Yukon

Anthropogenic surface disturbance mapping in the Yukon

Feature interpretation key for contractors

Version 1.0.2

WORKING DRAFT

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Feature interpretation key for contractors

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October 1, 2022

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Examples of feature capture by industry and disturbance type

This is intended to serve as a guide to feature capture using heads-up digitization methods and satellite imagery. The most common combinations of industry and disturbance type are illustrated here, along with a number of descriptions and examples to help guide and standardize feature capture.

The title of each example reflects the industry and disturbance type pairing: Industry type, disturbance type. There are four parts to each example; all examples follow the same format:

1. First, the industry and disturbance type are listed, followed by a brief description.

2. For the provided example, the SCALE_CAPTURED and feature REF_ID are given (if applicable).

3. There are a minimum of two photos for each example: the first showing the area as captured by satellite imagery, and the second showing the digitized feature polygon or polyline representing surface disturbance.

4. For each example, there is also a description of the distinguishing characteristics of the feature. This may include: tips for recognizing the feature, unique characteristics, and potential errors and pitfalls associated with digitization of the feature.

Initial examples were created by Laura Grieve, Aspect North, with modifications by the author.

Examples of areal feature capture

Agriculture, Agriculture

Farms, ranches, or other agricultural areas

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7626

Distinguishing Characteristics:

- Usually identifiable by large grassy fields, mostly devoid of trees and often fenced.
- May have various buildings on the property.
- Digitize fields and associated buildings (houses, sheds, barns, etc.) with the polygon.
- Can be difficult to distinguish between other features e.g., rural homesteads, forestry cut blocks and oil and gas well pads. This is where referring to ancillary datasets (e.g., land tenure) might help; however, it may not always be classified as agricultural land in the ancillary data.

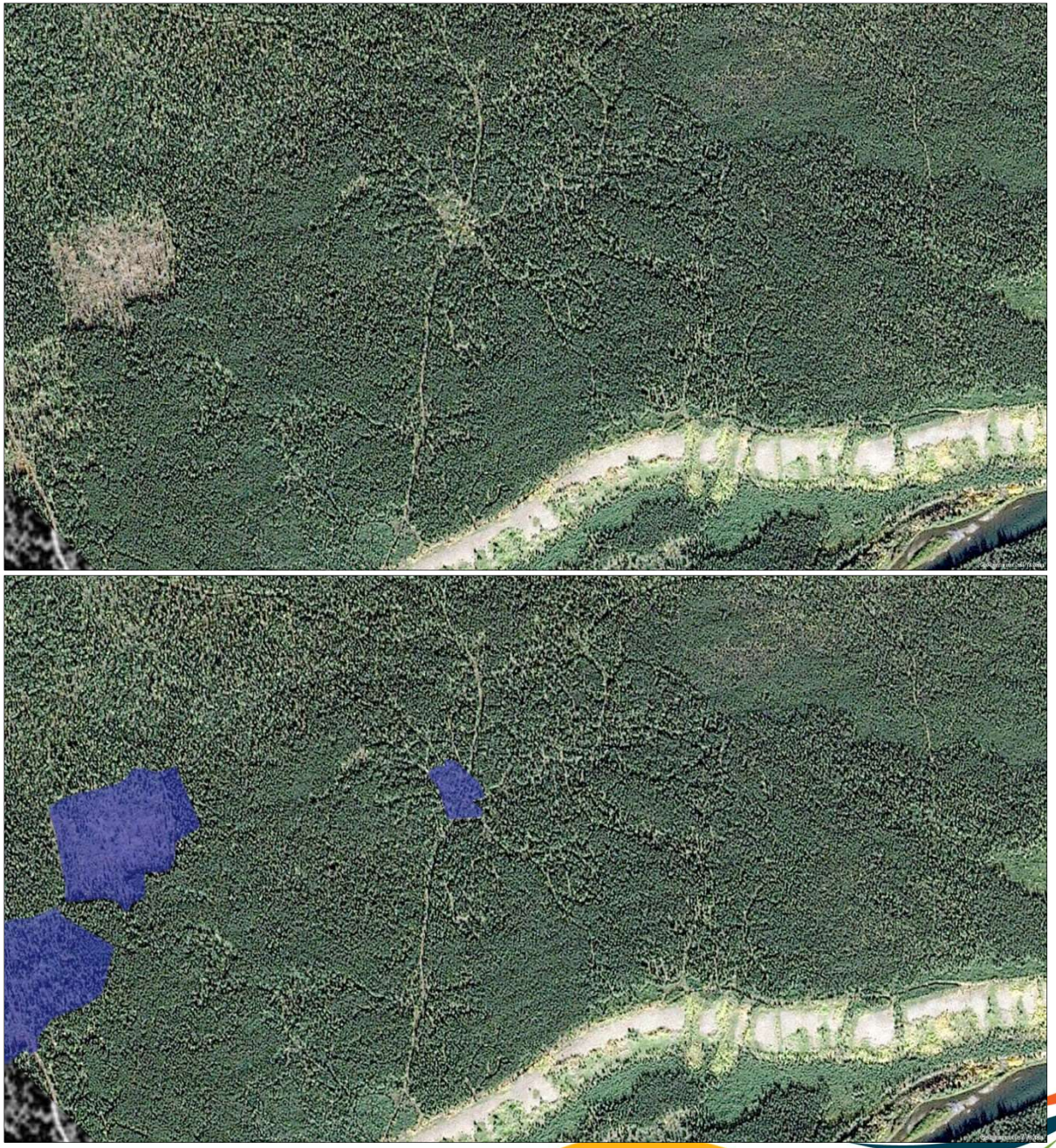
Forestry, Forestry

Cut blocks or other forestry related activities

SCALE_CAPTURED = 1:5000
Feature REF_ID = P6394

Distinguishing Characteristics:

- Forestry cut blocks are often associated with a network of forest resource roads.
- Can vary greatly in size (small to large polygons).
- Usually found in clusters within a designated forestry area.
- Best to use ancillary datasets for identifying forestry areas.
- Sometime can be difficult to differentiate between forestry polygons and natural areas (e.g., ponds, depressions, and flood areas) and other anthropogenic disturbance areas (e.g., agricultural areas and well pads). Usually cut blocks are irregular in shape, unlike the anthropogenic disturbance areas previously mentioned.
- Look for changes in the color and density of surrounding vegetation/forest to determine the boundary of the cut block.



Mining, Building

A building footprint or the building and the surrounding land related to mining activities.

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7800

Distinguishing characteristics:

- Buildings often have land cleared around them, but not always.
- At a scale of 1:5000 and using 1.5 m resolution imagery, single buildings can look like boulders, snow patches, vehicles, etc.
- Try to assess if the feature is a permanent structure by reviewing multiple imagery.
- Best to use ancillary data to help identify Mining industry type.
- Group buildings together; one polygon around the surrounding land with all the buildings is adequate. Multiple buildings could be classified as a camp, or building, as appropriate.

Mining, Building (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7746

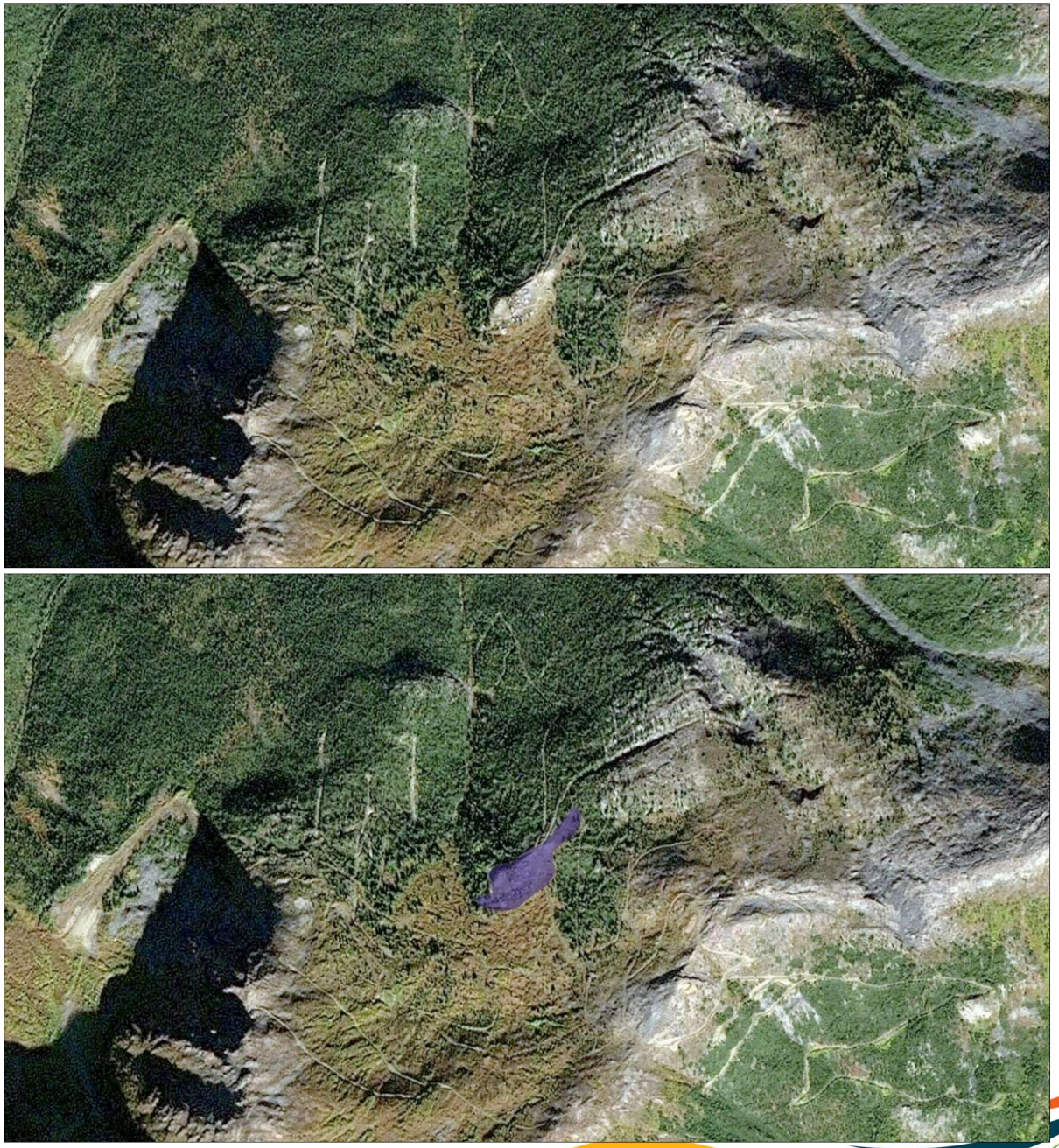
Mining, Camp

A mining camp

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7080

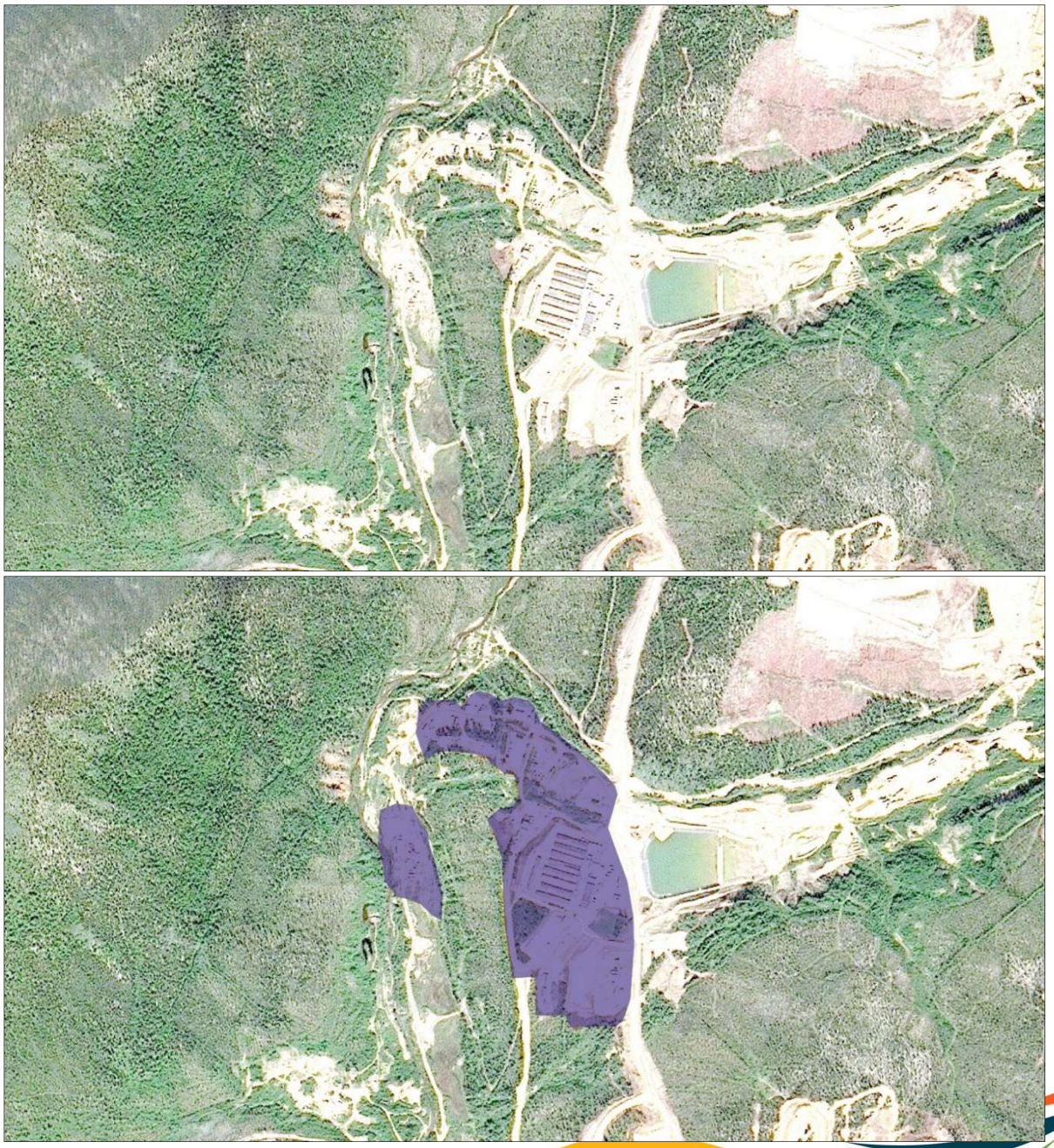
Distinguishing characteristics:

- Mining camps are often concentrated clusters of buildings i.e., Atco trailers.
- Roads lead into, and out of, camps.
- Usually, a parking lot is present.
- Digitize camp buildings and associated land.
- Use ancillary data to determine if the camp is located on placer or quartz claims.



