



Silimpopon Work Schedule

|              | <u> </u>           |              | i         | 1             | 1     |         | 73          |                 | 14   | -     |              | 75             |  | 76            |          | Y           | <u>'                                     </u> |       | 11  | <u> </u>   |            | 19   |         | 710           | <u> </u>   | Tit            |             | Y1  | 12       |        | 713  | L        | 714        | _ [. | 1                | Ti5   |          | Til  | 1            | 1              | 17    |       | YIL  | /           | Ţ               | 19       |              | Y20             |              | 111  | T            | 11              |
|--------------|--------------------|--------------|-----------|---------------|-------|---------|-------------|-----------------|--|-------|--------------|----------------|--|---------------|----------|-------------|---|-------|---|------------|------------|------|---------|---------------|--|----------------|-------------|-----|----------|--------|--|----------|------------|------|------------------|-------|----------|--|--------------|----------------|-------|-------|--|-------------|-----------------|----------|--------------|-----------------|--------------|--|--------------|-----------------|
|              | Road length        | meter !      | tons      | peter         | toss  | mier    | tons        | nete            | ı te   | ons   | ne te:       | 1003           | se le  | 100           | 3 K      | 101         | 083   | neier | lon   | 5          | eler       | (ons | seter   | leas          | Be (e  | tor            | \$ 60       | ter | tons     | seles  | lons   | neter    | r ton      | 15 a | eles             | tons  | meter    | 100  | 5 H          | ter            | leas  | nelet | i to   | .05 Pr      | eler            | tons     | scier        | 1003            | Belet        | locs   | k            | ies !           |
| Kala & Sub   | 324a×2             | 643          | 1034]     | k teilt       | 0.000 | it call | tard        |                 |  |       |              |                |  |               | 7        |             |   |       |   | Ī          |            |      |         | :             |  | •              | 1           |     | - 1      |        |  |          |            | 1    |                  |       |          | :  |              |                |       |       | !  |             |                 |          |              |                 |              | :  | T            |                 |
| alope (Rock) | [108 d]            |              | <b></b> † |               | 144)  |         | !           | 1               |  |       |              |                | L  |               |          |             |   |       | <u>;</u>                                      | 1          |            |      |         | <u> </u>      | 1  | - <b>!</b>     |             |     | <u>-</u> |        | <u>.                                    </u> | ļ        |            | _ _  |                  |       | <u> </u> | <u>. L</u> _                                 |              |                |       |       | <u>;                                    </u> |             | <b>i</b> _      |          |              | i               | ļ            | 1  |              |                 |
| Kain & Sub   | [410e×1            |              | 3. 6      | 260           |       |         | •           | 1               | 0  | 2.0   | 210          | 2. 0<br>(36d)  |  |               |          | 260         | 1.0   |       |   |            | 260        | 2. 0 |         | ŀ             | 26   | 0 <b>1</b>     |             |     |          |        |  |          | 1 0        | _    |                  | 1. 6  |          | •  |              | •              |       | 260   | ۱.   | 1.1         |                 |          |              | į               | 260          | [126]  | 4            | •               |
| Tope (Coal)  | [392 4]            | (67a)        |           | [161]         |       |         | <u></u>     | Γ.              | [36  | [4]   |              | * [36d]        | L  | -             | 1        | _Ţ          | 354]  |       | <u> </u>                                      | - I3       | 66]        |      |         | <u>-</u>      | -  | [35            | 91          |     |          |        |  | _[1      | 54)        | -T-  | (\$74)           | ·     | ļ        | <u>!</u>                                     |              |                |       | [714] | $\equiv$                                     | <b>_</b>    |                 |          |              |                 |              | [111]  |              | _               |
| Yest         | \$301×1            |              | ŀ         | 1260          | 18.1  |         |             | 1               |  | j     |              |                |  | į             |          |             | - 1   |       |   |            | į          |      |         | •             |  | į              |             | i   |          |        |  | l        |            |      |                  |       |          |  |              | i              |       |       |  |             |                 |          |              | í               | 1            |  |              | i               |
| P> 6         | (6 18)             |              |           | 1590          | 8543  |         |             | <del>-</del>    |  | -     |              |                |  | <u>-</u>      |          |             |   |       | <del> </del>                                  | +          | :          |      |         | <del>!</del>  |  | <del>-  </del> |             | ÷   |          |        |  |          |            |      |                  |       | <u> </u> | -  |              |                |       |       |  |             | <u>i</u>        |          | <u>j</u>     |                 |              |  |              |                 |
| tot i        | 7\$0m×1<br>[110 d] | Ì            | [H04]     |               |       |         |             |                 |  |       | į            |                |  | ;             |          | į           |   |       |   |            | •          |      |         |               |  | į              |             | ļ   | ı        |        |  |          | ;          |      | ;                |       |          | ;  |              |                |       |       |  | İ           |                 |          |              |                 | 1            |  |              |                 |
| Test 1       | \$40a×2            |              | 11134     |               |       | 1648    | 13. 1       |                 | +  |       |              | <del>-</del> - | <b>├</b> ~                                       | ÷             | -        |             |   |       | <del> </del>                                  | -1-        | :          |      |         | <del>:</del>  |  |                |             | -   | I        |        |  | ł        | -          | +    |                  |       |          | <del>:-</del> -                              | -            | <del>- ;</del> |       |       | <del>†</del> -                               |             | -÷              |          |              | <u></u>         |              | <del></del>                                      | +            | -÷              |
|              | (h fri)            |              |           |               | - 1   |         | [117d]      | *               | į  |       | :            |                |  | į             |          | i           |   |       |   |            | i          |      |         |               | ŀ  | i              |             |     |          |        |  |          | i          |      | •                |       |          | į  |              | į              |       |       | į  |             |                 |          |              | . '             | i            | •  |              |                 |
| East 2       | 1070±×3            |              |           |               |       |         | 15. (       |                 | 5  | 1. 5  |              |                |  | •             |          |             |   |       | Ť-  |            | •          |      |         | :             | T  | 1              |             | Ť   |          |        |  |          | -          |      |                  |       |          | -  |              | ij             |       |       | <u> </u>                                     | 十           | $\overline{}$   |          |              |                 | i            | <del></del>                                      | †            | -               |
|              | (143.4)            | į            |           | İ             | [133  |         | ·           | <del>-</del> (1 |  | Ì     |              |                |  | :             |          | - 1         |   |       | !   |            |            |      |         | <b>;</b>      | J., _  | •              |             | - ! |          | ;      |  |          | :          |      |                  |       |          |  |              |                |       |       | Ī  |             |                 | l        |              | . '             |              |  |              | į               |
| Fest 3       | 960a×2             |              |           | - 1           |       |         |             | 19              | 0 1  |       |              |                |  |               |          |             | Ì   |       | -   |            | ì          |      |         | •             |  |                |             |     |          |        |  |          |            |      |                  |       |          |  |              |                |       |       | -  |             |                 |          |              | ;               |              |  | 1            |                 |
|              | (133 d)            | !            |           |               |       |         |             |                 |  | [1334 | ]            |                | <b>.</b>   |               | . .      |             |   |       | <u> </u>                                      | Щ.         |            |      |         | <u> </u>      |  |                |             |     |          |        |  |          | <u> </u>   |      |                  |       | L        | <u>!</u>                                     |              |                |       |       | <u>:</u>                                     |             |                 |          |              | ·               | <u>L</u>     | !  | 上            |                 |
| East 3       | 1320e×2            | i            |           | :             | ļ     |         | i           | ¥ .             |  | 7. 2  |              | 11.2           |  |               |          | i           |   |       | i   |            | i          |      |         | i             |  | i              |             | i   |          |        |  | ]        | i          |      | i                |       |          | i  | 1            | i              |       |       |  | - 1         | i               |          | i            | i               | l            | i  |              |                 |
|              | [183 ()            |              | ]         | i             |       |         | <u> </u>    | [65             | 1)   |       |              | (1184)         |  |               |          |             |   |       | <u>i                                     </u> |            | - 1        |      |         | <del> </del>  |  | <del>-</del>   |             |     |          |        |  | ļ        | <u>i</u>   | _    | <b>i</b>         |       |          | <u>i</u>                                     |              |                |       |       | <u>.</u>                                     |             | — <b>į</b> _    |          | i            | <u></u>         | ļ            | · <b>i</b>                                       | <b>_</b>     | _ <u>i</u>      |
| Tesi 4       | (135±×1            | i            |           | ì             |       |         | i           | l               | i  | l,    | 1389<br>96d] | H. C           | 109  | 0 i L         | ."       | İ           |   |       | İ   |            | i          |      |         | i             |  | ĺ              |             | i   | l        |        |  | 1        | i          | -    | i                |       |          | į  |              | i              |       |       | į  |             | Ì               |          | i            | ,               | ł            | i  |              | i               |
| P            | [172 d]<br>1445e×2 |              |           |               |       |         | <b>i</b> —– | -               | <del>-i</del> -                                  |       | 300]         |                | 1,15   | (76d)<br>1 9. |          |             |   |       | <del> </del>                                  | +          |            |      |         | <del></del> - | +  | <del>-i</del>  | +           |     |          |        |  | <u> </u> |            |      |                  |       | -        | •  |              | :              |       |       | •  |             | <del>-</del> i- |          | <u>—</u> ;   | ,'              |              | ·  |              | -               |
| East 4       | [176+1162]         | į            | l         | į             |       |         | į           |                 | į  | - [   |              | [174           | in 🚾   |               |          |             | ******  |       | į   |            | į          |      |         | į             |  | i              |             | į   | - 1      |        |  | }        | į          | -    | į                |       |          |  |              | i              |       |       | i  |             | į               |          | į            | :               | ĺ            | į  |              | į               |
| Test 5       | [455m×2            | <del>i</del> |           | i             |       |         | i           | ╂─              |  |       |              |                | <u> </u>   | r             | -        | 110         | 11. 8   | 1470  | 111   | 8          |            |      |         | <del> </del>  | <del>                                     </del> | <del>-</del>   |             | i   |          |        |  |          | 1          | - -  |                  |       |          | ·  |              | <u>i</u> -     | • • • |       | <u>-i</u> -                                  |             | i-              |          |              |                 | <u> </u>     | <del>                                     </del> | +            |                 |
|              | [201 ¢]            | į            |           | 1             |       |         | İ           | 1               |  | Ì     | :            |                |  | ( ( am)       | [u       | (be)        |   |       | (614)   |            | :          |      |         | :             | 1  | 1              |             | •   |          |        |  |          | 1          |      | į                |       |          | •  |              | :              |       |       | į  |             | i               |          |              | ,               | 1            | ĺ  |              | 1               |
| East S       | 1530a×2            | i            |           |               |       |         |             | †               | -  |       |              |                | l —  | •             | 1        |             | 一   |       | 13.   | 8          | 1056       | 7. 3 |         | <u>:</u>      |  | <u> </u>       |             |     |          |        |  | i        | -          | 1    | :                |       |          | :  |              | - :            |       |       | :  |             |                 |          | ;            | ,               |              | ;  |              |                 |
|              | [425 0]            | į            |           |               |       |         |             | 1               |  | }     |              |                | l  | •             | ١.       |             | [1384   | •     | :   |            | į          | [145 |         |               |  | 1              |             | !   | - 1      |        |  |          |            |      |                  |       |          |  | -            | •              |       |       |  | - }         |                 | - 1      |              | :               | ĺ            |  |              |                 |
| Fest 6       | 1570a×2            |              |           |               |       |         |             |                 |  |       |              |                |  | •             | 7        | T           | (1(21   | N _   |   |            | 1095 🕏     | I. 4 | 2045    | 15.7          |  | 1              |             |     |          |        |  |          |            | T    |                  |       |          | 1  |              |                |       |       |  |             |                 |          |              | ,               |              |  | T            |                 |
|              | [436 d] i          | 1166         |           |               |       |         | <u> </u>    | ļ               |  |       |              |                | <b> </b>   | <u>:</u>      | _        |             |   |       | !   | (1         | 6d) }      |      |         | [11]          |  | -              |             |     |          |        |  | ļ        |            |      |                  |       |          | <u> </u>                                     |              |                |       |       |  |             |                 |          | :            | , <del></del> ! | <u> </u>     | <u> </u>   |              | <del>-</del>    |
| East 6       | 1520±×2            |              |           |               |       |         |             | 1               | į  |       | :            |                |  | •             |          | i           |   |       | į   | - ◀        | i ≱i       |      | 1556    | 10.0          |  |                |             | :   | - 1      |        |  |          |            |      |                  |       | Į .      |  |              | :              |       |       | •  |             | •               |          | :            | , 1             | ĺ            |  | 1            | •               |
| Yest 1       | [411 e]            | 2114         |           |               |       |         | <u> </u>    | <u> </u>        |  | }-    | ;            |                | <b> </b>   | <del>:</del>  | <b> </b> |             |   |       | <del>!</del>                                  |            | ·· §       |      | [1084]  | <u> </u>      |  | [103           |             | *** |          |        |  |          | <u>.</u>   | +    |                  |       |          | <del>.</del>                                 |              | <b>;</b>       |       |       | <u>.</u>                                     | _ _         |                 |          |              | !               | <b>├</b> —   | <del>!</del> -                                   | <del> </del> | <del>-</del>    |
| ¥651 7       | 1135±×2<br>{412 €] | į            |           | i             |       |         |             | ł               |  |       |              |                | İ  | Ì             |          |             |   |       | •   |            | ş          |      |         | i             | hill   |                | <u>. T.</u> | 800 | 12.3     |        | 8, 4<br>[62]4]                               |          |            |      |                  |       |          |  | i            | į              |       |       | 1  |             |                 |          |              | . !             |              |  | Ì            |                 |
| East 1       | 11(0e×2            | <del></del>  |           | <del>-</del>  | -     |         | <u> </u>    | ┪               | <del>-                                    </del> | ┈┼    |              |                | ┢  | +-            | +-       | <b>-</b> ⊦  | —ł  |       | <del>!</del>                                  |            |            | -    | - (Llei | ხ−—           |  | 77             | 7           |     |          |        |  |          | 1 10.      | +    | - <del>- i</del> |       | $\vdash$ | <del>!</del>                                 | +-           | ÷              |       |       | ÷-   |             | <del>-</del>    |          |              |                 | <b> </b>     | <del>!</del>                                     | +            | +               |
|              | (364 6)            | İ            |           | ĺ             |       |         | Ī           |                 | İ  |       |              |                |  | į             | İ        | į           | ı   |       | !   |            | ş          |      |         | ļ             |  | i į            |             | İ   | I.       | [1796] |  | 117      |            |      | 35d)             |       |          | Ī  | ļ            | į              |       |       | Ì  |             | į               |          | į            |                 | ĺ            | ļ  | 1            | 1               |
| Vest 8       | 1850a×2            |              |           |               |       |         |             | 1               | - <b>i</b>                                       | 十     |              |                | <del>                                     </del> |               | +        |             |   |       | <del> </del>                                  | +          |            |      |         | !             | $\vdash$   | <del>-</del>   | +           |     |          |        |  | l        | - <b>!</b> |      |                  | 9. \$ | 1600     | 1  | 1            | 510            | 14    |       | 1  |             | <del>i</del> -  |          |              | —               | _            | !  | 1            | 1               |
|              | [S  ( e)           | ļ            |           | - !           | - 1   |         | !           |                 | !  |       | !            |                |  | !             | 1        |             | - 1   |       | !   | - [        | !          |      |         | !             |  | !              |             | !   |          |        |  |          | (19        |      | _                |       |          | -  | <del>-</del> | [7[4           |       |       | !  |             | -               |          |              |                 |              | !  | 1            | •               |
| Eist 8       | 1105±×2            |              |           |               |       |         | !           | 1               | -i   |       |              |                |  | 1             | $\top$   |             |   |       | i   | -1-        | i          |      | -       | <u> </u>      | 1  |                | 1           | _†  |          |        |  |          |            |      |                  |       |          | <u>:                                    </u> | 1            | 253            | 9. 6  | 512.0 | 1  | 1.1         | -               | $\neg$   |              |                 |              | :  | T            |                 |
|              | [306 e]            |              |           | - 1           |       |         | !           | Ĺ_              |  | _     |              |                |  | <u>.</u>      |          | :_          |   |       | <u>!</u>                                      | _L         |            |      |         | !             |  |                |             |     |          |        |  |          | -          |      | - [              |       |          | 0  | 190]         |                |       |       | . (6)  | 276]        |                 |          |              |                 |              |  | 1            |                 |
| Test 9       | 1385e×2            |              |           |               |       |         |             | 1               |  | i     |              |                |  | 1             |          | - 1         | 1   |       |   |            | ŀ          |      |         |               |  |                |             |     |          |        |  |          |            | 7    |                  |       |          | •  | П            |                |       | 413.0 |  | 2. 5 2      | 148             | 12.0     |              |                 | i '          | :  | 1            | i               |
|              | [385 e]            |              |           |               |       |         | <u> </u>    | <u> </u>        | <u> </u>   |       |              |                |  | <u> </u>      | _ _      |             |   |       | <u> </u>                                      | _ <b>i</b> |            |      |         | <u> </u>      | ļ  | <u> </u>       |             |     |          |        |  |          | <u> </u>   |      |                  |       |          | <u> </u>                                     |              |                |       | [114] | ! '  | <del></del> |                 | <u> </u> | -            | (814)           | <u></u>      |  |              | _ <b>i</b> -    |
| Eist 9       | \$(0a×7            | i            |           | i             |       |         | i           | 1               | i  |       | i            |                |  | i             |          | i           | 1   |       | i   |            | i          |      |         | i             |  | i              | 1           | i   | - 1      |        |  |          | i          |      | i                |       |          | •  |              | i              |       |       | ;  | - [         | į               | ار       | 1105         | 6, 3            | [ [13]       | 1.5  | 1            | i               |
|              | [253 e]            |              |           |               |       | <u></u> | <u> </u>    | ╄               | <u> </u>   | -     |              |                |  | <u> </u>      |          |             |   |       | <u> </u>                                      |            | <u>-</u> i |      |         | <u> </u>      | ļ  | <del>-</del>   | $\bot$      |     |          |        |  | ļ        | <u> </u>   | _    |                  |       |          |  | -            |                |       |       | <u> </u>                                     |             |                 | [166     | <u>0) ==</u> |                 |              | (176)  |              | <del> !</del> . |
| East 10      | 700a×2<br>[154 d]  |              | - 1       |               |       |         |             |                 |  | - 1   |              |                | ł  |               |          | ı           |   |       |   |            | į          |      |         | •             |  | Ī              | 1           |     |          |        |  |          |            |      | į                |       |          | i  | ļ            | •              |       |       | Ī  |             |                 |          |              |                 | (1176<br>(1) | 6.6  | <u> </u>     | 124             |
| Total        | \$0, 188a          |              |           | · · · · · · · |       |         | <u> </u>    | <u> </u>        | <u> </u>   |       | <u>i</u>     |                |  | <u> </u>      |          | . <u> i</u> |   |       | <u>.                                    </u>  |            |            |      |         | •             | <u> </u>   | <u>i</u>       |             |     |          |        |  | <u> </u> | _ <u>i</u> | _1_  | _ <u>:</u>       |       | <u> </u> | <u>.                                    </u> |              |                |       |       | <u>:</u>                                     |             | <u> </u>        |          | <u> i</u>    |                 |              |  | <b>∓</b>     |                 |

