



| | | | |
|-------------------------------------|--|--|--|
| Meeting Minutes | | LW TG Level 2 General Body Methane Levels (≥ 2.50%) | |
| Date / Time | 15/07/19 10:00 am | | |
| Location | GM Conference Room | | |
| Chairperson | Logan Mohr | | |
| Attendees | Name | Initial | |
| UMM | Wouter Niehaus | WN | |
| Longwall Coordinator | Mick Copeland | MC | |
| Longwall Superintendent | John Agustin | JA | |
| Undermanager | Laurie Dixon | LD | |
| VO | Garth Zerner | GZ | |
| Ventilation and Gas Superintendent | Elisabeth Marnane | EM | |
| Ventilation Coordinator | Wes Sweet | WS | |
| Gas Monitoring Coordinator | Graham West | GW | |
| Technical Services Manager (Acting) | Logan Mohr | LM | |
| Apologies | | | |
| | | | |
| File Location | W:\Technical Services\Shared\LW103\11. IMT Minutes\TG Gas levels 2%\19_07_15 – IMT Meeting Minutes for TG103 CH4 Higher than 2.2 Percent.docx | | |
| Minutes Taken / Updated by | Elisabeth Marnane | | |
| Objective | Develop and implement strategies to assist in reducing the methane emissions in the TG roadway and the LW face to adequate levels to allow consistent longwall production in line with forecast. | | |

| Description | |
|---|--|
| Summary Data | |
| <p>The following two events occurred over the weekend</p> <ul style="list-style-type: none"> At 16:06 hrs the 13/7/2019 TG CH4 at 3-4 ct went to 2.5%. The shearer was parked at #28 shield. The shearer has been stopped since 15:50. At 11:25 hrs on the 14/7/2019 TG CH4 exceedance at 2.51 % at the TG Sensor (37) 3-4 ct. The shearer was parked at #82 Shield CH4 reached 2.53% at 14:00 Hrs with falling barometer | |