Mining, Camp (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7102/P7103



Mining, Drill Pad

Drill pad features related to mineral exploration activities

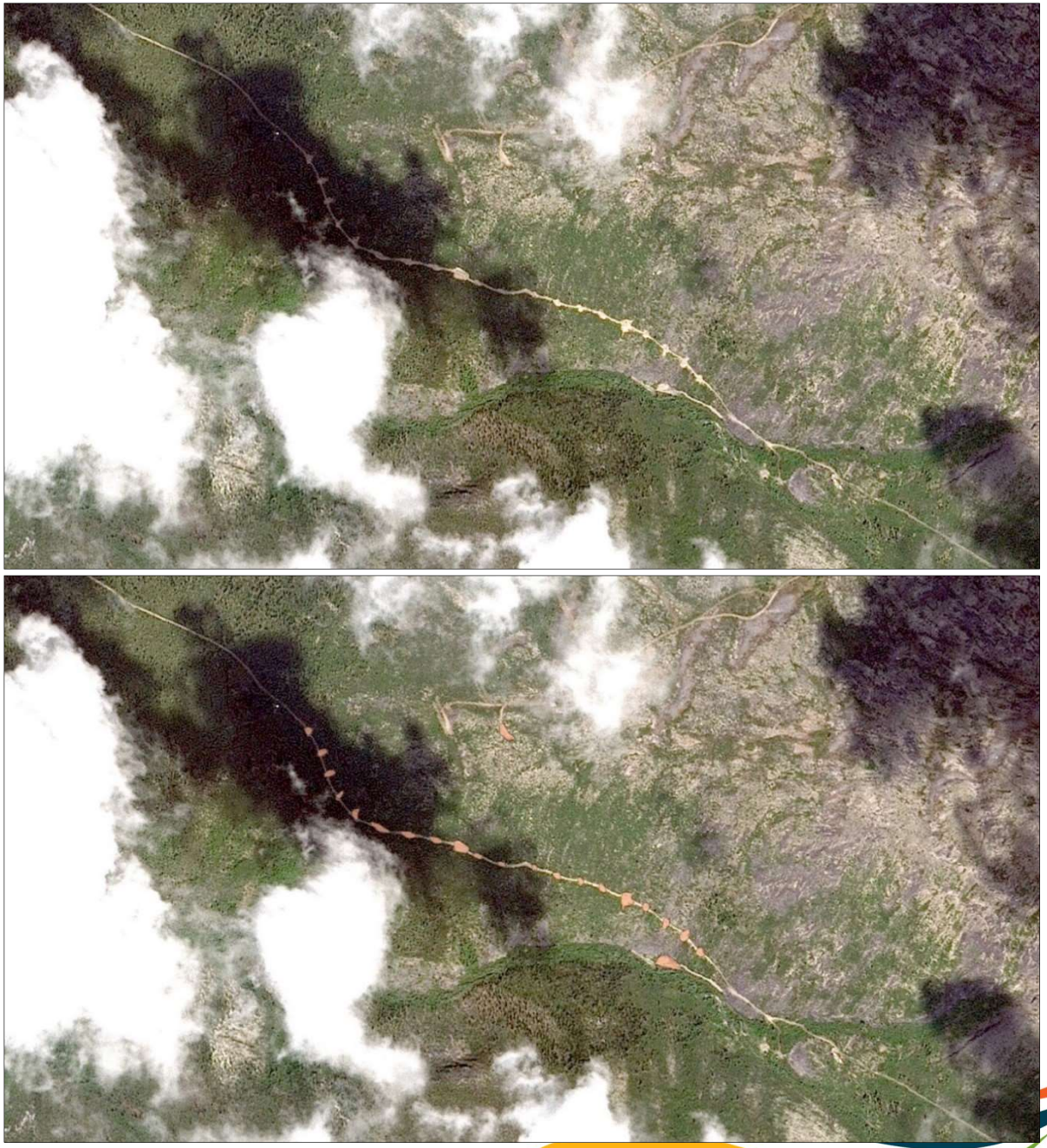
SCALE_CAPTURED = 1:5000
Feature REF_ID = P8725

Distinguishing characteristics:

- Best to use ancillary datasets to distinguish between mining drill pads and oil and gas well pads.
- Often spherical/rounded: drill pads can look like pullouts or turn areas.
- They can be found along/on roads or at the end of a road.
- Where there are tight clusters of drill pads, capture the cluster (larger polygons at right).
- Can look like “beads on a necklace” if along a road (second example, next page).

Mining, Drill Pad (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7128 & P7794



Mining, Fuel Cache

Remote caches of fuel allowing for mineral exploration activities (will often have fuel tanks and barrels)

SCALE_CAPTURED = 1:5000
Feature REF_ID = N/A

Distinguishing characteristics:

- Difficult to determine fuel cache areas unless there are visible fuel drums/barrels.
- Usually located near a landing strip and/or a helicopter pad.
- Fuel drums could be stashed in a cleared area alongside a road.
- Could also be located near a mining camp.

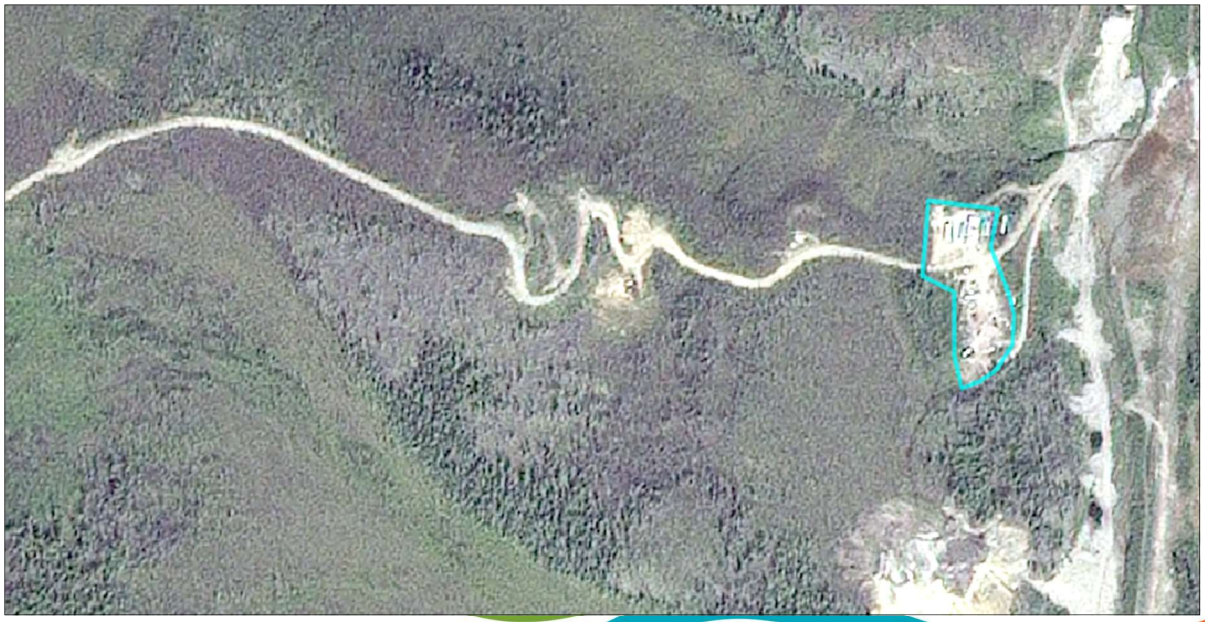
**No current example available

Mining, Laydown Area

Areas used to store materials and equipment for mining operations

SCALE_CAPTURED = 1:5000
Feature REF_ID = P10775

Distinguishing characteristics:
- Look for dirt/gravel lots where machinery or materials are stored.
- Can be difficult to determine and often gets grouped in with other mining disturbance.



Mining, Gravel Pit/Quarry

Pit or quarry for mining gravel or aggregate

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8108 & P8114

Distinguishing characteristics:

- Usually found along roads or not far from a road.
- The perimeter of the pit can expand over time.
- Areas around the borrow pit may be cleared to accommodate for growth. Digitize any cleared areas.
- Ancillary data will determine if the industry type is equal to “Mining”, but may not help to identify the disturbance type unless it is related to the industry type “Transportation”. This can make identification challenging.

Mining, Mining

Miscellaneous or unknown mining activities

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7281

Distinguishing Characteristics:

- Any mining related features where the disturbance type cannot be accurately identified.

Mining, Placer Mining – Minor

Placer mining area with little disturbance

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7345 & P7347

Distinguishing Characteristics:

- Can include inactive disturbance areas from historic placer activities. Vegetation re-growth may be present, distinct from surrounding vegetation.
- Can be found near areas of significant disturbance but does not have to be.
- Use ancillary data to determine that the disturbance is within a placer claim.
- Identification can be difficult if quartz and placer claims overlap. Disturbances from placer mining are generally found along watercourses.

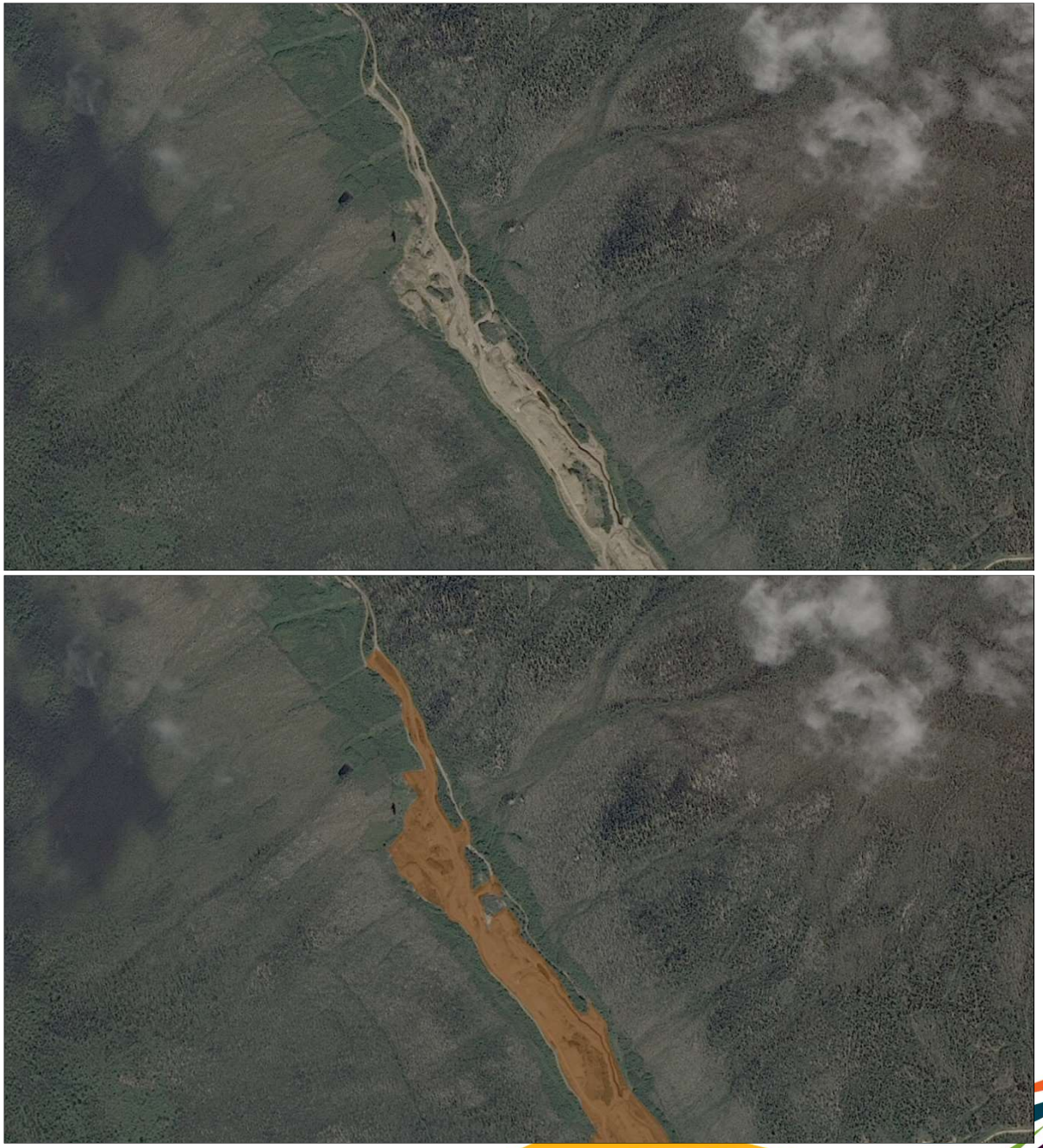
Mining, Placer Mining – Significant

Placer mining area with greater disturbance

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8678

Distinguishing Characteristics:

- Disturbed areas with little to no vegetation due to recent/current placer activity.
- Use ancillary data to confirm that the disturbed area is on a placer claim.
- If quartz and placer claims overlap, a distinguishing characteristic of placer disturbance is that it is generally found along watercourses.



Mining, Quartz Mining – Minor

Quartz mining area with little disturbance

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7324

Distinguishing Characteristics:

- Can be associated with mineral exploration activities.
- Use ancillary data to determine that the disturbance is on a quartz claim.
- May be partially/fully vegetated.
- Can be difficult to determine the outer boundary of the disturbance; changes in vegetation can help.