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# SW Malibau work shedule

Road development (East Colliery)

|   | load leagth      | <b>.</b>    | <u>[1]</u>    | <u> </u>   | 72               | 1              | 73   | <u> </u>   | Tt   | . <b>.</b>   | 75             | <u> </u>   | 16           | 1              | 11   | <b> </b>     | YI           | ļ            | 11   | <b> </b> | Yib            |                | m  | ł           | Ti2      |              | TLI      |        | TLA  |              | <b>715</b> |       | 116      |       | 711       |       | 111  |  | ¥13            | -1 |
|---|------------------|-------------|---------------|------------|------------------|----------------|--|--|--|--------------|----------------|--|--------------|----------------|--|--------------|--------------|--------------|--|----------|----------------|----------------|--|-------------|----------|--------------|----------|--------|------|--------------|------------|-------|----------|-------|-----------|-------|--|--|----------------|----|
|   | (seter)          |             | tons          |            | 1003             |                | 1001   |  | tons   |              | tons           | Miles  | long         | neter          | 1025   | se lee       | tons         | meter        | toes   | melet    | Lons           | Me (4)         | (CE)   | B-let       | loas     | seler        | 1003     | Be les | tons | Belet        | tons       | Meler | 1083     | Beier | 1001      | Deler | loss   | meter  | 1024           | _} |
| ilope<br>te)                                  | #6.4             |             | (64 P224 8    | :35 &      | (1140)<br>114    | 1114           | अर   | 114  | 360  | :3\$         | 1750           |  |              | 1              | •  |              | •            |              |  |          |                |                |  |             |          |              |          |        |      |              |            |       |          |       | :         |       |  |  | į              |    |
| (atake)                                       | 110              |             | 13(4)         | <b></b>    | 31,4             | <del> </del>   | <del> </del>                                     | <del></del>                                      | 63   |              | T er           | <del>                                     </del> | <del> </del> | <del> </del>   | <u> </u>   |              | <u> </u>     |              |  |          | <del>!</del>   | ļ              | <b></b> -                                    |             | ·        | <b></b> -    |          |        |      | <u>i</u>     |            |       |          |       | <b>i-</b> |       | <u>i</u>                                     | <del>                                     </del> | <u></u>        | ┪  |
| 14:4LE/                                       | 114              |             | 0184          |            |                  | 1              |  | i  | 1  |              | İ              |  | i            |                |  |              | •            | •            |  |          | •              |                | ;  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  | į              |    |
| Frèssi  | 14               |             | 0:0           | 16.4       | (40)             |                |  | -  | •  | <del></del>  |                | †  | <del></del>  | 1              |  |              | <u> </u>     | 1            |  |          | •              | <u> </u>       |  | 1           |          |              |          |        |      |              |            |       |          |       |           |       |  | ,  |                | ٦  |
| ht l  |                  | l           | •             |            | 12154            | <u>.</u>       | 1  |  | 1  |              | <u> </u>       | L  | <u>:</u>     | <u> </u>       | <u> </u>   | <u></u>      | <u> </u>     |              |  |          | <b>.</b>       | <u> </u>       |  | <u> </u>    | <b>!</b> |              |          |        |      |              |            |       | <u> </u> |       |           |       |  | <u></u> ;  | ļ              |    |
| (latake)                                      | 126              | 126         | [1]4]         | Ì          | •                | i              | 1  |  | ;  |              | •              |  | :            | 1              | :  |              | :            |              |  |          | į              |                |  | ]           |          |              |          |        |      |              |            |       |          |       | ;         |       |  | '  | į              |    |
| Cet   |                  |             | 2534          |            | <del>:</del>     | l              | •  | <u> </u>   | <u>.                                    </u> |              | <del></del> -  | <b></b>  | <del></del>  | <b>_</b>       | <del>!</del>                                     | <b></b>      | <del>!</del> |              | <u>.                                    </u> |          | <del>.</del>   | ļ              | <del>!</del>                                 | <u> </u>    | -        | <b> </b> -   | <u> </u> |        |      |              |            |       |          |       |           |       | <u>.                                    </u> | <u> </u>   | <u> </u>       | _! |
| Ech res i                                     | 180              | l           | i             |            | į                | 180.           | DAU<br>HUU                                       | ]  | į  | į            | į              |  | į            |                | į  |              | į            | Ì            | į  |          | j              |                |  |             | į        |              | i        |        |      | i            |            |       |          |       | i         |       | į  | į i  | Ĺ              |    |
| int<br>(intake)                               | 186              | <u> </u>    |               | 106.       | (:4)             | <del></del> -  | 1 1112   | -}   | ·}   | -+           | <u> </u>       | <b>+</b>   | <u> </u>     | <del> </del>   |  | ł            | <b></b> -    | <del> </del> |  |          | i              | ļ              | ļ  |             |          | <del> </del> |          |        |      |              |            |       |          |       |           |       | <u> </u>                                     |  | <u> </u>       |    |
| iet   | 1.50             | i           |               | *          | អង               |                |  |  | į  |              | İ              |  |              |                |  |              |              |              |  |          | •              |                |  | l           |          | ŀ            |          | 3      |      |              |            |       |          |       |           |       |  | 1 /  |                |    |
| Erbiert                                       | 76               |             | <u> </u>      |            |                  | 1              |  |  | 1714   | 1            | !              |  | -            | 1              |  |              |              |              |  |          |                |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  |                |    |
| Cut   |                  | <u> </u>    | <u> </u>      |            | 1                | <u> </u>       | ļ  | -  | 2188   |              | <u> </u>       | <u> </u>   |              | <u> </u>       |  | <u> </u>     |              |              | <u> </u>                                     | ļ        | ļ              | ļ              | <u></u>                                      |             |          |              |          |        |      |              |            |       |          |       |           |       |  | <u> </u>   | ļ              |    |
| (intake)                                      | 176              | 1           | ŀ             |            | :                | 1              | •  | 171  | (end)  |              | •              |  | •            | 1              | ;  |              | •            |              |  |          | <b>;</b>       |                |  |             | •        |              |          |        |      | •            |            |       |          |       |           |       |  |  | Í              |    |
| Cu l<br>Exkans i                              | 76               |             | <del> </del>  | ļ          | <del>!</del>     | <del> </del>   | <del> </del>                                     | -  | 110%   |              | 1110           | <b></b> -  | <del>-</del> | · <del> </del> | <u> </u>   | <del> </del> | <u> </u>     |              | <u></u> -                                    |          | i              | ļ              | <u> </u>                                     |             |          | ļ            | <u> </u> | li     |      |              |            |       |          |       | <b>-</b>  |       | <b>!-</b>                                    | <del></del>                                      | į              |    |
| Col   | 19               |             | į             | }          | ì                | 1              | į  | 1  | į  | ""           | 1314           |  | į            |                | į  | l            | į            |              | į  | 1        | į              |                | į  |             |          | l            |          |        | į    | į            | :          |       |          |       |           |       |  |  | ĺ              |    |
| (tafake)                                      | 319.0            |             | <del></del> - |            | <del></del>      | <del> </del>   | <del>                                     </del> | 1  | <del></del>                                  |              | [684]          | · <del> </del>                                   | -            | <del> </del>   |  | <del> </del> |              | <u> </u>     | i  |          | •              | ļ              |  |             |          |              |          |        |      |              | ·          |       |          |       | -         |       |  |  |                |    |
| Cit   |                  |             | İ             | 1          | •                | 1              | 1  |  | i  |              | s17e           |  | •            | 1              | į  |              | •            | 1            |  |          | •              |                | ;  |             | •        | l            |          |        |      | :            |            |       |          |       |           |       | <b>:</b>                                     |  | į              |    |
| is Slope                                      | 761. \$          | St. 4       | [146          | 1115.6     | (7)()<br>1)()    | 1 12.0         | Die.   | <u> </u>   |  |              | [194]          | 1  | :            | 1              | <b>!</b>   | 1            | ļ            |              |  | 1        | •              |                | •  |             | •        | İ            |          |        |      |              | ĺ          |       |          |       |           |       |  | 1 7  | į              |    |
| 10  |                  |             | i             | <u> </u>   | 1114             | ļ              | <u> </u>   | Τ  | 1992   | <del> </del> | 61736          | ·  | <u> </u>     | . <b> </b>     |  | ļ            | <u> </u>     |              |  | ļ        | <u> </u>       | <u> </u>       | <u>.                                    </u> |             |          |              |          |        |      |              |            |       |          |       |           |       |  | <b></b> ;  | <u> </u>       | _  |
| Erktort                                       | 215, 0           | 115. 0      | 3443          |            |                  | 1              | 1  |  |  |              |                | 1  |              |                |  |              |              |              |  |          |                |                |  |             |          | ŀ            |          |        |      |              |            |       |          |       |           |       |  | 1 1  | į              |    |
| Cel<br>Exkant                                 | 171.0            |             | i             | 13.6       | Dia              | 132.4          | (aza)  | <del> </del>                                     | <del> </del>                                 | 1            | <del> </del> - | 1  | <del></del>  | · <del> </del> | <u> </u>   | <del> </del> | <u> </u>     |              | i  |          | <del> </del> - | <del> </del> - |  | <b></b>     | <u> </u> |              |          |        |      | <del>i</del> |            |       |          |       |           |       | -  | <u>-</u>   | <del> </del> - | -  |
| Cut   | 1.21             | •           |               | ""         | 1                | <del> </del>   | 2134   |  |  |              | Ì              | 1  |              |                |  | 1            | Ì            |              |  |          |                |                |  |             |          |              |          |        |      | Ì            |            |       |          |       |           |       |  |  | į              |    |
| Erbanst                                       | 114.4            |             |               |            | 1                | 1              | İ  |  | (446)  |              |                | 1  | ī            | ļ              | ;  |              |              |              |  |          | 1              | <u> </u>       |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  |                |    |
| Cal   |                  |             | <u> </u>      | ļ          | 1                | <u> </u>       |  | -  | 11566  | 1            | <u> </u>       | <u> </u>   | <u> </u>     | <u> </u>       | ļ  | l            | <b>!</b>     | l            |  |          | <b>!</b>       | <u> </u>       | <b>!</b>                                     |             |          |              |          |        |      |              |            |       |          |       |           |       |  | <u> </u>   | <u> </u>       | _  |
| Teesta D.                                     | 229. 9           |             |               |            |                  |                |  |  |  | 122.         | [454]          |  |              |                | !  | l            | <u> </u>     | ł            |  |          |                |                | •  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  | į              |    |
| Cat<br>a Rock                                 |                  |             | <u> </u>      |            |                  | - <b>-</b>     |  | - <del> </del>                                   |  |              | 1714           | <u></u>  |              | 4              |  | <u> </u>     |              | <u> </u>     |  |          |                | <u> </u>       |  |             | A-1123   |              | ******   |        | 2    |              |            |       |          |       |           |       |  | - 12 A. 272                                      |                | -  |
| tal   | 3, 81 1, 1       | 848. I      | ŀ             | ED L       | , İ              | 442.4          | į  | 41.  |  | 1.00         | j              | i  | İ            |                | Ì  | l            | İ            |              | ţ  |          | •              |                |  |             |          |              |          |        |      | İ            |            |       |          |       |           |       | !  | 1 7  | l              |    |
| (Insem)                                       | \$10             | 519         | 4.335         |            | 1                | ""             |  | i  |  |              | Î              | i  | ļ            | i              | <u> </u>   | l            | !            | i            |  | i        |                | i              | •  | i           | •        |              |          |        |      | !            |            |       |          |       | ! i       |       | i  | i i  | Í              |    |
|   |                  | [214]       | 12764         |            | <u>!</u>         |                | <u> </u>   |  | •  | -            | <u> </u>       | l  | !            |                | <u> </u>   | L            |              |              |  |          |                |                |  | l           |          |              |          |        |      |              |            |       |          |       |           |       |  | <u> </u>   | <u>i</u>       |    |
| (lastan)                                      | 14               | 254         | ī, 150        |            |                  | 1              | 1  | 1  |  | 1            |                |  | i            | I              | 1  |              |              |              |  |          | i              |                |  |             |          |              |          |        |      |              |            |       |          |       | i i       |       | i  |  | i              |    |
| <u>,                                     </u> |                  |             | 394           | ļ <u>.</u> |                  | <del></del>    | <del></del>                                      | <del>                                     </del> | <u>i —</u>                                   |              | i              | <u> </u>   | <u> </u>     |                | i  | ļ            | <u> </u>     |              | <b></b>                                      | ļ        | i              | <b> </b>       | <u> </u>                                     | ļ           |          |              |          |        |      | <u>_</u>     |            |       |          |       |           |       | <b>—</b>                                     | ļ  | <u> </u>       | _  |
| (insean)<br>ing Y/F)                          | 309<br>(184×5)   | (144)<br>84 |               | 209        | 1, 311<br>(1)24) | 200            | 1,271<br>1281                                    | 100  |  | 100<br>374   | 638<br>2152    | 209  | 1.27         | <b>'</b> ]     |  |              |              |              |  |          | İ              |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  |                |    |
| (185288)                                      | 3, 125           |             |               |            | 9, 251           | L 10/32        | 125  | 354.   | <del>!</del> —                               | 1            | FINE           | <del>  ~~</del> -                                | 1.2          | 1              | <del>                                     </del> | ļ            |              |              |  |          | <del></del>    |                |  | <del></del> | -        |              |          |        |      |              |            |       |          |       |           |       |  |  |                | •  |
| Test  | -,,,,,           | [50]        |               | Distri     |                  | 1              | •  | I  | 1  | 1            | ļ              |  | ļ            |                | •  |              |              |              |  |          | <u>!</u>       |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  |                |    |
| (iesear)                                      | 8, 114           |             | 1, 859        | 654        | 5, 574           |                |  |  |  | 1            |                |  |              |                | <u> </u>   |              |              |              |  |          |                |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  | 1              |    |
| Test  | 271 Oa . 1140 Ou |             | 1 -           | (t) d;     | (36 : 55)        |                | <u> </u>   | . <b> </b>                                       | <u> </u>                                     |              | <u> </u>       | <b>↓</b>   | <b>.</b>     | <b>↓</b>       | ļ  | ļ            | <u> </u>     |              |  |          |                |                |  | <u> </u>    |          |              |          |        |      |              |            |       | İ        |       |           |       |  | <u> </u>   | <u></u>        |    |
| (leseen)                                      | 7, 111           | l           | i             |            | i                | 4              | . 43   |  | i  |              | İ              |  | i            |                | i  |              | i            |              |  |          | i              |                |  |             |          | ł            |          |        |      | Ì            |            |       |          | l     |           | i     | iÌ   | i  | i              |    |
| Test<br>(insem)                               | 3, 400           |             | <del>!</del>  | 110        | 1 105            | 1, 276<br>3147 | 1111   |  | +  | <del> </del> | <del> </del>   | ╂  | · <b>;</b>   | ·              | <del> </del>                                     | <del> </del> | <del> </del> |              |  |          | -              | <del> </del>   | <del></del>                                  | <b> </b> -  |          |              |          |        |      |              |            |       |          |       |           |       |  |  | -              | -  |
|   | EBO4a , TS98a    | 1           | 1             | ાહ         | 1, 19            | 329            | trois  | 1  |  |              | İ              | 1  |              |                |  |              |              |              |  |          |                |                | į  |             |          | }            |          |        |      |              |            |       |          |       |           |       |  |  | į              |    |
| (itseun)                                      | 3, 490           |             |               |            |                  | 1              |  | 1, 131   | 1, 141                                       | 211<br>(300) | 2, 255         |  |              | † <i>-</i>     |  | ļ            |              |              |  |          |                |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  |                |    |
| Vest  |                  |             | <u> </u>      | <u> </u>   |                  | <u> </u>       |  | fiwe   | 1  | [394]        | 5213 <b>6</b>  | <u> </u>   |              | <u> </u>       |  | <u> </u>     |              |              |  |          |                |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  | <u> </u>   | <u> </u>       | _  |
| (insem)                                       |                  |             |               |            |                  |                | •  | 136  | 1, 13  | 514          | 4 369          | 1  | :            |                |  |              |              |              |  |          |                |                |  |             |          |              |          |        | ·    |              |            |       |          |       |           |       |  | 1  | <u> </u>       | į  |
| (insenn)                                      | ESSDe . 1310a    |             | <u> </u>      | ļ          |                  | <del> </del>   | <del>-</del>                                     | (100)  | i:-n   | :r.(.        | 1031           | l- <del></del>                                   | <del></del>  | <del> </del>   | ļ  | ļ            | <b></b>      |              |  |          | <b>i</b>       |                |  | ļ           | İ        |              |          |        |      | i            |            |       | ļ        |       |           |       |  | ļi   | -              | -  |
| tinseum/                                      | £, 406           |             | į             |            | į                |                | i  |  | i  | [514]        | į 112 <b>4</b> | 1, 131   | 2 134        | ' <b> </b>     | i  |              | i            |              | i  |          | •              |                | i  |             | i l      |              |          |        |      | i            |            |       |          | į     |           |       |  | l i  | į              |    |
| (insem)                                       | 1, 490           |             | <del>:</del>  |            | <del></del>      | 1              | <del> </del>                                     | <del> </del>                                     | -  | 117          | 3 627          | 1, 175   | 10 to        | <del> </del>   | <del></del> -                                    | <del> </del> |              |              |  |          | <del> </del>   | ļ              |  |             |          |              |          |        |      | <del></del>  |            |       |          |       |           |       |  |  |                | _  |
| Test  | £400m, \$1400m   |             |               |            |                  | 1              |  | 1  | Í  | 5.96         |                | [16:8]   |              |                | i  |              |              |              |  |          |                |                |  |             |          |              | Ì        |        |      | <u> </u>     |            |       |          |       |           |       |  |  |                | _  |
| a lord  | * * * *          | <u> </u>    |               |            |                  | 1              |  |  |  |              |                |  |              | 1              |  |              |              |              |  |          |                |                |  |             | i        |              |          |        |      |              |            |       |          |       |           |       |  |  | ;              |    |
| tal .   | 11, 735          | 1, 540      | 11,140        | 8, 471     | 15,12            | £ 246          | 10, 23   | 2.00   | 17.07  | 6 1, 210     | 10,961         | 2,311  | 11,641       | <u> </u>       |  |              |              |              |  |          |                |                |  |             |          |              |          |        |      |              |            |       |          |       |           |       |  |  |                | _  |
| erelop <b>o</b> er                            | t fotal          | & 57L       | 16,500        | 8.344      | 11, 25           | 2.44           | 21,500   | 1,072  | 11, 11, 11                                   | 1 LM         | 11, \$11       | 161  | 10,511       | ıl -           | :  | 1            |              |              | ·  |          | • 7            | · ·            | _  |             |          |              |          |        |      | - 1          |            |       | !        | •     | : !       |       |  | L  |                |    |

