

Legend

- **Equipment** – The make and model of the device(s) whose function is being demonstrated
- **Test Site** – provide a unique reference code to the attached diagram (unique select three letters that will be unique to your company insert hyphen then 6 digit date insert hyphen then a unique letter for that test example ABC-051607-A)
- **Comm Type** – what type of communications used between the miners
- **Distance between the miners** – provide the demonstrated distance between the miners
- **Height** – what is the height of the entry or crosscut noting
- **Width** – what is the width of the entry or crosscut
- **Scenario** – relevant demonstration scenario number from list below (if not one of the standardized scenarios a description is required) (not all may be relevant to all technologies)
- **Notes** – any thing you feel are relevant for understanding
- **SIO Score** – this is a relative communication quality score (displayed as S#, I#, O#) (see “Reporting the Quality of Communications in Underground Mines” on the WV OMHS&T web site for further explanation)

Signal Strength Interference of any type Overall Quality

5-Excellent	5-No interference	5-Excellent
4-Good	4-Very slight	4-Good
3-Fair	3-Moderate	3-Fair
2-Poor	2-Heavy	2-Poor
1-Useless	1-Extreme	1-Unusable

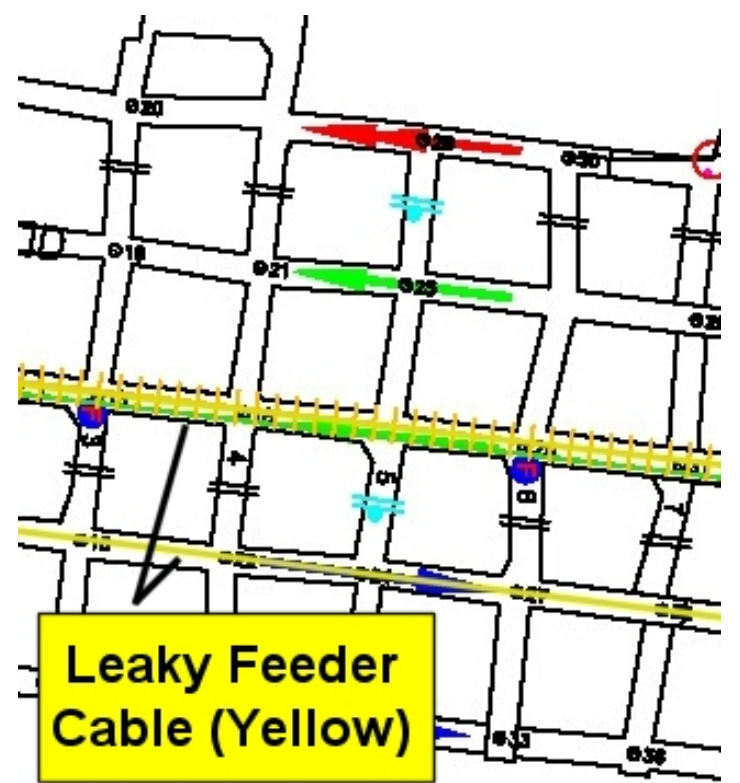
Process Notes:

This demonstration assumes that all backbone equipment has ceased to function. It can not require the function of any devices other than the ones the miners carry with them.

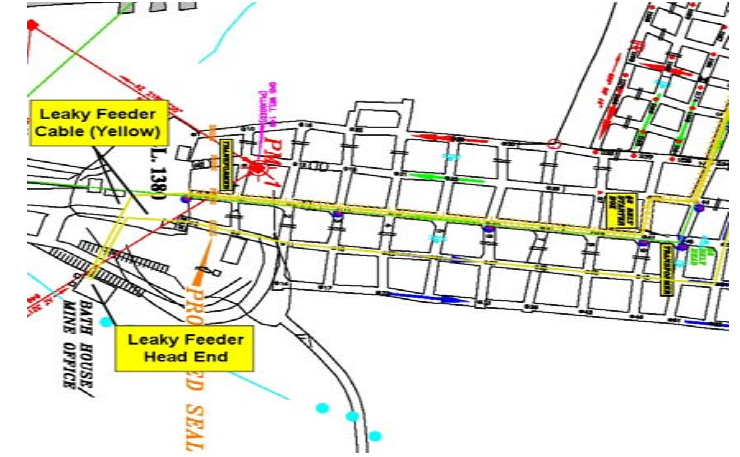
1. An entry or crosscut with an axis that allows for uninterrupted line-of-sight
2. An entry or crosscut with an axis that has a curvature which precludes line-of-sight
3. An entry or crosscut with an axis that contains a belt noting belt width & placement
4. An entry or crosscut with an axis that contains a metal overcast
5. An entry or crosscut with an axis that contains a wire-mesh roof
6. An entry or crosscut with an axis that is blocked by stopping noting type
7. An entry or crosscut with an axis that has a power line parallel to path of transmission
8. The effectiveness to transverse one or more coal pillars

Equipment	Test Site	Comm Type	Distance Between Miners	Entry/Crosscut Conditions				SIO Score
				Height	Width	Scenario	Notes	
MineCom MCA1000 with Kenwood TK-290	PBE-061207-V1	VHF Leaky Feeder	400 FT	75"	18 FT	1 / 3 / 7	2 Miners in belt/truck entry with 42" belt on right side of entry as entering mine with LF cable	555

Top View



Relative Mine Location

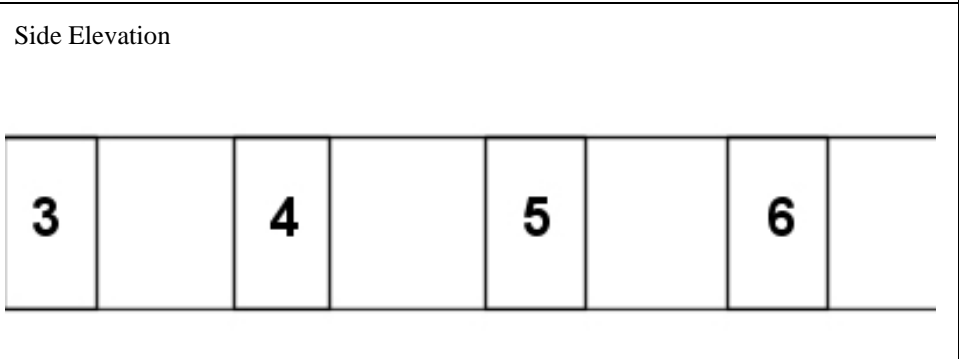
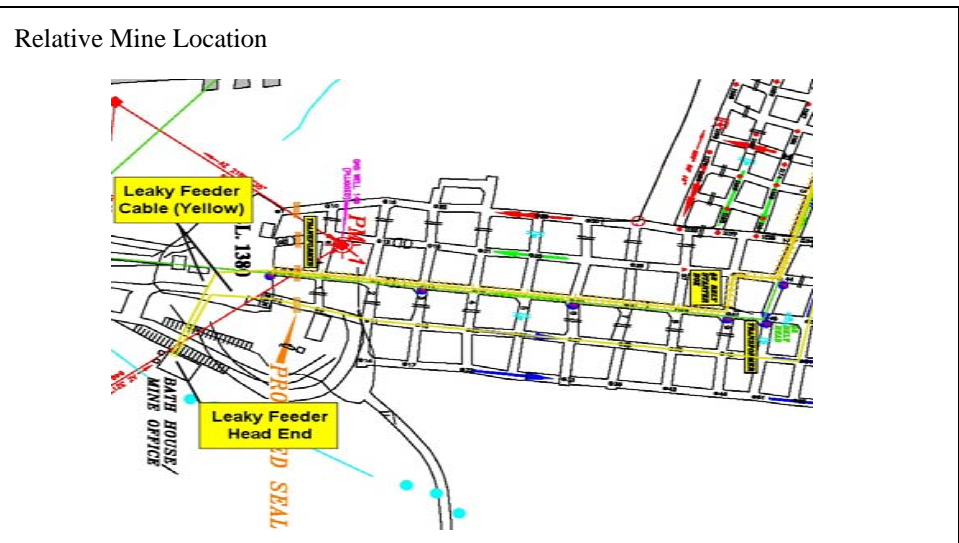
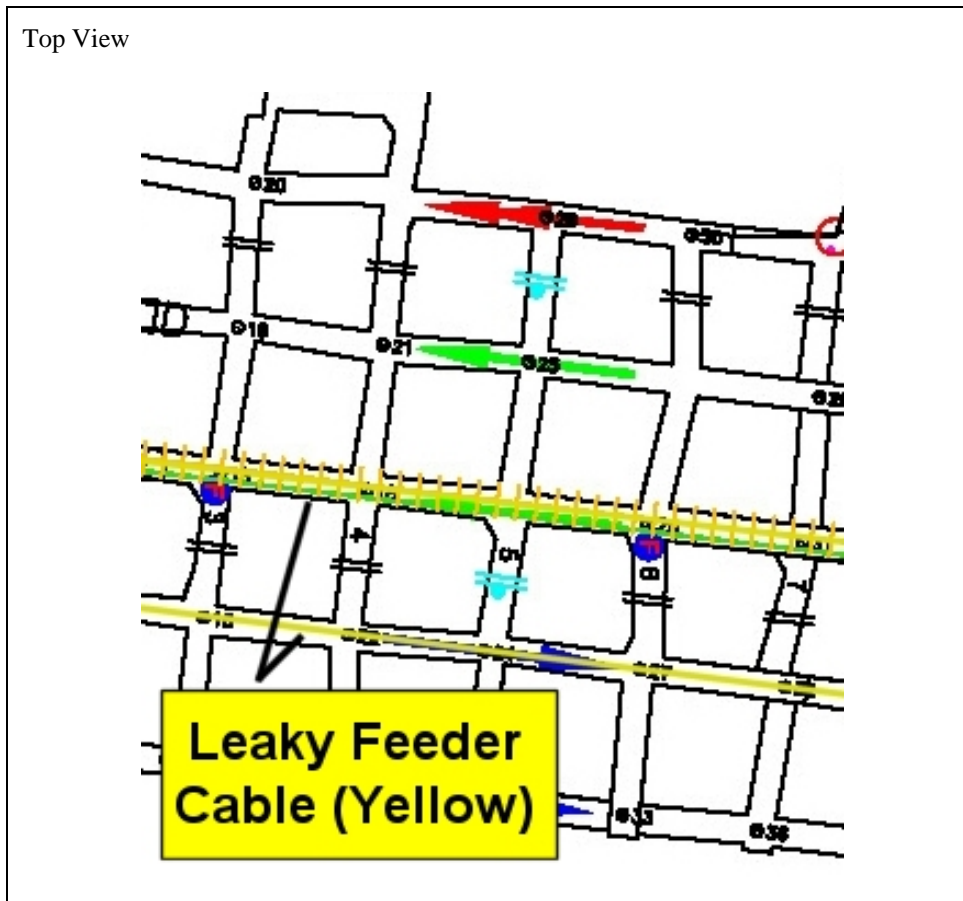


