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Terri A. Lorenzon, Director
Environmental Quality Council

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4 October 2007
Brian R. Waitkus
80 Eagle Nest Lane
Laramie, Wyoming 82070

The following comments are in response to Mountain Cement Company's submission for public notice their proposal to mine Amendment 298C-A7 of mine permit 298c

1. Section DVIII6.2.2 Groundwater.

It is stated that " *Infiltration is higher on exposed sandstone, as compared to exposed limestone, due to the higher porosity of the sandstone*." and *"Hydraulic conductivity of the sandstone and limestone limits downward flow of water.*" In general, region wide geology covering the Casper formation limestones may have "*a conductivity of 0.8 ft/day*", this statement does not take into account the acknowledgment of open and sand filled fractures up to ±30 inches wide observed by Mountain Cement and the Wyoming Geologic Service of the Casper limestone in the adjacent Etchepare quarry to the east (Figure 1). This Area "C" portion of section 36 is highly jointed as noted on page DVII5-3 (Figure 2). I do not believe the aquifer properties of this area have been studied adequately and completely enough. Has Mountain Cement studied these open and sand filled fractures that pass through multiple beds of limestone and sandstone? Mountain Cement has still not attempted to preform trace analysis concerning the time it takes for water or various types of pollutants to reach the aquifer and Laramie's Solider Spring drinking water source. This section appears to discuss only the upward and horizontal movement of water and suggests that downward movement is impeded. Mountain Cement needs to address the downward movement of water and any potential fluid pollutants more throughly in light of this existing jointing and fracturing of the bedrock. As spills of liquid pollutants can occur outside of the Mountain Cement controlled fueling area prior to approving the amendment, I want Mountain Cement to test the porosity of the fractures and jointed bedrock in the mine areas (area "C" and existing etchepare mines) to determine the potential for polluting the aquifer.

2. Section DVIII6.2.3 Groundwater Quality.

Results of groundwater quality in Table DVIII6-2 are from the 1995/1998 mine plan. They are at a minimum 9 years old data. Why was this data not updated to provide the current status of the groundwater quality? Mountain Cement was supposed to be testing local water wells on a quarterly basis

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and Carl Toboga, had been collecting data for his dissertation on the Casper Aquifer for many years. Carl Toboga had completed work for the mine in the immediate vicinity of the proposed mine amendment area. This information should be included in the Mountain Cement's section on groundwater quality.

In addition Section DVIII6.2.4 stated that *"Impacts to the groundwater should be minimal, because of 1) the relatively shallow depth of mining activity, 2) the relatively near surface limestone extraction, and 3) mining will not occur within any saturation zones. "* The statement that the impact to the groundwater should be minimal is not correct . The operator does not know if there will be any impact and to what extent. This conclusion can be supported by the operator statement on page DVIII6-3 that "*Fractures and voids throughout the aquifer my further complicate upward and horizontal movement of water, due to changes in hydraulic conductivity within each feature*".

3. Appendix DVIII4 Climatology

Climatology data needs to be updated. The information provided from 1961-1990 is more than 17 years old. The direction, wind speed etc. has changed since this time. The period from the 1960 to late 1980s was a wetter colder period rather than the current xeric. This drier period is associated in this area with a wind direction predominately out of the southeast during the summer and out of the southwest during the winter. It is also questionable if the wind speed data collected at the Laramie airport 17 years ago represents the wind speed on the middle slopes of the Laramie Range. An accurate wind speed detailing maximum wind gusts in association with the wind direction is vitally important when considering the amount of fugitive dust or NOx that could impact local residences. Up to date and current climatological data are important for the potential dust and blasting issues.

4. It is stated on Page DVIII5-3 that "*Several faults have been identified along the western flank of the Laramie Range in the Etchepare amendment; however, none have been identified in the proposed limestone expansion permit*". Though no faults are known for the proposed project area, there does not appear to be any discussion on the series of northeast-south and the northwest-southeast trending fractures in this area. These fractures range up to ±30 inches wide in the adjacent Echepare quarry with some fractures surfically filled with sand and others completely open after removal of the rock overburden. Who did the geological survey for this area after discovery of the extensive fracturing of this area became known?