Mining, Quartz Mining – Minor (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7029

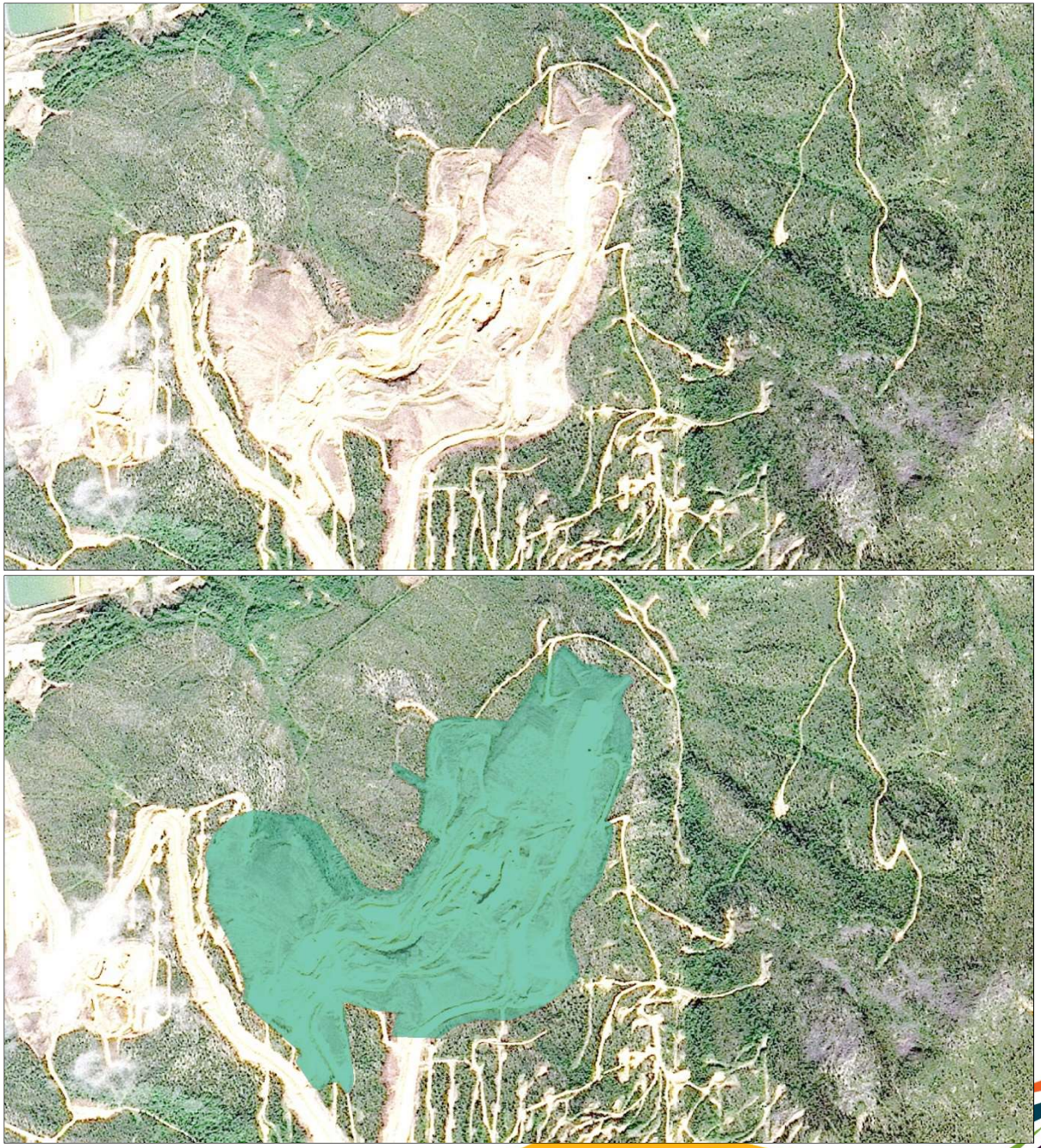
Mining, Quartz Mining – Significant

Quartz mining area with greater disturbance

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7098

Distinguishing Characteristics:

- Use ancillary data to confirm that the disturbance is on a quartz claim.
- Usually little to no vegetation.
- Look for open pit mining and other major quartz mining activities.



Mining, Tailing Pond

Tailing pond associated with mining activity

SCALE_CAPTURED = 1:5000
Feature REF_ID = N/A (new feature)

Distinguishing Characteristics:
- Usually near significant mining disturbance.
- Body of water often contained by a dam or other engineered barrier.
- Should not see an outlet (no stream outflow).

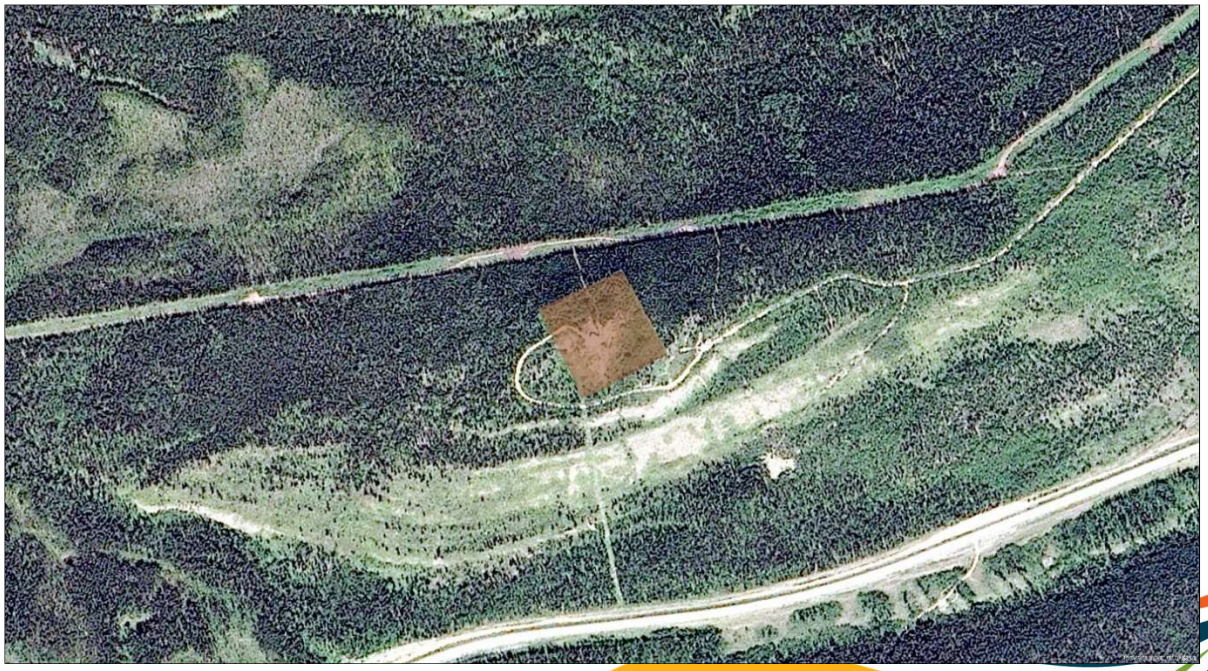
Oil and Gas, Well Pad

Cleared area surrounding oil or gas well

SCALE_CAPTURED = 1:5000
Feature REF_ID = P6134

Distinguishing Characteristics:

- Can be difficult to distinguish between other industry types (e.g., Utility) or other disturbance types (e.g., Drill Pad). Use ancillary data to determine industry type = “Oil and Gas”.
- Look for clearings with roads leading to/from them.
- May have some infrastructure on the pad whereas “Mining, Drill Pad” do not have infrastructure present.
- Well pad clearings are often square/rectangular in shape. “Mining, Drill Pads” are usually round.



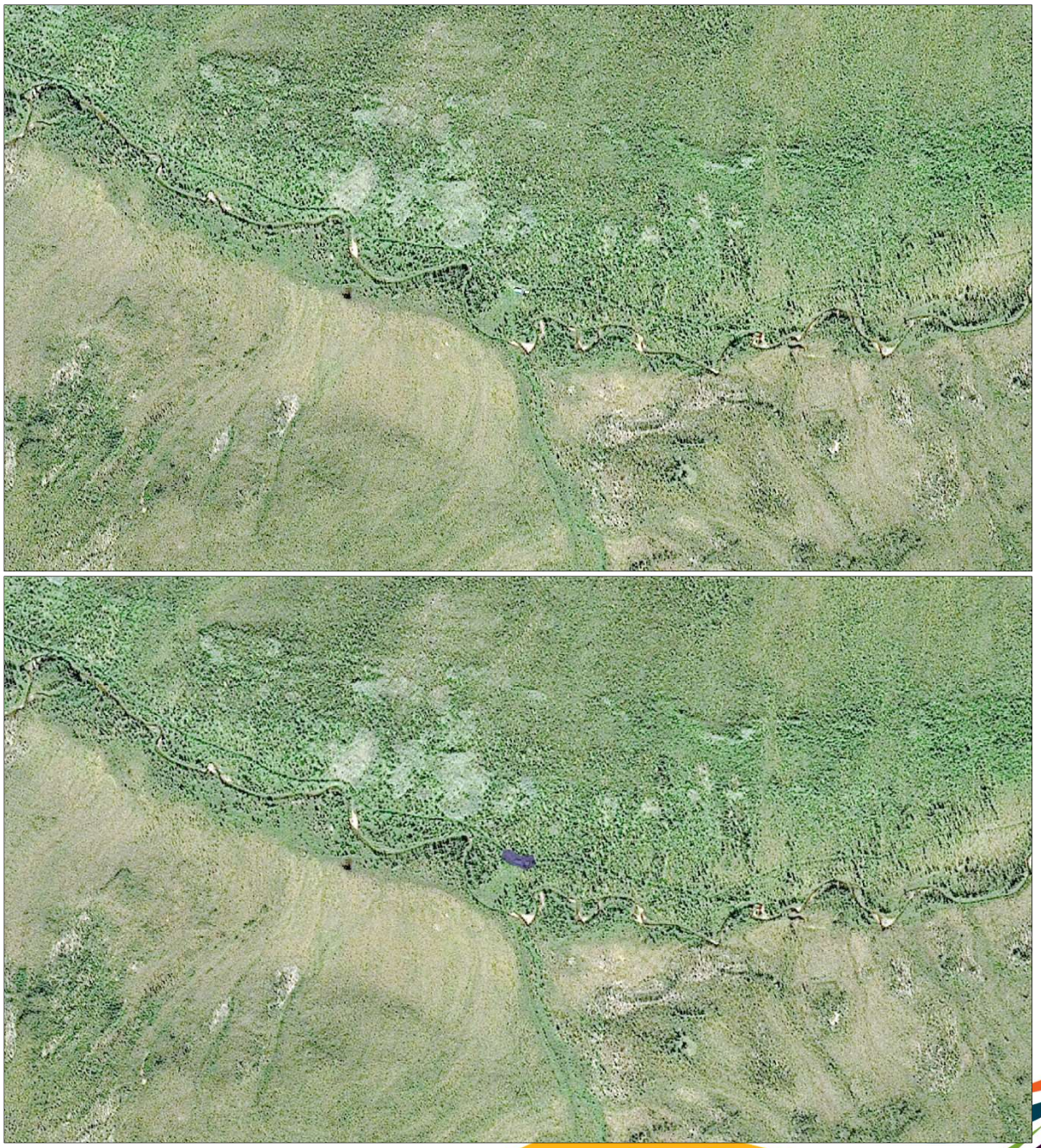
Rural, Camp

Any camp outside of mining areas, including fishing/hunting camps, ENV conservation officer cabins/camps, outfitters, etc.

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7408

Distinguishing Characteristics:

- Can be difficult to differentiate between a camp and a homestead. Use ancillary data, your best judgement, and local knowledge to choose the best classification.
- Ancillary data may help to identify some rural camps e.g., outfitting, etc.
- Can feature multiple buildings and surrounding cleared area.



Rural, Homestead

Rural dwelling and associated land

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7031

Distinguishing Characteristics:

- Can be difficult to distinguish between a homestead, building, camp, or rural residential. Use ancillary data to help determine land ownership/title if possible.
- Typical characteristics of a homestead include multiple buildings, cleared land, and in a remote location.
- Often difficult to determine the boundaries of the homestead. Use changes in vegetation to help digitize the boundary.

Transportation, Airstrip

Airport or Airstrip

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8143

Distinguishing Characteristics:

- Airstrips are elongated and rectangular in shape.
- Usually found with road(s) leading to/from.
- Often the vegetation surrounding the immediate airstrip has been cut/cleared. Digitize the surrounding disturbed areas related to the airstrip.
- Ancillary data may help in identifying airstrips.

Transportation, Clearing

Clearings that are related to transportation but could not be clearly attributed as a turn area, pullout, road cut and fill, etc.

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8069

Distinguishing Characteristics:

- Any general transportation related clearings that cannot accurately be attributed to another disturbance type.

Transportation, Pullout/Turn Area

An area associated with transportation and is intended as a vehicle pullout or turn area

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8253

Distinguishing Characteristics:

- Clearings found along, or at the end of, roads and trails.
- Usually made of the same material used to build the road.
- Can be difficult to differentiate between general clearings or cut and fill.
- Generally, look for areas where the road widens to allow for vehicles to pull out or turn around.
- Cul-de-sacs in urban areas are a circular node found at the end of a road.

Transportation, Gravel Pit/Quarry

Gravel pits related to transportation

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7629

Distinguishing Characteristics:

- Use ancillary data to identify gravel pits and quarries.
- You can often see stockpiles of gravel/rock.
- Over time, the footprint of the feature can get larger as more material is extracted.
- Found alongside roads.