Side Elevation

3	4	5	6
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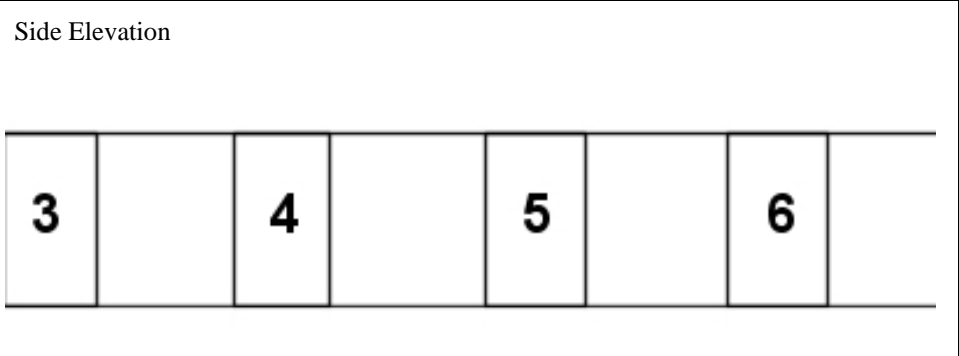
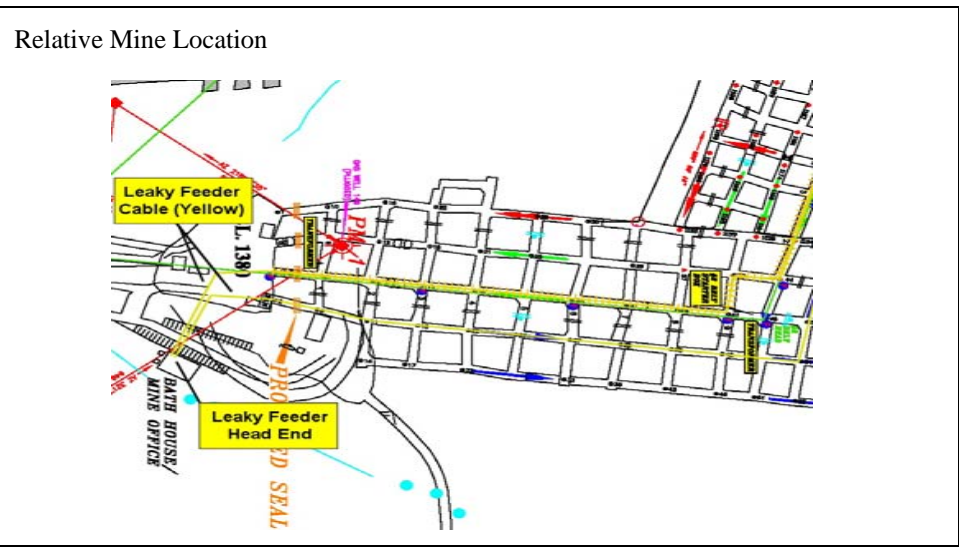
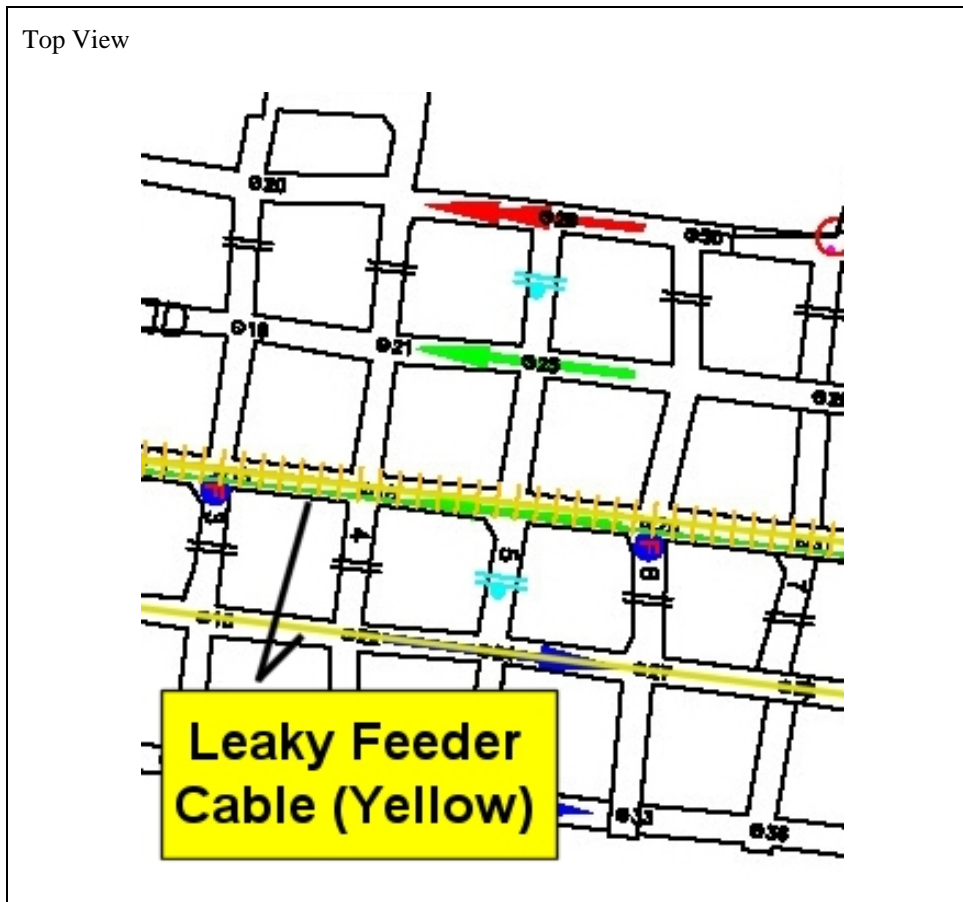
Name of Mine Alex Energy Jerry Fork Eagle	Date of Testing June 12, 2007	Certifying Engineer John Rinehart
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Equipment	Test Site	Comm Type	Distance Between Miners	Entry/Crosscut Conditions				SIO Score
				Height	Width	Scenario	Notes	
MineCom MCA1000 with Kenwood TK-290	PBE-061207-V2	VHF Leaky Feeder	400 FT	75"	18 FT	3 / 6 / 7	1 miner in the fresh air intake right of track entry separated by block stopping, 1 miner in belt/track entry with 42" belt on right side of entry as entering mine, LF cable installed in both entries	555