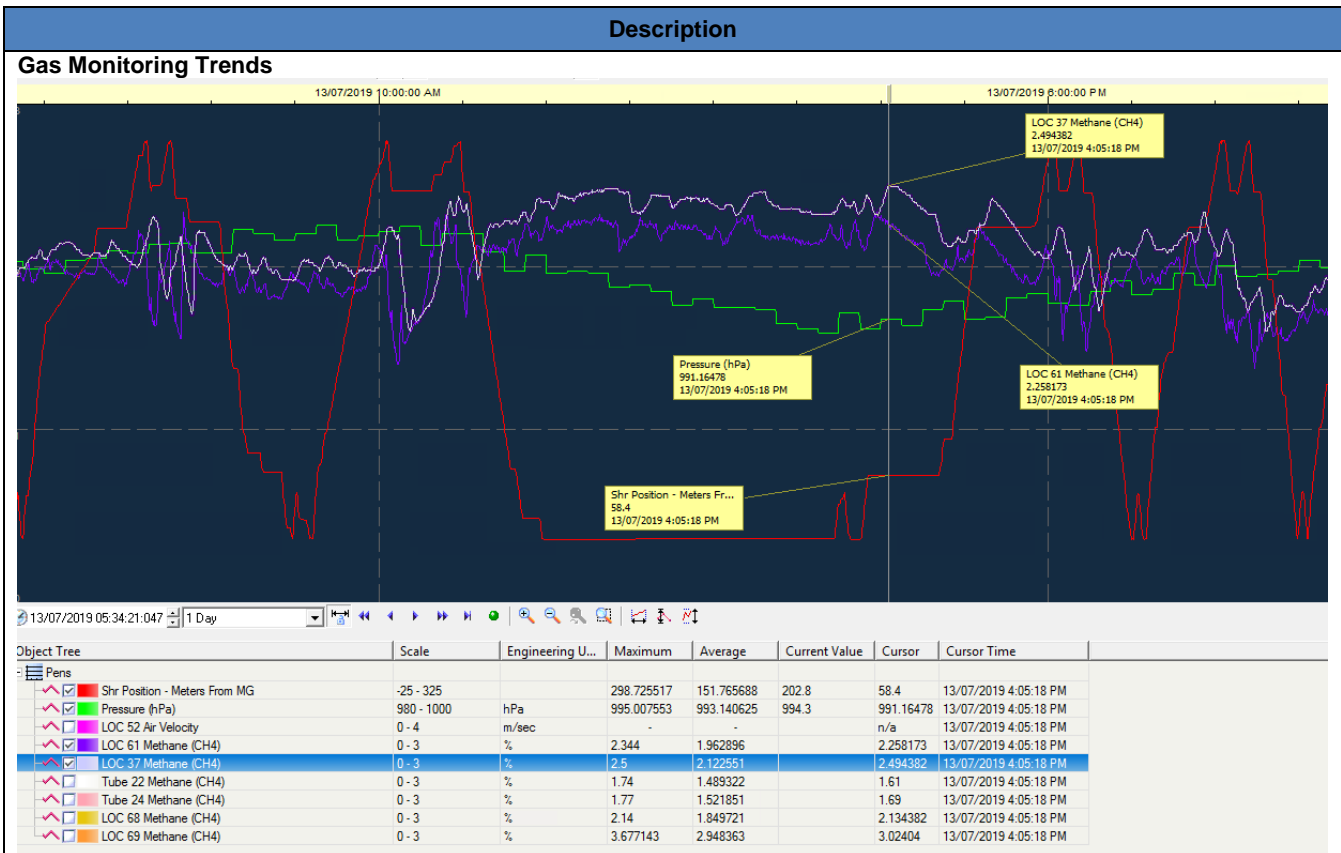


Figure 1 – Methane Trends TG103 Event 1 - 16:06 Hrs 13/7/2019

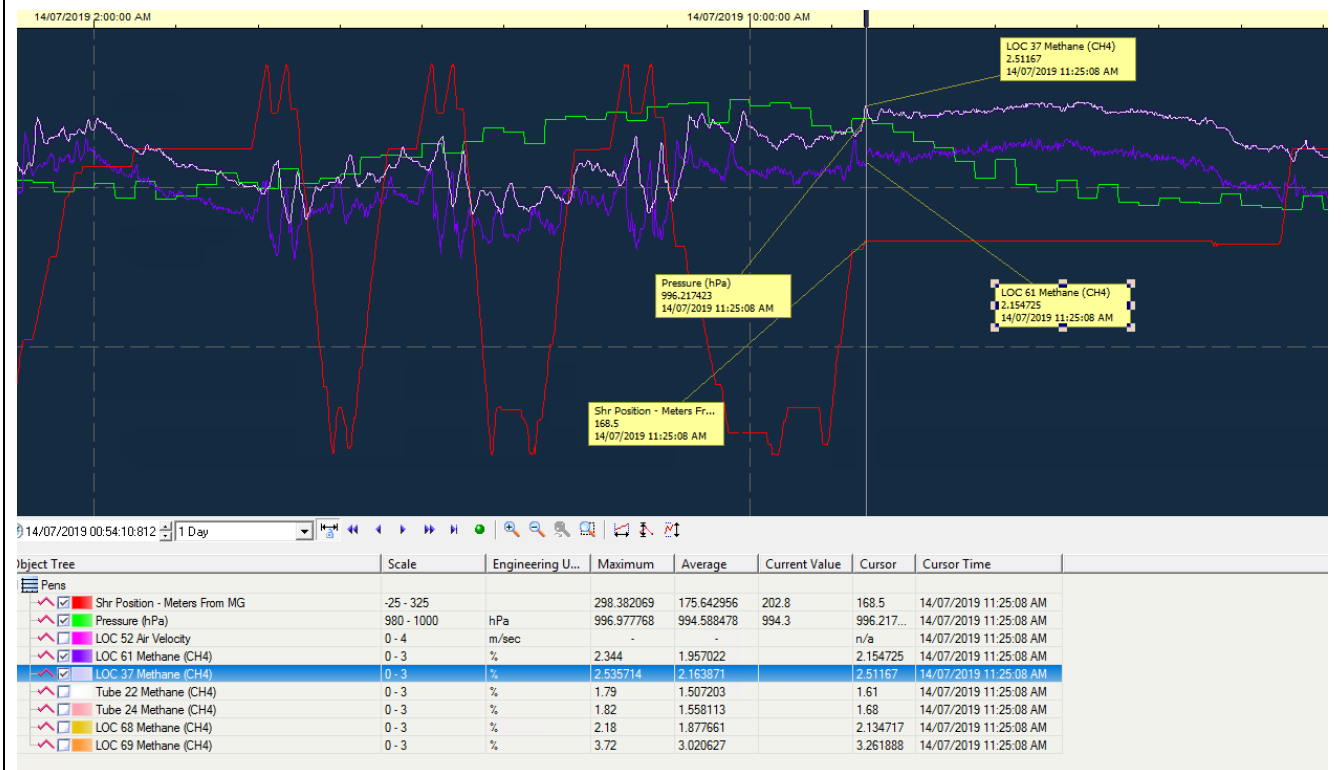


Figure 2 – Methane Trends TG103 Event 2 - 11:25 Hrs 14/7/2019



GROSVENOR COAL MINE

TEM-IMT Meeting Minutes for TG103 CH4 Higher than 2.5 Percent

Description

Goaf Plant

| DATE | TIME | Static Pressure kPa (gauge) | Differential pressure kPa | Orifice ID mm | CO PPM | CH ₄ Vol % | O ₂ Vol % | CO ₂ Vol % | N ₂ Vol % | Total Flow L/s at STP | Methane Flow L/s at STP | VPS or Venting | Comments | LW Chainage mt. |
|-----------------------------------|----------|-----------------------------|---------------------------|---------------|--------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|-------------------------|----------------|------------------------------------|-----------------|
| ADJACENT GOAF LONGWALL 102 | | | | | | | | | | | | | | |
| 15/07/2019 | 00:00:00 | 0.00 | 0.00 | 150 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0 | 0 | Shut in | GRO2V053 VIS11 Shut in as per auth | 200 |
| TOTALS | | | | | | | | | | 0 | 0 | | | |

| GOAF LONGWALL 103 | | | | | | | | | | | | | | |
|--------------------------|----------|--------|------|-----|-------|-------|------|------|-------|------|------|---------|------------------------------------|------|
| 15/07/2019 | 03:00:00 | -13.75 | 2.33 | 150 | 0.00 | 88.00 | 2.30 | 0.40 | 9.30 | 799 | 661 | VPS | GRO3L026 GMS10 Valve 100% open | 3465 |
