

United States Department of Agriculture
Rural Utilities Service

ENVIRONMENTAL ASSESSMENT FOR

COLUMBIA POWER COOPERATIVE ASSOCIATION
TRANSMISSION LINE UPGRADE

FOSSIL TO SERVICE CREEK – WHEELER COUNTY,
OREGON

ENVIRONMENTAL ASSESSMENT

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ACRONYMS AND ABBREVIATIONS

| | |
|-------|--|
| ATV | All-Terrain Vehicle |
| APP | Avian Protection Plan |
| ACSR | Aluminum Conductor Steel Reinforced |
| ATV | All-Terrain Vehicle |
| BGEPA | Bald and Golden Eagle Protection Act |
| BPA | Bonneville Power Administration |
| CPCA | Columbia Power Cooperative Association |
| EFU | Exclusive Farm Use |
| EMF | Electrical Magnetic Fields |
| ETU | Exclusive Timber Use |
| ELS | Ecological Land Services, Inc. |
| FEMA | Federal Emergency Management Agency |
| FIRM | Flood Insurance Rate Map |
| G/F | Grazing/Farming |
| MBTA | Migratory Bird Treaty Act |
| NESC | National Electric Safety Code |
| NRHP | National Register of Historic Places |
| ODEQ | Oregon Department of Environmental Quality |
| ODFW | Oregon Department of Fish and Wildlife |
| OHWM | Ordinary High Water Mark |
| ROW | Right-of-way |
| USFWS | U.S. Fish and Wildlife Service |

1.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

1.1 PROJECT DESCRIPTION

The project consists of upgrading a 25-mile transmission line segment located in north central Oregon from Fossil to Service Creek in Wheeler County, Oregon.

The landscape can briefly be described as semi-arid, moderately high elevation composed mostly of grazing land; however, some parcels are irrigated and scattered pine forests are found in the area. The weather includes substantial temperature variations and significant wind. The area is classified as a medium load district in the National Electrical Safety Code (NESC).

1.1.1 Existing Segments to be Upgraded

The existing Fossil – Service Creek transmission line segment is a radial line serving three Columbia Power Cooperative Association (CPCA) substations in Kinzua, Spray and Service Creek.

The existing lines are insulated for 69KV phase-to-phase operating voltage with a conductor of #1/0 ACSR (aluminum conductor steel reinforced). The structures consist of both single pole wood framed cross-arm construction, and two-pole “H” – frame structures. The average pole height for the existing line is 50 feet. The conductor is carried on porcelain suspension insulators. The average span between supports is about 600 feet. An outage will mean an outage to the Service Creek, Kinzua and/or Spray substations with disturbance in service to at least 1,350 customers and potentially 1,780 customers. The existing lines are about 55 years old and are nearing the end of their useful lives.

For the most part, the right-of-way (ROW) for the existing lines is secured by “blanket easements” from individual landowners. The right-of-way boundaries are not delineated. In the timbered areas, the ROW is cleared approximately 40 to 50 feet each side of the transmission centerline.

1.1.2 Proposed Transmission Line Upgrade

The new, upgraded lines will generally follow the same route/corridor as the existing line and will likely utilize existing easements and permits. The structures for the upgraded line will likely be wood, although fiberglass and glue-laminated poles will be considered upon RUS approval. A typical structure will be a single pole about 60 – 65 feet in length. It is possible the new upgraded line will be about five feet higher than the existing line. The average span will likely be around 500 feet. A new 397.5 KCM ACSR conductor of larger diameter will be used in place of the existing #1/0 ACSR. The conductor will be carried on 115KV polymer horizontal post or horizontal “V” insulators. The polymer insulators are highly resistant to gunshots and will reduce wind caused “conductor blow-out” when compared to the existing line. This is due to the replacement of the existing suspension insulators (that can swing in the wind) with the more rigid polymer insulators.

While ROW width (at this time) has not been calculated, the new lines will require roughly the same amount of ROW as the existing lines. A minimum ROW width would be approximately 60 feet (with the provision for removal of “danger trees” that could fall into the line). An overhead ground wire for lightning protection will be carried above the phase conductors for the first half mile out of each substation.

The new line will be insulated for 115KV, but energized at 69KV. The segment is part of a fringe area transmission system operated by Bonneville Power Administration (BPA). Currently, the adjacent line segments are insulated for 115KV (but operated at 69KV). The new, upgraded 115KV line segments will allow BPA to convert the fringe area transmission system voltage from 69KV to 115KV at some time in the future.

1.1.3 Proposed Access Routes

Part of the project is to secure reasonable access routes to line supporting structures. Many of the existing structures do not have road access; therefore, materials have to be brought in by helicopter or all-terrain vehicle (ATV). A ROW agent will negotiate with individual landowners to find access routes to structures where possible. There is a tap point on the Fossil – Service Creek line segment that is on a ridge. It is desirable to develop an all-weather access road to this point. This would allow the installation of two air-break switches – one for the Spray tap and one for the Service Creek tap. Installation and access to the two switches would improve the operation of the Fossil – Service Creek transmission line and the substations it feeds.

1.1.4 Parallel Utilities, Roads and Corridors

The Fossil – Service Creek line very roughly follows parts of Highway 19 (near Fossil), the County road to Kinzua and Alder Creek Road (near the Service Creek Substation); however, the remaining portion crosses the countryside. Other than unidentified roads/trails, no other roads, utilities or corridors are found that parallel the line. CPCA maintains a single phase, local distribution line under built on the transmission line structures from Service Creek Substation north about seven miles.

1.1.5 Construction, Clearing and Maintenance

Since the transmission line segment is radial, the removal of an existing line before construction of a new line would result in an outage for the substation served by the line. It is not possible to serve the Service Creek and Spray Substation loads from the Ukiah Substation distribution feeder two counties away.

In general, the preferred construction is to build the new line adjacent to or alongside the existing line, cutover to the new line and then remove the old line. If this is not possible, then alternative methods will be developed to maintain service continuity while the old line is replaced. An alternative method would be to install temporary diesel generation near a substation to be taken out of service. The diesel generation would then pick up the substation load. This alternative is extremely expensive due to high fuel costs and

contributes to air pollution; therefore, temporary diesel generation is considered a last resort.

Much of the existing ROW consists of open grazing lands; however, there are timbered areas where the existing ROW is cleared. In the timbered areas, it is not known (at this time) exactly how much additional ROW must be cleared. This is dependent upon negotiations with landowners and detail line design. Any ROW clearing will be performed in accordance to the terms negotiated between the ROW agent and the landowner. The pine trees in this area are relatively slow growing and will only require infrequent tree trimming to maintain the ROW.

Maintenance activities will consist of an annual line patrol and possibly hardware, insulator, and/or conductor replacement/repair due to storm damage or vandalism. Typical line patrol will be conducted using an ATV. Due to a lack of road access, many poles will have to be climbed without the aid of a man-lift to access insulators and other line components.

1.2 NEED FOR THE PROJECT

The Fossil – Service Creek transmission segment was constructed in the early 1950s. Most of the 55-year-old structures and nearly all the conductor are original. This segment would likely reach the end of its useful life in the next ten years. This line operates in an environment of greatly varying temperatures and substantial winds at an altitude of over 3,000 feet. Due to this environment, there is some question regarding the mechanical integrity of the existing #1/0 ACSR conductor.

It is reasonable to assume that the overall reliability of the CPCA system will be substantially reduced through the continued operation of this existing transmission line segment.

This segment is part of a greater fringe area 69KV transmission infrastructure operated by BPA. This particular fringe area transmission infrastructure is currently experiencing voltage variations as a result of wind generation in the Condon, Oregon area. BPA is concerned that additional wind farms integrated to this fringe system will result in transmission voltage variations of an intolerable nature. In addition, this fringe area system at 69KV would experience significant line losses, which are not in the best interests of all northwest utility customers.

As a result of the above, BPA has developed long range plans to convert this fringe area transmission system voltage from 69KV to 115KV. The 69KV to 115KV conversion would greatly increase the load carrying capability of this fringe area transmission infrastructure. Several transmission segments in the fringe area have already been upgraded to newer structures, increased wire size and 115KV insulation levels. Upgrading Fossil – Service Creek segment is also necessary for BPA to convert the fringe area system voltage to 115KV.

Upgrading the Fossil – Service Creek transmission segment will require a larger diameter conductor to negate the detrimental affects of corona discharge when the lines are operated at 115KV. A 397.5KCM ACSR conductor has been specified since it is large enough in diameter to nullify corona discharge and it is the same size conductor specified in the adjacent transmission line segments that have been previously upgraded. In addition, the larger conductor will reduce line losses and improve voltage regulation to the CPCA substations.

BPA supports the upgrade of this transmission line segment based upon the efficiency and reliability improvements as well as the future ability to perform a voltage conversion to 115KV for its fringe area system.

1.3 ALTERNATIVES CONSIDERED TO THE TRANSMISSION LINE UPGRADE PROJECT

The alternative considered the Proposed Action is to construct a new transmission facility in a new corridor. The alternative route is along State Highway 19 from Fossil to the Service Creek Substation. The line would be along the highway for the entire distance except for a tap line to Kinzua. The first 12 miles from the Service Creek Substation would require an overbuild of a portion of existing distribution line. Also, there is an existing distribution line along State Highway 19 from Fossil to Shelton Wayside owned by Columbia Basin Power. In order to serve the Kinzua load, either a substation would be constructed adjacent to the highway ROW and a distribution line constructed along the road to Kinzua or a transmission line tap would be constructed to the existing Kinzua Substation. The advantage of this alternative route is the easy, year around access to the transmission line structures.

1.4 ALTERNATIVES CONSIDERED AND DISMISSED

1.4.1 Feed Service Creek Substation from Another Source

A search for other power sources to serve the Service Creek – Spray Substations revealed sources far too distant (Prineville and John Day). In addition, the lines would require new ROW of which part would have to traverse the Ochoco National Forest. Alternate power sources for Service Creek and Spray are also not practical at this time.

1.4.2 Develop and Alternate Generation Resource

An alternate generation resource developed in the Service Creek area could alleviate or eliminate the need for the transmission line upgrade. An examination of the area has resulted in the following: There is no identifiable generation resource in the local area that can produce energy at a cost comparable to the current and projected BPA “priority firm” rate. Even if a low cost generation resource could be developed, there would still be the need for transmitting the energy to Service Creek (a distance in excess of 50 miles). Power transmission at 69KV or a higher voltage would likely be required; therefore, this alternative would offer no net benefit.

1.4.3 Provide 115KV-69KV Step Down Transformations

Re-insulating the lines could be avoided by installing an 115KV – 69KV step down transformation at Fossil. The step down transformation would allow the upgraded line to operate at 69KV. There are some distinct disadvantages to this scheme. First, the cost of the transformations would likely be in the vicinity of \$1 million. This would equal or exceed the additional cost of upgrading the line insulation to 115KV. Second, both voltage drop and line loss would increase by virtue of the added transformation losses. An upgraded 115KV line would actually reduce both voltage drop and line loss and increase energy efficiency. Third, the transformation (and associated reliability factor) would reduce the overall reliability of the transmission segment. Fourth, the transformation would require substantial maintenance expense. The added maintenance expense would make this alternative more costly from a maintenance perspective.

1.4.4 Utilize Load Management Techniques

CPCA has aggressively pursued several conservation measures within its system. As a result of the conservation measures, individual customer consumption has decreased. Conservation and load management may provide line loss savings; however, conservation and load management cannot increase reliability. Reliability is related to the ability of the line to withstand the effects of weather and other natural events. The upgraded lines will be designed to be more reliable than the existing lines. Re-conductoring of the lines will also increase efficiency and reduce losses – a good application to obtain energy efficiency.

1.4.5 Construct Underground Transmission

Relatively low cost solid dielectric 69KV or 115KV underground cables can be obtained (as compared to oil filled or gas insulated cables); however, the cable cost alone is several times more expensive than overhead conductors of the same rating. Trenching would likely cost an extra ten dollars per foot on average, concrete termination boxes would be needed and finally, the addition of shunt reactors would likely be required to offset the high cable capacitance. At 115KV, the capacitance current in the cable sheath would be considerable (at the distances involved). The excessive sheath current would decrease the current carrying capability of the cable. In all, underground construction would likely be five to ten times more costly than the upgraded overhead line.

Another underground transmission method is HVDC Light. This method uses a converter station at the source terminal to convert from AC to DC and then a converter station at the receiving end terminal to convert from DC to AC. HVDC Light would eliminate the negative effects of capacitance, but would require expensive converter stations. In this situation, the HVDC Light conductor and underground construction would be comparable to the cost of AC underground transmission (above); however, the converter stations would substantially increase overall costs as compared to AC underground transmission.

1.4.6 A Combination of Underground and Overload Construction

It is possible to construct a portion of the line underground to avoid an environmental impact (such as a visual impact). At this time, there is no known environmental impact that would justify the high cost of underground construction for any specific portion of the line routes.

1.4.7 Alternative Structure Configurations

The current lines are a mix of single pole, cross arm construction with suspension insulators and two-pole “H-frame” construction with suspension insulators.

Alternatives being investigated are: (1) single wood pole armless construction with either polymer line post insulators or horizontal “V” polymer insulators; (2) single fiberglass pole armless construction with either polymer line post insulators or horizontal “V” insulators; and (3) single laminated wood pole armless construction with either polymer line post or horizontal “V” insulators.

1.4.8 No Action

In the current state, this transmission line segment would prevent BPA from converting this portion of its fringe transmission system from 69KV to 115KV. BPA may need to convert from 69KV to 115KV in order to absorb the demand required by present and future wind turbines in the Condon area.

A No Action alternative would not increase transmission efficiency or reliability for the segments under consideration. Further, a No Action alternative would result in the inability to increase voltage (and the associated efficiency and capacity) of the adjacent lines serving the two segments; therefore, the adjacent transmission lines would have to remain operating at 69KV.

Under the No Action alternative, the existing lines would eventually undergo a very large maintenance expense in replacing both poles and conductor, but would not receive any considerable benefit in reliability, efficiency or capacity. Under the No Action alternative, there is an increased potential for the line to be a public hazard. In particular, the line could start fires as a result of a broken conductor.

2.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

2.1 LAND USE

2.1.1 Alternative A - Proposed Action

The existing transmission lines were originally constructed in the 1950s. The existing electrical transmission line corridor from Service Creek to Fossil transects approximately 25 miles. Commencing at the Service Creek Substation on Highway 19, the line follows the Alder Creek drainage for approximately four miles before trending northwest toward Kinzua and crossing the countryside. As the line approaches Kinzua from the south, it crosses Searcy Creek, bypasses Kinzua, and drops into the Thirty Mile Creek drainage

for a short distance before turning west and proceeding westerly toward Fossil, again following an overland route. Land use in the vicinity of the transmission corridor is dominated by either open range or timber production with scattered residences. An exception to this trend is a small enclave of rural residential development around the Kinzua Golf Course, north of the transmission corridor approximately one mile. Where the transmission line passes through forested land, the corridor is cleared of trees as a damage prevention measure. Of the 25 miles of corridor, the line traverses approximately 12 miles of open rangeland and 13 miles of forested territory. The existing 60-foot wide cleared corridor through the forested area amounts to approximately 94 acres. Although it is not cleared or fenced, the corridor through the open range area would amount to approximately 87 acres.

The existing corridor passes through two Wheeler County zoning districts—Exclusive Farm Use (EFU) and Exclusive Timber Use (ETU). Pursuant to the Wheeler County Zoning, Subdivision, Partitioning and Land Development Ordinance Article 3, Sections 3.1(3)(n) and 3.2(3)(p), replacement of the existing facilities is a permitted use requiring an administrative review.

2.1.2 Alternative B – State Highway 19 Corridor

The route for this alternative follows State Highway 19 from the Service Creek Substation to the Fossil Substation. Land uses along this corridor also are primarily in agriculture or timber production with limited residences. Shelton State Wayside Park is located north of Winlock Road, and Bear Hollow Park is located approximately nine miles east of Fossil. State Highway 19 is a designated “scenic byway” by the State of Oregon. The purpose of this designation is to preserve the scenic view and ambience along the corridor.

The alternative corridor also passes through two Wheeler County zoning districts—Exclusive Farm Use (EFU) and Exclusive Timber Use (ETU). Pursuant to the Wheeler County Zoning, Subdivision, Partitioning and Land Development Ordinance Article 3, Sections 3.1(3)(n) and 3.2(3)(p), construction of new transmission facilities is a permitted use requiring an administrative review.

2.1.3 Alternative C - No Action

Existing conditions under this alternative are the same as Alternative A. Because the facilities would only be repaired or maintained, no zoning administrative review would be required.

2.2 FLOODPLAINS

2.2.1 Alternative A - Proposed Action

Federal Emergency Management Agency (FEMA) has mapped the regulatory flood fringe limits along approximately the southerly 2.75 miles of Alder Creek (Flood Insurance Rate Maps (FIRM) Panels 410245 0250B and 410245 0175B). As the existing facility traverses north from the Service Creek Substation, it crosses the Alder Creek

drainage multiple times. It is not known whether any of the poles are located within this reach of the creek where the floodplain is mapped.

The next segment of mapped floodplain along the existing corridor is along about one mile of Searcy Creek above its confluence with Thirty Mile Creek. The corridor follows Thirty Mile Creek for approximately one mile as it flows west from Kinzua. The transmission facility merely crosses Searcy Creek south of Kinzua, but appears to be within the floodway fringe of Thirty Mile until the corridor turns west and the drainage continues north (FIRM Panel 410245 075B). Again, it is not known whether the existing utility poles are located within the mapped 100-year flood plain.

The next segment of mapped floodplain along the existing corridor is along Butte Creek east of Fossil adjacent to Highway 19 (FIRM Panel 410245 0050B). The existing line crosses Butte Creek and the mapped floodplain near Reno Canyon Creek. It is assumed that no utility poles are located within the mapped floodway fringe.

2.2.2 Alternative B – State Highway 19 Corridor

The Alternative B corridor would follow State Highway 19 from the Service Creek Substation to Fossil. This route is contemplated to remain on the north/east side of the highway. Service Creek is located on the west side of Highway 19 and the floodplain along Service Creek in the southerly portion of this alternative route is mapped as meandering on both in a narrow valley on both sides of the highway. The southerly reach of Butte Creek along this corridor is on the south/west side of the highway, and the stream meanders back and forth across the highway and the floodplain includes small areas east/north of the highway starting about three miles east of Fossil (FIRM Panels 410245 0050B, 410245 0175 and 410245 250B).

2.2.3 Alternative C - No Action

Potentially affected floodplains under this alternative would be the same as under Alternative A.

2.3 WETLANDS

2.3.1 Alternative A - Proposed Action

The landscape associated with the electrical transmission line corridor consists mainly of rolling hills and moderately high elevations. The weather includes substantial temperature variations, significant winds and arid conditions.

The existing Fossil to Service Creek segment is located in a landscape that consists of scattered pine forests and open range with some agriculture land. The southeastern portion of the transmission line follows Alder Creek for approximately 3.5 miles, spanning the creek periodically. Portions of the surrounding landscape consist of rolling hills that contain large drainage swales or canyons.

Other unnamed streams and wetlands are located adjacent to the transmission line. Wetlands are generally associated with the streams and are confined to valley floors. In all instances, the existing transmission poles are located either in the existing ROW of roads, or span the streams and wetlands entirely.

2.3.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for the Alternative A.

Various unnamed streams and wetlands are located adjacent to or within the area of the alternative location for the transmission line.

2.3.3 Alternative C - No Action

The No Action alternative would be to maintain the existing transmission lines within the present corridor with no improvements or upgrades. Environmental conditions are the same as those found under Alternative A. In addition, a No Action alternative would result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the current non-insulated lines increase the fire hazard should a pole fall down.

2.4 WILDLIFE RESOURCES

2.4.1 Alternative A - Proposed Action

2.4.1.1 Wildlife Habitat

Wildlife habitat associated with the transmission line corridor consists of open grazing land, scattered pine forests and some agriculture land. A small amount of the surrounding area contains shrub-steppe habitat. Portions of the transmission line corridor are located adjacent to or within riparian areas associated with streams.

2.4.1.2 Mammals

Large mammal species expected to occur within the general vicinity of the transmission line corridor include mountain lion (*Felix concolor*), bobcat (*Lynx rufus*) and American black bear (*Euarctos americanus*). Mule deer (*Odocoileus hemionus*), and Rocky Mountain elk (*Cervus canadensis nelsoni*) were observed during environmental survey work.

Small mammals that are expected to occur in the project vicinity are coyote (*Canis latrans*), badger (*Taxide taxus*), striped skunk (*Mephitis mephitis*), various hares, rabbits, ground squirrels, chipmunks, rats and mice.

2.4.1.3 Birds

Non-migratory birds expected to occur in the project vicinity are chukar (*Alectoris chukar*) – an introduced game species. Ring-necked pheasant (*Phasianus colchicus*), wild turkey (*Meleagris gallopavo*) and ruffed grouse (*Bonasa umbellus*) were observed during environmental survey work. Birds of prey and migratory birds are expected to

forage, perch and nest within and adjacent to the project area. Below is a list of birds observed during environmental survey work:

Table 1. Birds Observed

| | | |
|---|---|--|
| American goldfinch (<i>Carduelis tristis</i>) | Black-billed magpie (<i>Pica hudsonia</i>) | Horned lark (<i>Eremophila alpestris</i>) |
| American robin (<i>Turdus migratorius</i>) | Ruffed grouse (<i>Bonasa umbellus</i>) | Steller's jay (<i>Cyanocitta stellerii</i>) |
| Belted kingfisher (<i>Ceryle alcyon</i>) | Black-capped chickadee (<i>Poecile atricapilla</i>) | Dark-eyed junco (<i>Junco hyemalis</i>) |
| Common raven (<i>Corvus corax</i>) | Prairie falcon (<i>Falco mexicanus</i>) | Canyon wren (<i>Troglodytes troglodytes</i>) |

2.4.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for Alternative A.

2.4.3 Alternative C - No Action

A No Action alternative would be to maintain the existing transmission lines within the present corridor with no improvements or upgrades. Environmental conditions are the same as those found under Alternative A. A No Action alternative would also result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the existing non-insulated lines increase the fire hazard should a pole fall down. In addition, the new lines will follow the guidelines in Suggested Practices for Avian Protection On power Lines: The State of the Art in 2006 and the “Avian Protection Plan (APP) Guidelines” prepared by the Edison Electric Institute’s Avian Power Line Interaction Committee and USFWS.

2.5 VEGETATION RESOURCES

2.5.1 Alternative A - Proposed Action

The northwest portion of the transmission corridor located adjacent to Butte Creek consists of open rangeland with some scattered pine forests and agriculture land. The open rangeland consists of a sparse shrub layer and pasture grasses. Near the northern-most reach of the corridor and continuing southeast, the vegetation becomes increasingly forested with an overstory consisting of ponderosa pine and Douglas-fir trees with an under story consisting grasses and native shrubs. Near the eastern-most extent, where the corridor is adjacent to Alder Creek, the overstory becomes slightly less dense, transitioning into open rangeland, ending at Service Creek. A little less than half of the existing transmission corridor ROW is within open grazing land and covers approximately 87 acres; the portions that are within forested areas are currently within maintained ROWs and cover approximately 94 acres.

2.5.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for Alternative A. The State Highway 19 corridor transects more mature forested areas likely due to a lower elevation and more abundant water resources.

2.5.3 Alternative C - No Action

A No Action alternative would be to maintain the existing transmission lines within the present corridor with no improvements or upgrades. Environmental conditions are the same as those found under Alternative A. In addition, a No Action alternative would result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the current non-insulated lines increase the fire hazard should a pole fall down.

2.6 THREATENED AND ENDANGERED SPECIES

2.6.1 Alternative A - Proposed Action

According to the U.S. Fish and Wildlife Service (USFWS), the only threatened or endangered species that may occur in Wheeler County are middle Columbia River steelhead (USFWS 2007).

2.6.1.1 Bald Eagle

Although bald eagles have been delisted by USFWS, they are still protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). Bald eagles may forage in the fish bearing streams within and adjacent to the transmission line corridor. The eagles may also fly within the project area to travel from one foraging or nesting site to another.

To assure the protection of all migratory birds including birds of prey, the CPCA will follow the guidelines in Suggested Practices for Avian Protection On power Lines: The State of the Art in 2006 and the “Avian Protection Plan (APP) Guidelines” prepared by The Edison Electric Institute’s Avian Power Line Interaction Committee and USFWS (Edison 2005) by spacing conductors at least 7.5 feet apart.

2.6.1.2 Fish

USFWS lists the following threatened and endangered fish species that may occur within Wheeler County: middle Columbia River steelhead. USFWS currently has no species listed as proposed within Wheeler County.

The current transmission line corridor follows Alder Creek for approximately 3.5 miles, spanning the creek periodically. According to ODFW, middle Columbia River steelhead and other resident fish exist within the 3.5-mile stretch of Alder Creek that runs adjacent to or near the transmission line (Untewegner 2007). Direct impacts to the middle Columbia River steelhead will be avoided to the fullest extent possible by: 1) working during the approved in-water work window provided by ODFW; 2) replacing all poles

upland of the ordinary high water mark (OHWM); and 3) installing erosion control measures such as silt fencing or straw bales around the disturbed area during construction and re-vegetating the disturbance area to stabilize the exposed soil.