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Equipment	Test Site	Comm Type	Distance Between Miners	Entry/Crosscut Conditions				SIO Score
				Height	Width	Scenario	Notes	
MineCom MCA1000 with Kenwood TK-290	PBE-061207-V3	VHF Leaky Feeder	400 FT	75"	18 FT	3/ 6 / 7	1 miner in the fresh air intake separated by block stopping from belt/track entry, 1 miner in belt/track entry with 42" belt on right side, LF cable installed in track entry only	111



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Miner to Surface Test Data

Equipment System/Miner	Test Site	Comm Type	Distance from Backbone or Node	Entry/Crosscut Conditions				SIO Score	Distance from Surface Comm-Center	Number Amps/Nodes to Surface Comm-Center
				Height inches	Width feet	Scenario	Notes			
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS1	VHF Leaky Feeder	50 FT	75"	18 FT	1 / 3 / 7	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry	555	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS2	VHF Leaky Feeder	80 FT	75"	18 FT	1 / 3 / 7	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry	555	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS3	VHF Leaky Feeder	100 FT	75"	18 FT	1 / 3 / 7	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry	444	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS4	VHF Leaky Feeder	120 FT	75"	18 FT	1 / 3 / 7	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry	333	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS5	VHF Leaky Feeder	150 FT	75"	18 FT	1 / 3 / 7	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry	111	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS6	VHF Leaky Feeder	90 FT	75"	18 FT	1 / 3 / 7 / 8	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry, able to communicate 5-10 FT around pillar	333	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS7	VHF Leaky Feeder	50 FT	75"	18 FT	1	Miner in fresh air intake with leaky feeder cable	555	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS8	VHF Leaky Feeder	80 FT	75"	18 FT	1	Miner in fresh air intake with leaky feeder cable	222	1000'	0
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS9	VHF Leaky Feeder	100 FT	75"	18 FT	1	Miner in fresh air intake with leaky feeder cable	111	1000'	0

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- **Test Site** – provide a unique reference code to the attached diagram (unique select three letters that will be unique to your company insert hyphen then 6 digit date insert hyphen then a unique letter for that test example ABC-051607-A)
- **Comm Type** – what type of communications used between the miner and the system that allows communications to the surface
- **Distance from backbone** – provide the demonstrated distance between the miners and the first component of any system that allows the two-way communication with the surface communication center
- **Height** – what is the height of the entry or crosscut noting
- **Width** – what is the width of the entry or crosscut
- **Scenario** – relevant demonstration scenario number from list below (if not one of the standardized scenarios a description is required) (not all may be relevant to all technologies)
- **Notes** – any thing you feel are relevant for understanding
- **SIO Score** – this is a relative communication quality score (displayed as S#, I#, O#) (see “Reporting the Quality of Communications in Underground Mines” on the WV OMHS&T web site for further explanation)

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- **Distance from comm.-Center** – provide the total distance from the point where the miner’s communication entered any backbone systems and the communication center on the surface
- **Number of Amps/Nodes Comm-Center** – provide the number of powered components required between the device reading the tag and signal tracking device and the surface

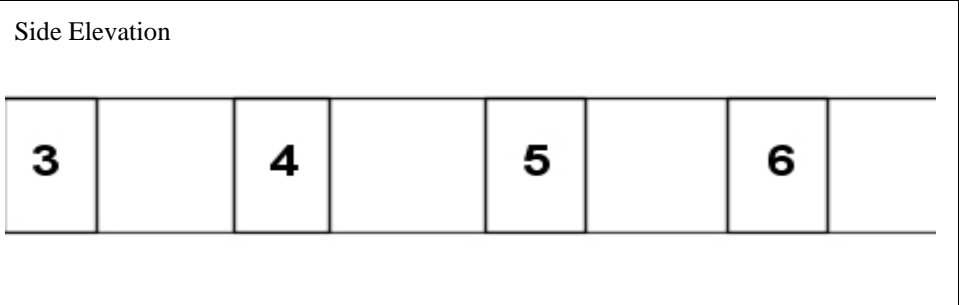
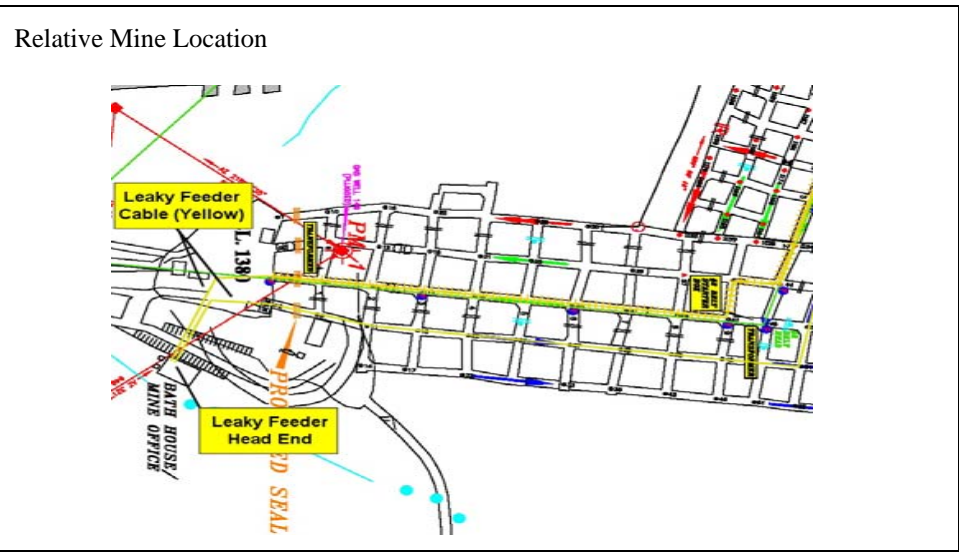
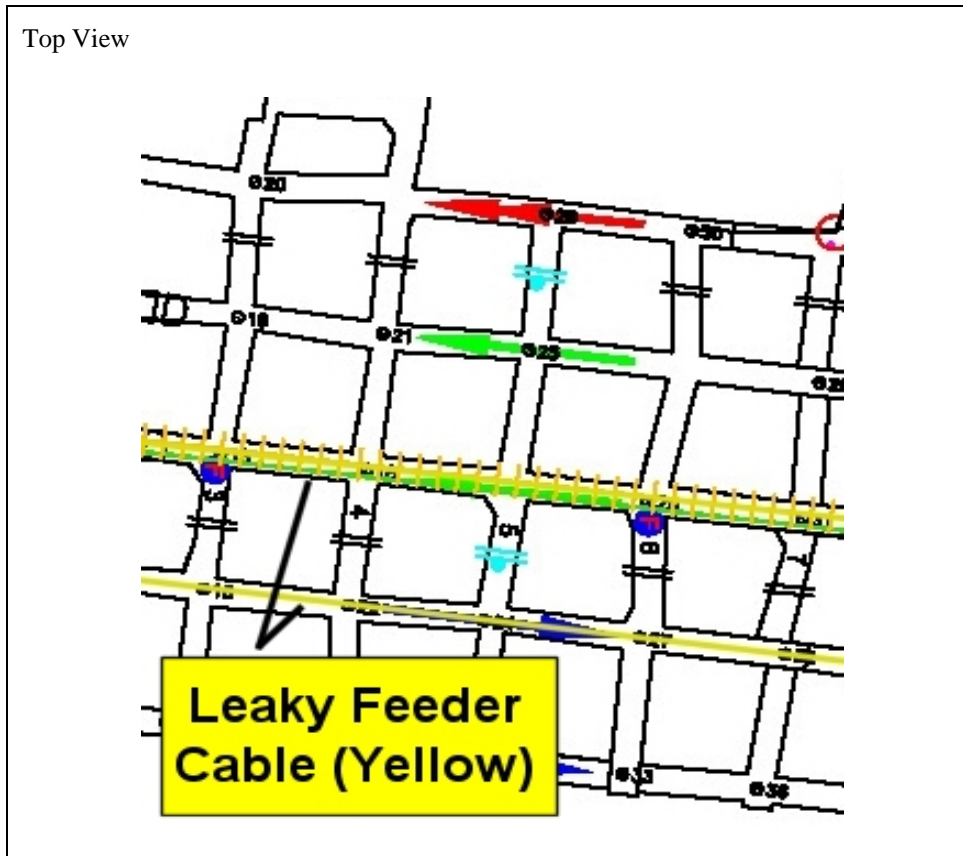
Process Notes:

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1. An entry or crosscut with an axis that allows for uninterrupted line-of-sight
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3. An entry or crosscut with an axis that contains a belt noting belt width & placement

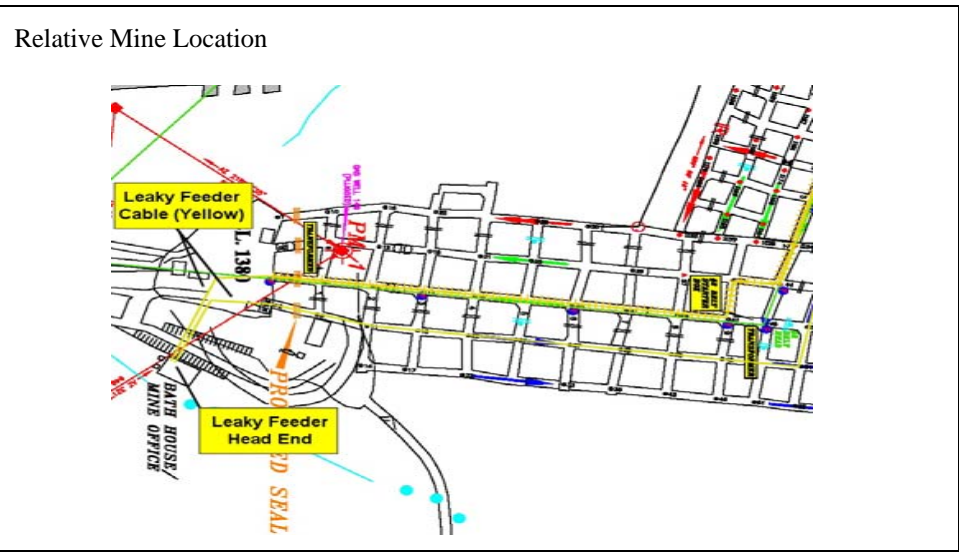
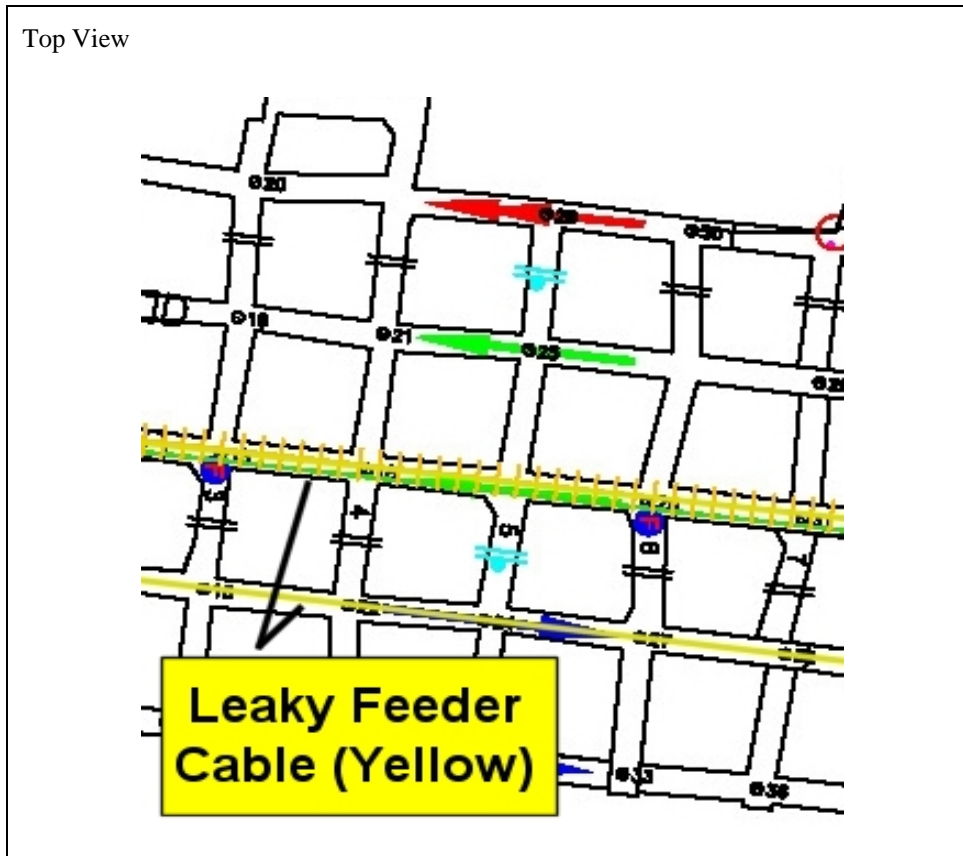
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Equipment System/Miner	Test Site	Comm Type	Distance from Backbone or Node	Entry/Crosscut Conditions				SIO Score	Distance from Surface Comm-Center	Number Amps/Nodes to Surface Comm-Center
				Height inches	Width feet	Scenario	Notes			
MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS1	VHF Leaky Feeder	50 FT	75"	18 FT	1 / 3 / 7	Miner in left crosscut 5 of track/belt entry with 42" belt on right side of entry	555	1000'	0



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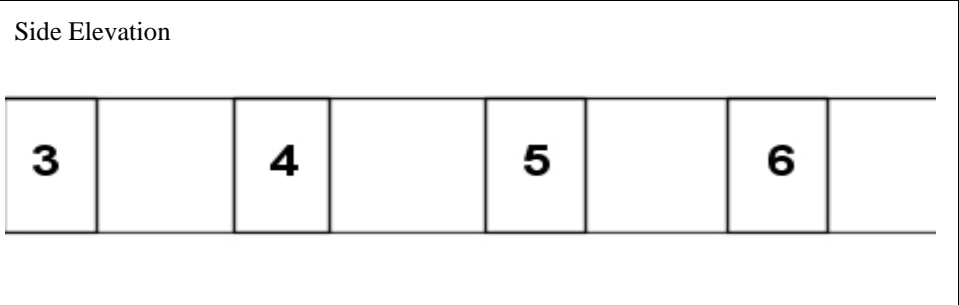
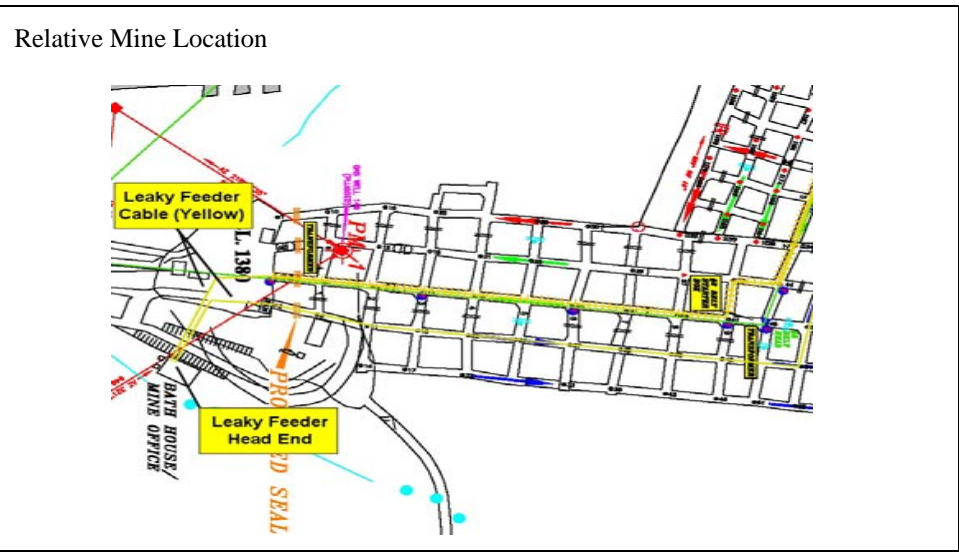
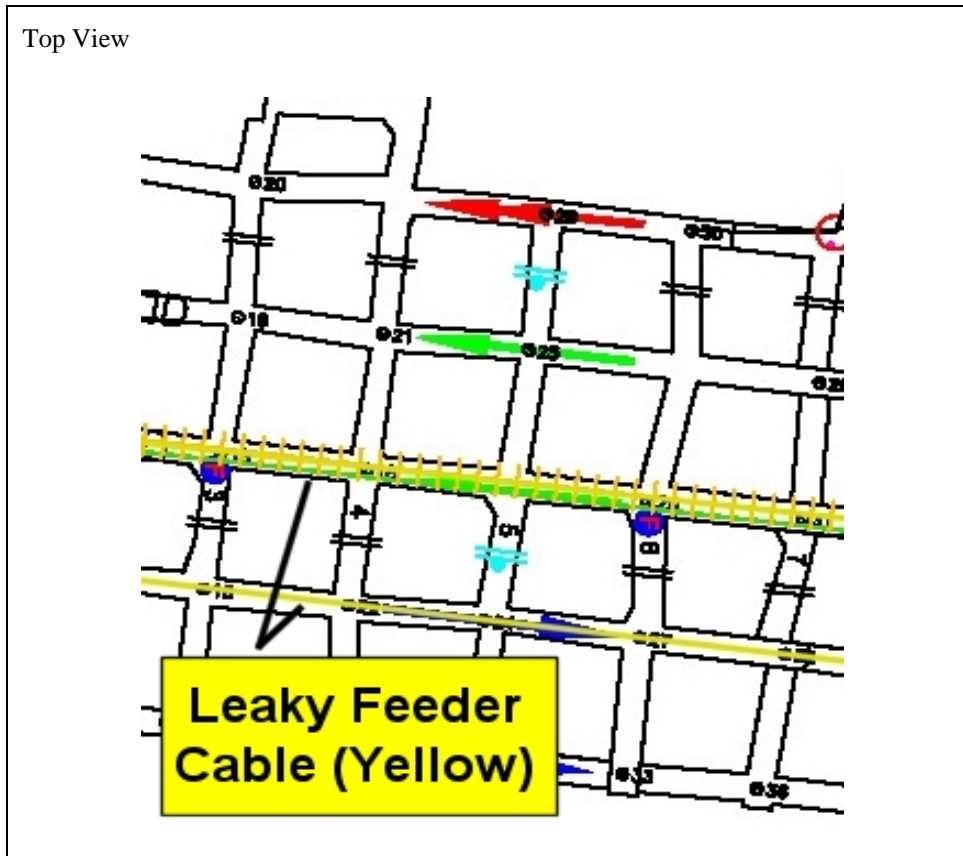


