U.S. Department of the Interior
Bureau of Land Management

Mapping a Claim

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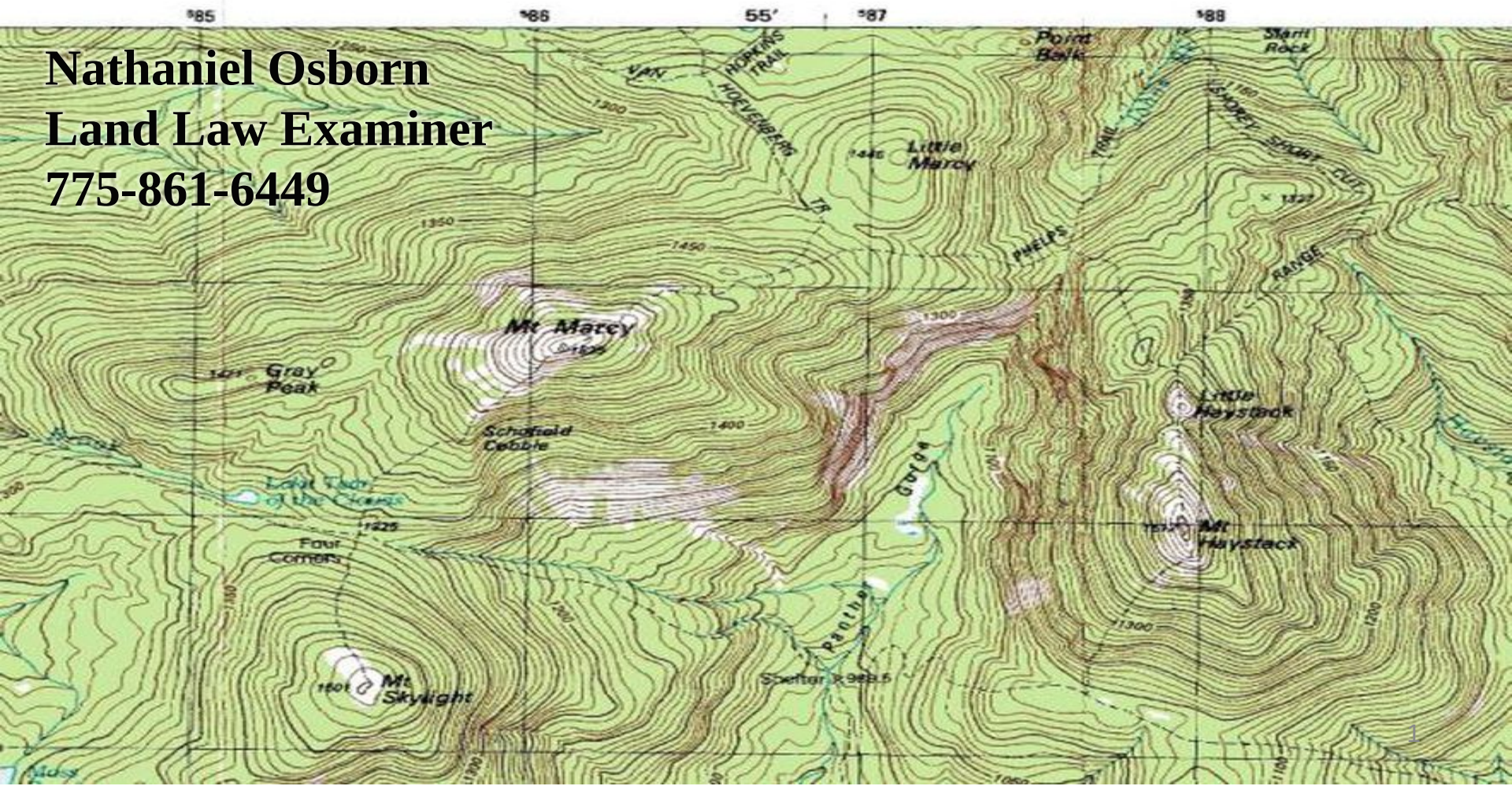


Questions

- Before I begin, let me say that if you need some clarification about the topic at hand, please ask and I will try to clarify.
- Also, I'm sure we will have time at the end of this presentation for a question and answer session. So if you want to, you can write down your questions and we will do our best to answer them.

Where do we begin?

- To start, let's say you're out wandering around the back country in Nevada when, you kick over a rock and you make a discovery.

Monument

- Next, you erect a discovery monument.
- This is where you made your discovery and it is where you want to establish a mining claim.

You need to document where your mining claim is.

Map it…

- How are you going to map the location of your claim?

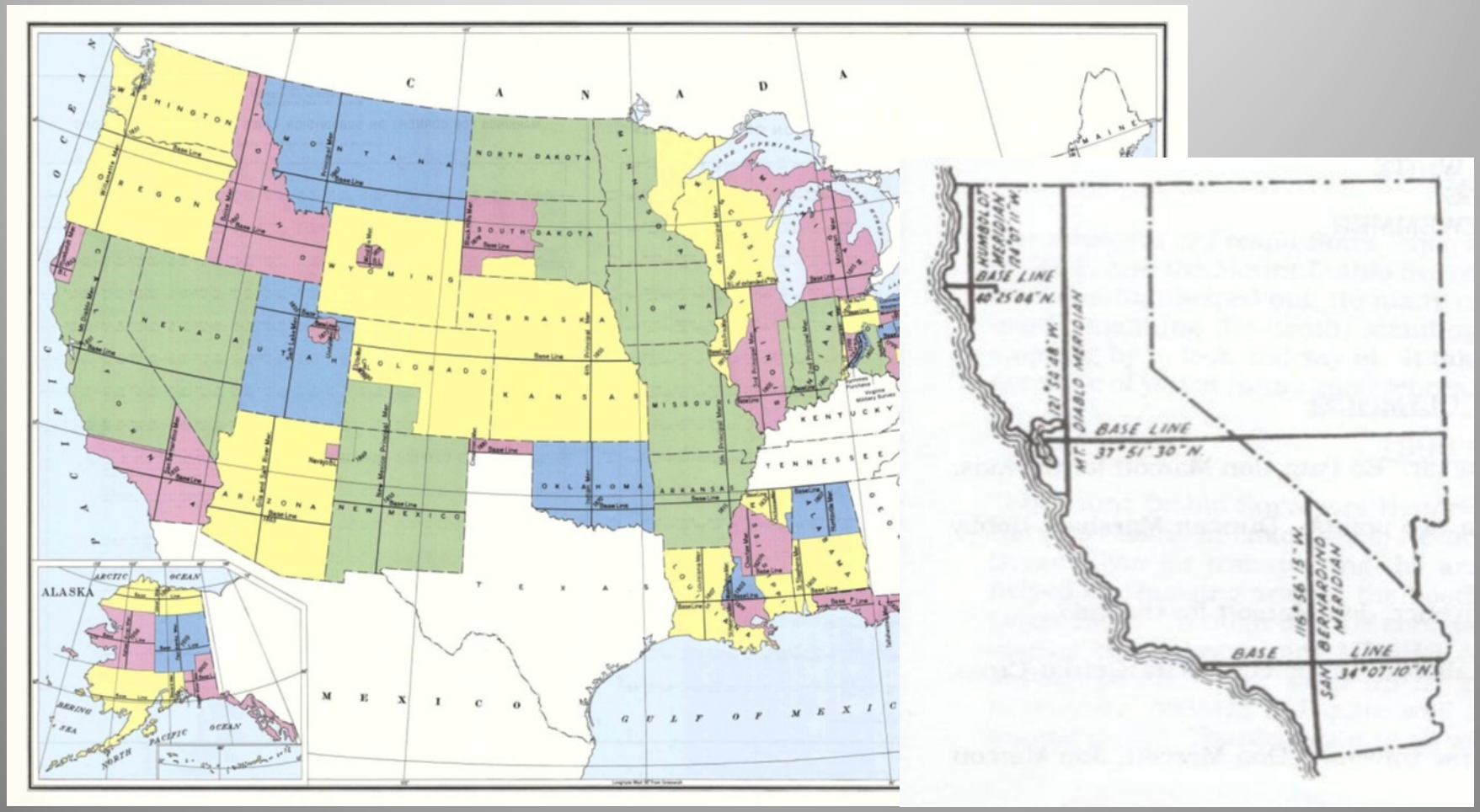
PLSS

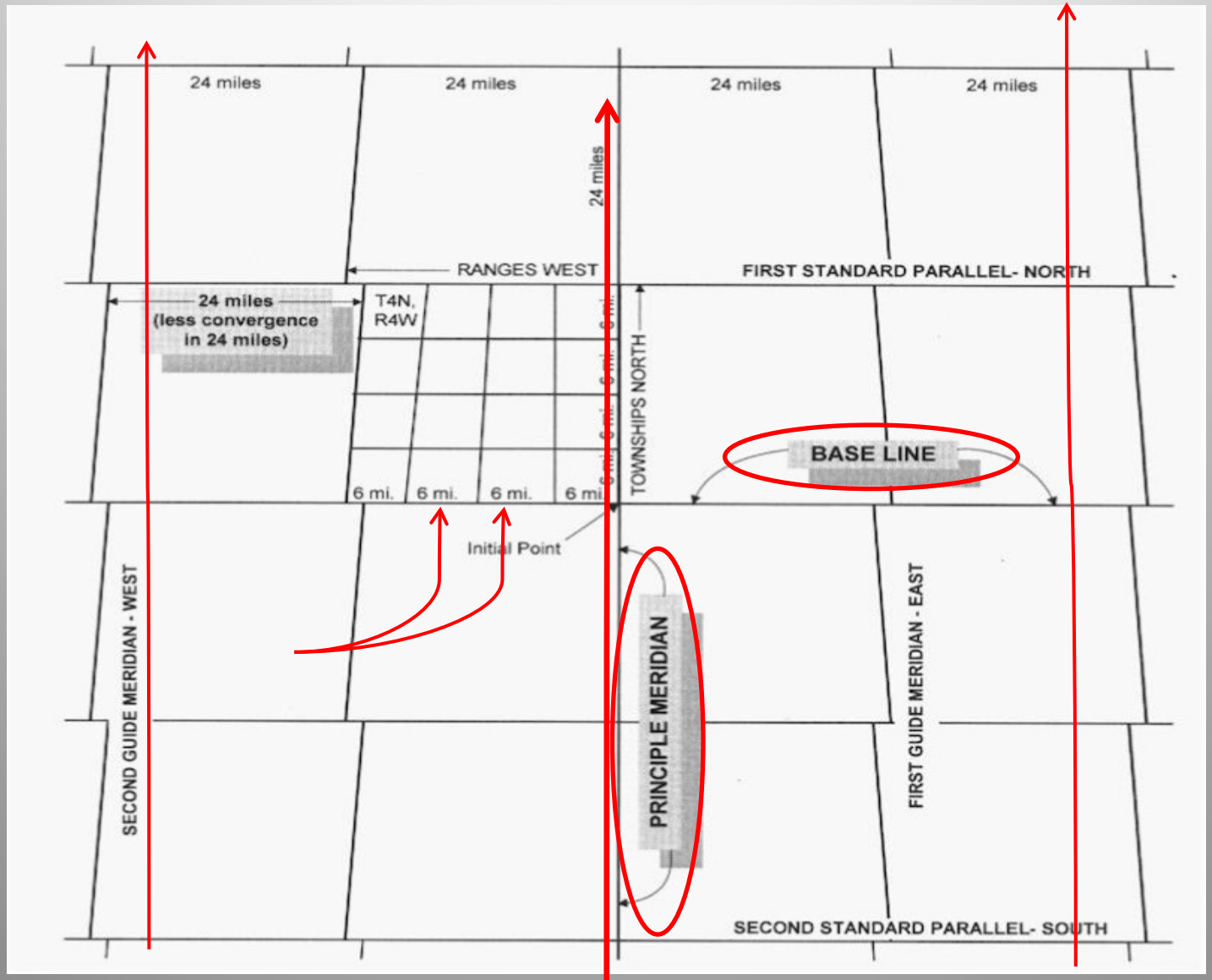
Before you can map your claim:

❖You will need a working knowledge of the:

- ✓ Public Land Survey System,
- ✓ The different types of surveys,
- ✓ How to subdivide the survey,
- ✓ How to find survey markers.

The Public Land Survey System as it Exists Today




24 miles
24 miles
24 miles
24 miles
24 miles
RANGES WEST
FIRST STANDARD PARALLEL- NORTH
24 miles
(less convergence
in 24 miles)
T4N,
R4W
TOWNSHIPS NORTH
BASE LINE
6 mi.
6 mi.
6 mi.
6 mi.
Initial Point
SECOND GUIDE MERIDIAN - WEST
PRINCIPLE MERIDIAN
FIRST GUIDE MERIDIAN - EAST
SECOND STANDARD PARALLEL- SOUTH

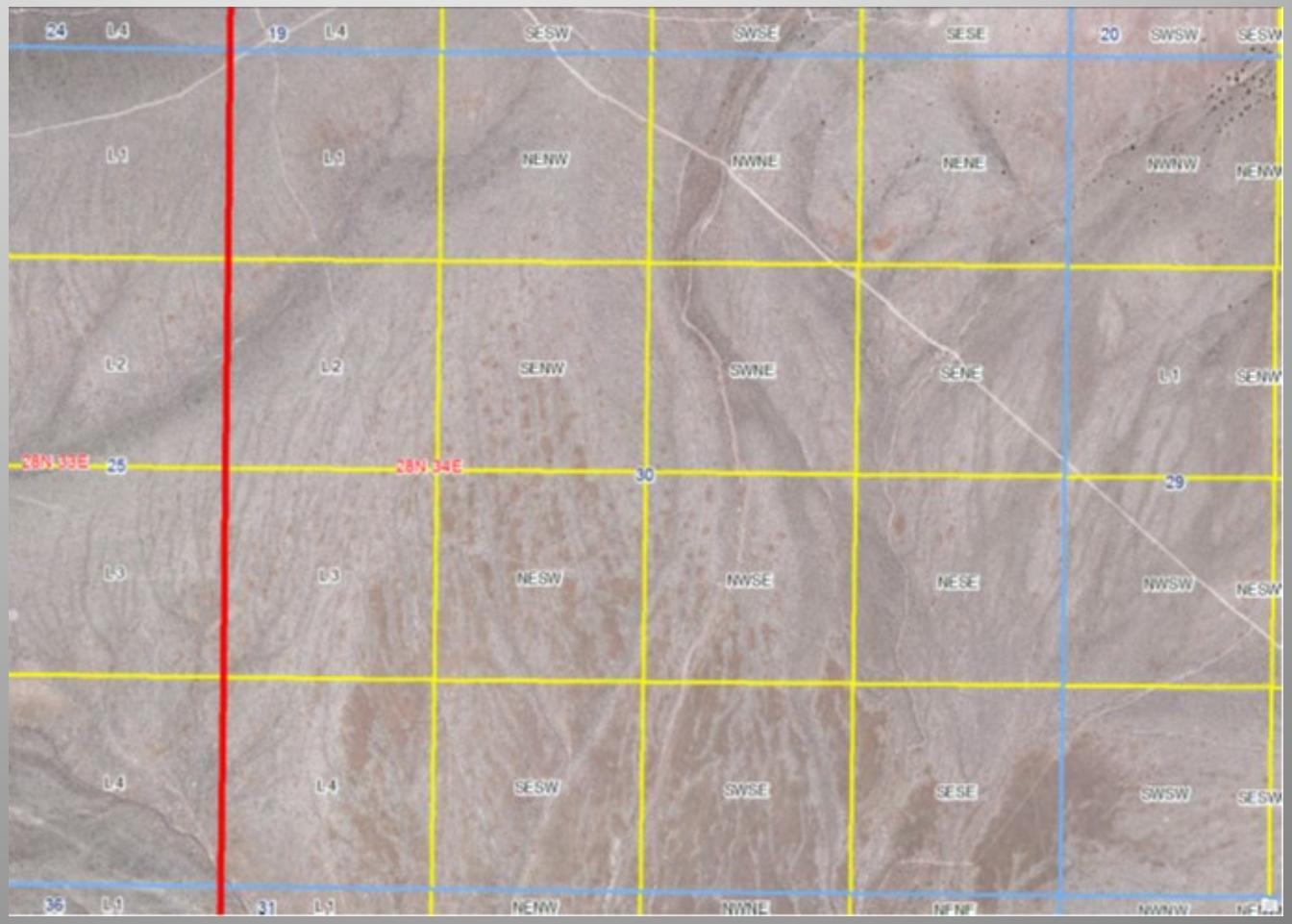
The problem is…

- It all looks the same and you have no real point of reference. This is what you have to work with, and…..

This is what you want to work with.

This is the Public Land Survey System (PLSS).

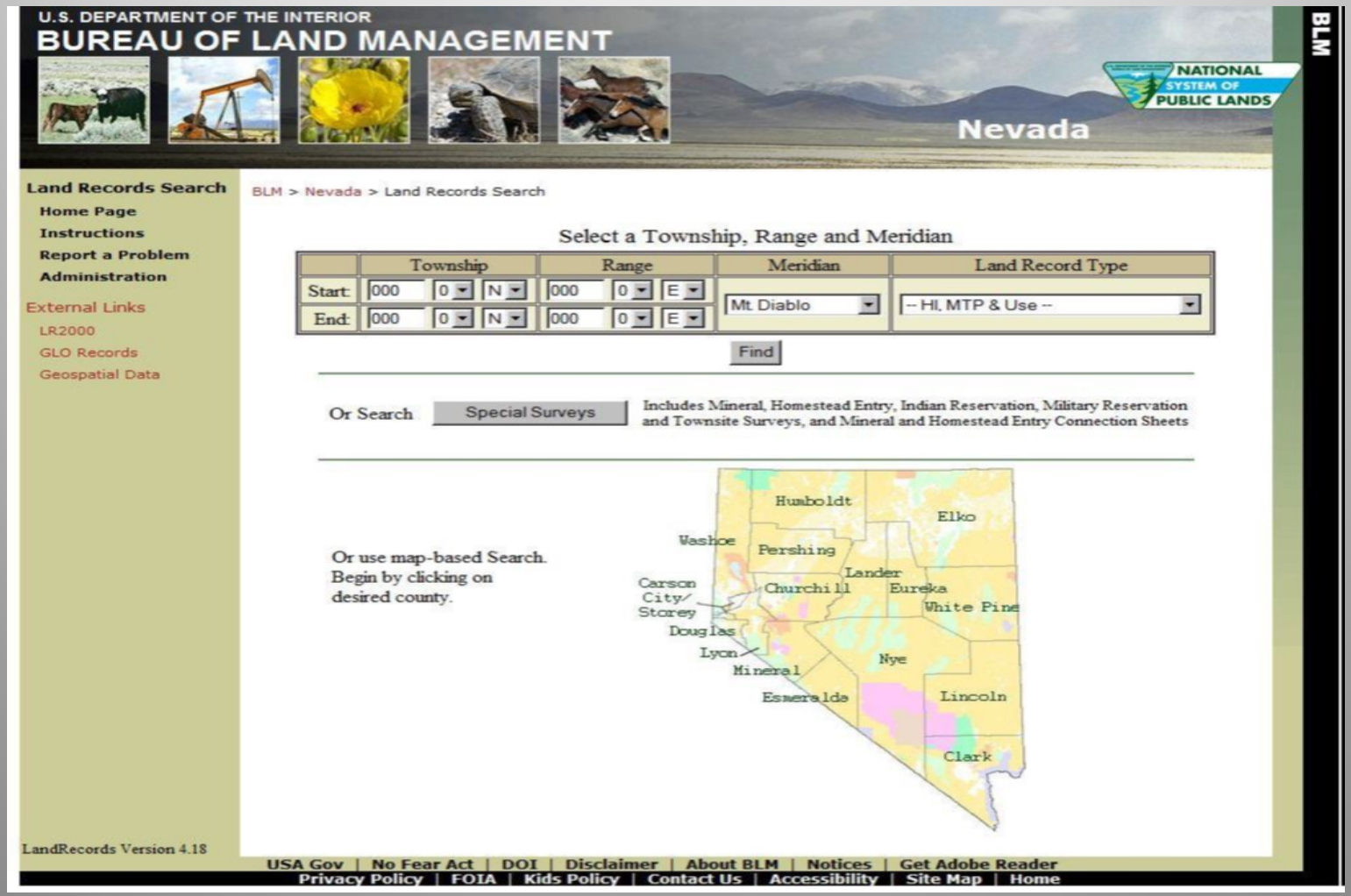
Now, if you could just find where those lines cross…



Types of surveys

- Original Survey
- Plat of a Surveyed Township
- Plat of a Partially Surveyed Township (with a protraction diagram)
- Mineral Survey
- Plat of a Unsurveyed Township (with a protraction diagram)
- Protraction Diagram (or Protracted Survey)
- Protraction Blocks (PB)
- Suspended Survey

http://www.nv.blm.gov/LandRecords/



Original Surveys

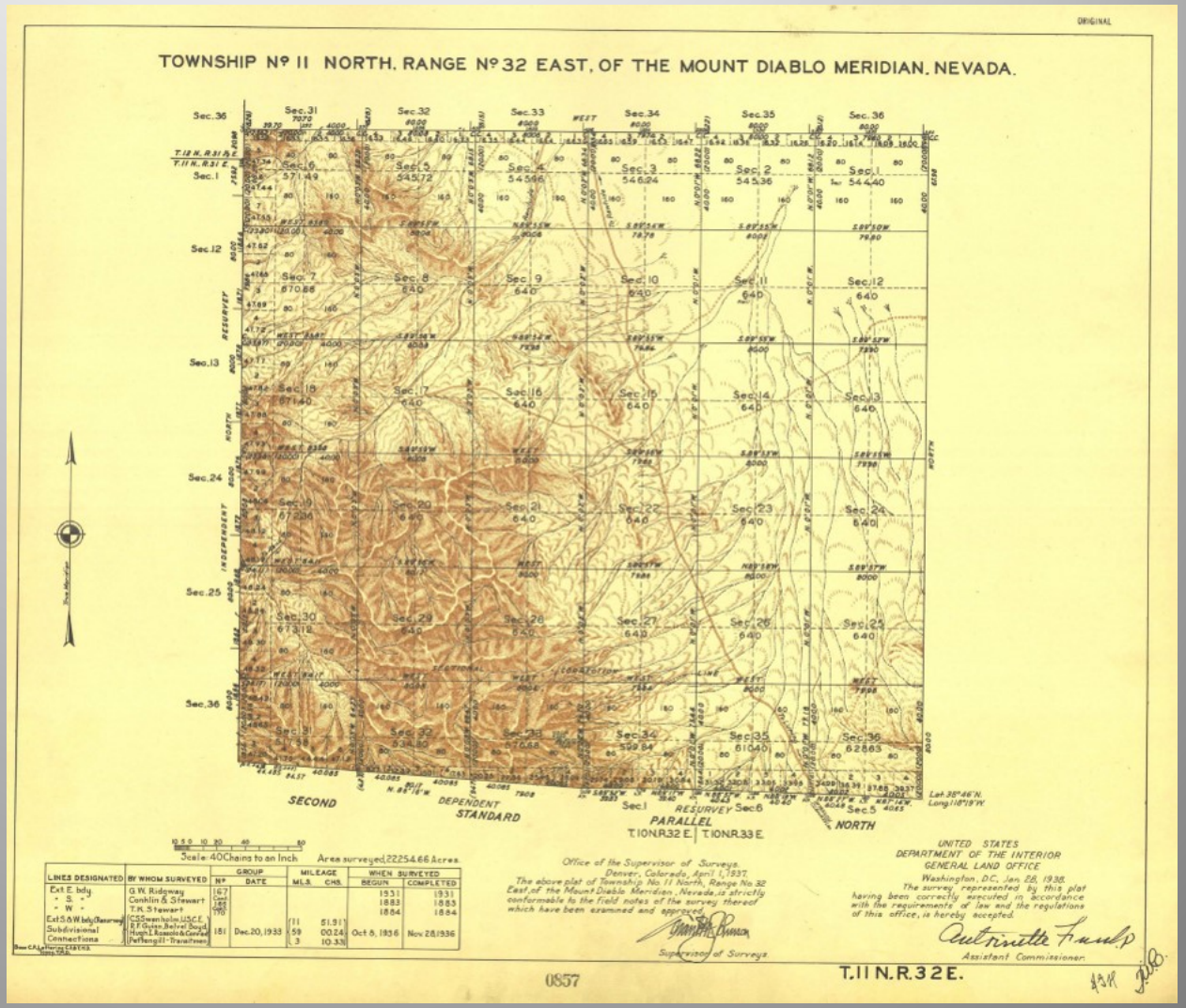
40% of Nevada townships were originally surveyed under the contract system prior to 1910.

- Primarily stone and wood post monumentation.

- The accuracy of the surveys and the quality of the monumentation is highly erratic.

- Surveys were not always faithfully executed.

- Resurveys of pre 1910 surveys often yield unexpected results.



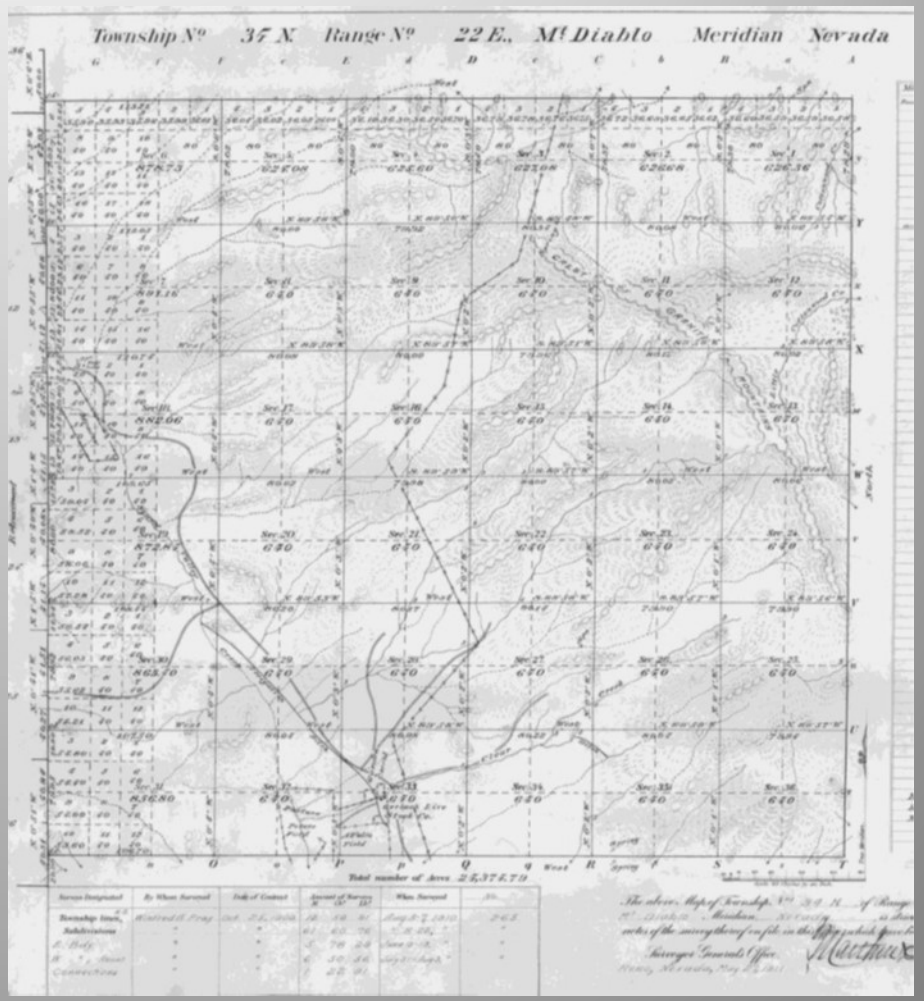
Original Surveys

The Interior Department appropriation Act of 1911 (June 25, 1910, 36 Stat. 703, 740) initiated the "direct system" of public land surveying.