2.6.1.3 Plants

According to USFWS, no threatened or endangered plant species occur in Wheeler County.

2.6.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for Alternative A.

2.6.3 Alternative C - No Action

A No Action alternative would be to maintain the existing transmission lines within the present corridor with no improvements or upgrades. Environmental conditions are the same as those found under Alternative A. In addition, a No Action alternative would result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the current non-insulated lines increase the fire hazard should a pole fall down.

2.7 CULTURAL RESOURCES

2.7.1 Alternative A - Proposed Action

Approximately 19.4 km (12 mi) of the 40.2 km (25 mi) transmission line easement was surveyed on November 5 and 6, 2007. Four archaeological isolates and one historic resource were identified and recorded within the portions of the transmission line easement that were surveyed. None of the archaeological isolates were recommended to be eligible for listing on the *National Register of Historic Places* (NRHP). The transmission line appears to represent a significant historical resource, but its replacement does not adversely affect its historical value.

2.7.2 Alternative B – State Highway 19 Corridor

No cultural resources survey of this corridor has been conducted.

2.7.3 Alternative C - No Action Alternative

Conditions regarding cultural resources under this alternative are as described in Section 2.7.1 above.

2.8 AIR QUALITY

2.8.1 Alternative A - Proposed Action

The Wheeler Comprehensive Plan 2003 Technical Report to its 1980 Technical Report for its comprehensive plan indicates that air quality within the county is generally good. The Oregon Department of Environmental Quality (ODEQ) has no data specific to the immediate vicinity of the transmission corridor and does not have any sampling stations

or permitted emission sites in the County (Hough 2008). The rural nature of the project area has few sources that produce air pollutants on a regular basis. Potential sources would include particulates during wintertime atmospheric inversions when wood stoves are frequently the source of heat for rural residences, in the spring and fall with wind-generated dust from cultivation and harvest, and in the summer and fall from smoke from forest fires.

2.8.2 Alternative B – State Highway 19 Corridor

Air quality conditions in the Alternative B corridor are similar to those in Alternative A.

2.8.3 Alternative C - No Action

A No Action alternative would be to maintain the existing transmission lines within the present corridor with no improvements or upgrades. Environmental conditions are the same as those found under Alternative A.

2.9 WATER QUALITY

2.9.1 Alternative A - Proposed Action

Surface water resources within the existing corridor are limited to a few small to medium streams as well as small man-made livestock watering ponds within area used as rangeland. From north to south, the existing line crosses or is in close proximity to the following streams:

- Butte Creek
- Thirty Mile Creek
- Searcy Creek
- Lake Creek
- Alder Creek

Numerous other small seasonal streams and drainages are located throughout the corridor including agricultural ditches and roadside ditches. Some of these drainage features have been dammed with earth and excavated to create watering holes for livestock. It is generally assumed that portions of these streams are presently impacted by livestock including erosion, reduction of riparian vegetation, and manure entering the waterways. On-site septic systems are not likely a major source of potential contamination into surface waters due to the low residential density in the area. No major lakes, reservoirs or rivers are located within or adjacent to the existing corridor.

Ground water resources within the vicinity of the existing corridor include both shallow aquifers in alluvial formations and deeper regional aquifers within fractured basalt formations. Alluvial aquifers are generally restricted to valley floors and may have highly variable ground water table elevations. Seasonal and perennial springs are present along valley walls acting as the main source of water for the streams in the area. Some of these springs have been developed into livestock watering ponds with some of the bigger springs likely used for domestic water purposes. Deep-seated aquifers within fractured basalt are likely used by residents for domestic and agricultural uses. These aquifers are

generally quite large and contain vast reserves of water. With the sparse residential population within the line corridor, it is likely that these deep-seated aquifers are not presently threatened by over use. Aquifers in the area are not expected to be contaminated to any great extent.

2.9.2 Alternative B – State Highway 19 Corridor

Alternative B would be located to the west of the existing line corridor generally following State Highway 19 from Fossil to Service Creek, then east along State Highway 19 to the existing substation. In general terms, this route is much the same as the existing corridor with respect to number and physical characteristics of surface waters. Groundwater sources and quality are likely to be the same as in Alternative A.

2.9.3 Alternative C - No Action

A No Action alternative would be to maintain the existing transmission lines within the present corridor with no improvements or upgrades. Environmental conditions are the same as those found under Alternative A.

2.10 AESTHETICS

2.10.1 Alternative A - Proposed Action

The existing transmission lines were originally constructed in the 1950s. The existing electrical transmission line corridor from Service Creek to Fossil transects approximately 25 miles. Commencing at the Service Creek Substation on Highway 19, the line follows the Alder Creek drainage for approximately four miles before trending northwest toward Kinzua and crossing the countryside. As the line approaches Kinzua from the south, it crosses Searcy Creek, bypasses Kinzua, and drops into the Thirty Mile Creek drainage for a short distance before turning west and proceeding westerly toward Fossil, again following an overland route. Land use in the vicinity of the transmission corridor is dominated by either open range or timber production with scattered residences. An exception to this trend is a small enclave of rural residential development around the Kinzua Golf Course. There are no designated scenic areas along this corridor.

2.10.2 Alternative B – State Highway 19 Corridor

The route for this alternative follows State Highway 19 from the Service Creek Substation to the Fossil Substation. Land uses along this corridor also are primarily in agriculture or timber production with limited residences. Shelton State Wayside Park is located north of Winlock Road, and Bear Hollow Park is located approximately nine miles east of Fossil. State Highway 19 is a designated “scenic byway” by the State of Oregon. The purpose of this designation is to preserve the scenic view and ambience along the corridor.

2.10.3 Alternative C – No Action

Existing conditions under this alternative are the same as Alternative A.

2.11 TRANSPORTATION

2.11.1 Alternative A - Proposed Action

The existing corridor tends to follow local County roads with the exception of a segment about half way between the two substations. Because these local roads follow the contours through the drainages, the overhead lines cross the roads frequently. It also crosses Highway 19, just east of Fossil and the substation terminus.

Kinzua General Aviation Recreational Airport, a private facility, is located approximately one mile north and east of the existing facility near Kinzua.

2.11.2 Alternative B – State Highway 19 Corridor

The Alternative B corridor would follow the State Highway 19 corridor on the north and east side of the ROW until it approaches the substation east of Fossil, where it would cross the road. This is a state highway. There are no airports near this corridor.

2.11.3 Alternative C - No Action

Transportation conditions under this alternative are the same as described in Alternative A.

2.12 NOISE, RADIO AND TELEVISION INTERFERENCE

2.12.1 Alternative A - Proposed Action

Low-level noise can be detected from a transmission line when energized during misty/foggy weather conditions. This is a result of the electric field intensity near the conductor. In dry weather, there is no easily detectable noise observed from a transmission line.

The existing transmission line supports the conductor primarily with porcelain suspension insulators. Suspension insulators carrying lightweight conductor (as with the existing line) can be prone to sparking across the insulator connections and this can result in radio interference across a wide spectrum of frequencies. However, it is not known if this type of interference occurs with the existing facilities.

The maximum current carried by this line is quite small (approximately 40 – 50 amps). The magnetic field is proportional to the current in the conductor (spacing and distance factors not considered). Many local distribution lines carry equal or higher currents. The impact of this line due to a magnetic field is negligible as compared to other local electric circuits.

The line however generates an electric field that is quite strong at the conductor (39KV). Voltages can be induced in metallic objects in close vicinity of this line. In dry weather, barbwire fences, metallic gates on wood posts and other ungrounded objects can potentially be induced with voltage.

2.12.2 Alternative B – State Highway 19 Corridor

There are no electrical transmission facilities in this alternative corridor.

2.12.3 Alternative C - No Action

Conditions under this alternative are described in Alternative A.

2.13 HUMAN HEALTH AND SAFETY

2.13.1 Alternative A - Proposed Action

The existing transmission facilities are fixed and separated either horizontally or vertically from regularly traveled roads and highways, thus minimizing the potential for human harm from utility pole or cable failure or automobile crashes. While the corridor passes through or near private property, it is adequately separated from private residences or improvements to avoid direct impacts in the event of a failure and to reduce potential damage from fire.

Power lines, like electrical wiring, can cause serious electrical shocks if certain precautions are not taken. These precautions include building the lines to minimize the shock hazard. All CPCA lines are designed and constructed in accordance with the NESC. NESC specifies the minimum allowable distance between the lines and the ground or other objects. These requirements basically determine the edge of the ROW and height of the line, i.e., the closest point that houses, other structures and vehicles are allowed to the line, to limit electrical field effects to acceptable levels.

As discussed in 3.12, power lines can also induce voltage into objects near the lines. This effect can lead to nuisance shock, if a voltage is induced on such things as fencing that may be insulated from the ground. Usually, this becomes a problem only with lines with voltages above 230KV, and is not likely to occur with this project. As discussed further in that section, should problems occur with this line, simple grounding techniques should remedy the situation.

Everything electrical, including power lines, household wiring and appliances produce electrical and magnetic fields (EMF). Movement of electrons in a wire (current) produces magnetic fields and electrical pressure (voltage) produces electrical fields. Both fields are reduced in strength with increasing distance.

The table below shows the typical magnetic field density produced by the existing transmission line.

Table 2. Computed Magnetic Field Density Under Existing Transmission Line

Parameters: Pole Height 50 ft.
 Spacing delta, 9 ft.
 Line current 40 amps
 Magnetic field density in milligauss at three feet above ground

| | | | | | |
|------------------------------|-----|-----|------|-----|-----|
| Dist. From center line (ft.) | -45 | -30 | 0 | 30 | 45 |
| Magnetic field density | .63 | .96 | 1.67 | .96 | .63 |

Note: The average magnetic field density in a residential home is approximately 1.1 milligauss (from the World Health Organization).

2.13.2 Alternative B – State Highway 19 Corridor

The Alternative B corridor is contemplated as being sufficiently separated from roads and private improvements. The corridor along State Highway 19 is only sparsely developed.

2.13.3 Alternative C - No Action

Existing conditions under this alternative are the same as the Alternative A.

2.14 SOCIOECONOMIC AND COMMUNITY RESOURCES

2.14.1 Alternative A -Proposed Action

The 2000 U.S. Census listed the total population for Wheeler County at 1,547 and does not have a more recent update. Of those residents, 1,444 were identified as being white, 1 was black, 13 were Native American and Alaska Native, 1 was Native Hawaiian or Other Pacific Islander, 54 were some other race, 30 were two or more races, and 79 were identified as Hispanic or Latino (Factfinder.census.gov).

In 2005, there were 36 non-farm establishments and 123 non-farm employees in the County, with a -1.6 decline in nonfarm employment since 2000. Median household income in Wheeler County in 2004 was \$29,390 compared to \$42,568 for the state. In 2004, 13.3 percent of the population was below poverty level compared to 12.9 percent for the state. Over 79 percent of residents over 25 in the year 2000 were high school graduates and over 14 percent held a bachelors degree, compared to 85.1 and 25.1 percent, respectively, for the state.

Wholesale trade sales for Wheeler County are not available from the census bureau. Retail trade figures for 2002 were over \$9 million, with retail trade per capita at \$5,890. No building permits were issued in 2006.

The 2000 population of City of Fossil was listed as 469. Of these residents, 442 were white, 6 were American Indian or Alaska Native, 1 was Asian, 1 was Native Hawaiian or Other Pacific Islander, 10 were some other race, 9 were two or more races, and 17 were identified as Hispanic or Latino.

Fossil is the Wheeler County seat and also serves as a service community for those participating in nearby agricultural and forest resource based activities.

2.14.2 Alternative B – State Highway 19 Corridor

Socioeconomic and community resource conditions under this alternative are the same as Alternative A.

2.14.3 Alternative C - No Action

Socioeconomic and community resource conditions under this alternative are the same as Alternative A.

3.0 ENVIRONMENTAL IMPACTS

Potential impacts to the elements of the environment are discussed below.

3.1 LAND USE

3.1.1 Alternative A - Proposed Action

The Proposed Action would result in new utility poles being installed and the new cable suspended through the existing corridor. The Proposed Action contemplates the poles installed on 500-foot centers instead of the average 600-foot spacing of the existing poles. While the final design is not complete, the potential need for additional ROW or easements for the structures is considered low, which will result in no effects to the adjacent land uses. An all-weather access road to a “tap point” would result in a small reduction of grazing area, but would not result in any livestock movement restrictions.

3.1.2 Alternative B – State Highway 19 Corridor

This alternative would require the acquisition and clearing of a ROW or easement for the new facilities. Depending on the specifics of the topography and vegetation, the ROW would average approximately 100 feet in width. Where the corridor transects forested area, timber production would cease. Grazing areas could continue to function for that activity.

3.1.3 Alternative C - No Action

The No Action alternative would result in the continued use of the existing corridor and facilities. Maintenance activities would likely increase as the reliability of the existing line continues to deteriorate. Eventually, the existing facilities would be replaced with like kind components that would not result in an increase in reliability, efficiency or capacity. That said, the potential for impacts to adjacent land uses is low.

3.2 FLOODPLAINS

3.2.1 Alternative A - Proposed Action

Pursuit of the Proposed Action would result in new utility poles being installed and electrical transmission cable suspended in or near three mapped floodplain streams. The final design for the pole locations has not yet been prepared.

Pursuant to *Wheeler County Ordinance No. 80.02 Section 5.0 Provisions for Flood Hazard Reduction*, structures are permitted in “areas of special flood hazard” provided they meet the ordinance standards. Briefly, these standards include the requirement that improvements be constructed with materials resistant to flood damage, electrical facilities shall be elevated above the base flood elevation, and have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Should the design require the placement of poles in the floodway, such locations would be permitted provided that a registered professional engineer can demonstrate that the encroachment will not result in any increase in flood levels during the occurrence of the base flood discharge.

By meeting the floodplain code standards, there should be no impacts to the floodplain under the Proposed Action.

3.2.2 Alternative B – State Highway 19 Corridor

Development of this alternative would have no effect to floodplains because the facilities would be outside of any mapped flood hazard area.

3.2.3 Alternative C - No Action

Effects to the floodplains under this alternative would be the same Alternative A.

3.3 WETLANDS

3.3.1 Alternative A - Proposed Action

The landscape associated with the electrical transmission line corridor consists mainly of rolling hills and moderately high elevations. The weather includes substantial temperature variations, significant winds, and arid conditions.

The existing Fossil to Service Creek segment consists mainly of scattered pine forests and open range with some agriculture land. The southeastern portion of the transmission line follows Alder Creek for approximately 3.5 miles, spanning the creek periodically. Portions of the surrounding landscape consist of rolling hills that contain large drainage swales.

Replacement of the transmission line within the existing corridor is not likely to impact jurisdictional wetlands for a number of reasons including the small number of wetlands within the corridor and the fact that the wetlands are generally associated with streams

that are spanned by the lines. New poles would be placed on either side of a stream, canyon or ravine well outside of any stream or wetland area. A significant portion of the existing line is located within established road prisms with the poles located on the shoulders of the roads well outside of any sensitive areas.

3.3.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for the Proposed Action, except that Alternative B would cause permanent impacts due creating and maintaining a new ROW rather than utilizing an existing maintained ROW easement for the Proposed Action.

Other unnamed streams and wetlands are located adjacent to the transmission line. In all instances, the existing transmission poles would be located either in the existing ROW of roads, or span the streams and wetlands entirely.

3.3.3 Alternative C – No Action

A No Action alternative would have the same expected affects on the environment as Alternative A. In addition, a No Action alternative would result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the current non-insulated lines increase the fire hazard should a pole fall down.

3.4 WILDLIFE RESOURCES

3.4.1 Alternative A - Proposed Action

3.4.1.1 Wildlife Habitat

Wildlife habitat associated with the transmission line corridor consists of open grazing land and coniferous forests with some agriculture land. A small amount of the surrounding area contains shrub-steppe habitat. Portions of the transmission line corridor are located adjacent to or within riparian areas associated with streams. Replacement of the transmission line within the existing corridor is not likely to impact wildlife habitat resources in the area. Very little vegetation will need to be cleared or trimmed as part of implementing the proposed action. The existing corridor was cleared of trees when the line was originally constructed with routine maintenance taking care of the occasional hazard tree removal and limb trimming.

3.4.1.2 Mammals

Large mammal species that could be expected to occur within the general vicinity of the transmission line corridor include mountain lion (*Felix concolor*), bobcat (*Lynx rufus*) and American black bear (*Euarctos americanus*). Mule deer (*Odocoileus hemionus*) and Rocky Mountain elk (*Cervus canadensis nelsoni*) were observed by ELS during our environmental survey.

Small mammals that could be expected to occur in the project vicinity are coyote (*Canis latrans*), badger (*Taxide taxus*), striped skunk (*Mephitis mephitis*), various hares, rabbits,

ground squirrels, chipmunks, rats and mice. Temporary impacts to mammals may occur during construction due to noise, lights, ground disturbance and other impacts commonly associated with construction. No long-term impacts on small or large animals are expected by the implementation of Alternative A.

3.4.1.3 Birds

Non-migratory birds expected to occur in the project vicinity are chukar (*Alectoris chukar*) – an introduced game species. Ring-necked pheasant (*Phasianus colchicus*), wild turkey (*Meleagris gallopavo*) and ruffed grouse (*Bonasa umbellus*) were observed by ELS during our environmental survey. Birds of prey and migratory birds are expected to forage, perch and nest within and adjacent to the project area.

No long-term impacts on birds are expected by implementing Alternative A. The proposed design will actually make the line safe for raptors and other large birds by locating multiple lines greater distances apart to eliminate arcing and providing increased insulation on the wires.

3.4.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for Alternative A, except that Alternative B would cause permanent impacts due creating and maintaining a new ROW rather than utilizing an existing maintained ROW easement. Alternative B would result in the removal of a significant amount of mature forest, which would have short-term and long-term impacts on mammal and bird habitat.

3.4.3 Alternative C - No Action

A No Action alternative would have the same expected affects on the environment as Alternative A. A No Action alternative would also result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the existing non-insulated lines increase the fire hazard should a pole fall down. In addition, the new lines will follow guidelines in Suggested Practices for Avian Protection On power Lines: The State of the Art in 2006 and “Avian Protection Plan (APP) Guidelines” prepared by The Edison Electric Institute’s Avian Power Line Interaction Committee and USFWS (April 2005).

3.5 VEGETATION RESOURCES

3.5.1 Alternative A - Proposed Action

The northwest portion of the transmission corridor located adjacent to Fossil Creek consists mainly of open rangeland with some scattered pine forest and agriculture land. The open rangeland consists mainly of a sparse scrub-shrub layer and pasture grasses. Near the northern-most reach of the corridor and continuing southeast, the vegetation becomes increasingly more forested with an overstory consisting mainly of Ponderosa pine and Douglas fir trees and a sparse under story consisting mainly of sagebrush and Western juniper. Near the eastern-most extent, where the corridor is adjacent to Alder Creek, the overstory becomes slightly less dense, transitioning into open rangeland,

ending at Service Creek. Most of the existing transmission corridor ROW is within open grazing land; the portions that are within forested areas are currently within maintained ROWs.

3.5.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for the Proposed Action, except that Alternative B would cause permanent impacts due creating and maintaining a new ROW rather than utilizing an existing maintained ROW easement for the proposed action. Alternative B would result in the removal of a significant amount of mature forest.

3.5.3 Alternative C - No Action

A No Action alternative would have the same expected affects on the environment as Alternative A. In addition, a No Action alternative would result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the current non-insulated lines increase the fire hazard should a pole fall down.

3.6 THREATENED AND ENDANGERED SPECIES

3.6.1 Alternative A - Proposed Action

According to the U.S. Fish and Wildlife Service (USFWS), the only threatened or endangered species that may occur in Wheeler County are middle Columbia River steelhead (USFWS 2007).

3.6.1.1 Bald Eagle

Although bald eagles have been delisted by USFWS, they are still protected under the BGEPA and the MBTA. Bald eagles may forage in the fish bearing streams within and adjacent to the transmission line corridor. The eagles may also fly within the project area to travel from one foraging or nesting site to another.

To assure the protection of all migratory birds including birds of prey, the CPCA will follow the guidelines in Suggested Practices for Avian Protection On power Lines: The State of the Art in 2006 and APP Guidelines prepared by the Edison Electric Institute's Avian Power Line Interaction Committee and USFWS (Edison 2005) by spacing conductors at least 7.5 feet apart.

3.6.1.2 Fish

USFWS lists the following threatened and endangered fish species that may occur within Wheeler County: middle Columbia River steelhead. USFWS currently has no species listed as proposed within Wheeler County.

The current transmission line corridor follows Alder Creek for approximately 3.5 miles, spanning the creek periodically. According to ODFW, middle Columbia River steelhead and other resident fish exist within the 3.5-mile stretch of Alder Creek that runs adjacent

to or near the transmission line (Untewegner 2007). Direct impacts to the middle Columbia River steelhead will be avoided to the fullest extent possible by: 1) working during the approved in-water work window provided by ODFW; 2) replacing all poles upland of the OHWM; and 3) installing appropriate erosion control measures.

3.6.1.3 Plants

According to USFWS, no threatened or endangered plant species occur in Wheeler County.

3.6.2 Alternative B – State Highway 19 Corridor

The description of the affected environment for Alternative B would be the same as that for the Proposed Action, except that Alternative B would cause permanent impacts due to creating and maintaining a new ROW rather than utilizing an existing maintained ROW easement for the Proposed Action. Alternative B would result in the removal of vegetation and significant land clearing that could impact threatened and endangered species.

3.6.3 Alternative C - No Action

A No Action alternative would have the same expected affects on the environment as Alternative A. In addition, a No Action alternative would result in leaving behind the current creosote treated poles and the current non-insulated lines. Creosote is known to damage the environment, and the current non-insulated lines increase the fire hazard should a pole fall down.

3.7 CULTURAL RESOURCES

3.7.1 Alternative A - Proposed Action

Four archaeological isolates and one historic resource were identified and recorded within the portions of the transmission line easements that were surveyed. However, because none of the archaeological isolates were recommended to be eligible for listing on the NRHP, any impacts to these items during installation of the new facilities would be inconsequential to the resource. The transmission line appears to represent a significant historical resource, but its replacement does not adversely affect its historical value.

3.7.2 Alternative B – State Highway 19 Corridor

Potential impacts to cultural resources in this corridor cannot be determined, because the area has not been surveyed. Should this route be selected, a thorough cultural resource survey will be conducted, potential impacts identified, and appropriate mitigation measures designed.

3.7.3 Alternative C - No Action

Impacts under this alternative would be comparable to the Proposed Action, except the existing transmission line would not be removed.

3.8 AIR QUALITY

3.8.1 Alternative A - Proposed Action

Impacts to air quality resulting from the Proposed Action will be limited to exhaust from construction equipment and vehicles and dust emissions from the auger drill bits required to drill holes for the new poles. These will terminate upon completion of the construction. Both sets of potential emissions are expected to be minimal and are exempt from air quality permits from the Oregon Department of Environmental Quality (ODEQ). It is notable that a significant portion of this corridor is removed from any substantial residential or other human development, except at the terminal substation in Fossil, and the community of Kinzua, thus reducing further the potential for air quality effects on human activity.

3.8.2 Alternative B – State Highway 19 Corridor

As in the Proposed Action, impacts to air quality would result only the engine exhaust of the construction equipment and vehicles and dust generated by the auger drill bits required to drill holes for the new poles. These will terminate at the completion of construction. Both sets of potential emissions are expected to be minimal and are exempt from air quality permits from the ODEQ.

3.8.3 Alternative C - No Action

Emissions to the air shed under this alternative also would be limited to vehicle and equipment exhaust and dust from drilling holes for the new utility poles. However, unlike the other two alternatives, those emissions would occur only during the repair of damaged or failed components, which would occur on an unscheduled basis and would continue for an unpredictable duration.

3.9 WATER QUALITY

3.9.1 Alternative A - Proposed Action

Surface water resources within the existing corridor are not expected to be impacted by the proposed action of replacing the existing line. Water quality will not be degraded below current conditions.

Ground water resources within the vicinity of the existing line corridor will not be impacted by implementing the Proposed Action.

3.9.2 Alternative B – State Highway 19 Corridor

Alternative B has the potential to impact surface water quality due to the extensive clearing and grading required to construct a new line within an undeveloped corridor.

Ground water resources are not likely to be impacted by Alternative B.

3.9.3 Alternative C - No Action

It is expected that surface and ground water resources will not be impacted if the current line is used and maintained within the existing corridor.

3.10 AESTHETICS

3.10.1 Alternative A - Proposed Action

Replacing the existing utility poles and electrical cables through the existing corridor would result in a new transmission facility that would be virtually indistinguishable visually from what is there now. The utility poles may be slightly taller and more closely spaced.

3.10.2 Alternative B – State Highway 19 Corridor

Implementation of this alternative would require the construction of about the same length of new transmission facilities miles in a new corridor as the existing line and would require an extension of a new line to Kinzua. While the vegetation in portions of the corridor is typical of high desert - low growing and sparse, there also are heavily timbered areas, which would need to be removed to accommodate the new facilities. Clearing of the timber and installation of new transmission facilities would likely have a detrimental effect on the scenic aesthetics of the scenic byway and on the aesthetics of the two parks. The new extension to Kinzua would also require a new corridor, which would require clearing and create another visible man made structure.