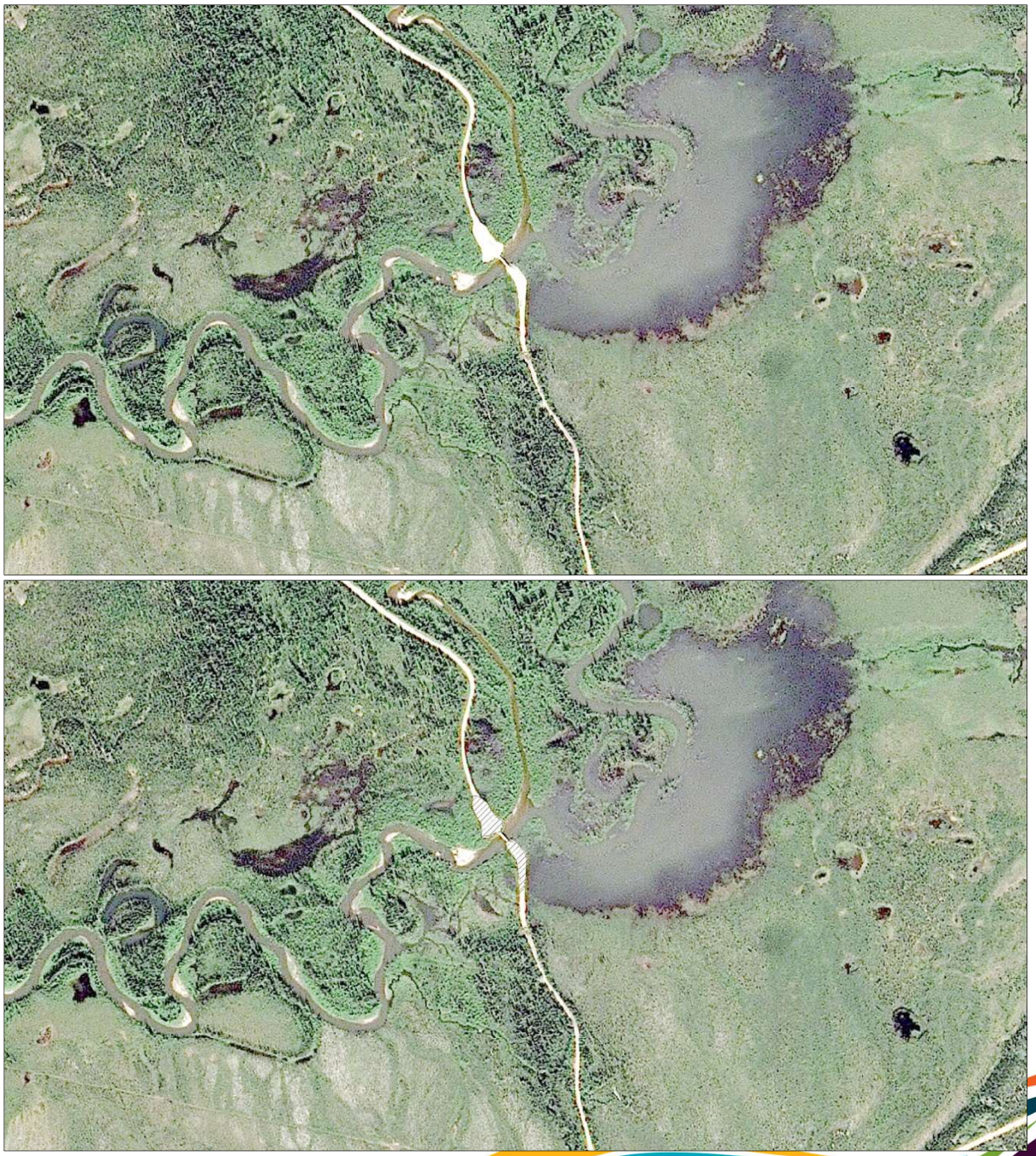
Transportation, Road Cut and Fill

Cut slopes and moved earth for road construction purposes

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7437 & P7432

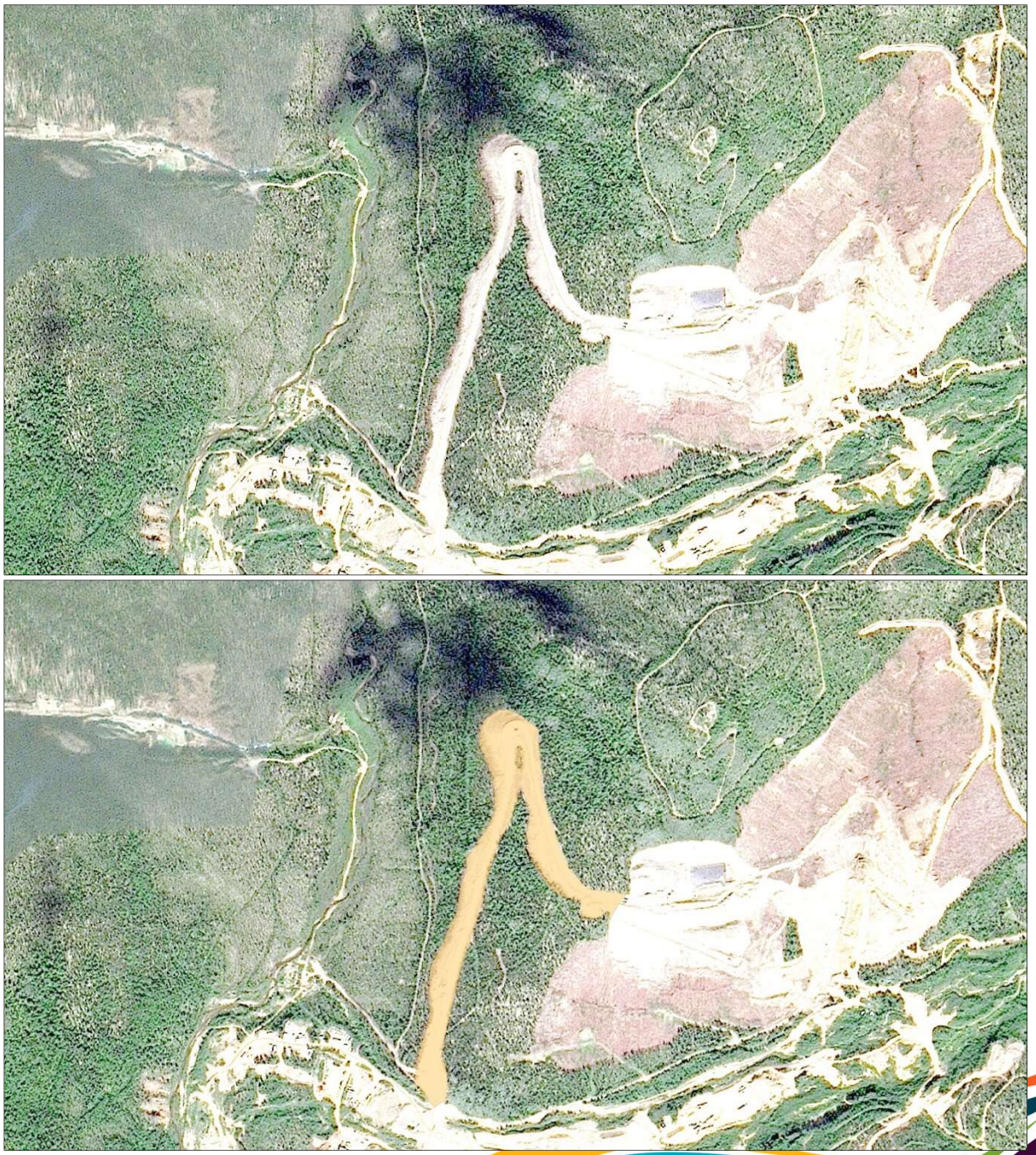
Distinguishing Characteristics:

- Can be difficult to differentiate between pullouts and general transportation related clearings.
- Look for the road widening at cut and fill areas; you can sometimes see the footprint of the road, which is much smaller than the cut and fill area surrounding it.
- The elevation of the road is higher than the surrounding landscape. This can be difficult to see in the imagery.
- Often found at mine sites, bridges, or main roads.



Transportation, Road Cut and Fill (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = N/A (new feature)



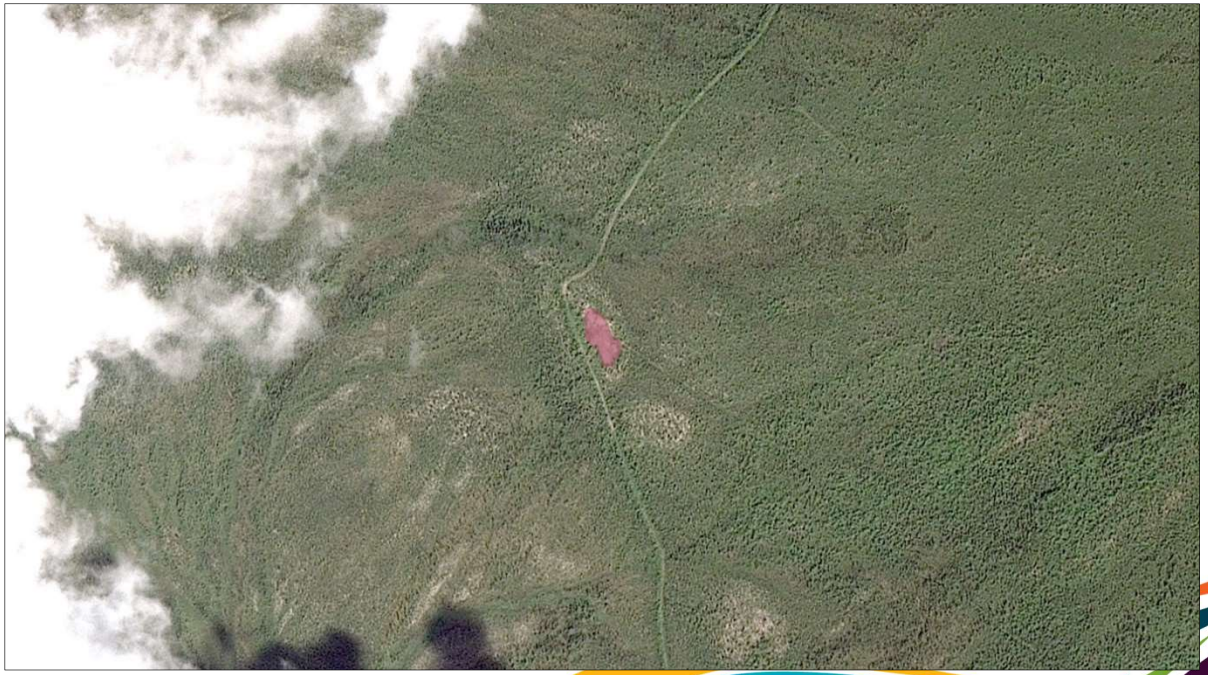
Unknown, Clearing

A tract of land devoid (or nearly devoid) of natural land cover and suspected to be anthropogenic in nature

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8301

Distinguishing Characteristics:

- Use when ancillary data does not provide clues for attribution.
- Could be mistaken for natural features e.g., bogs, rocky outcrops, and fires.



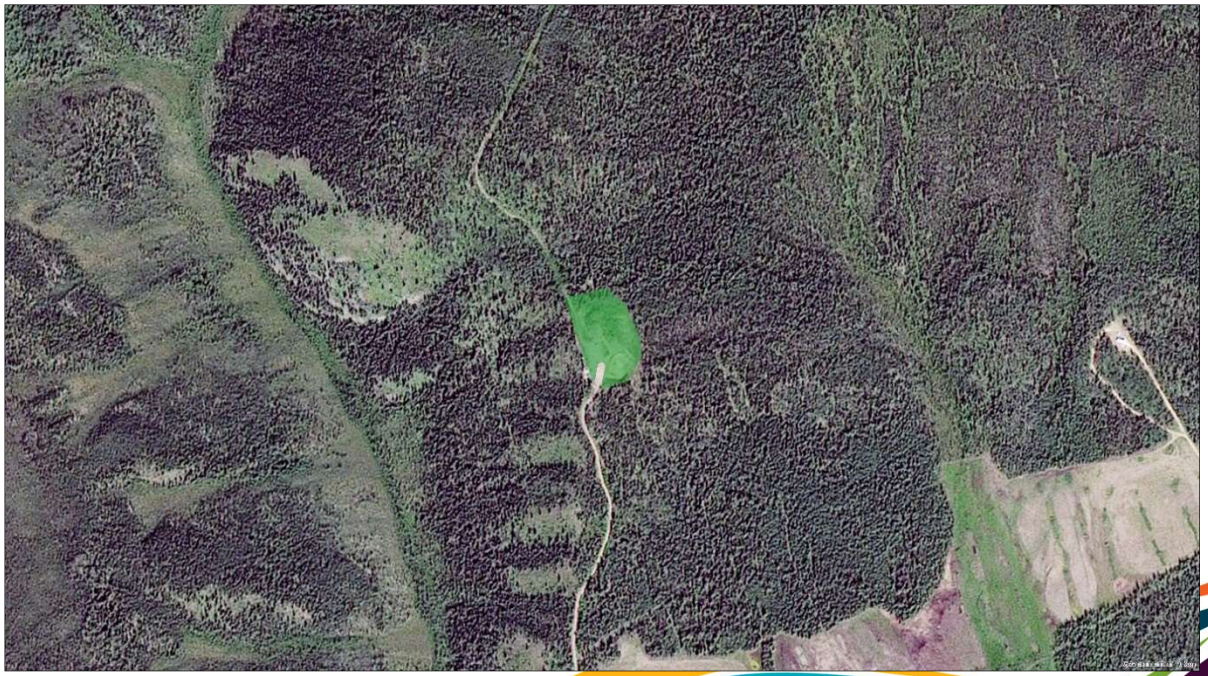
Unknown, Gravel Pit/Quarry

A gravel pit with unknown related industry

SCALE_CAPTURED = 1:5000
Feature REF_ID = P715

Distinguishing Characteristics:

- Can be difficult to differentiate between general clearings and other disturbance types with cleared land.
- Look for visible stockpiles of rock/gravel and roads to/from the source.
- TYPE_INDUSTRY is unclear and ancillary data do not provide clues.



Unknown, Unknown

Unable to identify from imagery, but suspected to be anthropogenic

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8924

Distinguishing Characteristics:

- Should be used as a last resort to record features that are suspected to be anthropogenic, but industry and disturbance types cannot be accurately identified.
- Ancillary data do not provide clues for attribution.
- Can be mistaken for natural features e.g., rocky outcrops, fires, mass wasting, or bogs/fens.

Urban, Building

Visible building or structure

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8051 &
P8065/P8066

Distinguishing Characteristics:

- Buildings often have land cleared around them, but not always. Digitize the building and associated cleared land.
- At a 1:5000 SCALE_CAPTURED and using 1.5 m resolution imagery, single buildings can look like boulders, snow patches, vehicles, etc.
- Try to assess if the feature is a permanent structure by reviewing multiple imagery through time.
- Buildings can appear “shiny” as the roof reflects the sun.
- Ancillary data may help to identify lots.

Urban, Clearing

Miscellaneous urban clearings

SCALE_CAPTURED = 1:5000
Feature REF_ID = P8003

Distinguishing Characteristics:
- Look for changes in vegetation.
- Any clearings in urban areas.