5. Mine Plan. Section MPVIII-3.8. On page MPVIII-4B, the last paragraph states "*MMC will notify Wyoming Department of Environmental Quality, Water Quality division of all spills of refined crude oil products which are in quantities greater than twenty-five gallons.*" It is my understanding that this 25 gallon requirement is considered an average amount before requiring it be reported, for all types of mines and in all geologic settings. I believe the size requirement for a reportable spill is much to high given the fact that the area "C" mining will occur within a portion of the Casper aquifer recharge area supplying local residents and the city of Laramie with water. This mining will occur on a highly fractured/jointed limestone and sandstone bedrock. It should be remembered that even one quart of oil can contaminate more than two million of gallons of water

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(http://www.cjnetworks.com/~sccdistrict/resubwt.htm October 2007). Do not let the average spill reporting size be the requirement at this location. Please consider a one (1) gallon spill a reportable spill.

6. Mine Plan. Section MPVIII-4.8.1 Surface Water Control Plan.
The last sentence on Page MPVIII-9 does not have ending.

7. Mine Plan. Section MPVIII-4.9. Public Nuisance and Safety.
NOx can and sometimes does result from blasting at the mine. Currently the prevailing winds appear to occur from the southwest and southeast, therefore NOx can prove to be a significant issue resulting from mining in Area"C". It is a fact that Mountain Cement has been cited for setting off blasts resulting in significant amounts of NOx. I would like to see a weather monitoring station be set up by Mountain Cement in the mine area to record wind speed and direction. Mountain Cement has indicated in the past that wind directions may have changed a short period before a blast sending pollutants toward residential areas. A recording weather station could prove Mountain Cement was correct.

NOx is an unintended and unwanted pollutant produced from incomplete ignition of explosive blasts. This new area "C" will be located to the south, east, and north of existing residential properties. Therefore it is very important that Mountain Cement and its subcontractors be extra vigilant when preparing and setting off their blasts. I am requesting that Mountain Cement be required to supply DEQ with a video tape of each blast they set off in area"C" containing sufficient video footage prior to and after the blast to be able to clearly see whether any NOx occurred, the direction of the blast cloud, and how long it takes for the cloud to dissipate. The tape should also record the wind speed, direction, date and time of the blast event. I have been told that Mountain Cement often tapes their blasts so this should only be a slight additional inconvenience. If a digital video recording device was utilized then good or reasonable quality copies could be made available to DEQ within one week of each blast. MPVIII-4.4.3 indicates Mountain Cement will already record location, date, and time of blast (a), and direction of prevailing wind at the time of blast (m).

On another note concerning blasting Mountain Cements "Permit application"[?] for permit 298C-A7 NE1/4 NE1/4 revised June 1, 2007 page MPVIII-7 #6 states "*Mountain Cement will try to avoid blasting when the wind is toward any residence or residential area within one mile of the permit boundary (currently there are no residences or other structures within one mile of the permit area, which is surrounded by grazing land. If a blast is prepared when the wind is toward a residence or residential area, the blaster may nonetheless detonate the blast.*" The distance to the nearest residence is blatantly incorrect. If the weather forecast and hopefully there own weather station indicates the winds are blowing towards nearby residences they should not be preparing their blast for that period/day. Therefore I am requesting these above statements be removed from the mine permit.

The amount of particulate emissions produced by the mine according to the air quality DEQ are determined by using a previously defined average wind speed of 13.4 mph. As the mine is located on the slopes of the Laramie Range southeast of town with higher average wind speeds truck loading and stockpiling emissions will likely be a nuisance and safety issue. Also with times of higher local wind speeds presumably more pollutants would go into the area at this time. To aid in the reduction of fugitive dust when wind speeds reach a certain point, say over 10 mph, Mountain Cement should be required to have a water truck on site and in operation. The wind speed portion of a weather station, noted above, would indicate when the water trucks would be required to be there continuously . By having a recording weather station these records should complement the log book required by Air Quality DEQ.

If screening of the mined limestone is utilized to reduce the amount of silica associated with the limestone matrix in area "C" the amount of dust produced could be extensive. Water should be required

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to be sprayed on and around the loading and screen equipment while any screening is in operation.