3.10.3 Alternative C - No Action

A No Action alternative would result in the replacement of existing facilities with like facilities as needed due to damage or failure. Those facilities visible from local roads or highways would be the same as at present.

3.11 TRANSPORTATION

3.11.1 Alternative A - Proposed Action

Effects to the transportation system under this Proposed Action would be limited to the truck and equipment related traffic generated for the installation of the new facilities and removal of the old. The number of vehicles will be small and the local roads will not fall below adopted level of service standards. Traffic may be stopped temporarily from time to time at those locations where the facilities cross a road and the cable is attached to the utility poles. Except for periodic, infrequent maintenance traffic, transportation effects under this alternative would cease when project construction is completed.

3.11.2 Alternative B – State Highway 19 Corridor

Transportation effects under this alternative also would be related to the number of trips generated by equipment and vehicles necessary to construct the new line. While these trips will not cause traffic operations to fall below adopted levels of service, the construction project is likely to result in period of temporary traffic stops to maintain safe travel and construction operating conditions when the construction activity is in close proximity to the highway.

3.11.3 Alternative C - No Action

Transportation impacts under a No Action alternative would be limited to those trips necessary to make repairs caused by storms, fires and other natural events, or failure of the facility for some other reason. Depending on the location and nature of the maintenance or repair, there may be periodic temporary traffic stoppages. The frequency of these trips cannot be predicted.

3.12 NOISE, RADIO AND TELEVISION INTERFERENCE

3.12.1 Alternative A - Proposed Action

The low-level operating noise audible during misty conditions will likely continue with the upgraded facilities.

Audible noise will be temporary and localized during the construction phase. Construction activity and its associated noise will occur within a few hundred feet of a work site. A typical work site would consist of the following: the setting of a transmission pole, stringing conductor on the pole, “clip in” of conductor to the insulators on the pole and last, removing the old pole. In each process, specialized equipment (a digger, a man-lift, or a pick up truck) may be emitting noise. In each task, the vehicle(s) will be typically operating for two to three hours.

The new line will use polymer post type insulators that will eliminate any sparking and the associated radio interference.

To mitigate the potential problem of induced voltages in metal objects near the new line, all fences crossing and near the transmission line will be grounded by means of ground rods driven into the ground near the fences and bonded to the wires or other metallic fencing. Any other metallic objects in close vicinity that are ungrounded will also be effectively grounded.

3.12.2 Alternative B – State Highway 19 Corridor

Conditions and actions under this alternative will be as described in 3.12.1 above.

3.12.3 Alternative C - No Action

Under this alternative, operating noise will continue to be audible during misty conditions. Construction noise would be limited to those times when repairs or maintenance activities are required.

No update to the existing insulators would occur, resulting in the potential for sparking and radio interference to continue. Similarly, a program to ground existing fences and other metal objects near the existing facility is not anticipated so that induced voltages could continue to occur.

3.13 HUMAN HEALTH AND SAFETY

3.13.1 Alternative A - Proposed Action

The Proposed Action would result in new facilities installed in the established corridor essentially where the existing facilities are located, with 40 to 50 feet of the edge of the ROW on either side. Additionally, the new support poles will include guy wires to increase the structural support and reduce the potential for the poles to fail and upgraded insulators to reduce conductor blow out and sparking. Metal objects near the proposed upgrades would also be grounded to eliminate induced voltage. The existing corridor will maintain the current separation from public and private roads, which will continue to keep the potential for vehicular accident and fire damage low.

Because the Proposed Action is to transmit electricity through the new lines at the current levels, the potential effects of EMF from the new lines would be virtually the same as what is produced with the existing facilities.

3.13.2 Alternative B – State Highway 19 Corridor

Paralleling Highway 19, implementation of this alternative route would include a delineated and cleared right-of-way corridor of at least 60 feet and preferably 100 feet to establish and maintain sufficient separation between the potential facilities and any private property or other public improvements such as roads or other utility facilities. As in the Proposed Action, poles would include guy wires to increase structural support and insulators would be upgraded over those currently used to reduce conductor blow out and sparking. Metal objects in close proximity to this potential facility would be grounded to eliminate the potential for induced voltage.

3.13.3 Alternative C - No Action

Human health and safety conditions under a No Action alternative would remain as at present with the increasing potential for pole failure as the facilities continue to age and deteriorate. No additional guy wires or other structural supports are contemplated. Neither is there a planned program to replace the insulators or ground metal objects nearby.

3.14 SOCIOECONOMIC AND COMMUNITY RESOURCES

3.14.1 Alternative A - Proposed Action

The Service Creek-Fossil transmission segment was installed in the early 1950s and most of the utility poles and electrical cable are original equipment. The line operates in an environment of widely varying temperatures and substantial winds. Environmental conditions and time of service make the mechanical integrity of the electrical cable questionable and the facilities as a whole are approaching the end of their useful life. Continued operation of this existing line is thought to substantially reduce the overall reliability of the CPCA system.

This line segment is part of a greater fringe area 69KV transmission infrastructure operated by BPA. This infrastructure is experienced voltage variations as a result of

wind generation in the Condon, Oregon area. BPA is concerned that additional wind farms integrated into the system will cause transmission voltage variations that cannot be tolerated by the existing facilities.

BPA has developed long-range plans to convert this fringe system voltage from 69KV to 115KV. This conversion would increase the load carrying capability of the fringe area transmission infrastructure and the Fossil – Service Creek segment is necessary for BPA to continue its program. Additionally, the larger conductor will reduce line losses and improve voltage regulation to the CPCA substations.

The increased reliability of the proposed facilities would better support the current and future residents and businesses of Wheeler County. It will facilitate the continuous delivery of un-interrupted electricity to CPCA customers, thus contributing to local and regional economy.

3.14.2 Alternative B – State Highway 19 Corridor

Implementation of Alternative B would result in socio-economic conditions similar to those of the Proposed Action.

3.14.3 Alternative C - No Action

The no action alternative outcome would be the continued use of the existing facilities with repairs as needed. Power outages due to line or pole failure from environmental conditions would likely become more frequent disrupting the activities of CPCA customers. On a regional scale, this fringe transmission line would be incompatible with the BPA system being upgraded throughout the region. This would reduce the effectiveness of local and regional economic development efforts and tend to retard the local economy.

4.0 CUMULATIVE IMPACTS ANALYSIS

The following discusses the cumulative impacts of the proposed action on the studied elements of the environment.

4.1 LAND USE

Because the proposed project involves upgrading an existing transmission line, cumulative impacts to land uses would be minimal. No additional ROW is anticipated to be acquired, although some additional clearing within forested areas of the existing ROW may occur. Should additions or expansion of the ROW be planned in the future, appropriate evaluation of potential cumulative land use impacts would be required at that time.

Consultations with the Wheeler County Planning Department have indicated that there are no proposed or projected development projects in close proximity to the ROW that

would contribute to cumulative impacts associated with the Proposed Action (Ward 2008).

4.2 FLOODPLAINS

The Proposed Action would upgrade an existing transmission line within an established electrical transmission corridor. Although the final design has not yet been completed, no cumulative impacts to floodplains along the ROW are anticipated because of the baseline conditions. Where possible, the utility poles will be located outside of the delineated floodplain and where not possible, will be flood proofed. No discernable rise in the base flood elevation of any of the floodplains within corridor is anticipated.

4.3 WETLANDS

All existing transmission poles are located either in the existing ROW of roads, or span the streams and wetlands entirely. The proposed action involves upgrading an existing transmission line within an established electrical transmission corridor; potential cumulative impacts to wetlands will be minimal. Should additions or expansion of the ROW be planned in the future, appropriate evaluation of potential cumulative wetland impacts would be required at that time.

4.4 WILDLIFE RESOURCES

Wildlife habitat associated with the transmission line corridor consists mainly of open grazing land and scattered pine forests with some agriculture land. A small amount of the surrounding area contains shrub-steppe habitat. The proposed action involves upgrading an existing transmission line within an established electrical transmission corridor. Potential for cumulative impacts to wildlife resources would be minimal. Should additions or expansion of the ROW be planned in the future, appropriate evaluation of potential cumulative wildlife resource impacts would be required at that time.

4.5 VEGETATION RESOURCES

Most of the existing transmission corridor ROW is within open grazing land; the portions that are within forested areas are currently within maintained ROWs. The proposed action involves upgrading an existing transmission line within an established electrical transmission corridor. Potential for cumulative impacts to vegetation resources would be minimal. Should additions or expansion of the ROW be planned in the future, appropriate evaluation of potential cumulative vegetation resource impacts would be required at that time.

4.6 THREATENED AND ENDANGERED SPECIES

According to the USFWS, the only threatened or endangered species that may occur in Wheeler County are middle Columbia River steelhead, as the bald eagle was delisted by the USFWS in August 2007 (USFWS 2007). According to USFWS, no threatened or endangered plant species occur in Wheeler County. Direct impacts to the middle Columbia River steelhead will be avoided to the fullest extent possible by: 1) working

during the approved in-water work window provided by ODFW and 2) replacing all poles upland of the OHWM. The proposed action involves upgrading an existing transmission line within an established electrical transmission corridor. Potential for cumulative impacts to threatened and endangered wildlife and plant species would be avoided to the greatest extent possible. Should additions or expansion of the ROW be planned in the future, appropriate evaluation of potential cumulative threatened and endangered species impacts would be required at that time.

4.7 CULTURAL RESOURCES

Because the isolates identified in the corridor are not eligible for inclusion in the national register and the replacement of the existing line does not affect its historic value, the potential for cumulative impacts to cultural resources is quite low.

4.8 AIR QUALITY

Because the Proposed Action involves upgrading an existing transmission line, cumulative impacts to air quality would be minimal. Should additions or expansion of facilities be planned in the future, appropriate evaluation of potential cumulative air quality impacts would be prepared at that time.

4.9 WATER QUALITY

The Proposed Action involves upgrading an existing transmission line within an established electrical transmission corridor. Surface water resources within the existing corridor are limited to a few small to medium streams, small man-made livestock watering ponds within areas used as rangeland, and numerous small seasonal streams and drainages. Surface and ground water resources within the existing corridor are not expected to be impacted by the Proposed Action and water quality will not be degraded below current conditions. Cumulative impacts to water quality would be minimal. Should additions or expansion of facilities be planned in the future, appropriate evaluation of potential cumulative water quality impacts would be prepared at that time.

4.10 AESTHETICS

Because the Proposed Action involves upgrading an existing transmission line within an established corridor, cumulative impacts to air quality would be minimal. Should additions or expansion of facilities be planned in the future, appropriate evaluation of potential cumulative aesthetics impacts would be prepared at that time.

4.11 TRANSPORTATION

Because the Proposed Action involves upgrading an existing transmission line, cumulative impacts to transportation systems quality would be minimal. Should additions or expansion of facilities be planned in the future, appropriate evaluation of potential cumulative transportation impacts would be prepared at that time.

4.12 NOISE, RADIO AND TELEVISION INTERFERENCE

The Proposed Action would upgrade an existing transmission line within an existing right-of-way. BPA has long range plans to upgrade this fringe transmission system voltage from 69KV to 115KV. This future action is not anticipated to have any cumulative effect on noise, radio or television interference, but an analysis would be prepared at that time.

4.13 HUMAN HEALTH AND SAFETY

The Proposed Action would upgrade an existing electrical transmission line within an established corridor. A future increase to the voltage is planned, but the new level will be below the threshold for any material effect in magnetic field exposures, and the Proposed Action and future actions by BPA are not anticipated to have any cumulative effect on human health or safety. Nonetheless, an analysis of that proposal would be anticipated at that time.

4.14 SOCIOECONOMIC AND COMMUNITY RESOURCES

Because the Proposed Action would occur within an established electrical transmission corridor, cumulative impacts on the population or economy of Wheeler County by the transmission line upgrade would be minimal.

5.0 PROPOSED MITIGATION AND MONITORING

The following discusses the mitigation of the Proposed Action for each of the studied elements of the environment. No monitoring has been identified as being necessary.

5.1 LAND USE

Impacts to land uses would be minimal and no mitigation has been identified as necessary.

5.2 FLOODPLAINS

No impacts to floodplains are anticipated and no compensatory mitigation has been identified as necessary. Mitigation measures within the project design will be utilized to prevent impacts. The Proposed Action would upgrade the existing transmission line according to County floodplain code standards including construction with materials resistant to flood damage, electrical facilities elevated above the base flood elevation, and structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Where possible, the utility poles will be located outside of the delineated floodplain. Where not possible, placement of poles in the floodway would be permitted provided that a registered professional engineer can demonstrate that the encroachment will not result in any increase in flood levels during the occurrence of the base flood discharge.

5.3 WETLANDS

Impacts to wetlands would be minimal and no compensatory mitigation has been identified as necessary. Mitigation measures within the project design will be utilized to avoid and minimize impacts. All existing transmission poles either are located in the existing ROW of roads, or span the streams and wetlands entirely. New poles would be placed outside of any stream or wetland area. If necessary, installation of erosion control measures such as silt fencing or straw bales around the disturbed area during construction and re-vegetation of the disturbance area to stabilize the exposed soil can further reduce impacts. Unlike existing conditions, the new poles will not be treated with creosote, which is known to be damaging to the environment, and the new lines will be insulated to decrease any fire hazard should a pole fall down.

5.4 WILDLIFE RESOURCES

Impacts to wildlife resources would be minimal and no compensatory mitigation has been identified as necessary. Mitigation measures within the project design will be utilized to avoid and minimize impacts. The existing corridor was cleared of trees when the line was originally constructed with routine maintenance taking care of the occasional hazard tree removal and limb trimming. Therefore, very little vegetation will need to be cleared or trimmed as part of implementing the Proposed Action and habitat will be similar to existing conditions. The Proposed Action will actually make the line safe for raptors and other large birds by locating multiple lines greater distances apart to eliminate arcing and providing increased insulation on the wires. In addition, the new lines will follow the guidelines in Suggested Practices for Avian Protection On power Lines: The State of the Art in 2006 and “Avian Protection Plan (APP) Guidelines” prepared by The Edison Electric Institute’s Avian Power Line Interaction Committee and USFWS (April 2005) and space the insulators at least 7.5 feet apart. Unlike existing conditions, the new poles will not be treated with creosote, which is known to be damaging to the environment, and the new lines will be insulated to decrease any fire hazard should a pole fall down.

5.5 VEGETATION RESOURCES

Impacts to vegetation resources would be minimal and no compensatory mitigation has been identified as necessary. Mitigation measures within the project design will be utilized to avoid and minimize impacts. The existing corridor was cleared of trees when the line was originally constructed with routine maintenance taking care of the occasional hazard tree removal and limb trimming; therefore, very little vegetation will need to be cleared or trimmed as part of implementing the Proposed Action. Areas where vegetation would be disturbed can be re-vegetated with native species. The new insulated lines will decrease the fire hazard should a pole fall down compared to the current non-insulated lines.

5.6 THREATENED AND ENDANGERED SPECIES

Impacts to threatened and endangered species would be avoided and no compensatory mitigation has been identified as necessary. Mitigation measures within the project

design will be utilized to avoid impacts. Direct impacts to the middle Columbia River steelhead will be avoided to the fullest extent possible by: 1) working during the approved in-water work window provided by ODFW; 2) replacing all poles upland of the OHWM; and 3) installing erosion control measures such as silt fencing or straw bales around the disturbed area during construction and re-vegetating the disturbance area to stabilize the exposed soil. To assure the protection of all migratory birds including birds of prey, the CPCA will follow the guidelines in Suggested Practices for Avian Protection On power Lines: The State of the Art in 2006 and APP Guidelines prepared by the Edison Electric Institute's Avian Power Line Interaction Committee and USFWS (Edison 2005) by spacing conductors at least 7.5 feet apart.

5.7 CULTURAL RESOURCES

Impacts to cultural resources would be quite low and no mitigation has been identified as necessary. The segments of the corridor that have not yet been surveyed because of snow cover will be surveyed upon the snow melting in the spring. Should any resources be identified at that time, they will be catalogued and determined whether they could be avoided. If such resources cannot be avoided, they would be assessed for importance and a plan for preservation designed as necessary and appropriate. If any resources are discovered during construction, the contractor will suspend operations and contact the project cultural resources specialist who will in turn assess the situation and contact RUS, the State Historic Preservation Officer and Tribe to establish the appropriate actions for preservation. Construction will not resume until appropriate review and approvals by the agencies are obtained.

5.8 AIR QUALITY

Impacts to air quality would be minimal and no mitigation has been identified as necessary.

5.9 WATER QUALITY

No impacts to water quality are anticipated and no mitigation has been identified as necessary.

5.10 AESTHETICS

Impacts to aesthetics would be minimal and no mitigation has been identified as necessary.

5.11 TRANSPORTATION

Impacts to transportation would be minimal and no mitigation has been identified as necessary.

5.12 NOISE, RADIO AND TELEVISION INTERFERENCE

No effect on noise, radio or television interference are anticipated and no compensatory mitigation has been identified as necessary. Mitigation measures within the project

design will be utilized to improve upon the existing conditions. The new line will use polymer post type insulators that will eliminate any sparking and the associated radio interference. To mitigate the potential problem of induced voltages in metal objects near the new line, all fences crossing and near the transmission line will be grounded by means of ground rods driven into the ground near the fences and bonded to the wires or other metallic fencing. Any other metallic objects in close vicinity that are ungrounded will also be effectively grounded.

5.13 HUMAN HEALTH AND SAFETY

No impacts to human health and safety are anticipated and no compensatory mitigation has been identified as necessary. Mitigation measures within the project design will be utilized to avoid impacts and improve upon the existing conditions. The Proposed Action would upgrade an existing electrical transmission line within an established corridor. The new support poles will include guy wires to increase the structural support and reduce the potential for the poles to fail and upgraded insulators to reduce conductor blow out and sparking. Metal objects near the proposed upgrades would also be grounded to eliminate induced voltage. The existing corridor will maintain the current separation from public and private roads, which will continue to keep the potential for vehicular accident and fire damage low.

5.14 SOCIOECONOMIC AND COMMUNITY RESOURCES

Impacts to vegetation resources would be minimal and no compensatory mitigation has been identified as necessary. Mitigation measures within the project design will be utilized to prevent impacts and improve upon the existing conditions. The increased reliability of the facilities of the Proposed Action would better support the current and future residents and businesses of Wheeler County. It will facilitate the continuous delivery of un-interrupted electricity to CPCA customers, thus contributing to the local and regional economy.

6.0 CONSULTATION AND COORDINATION

6.1 LIST OF PREPARERS

6.1.1 Brown and Kysar, Inc.

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Tim Haderly

Michele McGraw

Tessa Dennis

6.1.3 Archaeological Investigations Northwest

Brian G. Buchanan

Terry Ozburn

6.2 PERSONS, GROUPS, OR AGENCIES CONSULTED

6.2.1 Local Agencies

Wheeler County Planning

Contact: Theresa Ward, Planner
701 Adams Street
Fossil, Oregon 97830
(541) 763-2126

6.2.2 State Agencies

Oregon Department of Agriculture

Natural Resources: (503) 986-4700

Soil and Water Conservation Dist.: (503) 986-4700

635 Capitol St. NE

Salem, Oregon 97301

Oregon Department of Energy

Contact: Adam Bless
625 Marion St. NE
Salem, Oregon 97301
(503) 378-4040

Oregon Department of Environmental Quality

Bend Office

Contact: Bonnie Hough
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Oregon Department of Fish and Wildlife

John Day Field Office

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Oregon Department of Fish and Wildlife

Heppner Field Office

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Oregon Department of Land Conservation and Development

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Jon Jinings (541)318-2890

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Wetlands/Waterways Removal/Fill: Eric Metz, Regional Manager (503)379-3805 x.266

1645 NE Forbes Rd., Suite 112

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North Central Region

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116 SE Dorion Ave

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(541)278-5456

Oregon Watershed Enhancement Board

Central Oregon Regional Office

Contact: Rick Craiger

6574 NW Larch Drive

Redmond, Oregon 97756

(541)923-7353

Oregon Parks and Recreation Department

Heritage Programs Division

Archaeological Services

Contact: Tim Wood, Director (541) 986-0719

725 Summer St NE, Suite C

Salem, Oregon 97301

(503) 986-0677

6.2.3 Federal Agencies

U.S. Army Corps of Engineers,

Reference: CENWP-0D-GP

La Grande Field Office

3502 Highway 30

La Grande, Oregon 97850

NOAA National Marine Fisheries
Northwest Region
Contact: Bob Lohn, Regional Administrator
7600 Sand Point Way NE,
Seattle, Washington 98115-0070
(206) 526-6150

Bureau of Land Management
Prineville Office
3050 N.E. 3rd Street
Prineville, Oregon 97754
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U.S. Fish & Wildlife Service
Bend Field Office
Contact: Nancy Gilbert
20310 Empire Ave., Suite A-100
Bend, Oregon 97701
(541) 383-7146

6.2.4 Others

Gilliam-East John Day Watershed Council
Contact: Teri McElroy
PO Box 106
Condon, Oregon 97823
(541) 384-2271
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Confederated Tribes of the Warm Springs Reservation
Contact: Bruce Brunoe, Sr., Chairman
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(541) 553-1161

8.0 REFERENCES

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FIGURE 1
VICINITY MAP

APPENDIX A
PHOTOPLATES 1-3



Photo 1

Photo showing existing right-of-way in coniferous forest.



Photo 2

Photo showing transmission lines extending through open range land.



ECOLOGICAL LAND SERVICES, INC.

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DATE: 2/1/08
DWN: CB
REQ. BY: MLM
PRJ. MGR: TH
CHK: MMM
APPR: 
PROJ.#: 1561.02

Photoplate 1
SITE PHOTOS
Columbia Power Cooperative Association
Transmission Line Upgrade
Brown & Kysar, Inc.
Wheeler County, Oregon



Photo 3

Photo showing transmission lines extending through open range land.



Photo 4

Photo showing transmission lines extending through open range land.



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CHK: MMM
APPR: *mmm*
PROJ.#: 1561.02

Photoplate 2
SITE PHOTOS
Columbia Power Cooperative Association
Transmission Line Upgrade
Brown & Kysar, Inc.
Wheeler County, Oregon



Photo 5

Photo showing transmission lines extending through upland shrub-steppe.



Photo 6

Photo showing transmission poles spanning wetland.