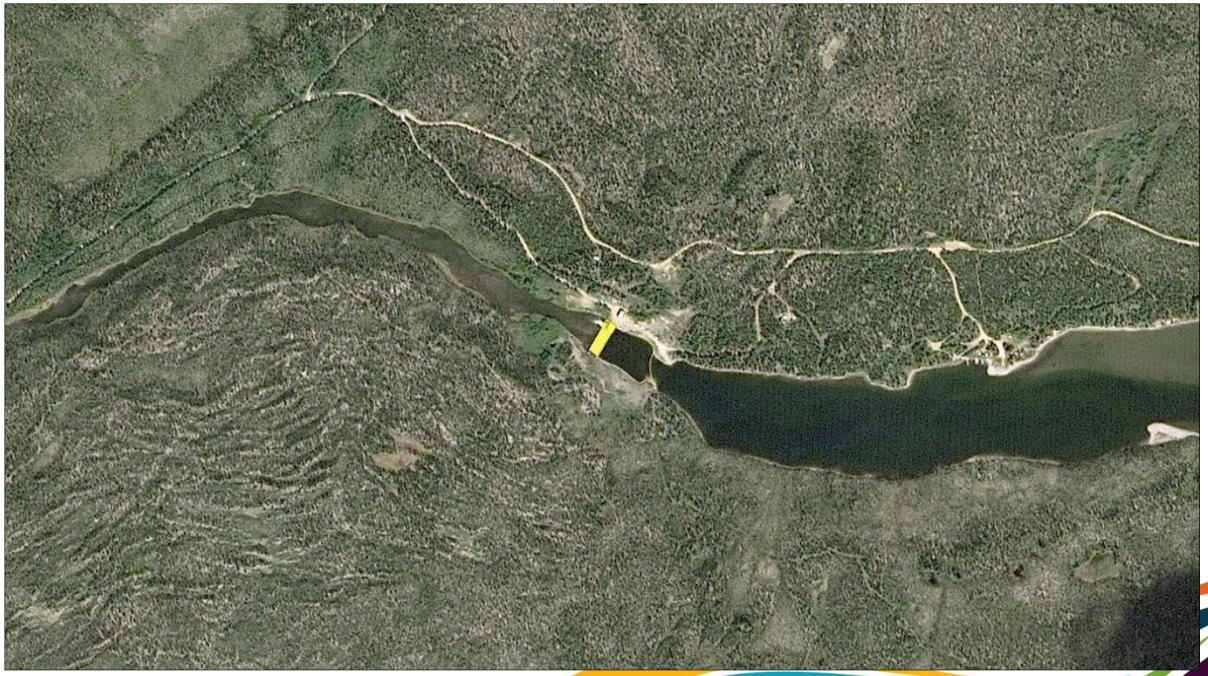
Urban, Dam

Barrier impounding water or stream

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7022

Distinguishing Characteristics:

- Can be difficult to distinguish between a dam/control structure and a bridge. Look for visible signs of the upstream side of the watercourse becoming wider and forming a waterbody.
- Control structures (shown here) are often more remote; they are not associated with utility corridors and are located upstream of a hydro dam.



Urban, Dam (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7984

Distinguishing Characteristics:

- Utility corridors lead to and from hydro dams (shown here). Other utility related infrastructure i.e., power stations, offices, parking areas, etc. are nearby.

Urban, Golf Course

Recreational golfing area

SCALE_CAPTURED = 1:5000
Feature REF_ID = N/A (new feature)

Distinguishing Characteristics:

- Use ancillary data to determine that the land parcel is designated as a golf course.
- Look for grassy oblong clearings surrounded by rows of treed areas and scattered ponds.

Urban, Industrial

Areas that are designated for industrial uses: factories, tank farm, transportation area

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7977

Distinguishing Characteristics:

- Can use ancillary data to help identify industrial areas but local knowledge is best.
- Can be confused with other industry/disturbance types but look for gravel parking lots, buildings/shops/warehouses/ factories and heavy equipment.

Urban, Landfill

Site used for disposal of waste materials

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7964

Distinguishing Characteristics:
- Can be difficult to differentiate between gravel pits and quarries.
- Use ancillary data to identify land designated as a landfill.
- Often not far from urban areas.
- Can often see piles of material.

Urban, Pond

Standing body of water, created anthropogenically; includes sewage lagoons, wastewater facilities, and artificial bodies of water.

SCALE_CAPTURED = 1:5000
Feature REF_ID = P5587

Distinguishing Characteristics:

- Standing body of water that is suspected to be anthropogenic.
- Boundaries of the pond are usually predictable (e.g., straight edges, 90-degree corners) and do not look natural (irregular).
- Sewage lagoons consist of a series of rectangular ponds.

Urban, Pond (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = P5086

Urban, Recreation Area

Visible disturbance in Urban / Rural parks and recreation areas

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7633

Distinguishing Characteristics:

- Use ancillary data to locate official parks and recreational areas.
- Unofficial recreational areas may not appear in the ancillary data; sometimes local knowledge of these areas is key.
- Usually, the footprint of the disturbance is not significant.
- Official campgrounds usually have roads that loop, and campsites appear as short branches/nodes.

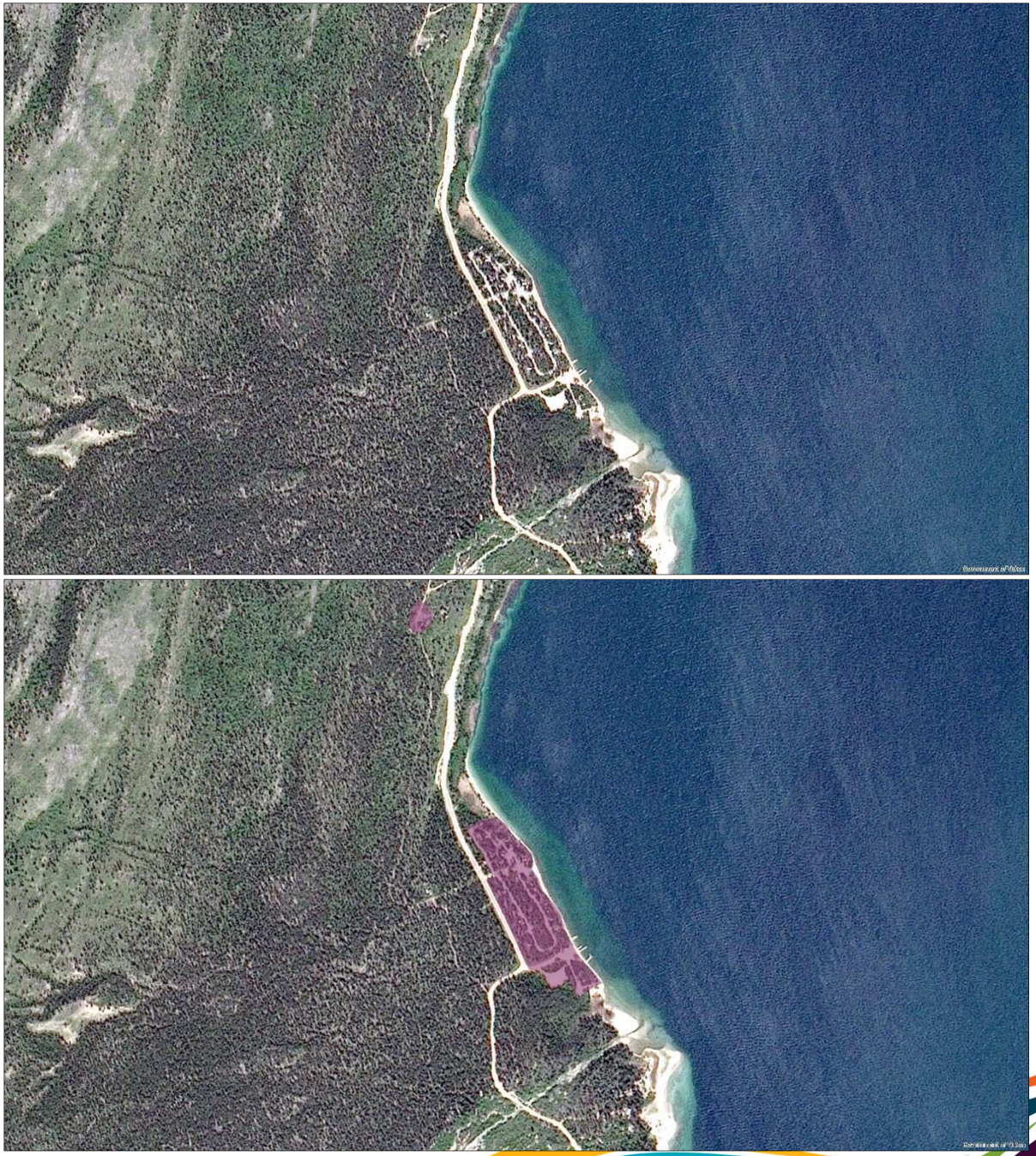
Urban, Rural Residential

Land use in which housing predominates in an urban or community setting

SCALE_CAPTURED = 1:5000
Feature REF_ID = P6312

Distinguishing Characteristics:

- Boundaries should include houses and their associated land.
- A polygon can include a single property or multiple properties, if they are in proximity to one another.
- Use ancillary data to verify land parcel information.



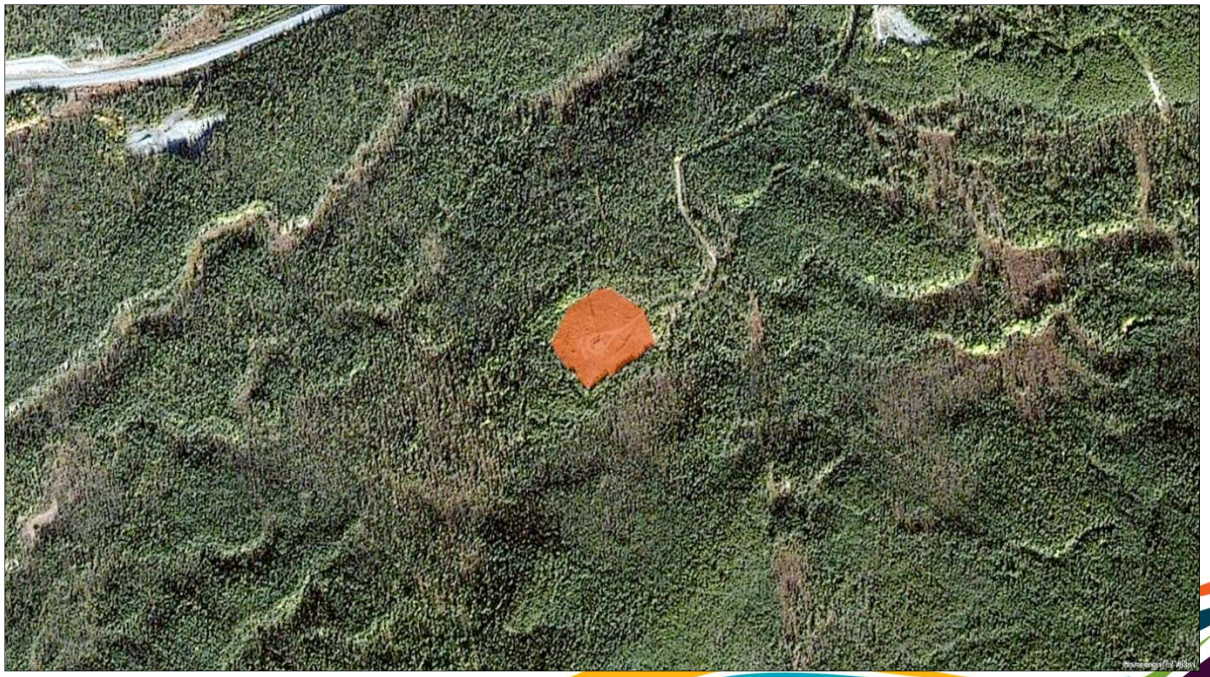
Urban, Tower

A tall structure, possibly used for communications or forestry

SCALE_CAPTURED = 1:5000
Feature REF_ID = P5225

Distinguishing Characteristics:

- Often difficult to see towers without the aid of ancillary data, especially those that are helicopter and/or foot access only. Look for a small square roof.
- Some towers have small footprints with minimal surrounding disturbance.
- Can be found on, or near, the summit of mountains/hills.



Urban, Urban

Miscellaneous or unknown urban features

SCALE_CAPTURED = 1:5000
Feature REF_ID = P7967

Distinguishing Characteristics:

- If digitizing large urban areas and classification is not essential, digitize surrounding disturbance.
- Include any miscellaneous urban features that cannot be classified in other industry/disturbance types.