Light pollution can be addressed by stating that any lighting, other than headlights on vehicles, used to illuminate the mining and processing operations will be positioned to face only from the southeast to avoid directing light onto adjacent residential properties.

Noise pollution results at these mines from blasting, crushing, screening, loading, backing up of vehicles, generators, heaters etc.. Noise pollution is an inadvertent consequence of the mining process though Mountain Cement can reduce the problems associated with noise pollution. I would like to see any crushing or screening operations be screened by sediment berms the height or higher than the machinery used extending past the length of the machinery and placed immediately adjacent to the north side of these operations. This will protect the nearest residential properties to the north. This berming would be an aid in the reduction of overall mining noise reaching these properties.

8. Section MPVII 4.8.9 Ground water monitoring well (MCNW#1) baseline information data collected before the initiation of mining in area "C" should be sent to Land Quality DEQ prior to the start of mining not only in the annual report in the spring.

Mountain Cement Company will also be completing the monitoring of local wells during the mining of the Etchepare mines and area"C". The monitoring was to be done on a quarterly basis. From the information in their annual report this testing has not been completed on quarterly basis but appears to have been done sporadically. I would like to see a statement in the mine plan that Mountain Cement will commit to water well testing on a quarterly basis.

9. Section RPVIII-6.0 Reclamation Schedule.
It is stated that "*Reclamation activities will be completed in each RP-3 block within approximately 2 years after mining is completed in limestone Area C mining area.?"* What does the RP-3 block mean?

It should be also stated in the permit that the reclamation of the area should start within <u>one year</u> from the completion of mining. This is in addition to their statement that reclamation will be <u>completed approximately</u> within two years of the completion of the mining in area "C".

10. Section MPVII-4.10 Archaeological and Palentological Resources.
It is stated that "*...paleontological resources have not been observed within area"C" limestone quarry area.*" I would like to see any study or data collected to backup this statement. If any study was completed on state lands this report should be made public. Who completed this study? Paleontological studies are not required to be kept away from the general public as is the case for archaeological studies.

11. Section MPVII-4.11 Wildlife Monitoring and Protection Plan. As stated above the climate has been changing in the Laramie basin and range over the past ± 15 years. This has altered the movement of wildlife. An example of a change of land use in this area is the lark bunting now inhabits the area. Location maps for this bird do not include this area within their range. As a untrained bird watcher who noted this new bird, I am wondering how many more or different species now inhabit this area due to the xeric and warmer conditions.
This section also states "*In the event a raptor does nest within an area affected, the U.S. Fish and Wildlife Service (USFWS) will be contacted... Use of the area by other birds of federal interest will also be reported to the USFWS...*" Does Mountain Cement have a wildlife biologist on staff? Are areas within ½ mile of the existing and proposed mine areas surveyed in late winter through spring for new or

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re-used nest sites? I think Mountain Cement should be required to have biologists monitor wildlife on a quarterly or at minimum a biannual basis.

The mine permit for 298c in 1995 indicated that elk were noted in the vicinity of the mine area. Though Wyoming Game and Fish states this is not a critical habitat area why would elk move into this area for a period of time in the late fall and winter when elk are not normally here year round unless it actually is a critical habitat for them. The last two years elk have been observed on my property during this time period. It is possible that more studies need to be undertaken to determine if critical wildlife areas are changing or expanding.

12. Section MPVIIIA-1 Stormwater Pollution.
Cover page for permit Authorization #WYR320346 indicates it expired on March 31, 2007

13. DVIII6 Hydrology. Map DVIII6-M3 shows three drainages in Area "C": 1. Un-named drainage on the north side of area, 2. E12 drainage running east-west in the center of area "C", 3. E9 drainage along the south side. Map MPVIII-M1 shows two mining areas in area"C". The northern one is located between the un-named drainage and drainage E12. The southern mine area is located between E12 and E9 drainages. DVII6-1 states that "*Ephemeral drainages (E12) and (E9) bound the mining area on the north and south sides*" This plan has many inconsistencies such as this one and they should be corrected before allowing the mining of this area to precede.

14. DVIII6-3.1 Drainage Basin description.
Why does this section describe drainage E10. This drainage does not occur in area "C".