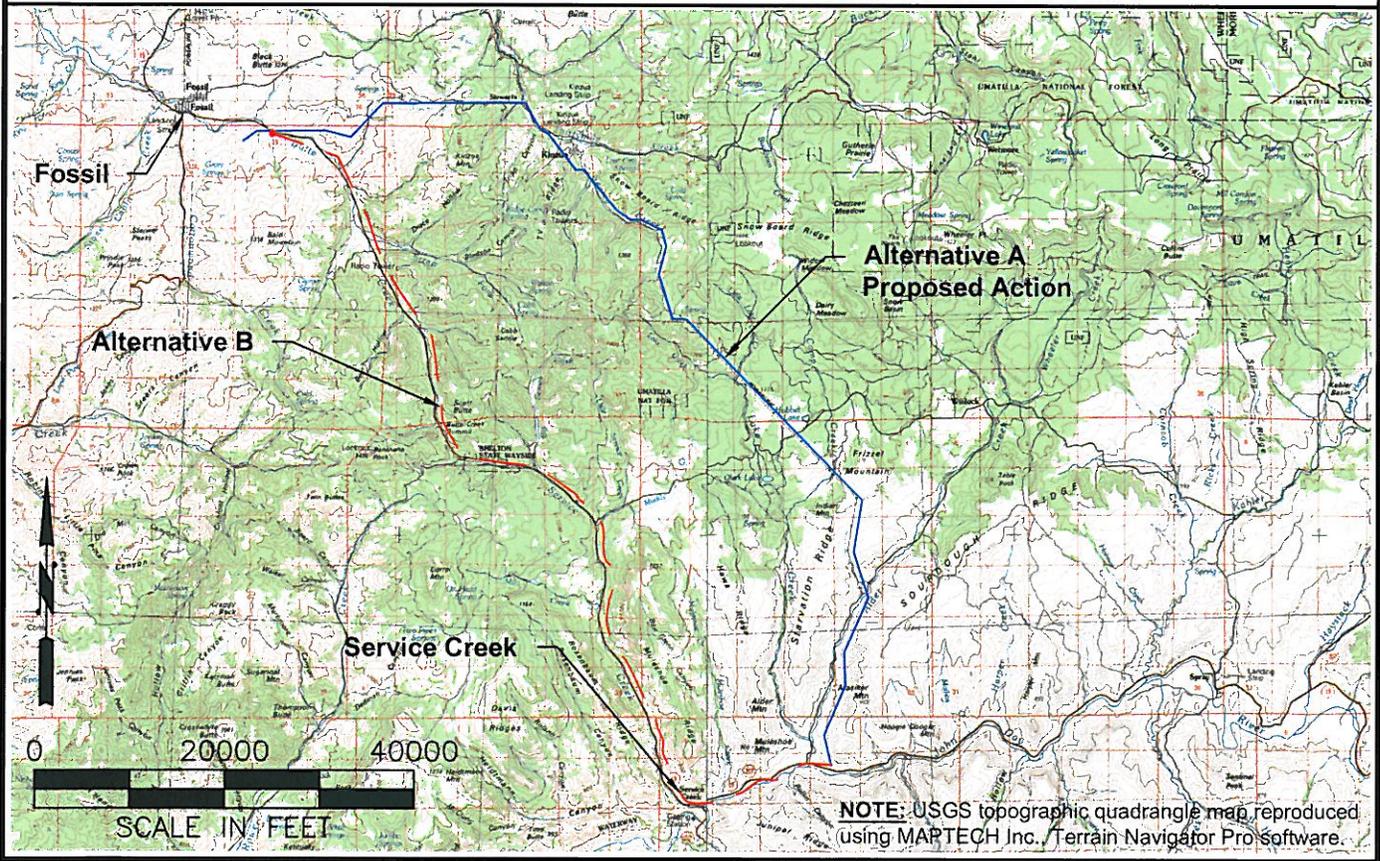
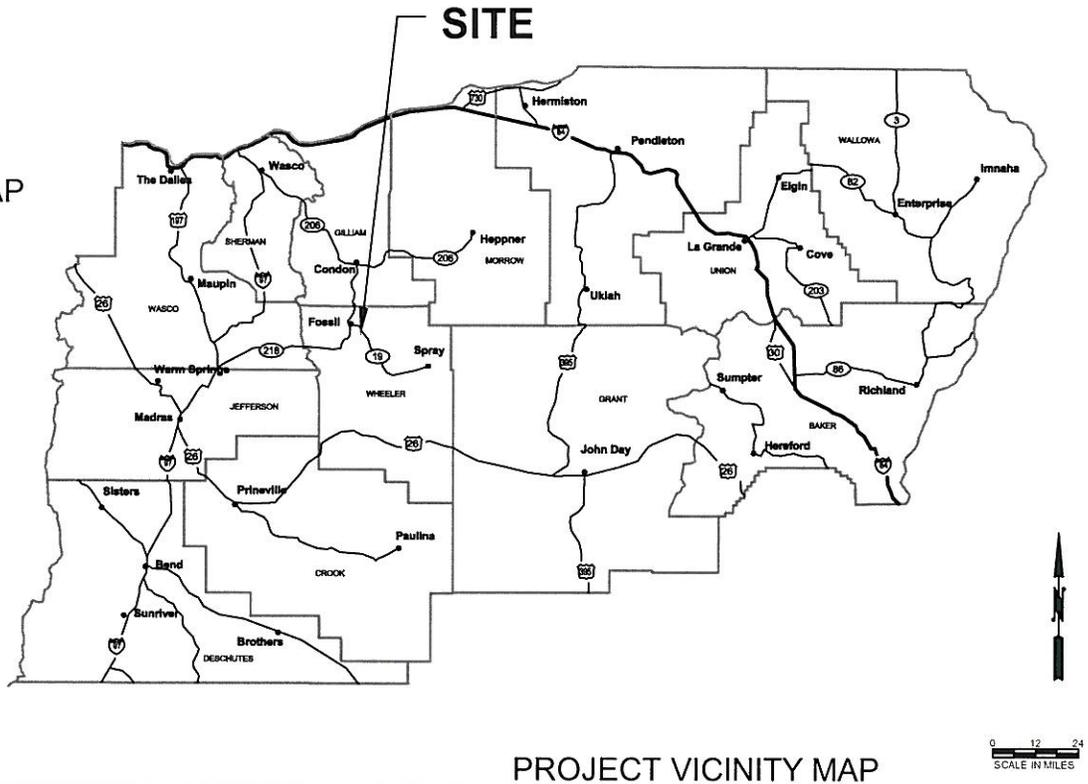
ECOLOGICAL LAND SERVICES, INC.

1157 3rd Ave., Suite 220 Longview, WA 98632
(360) 578-1371 Fax: (360) 414-9305

DATE: 2/1/08
DWN: CB
REQ. BY: MLM
PRJ. MGR: TH
CHK: MMM
APPR: *MMM*
PROJ.#: 1561.02

Photoplate 3
SITE PHOTOS
Columbia Power Cooperative Association
Transmission Line Upgrade
Brown & Kysar, Inc.
Wheeler County, Oregon

2/1/2008 5:30 PM S:\umatilla-OR\County-Projects\1561-Brown and Kysar, Inc\1561.02-Columbia Power Co-op Transmission Upgrade\1561.02-Figures\1561.02-vm 012208.dwg Chris



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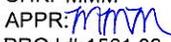
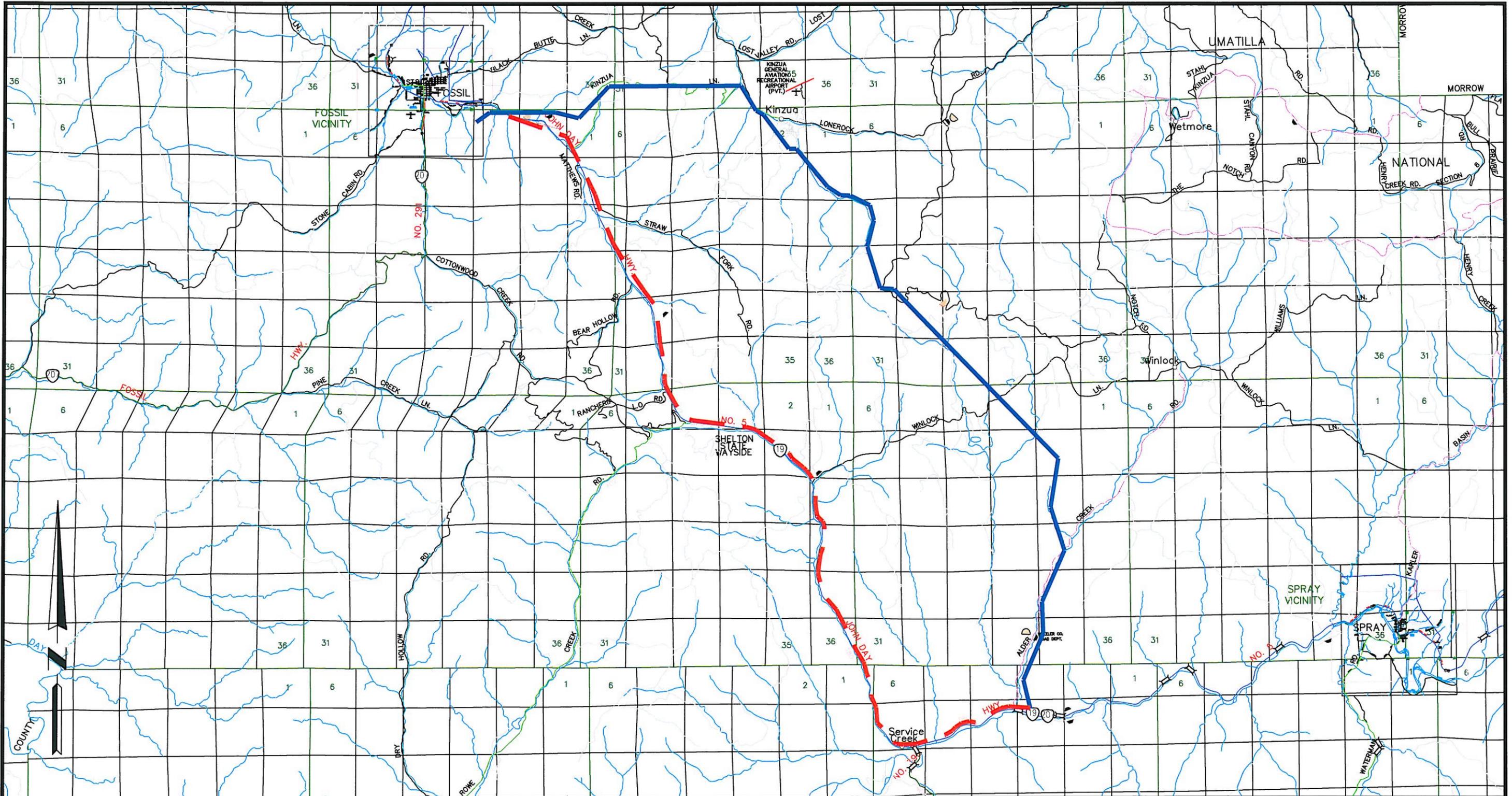
DATE: 2/1/08
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PROJ.#: 1561.02

Figure 1
VICINITY MAP
Columbia Power Cooperative Association
Transmission Line Upgrade
Brown & Kysar, Inc.
Wheeler County, Oregon

FIGURE 2

ALTERNATE ROUTES MAP



——— ALTERNATIVE A- PROPOSED ACTION
- - - ALTERNATIVE B

B & K I BROWN & KY SAR, INC.
 Engineering & Consulting
 P.O. Box 1720 Battle Ground WA 98604

COLUMBIA POWER COOPERATIVE ASSOCIATION
 PO BOX 97
 MONUMENT OR 97864

Figure 2

| NO. | DATE | REVISION | INIT. |
|-----|------|----------|-------|
| | | | |

THE ABOVE LINE IS 1" LONG AT THE CORRECT SCALE. IF IT IS NOT, SCALE ACCORDINGLY.

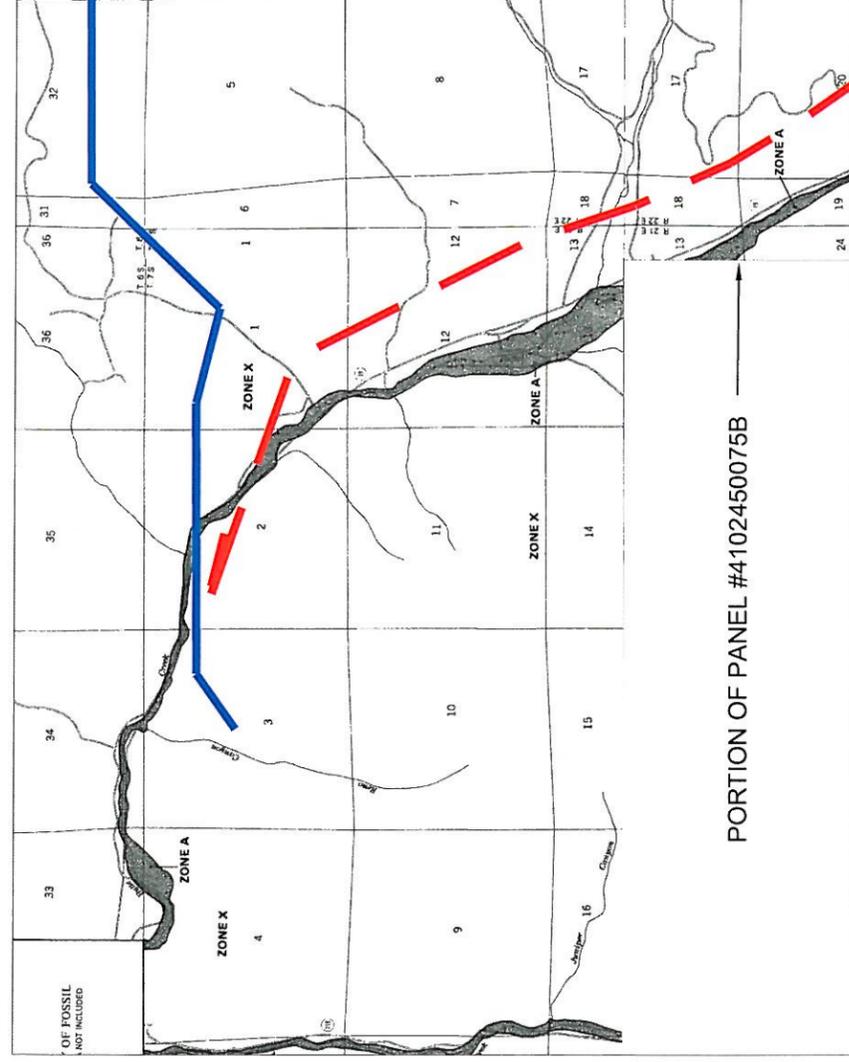
DRAWN BY DTR 06/12/07
 DESIGNED BY RWR APP'D BY EJK

TRANSMISSION UPGRADE - ALTERNATE ROUTES
 FOSSIL - SERVICE CREEK
 PROJECT: CPa6-001-FS

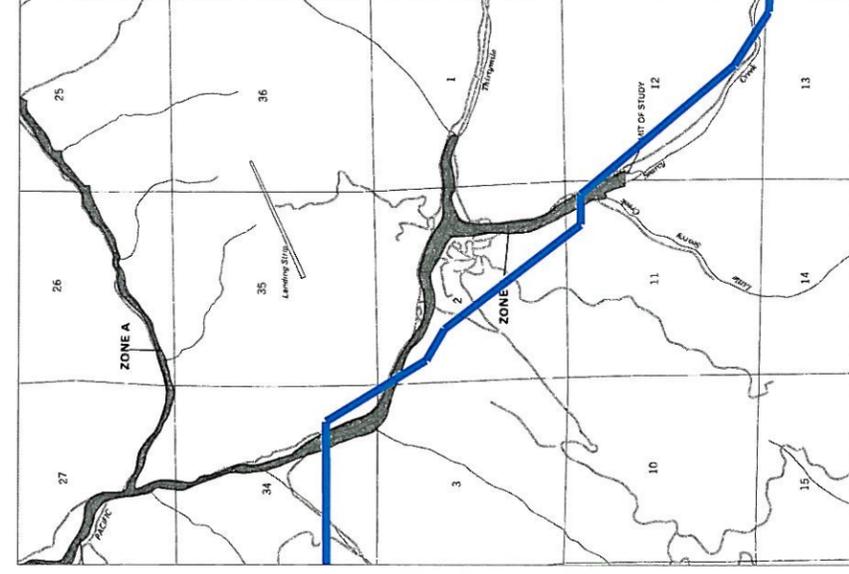
0 E1
 REVISION 1 OF 31

FIGURE 3
FEMA MAPS

PORTION OF PANEL #4102450050B

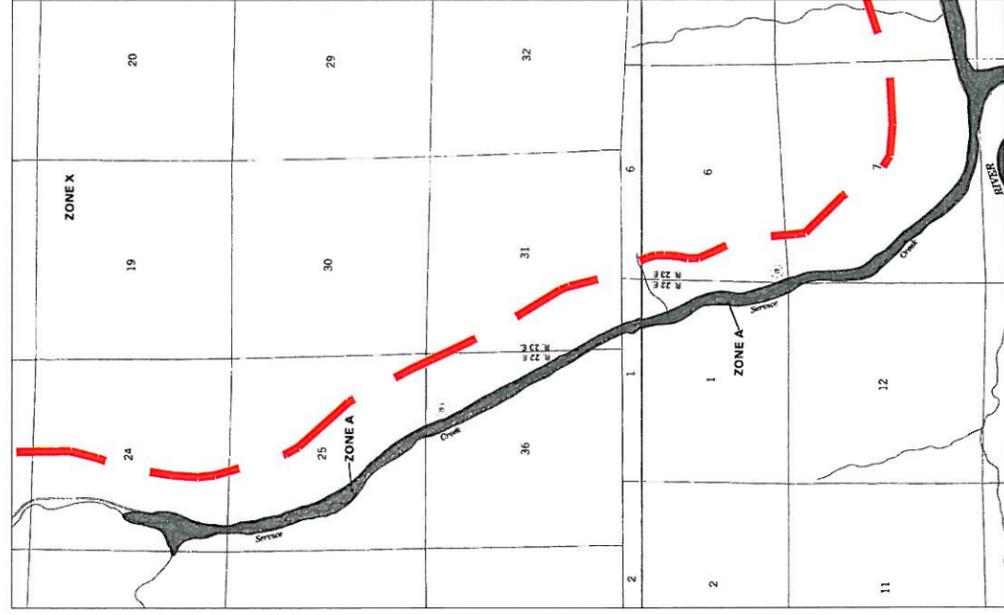


PORTION OF PANEL #4102450075B

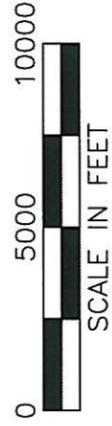
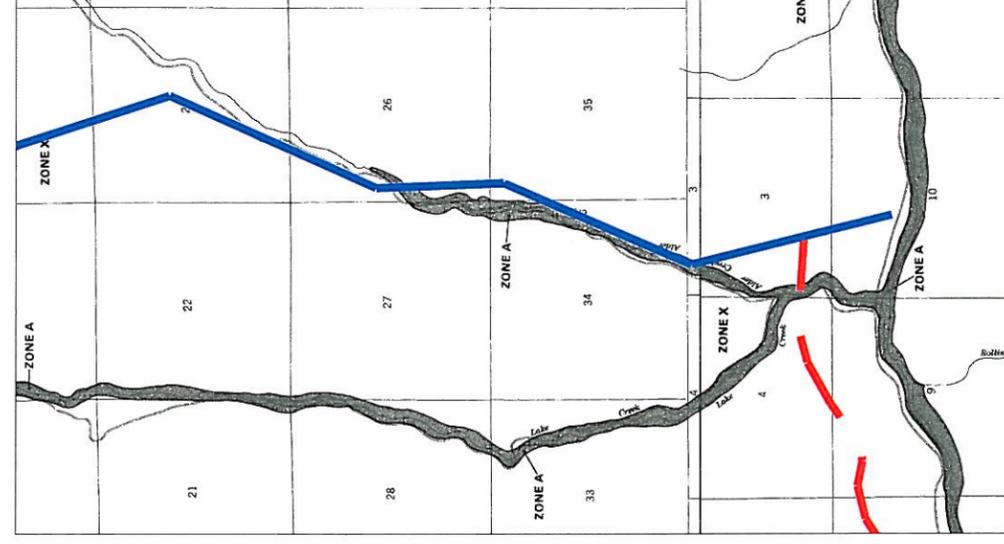


PORTION OF PANEL #4102450075B

PORTION OF PANEL #4102450175B



PORTION OF PANEL #4102450250B



LEGEND:

-  ALTERNATIVE A- PROPOSED ACTION
-  ALTERNATIVE B

 BOUNDARY DIVIDING SPECIAL FLOOD HAZARD ZONES, AND
 BOUNDARY DIVIDING AREAS OF DIFFERENT COASTAL BASE
 FLOOD ELEVATIONS WITHIN SPECIAL FLOOD HAZARD ZONES

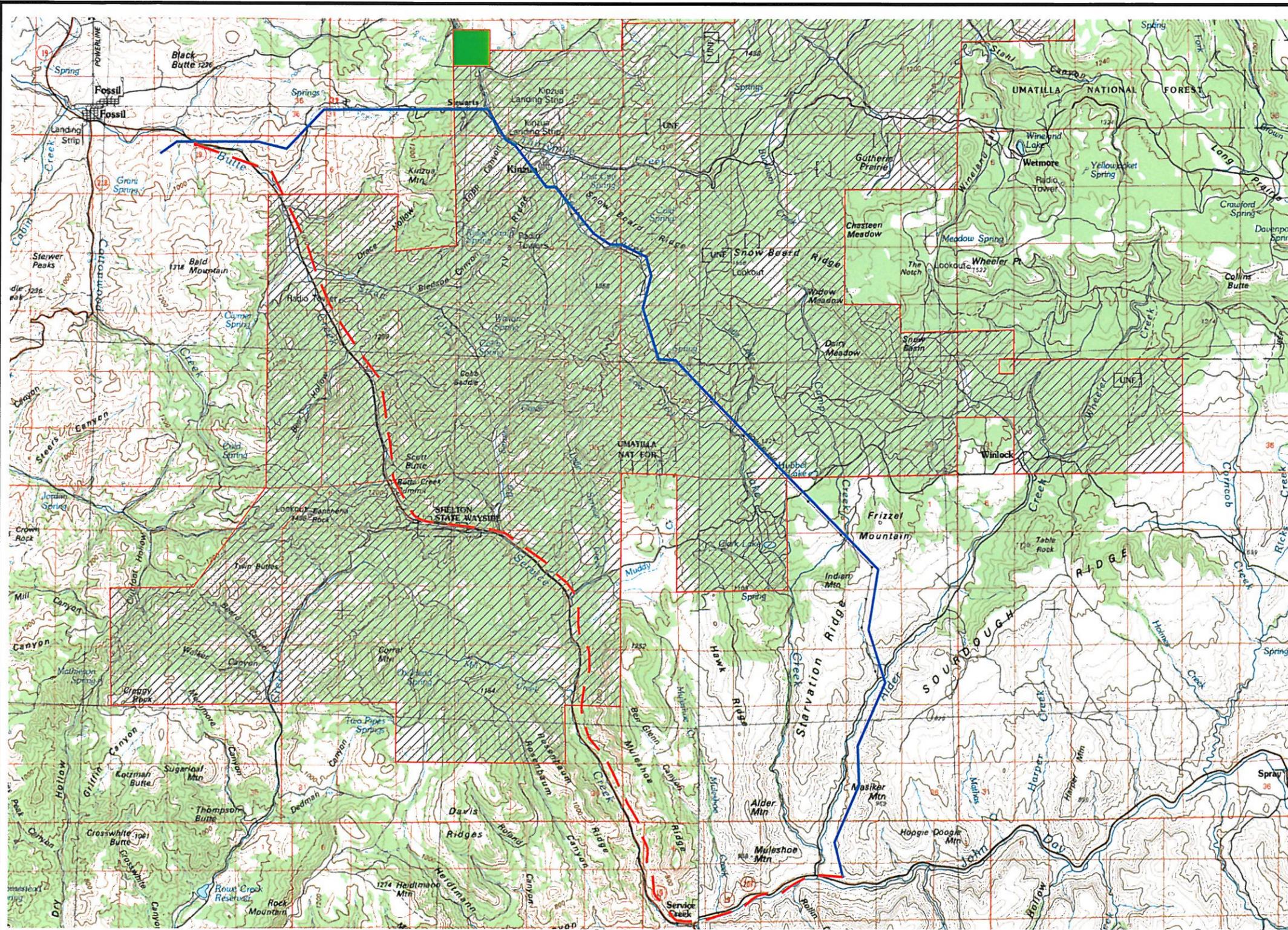
NOTE: Base map provided by the FEMA Map Service Center.


 ECOLOGICAL LAND SERVICES, INC.
 1157 3rd Ave., Suite 220 Longview, WA 98632
 (360) 578-1371 Fax: (360) 414-9305

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 PROJ.#: 1561.02

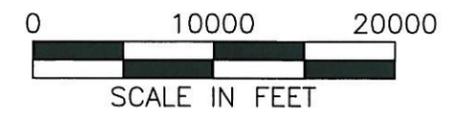
Figure 3
 FEMA MAP
 Columbia Power Cooperative Association Transmission Line Upgrade
 Brown & Kysar, Inc
 Wheeler County, Oregon

FIGURE 4
COUNTY ZONING MAPS



Legend:

-  Alternative A - Proposed Action
-  Alternative B
-  Exclusive Timber Use (ETU)
-  Rural Residential - 10 acre (RR-10)
-  Exclusive Farm Use (EFU)



NOTE: Base map provided by Wheeler County GIS Department, 2008.

 **ECOLOGICAL LAND SERVICES, INC.**
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 (360) 578-1371 Fax: (360) 414-9305

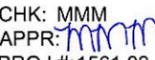
DATE: 2/1/08
 DWN: CB
 REQ. BY: SU
 PRJ. MGR: SU
 CHK: MMM
 APPR: 
 PROJ#: 1561.02

Figure 4
ZONING MAP
 Columbia Power Cooperative Association Transmission Line Upgrade
 Brown & Kysar, Inc.
 Wheeler County, Oregon

APPENDIX B

U.S. FISH AND WILDLIFE SERVICE, LETTER DATED
AUGUST 13, 2007



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Bend Field Office
20310 Empire Ave, Ste A-100
Bend, Oregon 97701
(541) 383-7146 FAX: (541) 383-7638

File Number: 7675.003(07)
File Name: Columbia Power Coop Transm Line Upgrade Aug07.doc
Tracking Number 07-2189 and 07-361
TAILS: 13420-2007-FA-0152

August 13, 2007

Mr. Timothy J. Haderly
Ecological Land Services, Inc.
1157 3rd Ave., Suite 220
Longview, WA 98632

Subject: Request for Information – Proposed Fossil to Service Creek and Pilot Rock to Ukiah Electric Transmission Line Upgrade, Wheeler and Umatilla Counties, Oregon

Dear Mr. Haderly:

The U.S. Fish and Wildlife Service (Service) has reviewed the Columbia Power Cooperative Association (Cooperative) request for information in order to assess the environmental impacts of proposed upgrades to two separate electric transmission lines within Wheeler and Umatilla Counties. The Fossil to Service Creek transmission line (approximately 25 miles) serves the Kinzua, Service Creek and Spray substations. The Pilot Rock to Ukiah (approximately 27 miles) serves the Ukiah substation. Proposed upgrades to the system includes: 1) replacing the existing lines with higher capacity insulated line; 2) replacing the existing poles with new treated fir poles; and 3) installing new polymer insulators. It is proposed that both line upgrades will be constructed parallel to the existing corridor without having to de-energize the system.

The Service provided comments on the Cooperative's 2007 – 2010 Construction Program to Mr. Rex D. Brown, Brown & Kysar, Inc. on December 5, 2006. Our comments in this previous letter to the Cooperative mirror the comments in this letter. We appreciate the opportunity to provide comments, and we look forward to working with you on this important project.



The Service's primary concern with the proposed project is the potential for avian mortality and injury resulting from collision and electrocution. We place a high priority on proactively working with companies to avoid and reduce impacts such as electrocutions and line strikes to migratory birds. We would like to work together with the Cooperative to help protect migratory birds and reduce the incidence of bird mortalities.