-Primarily iron post and stainless steel monumentation.

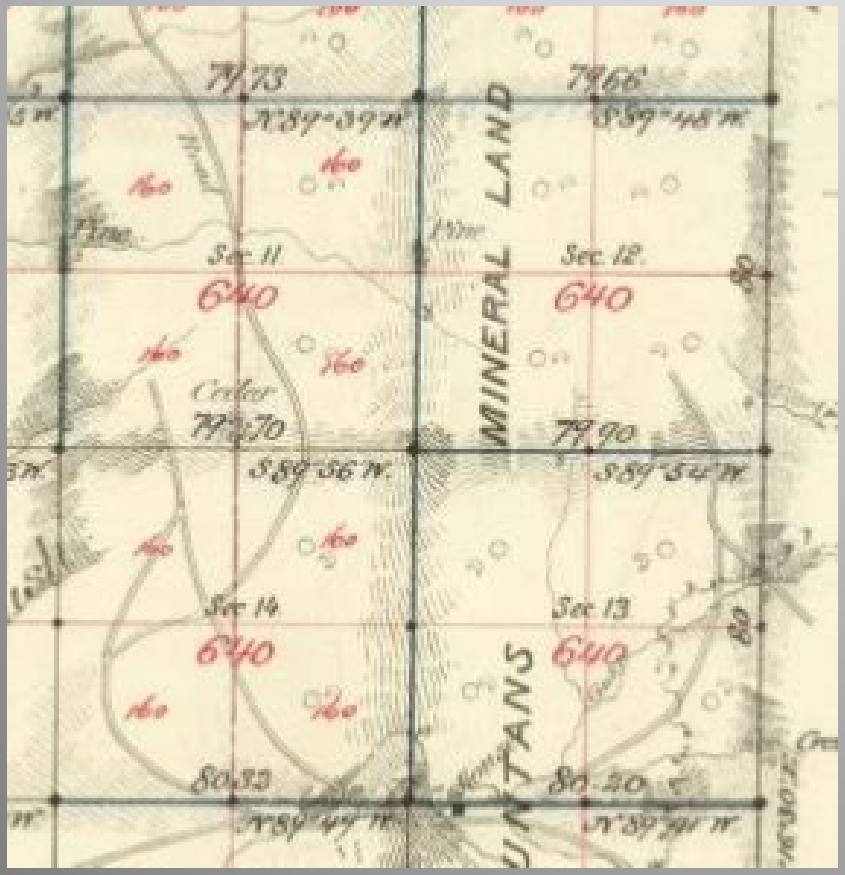
-Surveys are typically accurate and consistent.

-Processes established under the direct system eliminated incentives that encouraged fraud and corruption.

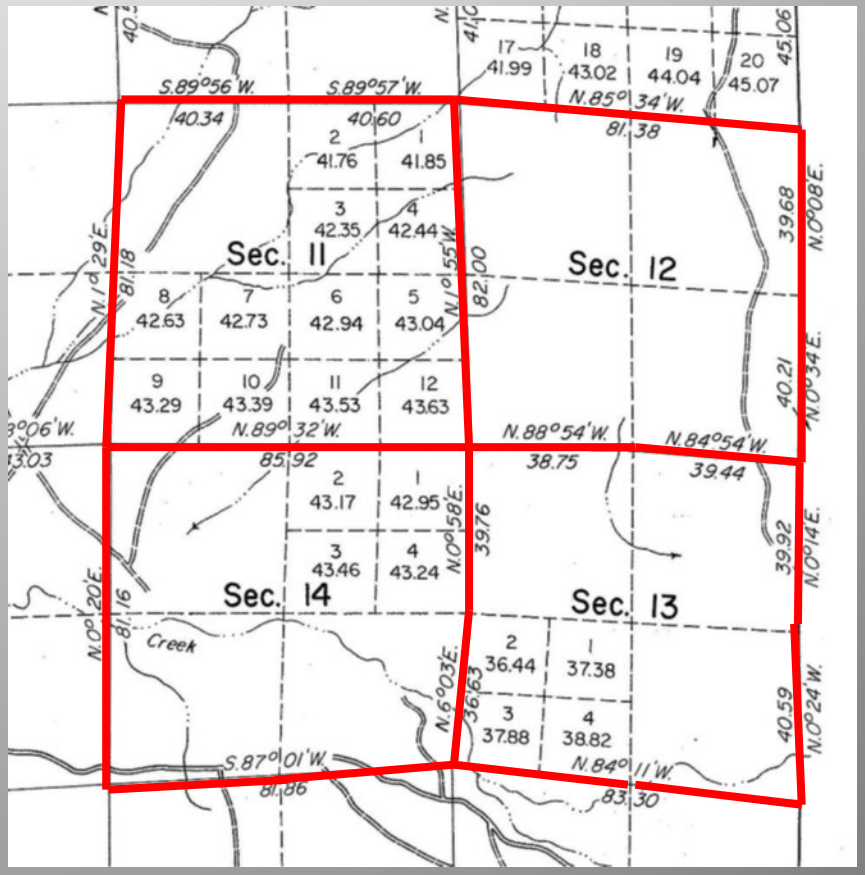


T. 13 N., R. 21 E.

1881
Original Survey

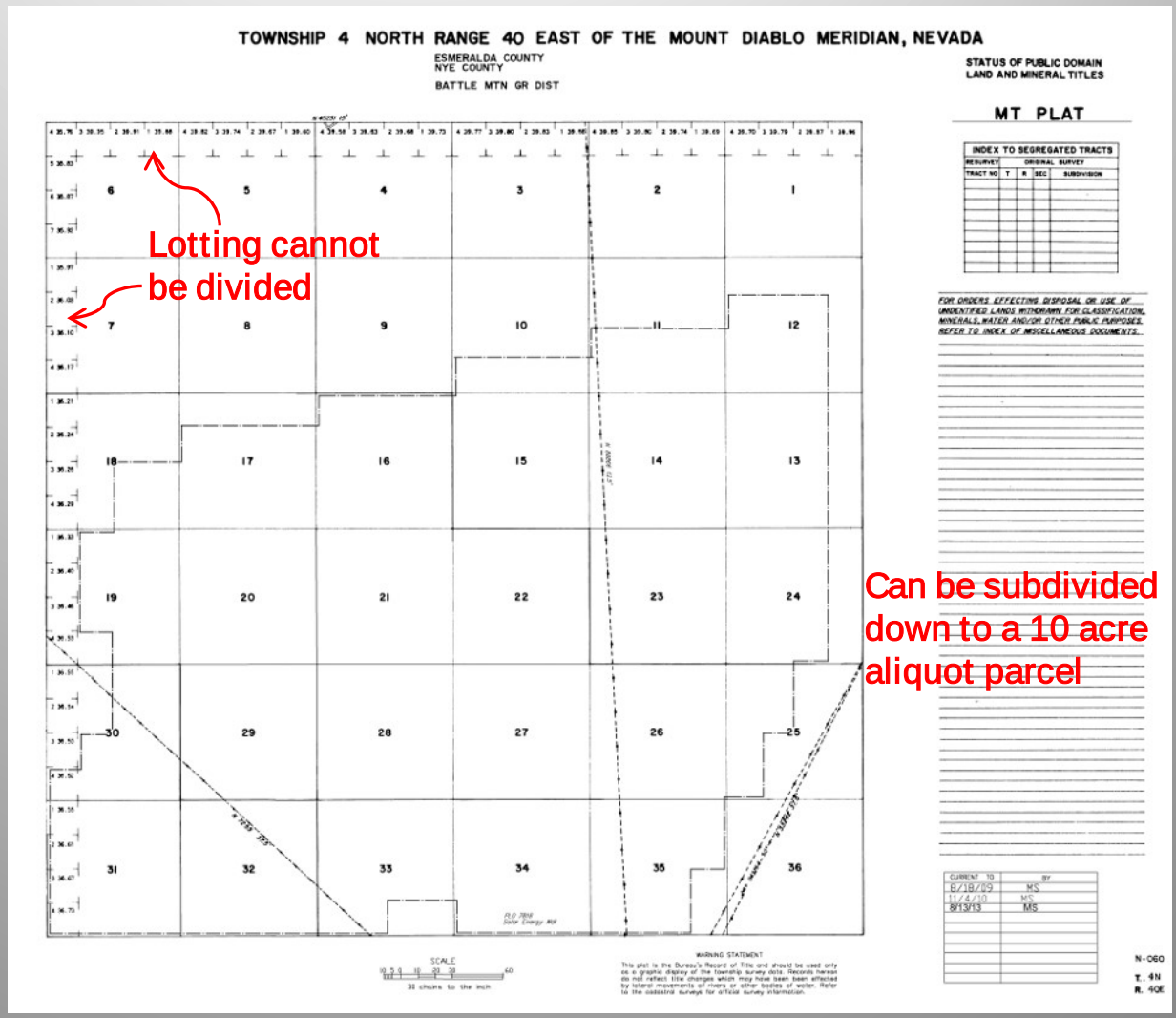


1973
Dependent Resurvey



Master Title Plat (MTP) Surveyed Township

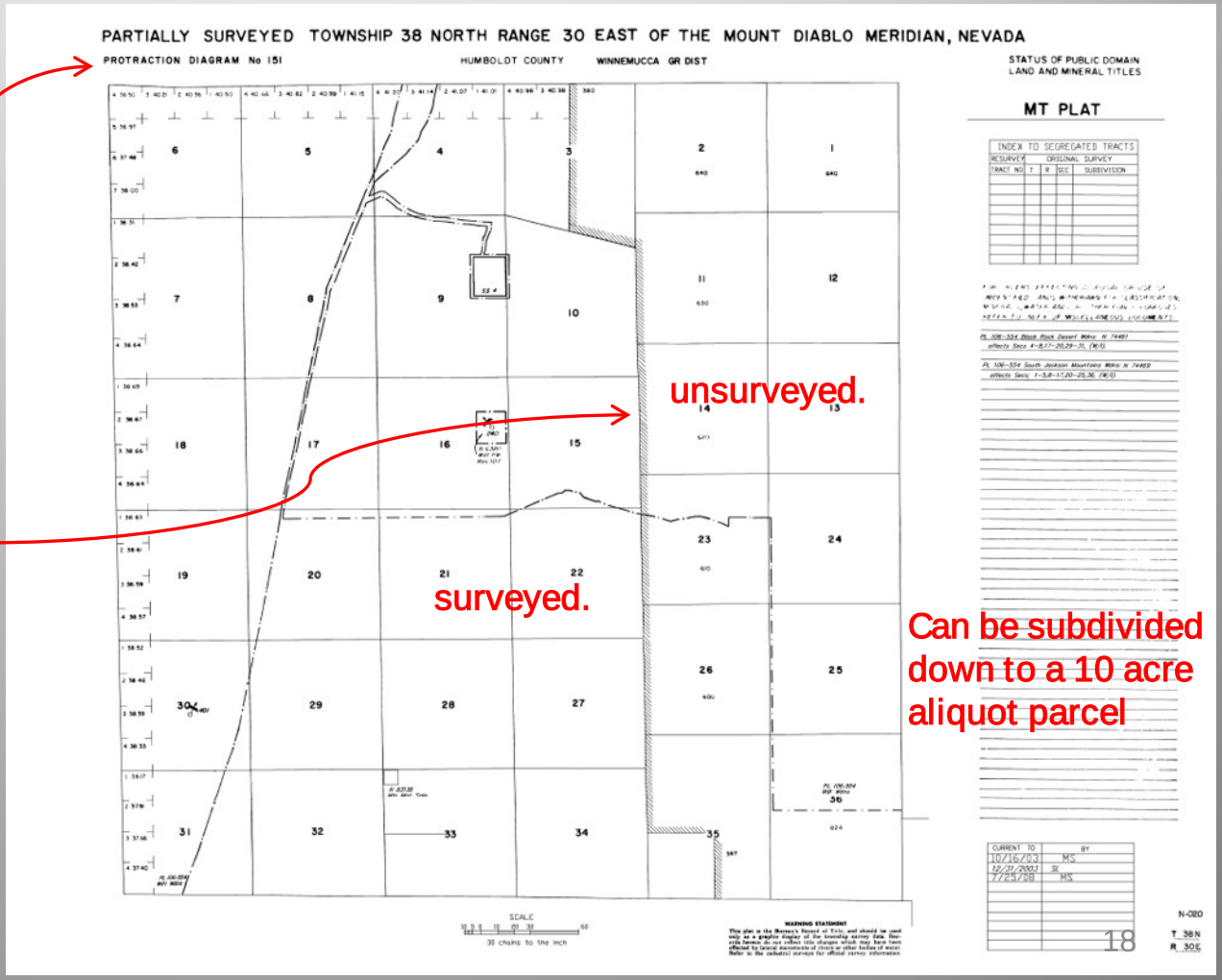
Surveyed is based on a field survey with monumentation.



MTP of Partially Surveyed lands

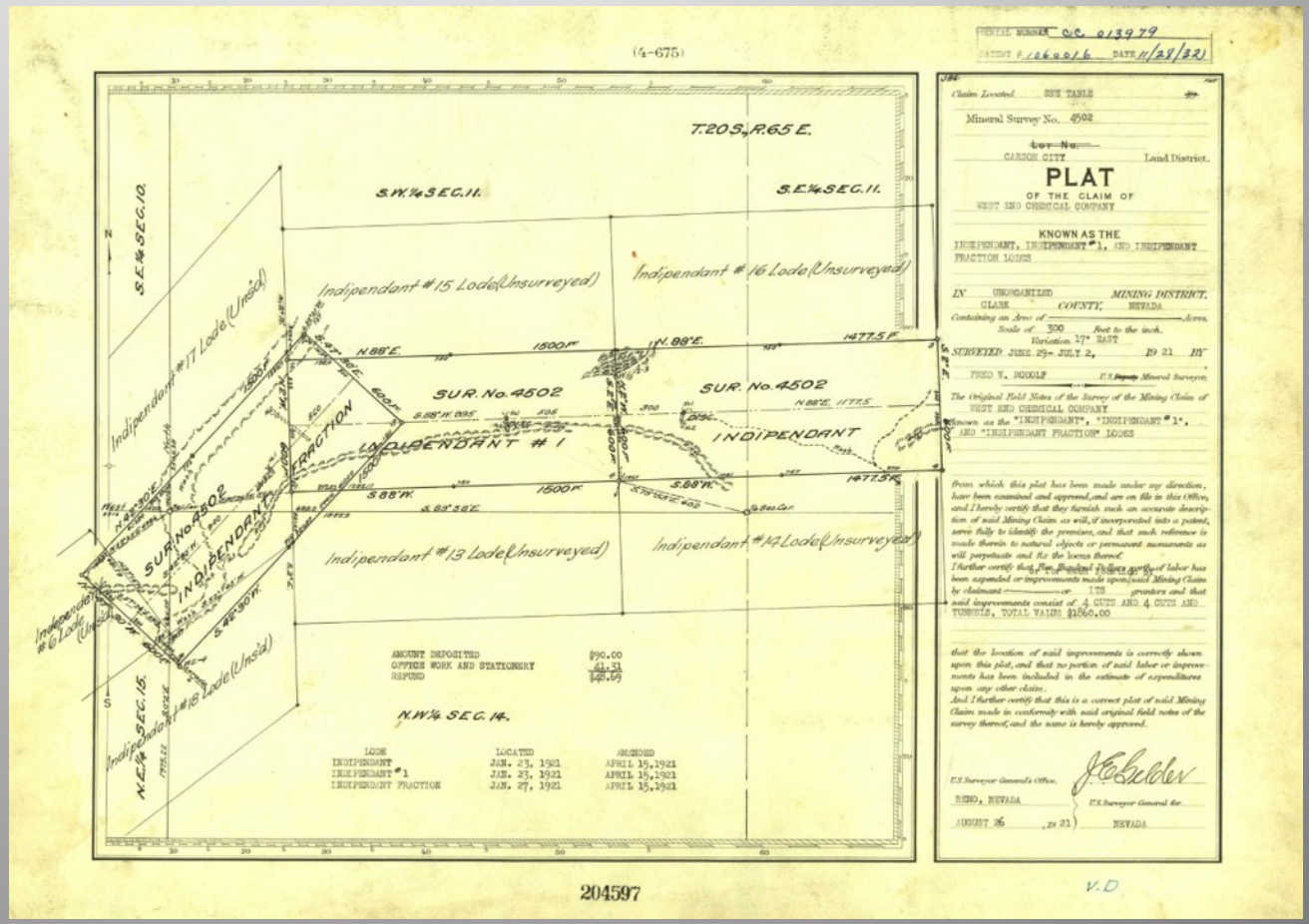
The portion that is unsurveyed can be found on the protraction diagram.

Hatched area indicates the portion that is unsurveyed.



Mineral Survey

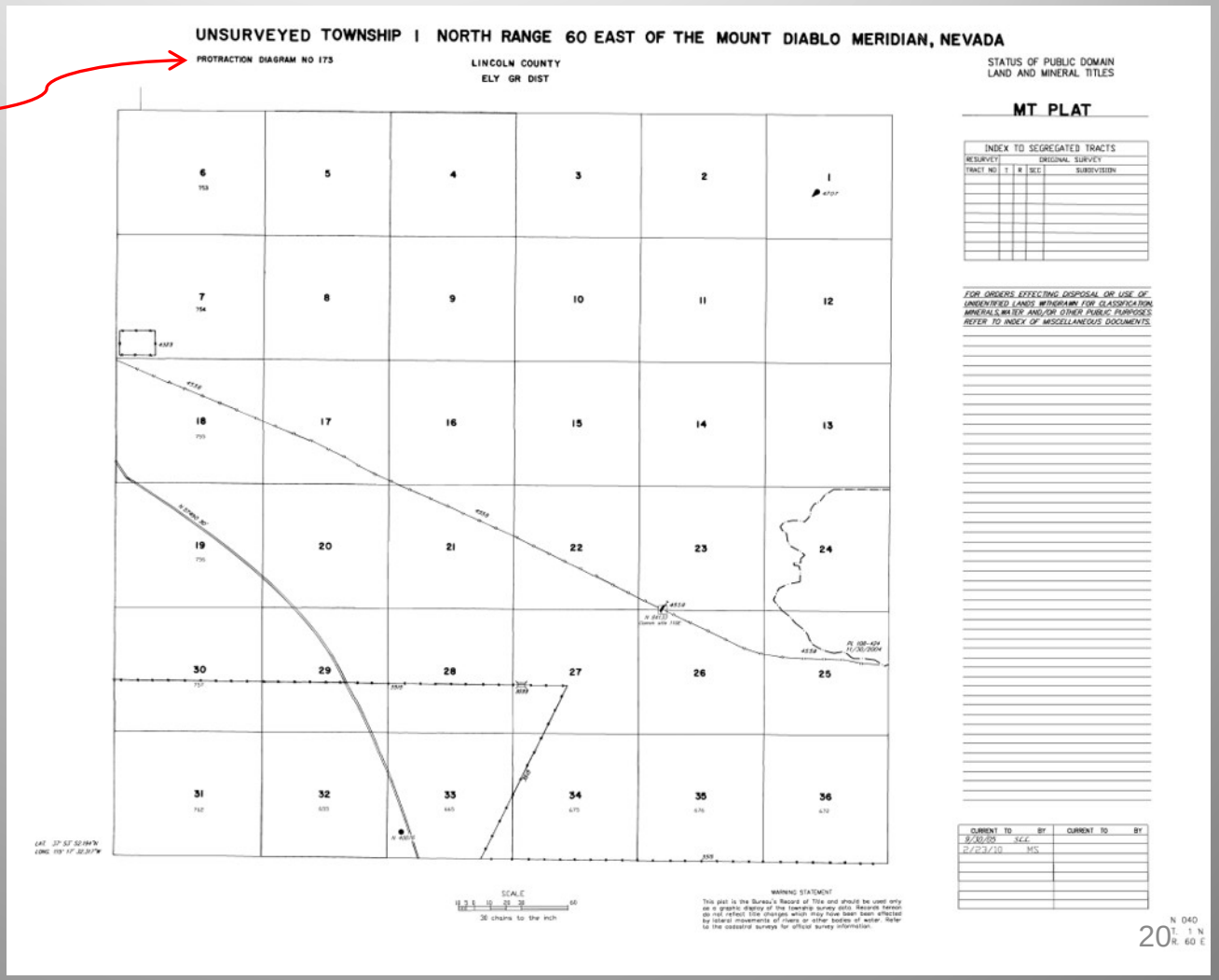
Mineral surveys are required prior to patenting. However, not all mineral surveys made it to patent.



Unsurveyed Township

The protraction diagram is identified here.

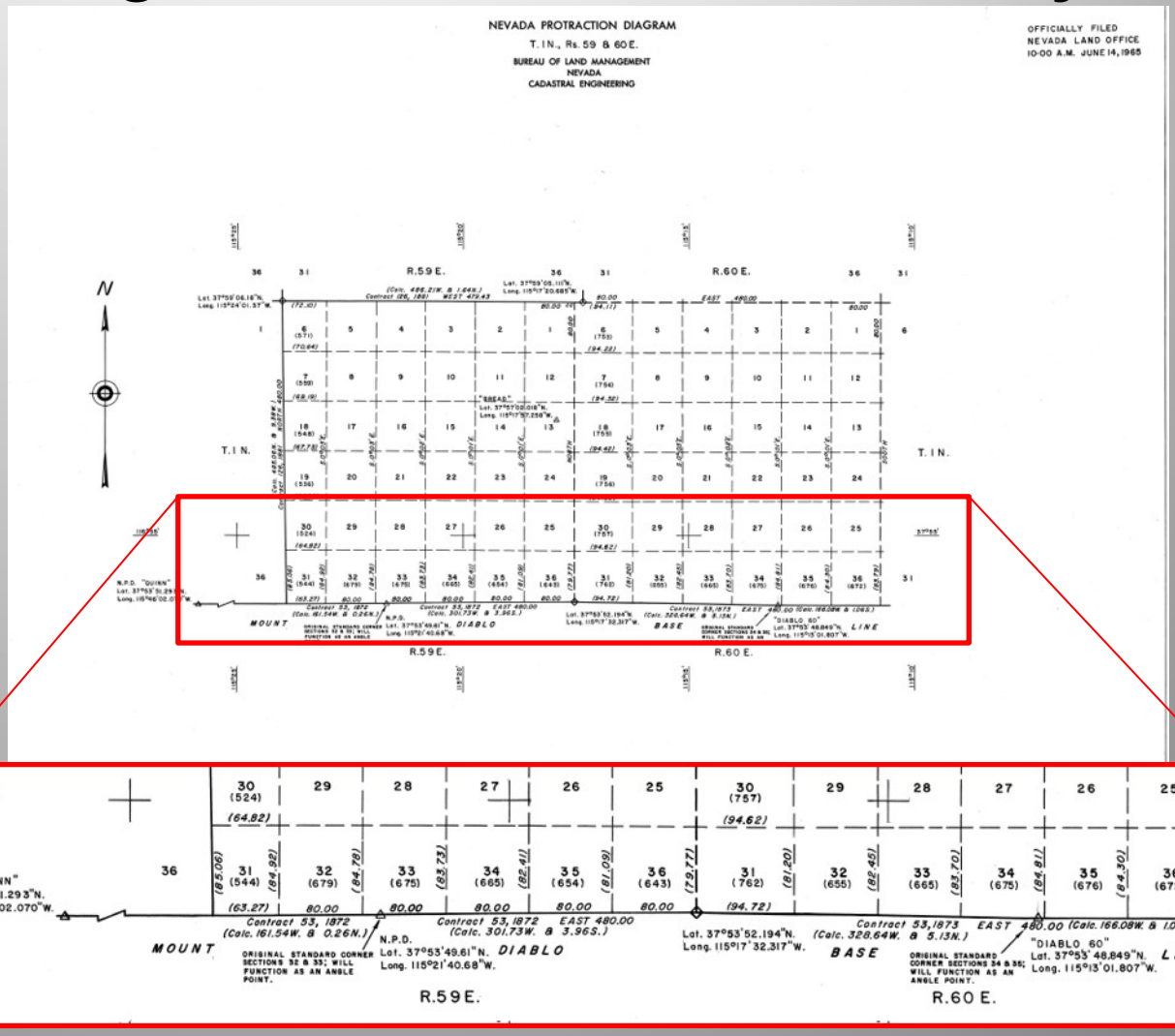
This plat is derived from the protraction diagram.



Protraction Diagram or Protracted Survey

Protraction diagrams have been prepared for substantially all unsurveyed areas in the public domain. Such diagrams are prepared to describe unsurveyed land areas. A protraction diagram is not, and is not intended to be, a substitute for an official survey. Protraction diagrams consist of drawn lines that follow the public land survey system but are not an actual survey. They do not involve a field survey with monumentation and hence no monuments on the ground. They represent the plan for the extension of the rectangular system over unsurveyed lands, following the general scheme as outlined earlier. They are constructed based upon the following rules as far as practicable.