Examples of linear feature capture

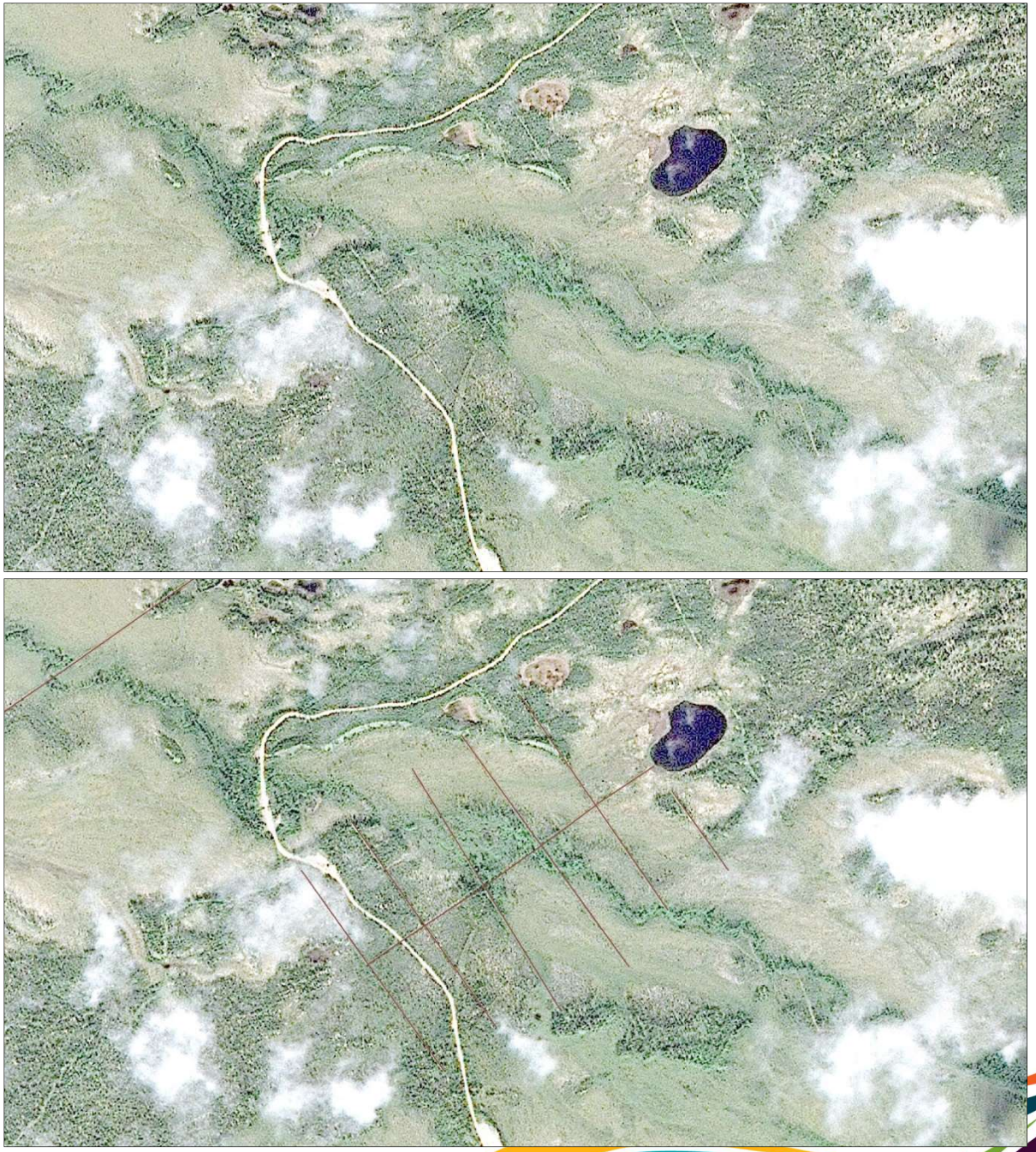
Mining, Survey/Cutline

A linear cleared area through undeveloped land, used for line-of-sight surveying; impossible to distinguish whether associated with quartz or placer mining (overlapping or unclear claims information)

SCALE_CAPTURED = 1:5000
Feature REF_ID = L40235

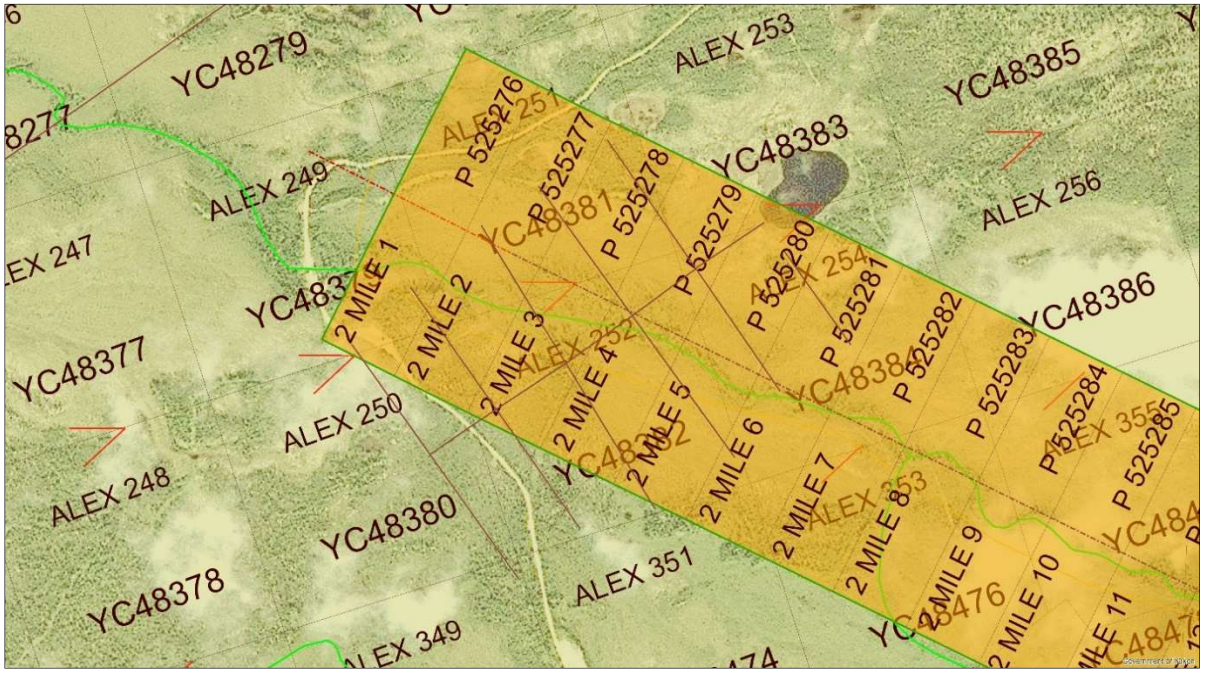
Distinguishing Characteristics:

- Survey and cutlines are generally straight and can feature many parallel/perpendicular lines in each area.
- Length, spacing, and width vary between areas but may be uniform within one area.
- Can be faint and difficult to see, especially if an older disturbance.
- Ancillary data may be helpful in some cases to identify features; it may also help identify the industry type.
- Older survey/cutlines may turn into roads with new interest/development in an area.
- Cannot differentiate whether the feature is associated with placer or quartz mining operations.



Mining, Survey/Cutline (continued)

SCALE_CAPTURED = 1:5000
Feature REF_ID = L40235



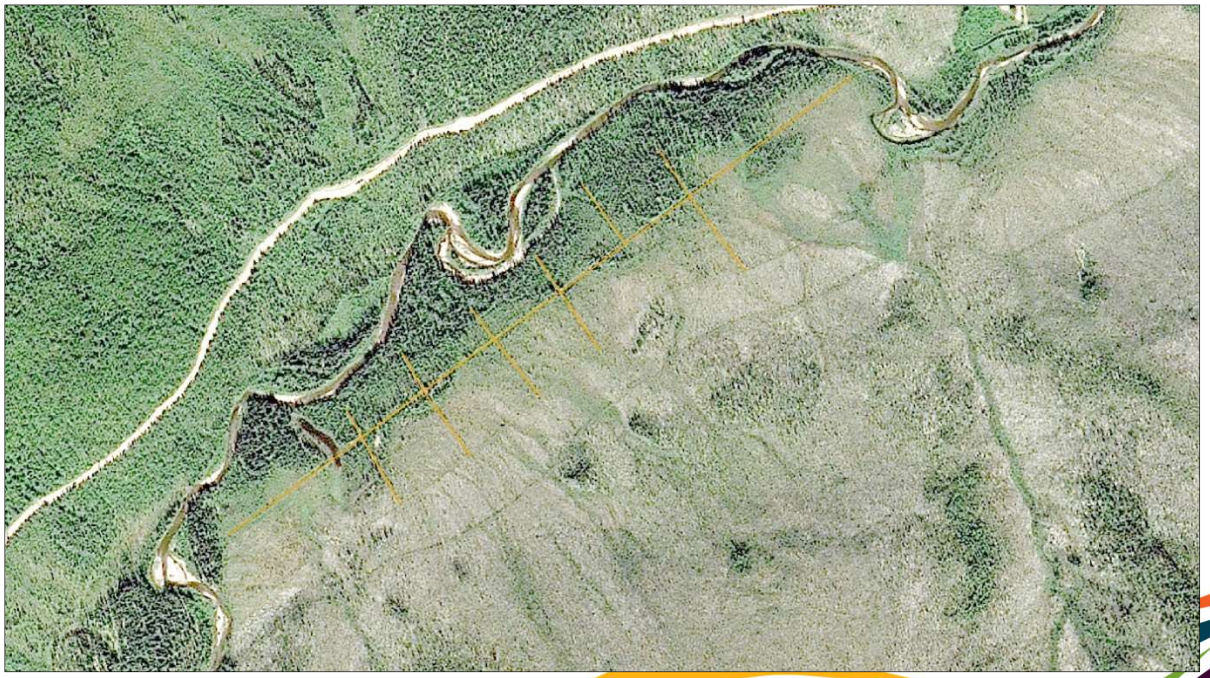
Mining, Survey/Cutline - Placer

A linear cleared area through undeveloped land, used for line-of-sight surveying; associated with placer mining (identified using claims information and/or other indicators)

SCALE_CAPTURED = 1:5000
Feature REF_ID = L37466

Distinguishing Characteristics:

- Often found along watercourses and within placer claims.
- Survey / cutlines are usually straight and there are often many parallel/perpendicular lines in an area.
- Length, spacing and width vary between areas but may be uniform within one area.
- Can be faint and difficult to see.
- Ancillary data may be helpful in some cases to identify features. It may also help identify the industry type.
- Older Survey / Cutlines may turn into roads with new interest/development in an area.



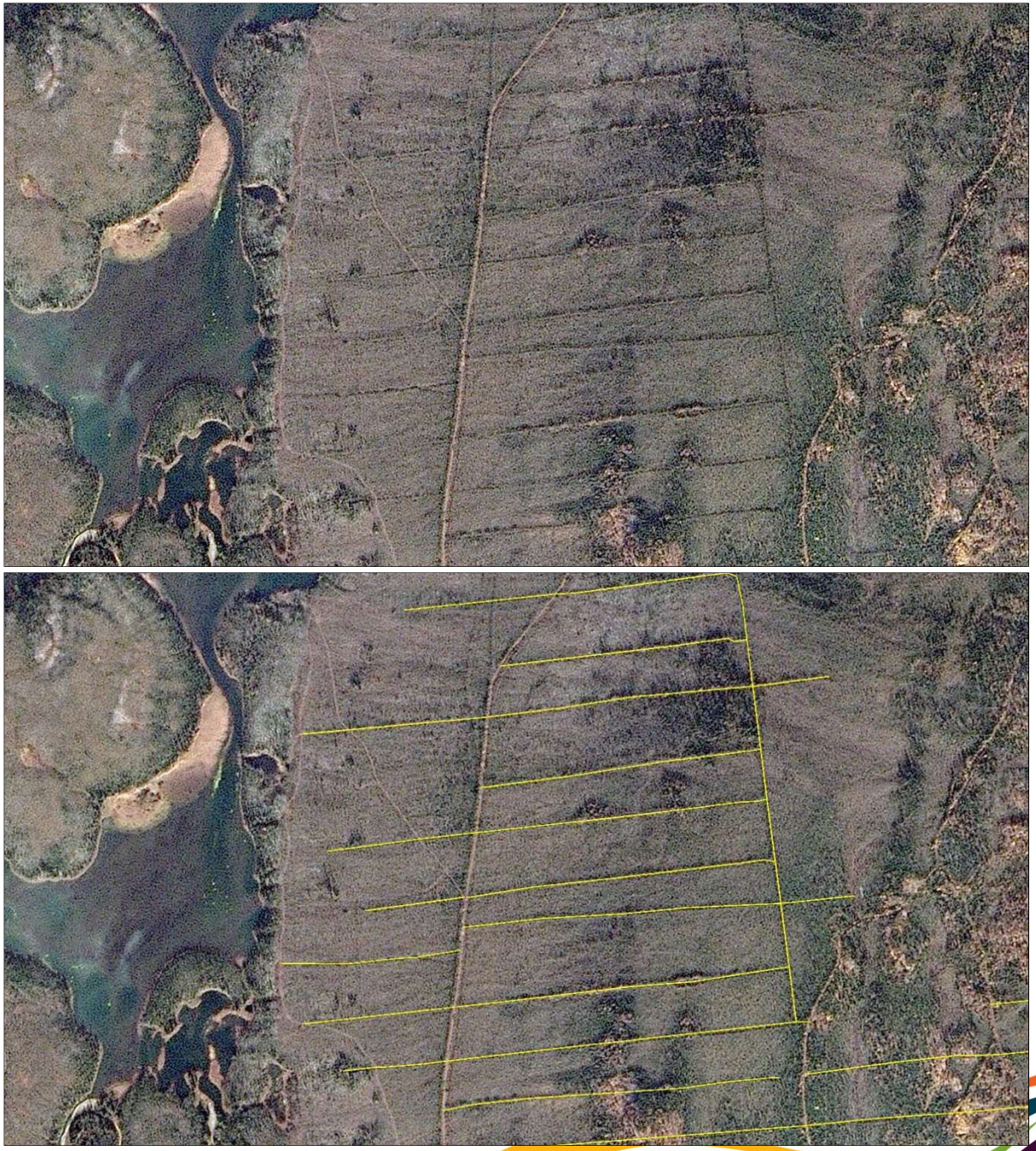
Mining, Survey/Cutline - Quartz

A linear cleared area through undeveloped land, used for line-of-sight surveying; associated with quartz mining (identified using claims information and/or other indicators)

SCALE_CAPTURED = 1:5000
Feature REF_ID = L35624

Distinguishing Characteristics:

- Found on quartz claims.
- Survey / cutlines are usually straight and there are often many parallel/perpendicular lines in an area.
- Length, spacing, and width vary between areas but may be uniform within one area.
- Can be faint and difficult to see.
- Ancillary data may be helpful in some cases to identify features. It may also help identify the industry type.
- Older Survey / Cutlines may turn into roads with new interest/development in an area.



Mining, Trench

A long, narrow excavation dug to expose vein or ore structure

SCALE_CAPTURED = 1:5000
Feature REF_ID = L38861 and others

Distinguishing Characteristics:
- Usually wider and shorter than survey/cutlines.
- Often concentrated in one area.
- Located on mining claims; use ancillary data to identify claims.
- Vary in length and width.
- Can often see the excavated materials piled up on the sides of the dugout trench.