Side Elevation

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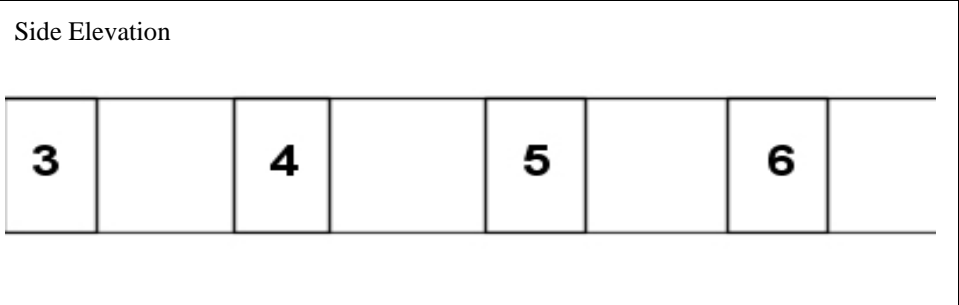
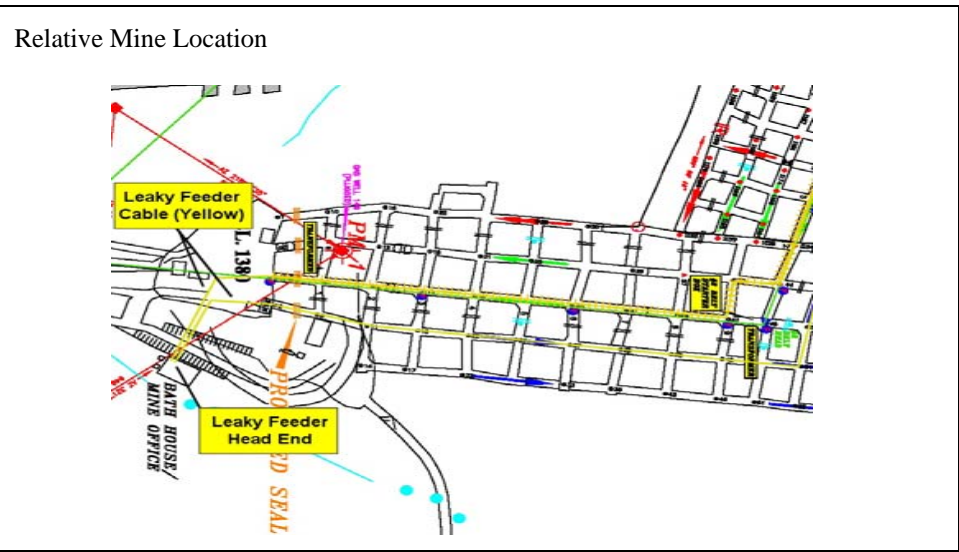
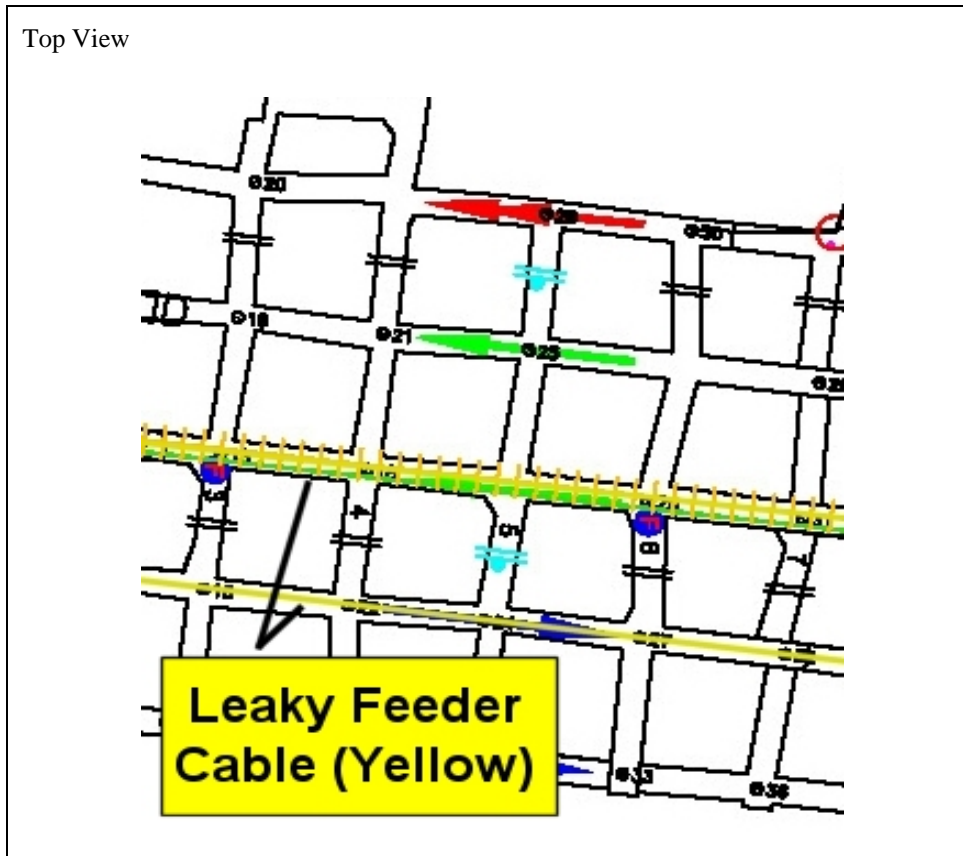
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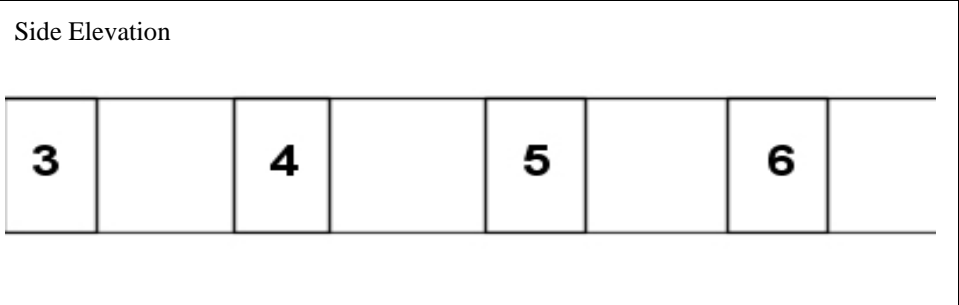
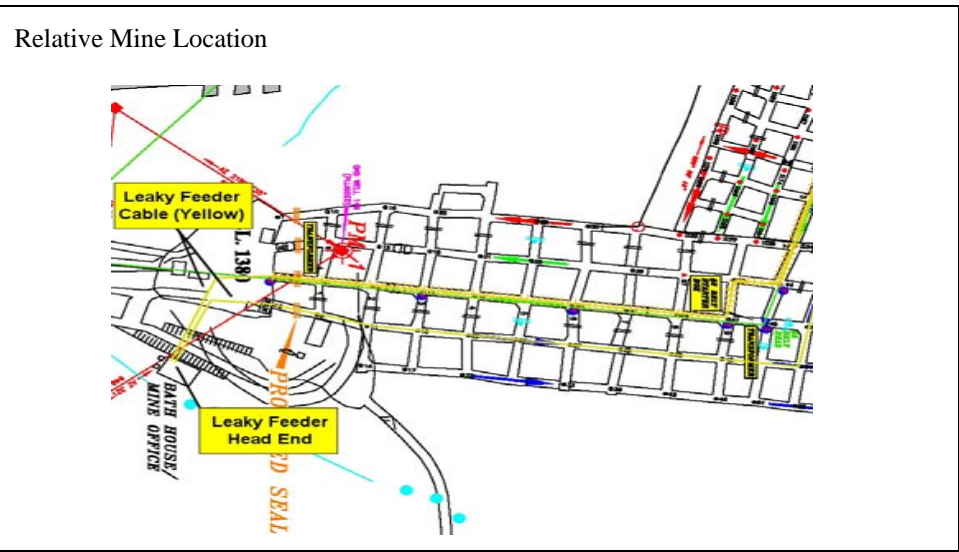
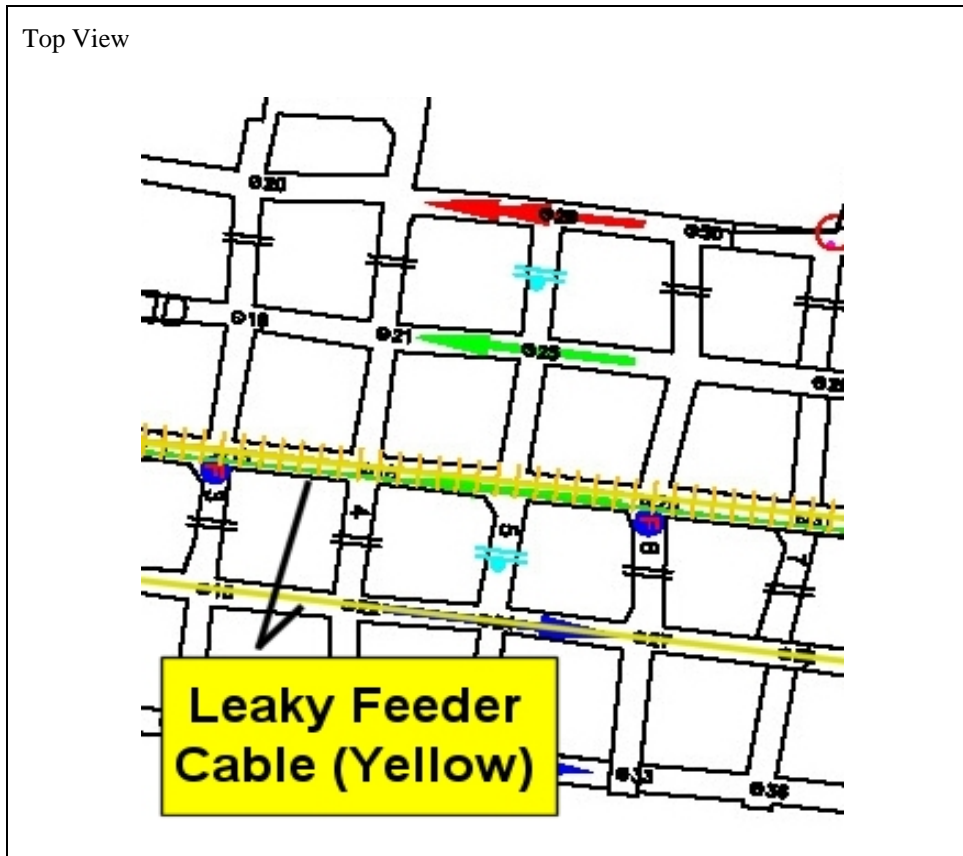