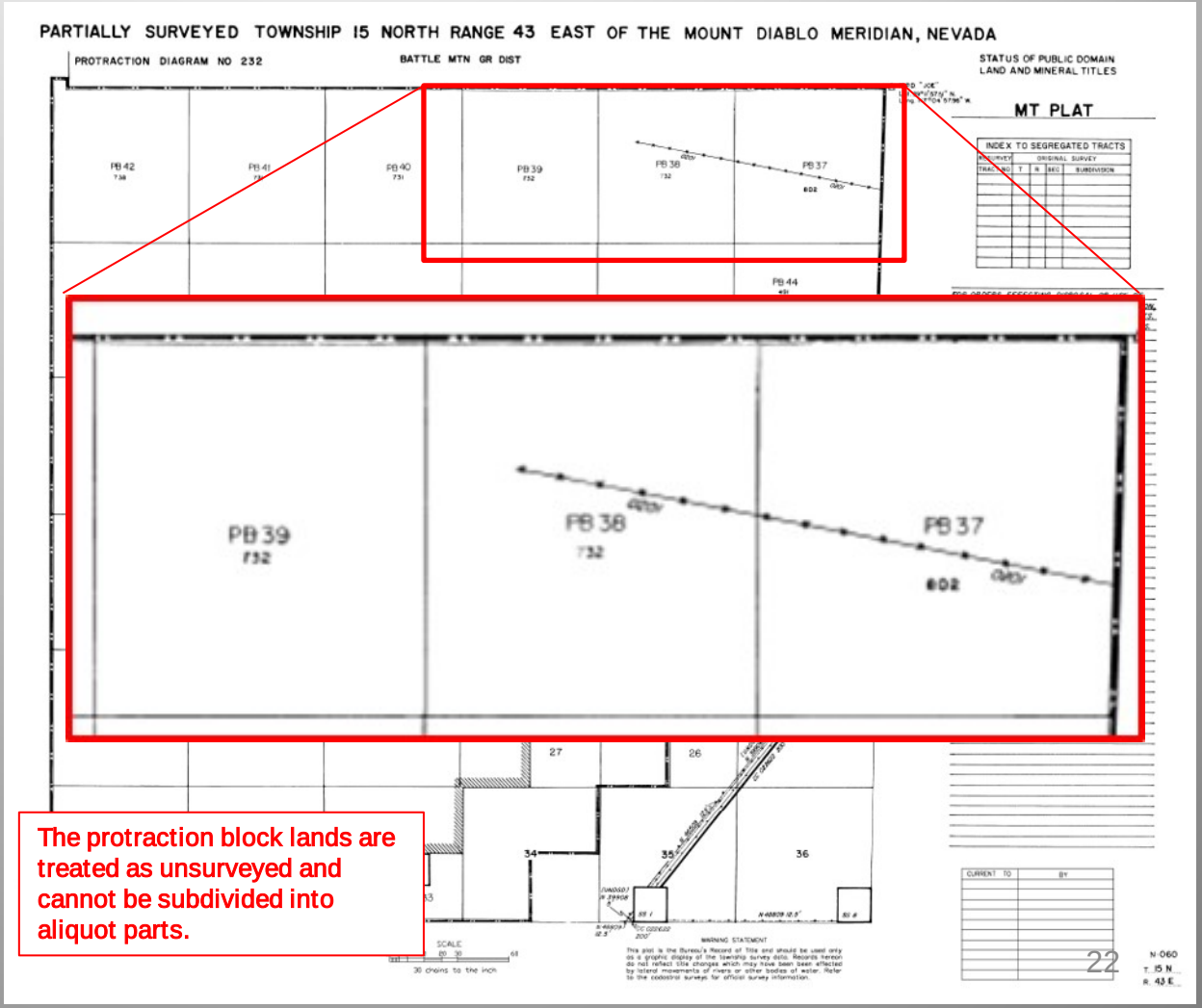
Official protraction diagrams are intended to provide a basis for the administration and management of unsurveyed Federal lands for all purposes short of conveying title. Such protractions can become the basis of land location for leasing purposes and for various administrative boundaries, including wilderness, National Recreation Areas, special use areas, withdrawals, and selections.



Protraction Blocks

Protracted block is a designation for an area of uncertain acreage that lies between the coordinate-based interior and the existing surveyed line that is a boundary of the protraction or the boundary of a special survey within the protractions. Protraction blocks provide a buffer between protracted section corners defined by the POSC and any existing survey lines. These blocks are configured and dimensioned the same way as a section that is adjacent to an existing surveyed boundary.

A protracted block will not be described as less than a full block and will not be lotted or subdivide until surveyed… In order to avoid confusion with section numbers, the protracted blocks are designated beginning with number 37 or the next number above the highest protracted number already used.



The protraction block lands are treated as unsurveyed and cannot be subdivided into aliquot parts.

Suspended Survey

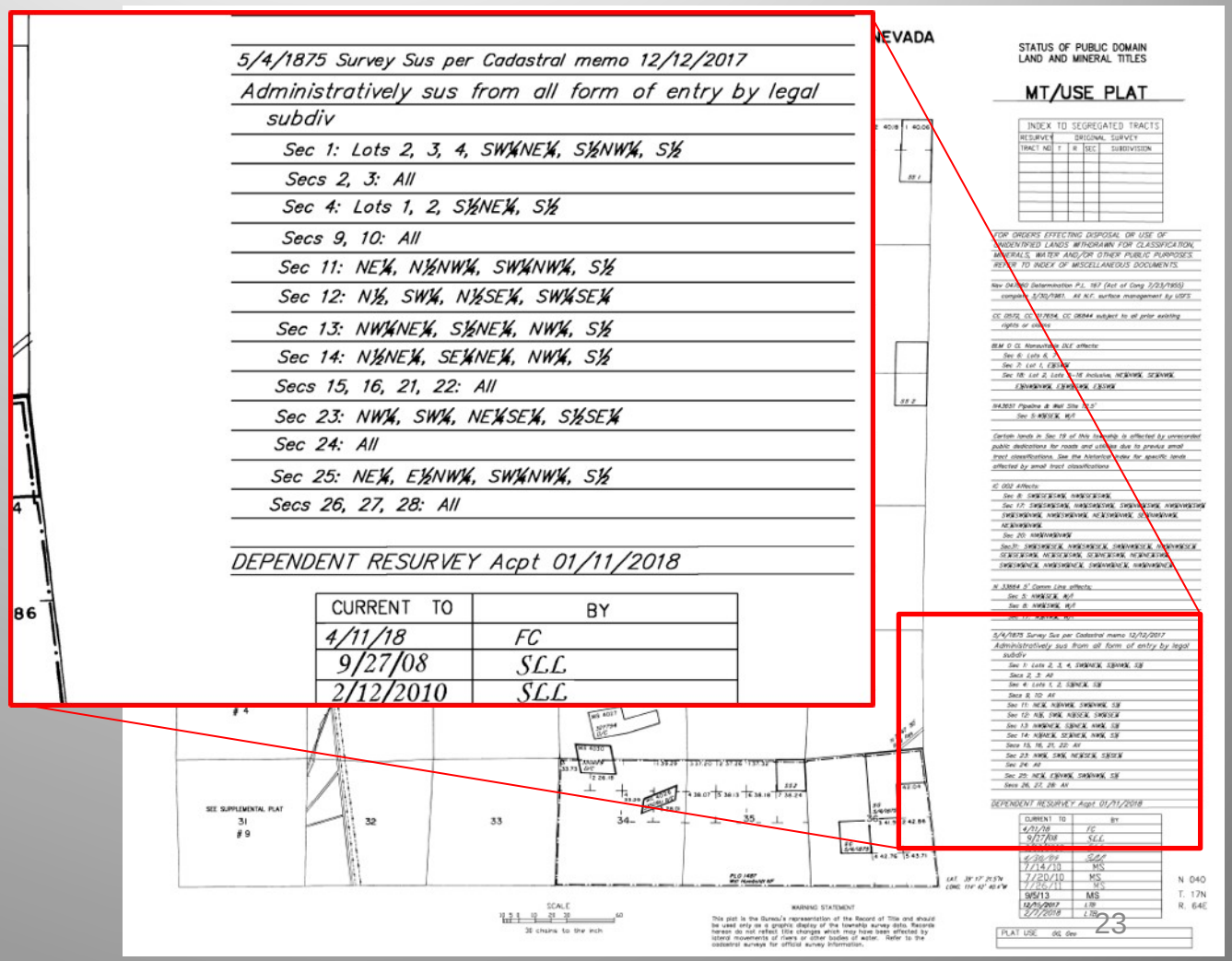
This is a great example of why you should always check the Right Hand Margin.

The original survey was in 1875.

A memo on 12/12/2017 suspended the survey from all forms of entry by legal subdivision.

The affected sections are identified.

The lands that are suspended are treated as unsurveyed and cannot be subdivided into aliquot parts.



Subdivisions

- Probably the most common question our customers ask is, “what is an aliquot part?”
- So, before we move forward, lets take a few minutes and discuss what an aliquot part is.

al·i·quot

Definition of *aliquot* in English: aliquot
Syllabification: al·i·quot Pronunciation: /'alikwət /

Aliquot Synonyms: aliquot part, fractional.

Equal fractions of a whole.

(halves, quarters, eighths, etc.)

Aliquot part—The standard subdivisions of a section, such as a half section, quarter section, or quarter-quarter section.

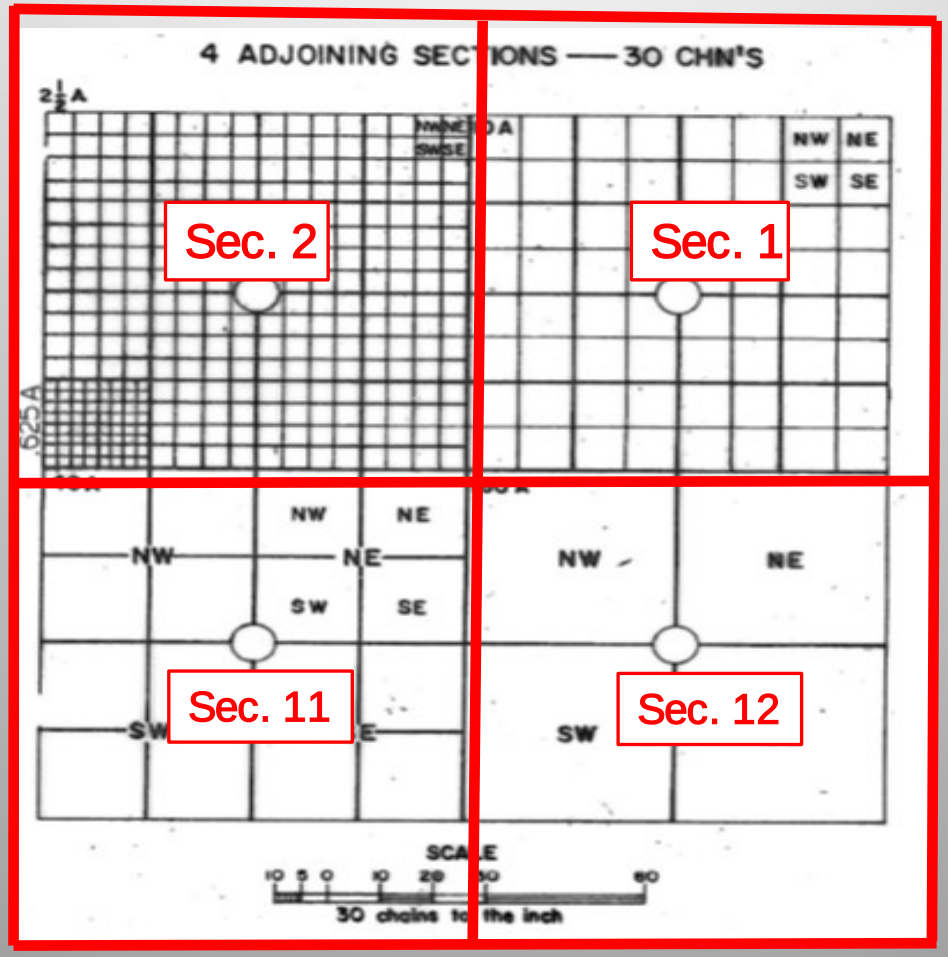
	dimensions (miles)	(mile^2)	area (acres)	(m^2)	(km^2)	notes
Quadrangle	24 by 24	576	368,640		1,492	Usually 16 townships
Township	6 by 6	36	23,040		93	Usually 36 sections
Section	1 by 1	1	640		2.6	
Half-section	1 by ½	½	320	1,294,994	1.3	
Quarter-section	½ by ½	¼	160	647,497		
Half of quarter-section	½ by ¼	⅛	80	323,749		
Quarter of quarter-section	¼ by ¼	1/16	40	161,874		

- Aliquot part, in the Public Land Survey System, a subdivision of a section based upon an even division.

When all goes well…and the survey comes out the way it was intended…

This section is divided into 256 quarter quarter quarter quarters of 2.5 acres each.

This section is divided into 16 quarter quarters of 40 acres each. *(The smallest legal subdivision of the PLSS.)*



This section is divided into 64 quarter quarter quarters of 10 acres each. *(*10-acre tracts for the purpose of locating a placer mining claim is a specific exception to the 40 acre rule).

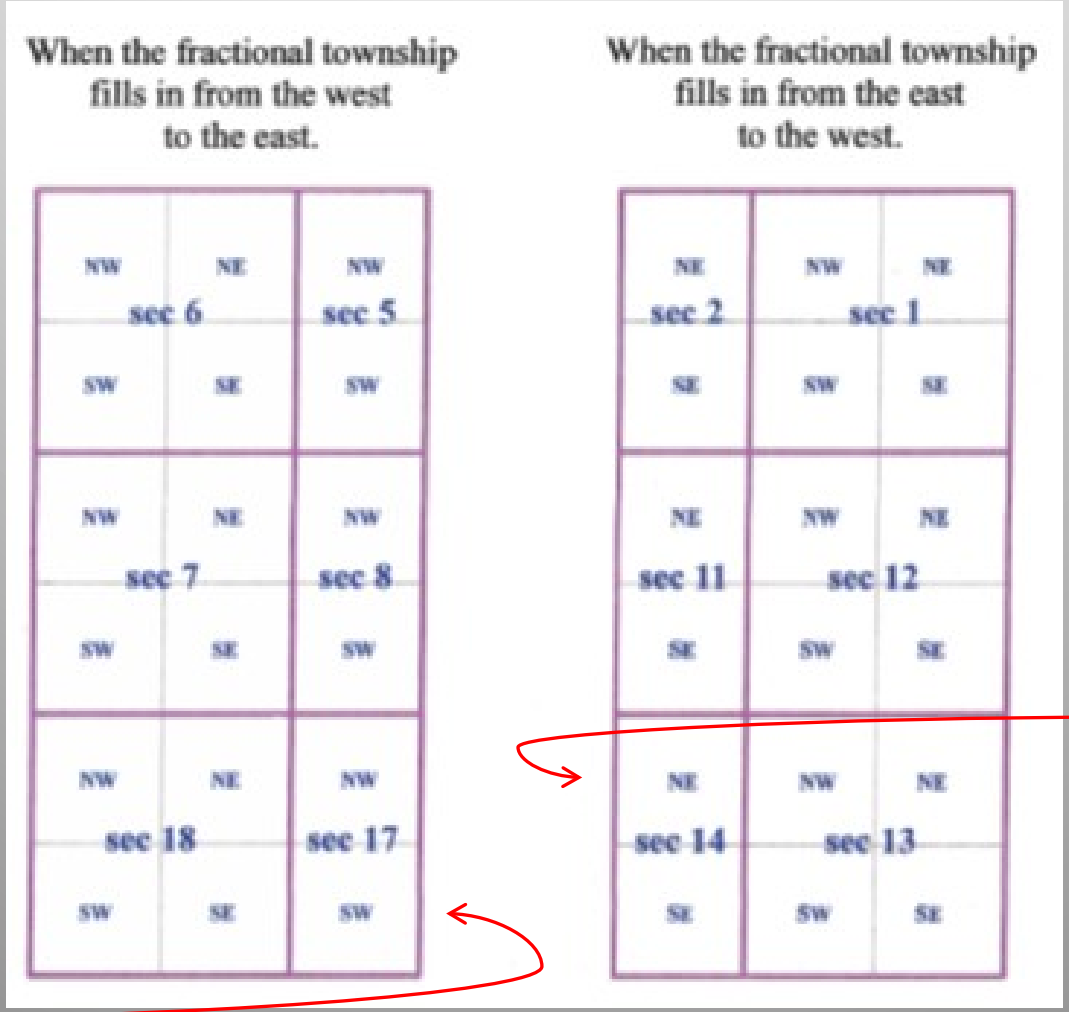
This section is divided into 4 quarters of 160 acres each.

When things don't work out the way they were intended to be…

and the survey isn't what we expected.

Fractional townships.

Surveyed from West to East



Surveyed from East to West

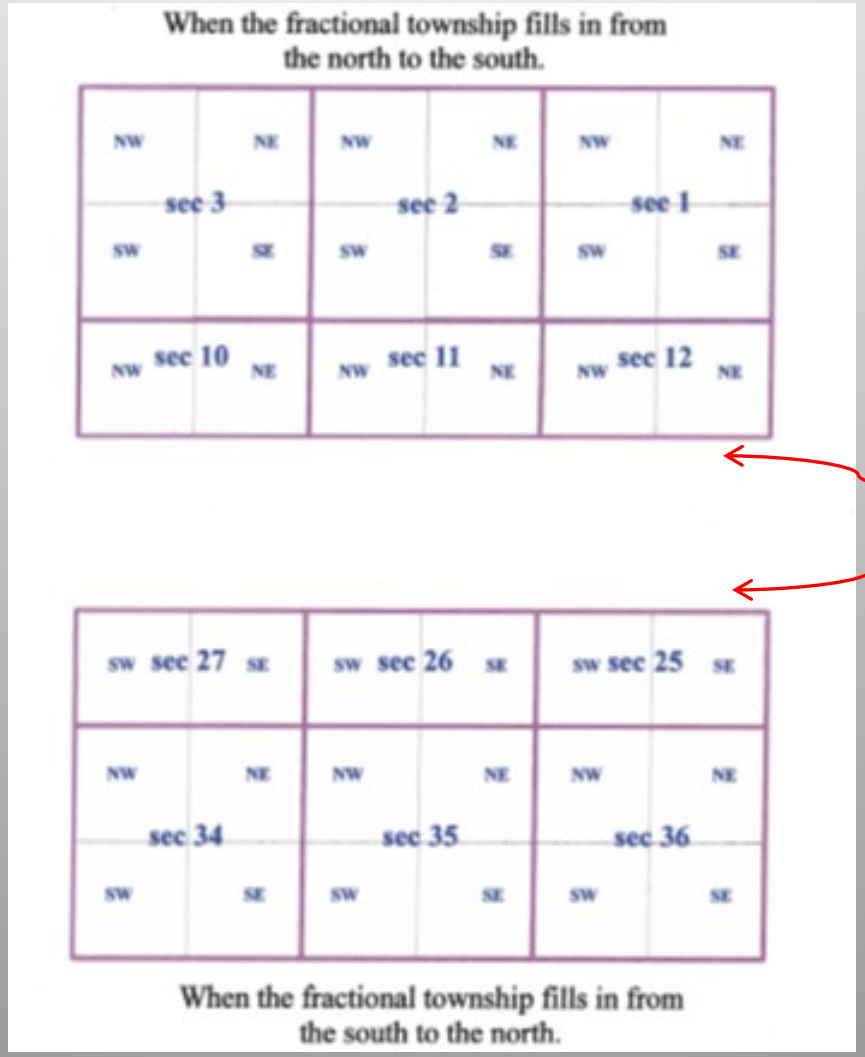
No NW1/4 or SW1/4

No NE1/4 or SE1/4

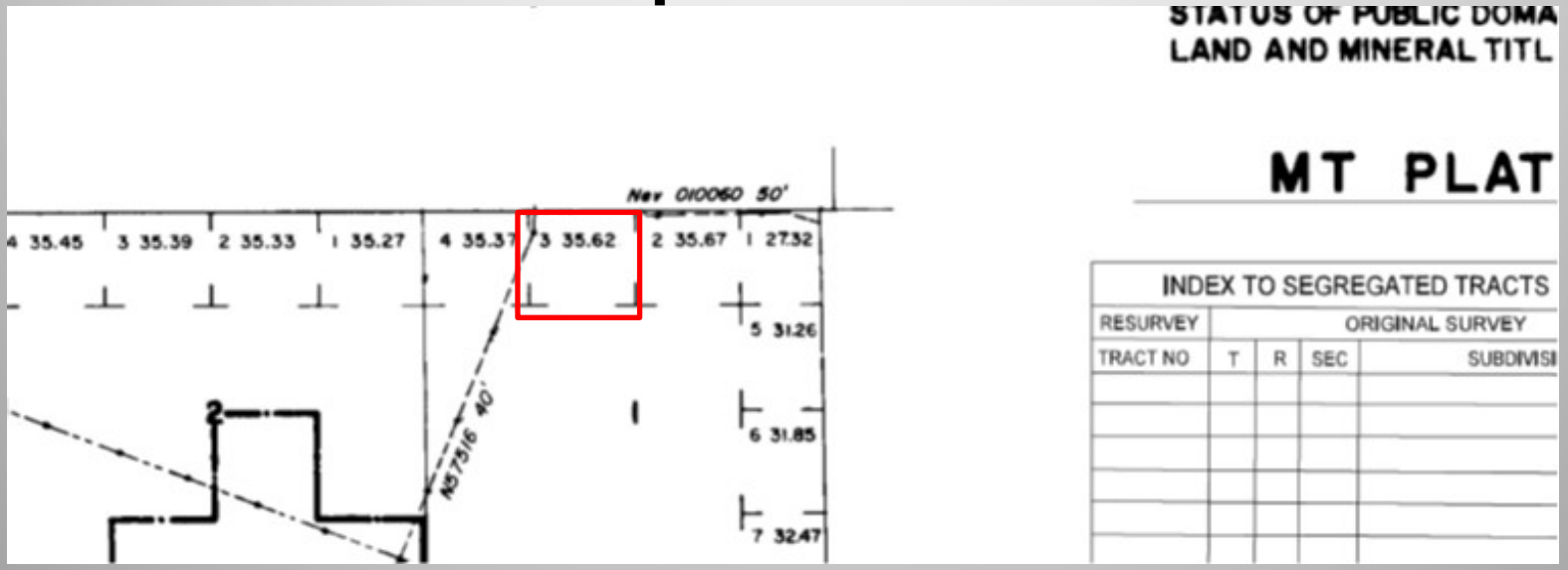
Fractional townships.

Surveyed from North to South

Surveyed from South to North

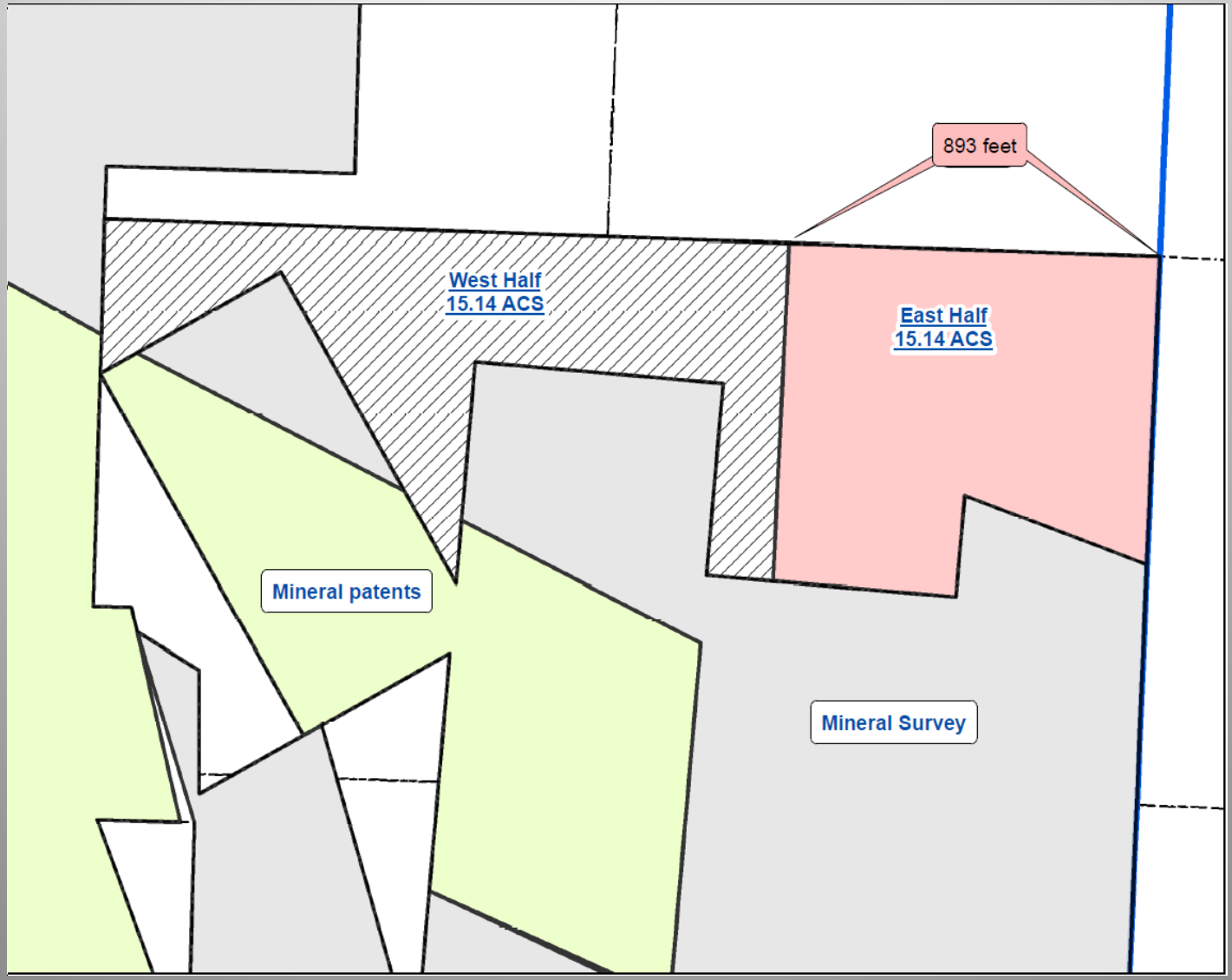


Aliquot vs. Lots



- **Government lot**—A subpart of a section which is not described as an aliquot part of the section, but which is designated by number, for example, Lot 3.
- A lot may be regular or irregular in shape, and its acreage may vary from that of regular aliquot parts.