Working Face (East colliery)

| Ť                              | 1       | i .      | T I |          |       | 11             | THE HARM P. | 13      | T                 | TE                                      | 1      | 15                |        | 16      |        | 11              |        | 11       | T            | 11   | <u></u> , | YID  |       | TIL    |      | Yil  | <u> </u>                                      | YLL      | <u> </u> | 111  | 1        | 715        | 1    | 716    |          | ¥17  | L    | 716  | 1    | 13   | Total |
|--------------------------------|---------|----------|-----|----------|-------|----------------|-------------|---------|-------------------|---|--------|-------------------|--------|---------|--------|-----------------|--------|----------|--------------|------|-----------|------|-------|--------|------|------|---|----------|----------|------|----------|------------|------|--------|----------|------|------|------|------|------|-------|
| l                              | - 1     | days     | , : | lons     | days  | tons           | firs.       | loas    | days              | tons                                    | days   | 1995              | days : | tess    | days : | tons            | days   | taes     | days         | tons | fays      | tons | dry 5 | . tens | Cays | tons | days  | toes     | days     | tons | 4275     | ions       | days | : tons | days     | loas | days | toss | days | tons | se!   |
| \$3.0                          | 3, 067  |          |     |          |       | 53, 667        |             |         | C. 100 30 100 100 |   |        |                   |        |         |        |                 |        |          |              |      |           |      |       |        |      | i    |   | İ        | ]        | •    |          |            |      |        |          |      |      |      | į    |      | \$1   |
| 1 (2.1                         | 2, 959  | <u> </u> |     |          | (HM2) | 37, 152        | (154)       | \$,167  |                   |   |        |                   |        |         |        |                 |        |          |              |      |           |      |       |        |      |      |   |          |          |      |          |            |      |        |          |      |      |      |      |      | 41    |
| 1 60,3                         | E, \$34 | ĺ        | İ   |          |       |                | (1884)      | 16, 131 |                   |   |        |                   |        |         |        |                 |        | İ        | <u> </u>     |      |           |      |       | i      |      | i    |   | Ī        |          | i    |          |            |      | i      |          | T    |      |      | i    |      | \$1   |
| T 65.1                         | 5, 702  | <b> </b> | +   |          |       |                | (534)       | 13, 252 | [पश               | 45,411                                  |        |                   |        |         |        |                 |        |          |              |      | \         |      |       |        |      |      |   |          |          |      |          |            |      | -      |          |      |      |      |      |      | 65    |
| 31 IL                          | I C 655 |          | +   |          |       |                |             |         | (me)              | લશ                                      | [1][4] | 40, 247           |        |         |        |                 |        | <u> </u> | <del> </del> |      |           |      |       | İ      |      | İ    | 1   | İ        |          | i    |          | Ì          |      | İ      |          |      |      |      | i    |      | \$1   |
| 1 14.0                         | E 823   | 1        | -   | <u> </u> |       |                |             |         |                   |   | (1114) | 5Q 596            | [3:0]  | 31, 637 |        |                 |        | <u> </u> | <del> </del> |      |           |      |       | ļ      |      |      |   |          | <u> </u> | ļ    |          |            |      |        | <u> </u> |      |      | -    |      |      | \$1   |
| st 56,7                        | E. 226  |          | +   |          | -     |                |             | •       |                   |   |        |                   | DHS    | \$0.5%  |        |                 |        | i        |              |      |           |      |       |        | i    | Ì    |   | İ        |          | Ī    |          |            |      |        | 1        |      |      |      |      |      | \$(   |
| 111,                           | 11, 920 | 1        |     |          |       |                |             |         | <b> </b>          |   |        |                   | [4:0]  | L, 156  | [1504] | \$1,008         | [534]  | 15, 36   |              |      |           |      |       |        |      |      |   |          |          |      |          |            |      |        |          |      |      |      |      |      | 161   |
| \$ 41,1                        | 1, 064  | 1        | +   |          |       |                |             |         | 1                 |   |        |                   |        |         |        |                 | [1136] | (1,01)   |              |      |           |      |       |        |      | İ    |   | İ        |          | 1    |          | - <u>-</u> | 1    |        | 1        |      |      |      |      |      | 41    |
| i I sos.:<br>Ifery             | 5, 850  |          | -   |          |       | <b>90,</b> 553 |             | 81, 851 |                   | N. D.                                   |        | 10,141            |        | \$1,105 |        | 8i, <b>0</b> 00 |        | 60, 426  | İ            |      |           |      |       | †      |      |      | <u>†                                     </u> | -        | 1        |      |          | -          |      |        |          |      | 1    |      |      |      | 505   |
| ife≀y<br>ca∏oful               |         |          |     | 16, 199  |       | 107.4:c        |             | £11.50  | ,                 | 144 83                                  |        | i PR, <b>3</b> 62 |        | 61,18   |        | \$1, bec        |        | 65, 428  |              |      |           |      |       | į      |      | 1    | <u> </u>                                      | <u> </u> |          |      | <u> </u> | •          |      |        |          |      |      |      | i    | ]    | 711   |
| l   605,1<br>liery<br>co-Total | 35, 250 |          |     | 16,199   |       |                |             |         | 1                 | *************************************** |        |                   |        |         |        | -               |        | •        |              | Yş   |           | ¥ 10 |       | YII    |      | Y12  |   | Y 13     |          | Y 14 |          | YIS        |      | Y 16   |          | Y 17 |      | Y 16 |      |      | Y 19  |

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Road development (West Colliery)

