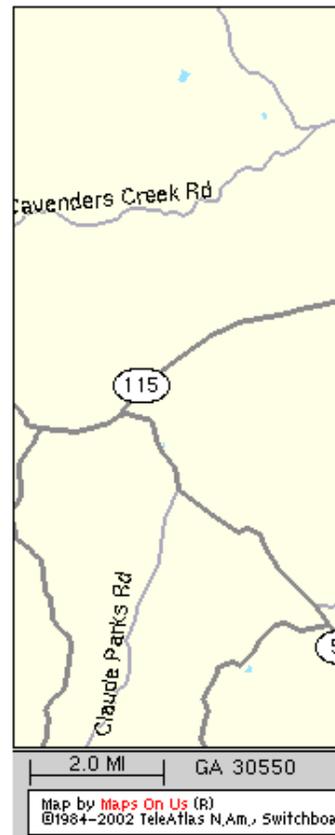
**ADDRESS BOOK**
My Addresses

**TOOLS**
Register
General Options

**SWITCHBOARD
SERVICES**
Find a Person
Find Email

HELP   FAQ
CONTACT US

**Student Loan Consolida**
started student loan repaym
Student Consolidation Loan.
lower your interest rate to 2.

Cavenders Creek Rd

(115)

Claude Parks Rd

5

2.0 MI       GA 30550

Map by Maps On Us (R)
@1984-2002 TeleAtlas N.Am., Switchboar

**Scale (mi/in):** 2.0

In the next window, toggle on **Show Latitude & Longitude.**

Then click on:  **Set General Options**

To find or adjust the longitude and latitude for your mine, follow these steps:

Step 1:  Toggle the Map-Clicking window to:  **Show Long/Lat**

Step 2:  Use the roads and road labels to visually orient yourself to the mine location.

Step 3:  Visually pick the point that represents the best current location of your mine.

Step 4:  Click that point to place a label that reports the longitude and latitude

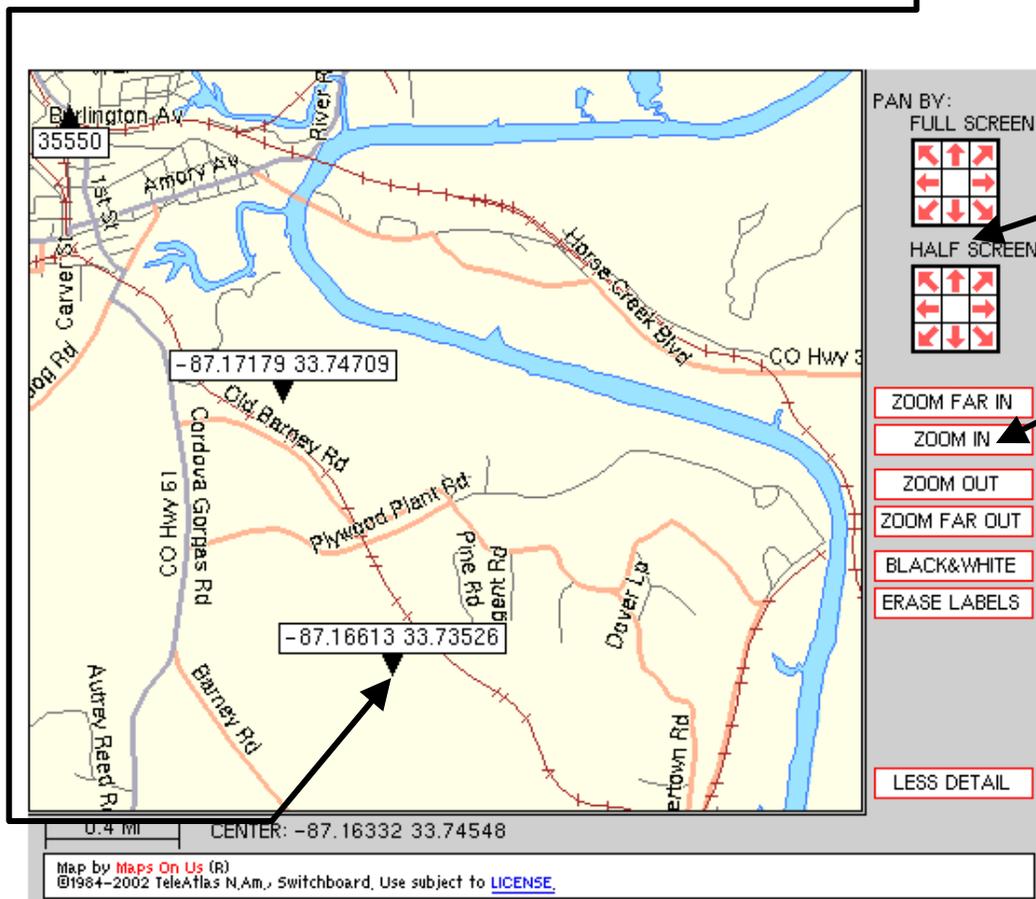Step 5:  Use Zoom In and Half Screen pan buttons to uncover more roads and road names.