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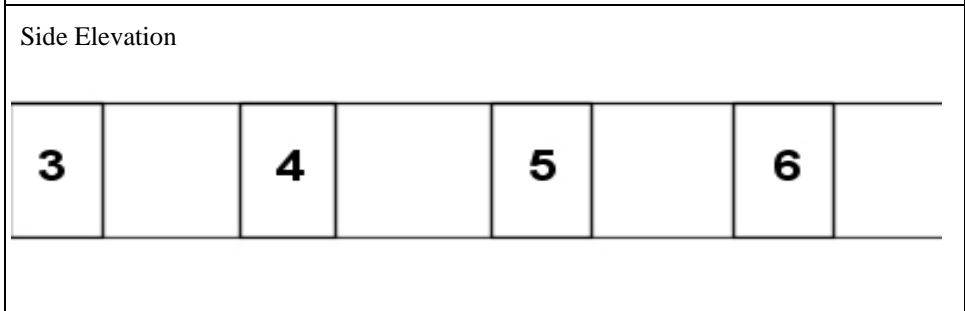
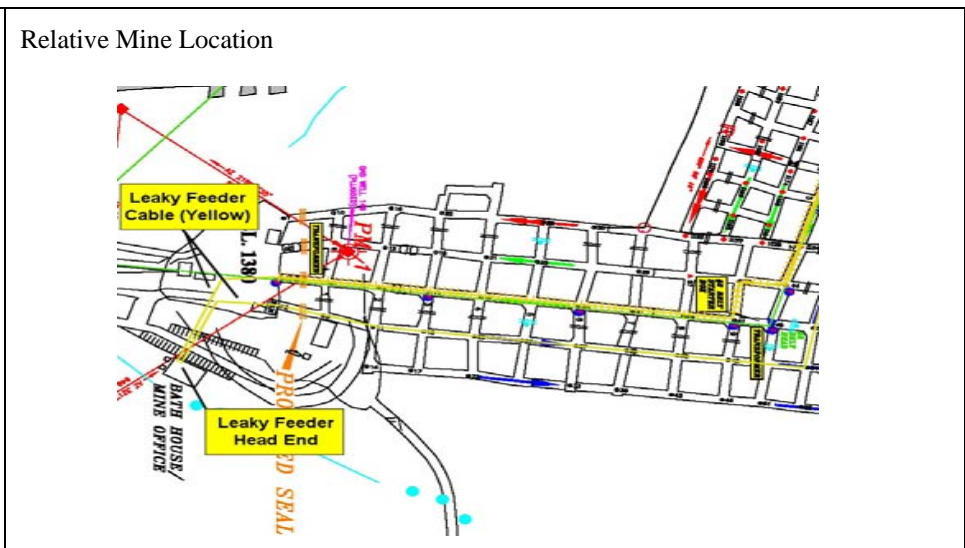
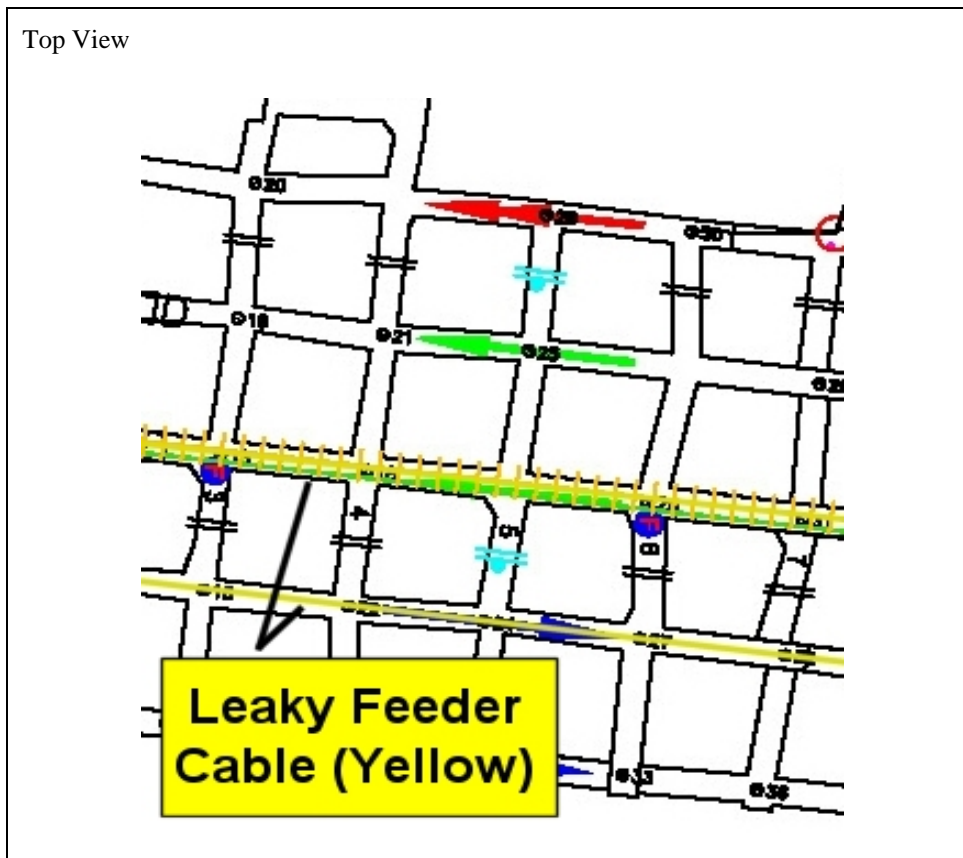
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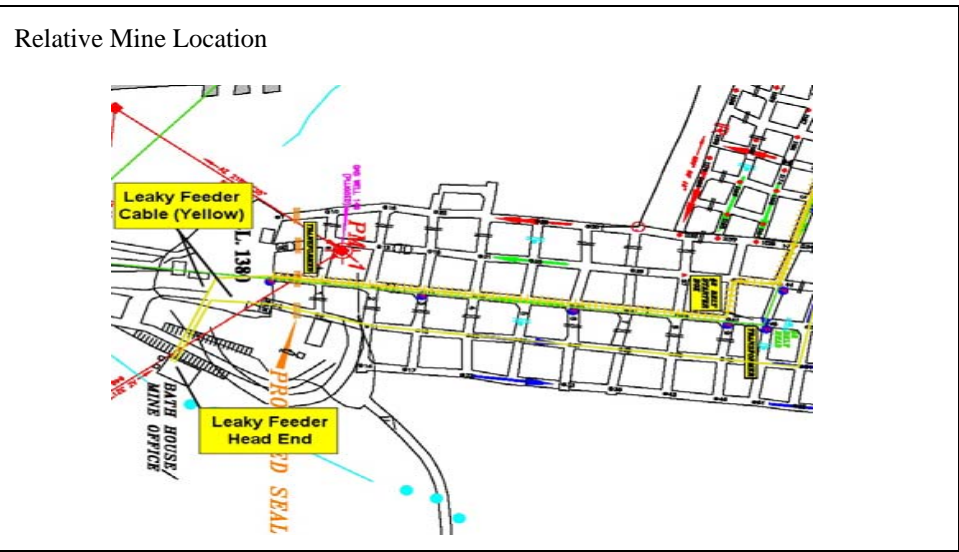
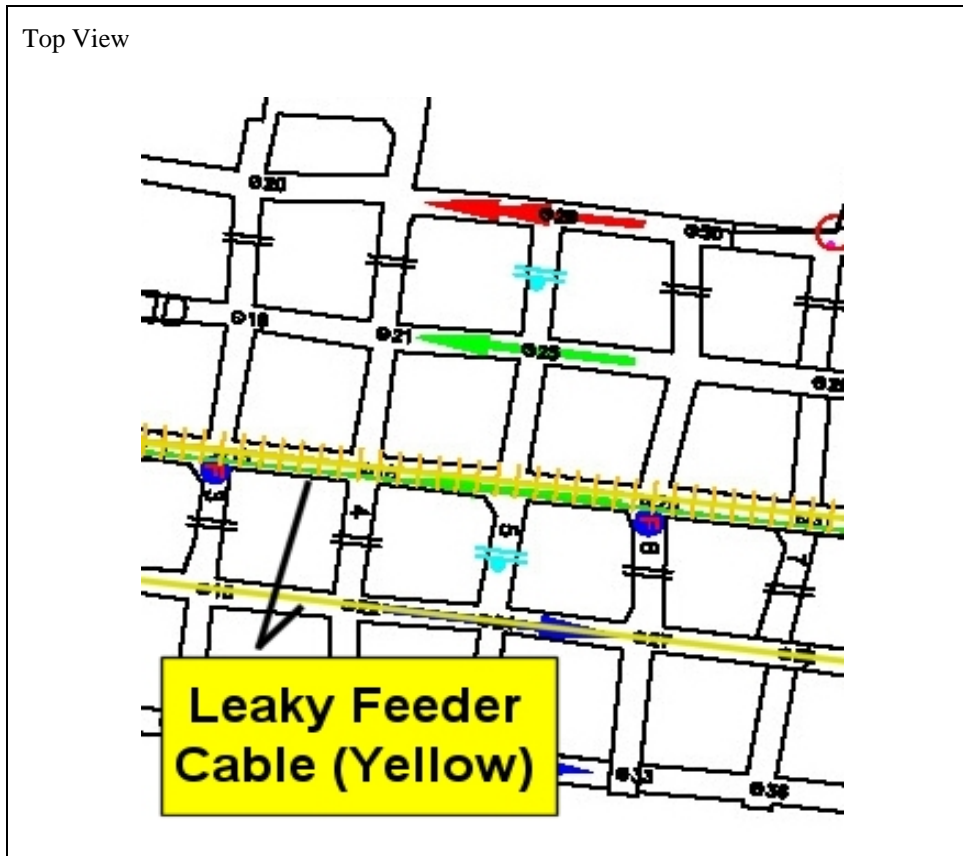