15. DVIII6.3.3 Surface Water Quality.
The permit states" *MCC has not specifically collected surface water quality suspended sediment data for any of the watersheds affected by the quarry, as in-channel flows have not been observed through the amendment area.*" Mountain Cement has been in this area for a long time. Spring run off for many years resulted in in-channel flows. In addition to this Mountain Cement was sited for allowing sediment from their mine area to flow into these drainages during a rain event. If the company does not look for the in-channel flow then apparently it can not be observed.

16. DVIII6.3.4 Channel Geometry.
It is stated that "*The primary channels associated with quarry (E9 and E12) will not be affected or modified during mining activities.*" Map RPVIII-2 indicates a sediment control pond will be built at the west end of the E12 drainage in area "C". This would suggest this portion of the drainage will be affected. Is the statement or the map correct?

17. RPVIII-2.0 Post mining Land Use.
It is stated that " *The post mining land use will be livestock grazing, which is consistent with the pre-mining uses.*" The pre-mining land use was stated to be used by both wildlife and livestock. The above statement is not correct and should be corrected in the mine plan.

18. MPVIII-4.4 Blasting .
It is stated that " *There could be homes within one-half mile of the active quarry pit.*" There are homes within one half mile of the proposed quarry pits. This statement should be re-written to correct this statement.

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19. RPVIII-5.O Permanent Seed Mixtures.
On Pages DVIII8-A-1 to A-2005 table describing the plants occupying the area "C" mine permit area, 19 grasses, 92 forbes, four half shrubs, 12 shrubs, and one tree were recorded. The shrubs do not include three additional shrubs occurring in the proposed mine area (*Artemisia cana* silver sagebrush, *Amelanchier spp* serviceberry, *Mahonia aquifolium* oregon grape, and *Symphoricarpos albus* snowberry) bringing the shrub total to 95. Table RPVIII-2 Permanent seed mixture is suggesting that a minimum of eight grasses, four shrubs, 1 subshrub, and two shrubs will form the seed mix. Compared to the 2005 observed plant species list this indicates that 42% of the grass numbers (8) will be in the seed mix, 0.43% for forbes (4), 25% for subshrubs (1), 16% for shrubs. The previous and post mining use of the land is for wildlife and livestock grazing. I believe the species numbers of forbes and shrubs is much to low to provide a diversity of plants for wildlife. It should be remembered that both the divides between drainages and the drainage bottoms will be affected by mining activities (sediment control pond). If the same percentage of forbes and shrub species were planted as grasses this would be 38 species of forbes and six shrubs (when adding the four additional shrubs). The four shrubs listed in Table RPVIII-2 are visually the dominate shrubs on the drainage divides. Replanting all of these are a good start but other shrubs are likely as important or more important for wildlife. Antelope bitterbrush is a very important winter plant for antelope. I do not see a discussion in the proposed mine permit on which forbes and shrubs are important to which wildlife for food, cover, etc., then basing numbers and species choices on this research. Common juniper (a shrub) is not listed in the re-vegetation of the area. This plant found in the proposed mine areas of area"C" produces both fruit for food and is used as cover. The plant unlike Rocky Mountain juniper is not even considered for replanting, though it should.
I would like to see more a large increase in the forb and shrub re-vegetation species list following a data search of their uses by the local fauna.

20. Nothing was noted concerning roads constructed or resulting from actions of Mountain Cement in area "C". Roads created by Mountain Cement construction or by minimal use without actual construction become permanent marks on the landscape. Any permanent road can legally be used by the motoring public. Prior to Mountain Cement actions no constructed or user created roads existed in area "C". Mountain Cement heavy equipment, trucks, etc. are beginning to create two track paths/roads. I would like to see a statement in the mining permit that Mountain Cement will reclaim all roads/two track paths at the conclusion of their mining and reclamation of area "C".

The permit for 298C-A7 has many inconsistences and inaccurate statements, with only a few of these noted above. I would like to see these inconsistences corrected and the inaccurate portions altered prior to giving Mountain Cement approval to mine in area "C". Inconsistences in the past have been problems for both the DEQ and adjacent landowners. Mountain Cement can and has chosen the inconsistency that aids them claiming it is in the approved mine plan even though the other inconsistency may be contrary to their claim. Again the inconsistences and inaccuracies need to be addressed and fixed.