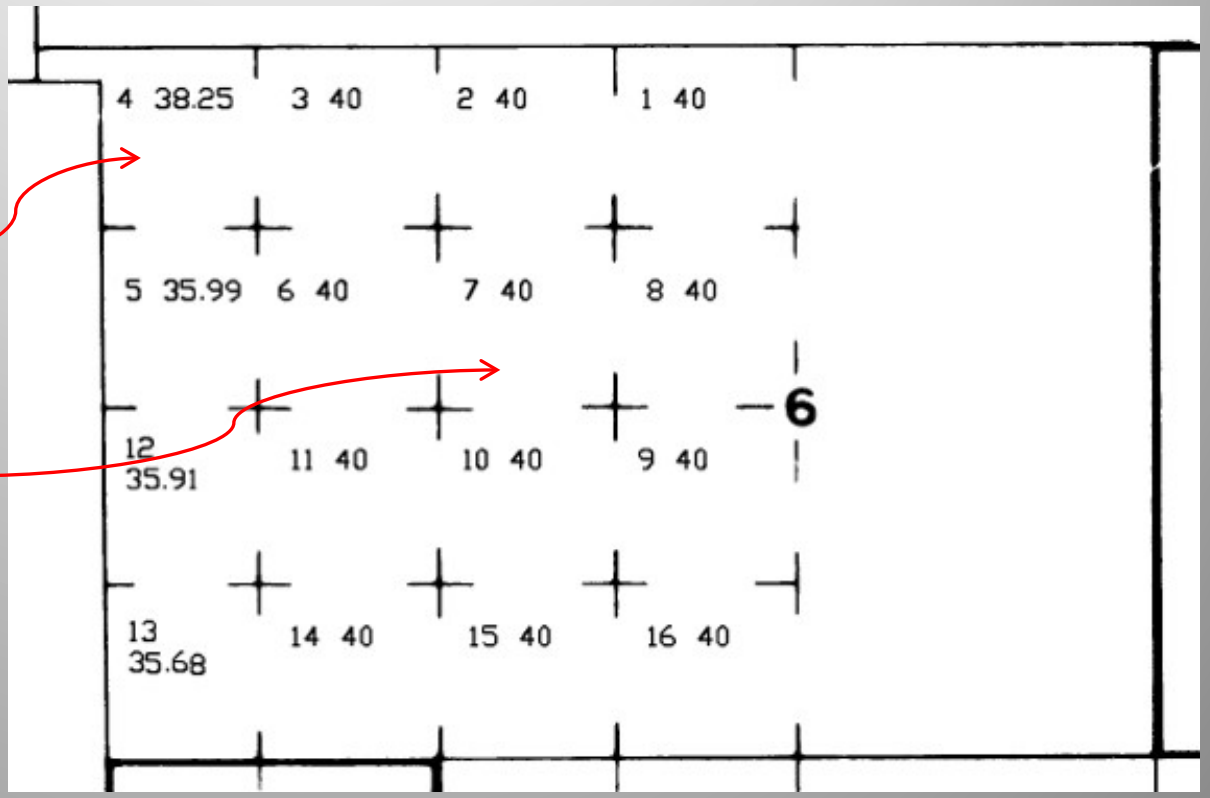
Dividing a lot



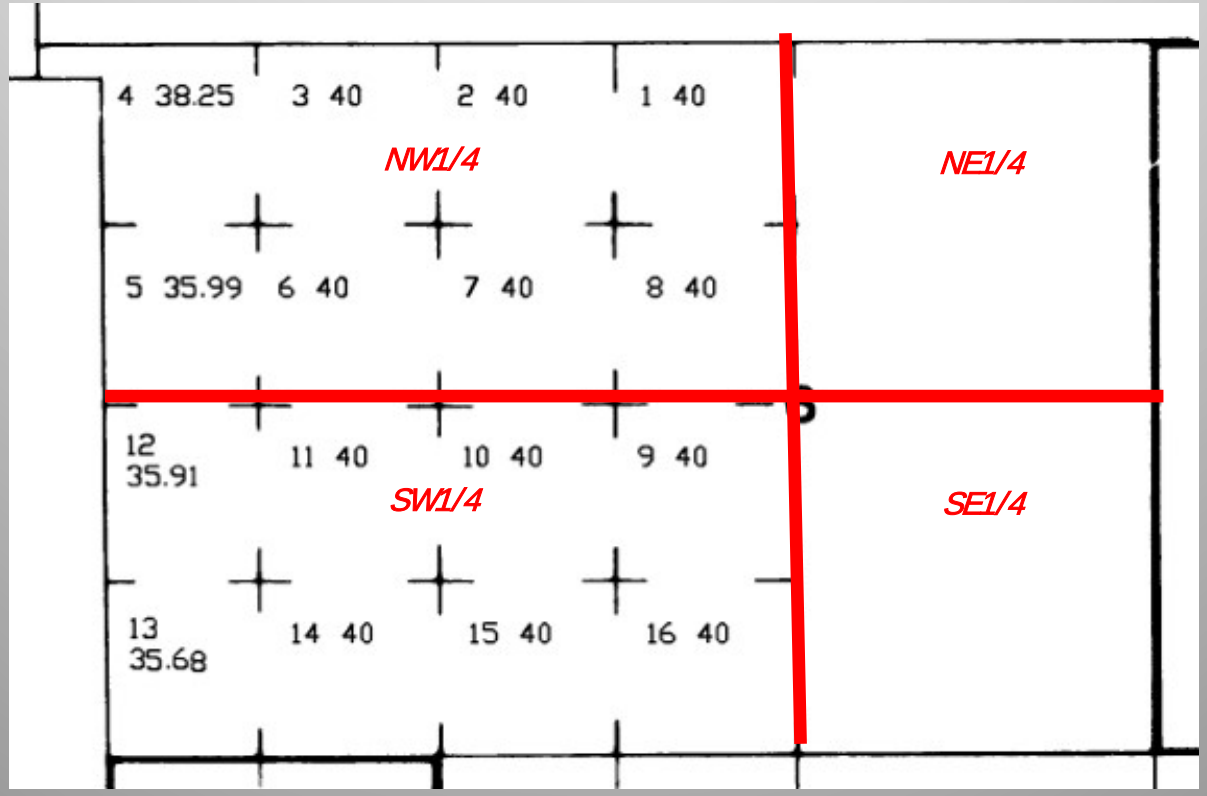
Aliquot vs. Lots

This is an example of irregular shaped lots.

This is an example of a regular shaped lots.



Quarter sections in an irregular section.



Survey markers

Cadastral Survey

- We often talk about corner markers or brass caps.

- Wouldn't it be nice if the survey markers stood up and looked like this?

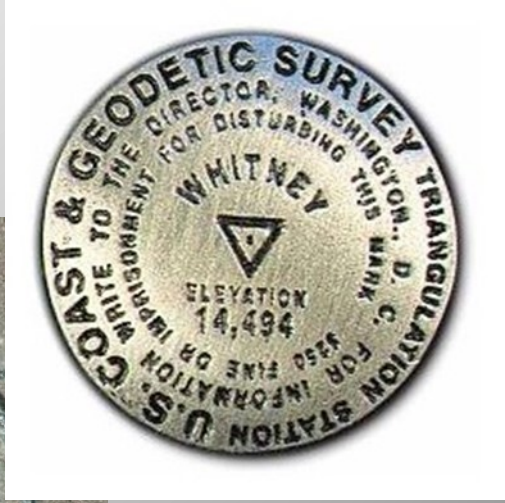
or

- Or something that let's us know when we're near the survey marker is like this…

or

- Or, better yet, how about like this…
- If the survey marker is near this sign then we must be in a tropical climate…

- The reality is that survey markers are very low profile and look more like this.



- Some are survey markers like this one for T31N, R58E, section 11. This survey marker was placed by the Forest Service.

1881 Stone Monument

2011 Brass Cap Monument

T27N, R48E, section 33

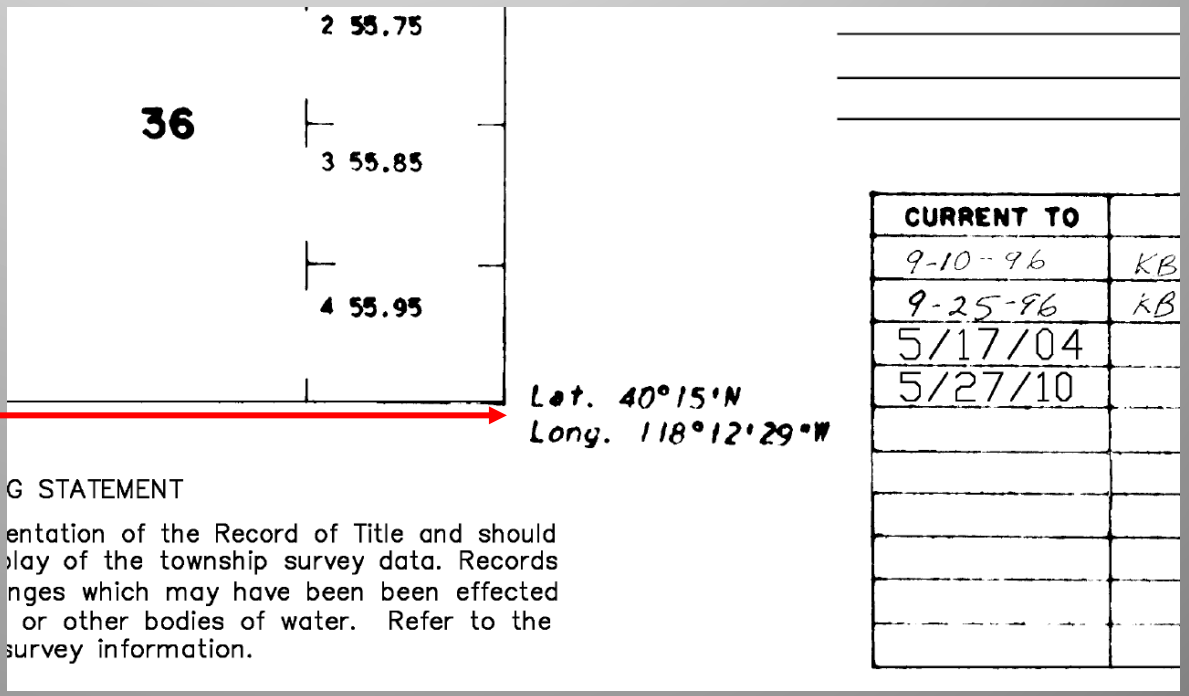
BLM

- Some are for Bench Marks. You will usually find Bench Marks identified on Topo maps.

Known Monument

- After you find a survey marker or bench mark, you can relate the location of your claim to this monument.

Did you know that the GPS coordinates for the corner of the township can be found on the Master Title Plat?



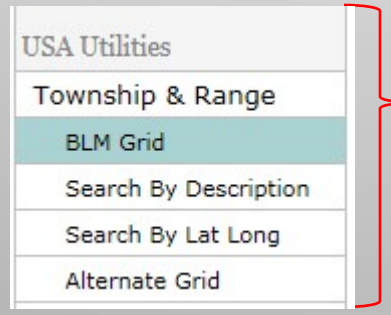
How do you find out where you are?

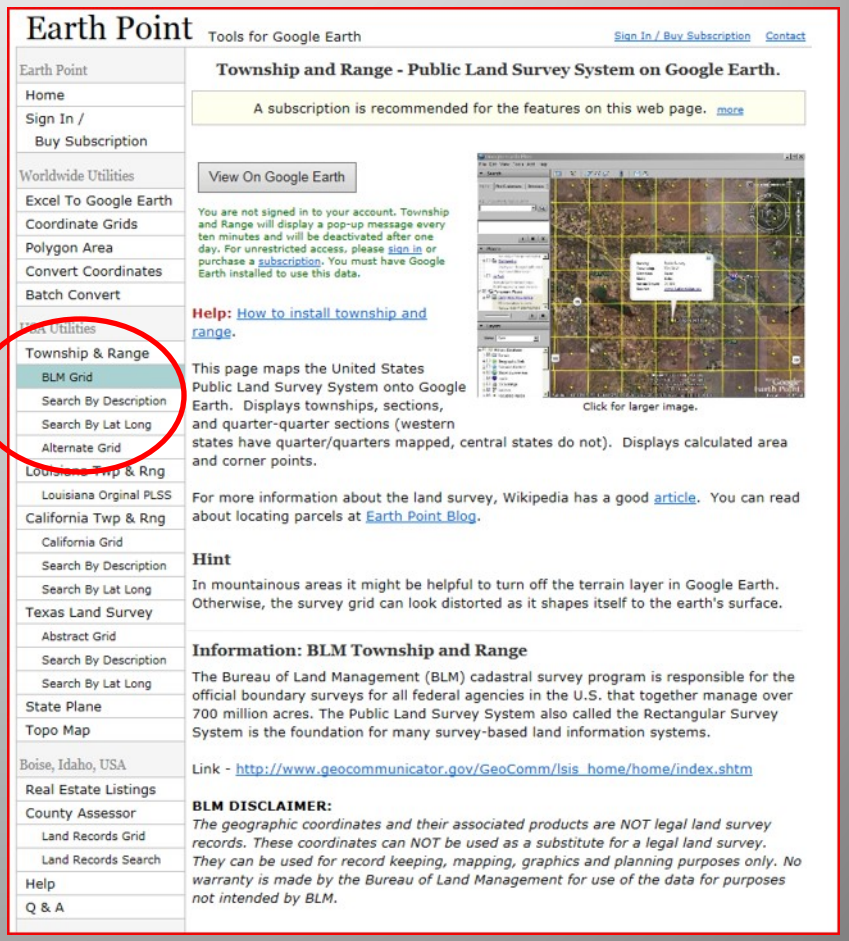
http://www.earthpoint.us/townships.aspx

EARTH POINT IS OPERATED BY A PRIVATE COMPANY. THEY PROJECT OUR COORDIANTES AND OUR SURVEY DATA TO PROVIDE A DEPICTION OF THE LOCATION.

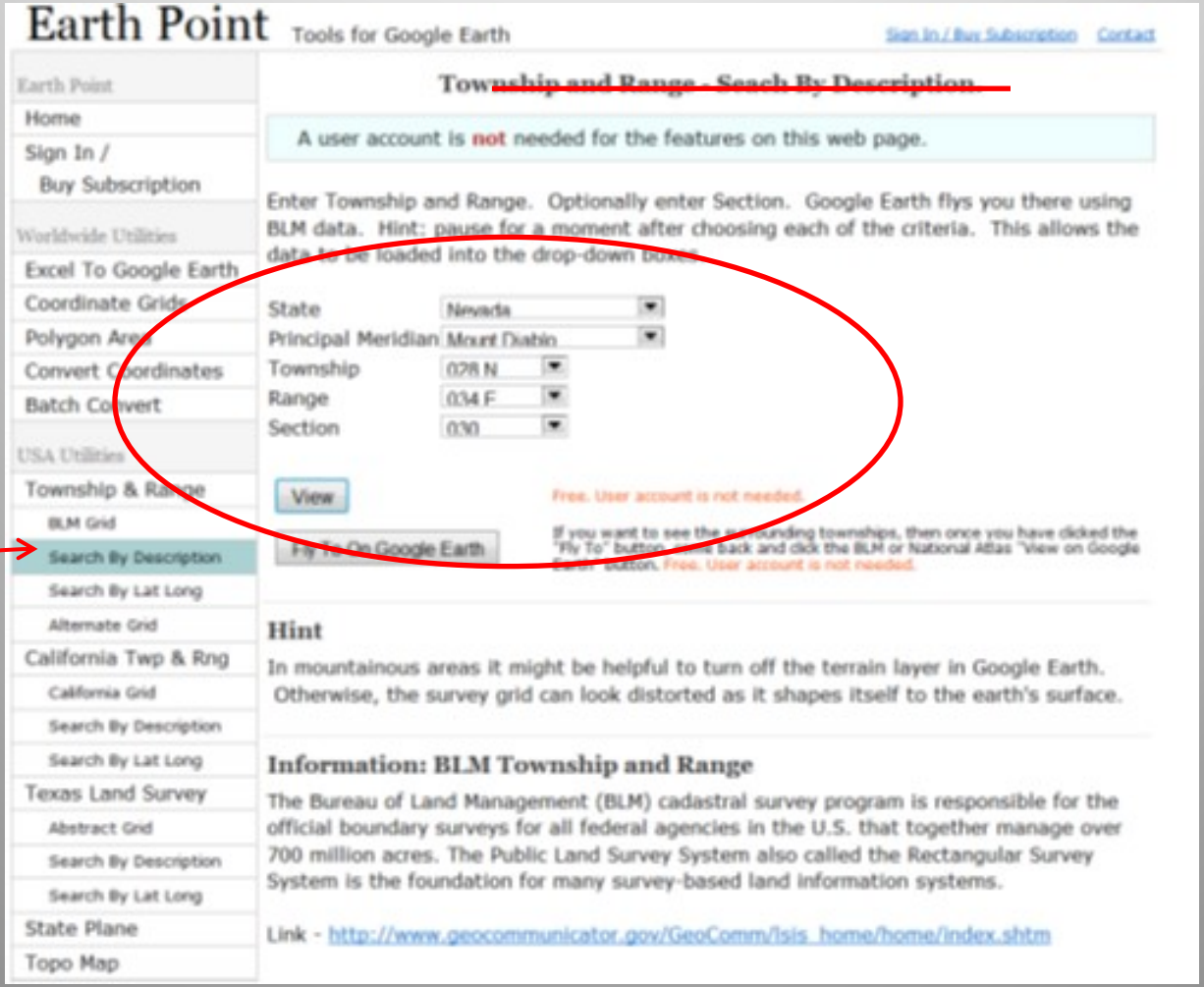
Search by description:
Township,
Range
Section

Search by Lat Long:
GPS coordinates

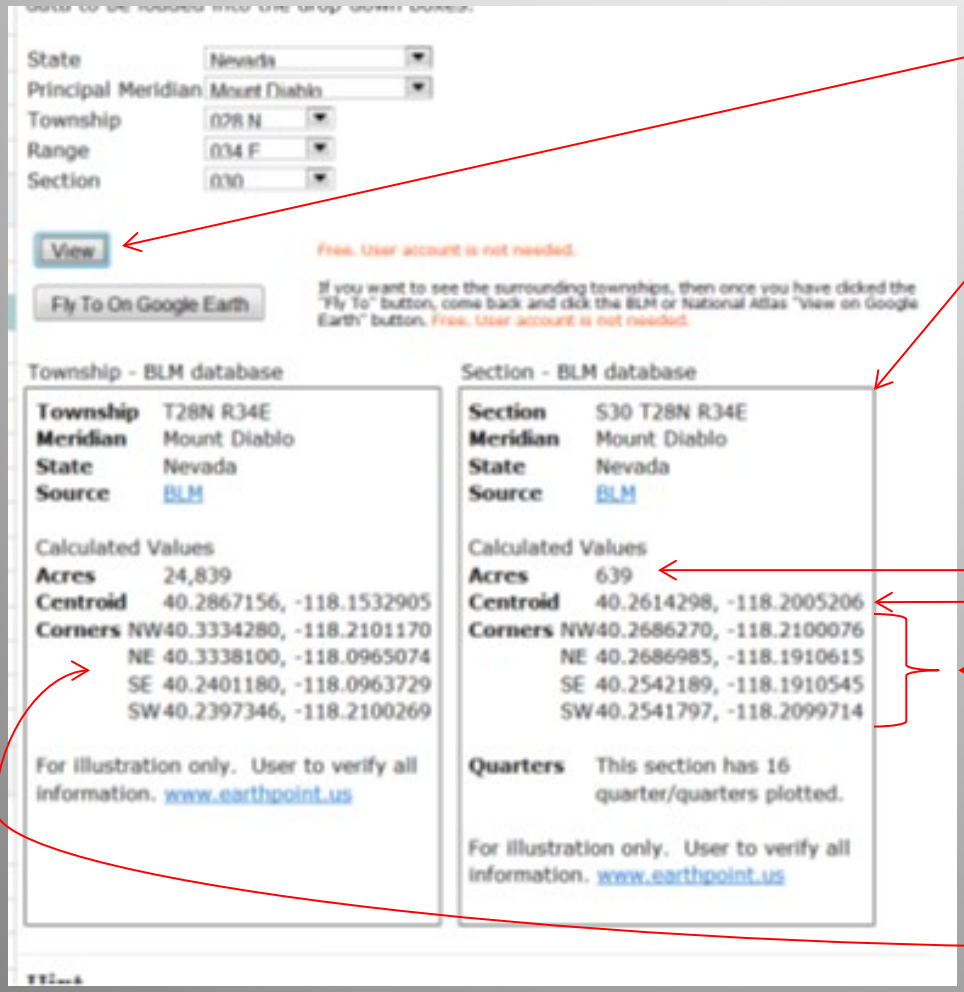




Enter State, Meridian, Township, Range, and Section



Click on the View button



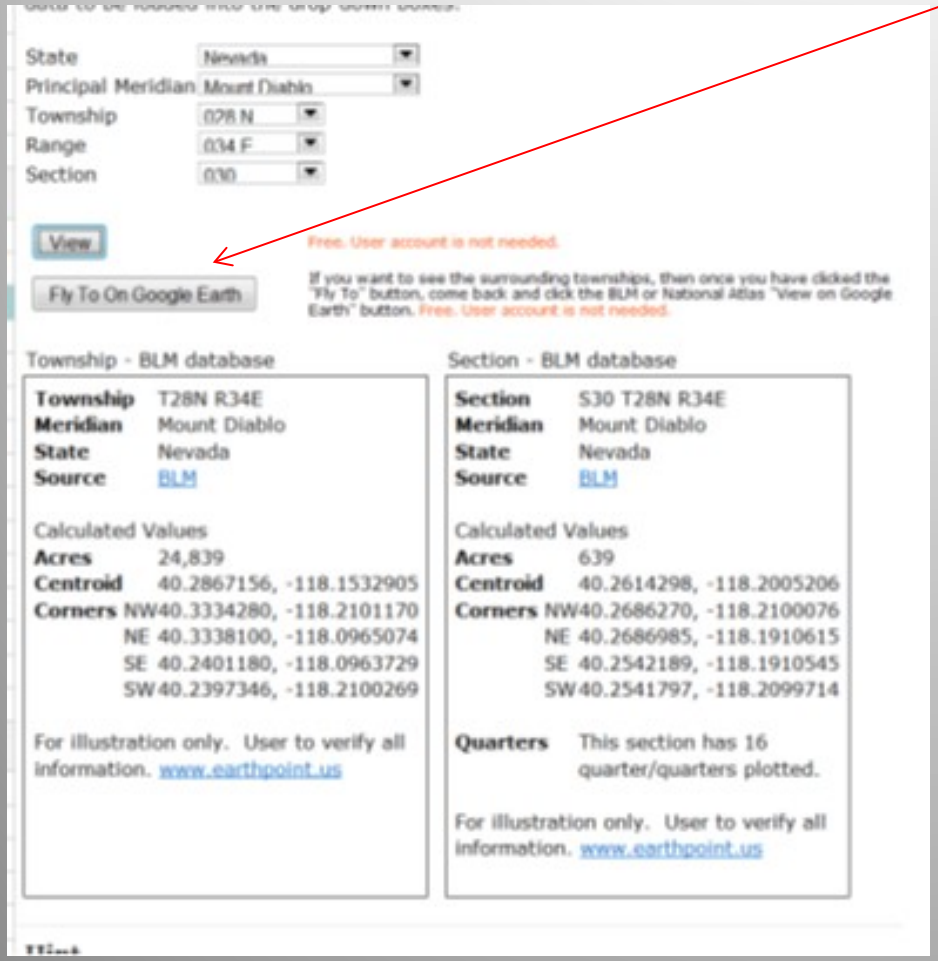
- If you click on the view button, you will get…

Acreage of the section.

Center of the section.

Each corner of the section.

And the same information for the township.

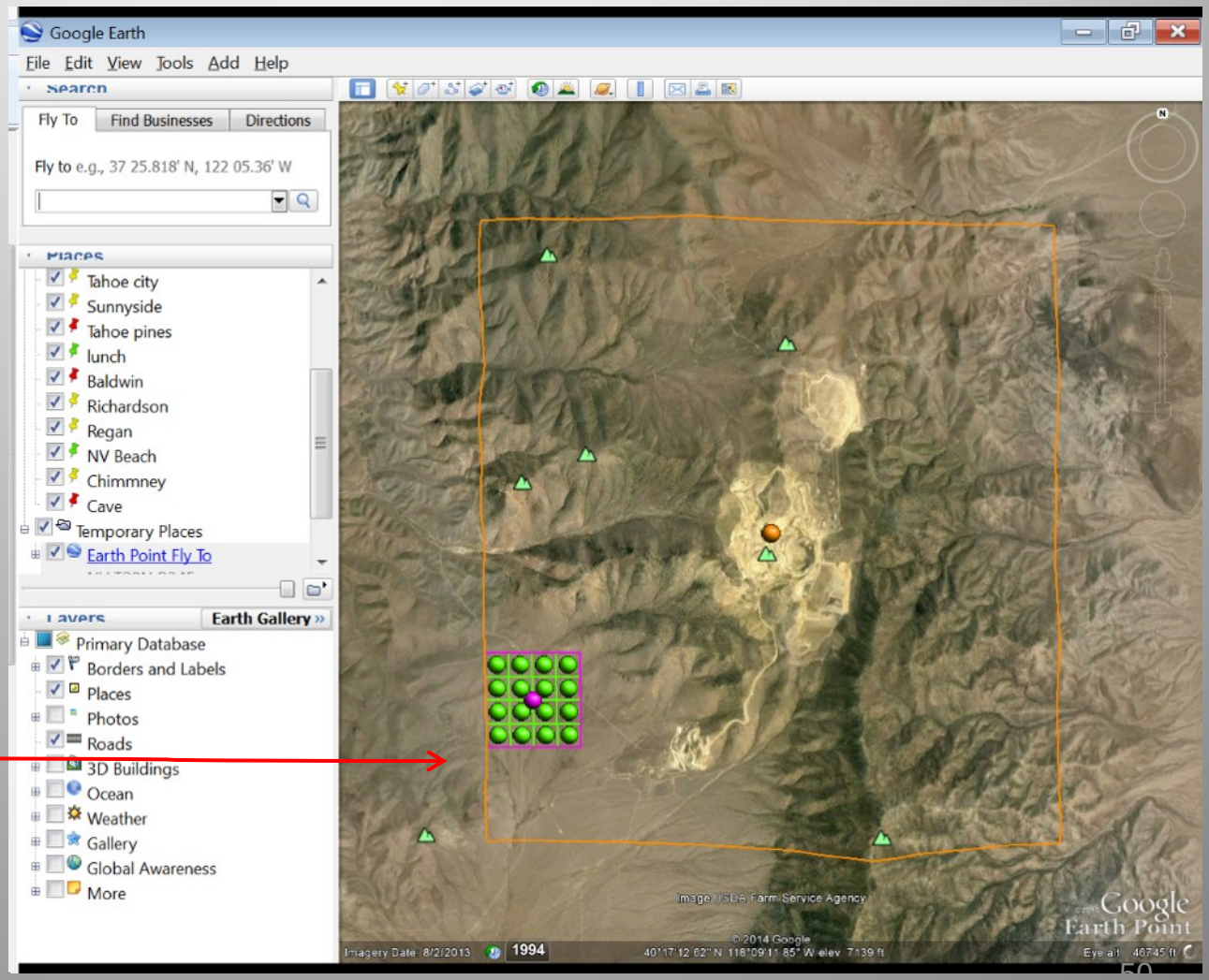


- If you click on the button for *Fly to On Google Earth…*

- Google Earth will take you to that township range and section.