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Equipment System/Miner	Test Site	Comm Type	Distance from Backbone or Node	Entry/Crosscut Conditions				SIO Score	Distance from Surface Comm-Center	Number Amps/Nodes to Surface Comm-Center
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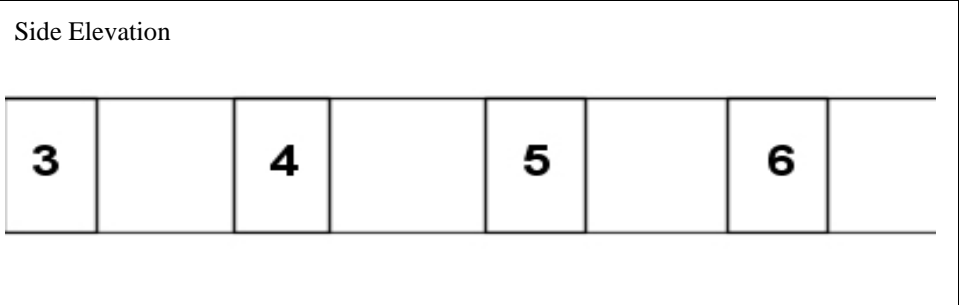
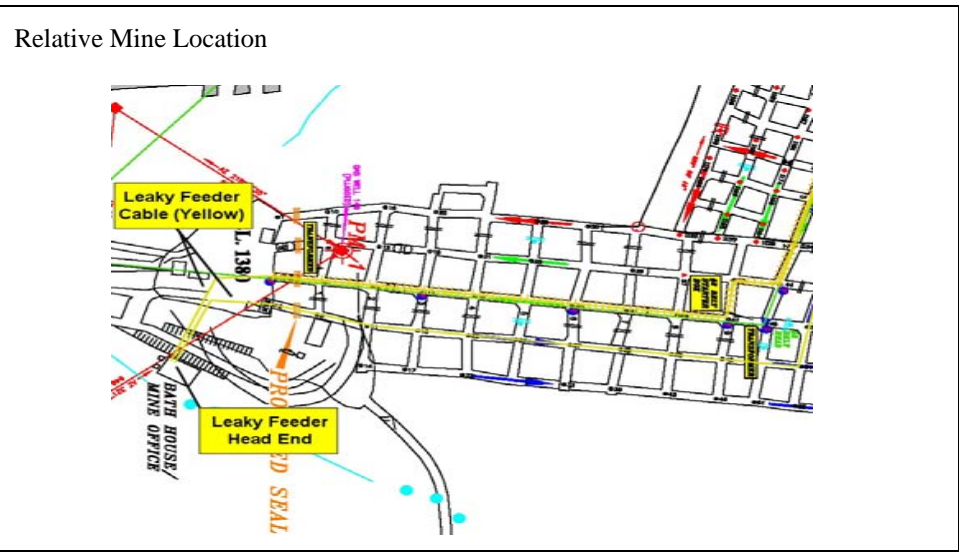
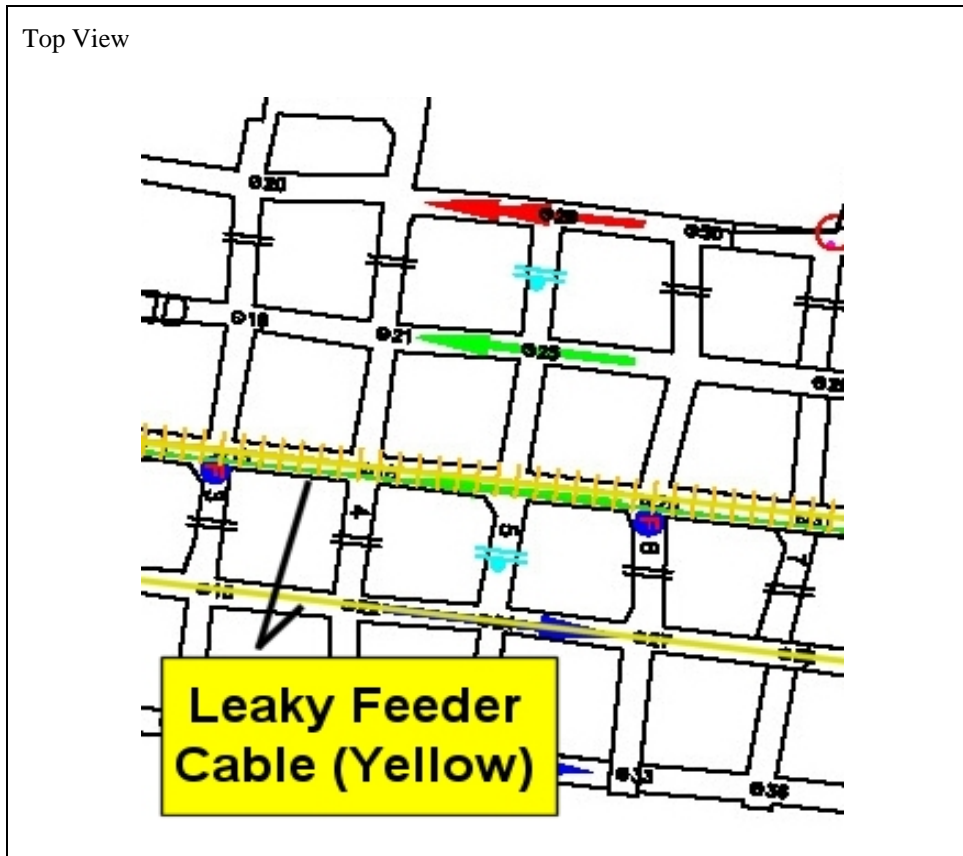