| 15/07/2019 | 03:15:00 | -17.40 | 3.82 | 150 | 0.00 | 88.00 | 2.10 | 0.80 | 9.10 | 993 | 819 | VPS | GRO3L001 GMS16 Valve 100% open | 2528 |
| 15/07/2019 | 03:10:00 | -21.55 | 1.51 | 150 | 0.00 | 80.00 | 3.40 | 0.60 | 16.00 | 599 | 448 | VPS | GRO3L004 GMS03 Valve 100 % open | 2378 |
| 15/07/2019 | 03:35:00 | -13.44 | 1.81 | 150 | 4.00 | 63.00 | 4.20 | 1.20 | 31.60 | 654 | 388 | VPS | GRO3L011 GMS-14 Valve 100% open | 2028 |
| 15/07/2019 | 03:30:00 | -13.58 | 2.53 | 150 | 11.00 | 42.00 | 5.10 | 2.20 | 50.70 | 727 | 287 | VPS | GRO3L013 GMS-02 Valve 100% open | 1928 |
| 15/07/2019 | 02:37:00 | -11.51 | 3.64 | 150 | 6.00 | 70.00 | 4.60 | 0.60 | 24.80 | 951 | 627 | VPS | GRO3L015 GMS-05 Valve 100% open | 1828 |
| 15/07/2019 | 02:40:00 | -14.20 | 1.20 | 150 | 23.00 | 54.00 | 5.70 | 0.80 | 39.50 | 519 | 264 | VPS | GRO3L016 GMS-13 Valve 100% open | 1778 |
| 15/07/2019 | 02:45:00 | -14.12 | 1.11 | 150 | 26.00 | 55.00 | 5.20 | 0.80 | 39.00 | 501 | 259 | Venturi | GRO3L016.2 GMS-15 Valve 100 % open | 1778 |
| 15/07/2019 | 02:55:00 | -13.71 | 1.81 | 150 | 17.00 | 60.00 | 6.30 | 0.80 | 32.90 | 648 | 365 | VPS | GRO3L017 GMS-07 Valve 100% open | 1728 |
| 15/07/2019 | 02:50:00 | -14.09 | 1.81 | 150 | 13.00 | 57.00 | 7.00 | 0.80 | 35.20 | 641 | 343 | Venturi | GRO3L017.2 GMS-09 Valve 100% open | 1728 |
| 15/07/2019 | 02:55:00 | -13.80 | 2.22 | 150 | 0.00 | 90.00 | 2.30 | 0.80 | 6.90 | 784 | 663 | VPS | GRO3V053 GMS-11 Valve 100% open | 1727 |
| TOTALS | | | | | | | | | | 7816 | 5125 | | | |