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|                            |   |                |  |           |                |          |                 |        | <del></del> |  | 1              |                | *****          | Collie                                       | -,,<br>        | **   | T            |              | <del></del>      | ••             | T  | TIQ  | T  | **************************************       | <del>,</del>                                     | F12            | т            | ***  | <del></del>    | Y ) 4  | 1            |  | (  | VI E           | 7            | 117             | Ţ            | V           | 1            | TIJ 3     | Tota   |
|----------------------------|---|----------------|--|-----------|----------------|----------|-----------------|--------|-------------|--|----------------|----------------|----------------|--|----------------|--|--------------|--------------|------------------|----------------|--|--|--|--|--|----------------|--------------|--|----------------|--|--------------|--|--|----------------|--------------|-----------------|--------------|-------------|--------------|-----------|--|
|                            | Road Jeezil                                   |                | 71   | seter     | -11            |          |                 |        |             | 74   | ļ              | 75<br>1 4000   |                | 14   |                | 17   | - <b>-</b>   | Y#<br>teas   |                  | 1083           | auter  | lons   |  | 1003   | B-10.  |                | meler        | 111  | Beler          | 114  |              | ¥15<br>tons                                      |  | ¥LE .          |              | 1003            |              | Ytl         | seter        |           | Toss   |
| 610 M.                     | (seter)<br>431                                |                | 1011   | se ler    | 1583           | ~        | etu t           | 683    | leter .     | loss   | acter          | 1005           | *75            | 1, 171                                       | l Beler        | 1063   | ) ocier      | (633         | De ler           | 1085           | 2161   | 1 1041   | <del>  ••••</del>                                  | <del> </del>                                 |  | 1              | Me ier       | 1003   | Beser          | 1083   | De le C      | 1083   |  | 1003           | +***         | 11045           | 1 35151      | 1013        | 1 26.61      | ,         | 1 1  |
| 4245F)<br>148 MT           | 131   | 'İ             | į  |           | i              |          | į               |        |             |  |                | İ              | . Nrs          |  | 11.5           |  | i i          | Ì            |                  |                |  | ;  | i  | :  | 1  | :              |              | :  |                |  | l            | 1  |  | :              |              | :               | 1            | :           | 1            | : 1       | 1  |
| 630 KL                     | 610   |                |  |           | <u> </u>       | $\top$   | <del>i-</del> - |        |             |  | 1              | <u> </u>       | 616            | £ (35  | 1              |  | -            | 1            | 1                |                |  |  | Ī  |  | T  | -              |              |  | 1              | :  |              | ;  |  | ;              |              | ;               | Ĭ            |             |              |           | 4  |
| 13888)                     |   |                | .i   |           | . i            |          | i               |        |             |  |                | <u> </u>       | [152]          | 3217   |                | <u> </u>                                     | <u> </u>     | <u> </u>     |                  | <u> </u>       |  | <u> </u>   | ļ <u>.</u>   | :<br>!                                       | ļ  | <b>!</b>       | <u> </u>     | ļ  |                | <u>.                                    </u> | ļ            |  | 1  | <u> </u>       |              | - <b>j</b>      |              | <b>!</b>    | li           |           | L  |
| 61.5 ML                    | 682   |                |  |           | -              |          |                 |        |             |  |                |                |                |  | 682            | 1.1:0  | ·            | į            |                  |                |  | į  | l  | <u>:</u>                                     | ]  | :              | ļ            |  | 1              | •  | l            |  |  | i              |              | i               | ł            |             | :            | . 1       | (  |
| 15830                      |   | <u>.</u>       | <del>-</del>                                     |           | <del>-</del> ‡ |          | <b> </b>        |        |             |  |                | ļ              |                |  |                | 1114   | <u> </u>     | <u> </u>     | ├                | <del>-</del>   | <b></b> -  | <del></del>                                      | <del> </del>                                       | <del>!</del>                                 | <del> </del> -                                   | <del></del> -  | <del>}</del> | <del></del>                                  | ╂              | <del></del>                                  |              | <del>!</del>                                     | ·  | <del>.</del> — |              |                 | <del> </del> | <del></del> |              | 1         |  |
| \$65 ML                    | \$61  | 1              | į  |           | į              |          | į               | l i    |             |  | l              | i              |                |  | 113:40         | ्र ३५<br>सङ्                                 |              | į            |                  | į              |  | į  |  | •  |  | į              |              |  |                |  | l            | ĺ  | }  |                | 1            | į               | 1            | ĺ           |              | . 1       | `  |
| nseen)<br>\$50 ML          | 911   | .†             | · <del> </del>                                   |           | <del>-i</del>  | +-       | — <u>i</u> –    | +      |             |  | 1              | i –            |                | <del> </del> -                               | 112142         | 3192   | 932          | 5, 110       |                  | -              |  | <del></del>                                      | 1  | <b>i</b>                                     | ļ  | ţ              | <b>-</b>     | !  | 1              | ţ  | <b></b> -    | <del> </del>                                     | <del> </del> -                                   | !              | 1            | †               | †            |             | !            | -         | (  |
| 15(32)                     |   |                | Ì  |           |                |          | i               |        |             |  | 1              | •              |                | :  |                | •  |              | 31           |                  | <b>!</b>       |  | <u> </u>   |  | <u>:</u>                                     |  | :              | l            | !  | 1 .            | <u>:</u>                                     | L            | i  | <u> </u>   | <u> </u>       |              | <u> </u>        |              |             |              |           |  |
| 500 ML                     | 150   | 1              | ;  |           | ;              | _        | - :             |        |             |  |                | 1              |                | 1  |                |  | 1            |              |                  | i -            | 859  | 6, 120<br>s200d                                  |  | į  | 1  | i              |              |  |                |  |              |  |  | i              |              |                 |              | i           | l            | . /       | 1  |
| iseu)                      |   |                | .i   |           | - <b>i</b>     |          | <b>i</b> -      |        |             |  | ļ              | i              |                | <u> </u>                                     | <u> </u>       | ì  | ·            | i            |                  | <u> </u>       | [1184]   | #190d  | <b></b>  | <u>.</u>                                     | ļ  | i<br>          | <b> </b>     | <u> </u>                                     | -              | <u> </u>                                     | <b> </b>     | <u> </u>   | <del> </del> -                                   | ļ              | <del> </del> | <del>-i</del> - | ļ            | i           | ļi           |           | ļ  |
| 485 MLOLTO                 | 951   | <u>'</u>       |  |           |                |          | i               |        |             |  | 1              | į              |                | į  |                |  |              | •            |                  |                | 293  | 6. 854<br>474                                    | ĺ  | :  | 1  | }              |              | •  | 1              |  | l            | İ  | i  | •              |              | •               |              | :           | ;            | . 1       | ,  |
| 1524A)<br>  435 NL (E, T)  | 14(   |                | <del>-</del>                                     |           | <del></del> -  |          | <del></del>     |        |             |  |                | 1              |                | ŧ  |                | <b>!</b>                                     |              | <u> </u>     |                  | <u> </u>       | 11,9:16:   | 1 1  | ¥54  | 1 911  | 198  | 2,000          | -            | <u> </u>                                     | - <del> </del> | •  | <del> </del> | <del>!                                    </del> | <del> </del>                                     | <del>!</del>   | +            | <del>-</del>    | <b>!</b>     |             |              |           |  |
|                            | \$116m . E138                                 |                | •  | İ         | 1              | 1        | !               |        |             |  | 1              | ļ              |                | :  |                |  |              | !            |                  |                | ŀ  |  | (110   | 1,911  | [5(4)  | 11964          |              | •  | 1              |  |              | !  | <b>!</b>   | !              |              |                 |              |             |              |           |  |
| 420 M. (E, T)              | H   |                |  |           | -              |          |                 |        |             |  | · · · · ·      |                |                |  |                |  | 1            |              |                  |                |  |  |  |  | 231  | 2, 333         | £11          |  | i              | 1  |              | I  |  |                |              |                 |              |             |              |           | 7  |
| esean)                     |   | 1_             | <u> </u>   |           | <u> </u>       |          |                 |        |             |  | ļ              | <u>i</u>       | <u> </u>       | <u>.</u>                                     | <u> </u>       | i  |              | <b>.</b>     | ļ                | į              | ļ  | <del> </del>                                     | <u> </u>   | <b>!</b>                                     | [484]  | <b>!</b>       | [3:4]        | नस्य   | <b></b>        | ļ  | ļ            | <del>i</del>                                     | <b></b> -  | <del></del>    |              | <del></del> -   | ļ            | <b>;</b> _  | <b>.</b>     |           |  |
| 170 NL (E, 11)<br> aseate) |   |                | į  |           | i              |          | i               |        |             | i  |                | i              |                | •  |                | 1  |              | į            |                  |                |  | į  |  |  |  | į              | 914<br>[G84] |  | ' <b> </b>     |  | l            | į  |  | į              |              | į               |              |             |              |           | <i>l</i> '                                       |
| lesess ford                | #654m . 2280                                  |                | <del>:</del>                                     |           | <del></del>    |          |                 |        |             |  | <del> </del>   | <del></del>    | <del> </del>   | <del>:</del>                                 | <del> </del>   | <del> </del>                                 | <del> </del> | <del></del>  |                  | <del>!</del>   | <b>-</b>   | <del>:                                    </del> | <del>                                       </del> | <u>:                                    </u> | <del>                                     </del> | <del>:</del> - | 10.001       | • [31,172]                                   | <del> </del>   | <del>:</del>                                 | <del> </del> | <del></del> -                                    | <del>                                     </del> | <del>}</del>   | +            | <del></del>     | <del> </del> |             | <del></del>  |           |  |
| ib total                   | R 151   | : l            |  | 1         |                | Į.       |                 |        |             |  |                |                |                | L (08  |                | 12.12  | 912          | & 110        |                  |                | 1, 803   | 12,974   | \$54   | 3, 989                                       | 721  | CH             | 1, \$45      |  |                | <u> </u>                                     | l .          | İ  | <u> </u>   | <u> </u>       |              |                 | l            |             | Lİ           |           |  |
| t kalse                    | 705   |                |  | 1         | -              |          |                 |        |             |  | 1              | :              | 190            | \$10<br>:41                                  | 59             | 31   | 11           | 316          |                  |                | 100  | \$30   | 190<br>1110  | 530  | Tird   | \$30           | \$ 80        | 1.069  |                |  |              |  |  |                |              | $\overline{}$   |              | ,           |              |           |  |
| coming V/V                 | 100m×7  | Į              | •  |           |                | Į        | •               | ļ      |             |  | ļ              | i              | (1940)         | : :4/T                                       | (194)          | 1  | 1741         | 25634        |                  | i              | (114)  | 1114   | (110)  | : -  | Tita   | 2379           |              |  | 7]             | i  | ļ            | i  |  |                | !            |                 | ł            |             | l i          | . !       | 1  |
| seun develo                |   | .1             |  | i         |                |          | •               |        |             |  |                |                | 310            |  | ١,,,,          | l  | .] .,,       | i            | ١.               | ١.             |  | 13.534   |  | 4 514  | •,,  |                | 1 745        | •  | .1             |  | i            |  |  | İ              | İ            |                 |              |             |              | j         | . S  |
| id total<br>is M. Legi     | , <u>, , , , , , , , , , , , , , , , , , </u> | ¦} ~ ·         |  | 4 2 1     | 1              | 1        |                 | ł      |             |  |                |                | 334            | £ 938  | 1.2.11         |  | 1 15         | 4, 928       | a . F            | 1000           |  | 1-7230   |  | 1-3-11E                                      | 12.17  | 422 °          | 2000         |  |                |  | ¦ .          |  |  |                |              |                 | > F          | 1 1         |              | · · · · · | # r 7.   |
|                            | •   | 1              | •  |           | İ              |          | į               |        |             |  |                | ļ              |                | •  |                | !  | (216)        | P512         | Ì                | !              | 1  | !  |  | ţ  | 1  | !              |              | •  |                |  | l            | !  |  | !              |              | !               |              |             |              |           | <b> </b>   |
| d M. I cel                 | (2)   | ,  <u> </u>    |  |           | 1              |          |                 |        |             |  | 1              |                | I              | :  |                |  | 115          | Ī _          | 14               |                |  | -  | T  | :  |  | Ī              |              |  | 1              |  | 1            |  |  |                | T            |                 |              |             |              | }         |  |
|                            |   | <b>_</b>       | <u> </u>   | _         | <u> </u>       |          |                 |        |             |  |                | <u> </u>       | ļ              | <b>.</b>                                     | ļ              | <u> </u>                                     | [224]        |              | 144              | <del></del>    | ļ  | <u> </u>   | ļ  | i  | L  | i<br>          |              | <u>.                                    </u> | <b></b>        | ļ  | L            | <u> </u>   | 1  | ļ              |              |                 |              |             |              |           | <u> </u>   |
| ML E cal                   | 435   | 3              | į  |           | İ              |          | i               |        |             | İ  | ļ              | İ              | ļ              | i  |                | İ  | 243<br>[684] | i —          | £45              | 11111          |  | j  |  | i  |  | i              |              | i  |                | i  | l            | i  | }  | j              |              | į               |              |             | i            | 1         | į .  |
| alake)<br>10 M. Connect    | 50  | .              | <del>-</del> :                                   | +         | +-             | _        | <del>i</del> -  |        |             |  | <del></del>    | <del></del>    | ļ              | <del>-</del>                                 |                | <del></del> -                                | [984]        | <del></del>  | [5]4]<br>50      | 111:1          | <del> </del>                                     | -  | <del>                                     </del>   |  |  | <del> </del>   |              | •  | <b>-</b>       | -  |              | i  | <del> </del>                                     | <del>.</del>   | <del> </del> |                 | <b>!</b>     |             |              |           | i —  |
| ateke)                     | l   | Ι.             | ļ  |           | ·              |          | •               | 1      |             | !  |                | ļ              |                | •  | i              | •  | 1            | !            | 50<br>[143]      | 0.03           | -  | !  |  | ]  |  | !              | 1            | į  |                |  | l            | !  |  |                | -            | •               | ŀ            |             |              | i         | L  |
| 00 M. A cel                | 41  | 1              | 1  |           |                | $\top$   |                 |        |             |  | 1              |                |                |  |                |  |              | !            | 331              |                | 75   |  | I  | 1  | Γ  |                | I            | :  | T              |  |              |  | 1  |                |              | :               | I            |             |              |           | ı  |
| Edenst)                    | <b></b>                                       | -              | .i   |           | - <del>!</del> | _ _      |                 |        |             | ļ  | <u></u>        | <u> </u>       | ļ              | <u>;                                    </u> | <b></b>        | <u>:                                    </u> | <del> </del> | :            | (944)            | !              |  | 12194  | ļ  | <del>!</del>                                 |  | ļ              |              | <u>:                                    </u> | ·              | <u>:                                    </u> | <b> </b>     | <u>;                                    </u>     | <del> </del>                                     | <u> </u>       |              | <del>:</del>    | ļ            |             |              |           | <u> </u>   |
| ia fen road                | 4!  | 9              | į  |           | į              |          | į               |        |             | į  |                | į              |                | į  | 1              |  | ł            | i            |                  | į              | (114)  | 4314   |  | į  |  | į              |              | į  |                | į  | l            | į  | 1  | •              |              | į               |              |             |              | I         |  |
| indiag roof                | 11  |                | <del>!</del> —                                   | +-        | <del>-</del>   | +        | <u>-</u> -      |        |             |  | <del> </del>   | <del>i -</del> | <del> </del>   | <del> </del>                                 | <b>†</b>       | ·  | +            | ·            | 50               | <del>!</del> - | 1,140  | 1  | <del>                                     </del>   | <u> </u>                                     | ├  | <u> </u>       |              | <u></u>                                      | ╁              | <u> </u>                                     | <del> </del> | <u>i                                      </u>   | } -  | <u> </u>       | 1            | •               | _            |             |              |           | Γ  |
| intake)                    | •   | `              |  |           |                |          |                 |        |             |  |                | •              |                |  | 1              | •  | <b>!</b>     | İ            | 1274             | altid          |  |  |  | •  |  | Ì              | ;            | :  |                |  | l            | j.,  |  | :              |              | :               |              |             |              |           | L  |
| acer gelbei                | 1   | •              | ï  |           | 1              | 1        |                 |        |             |  | <u> </u>       | 1              | 1              | -  | Γ              | ]  | 1            | <u> </u>     | 1q               | 11,56          | 1  |  |  | 1  | I  | 1              | ]            | :  | T              | 1  |              |  | 1  |                | ]            |                 |              |             | i            | ŀ         | i  |
| (ulake)                    |   |                | - <b>i</b>                                       |           |                |          |                 |        |             |  | ļ              | <u>.</u>       | ļ              | i<br>  | ļ              | ·  | . <b> </b>   | i            | (304)            | 11,56          | <u> </u>   | <u>-</u>   | ļ  | <b>i</b>                                     |  | <u> </u>       |              | <b>:</b><br>                                 |                | <u></u>                                      | <u> </u>     |  |  | i              | <b></b>      | <u>i — </u>     |              |             |              |           | <b> </b>   |
| ilu slope<br>(utake)       | 471.  | <b>'</b>       | i  |           | i              | ļ        |                 |        |             |  | Ì              |                |                |  | 1              | •  |              | •            | 215. 1           | 3716           |  | •  | 168. Ø<br>(JAd)                                    |  | 67.4<br>8948                                     |                |              | •  |                |  | l            | İ  | 1  | İ              |              | 1               |              |             |              | 1         | i  |
| inding tood                | 84  |                | ÷  | <b></b> - | $\div$         | $\dashv$ |                 | -+     |             | <b>!</b>                                       | -              | <del></del>    | <b></b> -      | <del>!</del> -                               |                | <del>:</del>                                 | <del> </del> | i            | 61               |                | ·}   | <del>•</del>                                     | 1276;  | <del>:</del>                                 | 1:-0;  | 1              |              | •  |                | <del></del>                                  | $\vdash$     | <del> </del>                                     | <del> </del>                                     |                | 1            | <del></del>     |              |             |              |           |  |
| 1k161t)                    |   | 1              | !  |           | !              | ļ        |                 |        |             | !  | ł              | !              |                |  | 1              | •  |              | !            | [enag            | :214           |  | 1  |  | <u> </u>                                     |  | !              |              | •  |                |  |              | !  | l  | !              |              |                 |              |             |              |           |  |
| Bocs Beibe                 | ļī  |                |  | 1         |                |          |                 |        |             |  |                |                |                |  | 1              |  | Ĭ            |              | [18<br>{193}     |                |  | -  |  |  |  |                |              |  | ·              | 1  |              |  | T  |                | 1            | -               |              |             | -            | I         |  |
| tkasst)                    | 214.  |                | <del></del>                                      |           | -              |          |                 |        |             | i<br>  |                | <u> </u>       | ļ              | <u> </u>                                     | <b> </b>       | <u> </u>                                     | <u> </u>     | <b>!</b>     | {:9J}            | 314            | <u> </u>   | <del>-</del>                                     | ļ  | ļ  |  | <b>.</b>       |              | <del>•</del>                                 |                | <u> </u>                                     | <b> </b>     | ļ  | ļ  | <del> </del>   | <del></del>  | <b>i</b>        |              |             | <b>-i</b> -  |           | <b></b> -  |
| d mala stope<br>(12051)    | 230.  | <b>'</b>       | į  |           | j              |          | i               |        |             | į  |                | į              | ]              |  | 1              | į  |              | i            | 1.0<br>(id)      | <u> </u>       | 51. 2<br>[17.0]                                  |  |  | ĺ  | 235. T   |                |              | į  |                | į  |              |  | 1  | į              |              | į               |              |             | i            | I         |  |
| i M. I cel                 | 12  | <del>. </del>  | <del></del>                                      |           | <del></del> -  |          |                 |        |             |  | <del></del> -  | <del></del>    | <del> </del>   | <del> </del>                                 | <del> </del> - |  |              | <u>:</u>     | (12)             | <del>!</del>   | 229  | 12383  | <del> </del>                                       | <u> </u>                                     | 1/502  | 13534          |              | <del>!</del>                                 | <u>-</u>       |  | $\vdash$     |  | ├─   | -              | +            | -               |              |             |              |           |  |
| İ                          | 1   |                |  |           | į              |          |                 |        |             |  |                |                |                | ĺ  | 1              |  |              |              | Ì                | i              | [6(4]]   | 4651   | 1  | Ì  |  | Ì              |              |  |                | Ì  |              |  | ļ  |                |              |                 |              |             |              |           |  |
| 5 M. I cel                 | 26  | ı              |  |           |                |          |                 |        |             | i  | i – –          | 1              | 1 -            | !  |                | -  | 1            |              |                  |                |  | :  | 251  | 1744   | Ī  | ļ              |              | !  | 1              |  |              |  |  | 1              | 1            | ;               |              |             |              | 1         | į  |
|                            |   |                | <u>.                                    </u>     |           |                | _ _      |                 | 1      |             |  | ļ              | <u> </u>       | <b>!</b> -     | <u> </u>                                     | <b> </b>       | <u> </u>                                     | <b></b> .    | <u> </u>     |                  | <u> </u>       | ļ  | <u>;                                    </u>     | (134)  | 1744   | ļ  | <u> </u>       |              | <u>:</u>                                     | <u> </u>       | İ  | ļ            | ļ  | <u> </u>   | <u> </u>       | <b></b>      | <u>!</u>        |              |             |              |           | i  |
| 20 ML I cut                | 16  | <b>'</b>       |  |           |                | 1        | •               | ŀ      |             |  |                | •              |                |  | į .            |  | i            | į            |                  |                |  | •  |  | :  | 162  | a595a          |              | •  |                | į  |              |  | 1  |                |              |                 |              |             | 1            | i         | i  |
| 10 ML I cul                | 19  | <del>,  </del> | •  | -         | ÷              |          | <del></del>     |        |             | <del> </del>                                   | <del> </del> - | <u> </u>       | <del> </del> - | <del>!</del>                                 | <del> </del>   | <del>•</del>                                 | <del> </del> | ·            | <u> </u>         | <del> </del>   |  | <del>•</del>                                     | <del> </del>                                       | i  | 142  | :              |              | <del></del>                                  | <del> </del>   | <del> </del>                                 | <del> </del> | <del></del>                                      | -  | · <del> </del> | +            | <del> </del>    |              |             |              |           | ſ~~~   |
|                            | ] "   | 1              | ļ  | 1         | ļ              | ļ        | •               |        |             | ļ  | ļ              | İ              |                | Ì  |                | į  | ŀ            | 1            |                  | ļ              |  | 1  |  | !  | (24)   | <b>-</b>       |              | •  |                | 1  |              | !  |  | !              |              | !               |              |             |              |           | l  |
| sed in Rock                | ĺ   | Ì              | į  | İ         | į              | ĺ        | į               | i      |             | •  | i ·            | į              | į              |  | İ              | 1  | ĺ            | į            | İ                | •              | Ì  | •  | į  | •  | i  | ļ              | ĺ            | •  | i              | į  | Ì            | į  | İ  | į              | Ì            |                 | Ì            |             |              |           |  |
| falet d                    | 2, 995.                                       |                | İ  | 1         |                | ļ        |                 | ļ      |             |  | ļ              |                | Į              | į  | Į .            |  | 456.0        |              | 194E. E          |                | 395. 1   | i  | 42 L T   | i  | 569.4  | į              | 6.0          | :  | į              | i  | ļ            | į  | ļ  |                | !            |                 | 1            |             |              | ļ         | i  |
| 688 WL                     | 59  | ٥              |  | ı         |                | ŀ        |                 | - 1    |             |  | 1              |                |                |  | 199            | \$,248<br>cos                                | •            |              |                  |                |  | •  | l  | }  |  | ļ              |              | Ī  | 1              |  |              |  |  |                | 1            | 1               |              |             |              | - 1       |  |
| 658 MI.                    |   |                | <del>-                                    </del> |           | <u>-</u>       |          |                 |        |             | <u>.                                      </u> | 1-             | <del>!</del>   | 23             |  |                | 6.333  | +            | i            | <b></b> -        | <del> </del>   | <del>                                     </del> | <u>:</u>   | <del> </del> -                                     | <del>i</del>                                 |  | <u> </u>       | ļ            | -  | <del> </del>   | <del></del>                                  | <del> </del> | <del>i</del>                                     |  | <del>:</del>   | +            | +               |              |             | <del></del>  |           |  |
| esem)<br>ese ar            | l "   | ľ              | •  |           |                |          | į               |        |             | ļ.   |                |                | (14)           | ! "  | 11170          | s153d]                                       |              | l            |                  |                |  | •  | 1  | 1 .  |  | 1              |              | į  |                | İ  | 1            | İ  |  | !              |              | !               | {            |             | !            |           |  |
| FIS YL                     | 93  | 1              | 1  | _         | 1              | $\top$   | <u>i</u> -      | $\neg$ |             |  | 1              | 1              | † ` <u>`</u>   | !  | 195            | 2.24   | 111          | 4, 171       | <b></b> -        | !              | t  | •  | T  | !  | <b> </b>   | <u> </u>       |              | ţ  | <b>†</b>       | <del> </del>                                 | t            | !  | 1  | <del></del>    | 1            | 1               |              | -           |              |           |  |
| isesa)                     |   |                |  |           |                |          |                 |        |             | <u>:                                    </u>   |                | 1              | L              | <u> </u>                                     | [414]          |  | TIGHT        | 1151¢        |                  | <u>i</u>       | <u> </u>   | :  | L  |  |  | <u> </u>       |              | 1  | L              | <u>:</u>                                     | <u>L</u>     | <u>:</u>   |  | <u>:</u>       |              | <u> </u>        |              |             | <u> </u>     |           | 1  |
| 565 YL                     | 54  | ١              |  |           | i              |          | 1               |        |             | i  |                | i              |                | i  | l              |  | 941          | 7, 153       |                  | i              |  | •  |  | i  |  | i              |              | i -  |                | i  | I            | i  | 1  | i              |              |                 |              |             |              | J         | ļ  |
| 11415)                     | ł <del></del> -                               | .+             | - <del> </del>                                   | -         | -              | _ _      | <b>i</b> -      |        |             | <u> </u>                                       | <del> </del>   | <del></del>    | <b>_</b>       | <u>i                                    </u> | <u> </u>       | <u> </u>                                     | वभव          | 1554         | <u> </u>         | <del> </del>   | <b> </b>   | <del>i</del>                                     | <b> </b>   | <del></del>                                  | L  | <u> </u>       |              | <u> </u>                                     | 1              | i  | <b> </b>     | ļ  | <del> </del>                                     | <del> </del>   | <del> </del> | 1               | }            | <b>-</b>    | <del> </del> |           |  |
| \$50 YL                    | 1. 99   | '}             | İ  |           | į              | 1        |                 | - 1    |             | İ  | 1              | •              |                | •  |                | •  |              |              | 1, 897<br>(1522) | 2,337          |  | :  | 1  | 1  |  | 1              | ]            | i  | 1              |  | i            | ĺ  | ]  | •              | !            | 1               |              |             |              | . 1       | i  |
| 550 ML                     | 1, 19   |                | <del>-                                    </del> |           |                |          |                 |        |             | <del>:</del>                                   | <del> </del> - | <del>:</del>   | +              | <del></del>                                  | <del> </del>   | <del>:</del>                                 | +            | <del>!</del> | (15:51)          | 1544           |  | 4, 545   | 1  | Litt   | <b></b>  | <u> </u>       | ļ            | <del></del>                                  | 1              | <del>!</del>                                 | <del> </del> | !  | <del> </del>                                     | <del></del>    | 1            | 1               | <del> </del> |             | <del> </del> | ,——{      | <del>                                     </del> |