The Migratory Bird Treaty Act (MBTA) (Title 16, United States Code, Sections 703-712) prohibits the killing of migratory birds in any manner except when specifically authorized through a valid permit. In addition, the MBTA requires a migratory bird permit for the possession of any part of a migratory bird and their nests. Enclosed is a list of the federal migratory birds (50 CFR, Part 10). Please contact Ms. Tami Tate-Hall (phone: 503-872-2715) to apply for a migratory bird permit. This permit will provide authorization for the temporary possession and/or disposal of migratory birds injured or killed by utility structures. In addition, this permit will require a yearly report documenting the number of migratory bird electrocutions, the reporting of any electrocuted eagles, and raptor prevention devices or improvements completed by the Cooperative.

The project area which includes transmission lines along the John Day River and its tributaries, are known to be used by resident and wintering bald eagles. Bald eagles receive additional protection under the Endangered Species Act and the Bald and Golden Eagle Protection Act (Title 16, United States Code, Sections 668-668d). We are available to work with you to avoid impacts to bald and golden eagles. The Service recommends that the Cooperative develop an Avian Protection Plan (APP) which will reduce migratory bird electrocution and impacts to your electric installations. To assist you in developing a plan we have provided you the APP guidelines as an attachment.

The Service recognizes that the Cooperative has likely installed a number of raptor protection devices in the course of normal business, including specific device and wiring effectiveness for protecting raptors from electrocutions. An APP can document these actions while benefiting utilities and wildlife resources through reduced long-term costs, improved reliability, avian protection, legal compliance, and positive relations between agencies and customers.

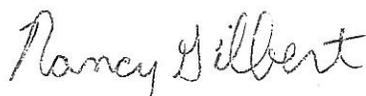
The Service recommends that all new and upgraded construction be installed raptor-safe. Although generally included in an APP, the Service recommends the following: 1) identify within the utility area where pole configuration(s) present a current electrocution risk; 2) describe specific steps that have been taken, or are planned for the future to reduce or remove the threat of electrocution to raptors in high and low risk areas; and 3) describe existing opportunities to further reduce the risk of raptor electrocutions, in order to reduce the cost of prevention; (e.g. using routine inspection and maintenance visits to install raptor protection devices on low and high risk configuration poles).

We also recommend monitoring raptor-safe configurations in high risk areas and low risk areas. Periodic inspections to identify areas of concern and report on the installation, efficacy of design, and degradation in the field of whatever bird protection devices are employed (according to published literature on avian power line electrocution, field observations indicate a significant

number of bird protection devices are incompletely or improperly installed and may degrade in the field).

The Service appreciates the opportunity to provide comment on the Cooperative's proposed upgrades. We would like to work with you to further protect fish and wildlife resources within the utility area. If you have any questions regarding the Service's comments, please contact Jerry Cordova or me at the Bend Fish and Wildlife Office at 541-383-7146.

Sincerely,



Nancy Gilbert
Field Supervisor

cc:

Mike Green, USFWS Region 1, Portland, OR.

Estyn Mead, USFWS Region 1, Portland, OR.

Todd Eckhardt, USFWS Region 1, Klamath Falls, OR.

Chris Carey, ODFW, Bend, OR

Tami Tate-Hall, USFWS Region 1, Portland, OR

References

Avian Power Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA. 207pp. Additional copies of this book may be obtained through: www.aplic.org

Avian Protection Plan (APP) Guidelines. April 2005. Edison Electric Institute's Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service. 84pp.

APPENDIX C

U.S. FISH AND WILDLIFE SERVICE, LETTER DATED
JULY 10, 2007



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Oregon Fish and Wildlife Office

2600 SE 98th Avenue, Suite 100

Portland, Oregon 97266

Phone: (503)231-6179 FAX: (503)231-6195

Reply To: 8330.SP07(07)

July 10, 2007

Timothy J. Haderly
Ecological Land Services, Inc.
1157 3rd Ave., Suite 220
Longview, WA 98632

Subject: Columbia Power Cooperative Association Fossil to Service Creek/Pilot Rock to
Yukia Transmission Line Upgrade Project
USFWS Reference # AA1D2B7B24EE5E9F8825731500038F51

Dear Mr. Timothy J. Haderly:

This is in response to your request, dated July 10, 2007, requesting information on listed and proposed endangered and threatened species that may be present within the area of the Columbia Power Cooperative Association Fossil to Service Creek/Pilot Rock to Yukia Transmission Line Upgrade Project in Umatilla, Wheeler County(s). The Fish and Wildlife Service (Service) received your correspondence on July 10, 2007.

We have attached a list (Enclosure A) of threatened and endangered species that may occur within the area of the Columbia Power Cooperative Association Fossil to Service Creek/Pilot Rock to Yukia Transmission Line Upgrade Project. The list fulfills the requirement of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). U.S. Department of Agriculture requirements under the Act are outlined in Enclosure B.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems on which they depend may be conserved. Under section 7(a)(1) and 7(a)(2) of the Act and pursuant to 50 CFR 402 *et seq.*, the U.S. Department of Agriculture is required to utilize their authorities to carry out programs which further species conservation and to determine whether projects may affect threatened and endangered species, and/or critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) which are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA) (42 U.S.C. 4332 (2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to the Biological Assessment be prepared to determine whether they may affect listed and proposed species. Recommended contents of a Biological Assessment are described in Enclosure B, as well as 50 CFR 402.12.

If the U.S. Department of Agriculture determines, based on the Biological Assessment or evaluation, that threatened and endangered species and/or critical habitat may be affected by the project, the U.S. Department of Agriculture is required to consult with the Service following the requirements of 50 CFR 402 which implement the Act.

Printed on 100 percent chlorine free/60 percent post-consumer content paper.



Enclosure A includes a list of candidate species under review for listing. The list reflects changes to the candidate species list published May 11, 2005, in the Federal Register (Vol. 69, No. 86, 24876) and the addition of "species of concern." Candidate species have no protection under the Act but are included for consideration as it is possible candidates could be listed prior to project completion. Species of concern are those taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

If a proposed project may affect only candidate species or species of concern, the U.S. Department of Agriculture is not required to perform a Biological Assessment or evaluation or consult with the Service. However, the Service recommends minimizing impacts to these species to the extent possible in order to prevent potential future conflicts. Therefore, if early evaluation of the project indicates that it is likely to adversely impact a candidate species or species of concern, the U.S. Department of Agriculture may wish to request technical assistance from this office.

Your interest in endangered species is appreciated. The Service encourages the U.S. Department of Agriculture to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact Kevin Maurice at (503) 231-6179. All correspondence should include the above referenced file number. For questions regarding salmon and steelhead trout, please contact NOAA Fisheries Service, 525 NE Oregon Street, Suite 500, Portland, Oregon 97232, (503) 230-5400.

For future species list requests, please visit our website (<http://www.fws.gov/oregonfwo/Species/default.asp>) for instructions on how to make requests.

Enclosures

EnclosureA: Umatilla.PDF, Wheeler COUNTY.PDF

EnclosureB: EnclosureB_Federal_Agencies_Responsibilities.PDF

FEDERALLY LISTED THREATENED, ENDANGERED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN UMATILLA COUNTY, OREGON

LISTED SPECIES^{1/}Birds

| | | |
|--------------------------|---------------------------------|---|
| Bald eagle ^{2/} | <i>Haliaeetus leucocephalus</i> | T |
|--------------------------|---------------------------------|---|

Fish

| | | |
|---|---------------------------------|-------|
| Steelhead (Snake River Basin) ^{3/} | <i>Oncorhynchus mykiss</i> ssp. | T* |
| Steelhead (Middle Columbia River) ^{4/} | <i>Oncorhynchus mykiss</i> ssp. | T* |
| Steelhead (Upper Columbia River) ^{5/} | <i>Oncorhynchus mykiss</i> ssp. | E* |
| Sockeye salmon (Snake River) ^{6/} | <i>Oncorhynchus nerka</i> | CH E* |
| Chinook salmon (Upper Columbia River) ^{7/} | <i>Oncorhynchus tshawytscha</i> | E* |
| Chinook salmon (Snake River) ^{8/} | <i>Oncorhynchus tshawytscha</i> | CH T* |
| Bull trout (Columbia River Basin) ^{9/} | <i>Salvelinus confluentus</i> | CH T |

PROPOSED SPECIES

None

CANDIDATE SPECIES^{10/}Mammals

| | |
|----------------------------|---------------------------------|
| Washington ground squirrel | <i>Spermophilus washingtoni</i> |
|----------------------------|---------------------------------|

Birds

| | |
|----------------------|----------------------------|
| Yellow-billed cuckoo | <i>Coccyzus americanus</i> |
|----------------------|----------------------------|

Amphibians and Reptiles

| | |
|-----------------------|--------------------------|
| Columbia spotted frog | <i>Rana luteiventris</i> |
|-----------------------|--------------------------|

Plants

| | |
|-------------------|--|
| Northern wormwood | <i>Artemisia campestris</i> var. <i>wormskioldii</i> |
|-------------------|--|

SPECIES OF CONCERNMammals

| | |
|----------------------------|---|
| Pale western big-eared bat | <i>Corynorhinus townsendii pallescens</i> |
| California wolverine | <i>Gulo gulo luteus</i> |
| Silver-haired bat | <i>Lasionycteris noctivagans</i> |
| Small-footed myotis (bat) | <i>Myotis ciliolabrum</i> |
| Long-eared myotis (bat) | <i>Myotis evotis</i> |
| Fringed myotis (bat) | <i>Myotis thysanodes</i> |
| Long-legged myotis (bat) | <i>Myotis volans</i> |
| Yuma myotis (bat) | <i>Myotis yumanensis</i> |
| Preble's shrew | <i>Sorex preblei</i> |

Birds

| | |
|-----------------------|-----------------------------------|
| Northern goshawk | <i>Accipiter gentilis</i> |
| Tricolored blackbird | <i>Agelaius tricolor</i> |
| Western burrowing owl | <i>Athene cunicularia hypugea</i> |
| Upland sandpiper | <i>Bartramia longicauda</i> |

Ferruginous hawk
Olive-sided flycatcher
Willow flycatcher
Yellow-breasted chat
Lewis' woodpecker
Mountain quail
White-headed woodpecker

Buteo regalis
Contopus cooperi
Empidonax trailli adastus
Icteria virens
Melanerpes lewis
Oreortyx pictus
Picoides albolarvatus

Amphibians and Reptiles
Northern sagebrush lizard

Sceloporus graciosus graciosus

Fishes

Marginated sculpin
Pacific lamprey
Interior redband trout

Cottus marginatus
Lampetra tridentata
Oncorhynchus mykiss gibbsi

Plants

Wallowa ricegrass
Blue Mountain onion
Robinson's onion
Laurence's milk-vetch
Stalked moonwort
Dwarf evening-primrose
Disappearing monkeyflower
Little mousetail
Oregon semaphore grass
Douglas clover

Achnatherum wallowaensis
Allium dictyon
Allium robinsonii
Astragalus collinus var. *laurentii*
Botrychium pedunculatum
Camissonia pygmaea
Mimulus evanescens
Myosurus minimus ssp. *apus* (= var. *sessiliflorus*)
Pleuropogon oregonus
Trifolium douglasii

(E) - Listed Endangered

(T) - Listed Threatened

(CH) - Critical Habitat has been designated for this species

(PE) - Proposed Endangered

(PT) - Proposed Threatened

(PCH) - Critical Habitat has been proposed for this species

Species of Concern - Taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates) but for which further information is still needed.

* Consultation with NOAA's National Marine Fisheries Service may be required.

¹¹ U.S. Department of Interior, Fish and Wildlife Service, October 31, 2000. Endangered and Threatened Wildlife and Plants. 50 CFR 17.11 and 17.12

²² Federal Register Vol. 60, No. 133, July 12, 1995, - Final Rule - Bald Eagle

³³ Federal Register Vol. 62, No. 159, August 18, 1997. Final Rule - Snake River Steelhead

⁴⁴ Federal Register Vol. 64, No. 57, March 25, 1999, Final Rule - Middle Columbia and Upper Willamette River Steelhead

⁵¹ Federal Register Vol. 62, No. 159, August 18, 1997. Final Rule - Upper Columbia River Steelhead

⁶¹ Federal Register Vol. 56, No. 224, November 20, 1991, Final Rule - Snake River Sockeye Salmon

⁷¹ Federal Register Vol. 64, No. 56, March 24, 1999, Final Rule - West Coast Chinook Salmon

⁸¹ Federal Register Vol. 57, No. 78, April 22, 1992, Final Rule - Snake River Chinook Salmon

⁹¹ Federal Register Vol. 63, No. 111, June 10, 1998, Final Rule - Columbia River and Klamath River Bull Trout

¹⁰¹ Federal Register Vol. 69, No. 86, May 4, 2004, Notice of Review - Candidate or Proposed Animals and Plants

**FEDERALLY LISTED THREATENED, ENDANGERED, PROPOSED, CANDIDATE
SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN WHEELER
COUNTY, OREGON**

LISTED SPECIES^{1/}BirdsBald eagle^{2/}*Haliaeetus leucocephalus*

T

FishSteelhead (Middle Columbia River)^{3/}*Oncorhynchus mykiss* ssp.

T*

PROPOSED SPECIES

None

CANDIDATE SPECIES^{4/}Birds

Yellow-billed cuckoo

*Coccyzus americanus*Amphibians and Reptiles

Columbia spotted frog

*Rana luteiventris*SPECIES OF CONCERNMammals

Pygmy rabbit

Brachylagus idahoensis

Pale western big-eared bat

Corynorhinus townsendii pallescens

Spotted bat

Euderma maculatum

California wolverine

Gulo gulo luteus

Silver-haired bat

Lasionycteris noctivagans

Small-footed myotis (bat)

Myotis ciliolabrum

Long-eared myotis (bat)

Myotis evotis

Fringed myotis (bat)

Myotis thysanodes

Long-legged myotis (bat)

Myotis volans

Yuma myotis (bat)

Myotis yumanensis

California bighorn

*Ovis canadensis californiana*Birds

Northern goshawk

Accipiter gentilis

Tricolored blackbird

Agelaius tricolor

Western burrowing owl

Athene cunicularia hypugea

Ferruginous hawk

Buteo regalis

Olive-sided flycatcher

Contopus cooperi

Willow flycatcher

Empidonax trailli adastus

Yellow-breasted chat

Icteria virens

Lewis' woodpecker

Melanerpes lewis

Mountain quail

Oreortyx pictus

White-headed woodpecker

*Picoides albolarvatus*Amphibians and Reptiles

Tailed frog

Ascaphus truei

Northern sagebrush lizard

Sceloporus graciosus graciosus

Fishes

Pacific lamprey
Interior redband trout

Lampetra tridentata
Oncorhynchus mykiss gibbsi

Plants

Wallowa ricegrass
Upward-lobed moonwort
Crenulate grape-fern
Mountain grape-fern
Twin spike moonwort
Peck's mariposa-lily
Dwarf evening-primrose
Little mousetail
Oregon semaphore grass
Arrow-leaf thelypody

Achnatherum wallowaensis
Botrychium ascendens
Botrychium crenulatum
Botrychium montanum
Botrychium paradoxum
Calochortus longebarbatus var. *peckii*
Camissonia pygmaea
Myosurus minimus ssp. *apus* (= var. *sessiliflorus*)
Pleuropogon oregonus
Thelypodium eucosmum

(E) - Listed Endangered

(T) - Listed Threatened

(CH) - Critical Habitat has been designated for this species

(PE) - Proposed Endangered

(PT) - Proposed Threatened

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* Consultation with NOAA's National Marine Fisheries Service may be required.

¹¹ U.S. Department of Interior, Fish and Wildlife Service, October 31, 2000, *Endangered and Threatened Wildlife and Plants*, 50 CFR 17.11 and 17.12

²¹ Federal Register Vol. 60, No. 133, July 12, 1995, - Final Rule - Bald Eagle

³¹ Federal Register Vol. 64, No. 57, March 25, 1999, Final Rule - Middle Columbia and Upper Willamette River Steelhead

⁴¹ Federal Register Vol. 69, No. 86, May 4, 2004, Notice of Review - Candidate or Proposed Animals and Plants

ENCLOSURE B

FEDERAL AGENCIES RESPONSIBILITIES UNDER SECTION 7(a) and (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7(a)-Consultation/Conference

Requires: 1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with FWS when a Federal action may affect a listed endangered or Threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of Critical Habitat. The process is initiated by the Federal agency after they have determined if their action may affect (adversely or beneficially) a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed Critical Habitat.

SECTION 7(c)-Biological Assessment for Major Construction Projects¹

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify proposed and/or listed species which are/is likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct an on-site inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if any species are present and whether suitable habitat exists for either expanding existing populations or for potential reintroduction of species; (2) review literature and scientific data to determine species distribution(s), habitat needs, and other biological requirements; (3) interview experts including those within FWS, National Marine Fisheries Service, State conservation departments, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species present in terms of effects to individuals and populations, including consideration of cumulative effects to the species and habitat; (5) analyze alternative actions that may provide conservation measures and (6) prepare a report documenting the results, including a discussion of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not any listed species will be affected. Upon completion, the report should be forwarded to our Portland Office at 2600 SE 98th Ave., Suite 100, Portland, Oregon, 97266.

¹A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c). On projects other than construction, it is suggested that a biological evaluation similar to the biological assessment be undertaken to conserve species influenced by the Endangered Species Act.

APPENDIX D

OREGON DEPARTMENT OF FISH AND WILDLIFE, LETTER DATED
JULY 16, 2007



Oregon

Theodore R. Kulongoski, Governor

Department of Fish and Wildlife

Heppner District Office

PO Box 363

54173 Hwy. 74

Heppner, OR 97836

(541) 676-5230

FAX (541) 676-9075



July 16, 2007

Ecological Land Services, Inc.
Timothy J. Haderly
1157 - 3rd Ave., Suite 220
Longview, WA 98632

Dear Mr. Haderly:

This letter is in regards to the request for information you sent to the Oregon Department of Fish and Wildlife concerning a proposed electric transmission line upgrade from Fossil to Service Creek. I have reviewed the proposed activities that occur in Wheeler County, which is my jurisdiction, and do not have any major concerns. However, I would like to take this opportunity to request that we try to minimize activities around active raptor nests during the nesting period if possible.

As I mentioned before I have only reviewed the activities planned in Wheeler County. Mark Kirsh from our Pendleton office (phone: 541-276-2344, address: 73471 Mytinger Lane, Pendleton, OR 97801) is the contact who reviews planned activities in Umatilla County.

Respectfully,

Shannon Jewett

Assistant District Wildlife Biologist

APPENDIX E

OREGON PARKS AND RECREATION DEPARTMENT, LETTER DATED
JULY 10, 2007



Oregon

Theodore R. Kulongoski, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St. NE, Suite C

Salem, OR 97301-1266

(503) 986-0707

FAX (503) 986-0793

www.hcd.state.or.us



Nature
HISTORY
Discovery

July 10, 2007

Mr. Timothy Haderly
Ecological Land Services Inc
1157 3rd Ave STE 220
Longview, WA 98632

RE: SHPO Case No. 07-1530
Fossil to Service Crk and Pilot Rock to Ukiah Trans Lines Project
Upgrade of transmission lines
Ecological Land Services Inc/CPCA/RUS
Wheeler/Umatilla County

Dear Mr. Haderly:

Our office recently received a request to conduct a cultural resource review for the area of the project referenced above. In checking our statewide cultural resource database, I find that there have been no previous cultural surveys completed within the proposed project area but cultural sites are known to exist in the surrounding area. The project area is located on a landform generally perceived to have a high probability for possessing archaeological sites and buried human remains.

While not having sufficient knowledge to pinpoint the exact location of cultural resources within the proposed project area, due to the very high likelihood of significant sites being present, I suggest that the applicant contact a qualified archaeologist to conduct a cultural resource survey of the project area. A list of possible archaeological consultants can be found on our web site (www.oregonheritage.org) by clicking on Archaeological Services web page and highlighting the section marked Archaeological Permits.

State statutes (ORS 358.905 and ORS 97.740) provide protection for archaeological sites, objects, and human remains on both state public and private lands in Oregon. I hope that by providing the above-suggested archaeological survey, damage to any archaeological sites in the area of your proposed project can be avoided.

If you have any questions about the above comments or would like additional information, please feel to contact me at your convenience. In order to help us track your project accurately, please be sure to reference the SHPO case number above in all correspondence.

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@state.or.us



APPENDIX F

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY, LETTER
DATED AUGUST 3, 2007



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

Eastern Region
700 SE Emigrant
Suite 330
Pendleton, OR 97801
(541) 276-4063 Voice/TTY
FAX (541) 278-0168

Timothy J. Haderly
Project Manager/Ecologist
Ecological Land Services, Inc
1157 3rd Avenue, Suite 220
Longview, Washington 98632

August 3, 2007

Re: Request for Information
Transmission Line Upgrade

Dear Mr. Haderly:

This is in response to your July 6, 2007 letter addressed to DEQ Pendleton Office. Your letter requests assistance in identifying, among other things, environmental issues that could affect a project to upgrade transmission lines between Fossil and Service Creek and between Pilot Rock and Ukiah. In response I can offer the following:

Depending on how much land is disturbed at a time a Construction Stormwater permit may be required. Information on how to apply for such a permit can be obtained off the DEQ web site or by calling this office.

Lines, poles, and insulators need to be either recycled or properly disposed of at a permitted facility. If transformers are also being replaced then it must be determined whether the old transformers contain PCB's. If so then they must be properly disposed of. Spent treated power poles can be managed as follows:

Reuse- as landscaping or other continued use- No action required except use them appropriately.

Disposal- In the event that the poles will be disposed.

- o No burning allowed
- o They will need to select a pole that is representative of the lot and collect a sawdust sample and run TCLP for metals and Penta to determine if the spent poles would be classified as a HW. (Most likely not, but they should have some data to support their conclusion as to how they characterize the poles as a solid waste).
- o If the spent poles are Non- HW then as treated wood, it must go to a sub-title D land fill (lined solid waste) for disposal.



- o If for some reason the TCLP testing were to classify the Poles as a HW, then it would need to go to a sub-title C facility such as Arlington for disposal.

Feel free to contact any DEQ HW staff for questions related to spent pole management.

For underground storage tanks and cleanup site identification, you can search our database via facility profiler at the link below. You will be able to compare your actual route with known, contaminated sites. If you identify sites which overlap with the lines, and the data base does not contain sufficient information to answer your questions, we could arrange for you to review the files or speak to the project manager, if one is actively working on the site.

<http://deq12.deq.state.or.us/fp20/>

I hope the information provide here is helpful. Your information request is quite broad. If you have additional questions feel free to call this office at 541 276-4063 and explain to the support staff person the nature of your questions. Your call can then be routed to the appropriate program manager or staff person.

Sincerely,



D. Mitch Wolgamott
Water Quality Manager

APPENDIX G

OREGON DEPARTMENT OF STATE LANDS, LETTER DATED
JULY 14, 2007



Oregon

Theodore R. Kulongoski, Governor

Department of State Lands
1645 NE Forbes Rd., Suite 112
Bend, OR 97701
(541) 388-6112
FAX (541) 388-6480
www.oregonstatelands.us

July 14, 2007

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

Ecological Land Services, Inc.
Attn: Timothy J. Haderly
1157 3rd Ave., Suite 220
Longview, WA 98632

RE: Request for Information – Proposed Fossil to Service Creek and Pilot Rock to Ukiah Electric Transmission Line Upgrade.