Side Elevation

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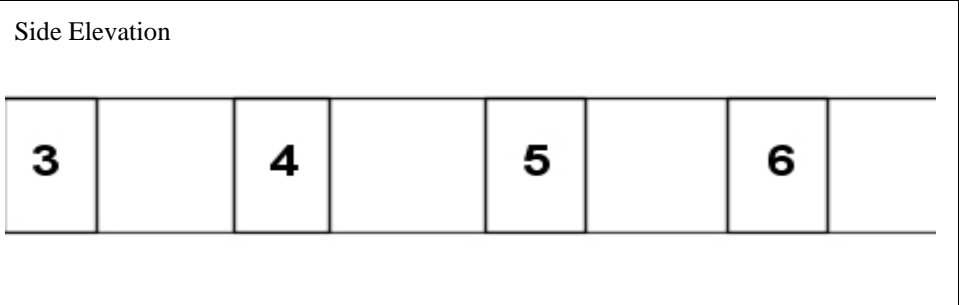
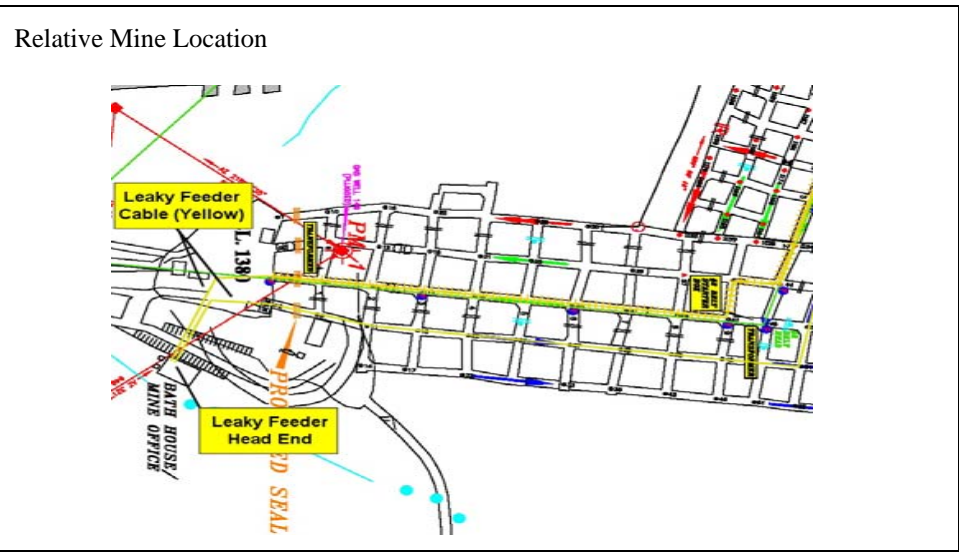
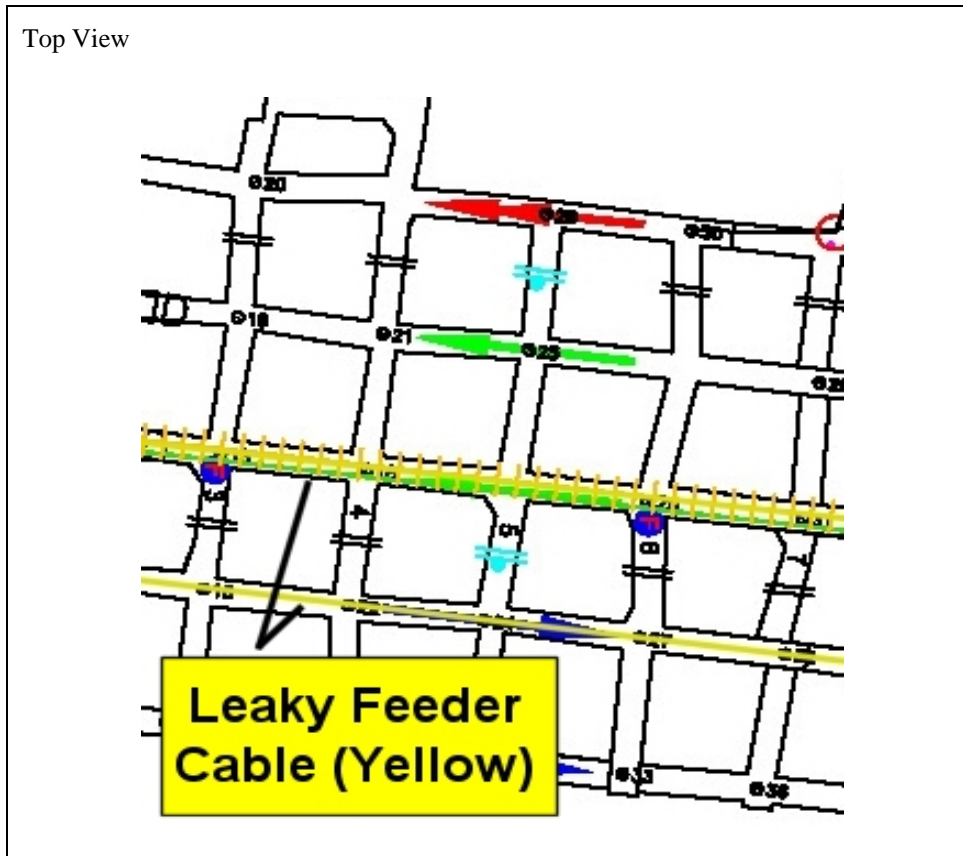
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MineCom MCA1000 with Kenwood TK-290	PBE-061207-VS8	VHF Leaky Feeder	80 FT	75"	18 FT	1	Miner in fresh air intake with leaky feeder cable	222	1000'	0



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