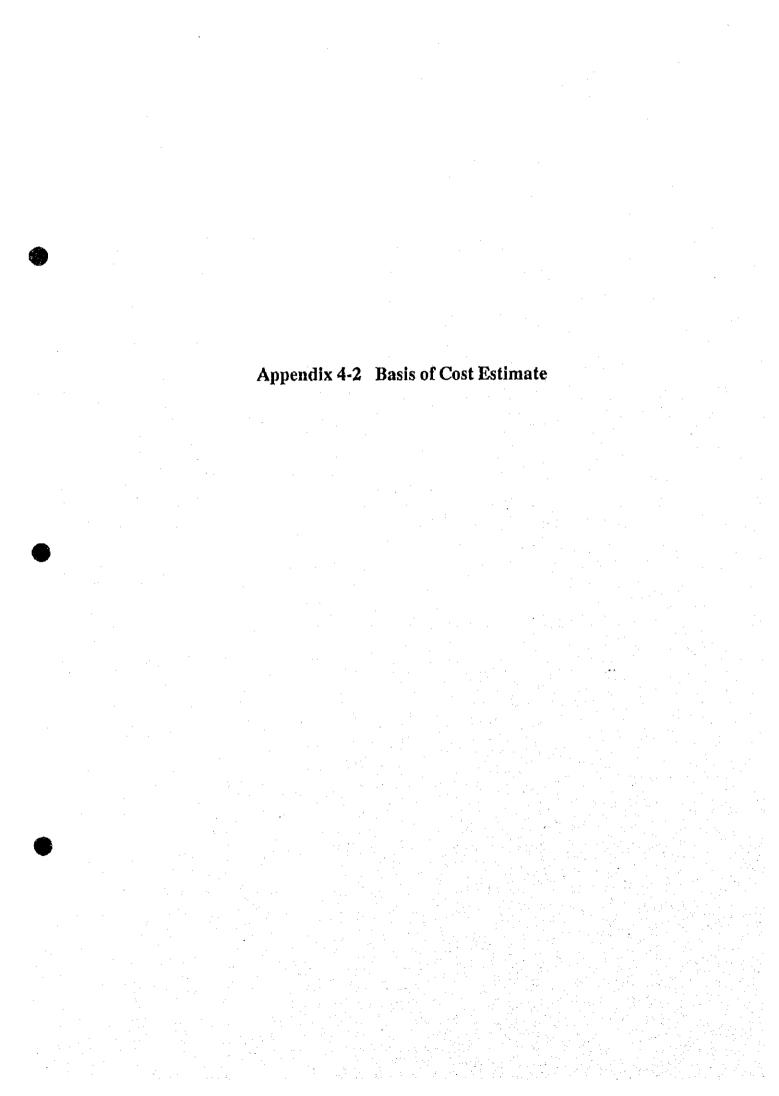
|                          |                   |          |  |   | _  |          |          |          |   |           |             |       |        |        |               | _     |         |        | _     |       |         |        |         |        |        |        |         |                    | _        |            | _        | _        |               |          |  | _   |            |          | _         |                 |
|--------------------------|-------------------|----------|--|---|--|----------|----------|----------|---|-----------|-------------|-------|--------|--------|---------------|-------|---------|--------|-------|-------|---------|--------|---------|--------|--------|--------|---------|--------------------|----------|------------|----------|----------|---------------|----------|--|---|------------|----------|-----------|-----------------|
| (inters)                 |                   | 1        | •  |   | į  | 1        | i        | i i      | :   |           | ì           | 1     | į      |        |               | •     |         | į      |       | [124] |         | (134)  |         |        |        |        |         | L                  | <u>-</u> | <u>.</u>   | <u>i</u> |          | <u>i</u>      | 1        | <u>.                                    </u> | <u> </u>                                      | 1          | <u> </u> | [         |                 |
| E1 415 M. (E. T)         | 1, 664            |          |  |   | [  |          | : -      | 1        | 1   |           | ;           | 1     |        |        |               |       |         |        |       | 166   | 1, 121  | 1.393  | 32 624  |        |        |        |         |                    |          |            | ;        |          |               |          |  |   |            |          |           | 12 646          |
| (Issera)                 |                   |          | !  |   | •  | 1        | !        | 1        |   | <b>.</b>  | <b>.</b>    | l     |        |        |               |       | 1       |        |       | [3:4] |         | ,(554) | 1.54    |        |        |        |         |                    |          |            |          | <u> </u> | i             |          |  | <u>L.                                    </u> | i'         |          |           |                 |
| E1 (35 M. C. T)          | 1, 452            |          |  |   |  |          |          | T        |   |           |             |       |        |        |               |       |         |        |       | •     |         |        |         |        | 3, 236 |        | 2,755   | 1                  |          | 1          |          |          |               | 1        |  |   |            |          |           | 12, 555         |
| (isseau)                 | 8840m , 2812i     | ł        |  |   | i<br>t                                       | 1        | <u>:</u> | <u> </u> | <u>i                                     </u> | _i        | <u> </u>    | 1     |        |        |               |       |         |        |       |       |         |        |         | [1354] | 000    | [254]  | 2274    |                    | <u> </u> |            | !        | <u> </u> | <u> </u>      | 1        | :  | <u> </u>                                      | :          | <u> </u> |           |                 |
| E1 420 14 (E. T)         | 1, 612            |          |  |   |  |          |          | 1        |   | Ti .      | i           |       | ì      |        |               |       |         | ì      |       | i     |         |        | i       |        | }      | ì      | 53      | 1, 135             | 1, 426   | 1          | Ī        | 1        | i             | ĺ        | i  | i   | i          |          | - 1       | 12 (13          |
| (lescan)                 |                   | l        |  |   | <b>.</b>                                     | <u> </u> | :        | <u> </u> | <u>:</u>                                      | <u>.l</u> | <u> </u>    |       |        |        |               |       |         |        |       |       |         |        |         |        |        | (10)   |         | \$25502            | \$134    | <b>.</b>   | <u> </u> | <u> </u> | i             | .]       | .i   | L   | ·          | L        |           |                 |
| E1 316 M. (R. T)         | 1, 621            | [        |  |   |  |          |          |          |   |           |             |       |        |        |               |       |         |        |       |       |         |        |         |        |        | •      | 4, 155  |                    | 4.10     | ļ          | :        |          |               | 1        | •  |   |            |          | . 1       | 12. 136         |
| (laseza)<br>El Seen Band | 1911a , E650      | ļ.,,.    |  |   | <del></del>                                  | <u>.</u> | į        | l        | , .   |           |             | 1.000 |        | -2.5-  | er centr      |       |         |        |       |       |         |        |         |        | THEFT. | (1)30  | - Marin | Tuko               | s)711d   | ļ., . ·    |          |          | 7,            |          | ,  | 2.2.1   |            |          | Į         |                 |
| El Sean Band             |                   |          |  |   |  | ł        |          | "        | i   |           | i           |       | i      |        |               | ì     |         | į      |       | ì     | 1       |        | i       |        |        |        |         |                    |          | 1          | i        | 1        | i             | 1        | į  |   |            | l i      | ı         |                 |
| Seb totat                | 12, 311           | 1        | •  |   | :  | ļ        | :        | ļ        | ł   | Į         | •           | 19    | 220    | 1, 824 | цы            |       | 12 124  | 1, 097 | F 333 | 861   | 6, 567  |        |         |        |        | 1, 443 |         |                    | 18,857   |            |          | ļ        | 1             | ļ        |  | ļ   | •          | ! !      |           | 32, 575         |
| Et Ralse                 | 904               |          |  |   | :  |          |          |          | 1   |           | 1           |       | :      | 100    | £12           | 190   | 572     | i      | ĺ     | i     | 1       | 100    | 211     | 199    | \$72   | 300    | 1, 116  | [34d] <del>*</del> | 1, 144   | 1          | •        | 1        | i             |          | •  |   | •          | 1 i      |           | £ 168           |
| Becesing 4/F             | 190g×9            | ļ        | •  | , | İ  | ļ        | į        | ļ        | İ   | ļ         | 1           | [     | į      | D7Q    | #11 <b>64</b> | (t/a) | :434    | Ì      |       | 1     | 1       | (174)  | s716d   | 070    | 1674   | (514)  | \$1M    | [340]              | 97344    | ]          | •        | ļ        | 1             | ļ        |  | ļ   | •          | ! !      | Į         |                 |
| El 2201 (6276)           |                   |          | ì  |   | İ  | ł        | į        |          | i   | 1         | i           | 1     | i      | 1      |               | i     |         | Ì      | 1     | į     | 1       |        |         |        |        |        | ì       | 1                  | į        | 4          | i        | i        | i             |          | •  | ŀ   | i '        | i        |           |                 |
| Sed total                | 12,213            | ļ        | İ  |   | ļ  | ļ        | •        | <u>!</u> | •   | Į         | 1           | 29    | 119    | £ 834  | ដេដ           | L SEE | 12, 824 | I, DIT | f mi  | 841   | C 567   | 8, 492 | 35, 130 | 1, 14  | 4,1%   | L (41  | 10,347  | 2 191              | £ 867    | ]          | i        | !        | i             | !        | į  | ļ   | i '        |          | Į i       | <b>38, 1</b> 27 |
| El & El Palise           |                   |          | 1  |   | •  |          | :        | ı        | ì   |           | i           | 1     | •      |        |               | •     |         |        |       | i     |         |        |         |        |        |        |         |                    |          | 1          | •        | 1        | 1             | 1        | •  | 1   | •          |          | í         |                 |
| Total<br>El & El Boad    | 1, 600<br>14, (1) |          | j  |   | !  | L        |          | <u> </u> | <u> </u>                                      |           | i<br>daeree | 100   | 130    | 161    | 144           | 141   | 790     |        |       | 180   | 130     | 204    | 1, 161  | 100    | 2 161  | \$90   | 2, 174  | 194                | 1,14     | ļ <u></u>  |          | <u> </u> | i<br>In a see |          |  |   | Anna angar |          |           | L 151           |
| El & El 1044             | 41, (0)           |          |  |   | 1  |          |          | 1        |   |           |             |       | į      |        |               |       |         | i      | •     | i     | ٠ .     |        |         |        |        |        | i       | 1                  |          | 1          | ;        | 1        | 1             |          | •  |   |            | 1 i      | 1         |                 |
| Total                    |                   | <u> </u> |  |   | <u> </u>                                     | <u> </u> | •        | <u> </u> | !<br>!  |           |             | 110   | 6 628  | LIM    | PC 141        | 2 514 | 11,734  | 1, 497 | Lui   | 1 144 | 19.543  | 1,44   | 31, 121 | 2,010  | 14 967 | 1,341  | 12 H j  | F 191              | 16,667   | ļ. <u></u> | :        | <u> </u> |               |          |  |   |            |          |           | 151, 301        |
| Berelopseat              |                   |          | •  |   |  |          | •        |          | •   |           | 1           |       | •      |        |               |       |         | İ      | - 1   | :     |         |        |         |        |        | ŀ      |         | 1                  |          | t          | :        | 1        | i             | 1        | •  | 1   | :          | l i      |           |                 |
| Total                    | 15, 645           | <u> </u> | <u>.                                    </u> |   | <u>.                                    </u> | <u> </u> | <u>i</u> | <u> </u> | <u>.</u>                                      |           | <u>.</u>    | 1,611 | 1, 151 | 1, 695 | 27,078        | 1.111 | 19,524  | 1.16   | [ 137 | 10    | 20, 011 | 2, 175 | 24, 139 | १ ६३३  | 14,069 | 1 (11  | 14,147  | 1 391              | (1,11)   | <u> </u>   | 1        | <u> </u> | .L            | <u> </u> | <u> </u>                                     | <u>L</u>                                      | <u> </u>   |          | <u> 1</u> | 161, 151        |