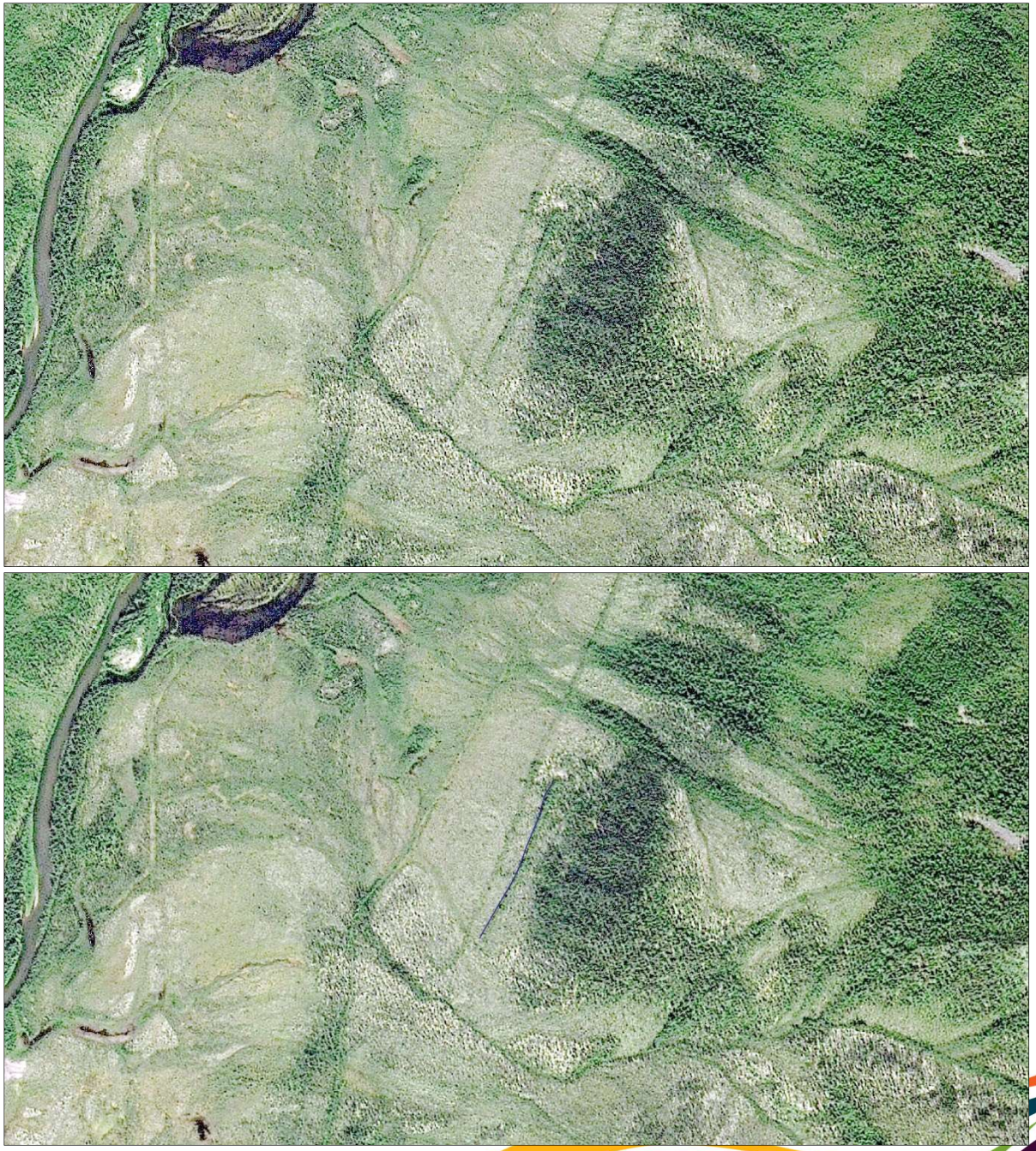
Mining, Unknown

Unknown linear mining disturbance

SCALE_CAPTURED = 1:5000
Feature REF_ID = L37384

Distinguishing Characteristics:

- Features where the disturbance type cannot be properly classified but the disturbance is associated with mining and is within a mining claim.
- Often these features could be a road, survey / cutline, or trench, however, the digitizer cannot determine with confidence which TYPE_DISTURBANCE the linear disturbance is.



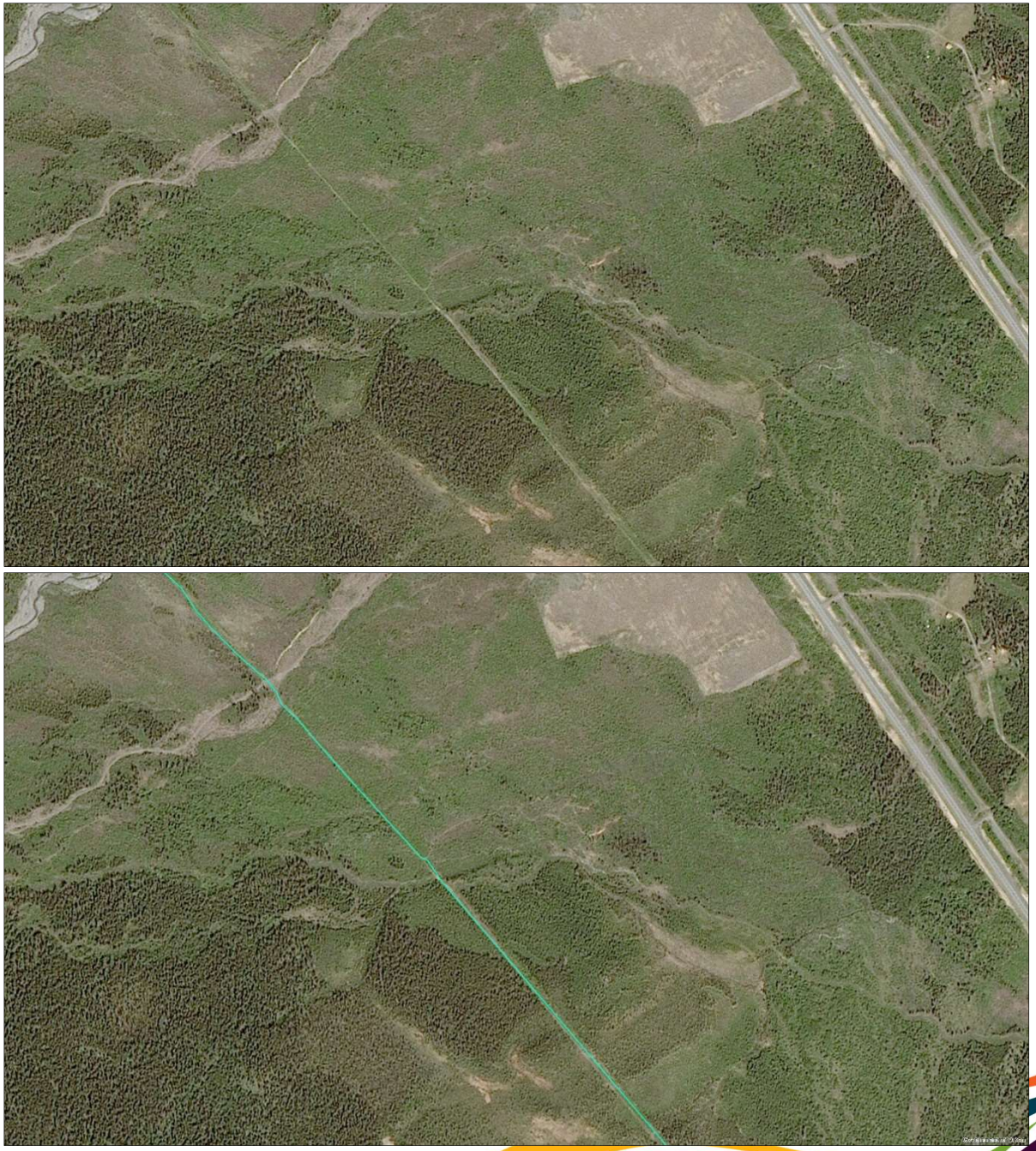
Oil and Gas, Pipeline

Visible pipeline or pipeline right-of-way (above- or below-ground)

SCALE_CAPTURED = 1:5000
Feature REF_ID = L18626

Distinguishing Characteristics:

- Can look like roads, utility corridors, and other rights-of-way.
- Use ancillary data to identify pipelines.
- Generally fairly straight and usually follow parallel to roads.



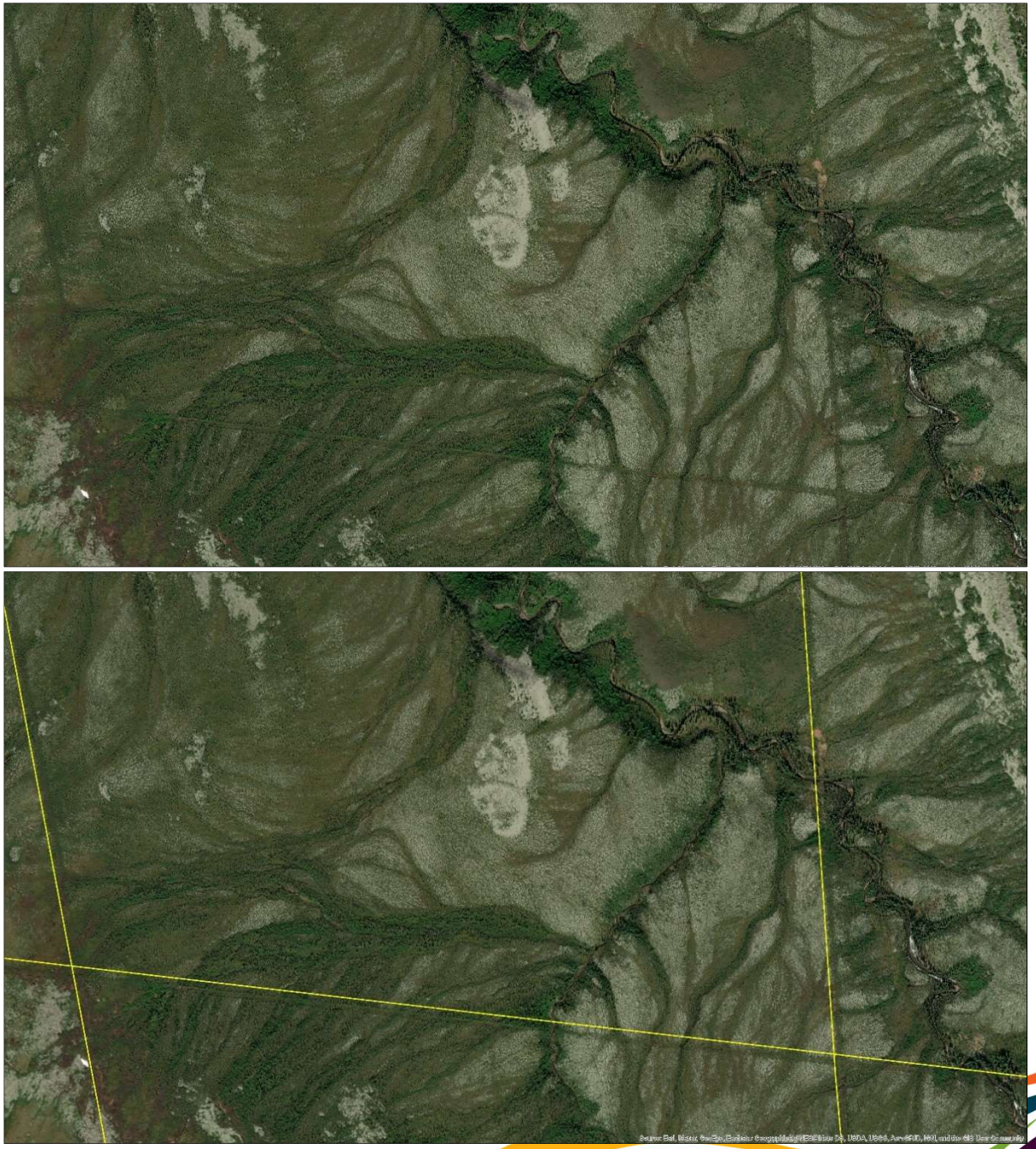
Oil and Gas, Seismic Line

Seismic lines

SCALE_CAPTURED = 1:5000
Feature REF_ID = L16148

Distinguishing Characteristics:
- Look identical to survey /cutlines.
- You must use ancillary data to determine if the disturbance is in an oil and gas area/disposition.
- Many seismic lines have been captured in the ancillary data.
- Seismic lines vary in length and width but are generally straight.
- Run parallel to each other as well as perpendicular.

*Note: though the imagery in the examples are high resolution, the features are not aligned well.



Rural, Driveway

A driveway in a rural area

SCALE_CAPTURED = 1:5000
Feature REF_ID = L33262

Distinguishing Characteristics:
- Any road that leads into a rural residential lot.

Rural, Fence

A fence in a rural area

SCALE_CAPTURED = 1:5000
Feature REF_ID = N/A

Distinguishing Characteristics:
- A visible boundary around a land parcel and appears as a thin line.
- Can be mistaken for a road. Best to look for a uniform boundary and often square or rectangular in shape.

**No current example available

Transportation, Access Assumed

A linear feature that is assumed to be an access road, but could also be a trail

SCALE_CAPTURED = 1:5000
Feature REF_ID = L37398

Distinguishing Characteristics:

- The road looks like an access road i.e., wider or well used, but doesn't necessarily lead to development/disturbance so access is assumed but cannot be confirmed.

Transportation, Access Road

A road or narrow passage whose primary function is to provide access for resource extraction (i.e. mining, forestry) and may also have served in providing public access to the backcountry

SCALE_CAPTURED = 1:5000
Feature REF_ID = L36035

Distinguishing Characteristics:

- Roads that lead to a disturbance area or provide known access to the backcountry.
- Use ancillary data to determine the industry type.
- For example, if a road leads to a mining claim, the road should be classified as an access road.

Transportation, Arterial Road

A major thoroughfare with medium to large traffic capacity

SCALE_CAPTURED = 1:5000
Feature REF_ID = L20167

Distinguishing Characteristics:

- These roads are often already in the National Road Network (NRN).
- Look for major roads that have not been captured in the NRN.

Transportation, Local Road

A low-speed thoroughfare, provides access to front of properties, including those with potential public restrictions such as trailer parks, First Nations land, private estate, seasonal residences, gravel pits (NRN definition for Local Street/Local Strata/Local Unknown). Shows signs of regular use.

SCALE_CAPTURED = 1:5000
Feature REF_ID = L39679

Distinguishing Characteristics:

- Urban roads that lead to houses and/or businesses.
- Often captured in the NRN.