Dear Mr. Haderly,

The Department of State Lands (DSL) has received your request for information on any environmental, historical, cultural, and other land use issues that might affect your project. Based on the maps we received we do not believe the project will affect any state owned land. However, any use of state land for this project will require an appropriate authorization. Please inform our office if there is any intention of using state owned land for this project

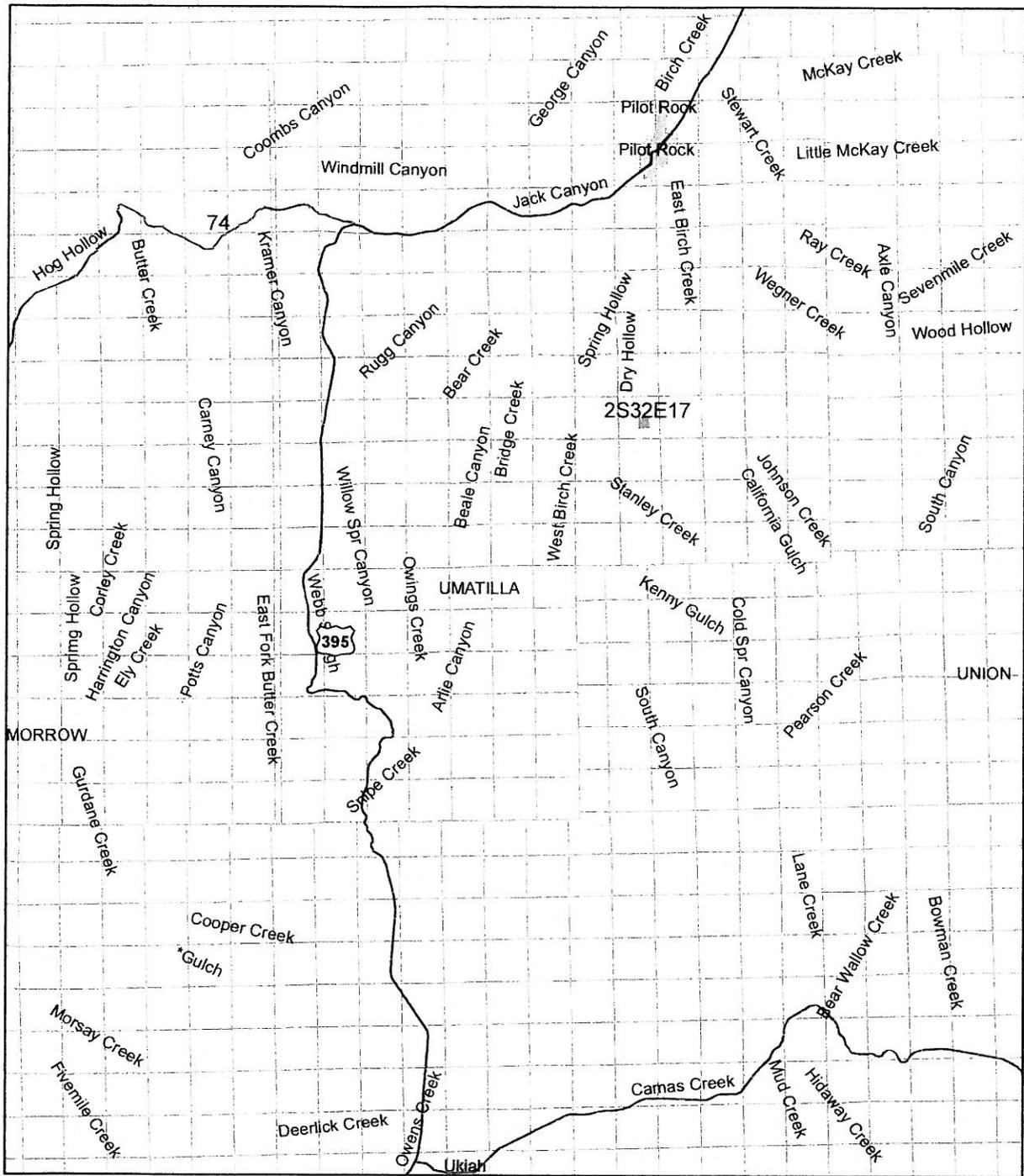
You may be able to gather both historical and cultural information from the Oregon State Parks State Historic Preservation Office (SHPO) for any state lands in the area. Also, I have attached two maps for reference of state land in relation to your project.

If you have any questions, please call me at (541) 388-6033.

Thank you,

Shawn Zumwalt
Land Specialist
Land Management Division

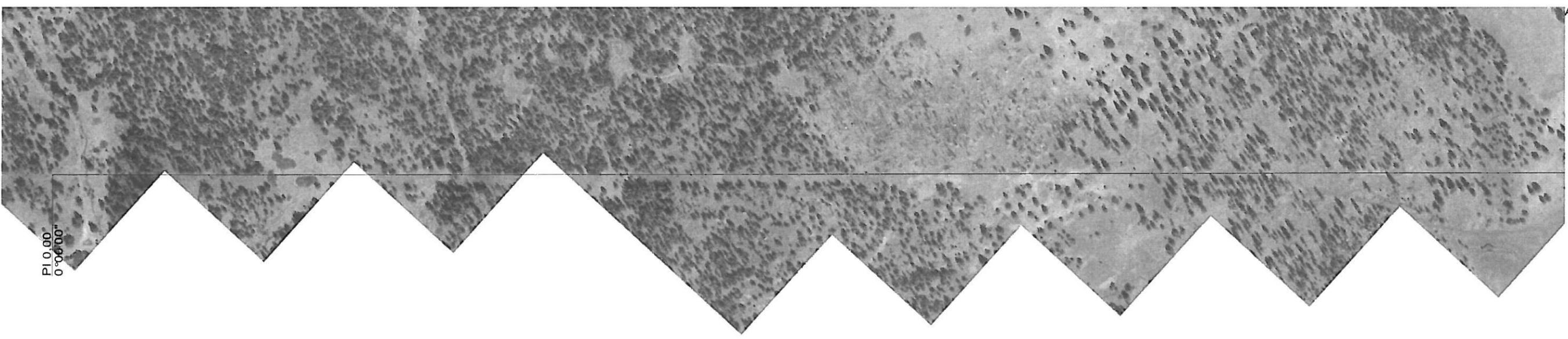
State Land



Legend

- Highways
- State Land
- City Limits
- Waterway
- section

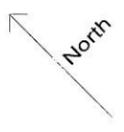




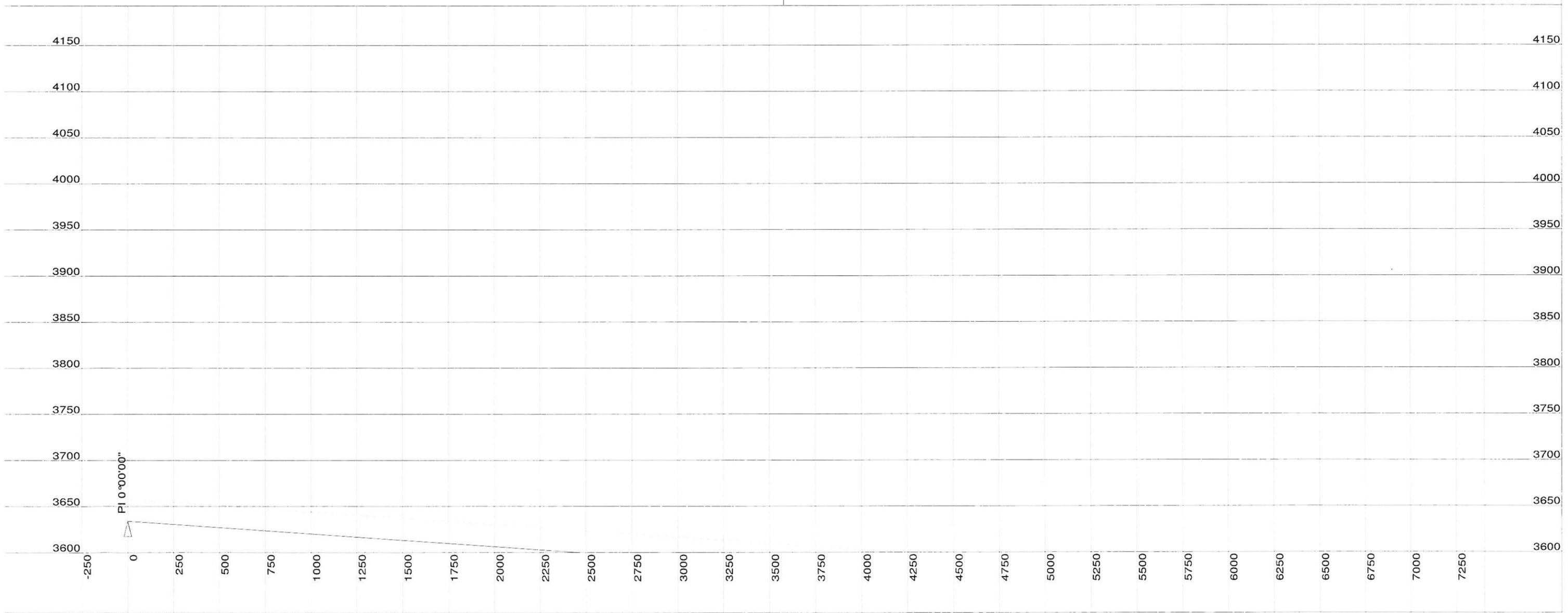
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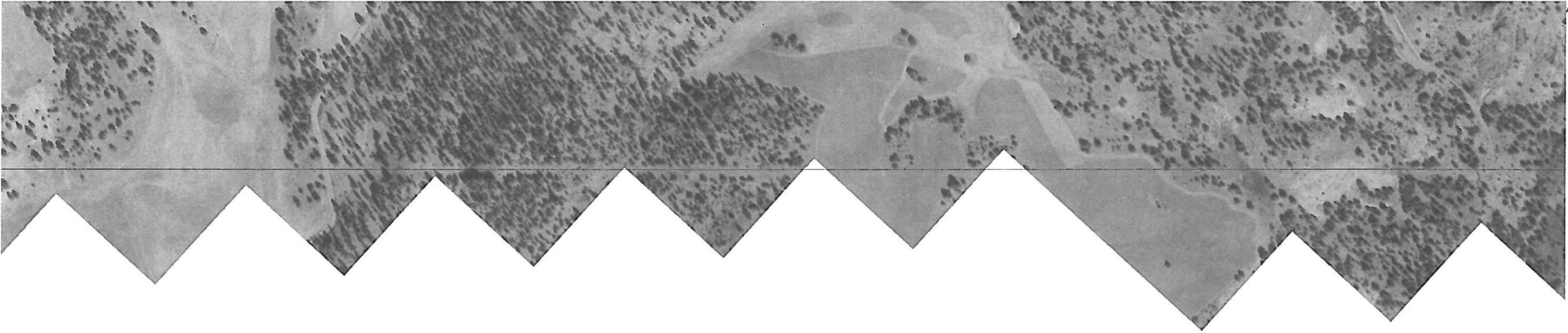
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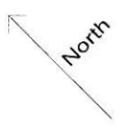
FOSSIL - SERVICE CREEK ZONE 11 ENVIRONMENTAL SOUTH
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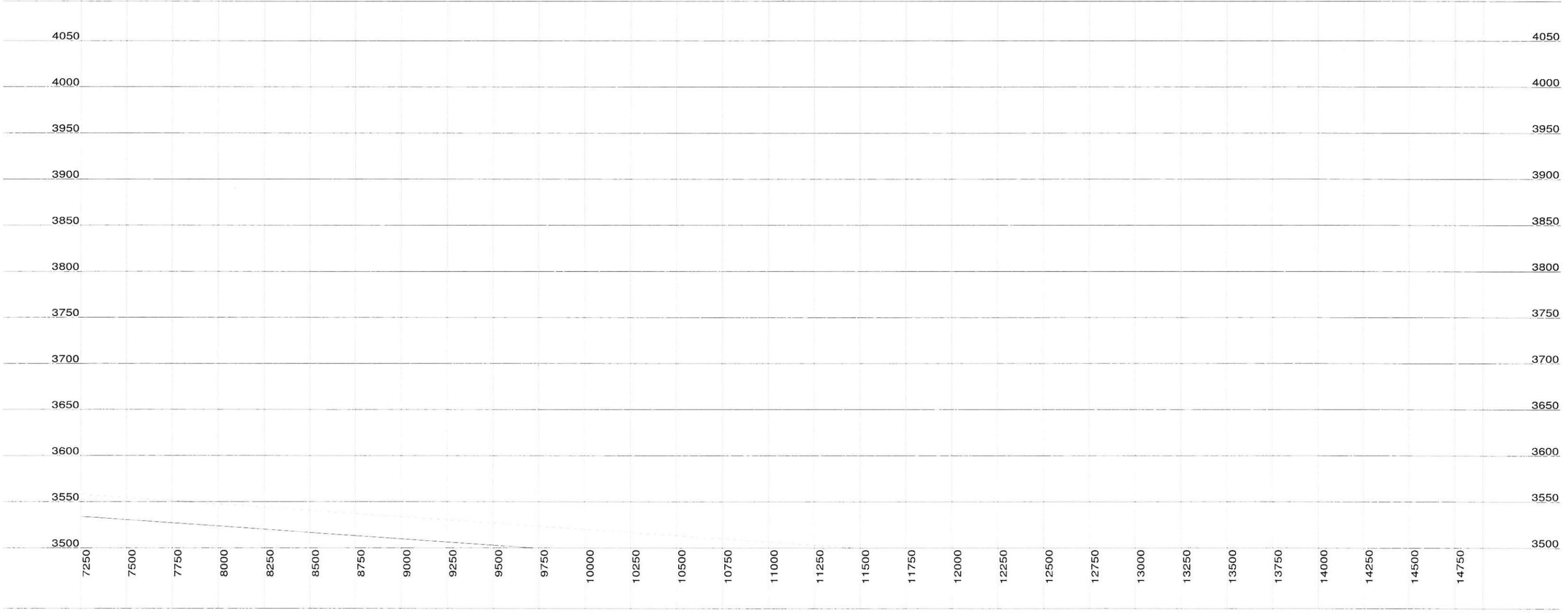


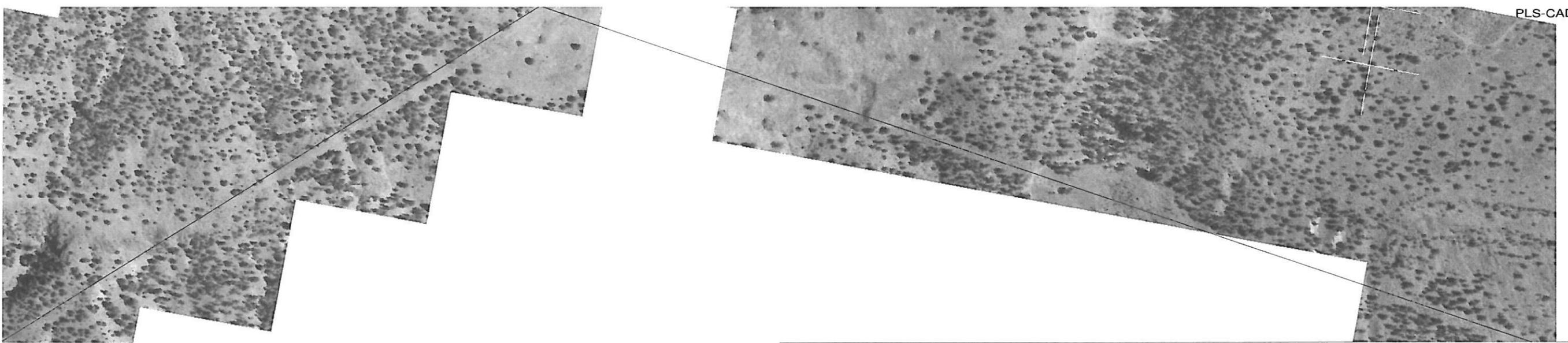
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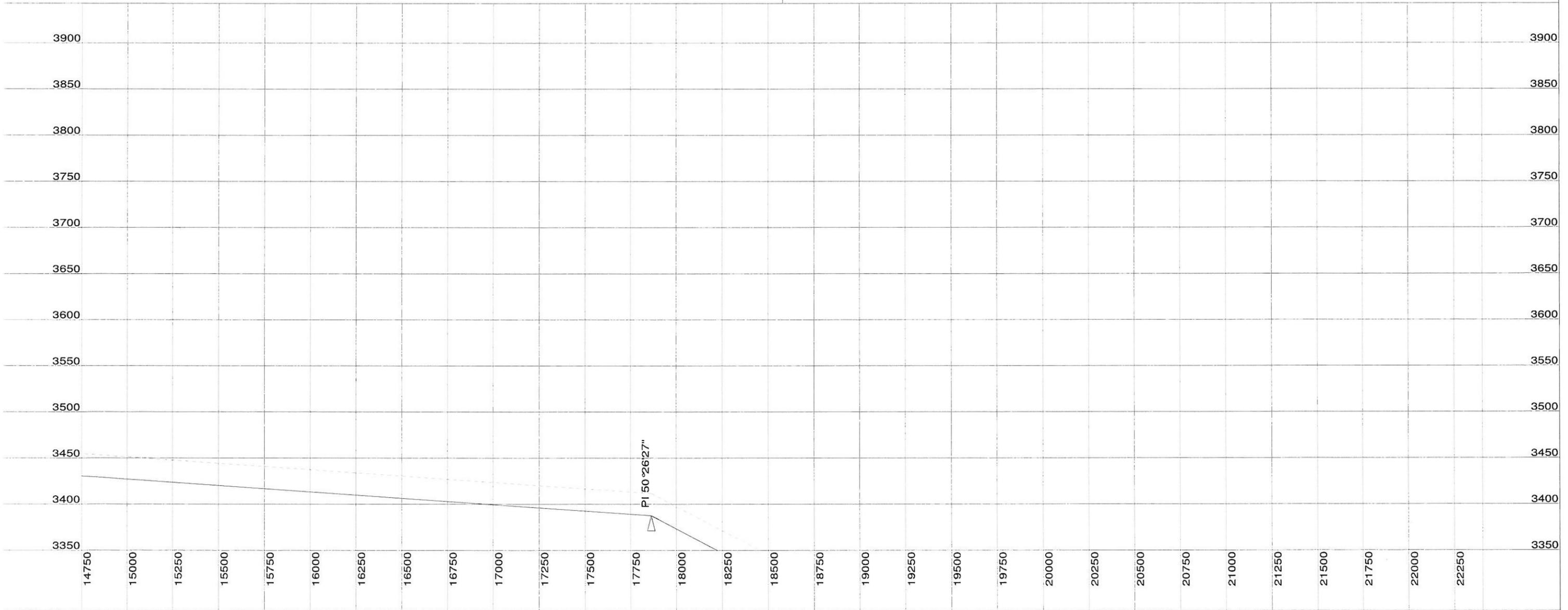


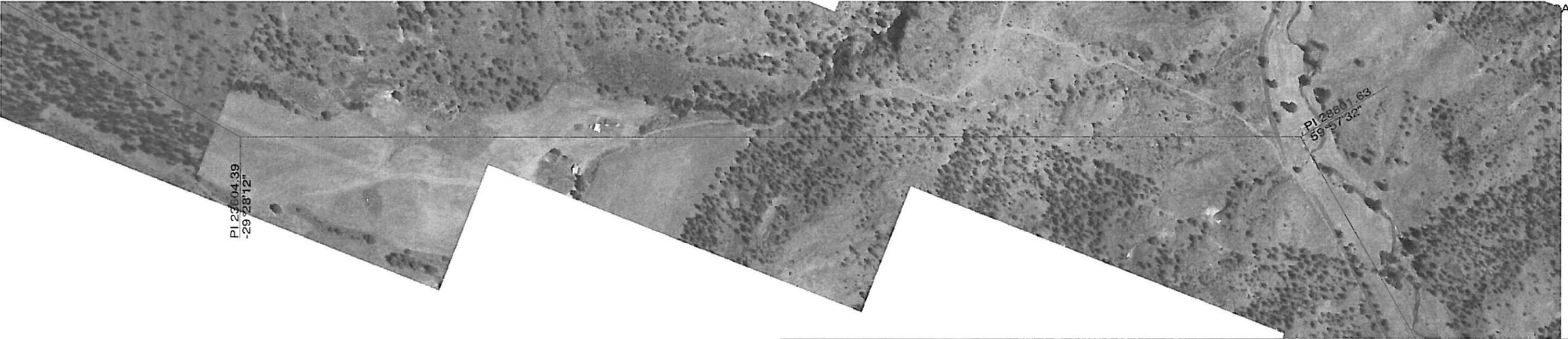
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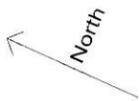
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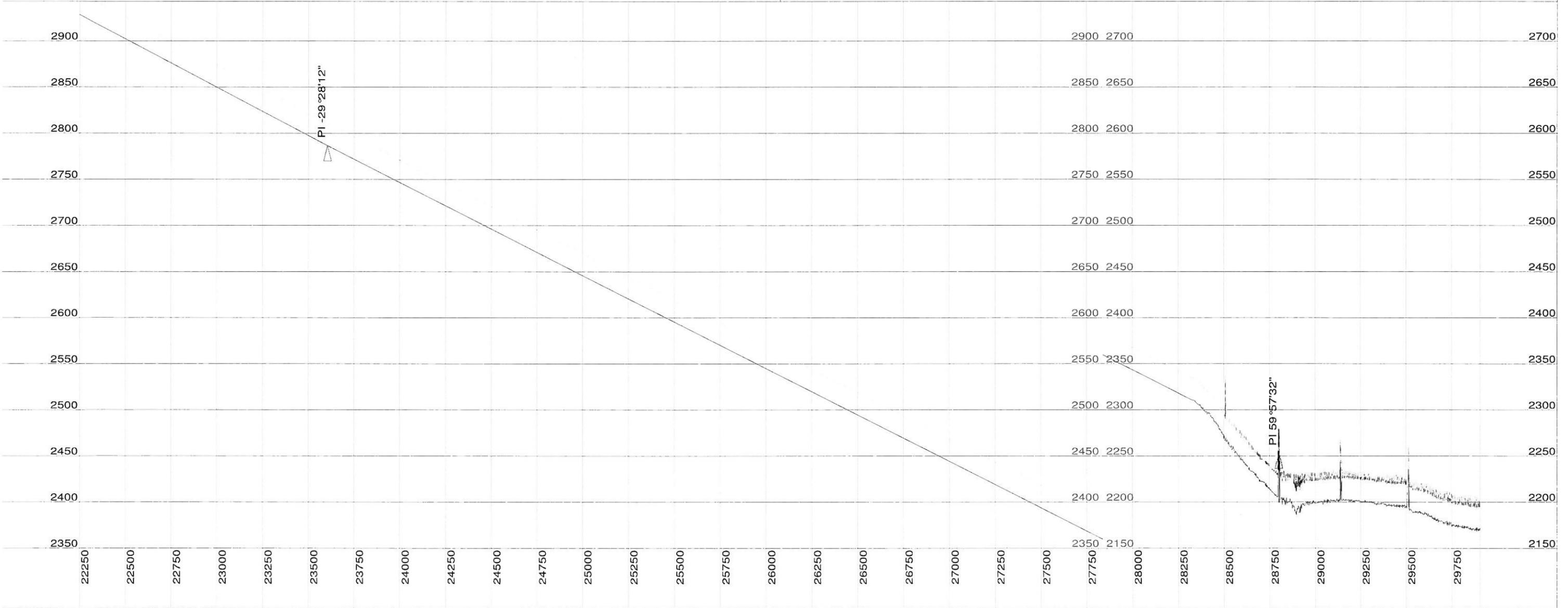


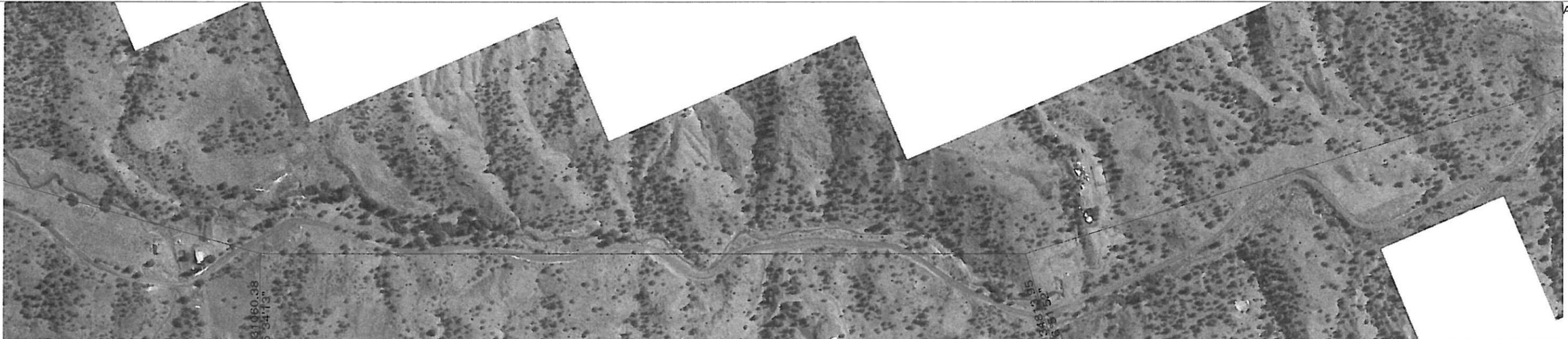
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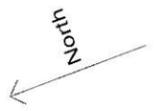
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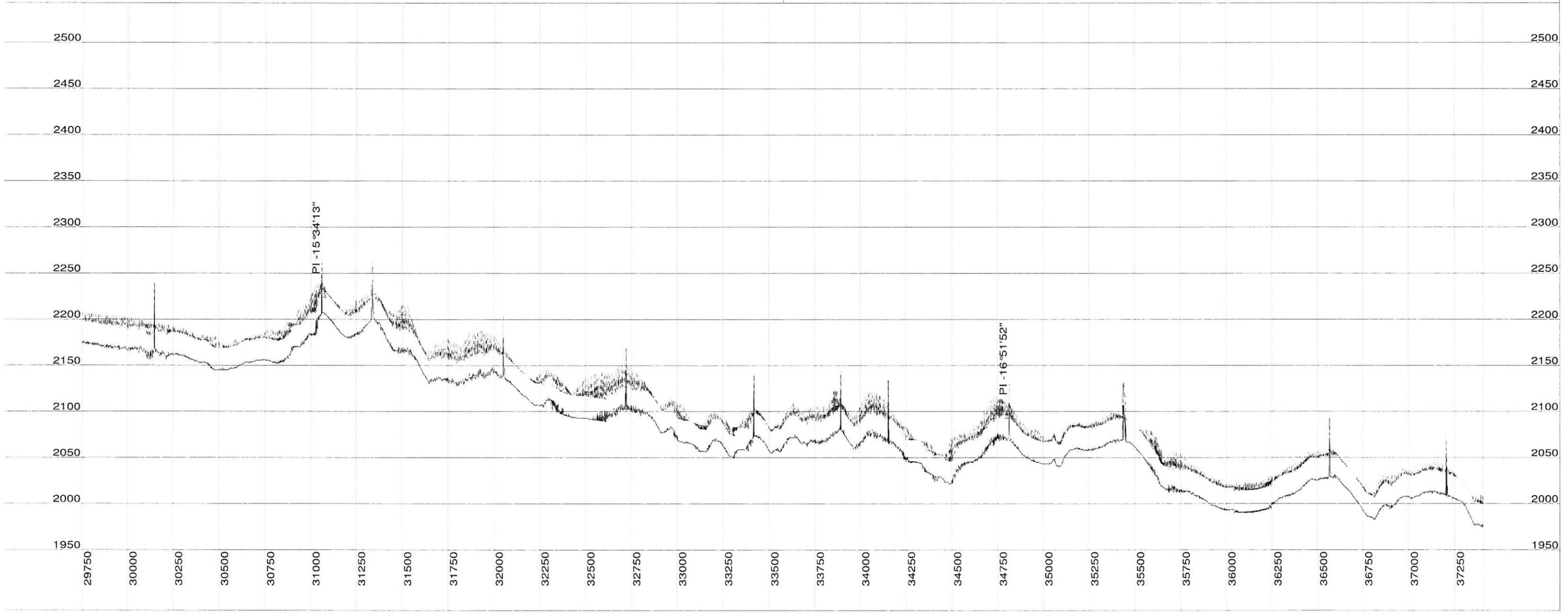