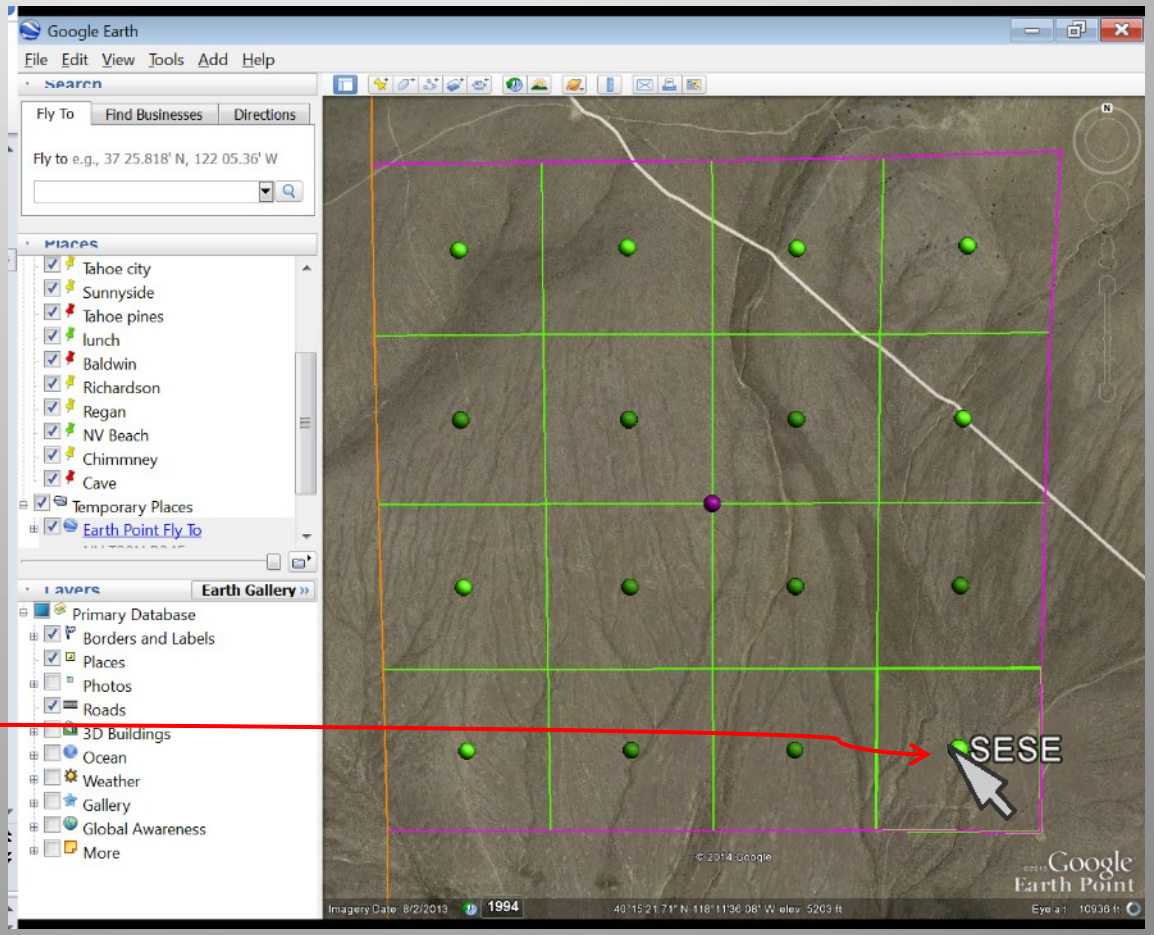
Fly to on Google Earth

- Here is the outline of the township with the center identified.
- Also, you can see the section within the township.



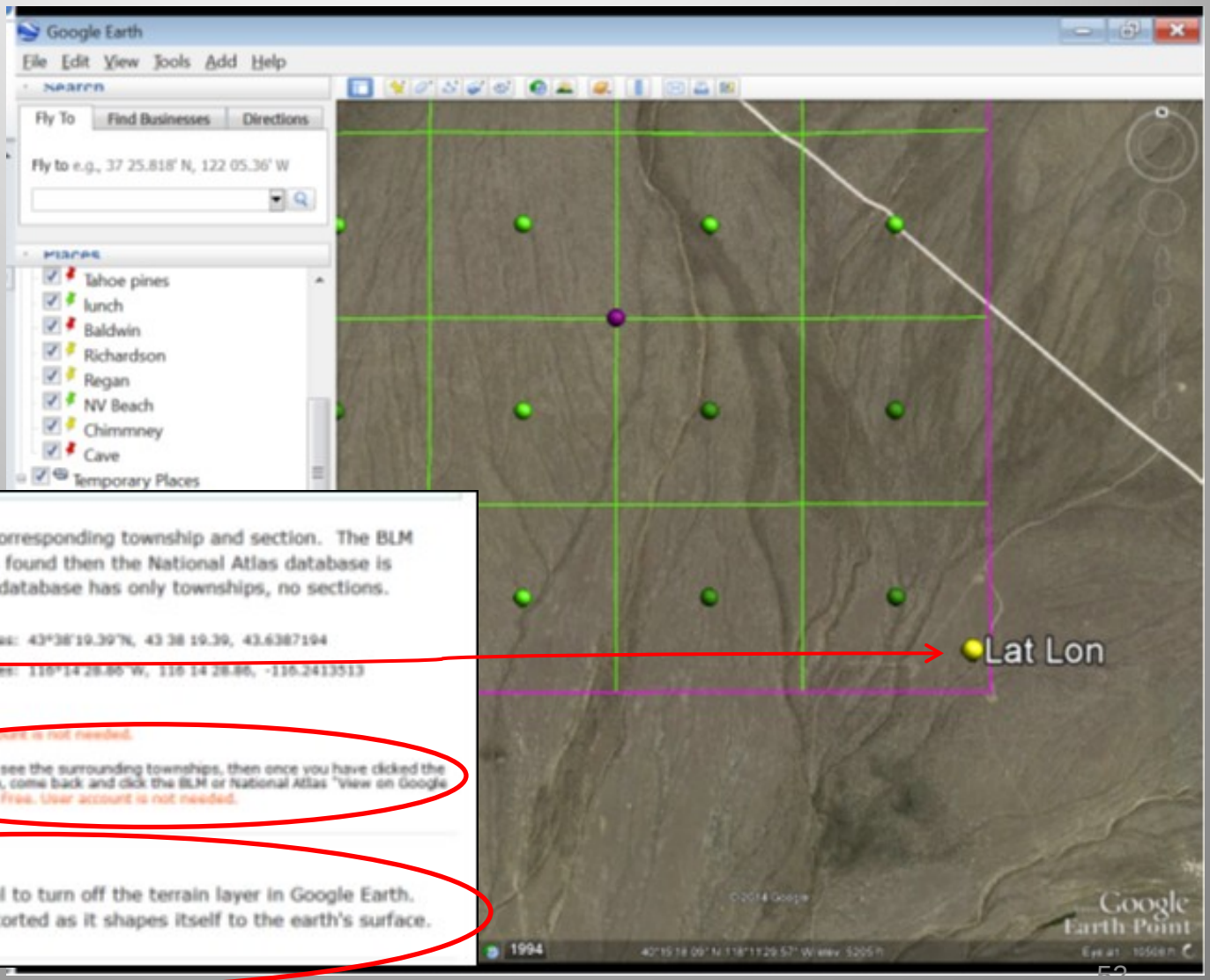
This shows the land down to the Quarter Quarter (40 acre parcels).

- Put your mouse on each of the dots and the labels appear.
- You can see the SESE quarter quarter.

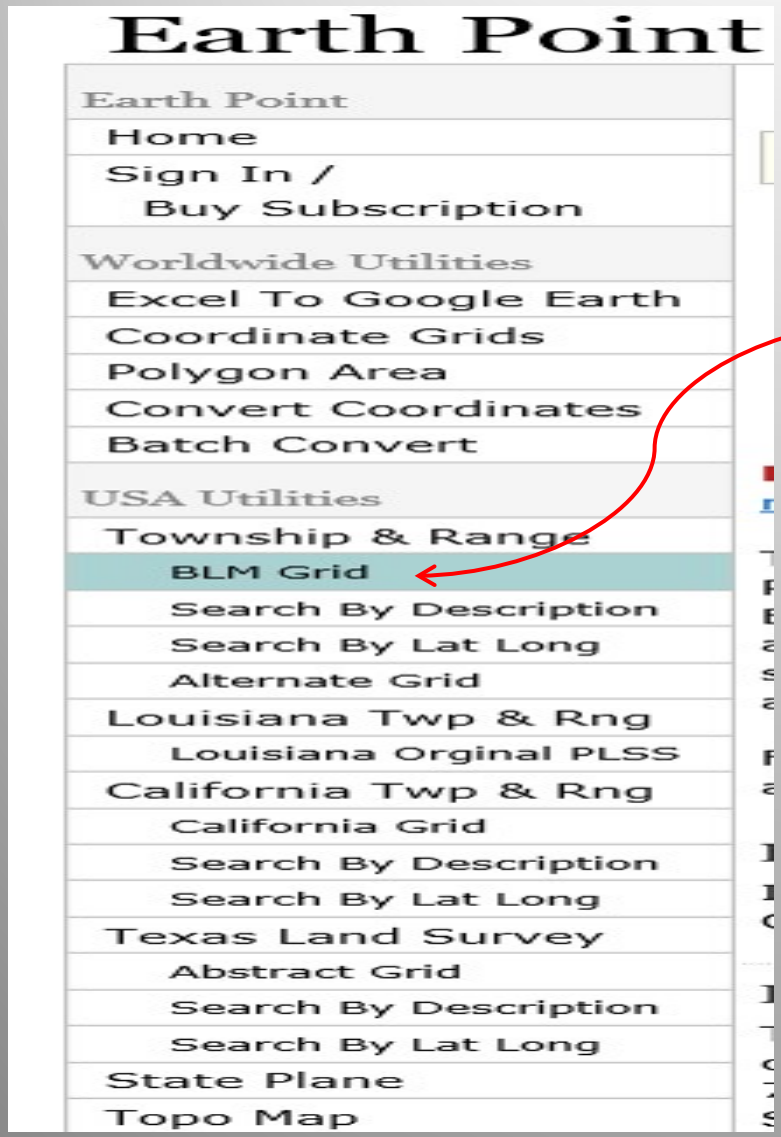


Finding the aliquot part by GPS.

- You can enter the GPS coordinates.

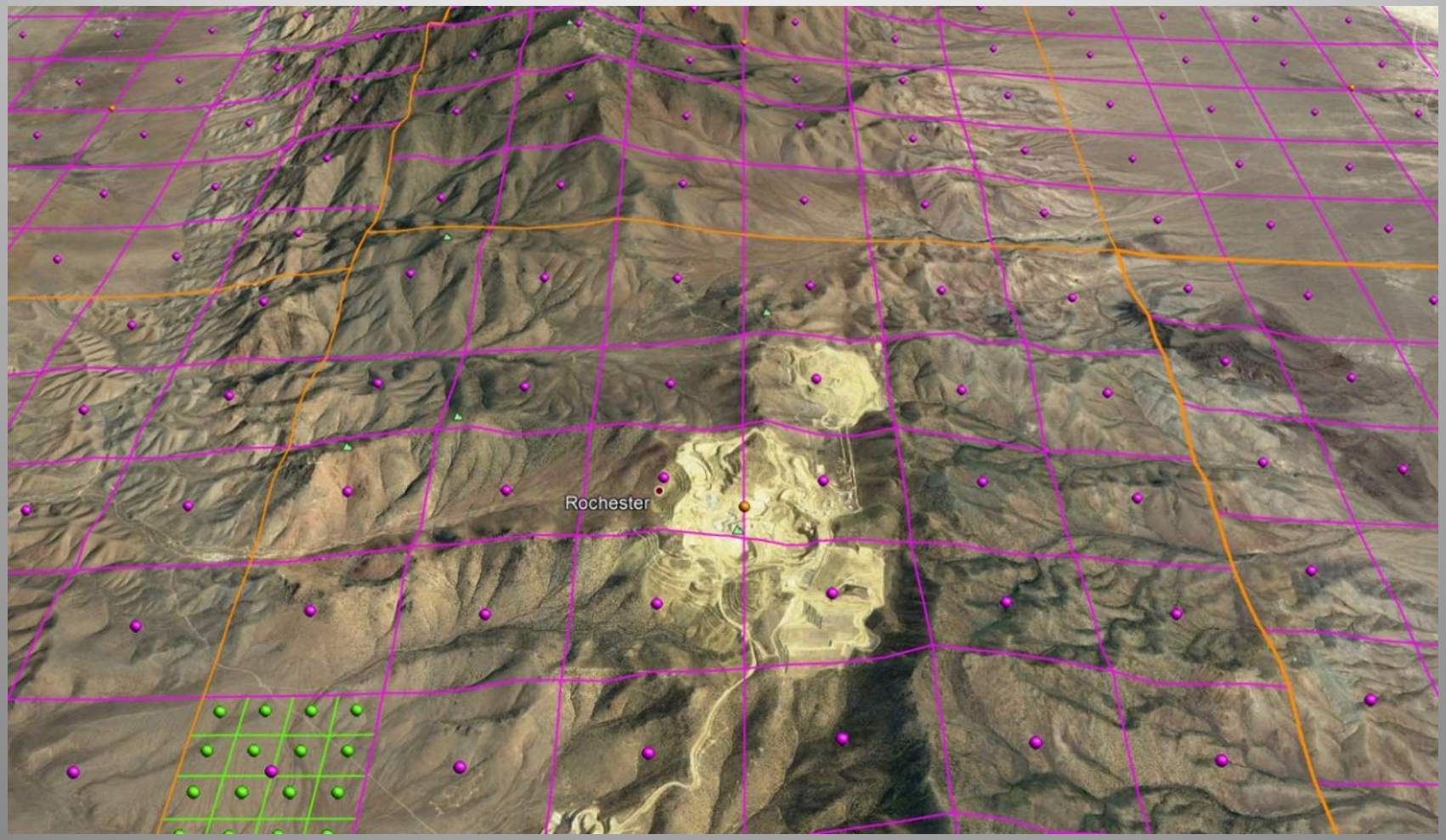


BLM Grid

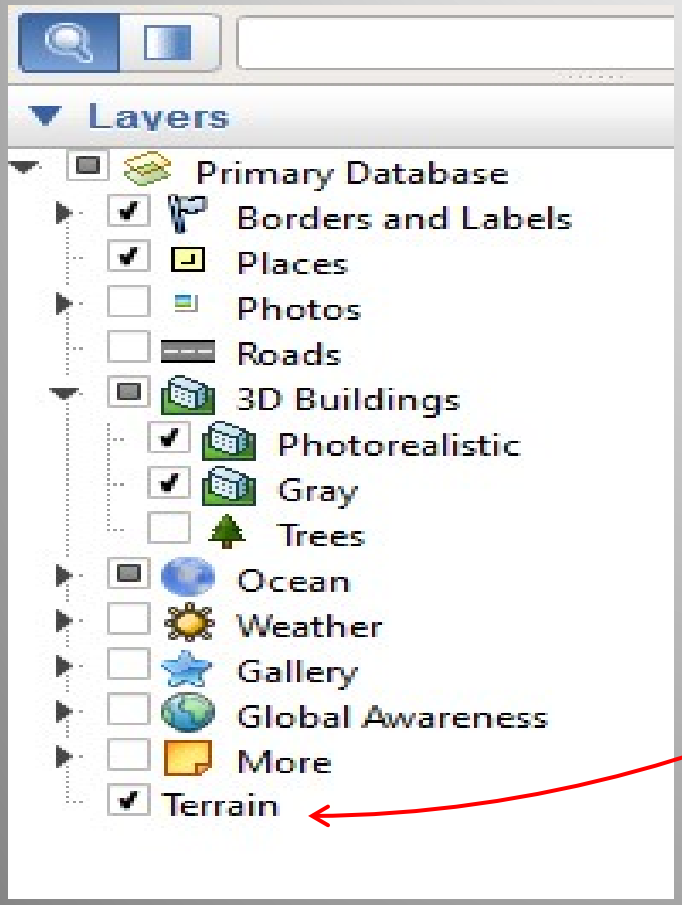


Click on BLM Grid

All of the sections in a grid format

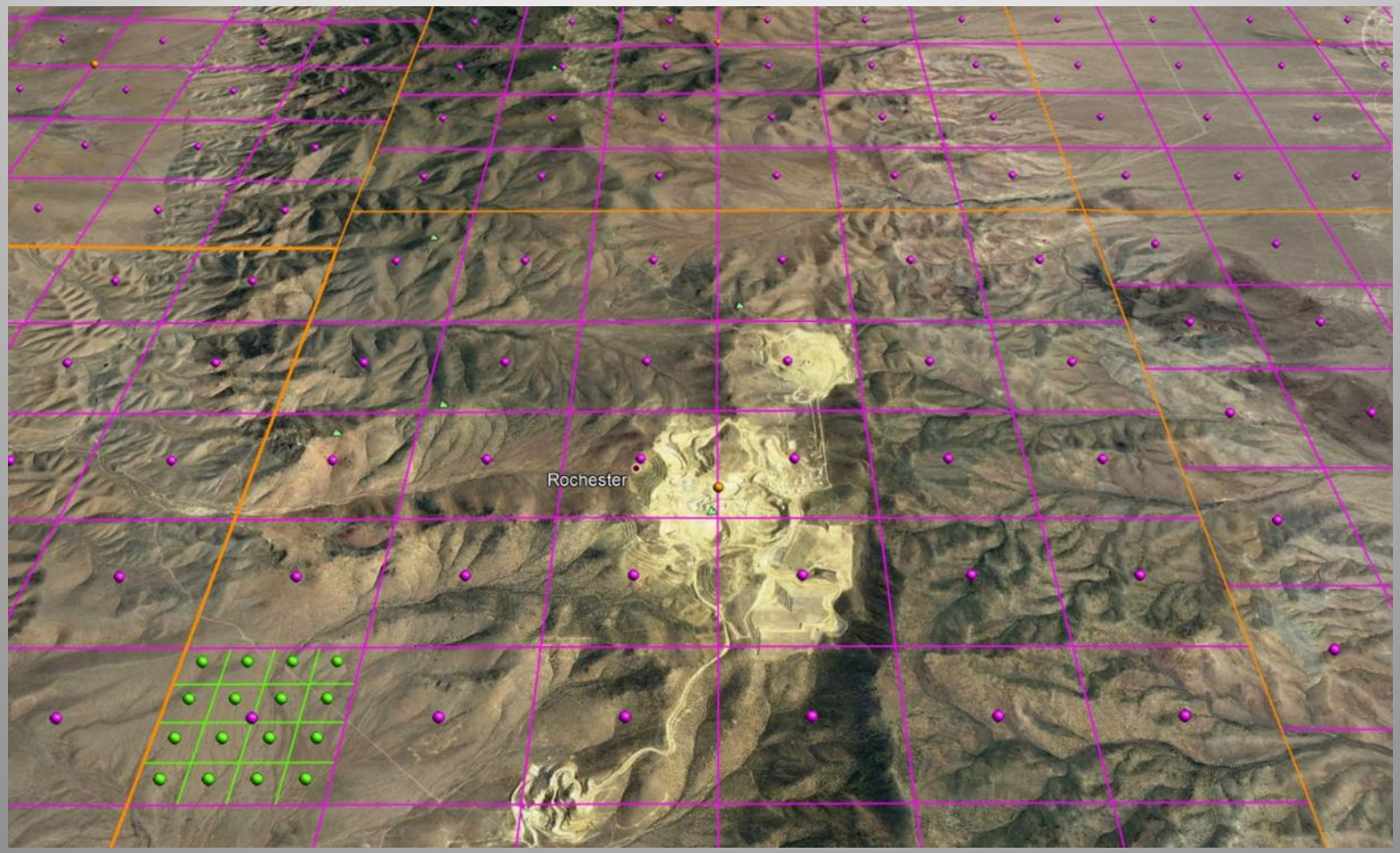


Terrain



- Uncheck the terrain box

Without the terrain function



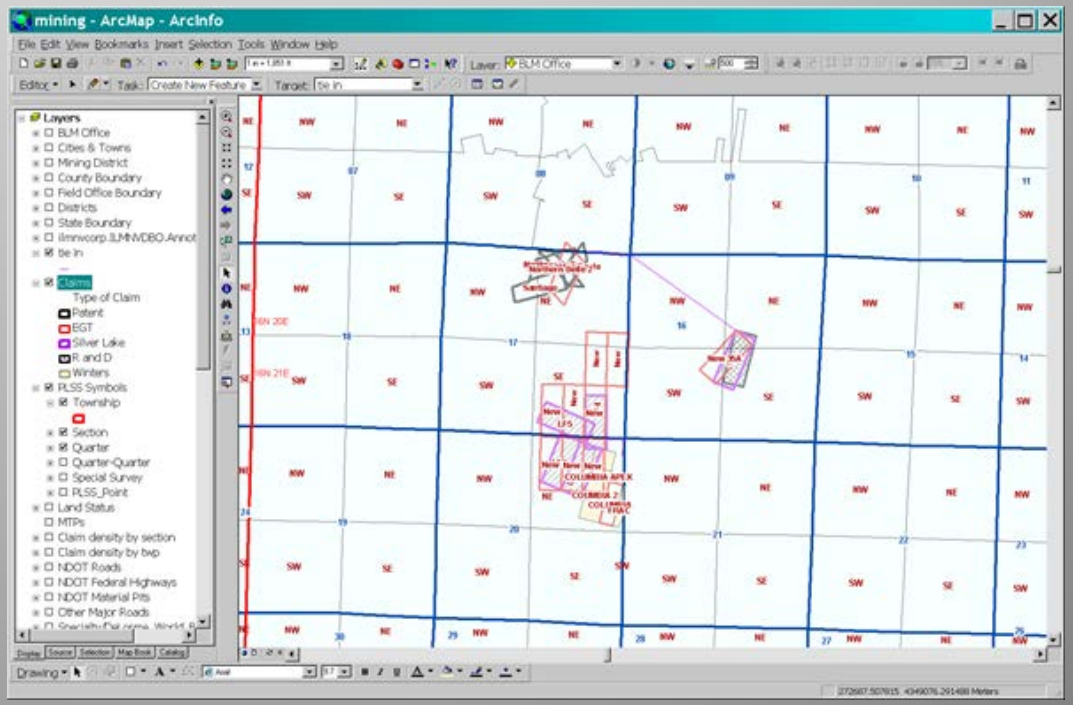
How does our office adjudicate the location of your claim?

How we look at your map.

- In the past our office was forced to determine your claim location with:
- A ruler,
- A protractor,
- And a Master Title Plat (MTP).

About 12 years ago the GIS specialist in our office showed us how we could plot mining claims.

- Since that time we have refined our process and identified where, when and how; we should tap into this resource.



Let's begin with the regulations:

Have you asked yourself any of these questions…?

- *What is required?????*
- *Do I need to hire a professional surveyor?*
- *Do I need to file a map for every claim?*
- *Why are tie in points such a big deal?*
- *Do I have to use the section corner as a tie point?*
- *What alternatives do I have for tie points?*
- *Are GPS coordinates acceptable?*

- What is required?????
  - ✓ Answers to most of your questions can be found at 43 CFR 3832.12.
- Do I need to hire a professional surveyor?
  - ✓ No, see 43 CFR 3832.12(a)(2)(iv)
- Do I need to file a map for every claim?
  - ✓ No, under certain circumstances, a narrative is all that is required.
- Why are tie in points such a big deal?
  - ✓ Before we can find your claim we need some place to start.
- Do I have to use the section corner as a tie point?
  - ✓ No, although the PLSS is the most common tie, the regulations provide alternatives.
- What alternatives do I have for tie points?
  - ✓ There are a number of alternatives. We will address each of these in this presentation.
- Are GPS coordinates acceptable?
  - ✓ Yes, but you need to make sure they are accurate. And remember, you will need more than just a GPS coordinate.
- What if I can't find a brass cap?
  - ✓ The cadastral survey is marked in the field with brass caps. If you can't find one, the township may be unsurveyed. You may decide to use an alternative.

3 steps to success.

1. You must file either:
   - A topographical map,
   - A narrative, or
   - A sketch.
2. Tying the description to a known monument.
3. Accurately enough for BLM to find your claim on the ground.

If your filings provide these 3 things, your location should meet all of our requirements.

Where did I find these requirements?

43 CFR 3832.12

Title 43: Public Lands: Interior PART 3832 LOCATING MINING CLAIMS OR SITES Subpart A

- (A) ***A topographical map*** published by the U.S. Geological Survey with a depiction of the claim or site; or
- (B) ***A narrative or sketch*** describing the claim or site and ***tying*** the description to a natural object, permanent monument or topographic, hydrographic, or man-made feature.
- (ii) You must show on a map or sketch the boundaries ***and position*** of the individual claim or site by aliquot part within the quarter section ***accurately enough for BLM to identify the mining claims or sites on the ground.***

43 CFR 3832.12(a)(2)

THE REGULATIONS SAY WE CAN USE:

- A Topo map,
- A Narrative,
- Or a Sketch.

Let's review a location by Topo map…

Ok, so the regulations tell us we <u>can</u> use:

- *A topo map.*

The regulations tell us you can use a Topo map published by the U.S. Geological Survey.

USGS

43 CFR 3832.12(a)(2)(i)(A)

Note: you will need a tie in for the following:

- ***A narrative***
- ***A sketch***

Since you are using the contour lines to tie your location in, it is essential that you depict the claim to scale.

Why don't you need a tie in with a Topo map?

A tie in is always preferred, for example, you can tie in to a Bench Mark on a Topo. However, when you sketch your claim on a topo map, you automatically indicate a topographical tie in feature. The difficult part is depicting the claim ***<u>to scale</u>*** correctly.

THE REGULATIONS SAY WE CAN USE:

- A Topo map,
- A Narrative,
- Or a Sketch.

Let's review a location using a narrative…

An example of an aliquot part narrative.

The W1/2SW1/4NW1/4 is 20 acres.

We know where this is because of the approved survey.

Caution, remember what your commas mean in an aliquot part description.