Step 6:  If you decide your selection is not a good choice, then click at new point.

Step 7:  Convert the decimal longitude and latitude to degrees, minutes, and seconds

Example:       -87.10260                        Retain          87 degrees
               0.10260 x 60 = 6.156             Retain            6 minutes
               0.156 x 60 = 9.36               Retain            9 seconds

Example:       33.36194                         Retain          33 degrees
               0.36194 x 60 = 21.7164           Retain          21 minutes
               0.7164 x 60 = 42.984             Retain          43 seconds


Step 8:  If latitude and longitude are different than on the preprinted EIA-7A, then mark through the existing numbers and enter latitude and longitude in degrees, minutes, and seconds.

Step 9:  Check the box at **J (a) i** on the EIA-7A form.  The datum for the point is the datum used by mapsonus, namely:

                    NAD27 for locations in the continental U.S.
                    NAD83 for locations in Alaska
                    1950 ellipsoid for Hawaii

EIA uses the list above and the location of your mine to determine and record the datum.


Click here to return to the top of the screen

**Option 3.  Use a Global Positioning System (GPS) receiver to obtain the location of the coal mine or coal preparation plant.**

Position a GPS at a location for the coal mine or coal preparation plant and click the GPS receiver to obtain the location.  Wait two minutes.   Obtain a second position.  Wait two minutes. Obtain a third position.  If the readings are in degrees, minutes, and seconds, then convert the readings to decimal degrees.  Compute the average of the 3 locations.  The locational accuracy will be approximately 4 to 7 meters.  If the locations are differentially corrected and then averaged, the location will be accurate to approximately 1 to 2 meters.

If necessary, convert the decimal longitude and latitude to degrees, minutes, and seconds

| Example: | -87.10260 | Retain | 87 degrees |
|---|---|---|---|
| | 0.10260 x 60 = 6.156 | Retain | 6 minutes |
| | 0.156 x 60 = 9.36 | Retain | 9 seconds |
| | | | |
| Example: | 33.36194 | Retain | 33 degrees |
| | 0.36194 x 60 = 21.7164 | Retain | 21 minutes |
| | 0.7164 x 60 = 42.984 | Retain | 43 seconds |

On the EIA-7A form in section **J**, enter the latitude and longitude in degrees, minutes, and seconds.

Every GPS receiver uses a datum to determine location.  Many GPS receivers use the WGS84 datum**.  Consult the Users Manual for the GPS receiver to determine the datum.**

On the EIA-7A form, select the datum by checking the appropriate box at **J (b)** or by entering the datum name at **J (b) iv**.

Click here to return to the top of the screen

**Option 4.  Determine the datum by locating your mine or preparation plant on a U.S. Geological Survey (USGS) quadrangle map.**

Obtain a USGS 7.5 minute topographic map of the quadrangle where the coal mine or coal preparation plant is located.  The quadrangle sheet can be identified by going to www.usgs.gov and clicking on MapFinder (on lower right side of screen).  In the screen that opens, click on "Enter a Zip Code."  In the next screen type the Zip Code in the query box and click Search.  In the next screen, select a placename, and click:  Submit Search.  In the next screen you will see a map that contains the area for the Zip Code. The index grid that is superimposed on the map identifies the quadrangle maps for the Zip Code area.  You are then required to make an approximate determination of where the coal mine or coal preparation plant is located.  By clicking at that location on the index map you are taken to a map order screen where you can place an order to purchase the quadrangle map.  Alternately, you can scroll down the screen and check the quadrangle maps you want to order.  The estimated delivery time is 1 to 3 weeks.

Visually place a mark on the map to locate the coal mine or coal preparation plant. Topographic features such as roads, elevation, rivers, water bodies, and public buildings can be used to guide the marking of the location of the coal mine or coal preparation plant on the quadrangle map.  Use a ruler to drop perpendicular projections to the vertical and horizontal edges of the quadrangle map.  Read the latitude position from the degree, minute, and second scale on the vertical axis.  Read the longitude position from the degree, minute, and second scale on the horizontal axis.  You will have to interpolate between the corners to obtain the location for the coal mine or coal preparation plant location.  Record the location in units of degrees, minutes, and seconds.

On the quadrangle map sheet in the lower left corner, the USGS records the datum for the map.  This is the datum for the coal mine or coal preparation plant location when the map is used to obtain its location, as outlined herein.

On the EIA-7A form in section **J**, enter the latitude and longitude in degrees, minutes, and seconds.

On the EIA-7A form, select the datum by checking the appropriate box at **J (b)** or by entering the datum name at **J (b) iv**.

Click here to return to the top of the screen