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Figure 1. Sand filled fracture exposed at the present surface and now in the wall of Etchepare 7A east of Area "C".

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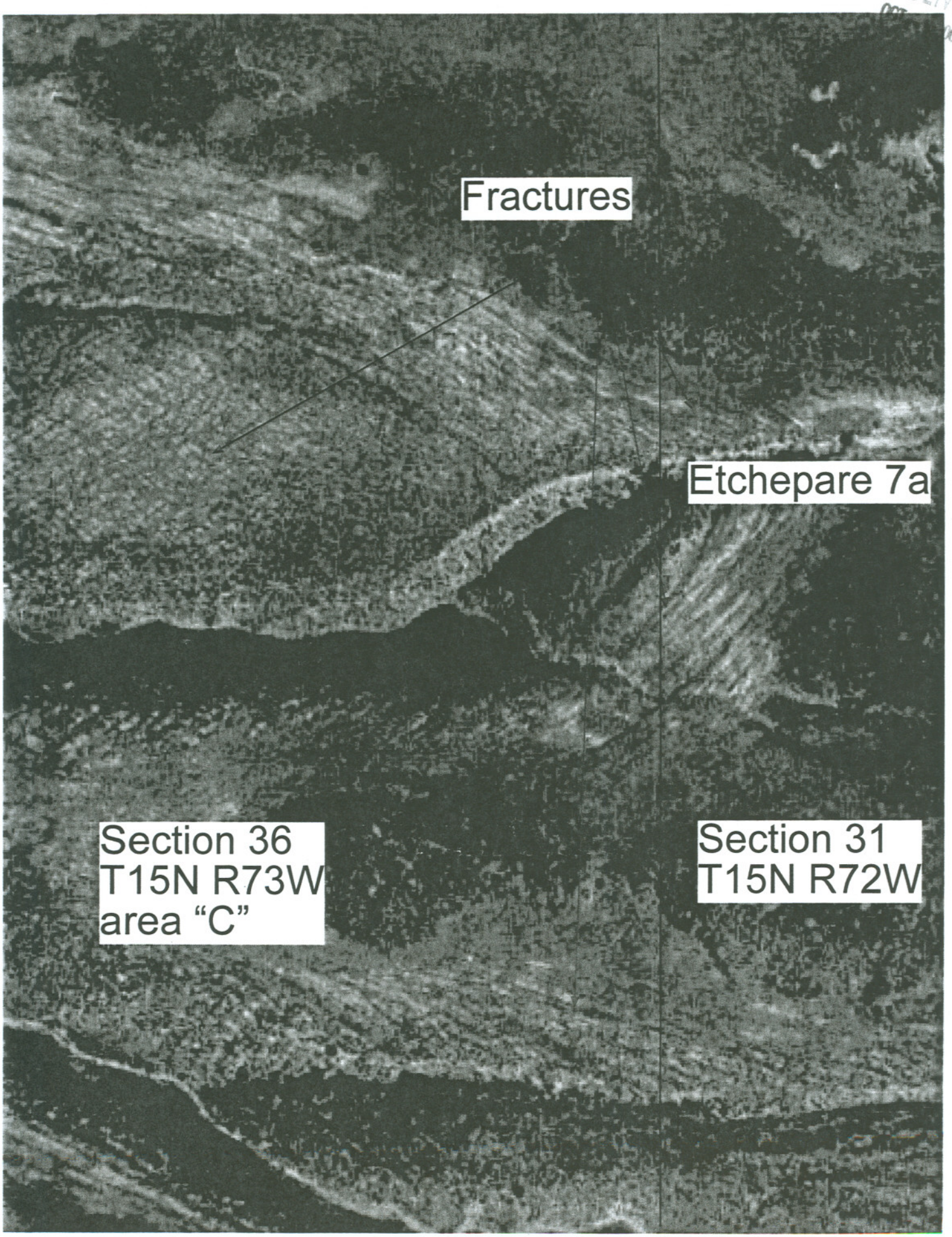

Figure 2 Air photograph of the Area "C" mine area and Etchepare 7a showing fractures in the ming areas.