- Use of the comma = "and the" No comma = "of the"

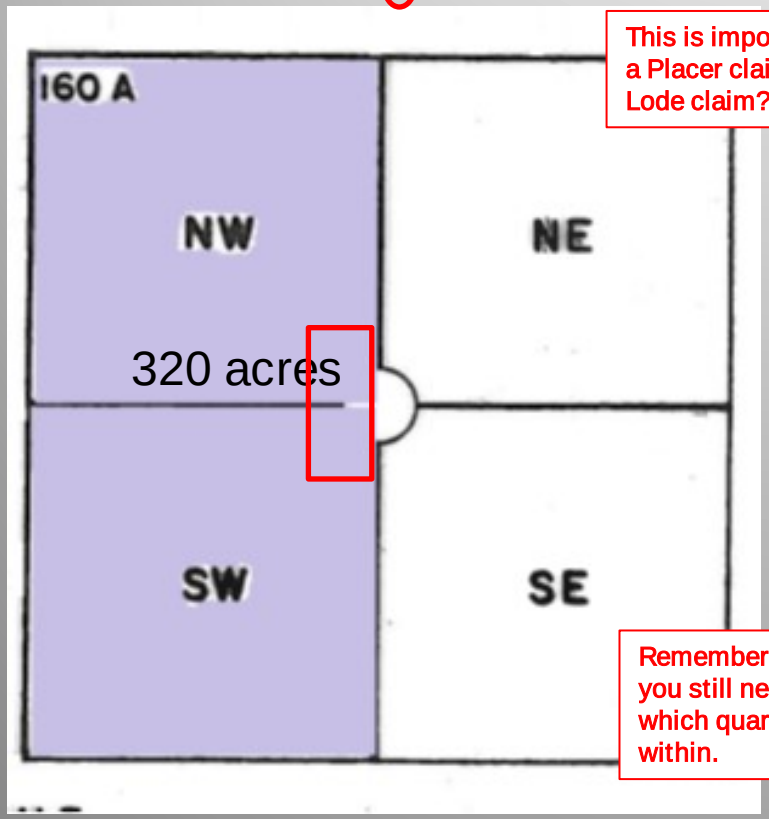
❖ "SW1/4NW1/4" is read as..SW1/4 of the NW1/4 =40 ACS
(one forth of a quarter section..1/4 of 160 acres=40 acs)

❖ "SW1/4, NW1/4" is read as..SW1/4 and the NW1/4 =320 ACS
(a quarter section and a quarter section..160 acs and 160 acs=320 acs)

43 CFR 3832.12(a)(2)(i)(B)

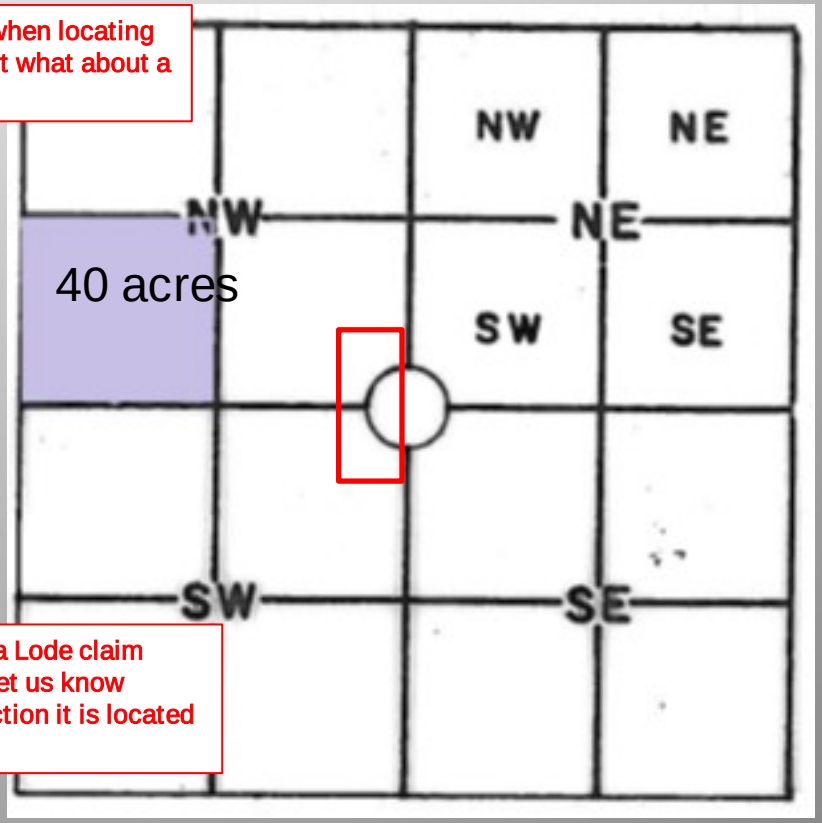
We can illustrate the aliquot part difference with the diagrams below.

The SW and the NW SW1/4, NW1/4



This is important when locating a Placer claim. But what about a Lode claim?

The SW of the NW SW1/4NW1/4



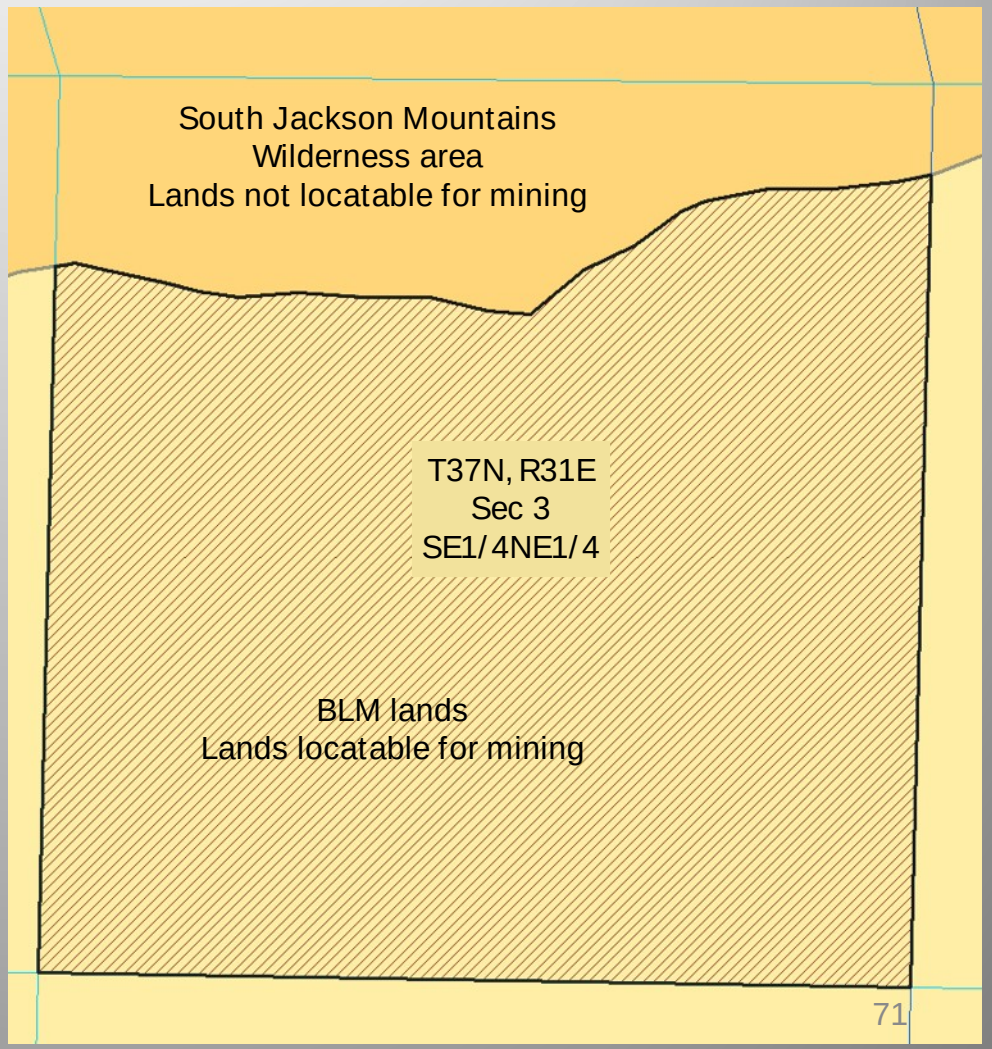
Remember, with a Lode claim you still need to let us know which quarter section it is located within.

How can you describe a portion of an aliquot part?

- In some cases you might want to locate a placer claim described by aliquot part in an area that has a withdrawal (WDL). The lands within the WDL are not locatable, the lands outside the WDL are locatable. The WDL does not cause the survey to be lotted. Here are some examples:
- Wilderness areas (Wdns)
- Areas of Critical Environmental Concern (ACEC)
- National Conservation Area (NCA)

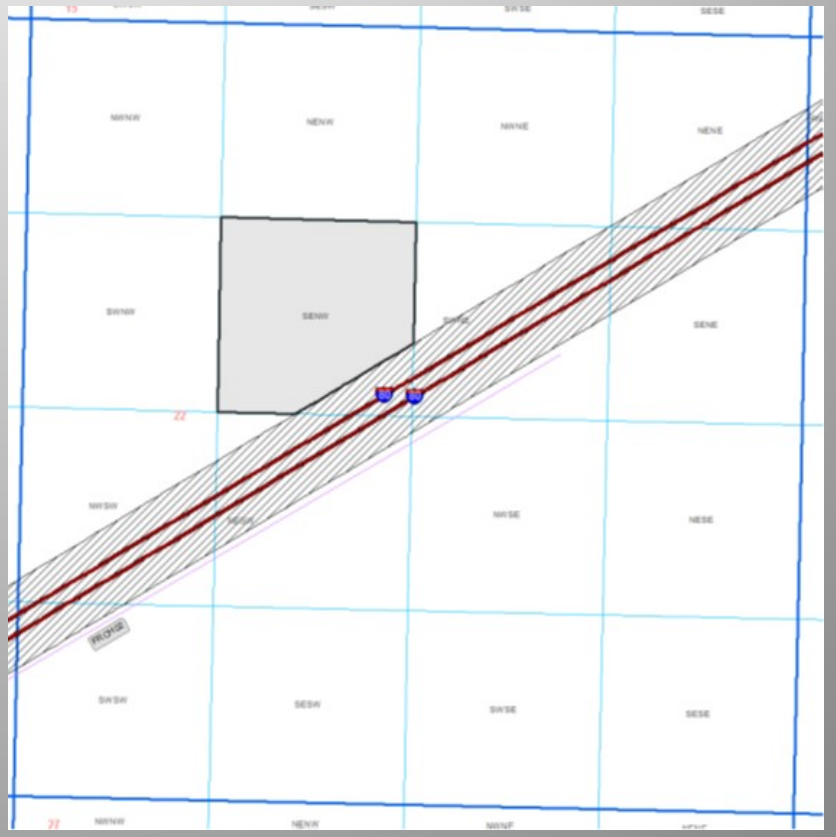
"Excluding"

- Sometimes we have to describe aliquot parts "excluding" lands that are not locatable for mining.
- By describing our placer claim as the SE1/4NE1/4 **excluding** the lands withdrawn for the wilderness area, we are providing a narrative that is aliquot and provides a northern boundary that adjoins the WDL lands.
- This eliminates any survey error.



Sometimes it's a Right-of-Way that prevents you from locating the complete aliquot part.

- Federal Aid Highway Right-of-Way.
- This ROW is an easement (200 feet on either side of the centerline)..and is not open to mineral entry.
- Remember, placer claims are surface claims.

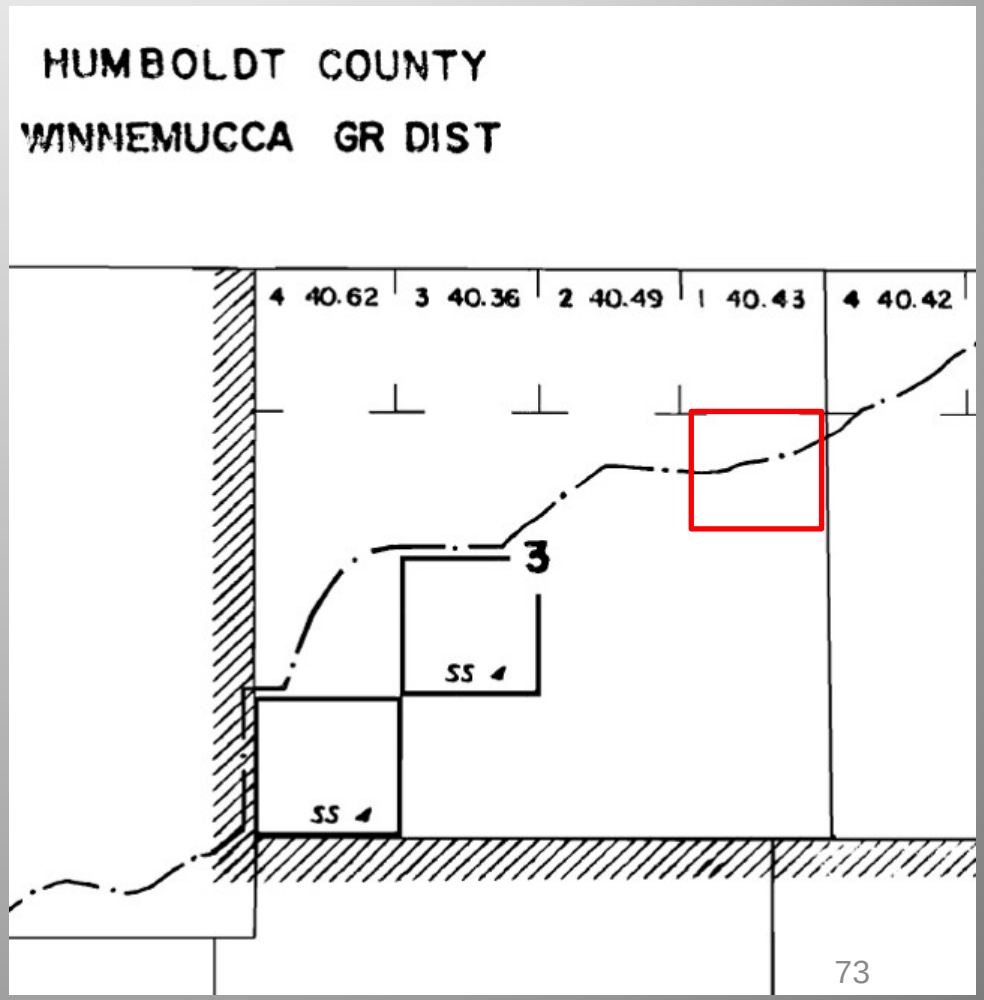


Advantages

- Using the term “Excluding” provides 2 advantages:

1. You don’t need a complicated metes and bounds description along the wilderness boundary.

2. There are no fractions between your claim and the wilderness area.



How to identify the WDL lands.

- When you are excluding WDL lands, you should identify the WDL lands by the serial number.
- On the Historical Index (HI), you will find the serial number for the WDL.
- The SE1/4NE1/4 **excluding wilderness area N74469**

TOWNSHIP 37 NORTH RANGE 31 EAST OF THE MOUNT DIABLO MERIDIAN, NEVADA

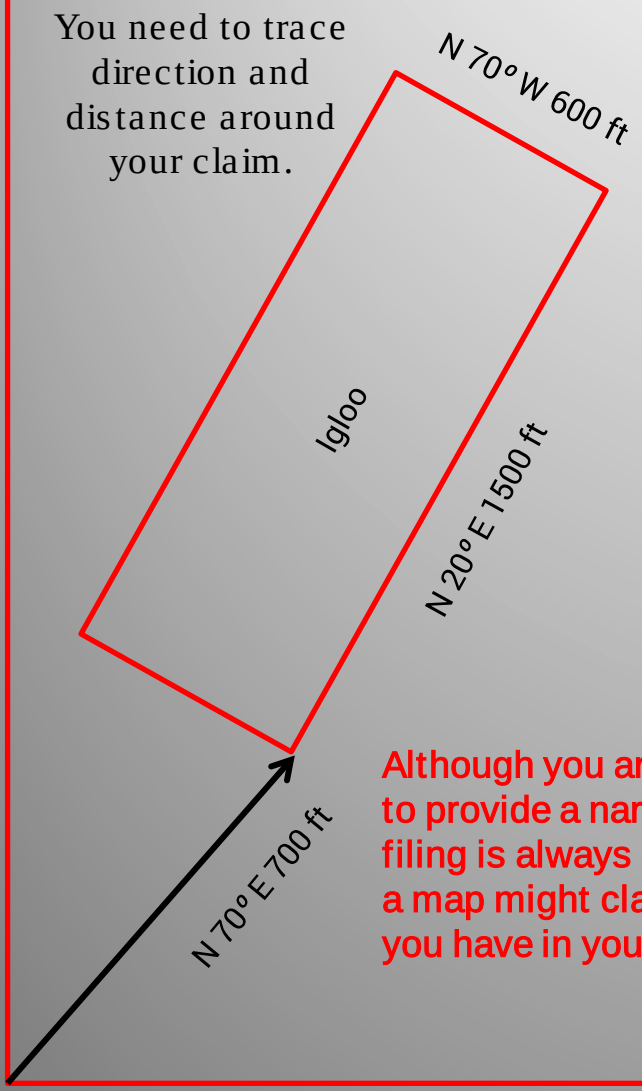
Sec	Subdivision	Other Desc	Acres	Kind of Entry	Serial or Order Num	Date of Action	Date Posted	Remarks
2	Lots 3,4,SWNW; (W/I)							
3	Lots 1-4, S2N2,NWSW;							
4	(W/I);							
5	All;		Total					
8	N2,N2SE;	Key	56800.00	South Jackson Mountains				N 74469,
9	NWNE,N2NW,SWNW. (W/I)	38N30E		Wdns	PL 106-554	12/21/2000	12/31/2003	Order eff 10/5/2000

Metes and Bounds…

To provide a metes and bounds description, you will need the following location data:

- A tie in to a known monument. This tie in data must include direction and distance from the known monument to a fixed point on the mining claim.
- The “metes” refers to distance and the “bounds” refers to direction. A metes and bounds description provides direction and distance data for each of the claim boundaries.
- Regulations state that you must provide location information accurately enough for BLM to identify the mining claims or sites on the ground. Therefore, unless your claim boundaries are set in a due north/south, east/west direction, you will need to provide our office with the correct distance & bearing for each of your boundaries.

Metes and Bounds…continued



- Begin with a tie in…*"From the SW corner of section 10 go N 70° E 700 ft to the SE corner of the Igloo claim".*
- Then..*N 20° E* 1500 ft *to the NE corner of the Igloo claim;*
- *Thence N 70° W 600 ft to the NW corner;*
- *Thence S 20° W 1500 ft to the SW corner;*
- *Thence S 70° E 600 ft to the SE corner and point of beginning.*

Although you are only required to provide a narrative, a map filing is always preferred and a map might clarify any errors you have in your narrative.

43 CFR 3832.12(a)(2)(i)(B)

THE REGULATIONS SAY WE CAN USE:

- A Topo map,
- A Narrative,
- Or a Sketch.

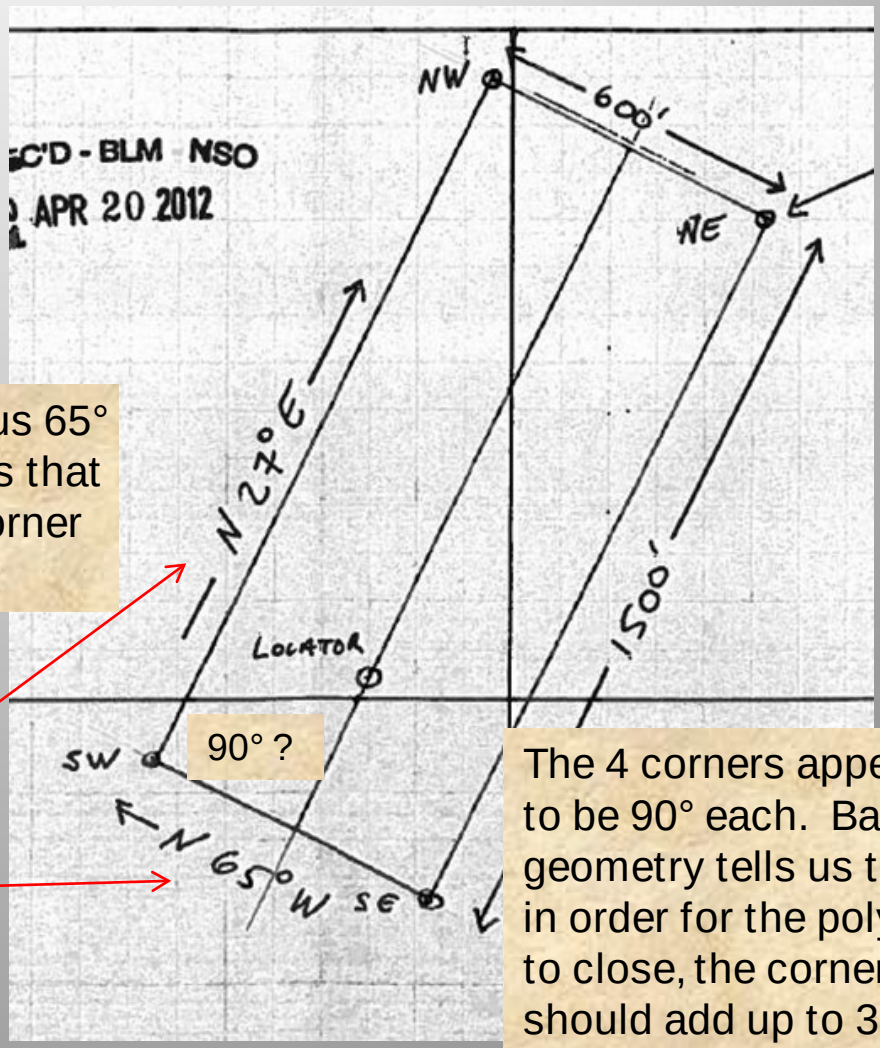
Let's review a location using a sketch…

A sketch.

Don't forget to include the position of the claim, ie.

What angle is it positioned in?

Or what is the orientation of the claim?



27° plus 65° tells us that this corner is 92°.

90° ?

The 4 corners appear to be 90° each. Basic geometry tells us that in order for the polygon to close, the corners should add up to 360°

Position of the claim

How do I locate Claims/Sites?

- **Placer claims**=aliquot part and complete lots. And under some exceptions metes and bounds.
- **Lode claims**=metes and bounds
- **Mill Sites**…maximum size of 5 acres located on nonmineral lands. Can be located by either metes and bounds or aliquot part. This means you can locate a mill site as you would a lode or placer claim.
- **Tunnel sites**…maximum of 3000 feet. You need to provide the location of each end of the tunnel. Note..tunnel sites are a prospecting method, not a claim. Tunnel sites are used to find minerals underground. When you find the vein, you then need to file a lode claim. In theory, you should be able to file up to 5 lode claims on either side of the tunnel (5 claims 600 feet wide = 3000 feet).

Tie in data...Lets talk about tie in points,

- It is critical that you provide a starting point.
- In order to find your claim on the ground, we need to know where to begin.
- The most commonly used tie in is the Public Land Survey System (PLSS). Since you need to indicate what quarter section your claim is in, this information should be right in front of you.
- However, the regulations provide a number of other tie in options.

43 CFR 3832.12(a)(2)(i)(B)

Alternative tie in points:

43 CFR 3832.12 When I record a mining claim or site, how do I describe the lands I have claimed? (2)(i)(B)..tying the description to a:

- Natural object,
- Permanent monument,
- Topographic,
- Hydrographic, or
- Man-made feature.

A natural object:

- ***An object occurring naturally; not made by man.***

Of course, it wouldn't be prudent to use something like a tree as your tie in. The tree could be cut down and I don't think the tree's location could be found on a map.
43 CFR 3832.12(a)(2)(i)(B)

Does anyone remember the "Shoe Tree" on Hwy 50? What happened to it?

A permanent monument:

- ***A monument of a lasting character for marking a mining claim; it may be a mountain, hill, or ridge.***

Mountain peaks are often recorded on topo maps.

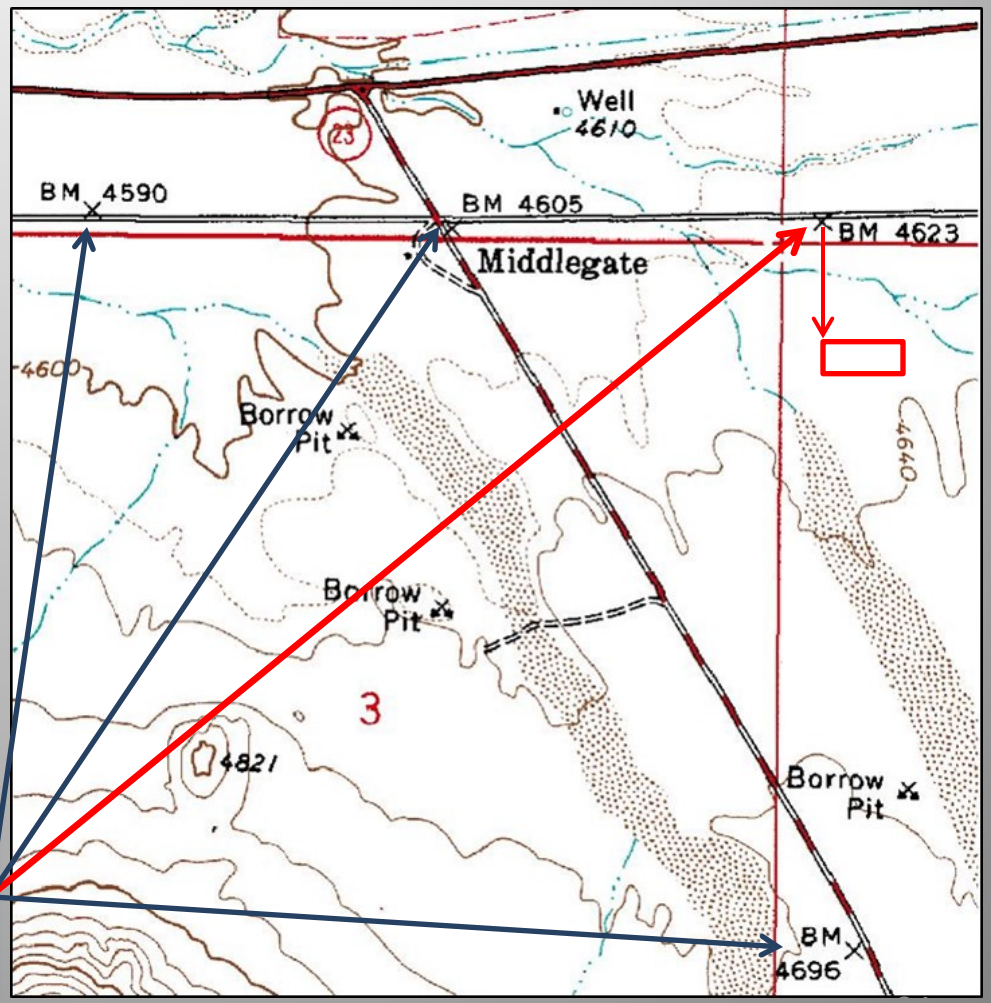
Caution: when using something like a ridge, you will need to identify a point on the ridge.

A topographic feature:

- ***Natural features of the earth's surface; representing relief.***

Often, when using a topo, claimants will use a Benchmark for a tie in. Notice the lack of contour lines in this area.

The NW corner of the claim is 2000' south of BM 4623



A hydrographic feature:

- ***The map representation of the surface water features of the landscape.***

Caution: when using something like a river, you will need to identify a point on the river.