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# Working Face (West colliery)

|                                  | ·• <del></del>                        |                   | 1                  | 11              |       | 71               |           | 1            | 11              |             | 15        |        | 11      |             | 11      |       | ī.             |                | 13              |         | Tip            |          | YLL      |                    | 113              |                | 113      |         | THE T    |        | T15       |       | TIS     | I      | Til                  |          | TLS T   | T      | <u>.19</u>    |        |
|----------------------------------|---------------------------------------|-------------------|--------------------|-----------------|-------|------------------|-----------|--------------|-----------------|-------------|-----------|--------|---------|-------------|---------|-------|----------------|----------------|-----------------|---------|----------------|----------|----------|--------------------|------------------|----------------|----------|---------|----------|--------|-----------|-------|---------|--------|----------------------|----------|---------|--------|---------------|--------|
|                                  | •                                     | 6213              | 1023               | fays   101      | 3 625 | 1 101            | 11.3      | days         | lots            | (ty)        | lots      | fays . | 1003    | deys        | 1001    | days  | leas           | <b>6133</b>    | teas            | days    | toss           | daya.    | 1023     | degs               | loas             | 4112           | 1693     | days    | tees     | days   | 1024      | fays  | tens    | 6275   | teas                 | diys     | 1085    | đija ( | tons          |        |
| 2 X0. I                          | \$1, 130                              |                   | <u> </u>           |                 | Ť     | -                |           |              |                 |             |           |        |         |             |         | [814] | 15, 794        |                | 10,036<br>12074 |         |                |          |          |                    |                  |                |          |         |          |        |           |       |         |        |                      |          |         |        |               | 11     |
| 2 No. 2                          | \$4, ZEF                              | 306 10            | 9 <b>/fay</b>      |                 |       | •                |           |              |                 |             |           |        |         |             |         |       |                |                |                 | [2104]  | 51.254<br>5354 |          |          |                    |                  |                |          |         |          |        |           |       |         |        |                      |          |         |        |               | H      |
| 2 No. 3                          | 1(10)                                 |                   |                    |                 |       | -                | -         |              |                 |             |           |        |         |             |         |       |                |                |                 |         |                |          |          | [242]              | 74, 051          | {136}<br>3217d | 14, 317  |         |          |        |           |       |         |        |                      |          |         |        |               | R      |
| 2 No. 4 Vs.1                     | (), ())                               |                   |                    |                 | _     | i                | _         |              |                 |             |           |        |         |             |         |       |                |                |                 | -       |                |          |          |                    |                  |                |          | Deset   | Je 525   | (7d)   | I, \$28   |       |         |        |                      |          |         |        |               | ŧI,    |
| 2 No. 4 Est                      | 44,47.8                               | 267 10            |                    | -2-             | -     | <del>-   -</del> | +         |              |                 |             |           |        |         |             |         |       |                |                |                 |         | 1              |          |          |                    |                  |                |          |         |          | [1:34] | 14, 000   |       |         |        |                      |          |         |        |               | łţ     |
| 3 No. 3 Vs.1                     | 28,594                                | a fate<br>Lincres | e verkess          | aftet           |       |                  | +         | <del>i</del> |                 | i           |           | -      |         |             |         |       |                |                |                 |         |                |          |          |                    |                  |                | <u> </u> |         |          |        |           |       |         | {15.4} | Ş4 13(<br><b>280</b> |          |         | i      |               | 53,    |
| 2 No. 8 Es 1                     | 14 165                                | 1931 0            | oreisp ii          | .#15 <b>%</b> ) |       |                  |           | i            |                 |             |           |        |         |             |         |       |                | -              |                 |         |                |          |          |                    |                  |                |          |         |          |        |           |       |         | (frd)  | 14, 251              |          |         |        |               | К      |
| i Xe I                           | 61.86                                 | 7                 |                    |                 |       | +                |           |              |                 |             |           |        |         |             |         |       |                | (2074 <b>)</b> | 67, 491         | (14)    | 1, 079         |          |          |                    |                  |                | <u> </u> |         |          |        |           |       |         |        |                      |          |         |        |               | 11,    |
| 1 No. 2                          | 95, 641                               | 326 to            | es/és              |                 | -     | -                |           | •            |                 |             |           |        |         |             |         |       |                |                |                 | [256]   |                | [2504]   | 81, 100  | [14]               | 1, 730<br>1, 730 |                |          |         |          |        |           |       |         |        |                      |          |         |        |               | 15,    |
| 1 Vo. 3                          | 114, 131                              | ] .               |                    |                 |       | +                | - -       |              |                 |             |           |        |         |             |         |       |                |                |                 |         | <u> </u>       |          | <u> </u> |                    |                  | 51140          | 10, 742  | [14\$4] | 67, 155  |        |           |       |         |        | _                    |          |         |        |               | 118,   |
| 1 No. 4 V51                      | 28, 221                               |                   |                    |                 |       | <del>-   -</del> |           |              |                 |             |           |        |         |             |         |       |                |                |                 |         |                |          |          |                    |                  |                |          |         |          | [b2d]  | 26,729    |       |         |        |                      |          |         |        |               | 24     |
| 1 No. ( Y3)                      | 43, 184                               |                   |                    |                 |       |                  | $\top$    |              |                 |             |           |        |         |             |         |       |                |                |                 |         | <del>!</del>   |          |          |                    |                  |                | !        |         |          | [564]  | 21, =26   | [[1]] | 31 761  |        |                      | <u>†</u> |         | i      |               | 13     |
| 1 No. 4 Esi                      | F1, 691                               | 381 E6            | nt/das<br>LP frodi | ne fa B         |       |                  |           |              |                 |             |           |        |         |             |         |       |                |                |                 |         |                |          |          |                    |                  |                |          |         |          |        |           | [184] | 7E 8:8  | £1743  | 1.69                 |          |         |        |               | 11     |
| 1 No. 2 Te t                     | 25, 225                               | Eincers           |                    | a i let         |       | 1                | 1         | İ            |                 |             |           |        |         |             |         |       |                |                |                 |         |                |          |          |                    |                  |                |          |         |          |        |           |       |         | listi  | 1, 359               | (814)    | 12 110  |        |               | 25.    |
| 1 No. 5 NA1                      | 65, 634                               | 10.55             |                    |                 |       | -                |           |              |                 |             |           |        |         |             |         |       |                |                |                 |         |                |          |          |                    |                  |                | 1        |         |          |        |           |       |         |        |                      | (1623)   | A3, 521 |        |               | 62     |
| 1 No. 5 Est                      | 84, 439                               |                   |                    |                 |       | 1                | 1         |              |                 |             |           |        |         |             |         |       |                |                |                 |         |                |          |          |                    |                  |                | !        |         |          |        |           |       |         |        |                      | 1:141    | 10, 541 | (1280) | H. 857        | K      |
| est Colliery<br>/F total         | 145, 111                              |                   |                    |                 |       | İ                |           |              |                 |             |           |        |         |             |         |       | 25, TM         |                | 20,54           | - C- 20 | 11,155         |          | B1, 506  |                    | 14, 183          |                | IA 153   |         | 15,120   |        | \$4, 78\$ |       | 97, 925 |        | 92, 254              |          | 97, 513 |        | ir ni         | 145    |
| est Colliers<br>elal Product     |                                       |                   |                    |                 |       |                  |           |              |                 |             |           |        | 1,154   |             | 21,077  |       | 6 <u>,</u> 131 |                | цы              |         | 91, 126        |          | 301, 700 |                    | 14,170           |                | LMC, DM  |         | 185, 741 |        | 34, 70f   |       | 92, 825 |        | 92, 254              |          | 97, 911 |        | श्र धाः       | I, 184 |
| T Meliban Dine<br>otal Product ? |                                       |                   | 30,530             | 11              | , e i |                  | 11 1, 500 |              | 1 <b>85</b> 539 |             | i et, 342 |        | 114,166 |             | 1 संस्थ |       | 186,864        |                | 14 H4           |         | 97, 136        | <u> </u> | 784, 125 |                    | Jt. 171          |                | LUK, ESE |         | 184 141  | ·<br>! | 84, 709   |       | PL 825  |        | 93, ES4              |          | 97.811  |        | <b>១. ស</b> ា | 1,111  |
|                                  | · · · · · · · · · · · · · · · · · · · |                   | <del></del>        | Y2              |       | Y 3              |           | <del></del>  | Y4              | <del></del> | Y5        | terro  | Y6      | <del></del> | Y1      | ·     | Y8             | ant a state    | Y9              |         | Y 10           |          | Y 11     | Property of Const. | Y 12             | -36-5          | YD       |         | Y 14     |        | ¥ 15      |       | ¥ 16    |        | YII                  |          | Y 13    |        | 139           |        |



### Cost Estimation at Silimpopon

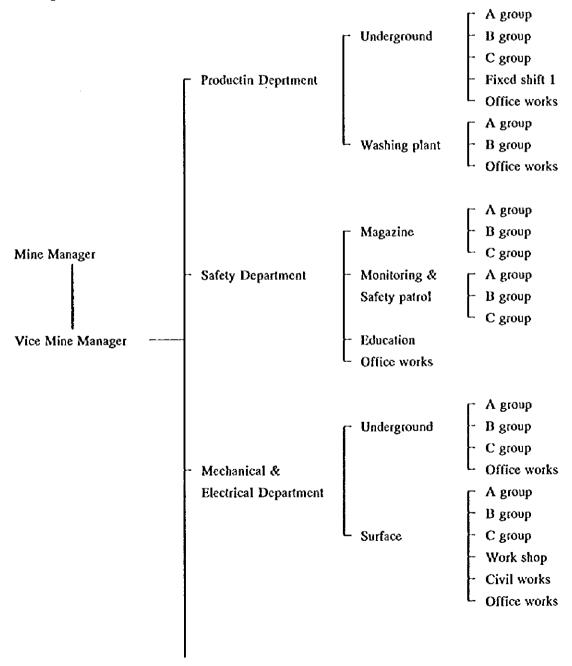
### 1. Working days and operating shift

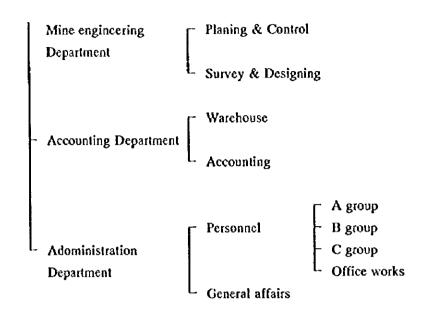
Working days per week is 5 days.

Annual working days =  $[52 \text{ weeks / year}] \times [5 \text{ days / week}] - \text{public holidays}$ =  $52 \times 5 - 10 = 250 \text{ days / year}$ 

One working day is divided 3 shifts. One shift is 8 operating hours.

#### 2. Organization at mine site





#### 2. Numbers of Personnel

#### 2-1. Production department

#### (1) Underground

Coal production mainly consists of 1 face of long wall mining, 2 faces of road development and its operation is done by 3 shifts (A, B, C group).

Average attendance ratio of these direct production group is estimated 85 % through 3 shifts.

## 1 workers at long wall mining (required & registered) per shift

|  | required | registered |
|--|----------|------------|
| Making holls & blasting works                  | 4        |            |
| Expanding rink bars & standing hydraulic props | 4        | ·          |
| Shoveling & moving chain conveyor              | 4        |            |
| Removing hydraulic props at 3rd row            | 6        |            |
| Making stable room and other works             | 4        |            |
| Checker for rik bars & hydraulic props         | 1        |            |
| Subtotal                                       | 23       | 27         |

- ② One driving face needs 5 workers. In this study there are regularly 2 driving faces. Therefore 10 workers are required per shift and 12 registered workers are necessary per shift.
- ③ To maintain roads, to prepare and do various works, for these purpose 8 workers are required per shift. Average attendance ratio of these workers is estimated

90 % per shift. Therefore 9 registered workers are necessary per shift.

① To transport coal, rock, materials and so on, battery locomotives & mine cars are introduced at horizonta rail roads. Basically one battery locomotive at upper level road and two battery locomotives at lower level road are used. One battery locomotive is run by operater and conductor. Therefore 6 workers are required per shift. Then 2 conductors are required at slope transportation. So for horizontal and slope transportation 8 workers are required per shift at underground works. Additionally at surface one battery locomotive is used for various works and one operater, one conductor and one helper are necessary per shift.

Total transpotation workers are 11. Average attendance ratio of these workers is

Total transpotation workers are 11. Average attendance ratio of these workers is estimated 90 % per shift. So 12 registered workers are necessary per shift.

|                          | required | registered |
|--------------------------|----------|------------|
| U/G horizontal rail road | 6        |            |
| Slope conductors         | 2        |            |
| Surface                  | 3        |            |
| Subtotal                 | 11       | 12         |

(5) Fixed shift 1 group is necessary to do important works using skilled worker.

### (2) Washing plant

At least a baum jig and hand picking system is introduced. When input capacity of the jig is 60 tons/hour and input capacity of hand piking is 15 tons/hour, total input capacity per day is a next equation. (60 + 15) tons/hour  $\times$  6 hours/shift  $\times$  2 shifts/day = 900 tons/day. Therefore 2 shifts/day operation has enough capacity. 12 workers for handpicking and 6 workers for various operators are required per shift. Therefore 18 workers are necessary per shift. Average attendance ratio of these workers is estimated 90 % per shift. So 20 registered workers are necessary per shift.

### Number of workers for Production department

|      |                   |         | require | rd work | ers      |         | registe | red work | ers      |
|------|-------------------|---------|---------|---------|----------|---------|---------|----------|----------|
|      |                   | shift 1 | shift 2 | shift 3 | subtotal | shift 1 | shift 2 | shift 3  | subtotal |
|      | L/W , B&P         | 23      | 23      | 23      | 69       | 27      | 27      | 27       | 81       |
|      | Headings          | 10      | 10      | 10      | 30       | 12      | 12      | 12       | 36       |
|      | Maintenance       | 8       | 8       | 8       | 24       | 9       | 9       | 9        | 27       |
| U/G  | Transportation    | 11      | 11      | 11      | 33       | 12      | 12      | 12       | 36       |
|      | Fixed shift 1     | 8       |         |         | 8        | 9       |         |          | 9        |
|      | Office works      | 2       |         |         | 2        | 2       |         |          | 2        |
|      | Subtotal          | 62      | 52      | 52      | 166      | 71      | 60      | 60       | 191      |
|      | Hand picking      | 12      | 12      |         | 24       | 13      | 13      |          | 26       |
| W/P  | Operaters         | 6       | 6       |         | 12       | 7       | 7       |          | 14       |
|      | Subtotal          | 18      | 18      |         | 36       | 20      | 20      |          | 40       |
| Proc | luction Dep total | 80      | 70      | 52      | 202      | 91      | 80      | 60       | 231      |

## Number of staff for Production department (registered)

|      |                  |                | shift 1 | shift 2 | shift 3 | subtotal |
|------|------------------|----------------|---------|---------|---------|----------|
|      | Depatment head   | l              | 1       |         |         | 1        |
|      | Superintended    |                | 1       |         |         | 1        |
|      | Section chief    |                | 1       |         |         | 1        |
| l l  | Group chief      |                | 1       | 1       | 1       | 3        |
|      |                  | L/W            | 3       | 3       | 3       | 9        |
| U/G  |                  | Heading        | 2       | 2       | 2       | 6        |
|      | General staff    | Maintenance    | 2       | 2       | 2       | 6        |
|      |                  | Transportation | 2       | 2       | 2       | 6        |
|      |                  | Fixed shift 1  | 1       |         |         | 1        |
|      | U/G subtotal     |                | 13      | 10      | 10      | 33       |
|      | Superintended    |                | 1       |         |         | 1        |
| W/P  | Group chief      |                | 1       | 1       |         | 2        |
|      | General staff    |                | 2       | 2       |         | 4        |
|      | W/P subtotal     |                | 4       | 3       |         | 7        |
| Prod | luction departme | nt total       | 18      | 13      | 10      | 41       |

## Number of regtistered personnel for Production department

|                             | shift 1 | shift 2 | shift 3 | subtotal |
|-----------------------------|---------|---------|---------|----------|
| Workers                     | 91      | 80      | 60      | 231      |
| Staff                       | 18      | 13      | 10      | 41       |
| Production department total | 109     | 93      | 70      | 272      |

# 2-2. Safety department (number of resistered personnel)

|          |                  |                  | shift 1 | shift 2 | shift 3 | subtotal |
|----------|------------------|------------------|---------|---------|---------|----------|
|          | Department he    | ad               | 1       |         |         | 1        |
|          | Superintended    |                  | 1       |         | _       | 1        |
| Staff    | Group chief      |                  | 1       | 1       | 1       | 3        |
|          |                  | Magazine         | 2       | 2       | 2       | 6        |
|          | General staff    | Monitor & patrol | 1       | 1       | 1       | 3        |
|          |                  | Education        | 2       |         |         | 2        |
|          | Subtotal         |                  | 8       | 4       | 4       | 16       |
|          | Patrol           |                  | 2       | 2       | 2       | 6        |
| Workers  | Office work      |                  | 1       |         |         | 1        |
|          | Subtotal         |                  | 3       | 2       | 2       | 7        |
| Safety o | lepartment total |                  | 11      | 6       | 6       | 23       |