Gas Monitoring

CH4 (A) 0.31 %

CH4 (B) 0.31 %

MG CO 0.9 ppm

CO2 0.10 %

O2 20.4 %

TG CH4 (A) 1.13 %

CH4 (B) 1.16 %

SHR CH4 (A) 0.40 %

CH4 (B) 0.51 %

Dogleg CH4 2.02 %

TG Inbye CH4 1.95 %

Slow Down Stopped

76 mins 484 mins

12hr avg diff: OB - IB CH4 0.20 %

6hr max CH4 rise
30 - MG 0.08 % 115 - TG 0.36 %

Dogleg 0.08 % 0.36 %

TG Inbye 0.15 % 0.40 %

PRS 30 2.05 % PRS115 1.80 %

BYPASS SHR TG CH4 STOP

| LONGWALL CHAINAGE | | |
|-------------------------------------|----------|-------------|
| Maingate | 1659.1 | |
| Tailgate | 1659.1 | |
| Borehole | Chainage | Metres Past |
| GRO3L026 | 3465 | 1805.9 |
| GRO3L016 | 1778 | 118.9 |
| GRO3L017 | 1728 | 68.9 |
| GRO3L018 | 1678 | 18.9 |
| LONGWALL METRES TO NEXT HOLE | | |
| Borehole | Chainage | Metres To |
| GRO3L019 | 1628 | 31.1 |
| GRO3L020 | 1578 | 81.1 |