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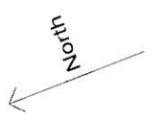
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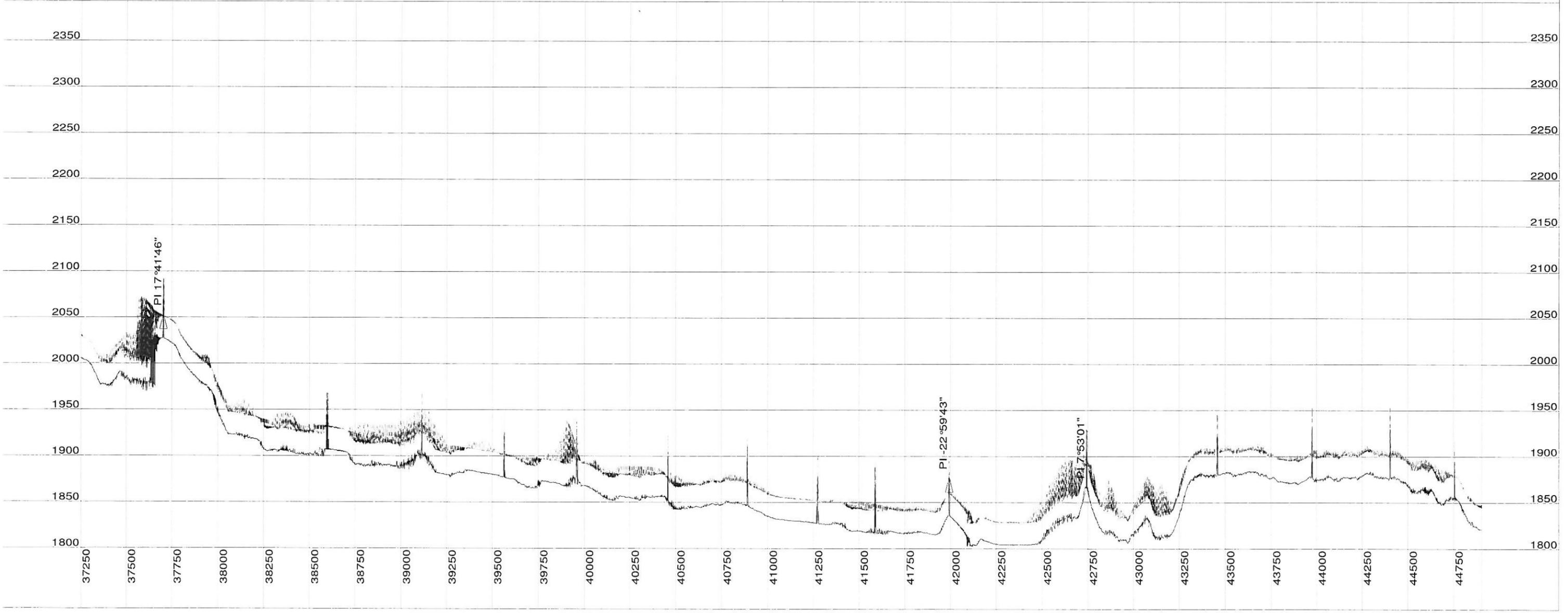


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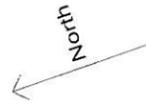
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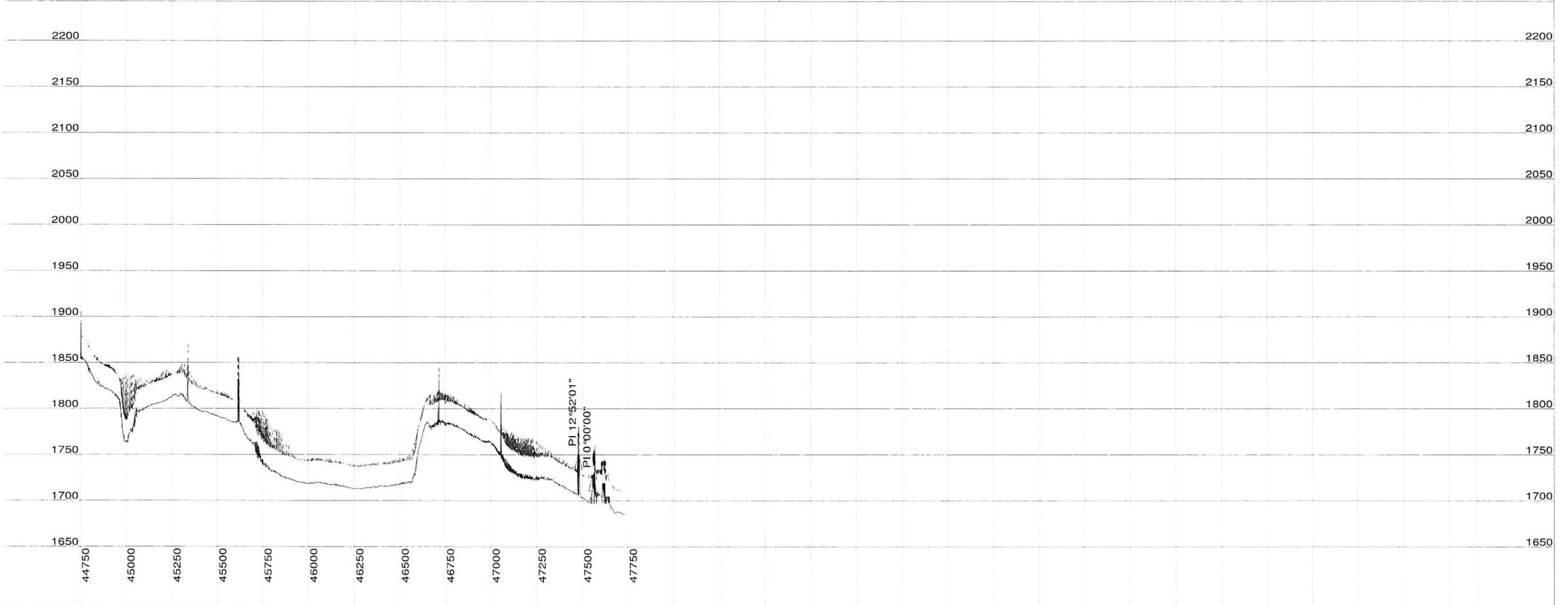


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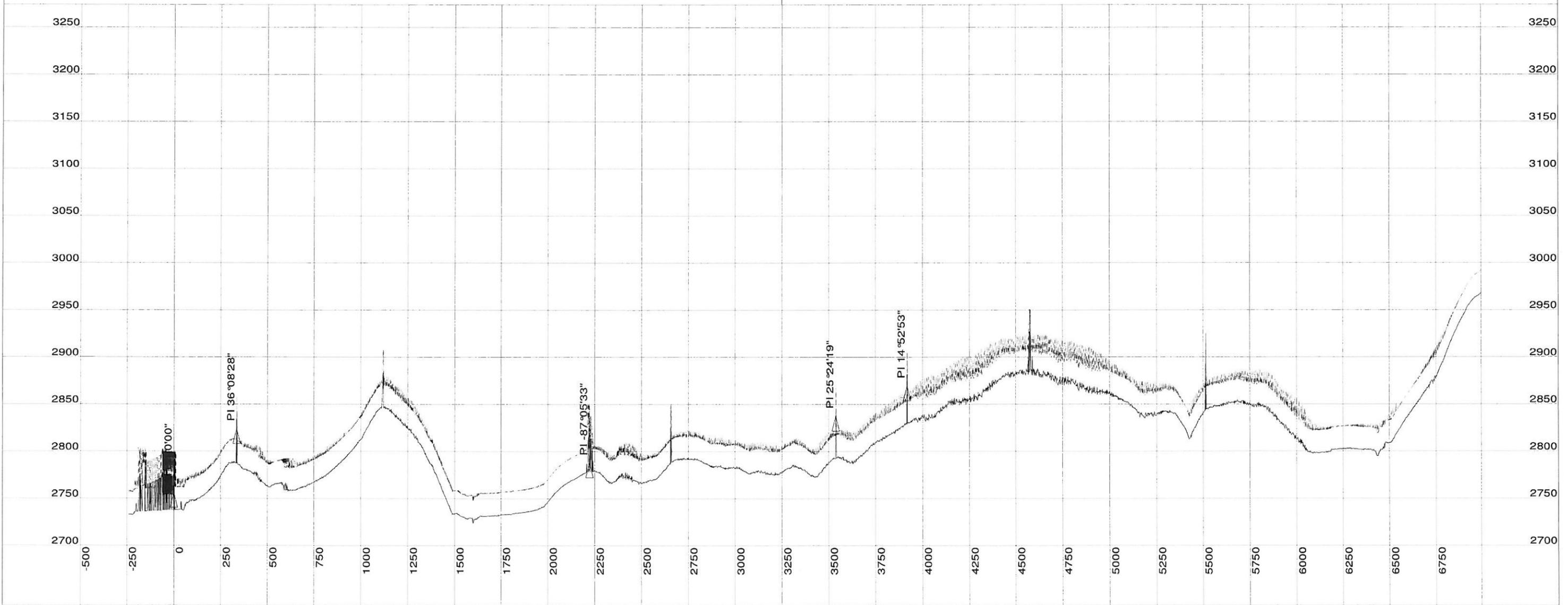


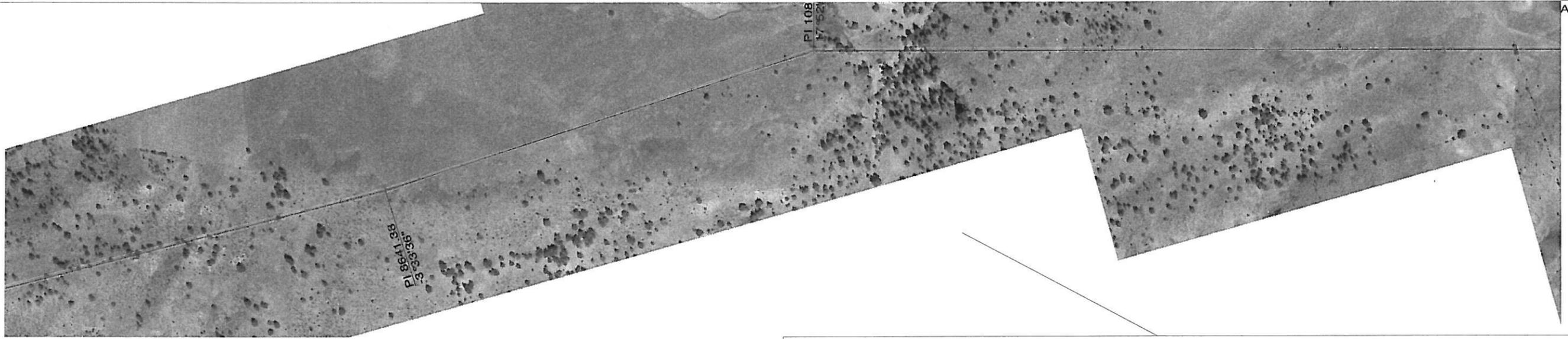


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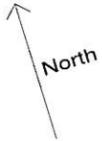
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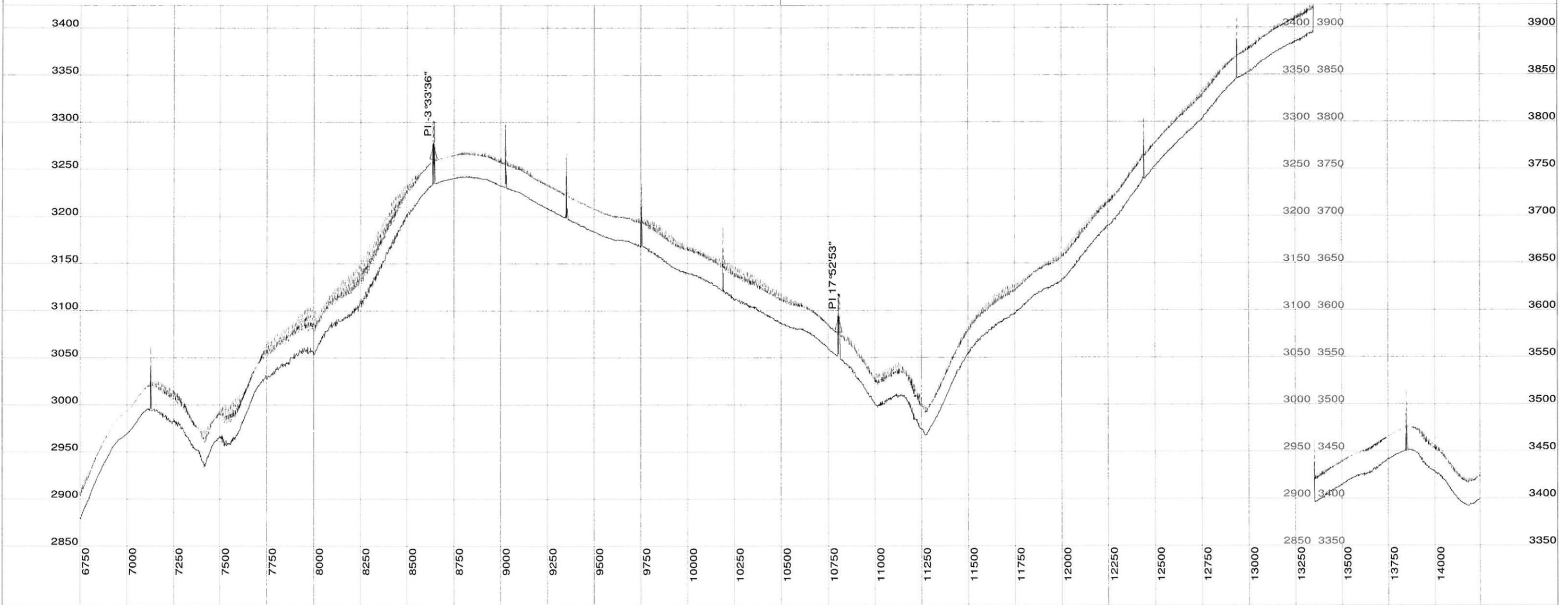


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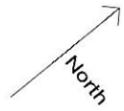
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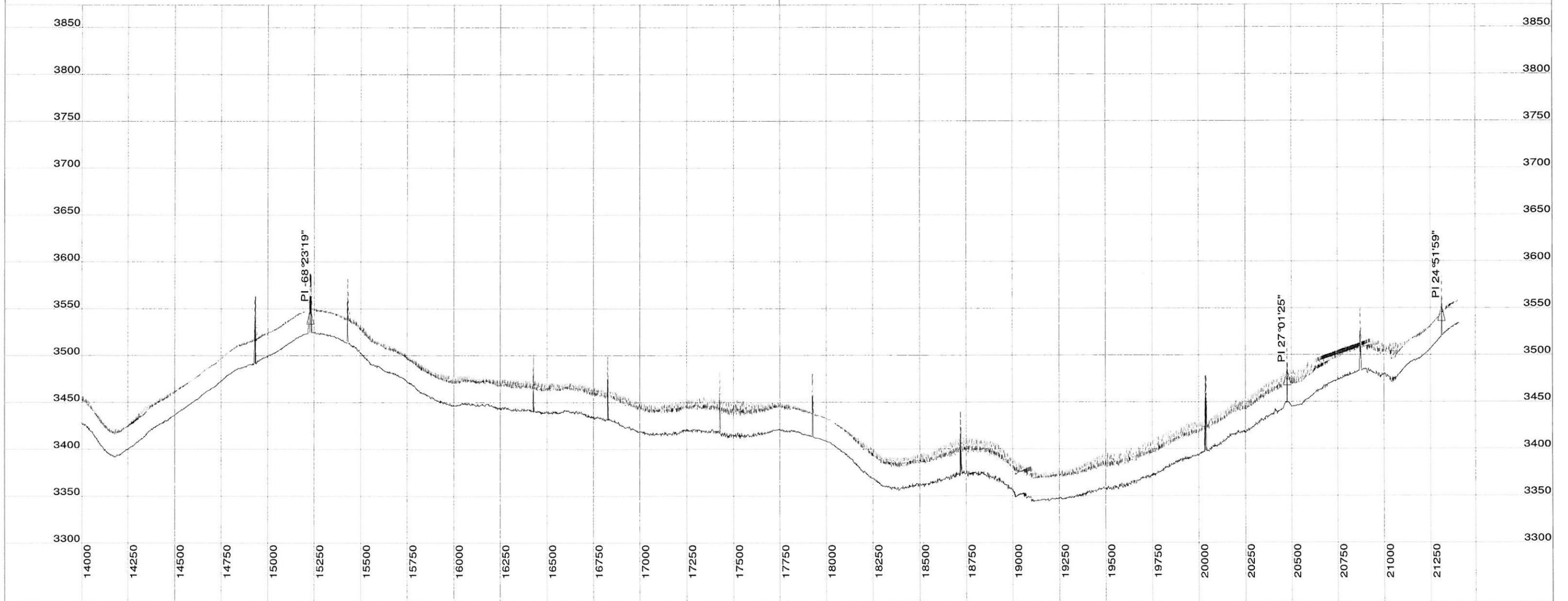


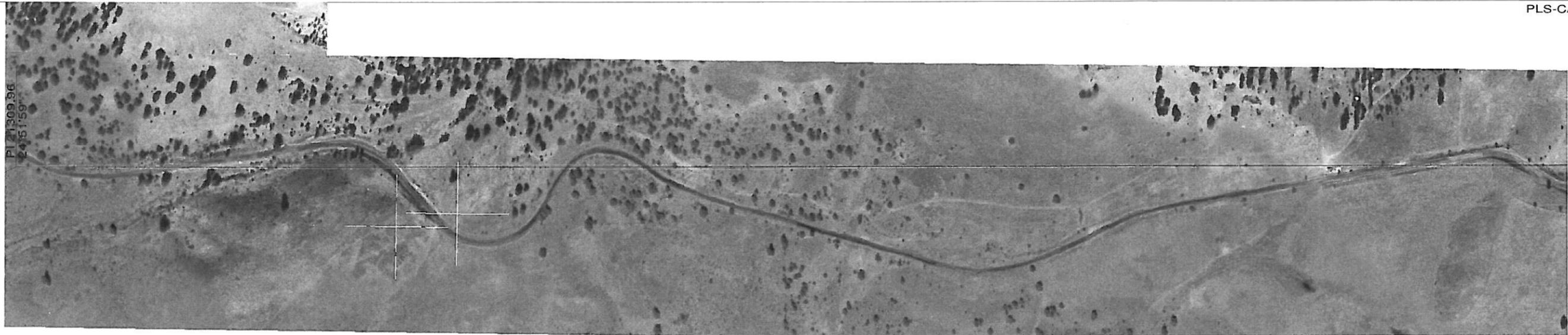
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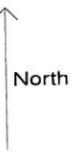
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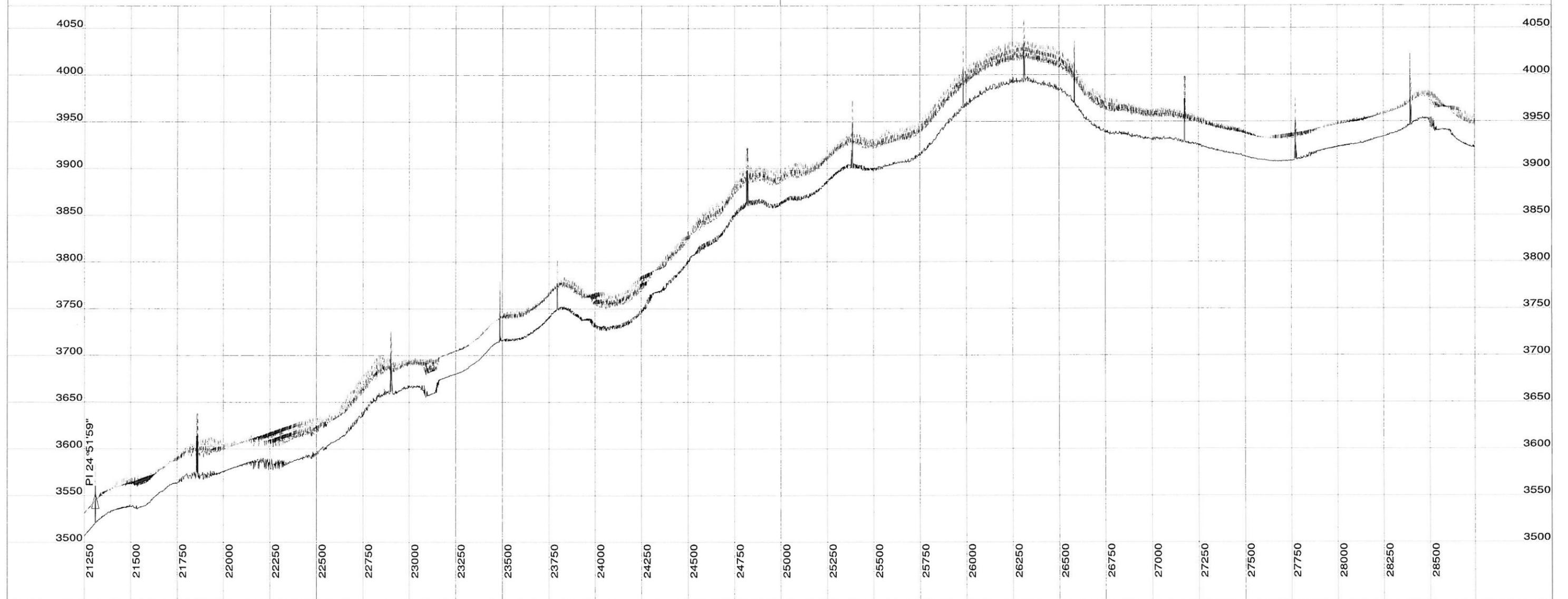