# 2-3. Mechanical & electrical department (number of registered personnel)

|      |            |   |            | shift 1 | shift 2 | shift 3 | subtotal |
|------|------------|---|------------|---------|---------|---------|----------|
| Depa | rtment hea | 1                                       |            |         | 1       |         |          |
|      |            | Superintended                           |            | 1       |         |         | 1        |
|      |            | Section chief                           |            | 1       |         |         | 1        |
|      | Staff      | Group chief                             |            | 1       | 1       | 1       | 3        |
|      |            | General staff                           | Mechanical | 1       | 1       | 1       | 3        |
|      |            |   | Electrical | 1       | 1       | 1       | 3        |
| U/G  |            | Staff subtotal                          |            | 5       | 3       | 3       | 11       |
|      |            | Mechanical (including winding operator) |            | 6       | 6       | 6       | 18       |
| :    |            | Electrical                              |            | 2       | 2       | 2       | 6        |
|      | Workers    | Fixed shift 1 (Mechanical & Electrical) |            | 3       |         |         | 3        |
|      |            | Office works                            |            | 1       |         |         | 1        |
|      |            | workers subto                           | tal        | 12      | 8       | 8       | 28       |
|      | U/G subt   | otal                                    |            | 17      | 11      | 11      | 39       |
|      |            | Superintended                           |            | 1       |         |         | 1        |
|      | i<br>I     | Section chief                           |            | 1       |         |         | 1        |
|      |            | Group chief                             |            | 1       | 1       | 1       | 3        |
|      | Staff      |   | 3 shifts   | 1       | 1       | 1       | 3        |
|      |            | General staff                           | Work shop  | 2       |         |         | 2        |
| Sur- |            | Civit works                             |            | 1       |         |         | 1        |
| face |            | Staff subtotal                          |            | 7       | 2       | 2       | 11       |
|      |            | 3 shift                                 |            | 3       | 3       | 3       | 9        |
|      | Workers    | Workshop                                |            | 6       |         |         | 6        |

| 1 [        | Civil work (including                    | g road maintenance) | 6  |    |    | 6  |
|------------|--|---------------------|----|----|----|----|
|            | Office works                             |                     | 1  |    |    | 1  |
|            | Worker subtotal                          |                     | 16 | 3  | 3  | 22 |
| Surfac     | ce subtotal                              |                     | 22 | 5  | 5  | 32 |
|            |  | Staff               | 13 | 5  | 5  | 23 |
| Mechanic & | Mechanic & electrical department Workers |                     | 28 | 11 | 11 | 50 |
|            | ·  | total               | 40 | 16 | 16 | 73 |

# 2-4. Mine engineering department (number of personnel)

|         | Department head                   |               | 1 |  |  |
|---------|-----------------------------------|---------------|---|--|--|
|         |                                   | Section chief | 1 |  |  |
| Staff   | Planing & control                 | General staff | 2 |  |  |
|         |                                   | Subtotal      | 3 |  |  |
|         |                                   | Section chief | 1 |  |  |
|         | Survey & designing                | General staff | 2 |  |  |
|         |                                   | Subtotal      | 3 |  |  |
|         | Staff subtotal                    | off subtotal  |   |  |  |
| Workers | Workers Survey & designing        |               |   |  |  |
| Mine en | Mine engineering department total |               |   |  |  |

## 2-5. Accounting department

|          | Department head  |               | 1 |  |  |
|----------|------------------|---------------|---|--|--|
|          | Superintendent   |               | 1 |  |  |
|          | Warehouse        | Section chief | 1 |  |  |
| Staff    |                  | General staff | 1 |  |  |
|          | Accounting       | Section chief | 1 |  |  |
|          |                  | General staff | 4 |  |  |
|          | Staff subtotal   |               | 9 |  |  |
|          | Warehouse        |               | 4 |  |  |
| Workers  | kers Accounting  |               |   |  |  |
|          | Workers subtotal |               |   |  |  |
| Accounti | 21               |               |   |  |  |

## 2.6. Adoministration department

| , , , , , , , , , , , , , , , , , , , |                 |                          | shift 1 | shift 2 | shift 3 | subtotal |
|---------------------------------------|-----------------|--------------------------|---------|---------|---------|----------|
|                                       | Department head |                          | 1       |         |         | 1        |
|                                       | Superintendent  |                          | 1       |         |         | 1        |
|                                       |                 | Section chief            | 1       |         |         | 1        |
|                                       |                 | General staff (3 shift)  | 1       | 1       | 1       | 3        |
|                                       | Personnel       | General staff            | 2       |         |         | 2        |
| Staff                                 |                 | Policlinic               | 1       | 1       | 1       | 3        |
|                                       |                 | Personnel subtotal       | 5       | 2       | 2       | 9        |
|                                       |                 | Section chief            | 1       |         |         | 1        |
|                                       | General affairs | General staff            | 2       |         |         | 2        |
|                                       |                 | General affairs subtotal | 3       |         |         | 3        |
|                                       | Staff subtotal  |                          | 8       | 2       | 2       | 12       |
|                                       |                 | Driver & helper          | 6       | 6       | 6       | 18       |
|                                       |                 | Security guard           | 4       | 4       | 4       | 12       |
|                                       | Personnel       | Policlinic, other        | 2       | 2       | 2       | 6        |
| Workers                               |                 | Office works             | 2       |         |         | 2        |
|                                       |                 | Personnel subtotal       | 14      | 12      | 12      | 38       |
|                                       | General affairs |                          | 2       |         |         | 2        |
|                                       | Workers subtota | Workers subtotal         |         | 12      | 12      | 40       |
| Adomini                               | stration total  |                          | 24      | 14      | 14      | 52       |

### 2-7. Classfied personnel

1

|                 | Manager | Production | Safety | Mec/Ele | Mn/Eng | Account | Adomini | Subtotal |
|-----------------|---------|------------|--------|---------|--------|---------|---------|----------|
| Manager/Vice    | 2       |            |        |         |        |         |         | 2        |
| Department head |         | 1          | 1      | 1       | 1      | 1       | 1       | 6        |
| Superintended   |         | 2          | 1      | 2       |        | 1       | 1       | 7        |
| Section chief   |         | 1          |        | 2       | 2      | 2       | 2       | 9        |
| Group chief     |         | 5          | 3      | 6       |        |         |         | 14       |
| General staff   |         | 32         | 11     | 12      | 4      | 5       | 8       | 72       |
| Staff subtotal  | 2       | 41         | 16     | 23      | 7      | 9       | 12      | 110      |
| Workers         |         | 231        | 7      | 50      | 6      | 12      | 40      | 346      |
|                 | 2       | 272        | 23     | 73      | 13     | 21      | 52      | 456      |

### 2-8. Labor cost

This is referred to Mamut Copper Mining.

Overtime, welfare and other cost is calculated as 20 % of basic salary.

| The state of the s | Salary scale/month/peson                    | Number | 1000US\$/year |
|--|---|--------|---------------|
| Manager & Vice   | Supervisory G15 A&B (1355+1195)/2/3.8=336\$ | 2      | 9,676         |
| Department head  | Supervisory G13 A&B (1245+1045)/2/3.8=301\$ | 6      | 26,006        |
| Superintendent   | Supervisory G11 A&B (1140+1000)/2/3.8=282\$ | 7      | 28,426        |
| Section chief  | Supervisory G9 A&B (1040+910)/2/3.8=257\$   | 9      | 33,307        |
| Group chief  | Supervisory G7 A&B (950+830)/2/3.8=234\$    | 14     | 47,174        |
| General staff  | Supervisory G5 A&B (865+755)/2/3.8=213\$    | 72     | 220,838       |
| Worker   | Production G5 I II III (630+495+400)/3/3.8= | 346    | 667,642       |
|  | 134\$                                       |        |               |
| Total  |   |        | 1,033,069     |

#### 3. Work shedule

()

#### 3-1. Basic rule for work schedule

#### (1) Road development

In order to simplify a work shedule, total length of inseam-road at mining panel is included length of working face, then it is devided tow. This number is length of upper and lower road respectively.

Connection roads, winzs and other are made by a fixed shift-1 team and maintenance teams. And coal production of these roads is not count to simplify the study.

From 1st to 5th year number of teams of road development is 2 teams/shift.

From 6th to middle of 11th year number of teams of road development is  $1\sim 2$  teams/shift

From middle of 11th to the final year number of team of road development is 1 team/shift

- ① Main and Submain slope in rock ⇒ 1 m/shift/slope, 3 m/day/slope
- ② Main and Submain slope in coal ⇒ 1.2 m/shift/slope, 3.6 m/day/slope
- ③ Inseam road ⇒ 2.4 m/shift/road, 7.2 m/day/road

#### (2) L/W

Coal production from L/W using hydraulic props and rink bars depends on number of hydraulic props which are removed. One team can remove 50 hydraulic props/shift. In this study there are 2 teams, so 100 hydraulic props/shift are removed. This means that 60 m/shif can be mined and 180 m/day, because

distunce between hydraulic plops is 0.6 m.

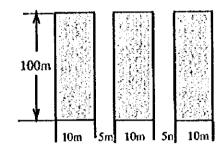
Advancing meters of L/W is showned the next.

180 m/day  $\div$  100m /cycle = 1.8 cycle/day, 1.8cycle/day × 1.2m/cycle = 2.16 m/day.

★ From 11th to 22th year at other mining panel, L/W is operated 1shift/day and it advances 0.72 m/day.

 $\bigstar$  After road development finishs, from 22th year additional mining operation is 2 shift/day and it advances 1.44 m/day.

#### (3) Board & Pillar



At mining panel 10 m wide safety pillar is remained and 5 m width is mined, so mining ratio is 1/3.

A L/W team devides into 4 teams/shift and each team works at 4 faces.

One face advances 3.6 m/shift and 10.8 m/day,

4 faces advance 43.2 m/day [regular teams] .

## [Additional teams]

In 6th and 9th year 1 team/shift (3 teams/day) is moved from road development to Board & Pillar to avarage annual production. In this cace advancing ratio is  $\underline{10.8}$   $\underline{m/day}$ .

From 11th to 22th year 4 teams/day is adopted. In this cace advancing ratio is 3.6m  $\times$  4shift/day = 14.4 m/day.

### (4) Production shedule (× 1000 tons)

| Year       | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Production | 3.6   | 107.2 | 163.4 | 162.1 | 160.5 | 165.5 | 166.1 | 152.1 |
| Year       | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    |
| Production | 152.6 | 156.7 | 169.4 | 162.7 | 176.0 | 155.1 | 161.7 | 171.7 |
| Year       | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
| Prodction  | 172 0 | 155.9 | 156.4 | 160.8 | 159.4 | 173.6 | 164.2 | 130.3 |

#### 4. Investment

4-1. Parmanent facilities and others at surface (US\$)

|    | Facility and equipment           | Number  | Unit price | Total     | Memo                                |
|----|----------------------------------|---------|------------|-----------|-------------------------------------|
| 1  | Access road and preparation work |         |            | 300,000   |                                     |
| 2  | Office, shower roon and so on    | 1       | 300\$/mt   | 300,000   | $1000\mathrm{m}^2$ , $1/3$ of Japan |
| 3  | Warehouse                        | 1       | 300\$/m    | 150,000   | 500 m , 1/3 of Japan                |
| 4  | Explosives magazine              | 1       | 300\$/m    | 60,000    | 200 m , 1/3 of Japan                |
| 5  | Workshop                         | 1       |            | 400,000   | including implements                |
| 6  | Air compressor                   | 1       | 250,000    | 500,000   | 300HP × 2                           |
| 7  | Washing plant                    | one set |            | 600,000   | Jig, conveyor, pumps                |
| 8  | Main fan                         | 1       | 150,000    | 150,000   | 200НР                               |
| 9  | Main winding machine             | 1       | 600,000    | 600,000   | 300 ∼ 400HP                         |
| 10 | Submain main winding machine     | 1       | 100,000    | 100,000   | 50 ∼ 100HP                          |
| 11 | Clean water plant                | one set |            | 100,000   |                                     |
|    | Subtotal                         |         |            | 3,260,000 |                                     |
| 12 | Others                           |         |            | 652,000   | 20 % of Subtotal                    |
| Т  | otal                             |         |            | 3,912,000 |                                     |

# 4-2. Transportation and other equipment at surface (US\$)

|   | Faciliyt and equipment   | Number | Unit price | Total     | Memo               |
|---|--------------------------|--------|------------|-----------|--------------------|
| 1 | Commuter bus             | 2      | 100,000    | 200,000   | Life time 8 years  |
| 2 | Service truck            | 2      | 30,000     | 60,000    | Life time 8 years  |
| 3 | Patrol car               | 1      | 40,000     | 40,000    | Life time 8 years  |
| 4 | Bulldozer (D-85)         | 1      | 350,000    | 350,000   | Life time 10 years |
| 5 | Frontend loader (WA-350) | 1      | 200,000    | 200,000   | Life time 10 years |
| 6 | Grader                   | 1      | 150,000    | 150,000   | Life time 10 years |
|   | Total                    |        |            | 1,000,000 |                    |

## 4-3. Safety equipment in U/G (US\$)

|   | Faciliyt and equipment       | Number  | Unit price | Total   | Memo              |
|---|------------------------------|---------|------------|---------|-------------------|
| 1 | Safety lamp (YL2000)         | 300     | 500        | 150,000 | Life time 5 years |
|   | Lamp charger (YL-5240-40)    | 8       | 12,000     | 96,000  |                   |
| 2 | CO Mask                      | 300     | 115        | 34,500  | Life time 3 years |
| 3 | Dust Mask                    | 300     | 30         | 9,000   | Life time 3 years |
| 4 | Methan detector (Toka)       | 70      | 1,360      | 95,200  |                   |
|   | Methan detector (Toka 100 %) | 6       | 1,360      | 8,160   |                   |
| 5 | Oxgen measure (GO-25KS)      | 6       | 2,100      | 12,600  |                   |
| 6 | CO detector                  | 6       | 1,400      | 8,400   |                   |
| 7 | Oxygen breathing apparatus   | 30      | 12,000     | 360,000 | Rescure team      |
| 8 | Radio communicatin system    | one set |            | 70,000  |                   |

| 9 | U/G telephone system | one set | <br>50,000 |  |
|---|----------------------|---------|------------|--|
|   | Total                |         | 893,860    |  |

## 4-4. U/G main transportation (US\$)

)

|   | Faciliyt and equipment | Number  | Unit price | Total     | Memo |
|---|------------------------|---------|------------|-----------|------|
| 1 | Mine car (2 m³)        | 200     | 5,000      | 100,000   |      |
| 2 | Flat car               | 10      | 5,000      | 50,000    |      |
| 3 | Menride slope train    | one set |            | 200,000   |      |
| 4 | Battery locomotive     | 4       | 200,000    | 800,000   |      |
|   |                        |         |            | 1,150,000 |      |

## 4-5. U/G road development and Board & Pillar

|    | Facility and equipment         | Number | Unit price | Total     | Мето               |
|----|--------------------------------|--------|------------|-----------|--------------------|
| 1  | Side-dumping loader (ME632)    | 3      | 250,000    | 750,000   | Life time 10 years |
| 2  | Side-dumping loader (ME612)    | 6      | 150,000    | 900,000   | Life time 10 years |
| 3  | Chain conveyor                 | 8      | 50,000     | 400,000   | Life time 10 years |
| 4  | Hydraulic prop (internal pump) | 1,250  | 700        | 875,000   | Life time 10 years |
| 5  | Electric winch (30 HP)         | 4      | 40,000     | 160,000   |                    |
| 6  | Local fan                      | 10     | 25,000     | 250,000   |                    |
| 7  | Air Auger                      | 12     | 2,000      | 24,000    | Life time 2 years  |
| 8  | Rock hammer                    | 6      | 3,000      | 18,000    | Life time 2 years  |
| 9  | Coal pick                      | 12     | 1,000      | 12,000    | Life time 2 years  |
| 10 | Small pump                     | 20     | 2,000      | 40,000    | Life time 2 years  |
|    | Total                          |        |            | 3,429,000 |                    |

## 4-6. U/G Long wall (US\$)

|   | Facility and equipment | Number | Unit price | Total   | Memo               |
|---|------------------------|--------|------------|---------|--------------------|
| 1 | Hydraulic prop         | 1,000  | 500        | 500,000 | Life time 5 years  |
| 2 | Rink bar               | 1,000  | 100        | 100,000 | Life time 5 years  |
| 3 | High-pressure pump     | 2      | 50,000     | 100,000 | Life time 10 years |
| 4 | Face conveyor          | 2      | 70,000     | 140,000 | Life time 10 years |
| 5 | Chain conveyor         | 2      | 50,000     | 100,000 | Life time 10 years |
| 6 | Air auger              | 8      | 2,000      | 16,000  | Life time 2 years  |
| 7 | Coal pick              | 8      | 1,000      | 8,000   | Life time 2 years  |
| _ | Total                  |        |            | 964,000 |                    |

### 4-7. U/G Others

| ſ | Facility and equipment | Number | Unit price | Total | Memo |  |
|---|------------------------|--------|------------|-------|------|--|
| - |                        |        |            |       |      |  |

| 1 | Fixed drainage pump              | 2       | 30,000 | 60,000  | Life time 10 years |
|---|----------------------------------|---------|--------|---------|--------------------|
| 2 | Small back-hoe (for maintenance) | 3       | 50,000 | 150,000 | Life time 10 years |
| 3 | Survey Implement                 | one set |        | 50,000  |                    |
|   |                                  |         |        | 260,000 |                    |

#### 4-8. First investment

| 1 | Parmanent facilities and others at surface    | 3,912,000  |
|---|---|------------|
| 2 | Transportation and other equipment at surface | 1,000,000  |
| 3 | Safety equipment                              | 893,000    |
| 4 | U/G main transportation                       | 1,150,000  |
| 5 | U/G road development and Board & Pillar       | 3,429,000  |
| 6 | U/G Long wall                                 | 964,000    |
| 7 | U/G others                                    | 260,000    |
|   |   | 11,608,000 |

#### 5. Consumables

### 5-1. Electricity (Industrial Class 2)

Installed capacity is 1500kw and its working ratio is supposed 60 %.