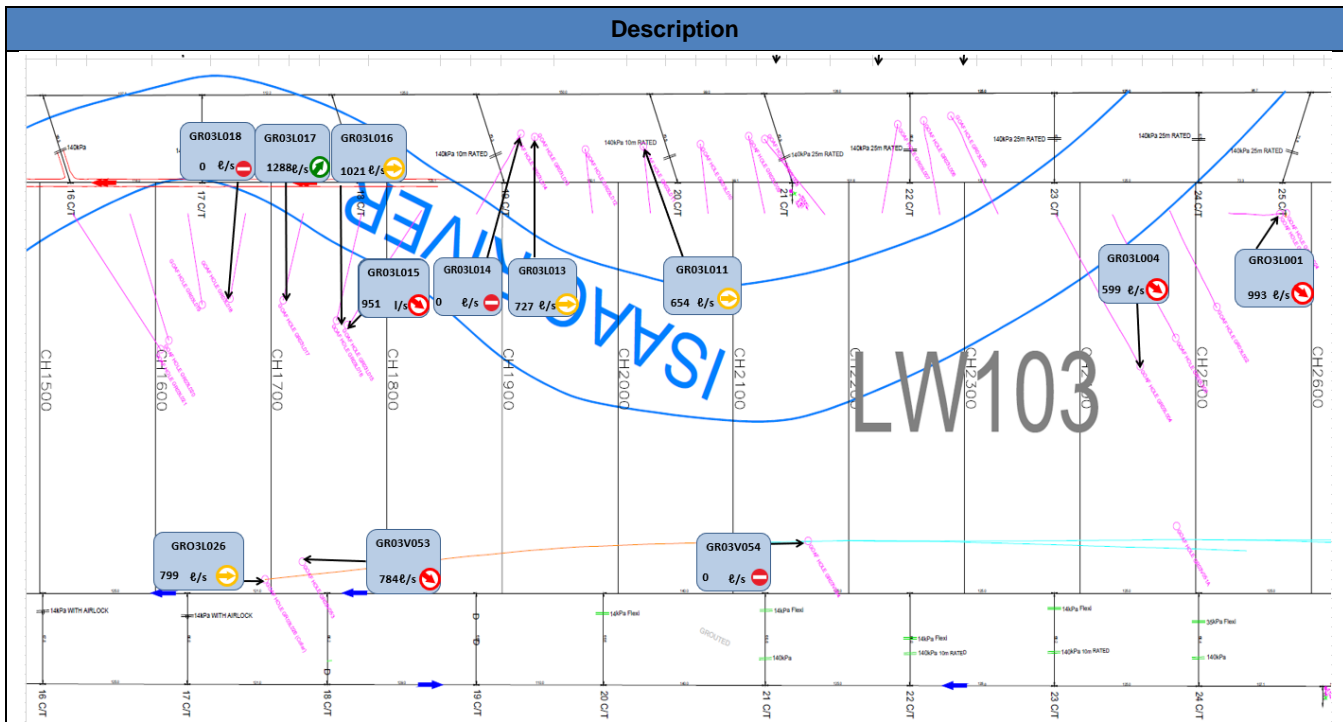


Figure 3 – Most recent Goaf Shift Report 15/7/2019 5:46 am

Goaf Drainage Update

- Goaf holes within 150m of face producing 3093 l/s of goaf gas (including MG hole)
- LW has retreated 21m past GR03L018 with no flow observed
- Water flush of GR03L018 today
- Goaf drainage plant current running 90% capacity with 8500 Standard l/s
- GR03L017.2 currently on venturi
- MG vertical GRO3V053 at 1725m chainage currently flowing at 784 l/s
- Drilling Mid panel Goaf hole GR03V055 at 1522m chainage (97m from MG rib line) will be completed today

Observations

- N/A

Short Term Ventilation Strategy

- Model, plan and execute the perimeter road ventilation reversal to lower CH4 levels entering the MG
- Maintain face ventilation quantity (review post vent change to minimise changing too many variables)
- Vent change planned for today 15/7/2019

Short Term Goaf Drainage Strategy

- GR03V055 – Targeted Ch1530 90m from MG (additional infill hole)
- GR03V053 – Expected to come online at Ch1690 (P seam MG)
- GR03V056 – to be scoped and designed for ~Ch1100
- Review gas compliance cores for GM and P Seams for remainder of LW103

Long Term Goaf Drainage Strategy

- Install 6th LRP at Gas Plant
- Purchase and install blowers
- All SIS gas currently plumbed to Arrow
- UIS currently 8% of gas plant capacity. Purity of UIS will result in disconnections from Arrow if below 94% CH4. (UIS to Arrow not ideal)

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|---|----------------------|----------------|------------|------------------------------------|
| GRO-10326-TEM-IMT Meeting Minutes for TG103 CH4 Higher than 2.2 Percent | Original Issue Date: | Version: | 1 | Printed: 15/07/2019 Page 4 of 7 |
| | 14/03/2019 | Date of Issue: | 14/03/2019 | |
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| Description | |
|--|--|
| <ul style="list-style-type: none"> • Venting restricted emergency situations only • Identify potential goaf gas sources and areas for LW104. • Complete review of SGE model against actuals • Increase SGE resolution to identify areas with predicted higher goaf gas. <p>Long Term Ventilation Strategy</p> <ul style="list-style-type: none"> • Commission MG103 41c/t shaft to exhaust for LW104 start-up • Seal LW101,102,103 perimeter road | |
| Next Meeting date / Time | |

| Actions from IMT Meeting | | |
|---|---------------|-----------|
| Action | Who | When |
| Review the impact of ventilation change on work areas adjacent to change area (complete change management for vent reversal) | G. Zerner | 8/7/19 |
| Setup CITECT to show newly installed TG IR sensor | G. West | Complete |
| Complete change management and trial preliminary design for baffle and moisture reduction unit for current CH4 sensors | G. West | 18/7/19 |
| Complete modelling and develop implementation plan for the ventilation reversal in the LW101-103 perimeter road. (Aim to maintain current face ventilation as part of change) | G. Zerner | 9/7/19 |
| Develop scope and design for an infill goaf hole targeting Ch1100. | B. Mulcahy | Complete |
| Review gas compliance cores for remainder of LW103 | R. Kostowski | Complete |
| Source and install 6 th liquid ring pump | C. Badenhorst | 20/11/19 |
| Source and install 4x blower skids | C. Badenhorst | 15/09/19 |
| Develop formal process to restrict venting gas to emergency situations only. | C. Badenhorst | 18/7/19 |
| Complete review of SGE Model vs Actuals | R. Packham | 28/7/19 |
| Review SGE model and data to identify areas of potential increased gas make. | R. Packham | 28/7/19 |
| 115 to Tg Make Shearer speed to be set at 6m/min | M. Burgess | 5/7/19 |
| Ensure shearer speed from 60 shield to 115 is reduced to 8m/min manually while Inbye shearer speed sensor is greater than 1.8% CH4 is communicated to the LW crews | M. Burgess | Complete |
| Develop trend to all sensors installed at 3-4ct tg103 and include tube values for comparison | G. Zerner | 8/7/19 |
| Source and install water mister to control dust in belt road when roadway is transferred to antitropal inbye of 10ct tripper. | M. Burgess | Complete |
| Review location of floor blowers in LW102 and identify if there is any correlation to the LW103 event. | S Giese | 19/7/2019 |