Also, rivers can change course from time to time.

A man-made feature:

- ***All features created by man.***

Caution: when using something like a highway, you will need to identify a point on the highway.

And be reasonable..If you tell me your tie in is at the fork in the “road” (meaning DIRT TRAIL)..think about all the forks you passed on you way to the mining claim.

Are GPS coordinates acceptable tie in points?

- ***Yes,*** because the data identifies a specific starting point.

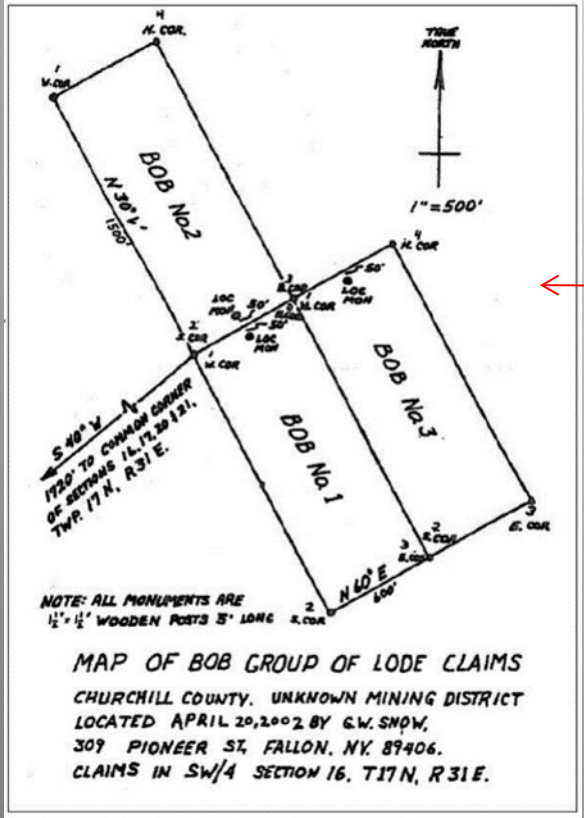
Remember, the intent of the regulation is so the BLM can ***accurately identify the mining claim on the ground***. You could think of the GPS coordinate as a witness post.

However, **GPS coordinates alone are not sufficient**. You are still required to provide the State, Meridian, Township, Range, Section and Quarter Section.

Which can be easily determined using the earthpoint link.

Adjudicating the map you filed.

What does BLM do with your map after it is received?



CERTIFICATE OF LOCATION
LODE MINING CLAIM

TO ALL WHOM IT MAY CONCERN:

The locator hereby certifies that he has caused to be located the _____ Lode Mining Claim in the following quarter sections(s):

1/4	Section	Township	Range	Meridian

RECORDER'S STAMP

in _____ County, Nevada, on the ____ day of _____, 20__.

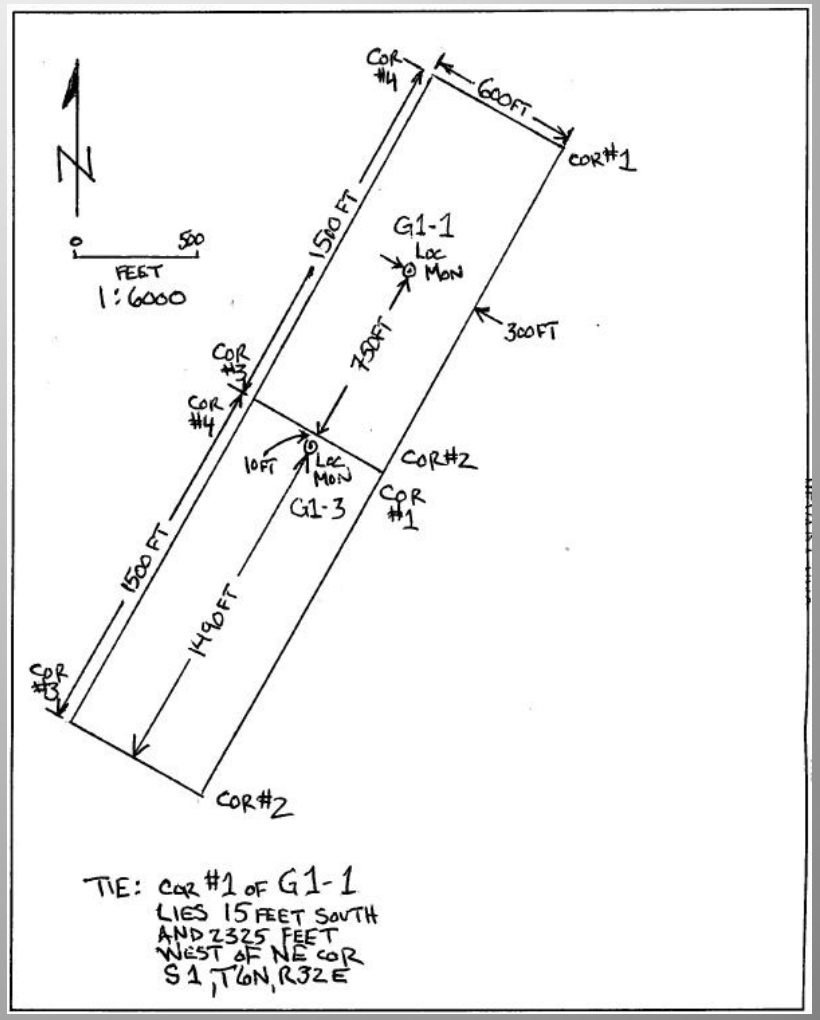
Your map usually comes in with your COLs for new filings.

We will use your map to verify that the COLs are correct and the lands are open for location.

In all cases, the location illustrated on your map must match the location indicated on your COL.

Filing fees…

- All claim maps require a filing fee of $0.
- All amended claim maps require a filing fee of $0.
- You can't beat a value like that.



All maps should include some basic elements.

- A North arrow.
- A scale.
- Township and Range.
- Section.

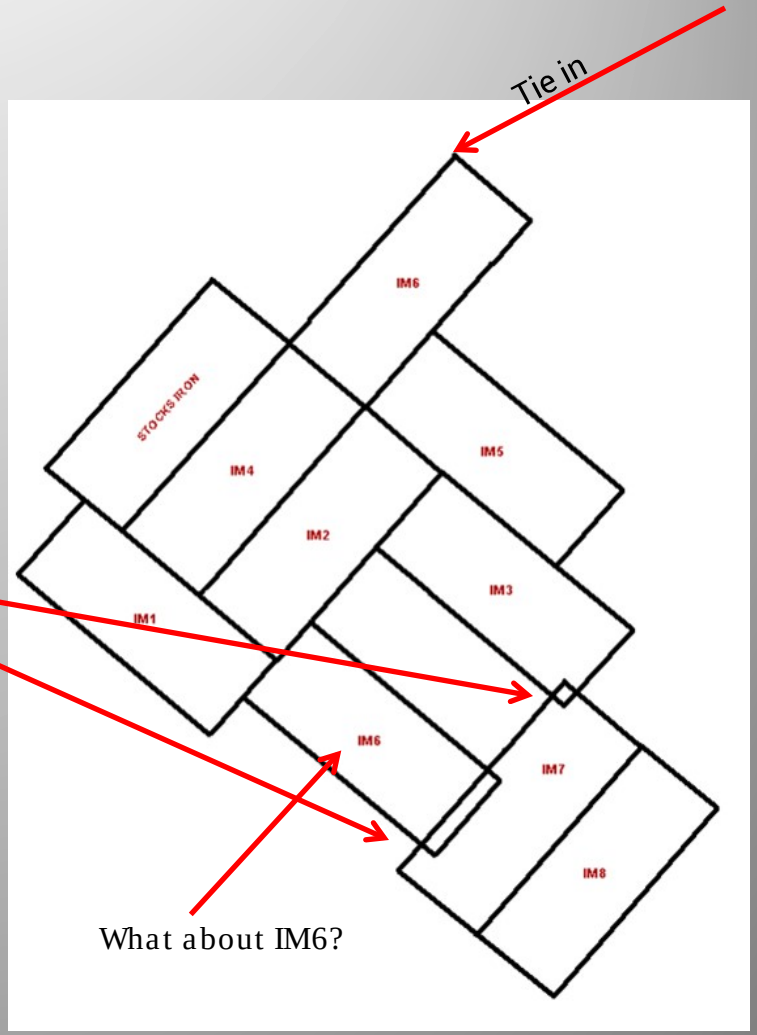
- Actually, your map should illustrate the location of your claims within the quarter section..see 43 CFR 3832.12(a)(2)(ii)

You must show on a map or sketch the boundaries and position of the individual claim or site by aliquot part ***within the quarter section*** *accurately enough for BLM to identify the mining claims or sites on the ground.*

Claim blocks:

- When you locate a block of claims that are contiguous, only one tie in point with direction and distance is required.

- One exception is when your claims are offset from each other. We need to know what the offset is or a separate tie in.



Offsets

Don't be too ambiguous.

- Please don't say, "my claim is approximately 1.6 miles in a Northwest direction from the courthouse in Tonopah Nevada."

What part of the courthouse do we start at?

Direction…The Northwest could be described as a bearing of 30º, or 45º, or 60º, etc.

Distance…Where did you come up with "1.6 miles"??
Were you watching your odometer while you were 4 wheeling through the hills around Tonopah??

How should I express Direction and/or Position?

What types of data are acceptable?

Let's start with the compass.

North, South, East, and West are always easiest.

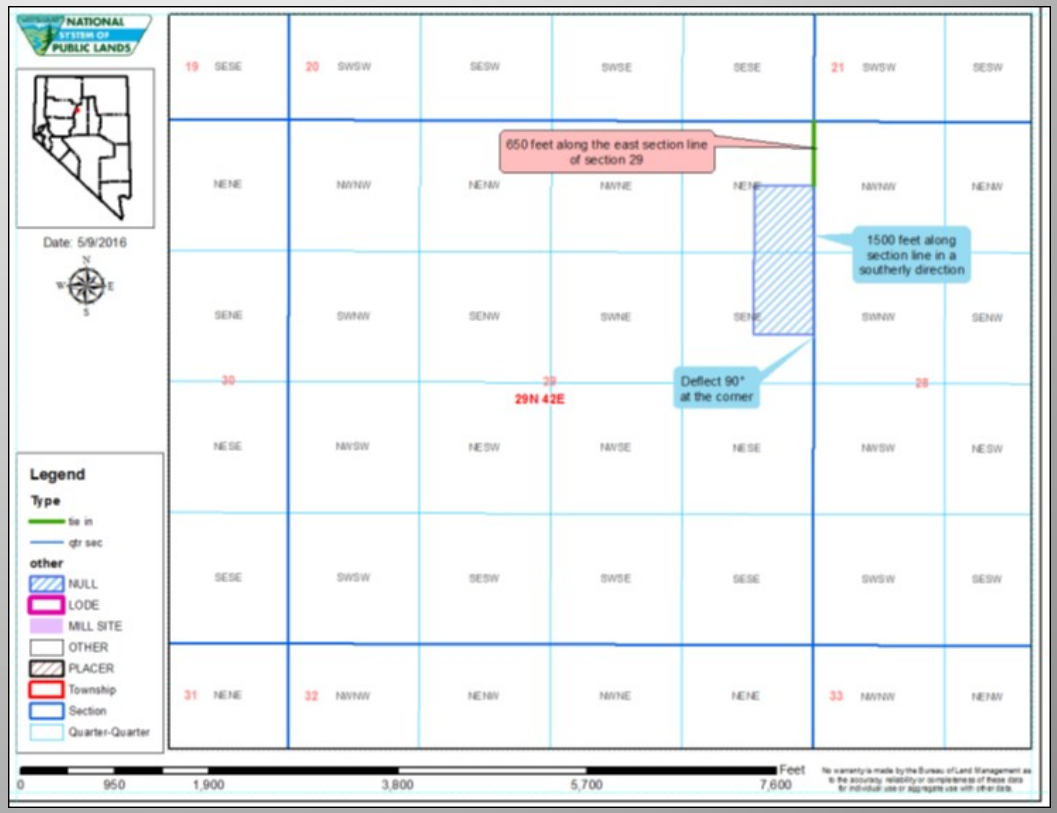
You could record the direction like this, ***"the NW corner of my claim is 550 feet south and 1200 feet east of the NW corner of section 20, T32N, R50E".***

With this method, no angles or degrees are needed!

But you need to remember, this does not follow the PLSS. North means zero degrees. And, the PLSS does not run due north/south.

Or, you can use the cadastral survey information.

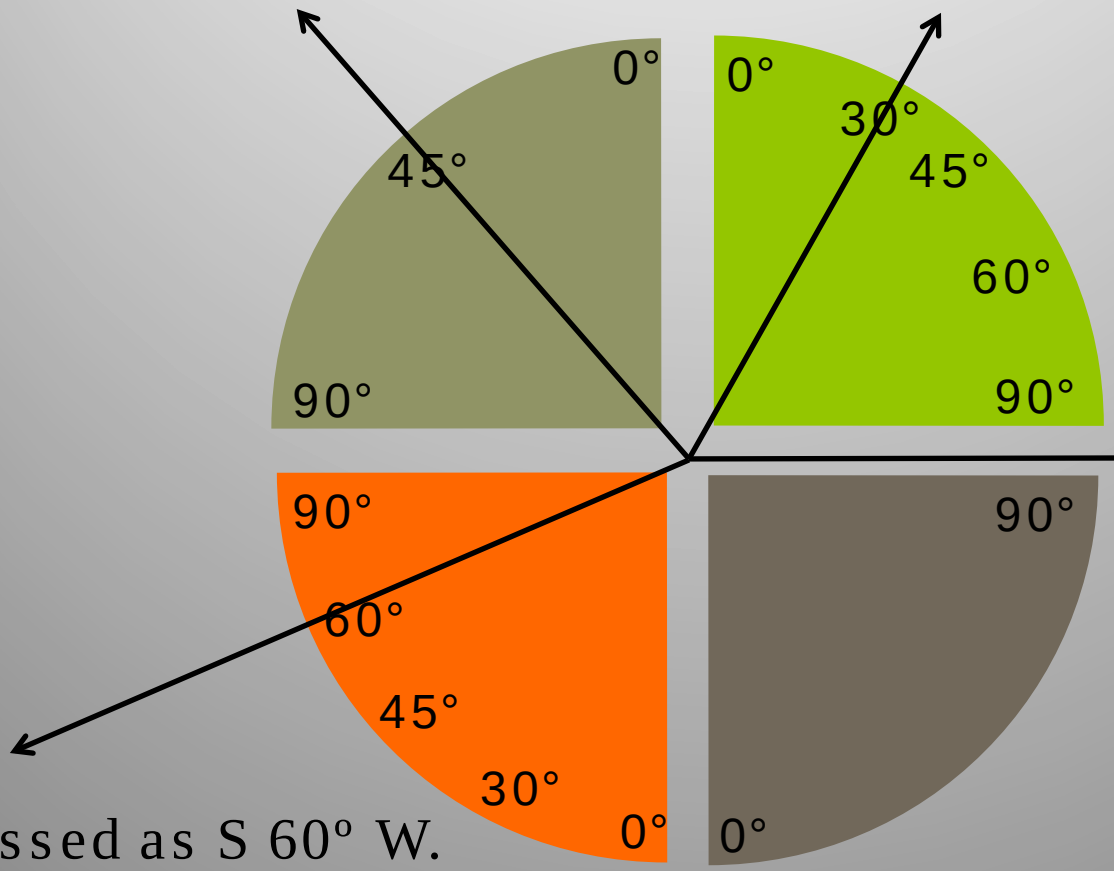
- From the NE corner of section 29, go 650 feet along the section line in a southerly direction.
- The east boundary of the claim is adjacent to the section line.



- At the SE corner of the claim, deflect 90° and go 600 feet to the SW corner.

Quadrant and Bearing...

- expressed as N 45º W.
- expressed as N 30º E.

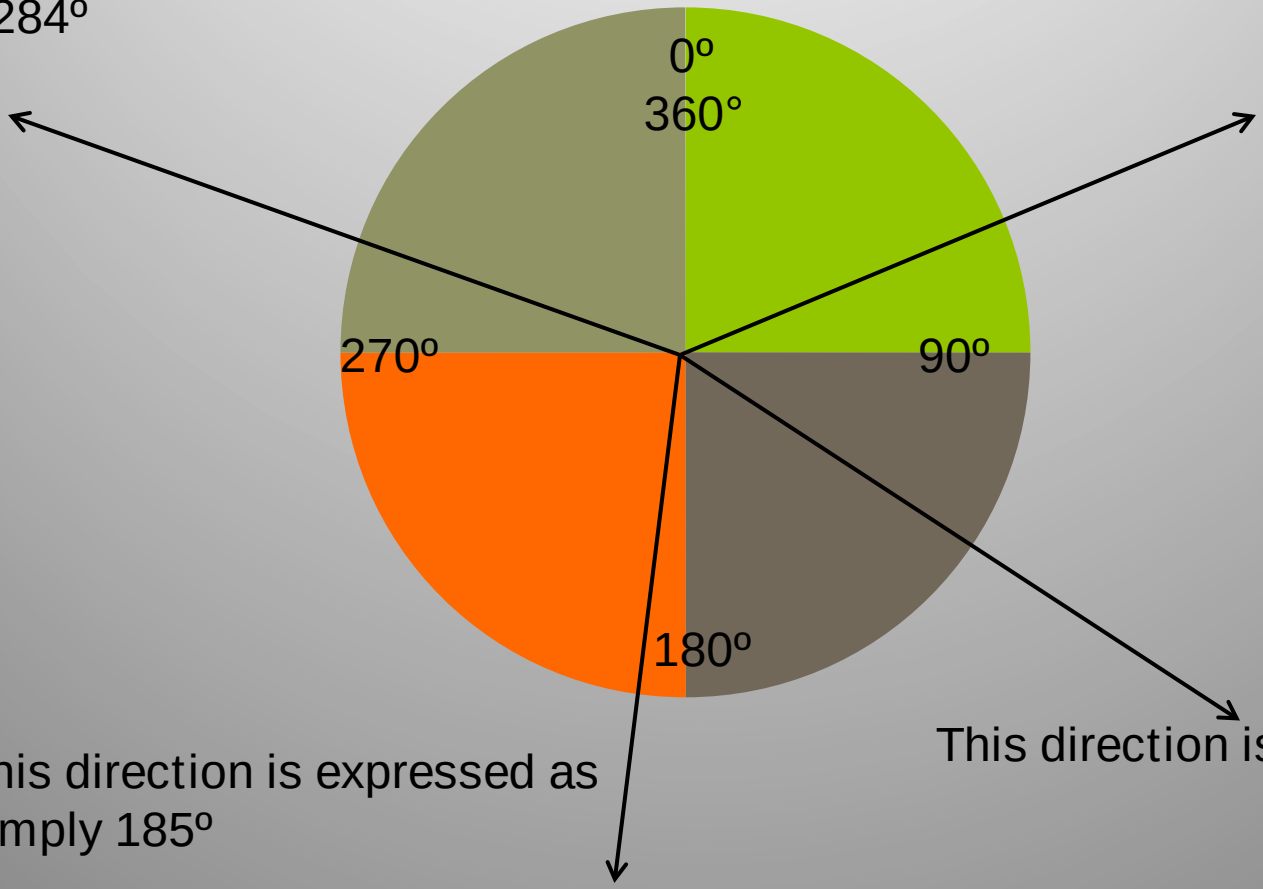


- expressed as either N 90º E or S 90º E.
- expressed as S 60º W.

North Azimuth...

This direction is expressed as simply 284º

This direction is expressed as simply 70º



This direction is expressed as simply 185º

This direction is expressed as simply 100º

Direction format. You can use:

- Degrees minutes seconds. 68º 11’ 55”
- Degrees decimal minutes. 68º 11.91666’
- Decimal degrees. 68.1986111º

There are resources online that can convert your data into any one of these formats.

Please note that there are only 60 seconds in a minute and 60 minutes in a degree. *68° 75’ 55” is not acceptable.*

Why is the position of your claim so important?

- You can give us good tie in data from a section corner to the corner of the claim. However, we can't find the other claim corners without your position data.

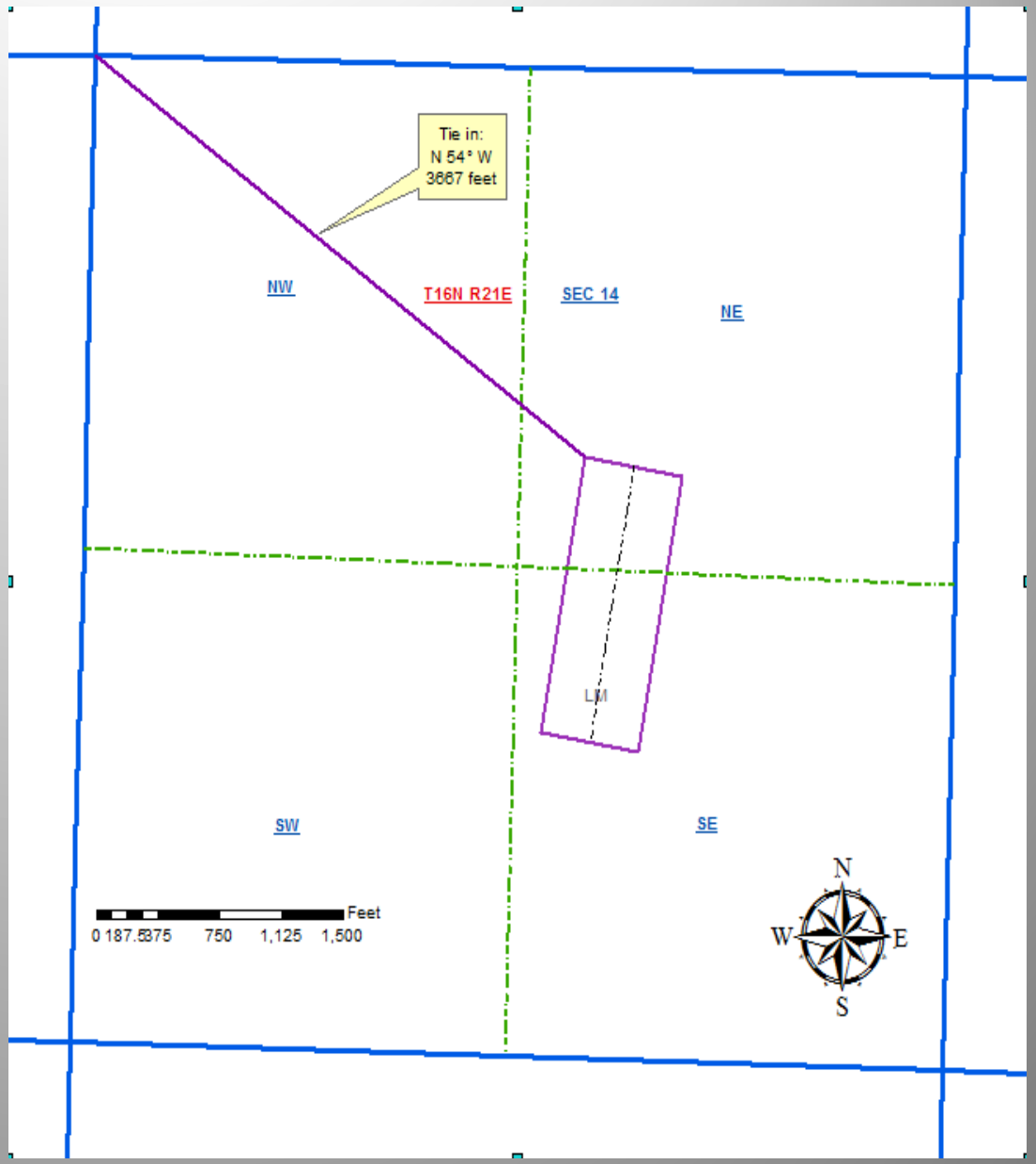
- Also, we are required to verify that the quarter sections listed on your COL match the quarter sections your map.

- Consider the following example.

As you can see in this map:

- Claim 1, is in all 4 quarter sections.
- Claim 2, is in the NE1/4, SW1/4 & SE1/4.
- Claim 3, is in the NE1/4 & SE1/4.

All 3 have the same tie in data. All 3 have the same dimensions.



What about GPS???

- What type should I use?
- What type can I use?

Global Positioning System, any format is acceptable:

- You can use UTMs
- Or Latitude and Longitude.

You should always indicate the Datum you are using:

Referencing coordinates to the wrong datum can result in position errors of thousands of feet. Therefore coordinates should ALWAYS include information about the datum being referenced.

- NAD27
- NAD83

These are the 2 most commonly used datums..however, there are others. Although we prefer that you use one of these, we will adjust to your data.

Some real advantages of GPS.

- You don't have to locate a survey marker.
- You can easily stand at each corner marker and your discovery monument and take a GPS reading.
- When you get back to the office you can sketch a map with coordinates at each corner.
- Then, review your location on Eathpoint.us

Mapping Discrepancies

If you receive correspondence from our office that says we found a location discrepancy, the first thing you want to do is check your map and see if you included the datum.

- Our default is NAD83.