① At working days:  $250 \times 24 \times 900$ kw  $\times 0.23$  RM  $\div 3.8$ RM/\$= 326,842 US\$/year

② At holidays :  $150 \times 24 \times 300 \text{kw} \times 0.32 \text{ RM} \div 3.8 \text{RM/\$} = 65,368 \text{ US\$/year}$ 392,210 US\$/year

### 5-2. Materials for road development US\$ / meter

|               | Number  | Unit price | total         | Memo                                       |
|---------------|---------|------------|---------------|--|
| Steel support | one set |            | 150           | 3 pieces (beam $\times$ 1, leg $\times$ 2) |
| Bracing wood  | 10      | 0.8        | 8.0           | 6"× 6" 3.5 RM/Ft devided 4 pieces          |
| Wood plate    | 18      | 0.5        | 9.0           | 6"× 6" 3.5 RM/Ft devided 6 pieces          |
| Tention bar   | 10      | 0.2        | 2.0           |  |
| Detonator cap | 40 / 30 | 1.5        | 60 / 45       | Rock / Coal                                |
| Explosive     | 80 / 50 | 1.0        | 80 / 50       | Rock / Coal                                |
| Slipper wood  | 2       | 8.9        | 17.8          |  |
| Rail          |         | 20.0       | 20.0          | 22.7 kg/m                                  |
| Air pipe      | 1       | 7.9        | 7.9           | excluding valves                           |
| Water pipe    | 1       | 3.3        | 3.3           | excluding valves                           |
| Drainage pipe | 1       | 3.3        | 3.3           |  |
| Power cable   | 1       | 80         | 80            |  |
| Others        |         |            | 10            | hoses, tamping materials, etc              |
|               |         |            | 451.3 / 406.3 | Rock / Coal                                |

From 6th year material cost of inseam road is 50 % and 20 % of above mentioned table excludeing exclusives and wood materials. Because these materials can be recoverable.

 $406.3 - (150 + 20 + 7.7 + 3.3 + 3.3) \times 0.5 + 80 \times 0.8 = 250.2 \text{ US} / \text{meter}$ 

### 5-3. Materials for Board & Pillar US\$ / meter

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|               | Number | Unit price | total | Memo                      |
|---------------|--------|------------|-------|---------------------------|
| Wood plate    | 10     | 0.5        | 5.0   |                           |
| Detonator cap | 20     | 1.5        | 30.0  |                           |
| Explosive     | 20     | 1.0        | 20.0  |                           |
| Others        |        |            | 5.0   | Air hose, water hose, etc |
| Total         |        |            | 60.0  |                           |

## 5-4. Materials for Longwall US\$ / ton

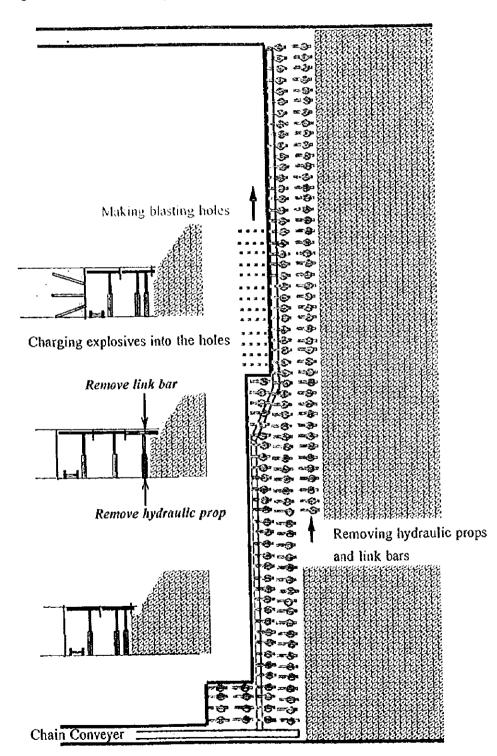
|               | Number | Unit price | total | Memo                      |
|---------------|--------|------------|-------|---------------------------|
| Wood plate    | 1      | 0.5        | 0.5   |                           |
| Bamboo net    | 1      | 0.5        | 0.5   |                           |
| Detonator cap | 1      | 1.5        | 1.5   |                           |
| Explosive     | 1      | 1.0        | 1.0   |                           |
| Others        |        | 0.5        | 0.5   | Air hose, water hose, etc |
| Total         |        |            | 4.0   |                           |

Appendix 4-3 Illustration of Mining Method

## Working Sequence of L/W using Hydraulic props and Blasting

## 1. Before Blasting

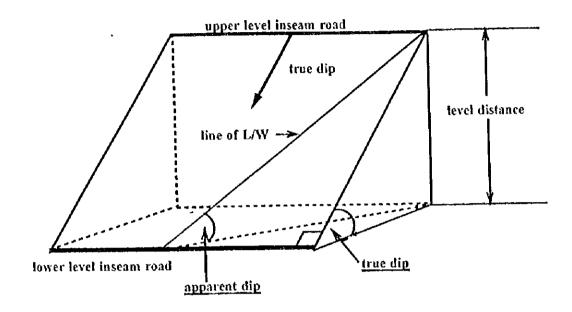
Blasting holes are made and explosives are charged into the holes.



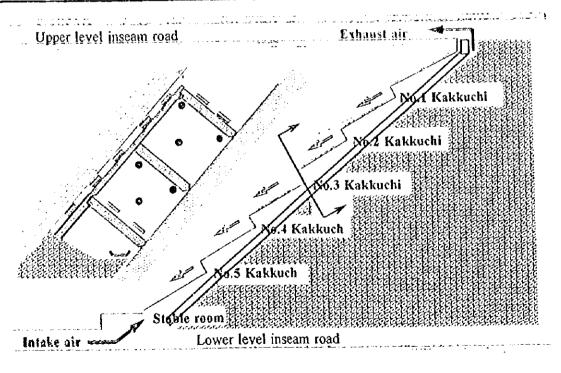
## Conception of Kakkuchi mining

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## General layout of Kakkuchi L/W



Q: Blasting hole : Plastic (or steel) trough

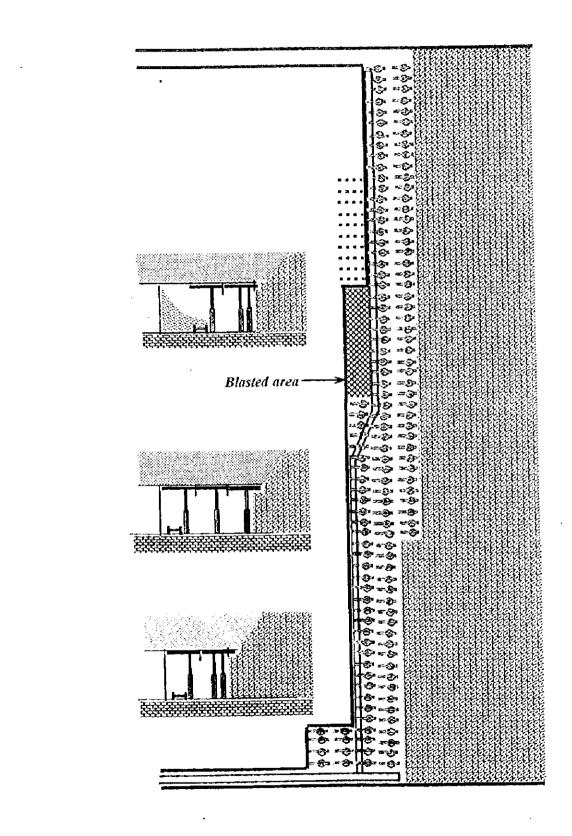
2. Blasting

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1)

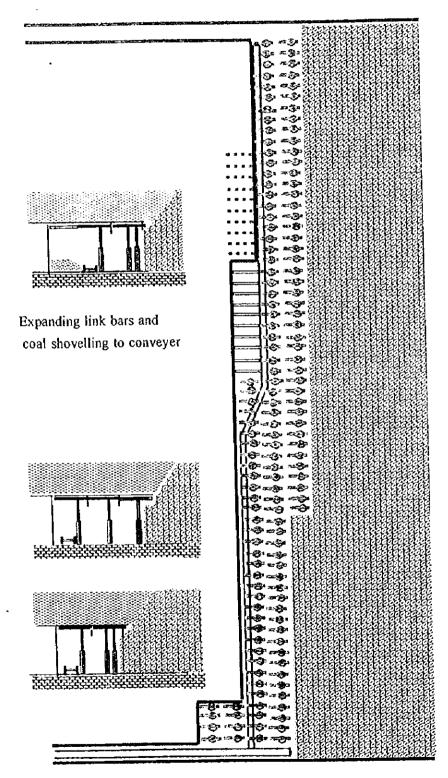
After checking safety, blasting is done.

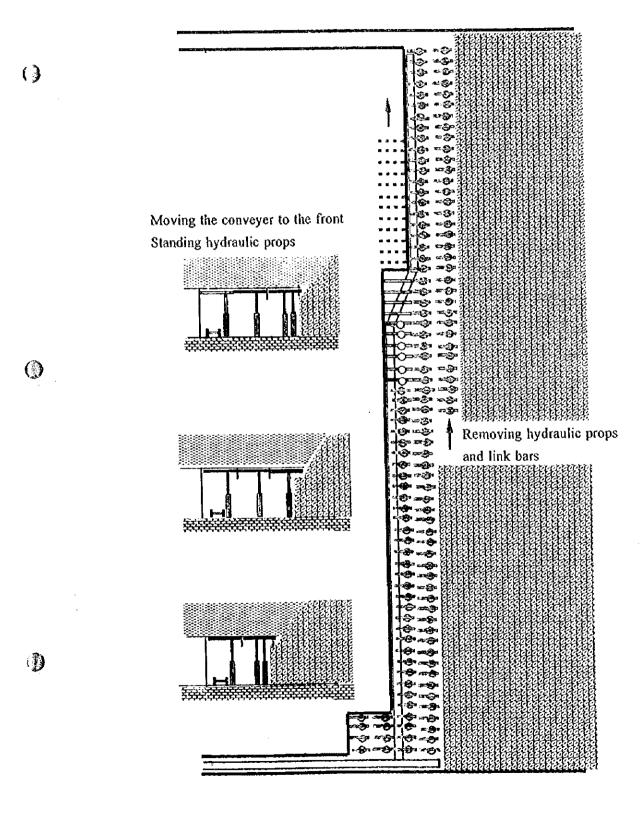


3. Link bars are expanded immediately after blasting to prevent roof falling. Cutout coal is loaded into the chain conveyer.

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Appendix 5

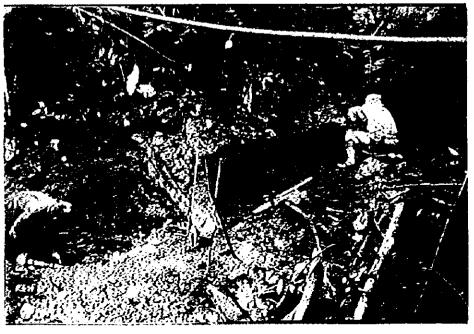
Photographs



Geological mapping



Coal outcrop (YK001 1.16m on BD route in Sesui West Area)



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Observing and logging of coal outcrop (NK141 3.05m in Malibau Area)



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Sampling after trenching at SW37



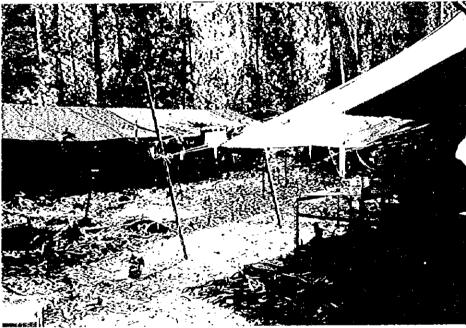
Trenching NK137



GPS survey in S.W.Malibau

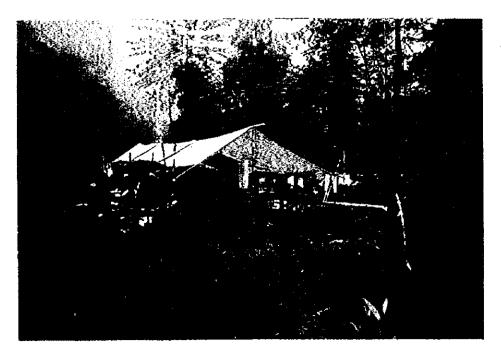


ISUZU INVADERs, donated by JICA, on slippery timber road after rain

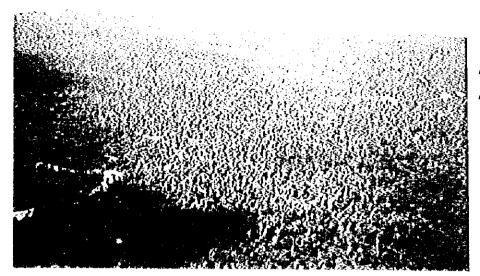


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Base camp



Temporary camp for survey of remote place

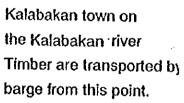


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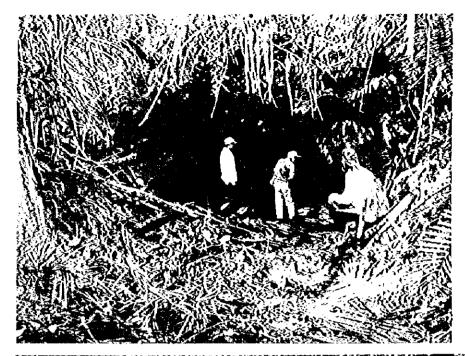
Aerial view of Silimpopon Area



Timber road







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The abandoned No.1 incline of old Silimpopon Colliery.

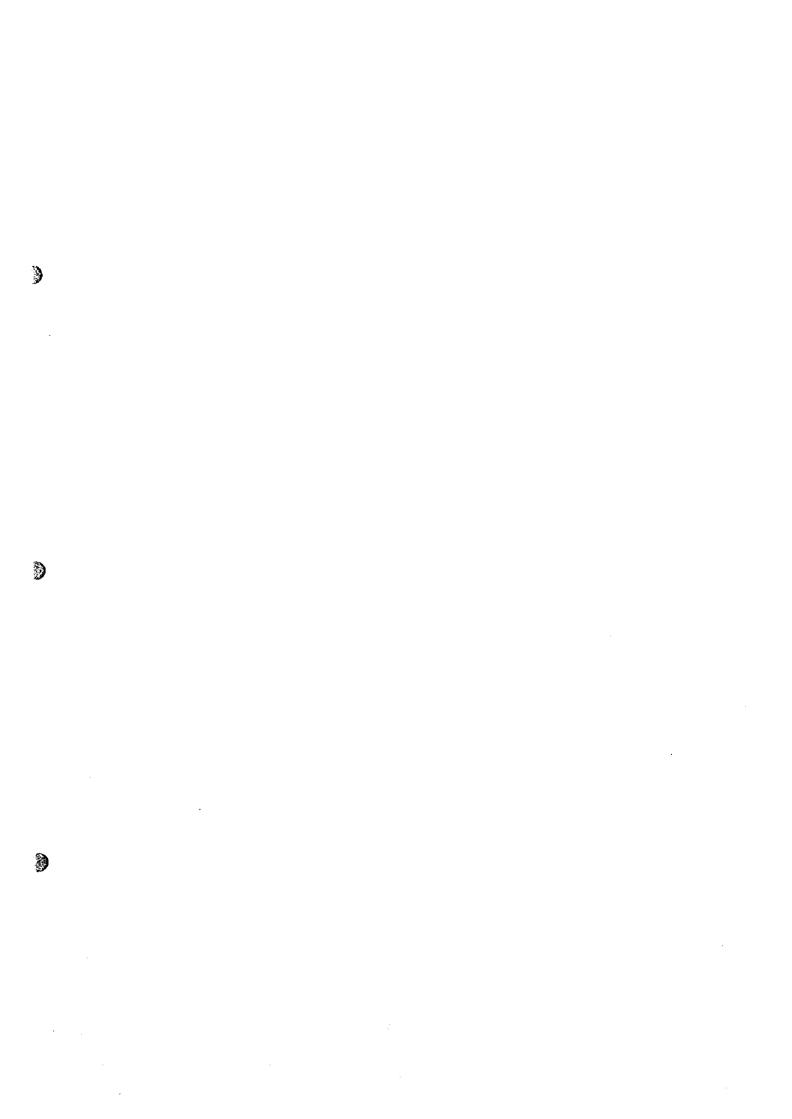


Old facilities of the Silimpopon Colliery.



Reporting at GSD Headquarter, Kuala Lumpur





0 €.