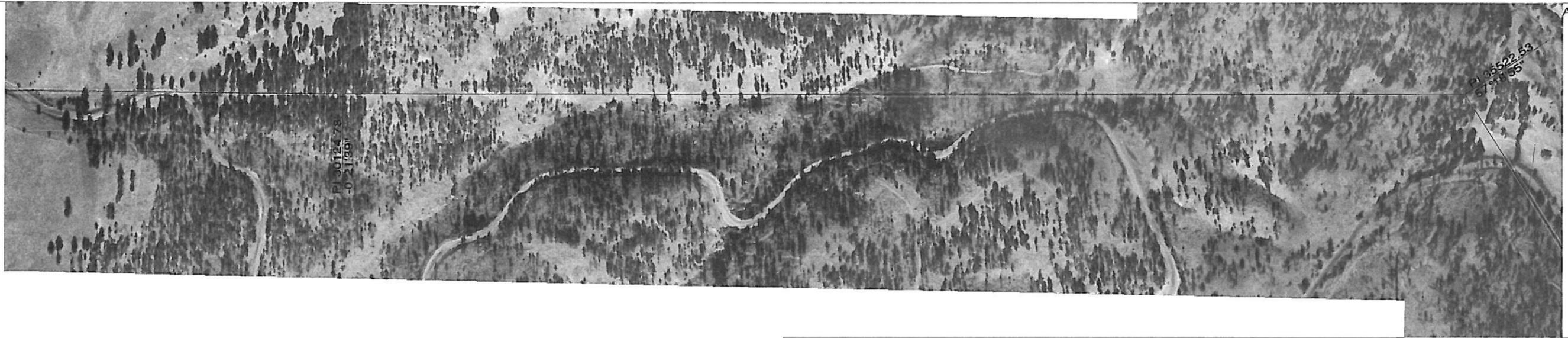
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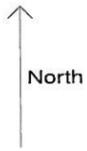
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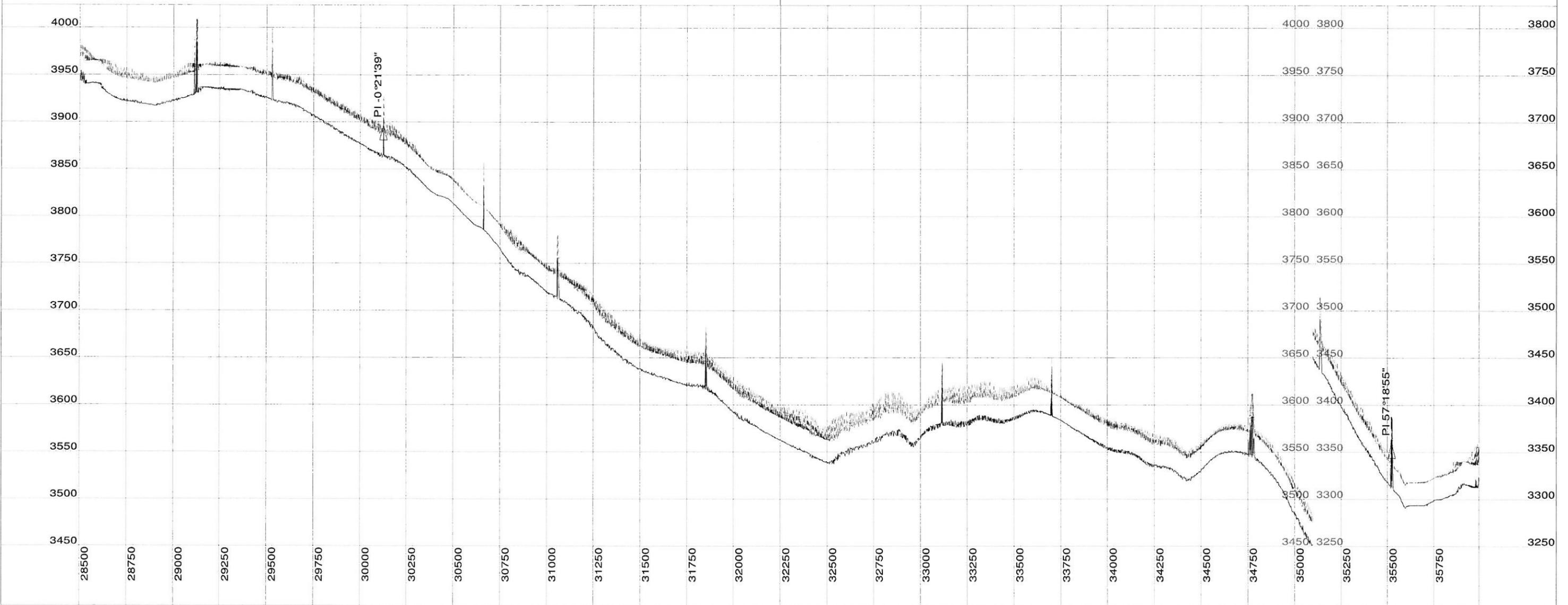


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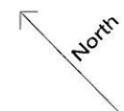
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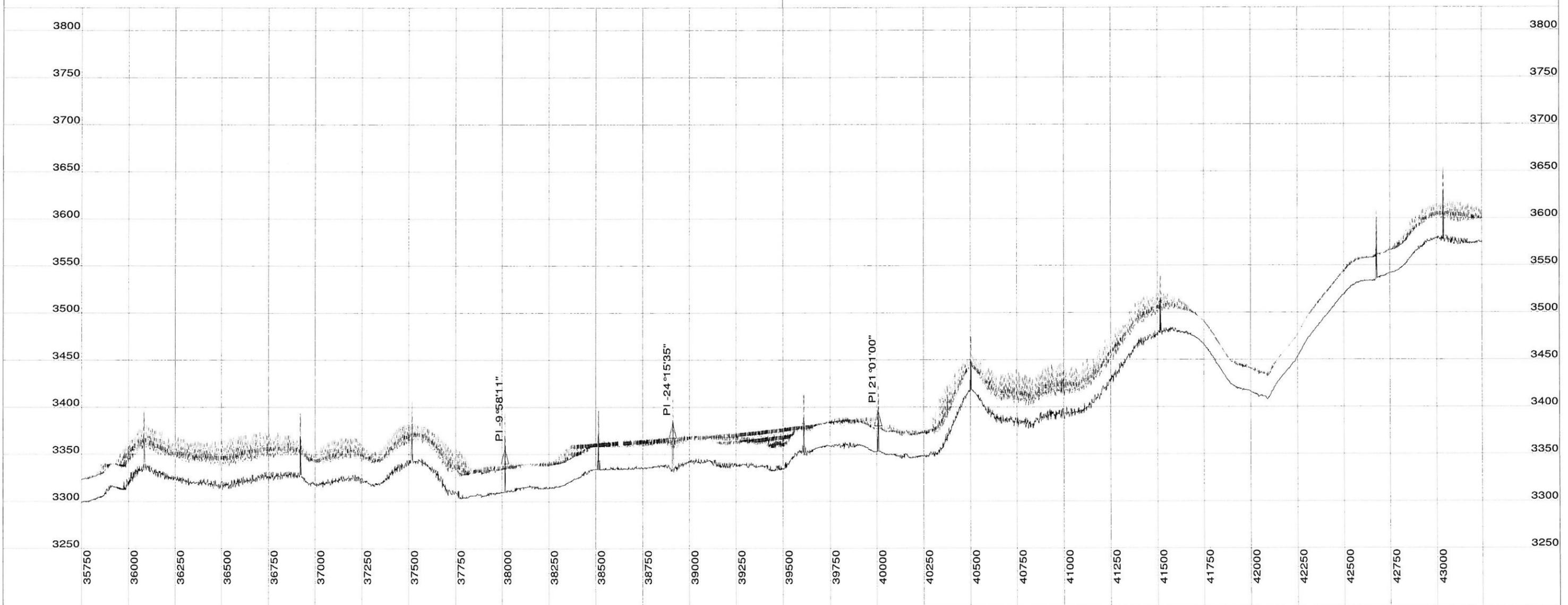


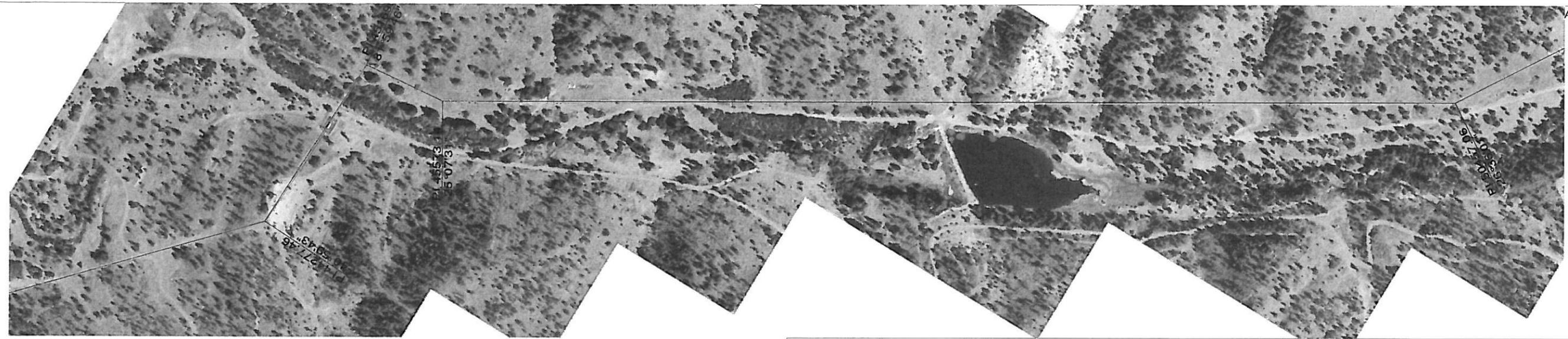
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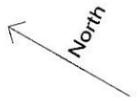


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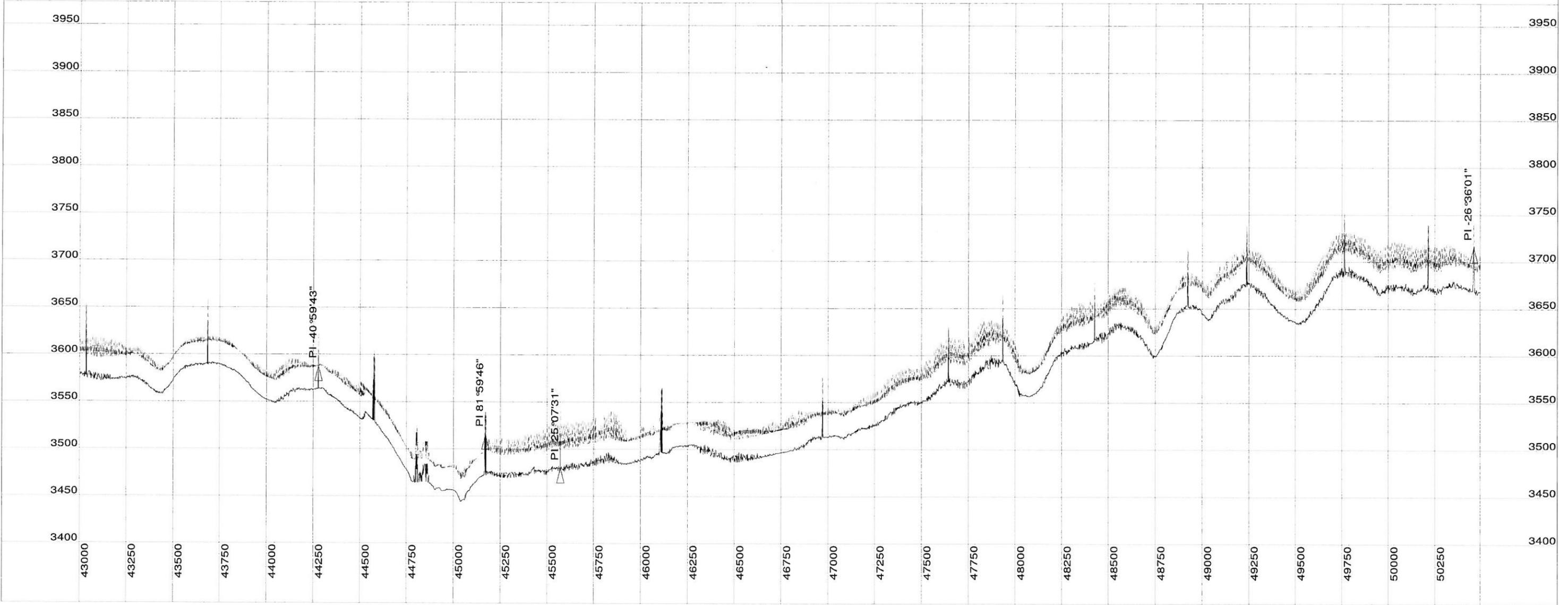


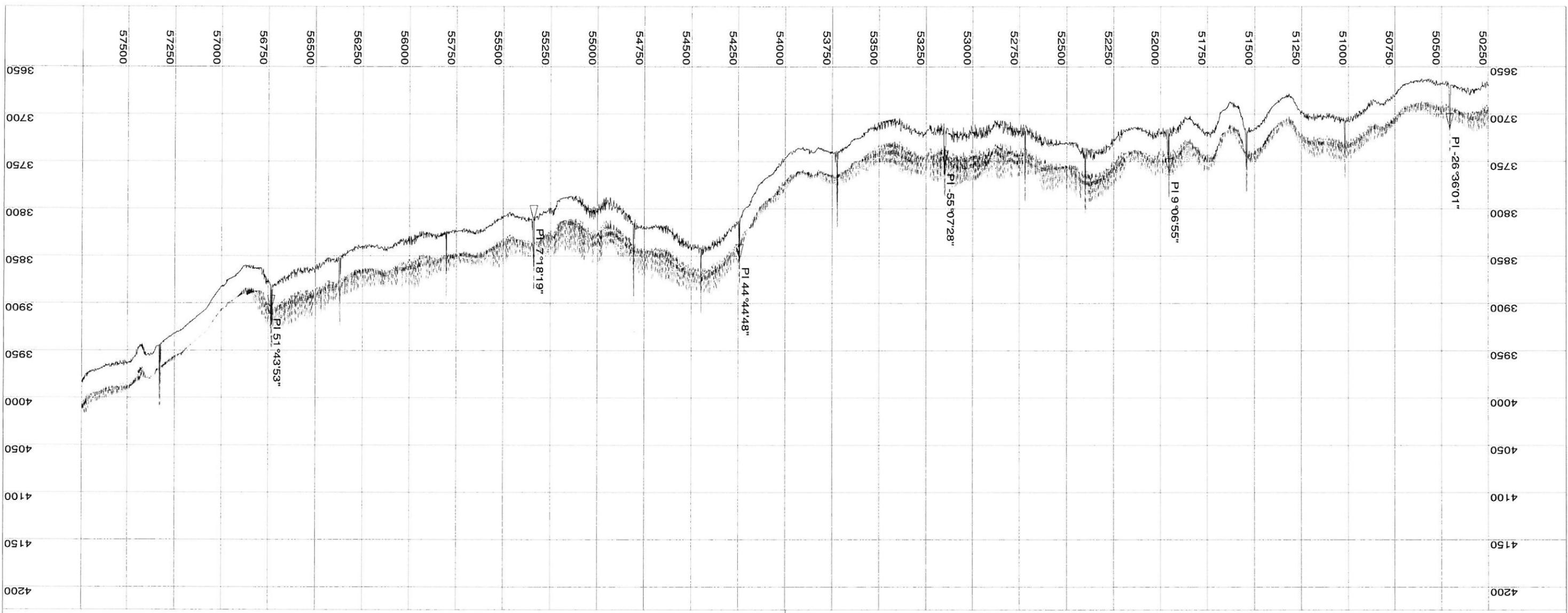


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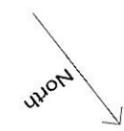


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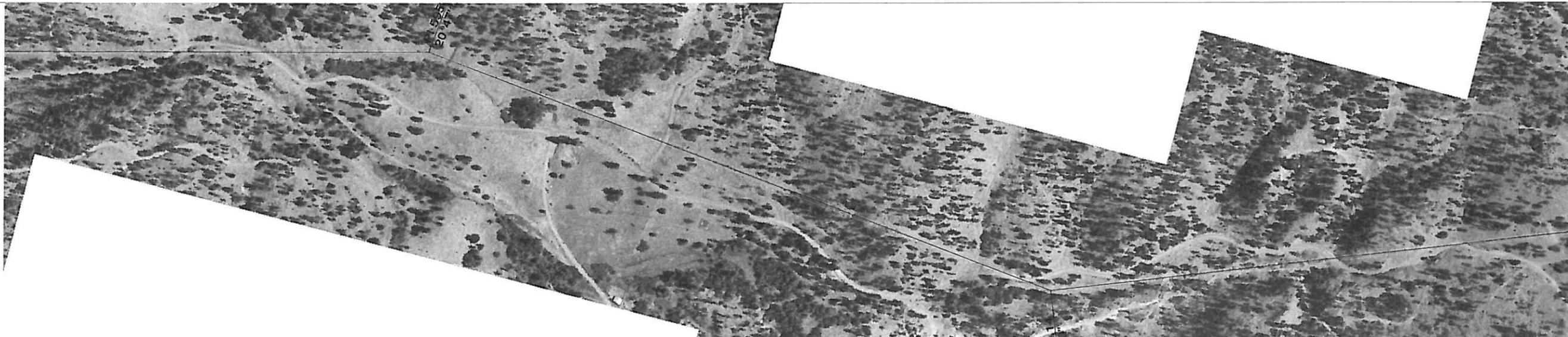


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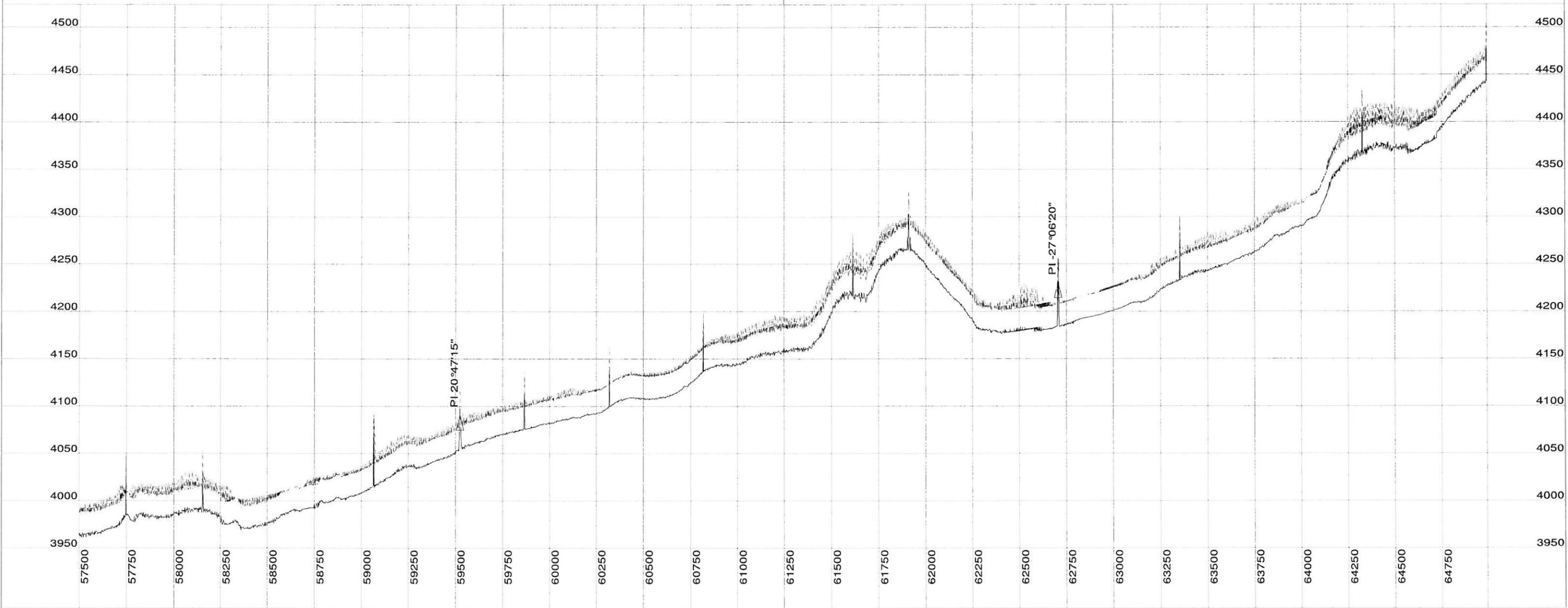


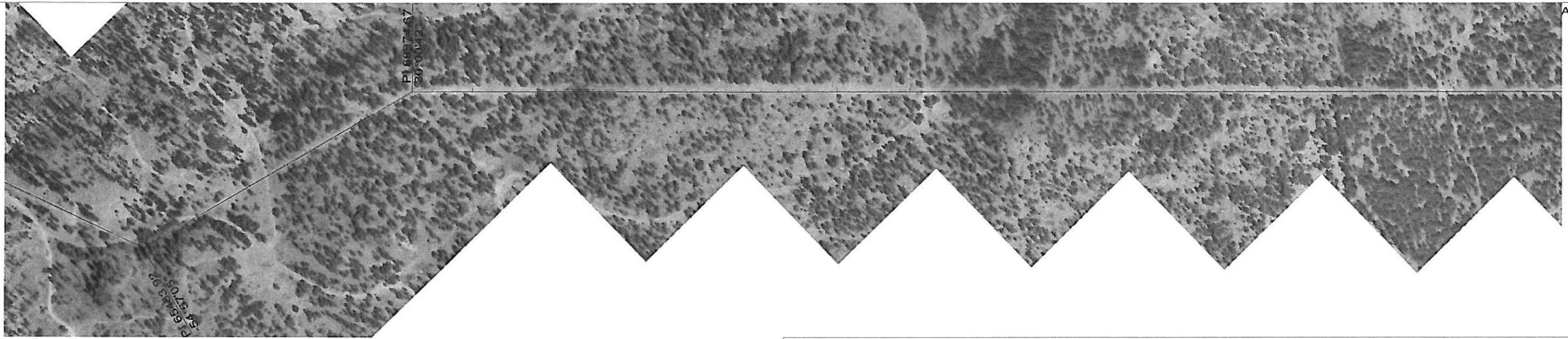
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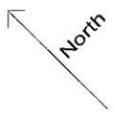
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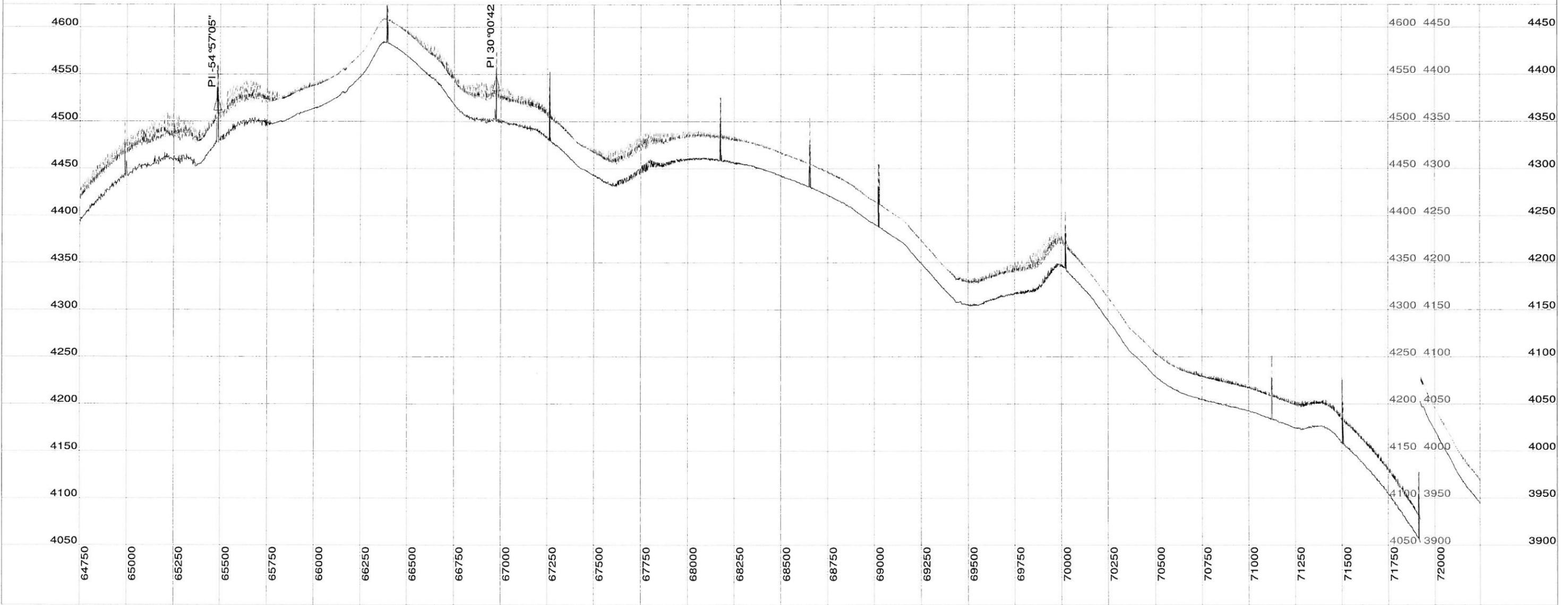


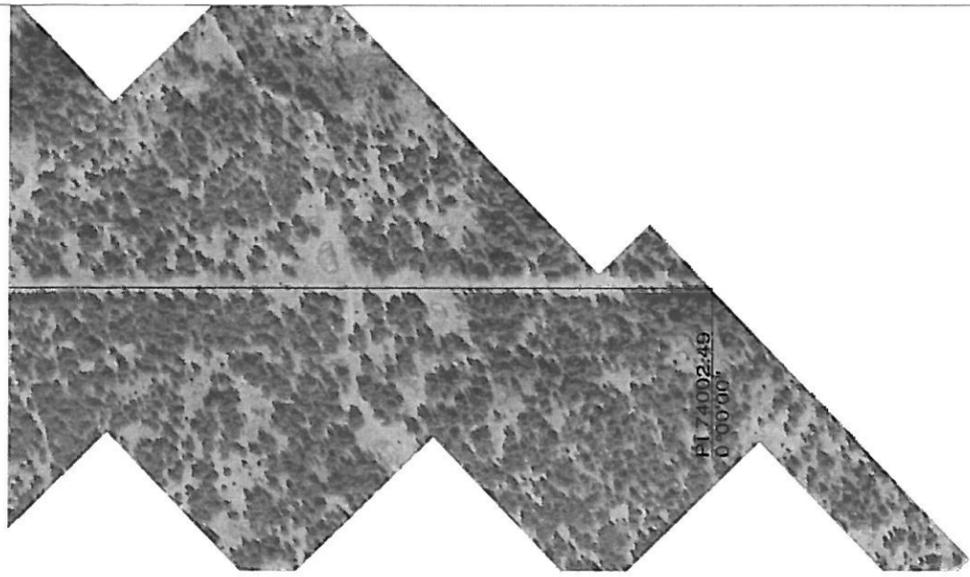
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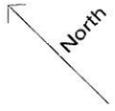
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