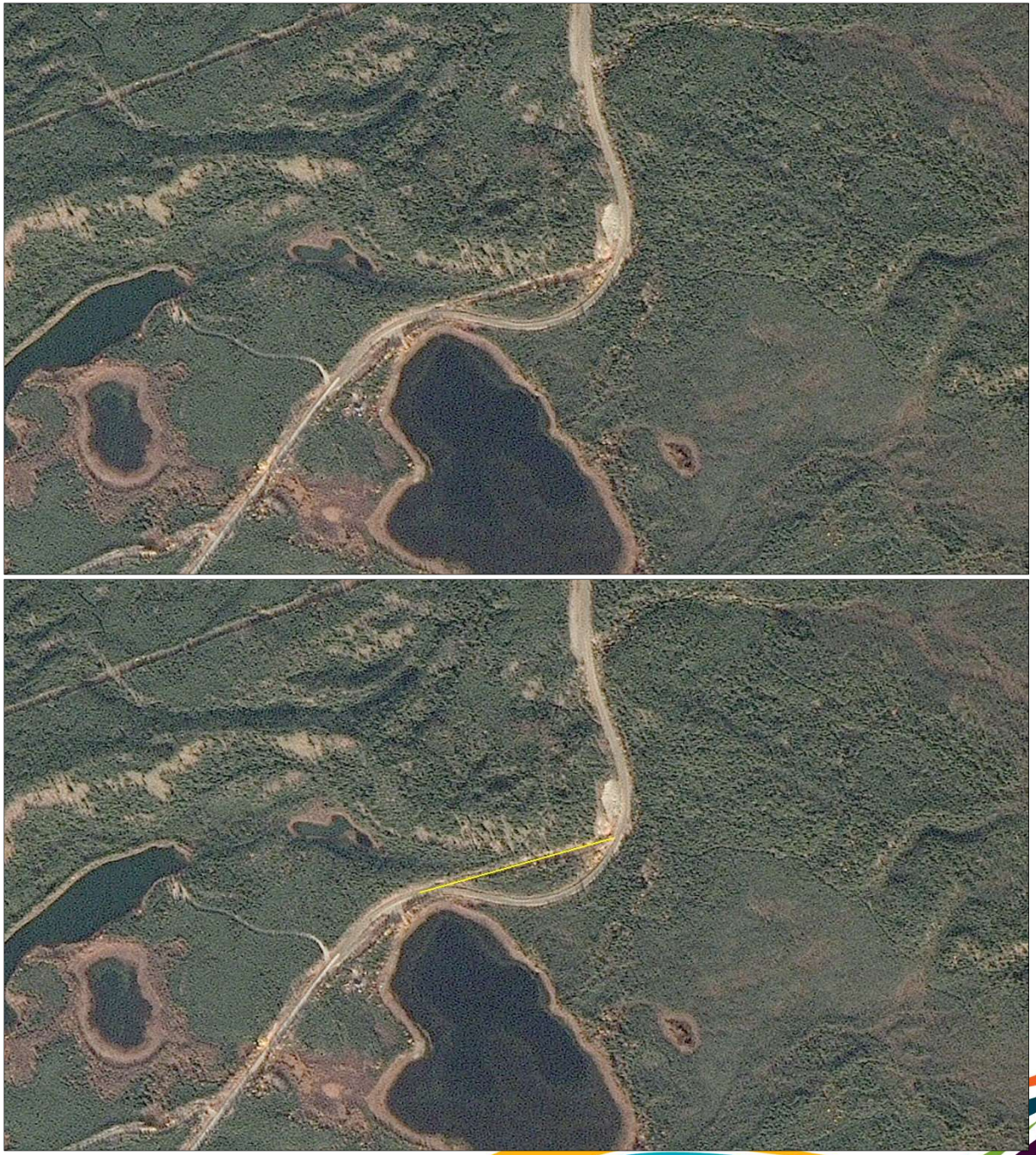
Transportation, Right-of-way

For Road Rights as attributed in the land parcels ancillary data

SCALE_CAPTURED = 1:5000
Feature REF_ID = L39724

Distinguishing Characteristics:

- Can be mistaken for electric utility corridors, use ancillary data to identify TYPE_INDUSTRY = Transportation.
- When roads are re-routed, the older section of the road becomes inactive but is still considered a right-of-way.
- An easement that is held for potential/future road development.
- Look for clearings along main roads that look like a road but do not receive high traffic.



Transportation, Trail

Path or track (often <1.5 m wide) used for walking, cycling, ORV, or other backcountry activities (trails used for mining activities are Access Roads)

SCALE_CAPTURED = 1:5000
Feature REF_ID = L39574

Distinguishing Characteristics:

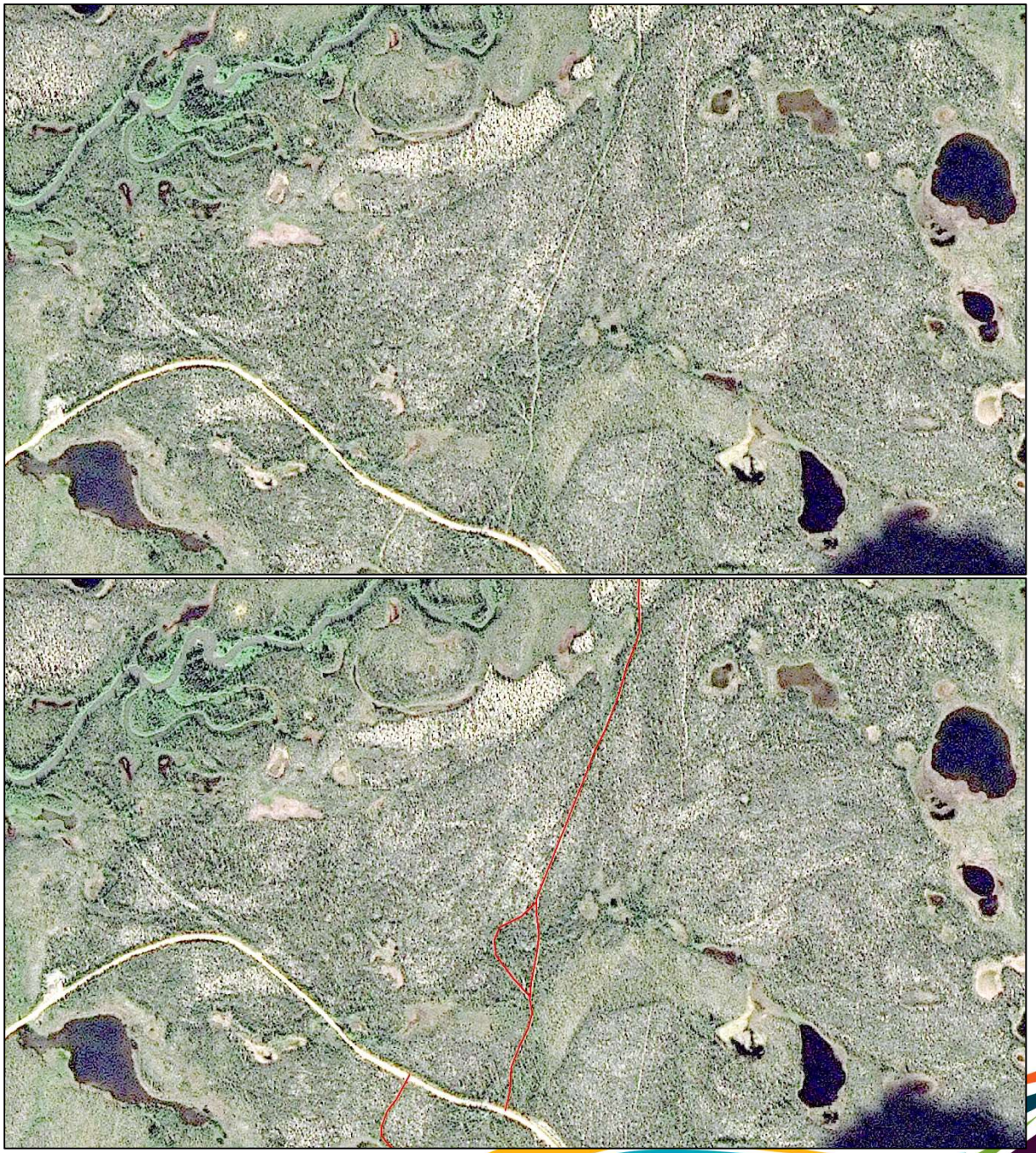
- Can be difficult to attribute, use ancillary data to verify trails. Many trails have been captured in the ancillary data.
- Often smaller in width than typical roads and can be difficult to see depending on the resolution of the imagery used.
- Can be double track or single track.
- Sometimes leads to mountains, watercourses, waterbodies, and other natural features.
- Trails are unpaved

Transportation, Unpaved Road

Dirt or gravel road (often >1.5 m wide) that does not necessarily access remote resources

SCALE_CAPTURED = 1:5000
Feature REF_ID = L37715, L37717 & L35563

Distinguishing Characteristics:
- Any unpaved roads that do not lead to resource extraction.
- More developed than trails



Unknown, Right-of-way

A right of way with unknown industry type

SCALE_CAPTURED = 1:5000
Feature REF_ID = L39505

Distinguishing Characteristics:
- Wide and generally straight linear features.
- Industry type is unclear and there are no clues in the ancillary data.

Unknown, Survey/Cutline

A linear cleared area through undeveloped land, used for line-of-sight surveying. A cutline may not always be associated with mineral exploration, therefore, Industry Type: Unknown was used to differentiate all cutlines that were outside of mineral exploration

SCALE_CAPTURED = 1:5000
Feature REF_ID = L39545

Distinguishing Characteristics:

- Narrower than a right of way.
- Lines are usually straight with few turns.
- Cannot determine the industry type based on the ancillary data or visually.

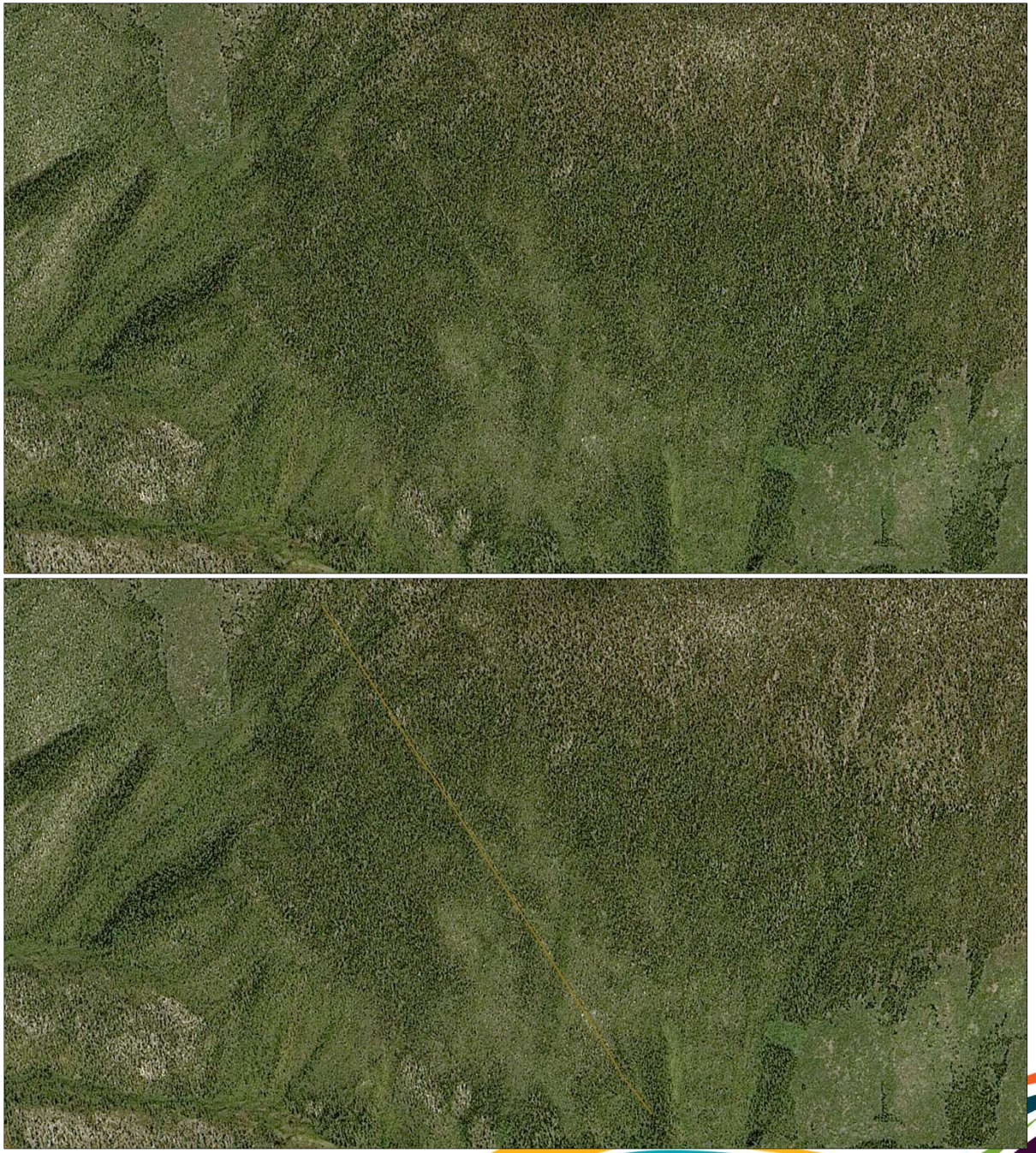
Unknown, Unknown

Unclassified, or unable to identify type based on imagery, but suspected to be anthropogenic

SCALE_CAPTURED = 1:5000
Feature REF_ID = N/A

Distinguishing Characteristics:

- Unknown features are difficult to attribute, or the digitizer cannot accurately or confidently identify the feature; however, the feature appears to be anthropogenic.
- There are no ancillary data to help with the identification.
- Usually, but not always, found in remote areas and cannot be traced to a start or end point.
- Sometimes a line will appear in the landscape and cannot be traced to an origin (it's a segment of an older feature that may have been re-vegetated or was segmented due to other natural events like fire, etc.) so identification can be difficult.



Utility, Electric Utility Corridor

Corridor usually running parallel to highway, where transmission lines or other utilities are visible

SCALE_CAPTURED = 1:5000
Feature REF_ID = L35723

Distinguishing Characteristics:

- Lines are usually straight with minimal turns and are generally wide (approx. 15 to 25 m).
- Lead to dams and substations.
- Can be difficult to distinguish between other right-of-way features but ancillary data can help to identify electric utility corridors/easements.

Utility, Unknown

Unknown linear feature assumed to be a utility corridor; ancillary data is unclear.

SCALE_CAPTURED = 1:5000
Feature REF_ID = L17427 & L17417

Distinguishing Characteristics:

- Linear features that are unknown but suspected to be associated with utilities.
- The ancillary data may be unclear and therefore, the digitizer cannot accurately identify the feature.