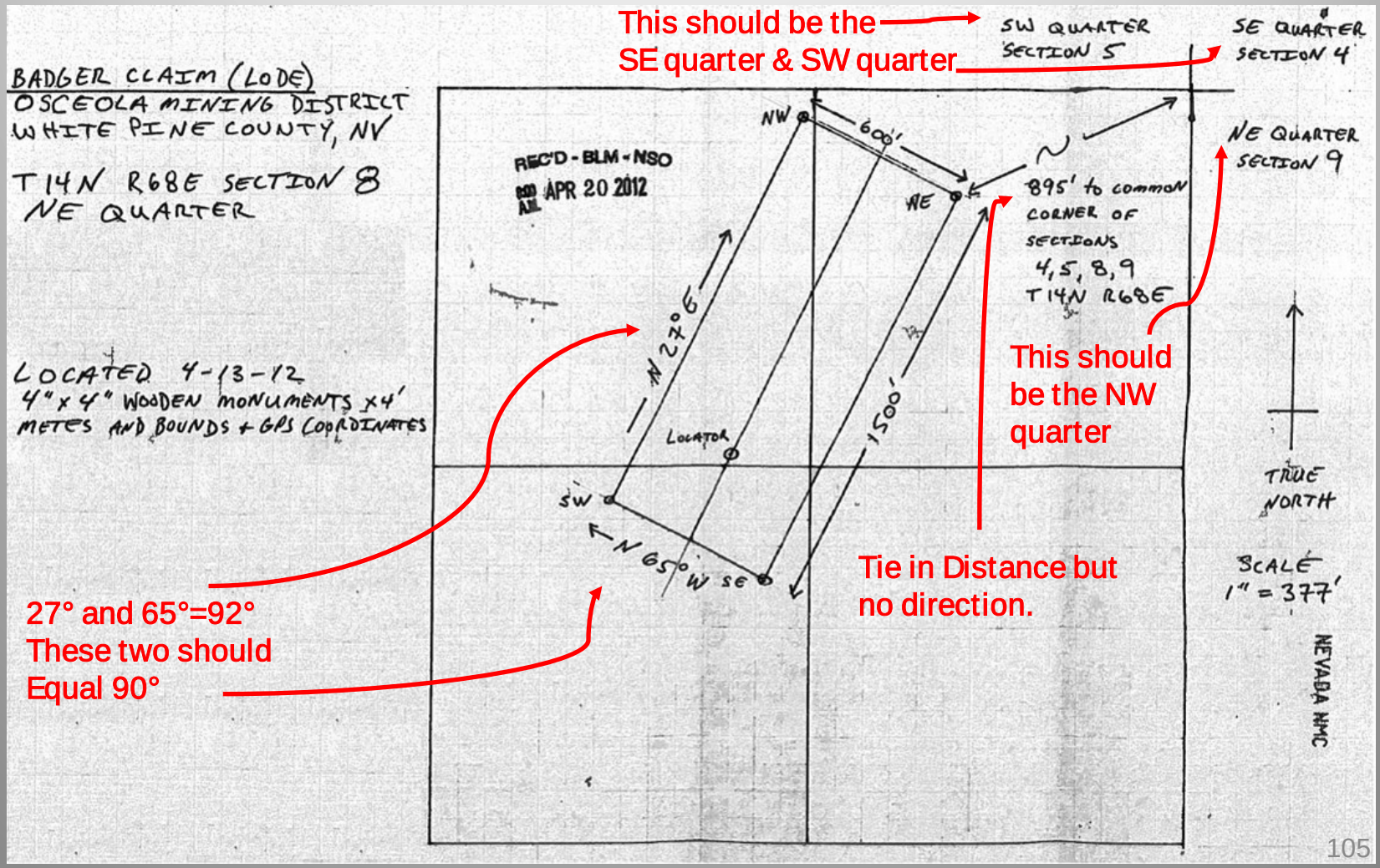
❖ If you did not provide the datum and you used something other than NAD83, you can submit an amended map with this information and we should be on the same page.

❖ If you did provide the datum and it is something other than NAD83, we probably didn't account for this variance. Just contact our office and explain the situation. We should be able to adjust to your data and verify the location of your claims.

Examples of maps previously filed.

We can learn from the successes and mistakes of others.

Inaccurate map.



GPS to the rescue.

BADGER CLAIM (LODE)
OSCEOLA MINING DISTRICT
WHITE PINE COUNTY, NV

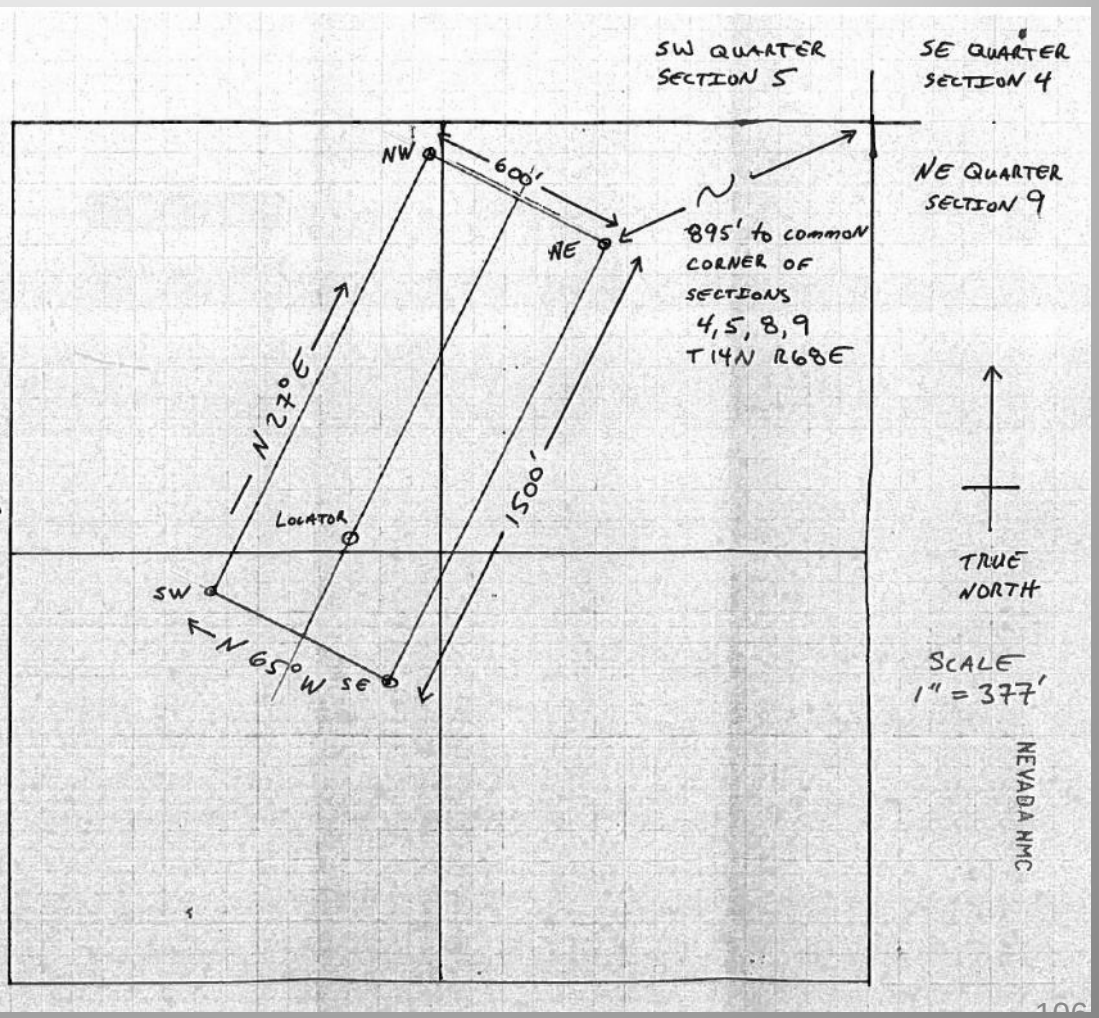
T14N R68E SECTION 8
NE QUARTER

LOCATED 4-13-12
4"x4" WOODEN MONUMENTS x4'
METES AND BOUNDS + GPS COORDINATES

MONUMENTS:

LOCATOR: LAT 39° 5'47.5
LONG 114° 21'40.5
NW CORNER: LAT 39° 5'58.9
LONG 14° 21'37.2
NE CORNER: LAT 39° 5'56.5
LONG 114° 21'30.3
SW CORNER: LAT 39° 5'45.9
LONG 114° 21 45.8
SE CORNER: LAT 39° 5'43.5
LONG 114° 1'38.9

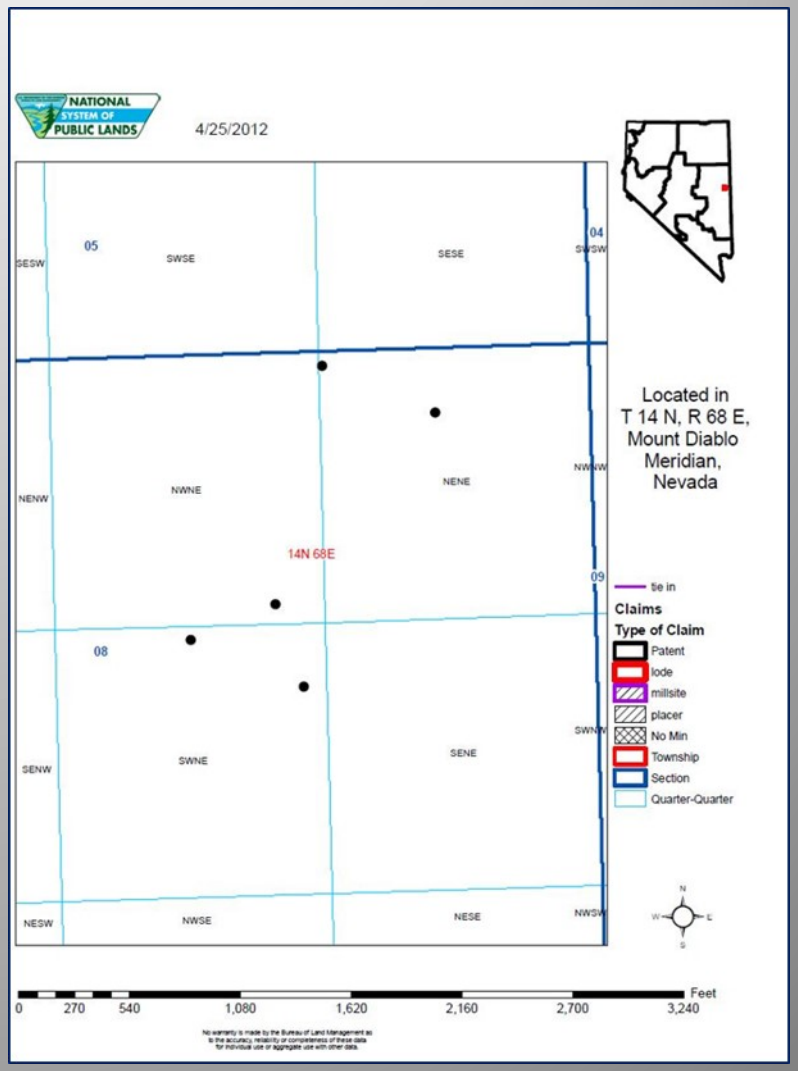
Now we can find the claim.



This is how we use your GPS coordinates...

Plot the GPS coordinates.

- The dots represent the GPS coordinates of all 4 corners and the discovery monument.

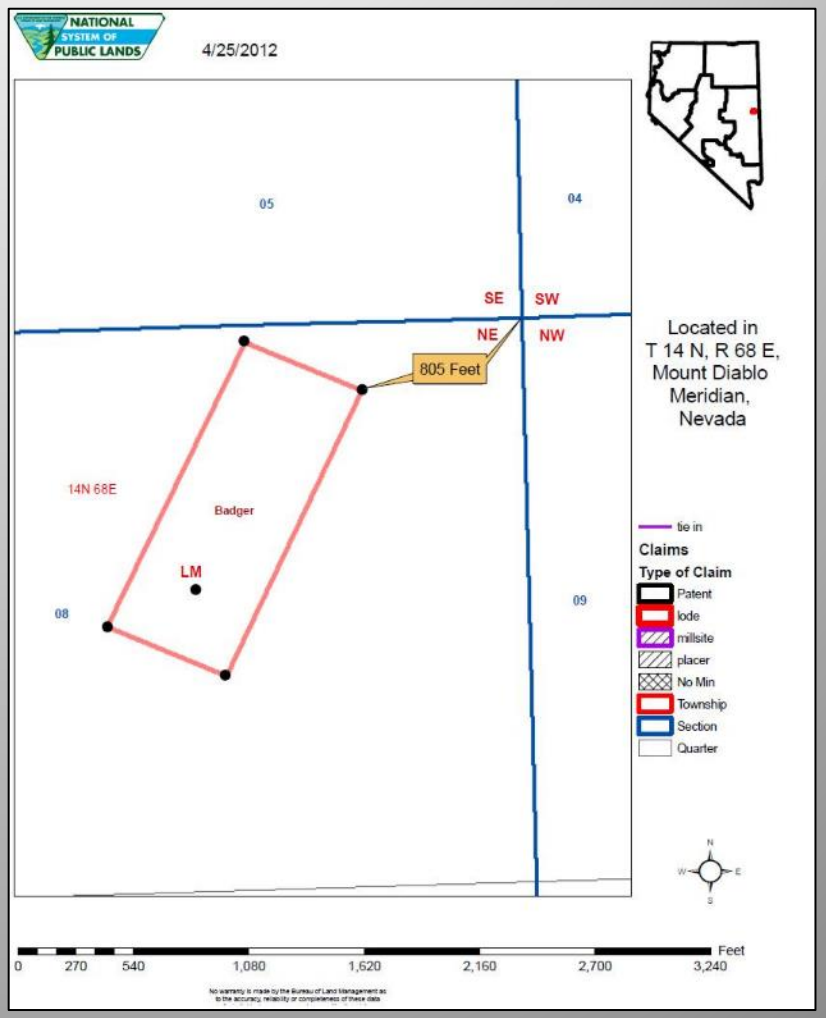


Connect the dots.

If we connect the dots, we get a pretty accurate location of the claim.

We can then also calculate the distance to the section corner.

The coordinates also provide the position of the claim.

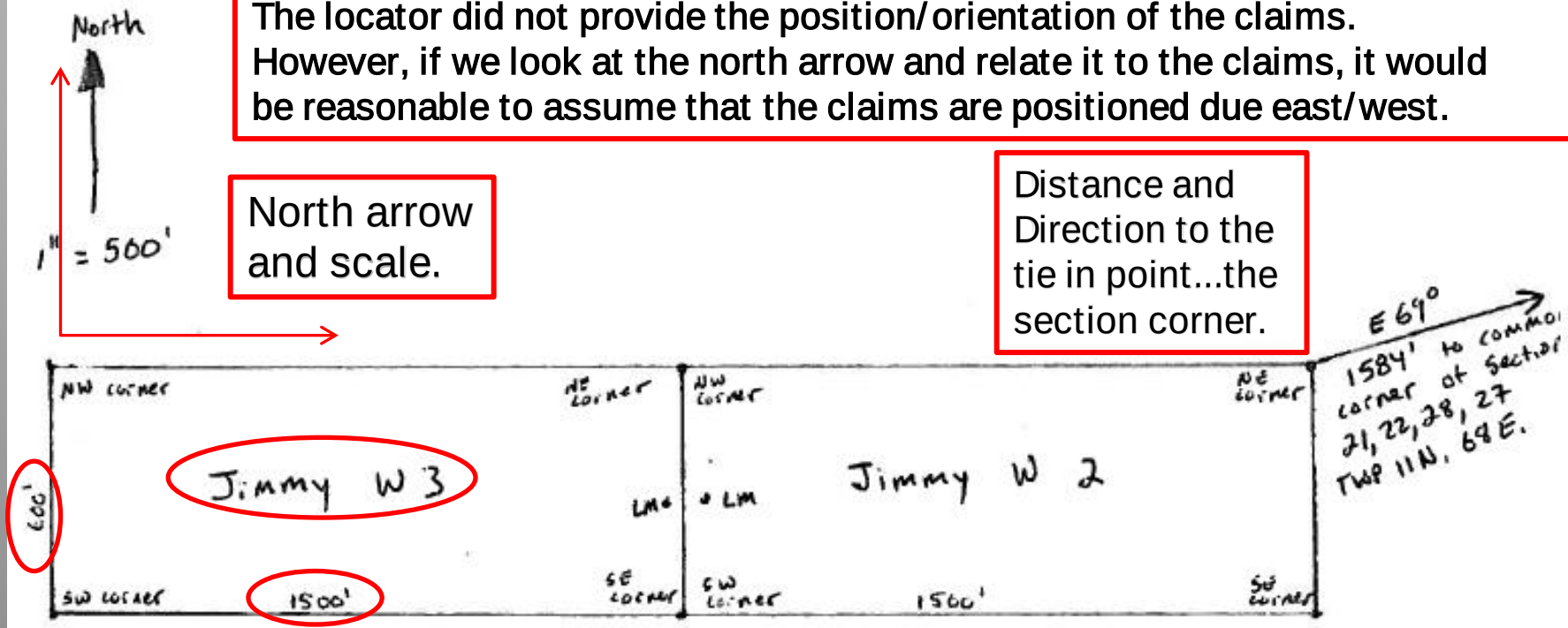


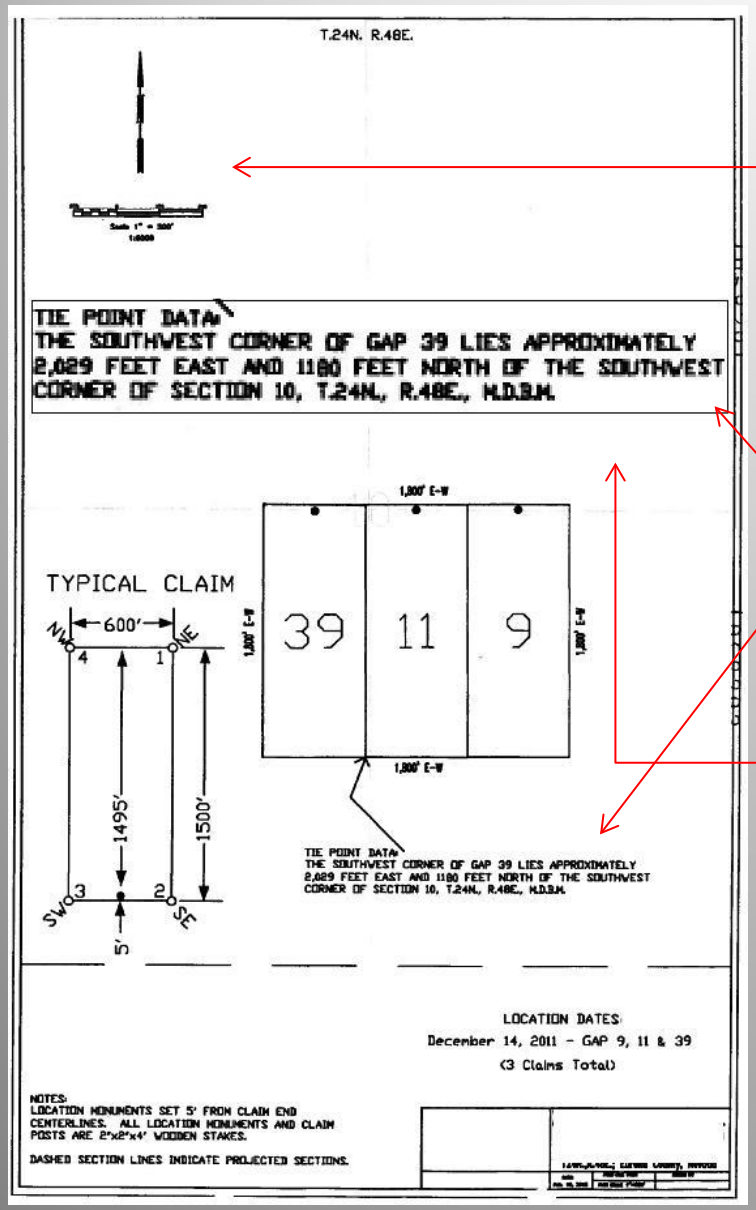
Simple map that meets the requirements.

The locator did not provide the position/orientation of the claims. However, if we look at the north arrow and relate it to the claims, it would be reasonable to assume that the claims are positioned due east/west.

North arrow and scale.

Distance and Direction to the tie in point...the section corner.

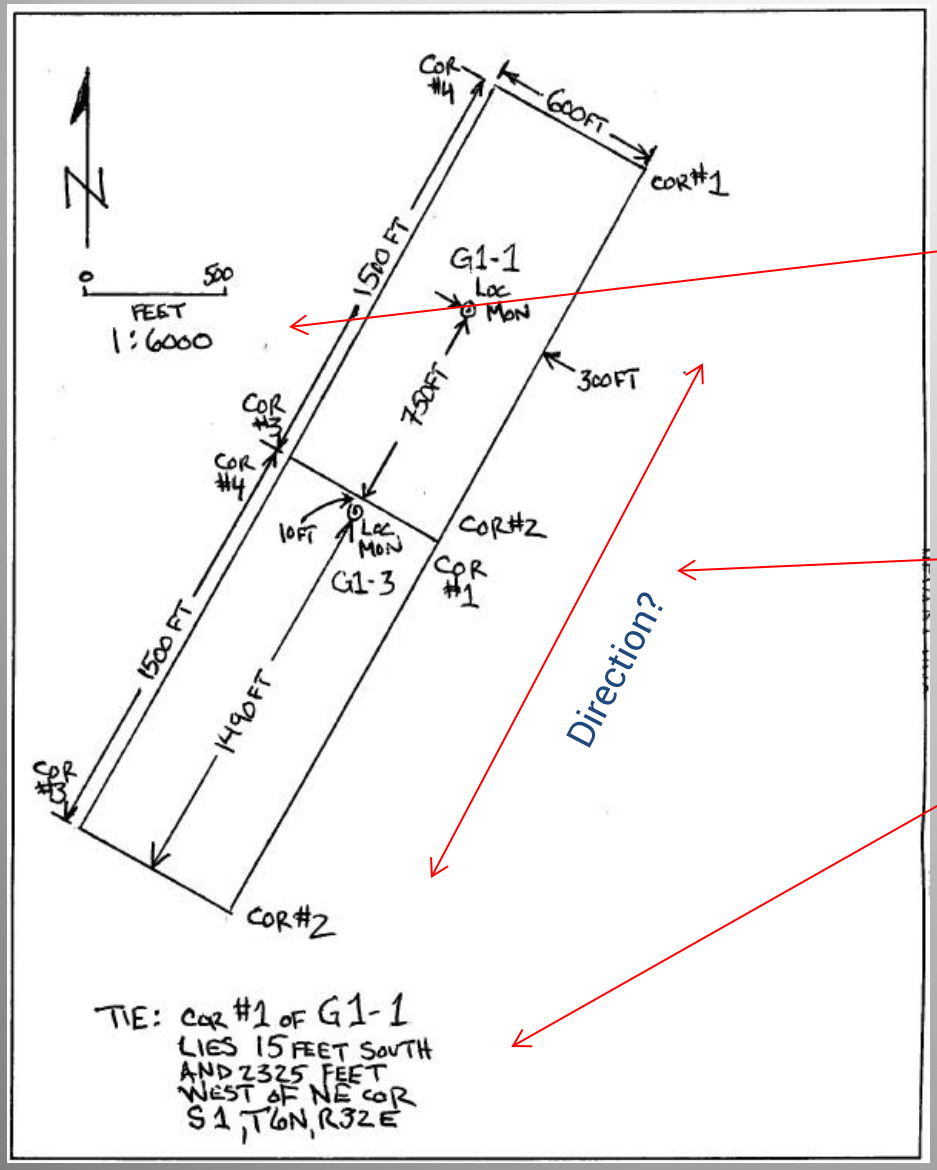




North arrow and scale.

I made the tie in data larger so you could see that it makes sense.

Positioned in a due North/South direction.



Direction?

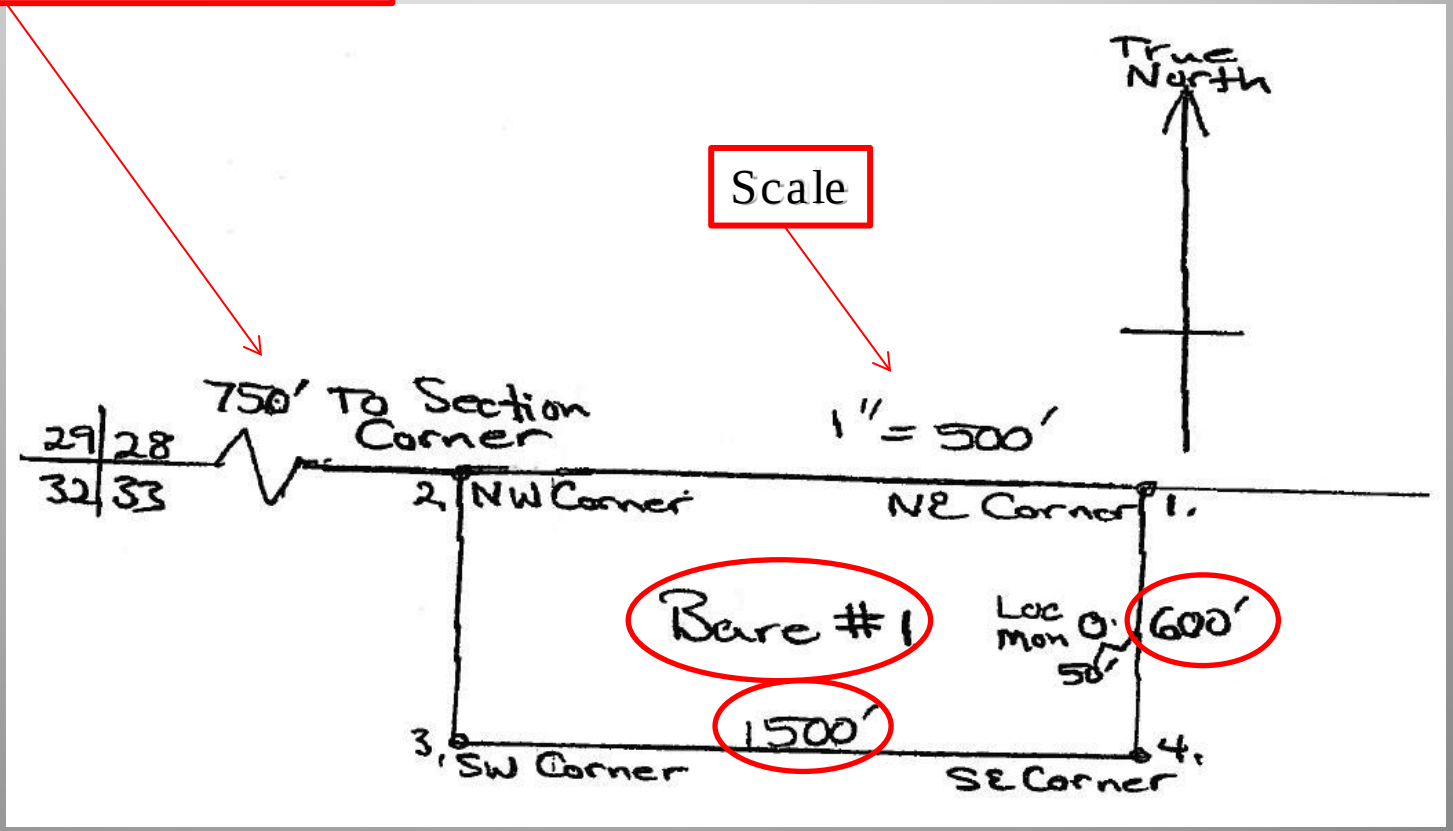
Is there a problem or mistake with the scale? Actually, no, it is accurate. In this case
1 inch = 500 feet
1:6,000 means that
1 inch = 6,000 inches or 500 ft.

What angle are the claims positioned at?

The tie in works.

This map is defective. We would send a notice allowing the claimant to amend the filing within 30 days.
Remember the regulation at:
43 CFR 3832.12(a)(2)(ii) You must show on a map or sketch the boundaries ***and position*** of the individual claim or site by aliquot part within the quarter section accurately enough for BLM to identify the mining claims or sites on the ground.

Tie in to the section corner.
Claim located 750 feet from section corner.
Claim is positioned adjacent to the Section line.



QUESTIONS?