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GROSVENOR COAL MINE

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|--|-------------|------------|
| Check the that the CITECT calculation "6 hour max CH4 rise" is calculated as a 6 hour rolling average and not a max peak over 6 hours. Amend if required | M. Wakeford | 14/7//2019 |
| Identify strategy moving forward to allow the weekly change out of gas sensors monitoring the TG roadway inbye and outbye sensors. | G. West | 18/7/*2019 |

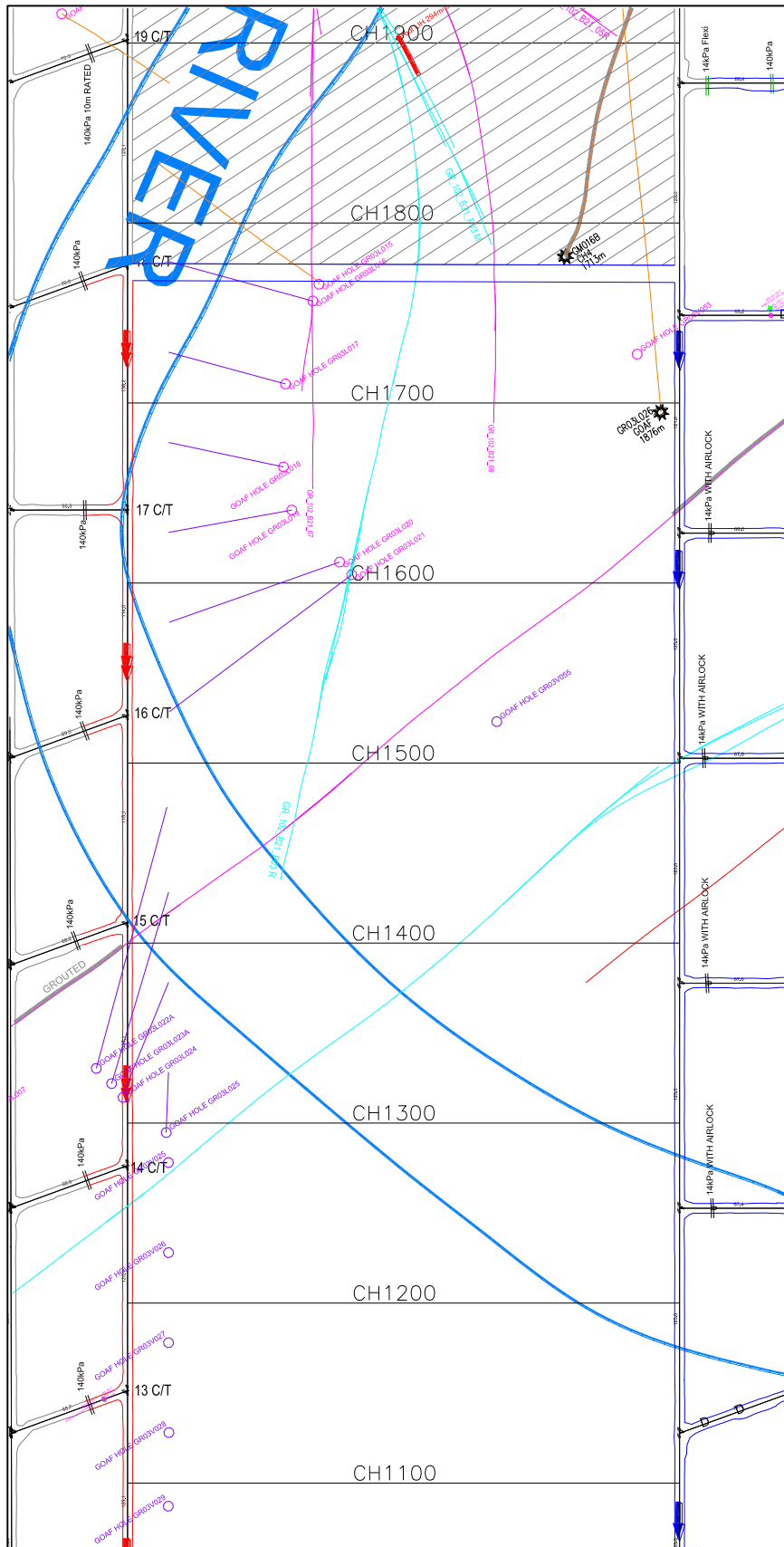


Figure 3 - Plan View of Goaf Holes

| | | | | |
|---|----------------------|----------------|------------|------------------------------------|
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