



MICROPACK
FIRE & GAS

FIRE AND GAS DETECTION MAPPING REVIEW

COMPANY NAME : ANONYMOUS

PROJECT NAME : SAMPLE REPORT (HAZMAP3D)

Author: XXXXXXXX

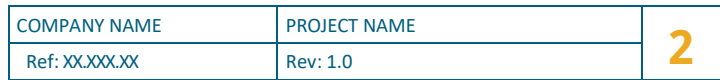
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ABBREVIATIONS

The following terms and abbreviations are used throughout this report.

2D	Two-Dimensional
3D	Three-Dimensional
ALD	Above Local Deck
CAD	Computer Aided Design
CFD	Computational Fluid Dynamics
E	Enclosed
ESD	Emergency Shutdown
FD	Flame Detector
FDA	Flame Detection Assessment
FZ	Fire Zone
FOV	Field Of View
GDA	Gas Detection Assessment
GPA	General Platform Alarm
H ₂ S	Hydrogen Sulphide
HC	Hydrocarbon
HD	Heat Detector
HSE	Health & Safety Executive
HVAC	Heating, Ventilation, Air-conditioning (Unit)
IR	Infrared
IRPGD	Infrared Point Gas Detector
LEL	Lower Explosive Limit
LFL	Lower Flammable Limit
OPGD	Open-Path Gas Detector
O	Open
P	Perimeter
PE	Partially Enclosed



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PTs	Performance Targets
RHO	Radiant Heat Output (kW)
ROR	Rate of Rise (Heat Detector)
SOW	Scope of Work
TGD	Toxic Gas Detector
UV	Ultraviolet

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1 INTRODUCTION

Micropack Detection (Americas) was requested to carry out an in-house review of the Fire & Gas Detection system of the [REDACTED] Platform. The requirements of this scope (Ref 5) include:

- Utilizing the existing 3D model, develop a fire and gas detection model in Hazmap3D.
- Submit F&G Detection Performance Targets for client review prior to the mapping study (11/04/17).
- Confirm that the Fire & Gas system provides the necessary coverage to comply with all relevant legislation and with current best practice OR recommend amendments to the design along with justification.
- Submit a report (this document) which documents the methodology used for the technical review, and the graphical assessments of the Fire & Gas detection coverage along with discussions, conclusions and recommendations. The report is presented initially for client comments and, when any comments have been addressed, a final report shall be submitted.

Deliverables will include one draft (for client review/comment) and one final issue of the following documents:

1. Site Specific Performance Targets (preceeding document),
2. Fire and Gas Detection Performance Review (this document) including:
 - Narrative covering the review process and major findings.
 - Graphical Assessments of Fire and Gas Detection coverage.
 - Proposals, including 2D layouts, detailing recommended improvement for flame, gas, smoke, and heat detection improvements where required.

The report will present the review findings together with commentary on the suitability of the systems with respect to hazards and site performance targets. Fire & Gas detection coverage will be assessed using Micropack's HazMap3D assessment software and graphical assessments of coverage will be presented of both the existing and, if required, proposed arrangements.

1.1 CLIENT CONTACTS

The primary contact for this review is [REDACTED] of [REDACTED].

1.2 AREAS WITHIN THIS SCOPE OF WORK

The areas to be assessed are primarily located in the process and utility areas of the platform. The electrical buildings, living quarters building, drilling package unit and mechanical packages (turbine generators, emergency generator and fire water pumps) are excluded from the scope of this study.

A list of decks included in the scope of this study is included below:

- Drilling deck (EL. 130' – 0" / 39624 mm)
- Mezzanine deck (EL. 106' – 2 1/2" / 32372 mm)
- Wellhead deck (EL. 90' – 0" / 27432 mm)
- Cellar deck (EL. 57' – 0" / 17373 mm)

2 SUMMARY OF RECOMMENDATIONS

In general, flame detection throughout most areas of the SOW did not meet the standards set in the Performance Targets (Ref 8). Across several locations, areas of no flame detector coverage appear higher than desirable, however these volumes are generally comprised of many small areas of no coverage which is preferable since a flame is very unlikely to be confined to one of these small areas of no/low coverage. In the instances where detector coverage may be lower than what the client is comfortable with, Micropack will consider further recommended additions following discussion with the client. Due to high levels of congestion across the platform, the addition of each further flame detector (in these highly congested areas) results in only a small increase in coverage, suggesting that in order to markedly improve upon the currently recommended layouts, a significant number of flame detectors may be required. Where required, recommendations have been made to improve flame detector coverage, and where possible, small alterations to currently installed detectors have been suggested to avoid adding additional detectors when a more efficient approach is possible.

The following table outlines the flame detection recommendations:

Fire Zone	Add FD	Relocate FD	Remove FD
Platform			
Drilling Deck			
W30W	1	2	-
Mezzanine Deck			
S25W	1	-	-
W25C	1	3	-
W25E	-	2	1
W25W	1	-	-
Wellhead Deck			
Q20C	-	1	1
S20E	-	-	1
S20W	-	4	-
W20C	1	1	-
W20E	2	1	-
W20W	-	-	-
Cellar Deck			
Q10C	1	-	-
S10E	-	1	-
S10W	-	1	1
W10C	-	2	2
W10E	1	1	-
W10W	-	-	-
Total	11	19	6

In general, volumetric gas detection throughout most areas of the scope of work did not meet the standards set in the Performance Targets (Ref 8). In several locations both volumetric detection and perimeter detection is currently installed, whereas others have solely volumetric or perimeter gas detection. Recommendations have been made to improve volumetric gas detection coverage where required.

Across several locations, areas of no gas detector coverage may appear higher than desirable, according to standards set in the Performance Targets. However, these volumes are generally situated on the periphery of a FZ, usually on the edge of the platform. In these locations the effects and likelihood of an accumulated gas cloud are less severe, where factors such as dispersion of the cloud by wind can be taken into account. In the instances where detector coverage may be lower than what the client is comfortable with, Micropack will consider further recommended additions following discussion with the client.

The following table outlines the gas detection recommendations:

Fire Zone	Add IRPGD	Relocate IRPGD	Remove IRPGD	Add OPGD	Relocate OPGD
Platform					
Drilling Deck					
W30W	-	-	-	-	-
Mezzanine Deck					
S25W	-	-	-	-	-
W25C	-	-	-	3	-
W25E	-	-	-	2	-
W25W	-	-	-	1	-
Wellhead Deck					
Q20C	-	-	-	-	-
S20E	-	-	-	-	-
S20W	-	-	-	-	-
W20C	-	-	-	2	-
W20E	-	-	-	2	-
W20W	-	-	-	2	-
Cellar Deck					
Q10C	-	-	4	-	-
S10E	-	-	-	-	-
S10W	-	-	-	-	-
W10C	-	-	-	2	-
W10E	-	-	-	3	-
W10W	-	-	-	-	-
Total	-	-	4	17	-

Note: "Relocation" can refer to one or several of the following: detector relocations, re-orientations and changes in elevation or detector tilt. These are explained in the individual area recommendation sections.

3 FIRE & GAS PERFORMANCE TARGETS SUMMARY

The project-specific Fire and Gas Performance Targets (Ref 8) have been developed and utilized for this mapping study. This document is outlined below and these targets are then implemented in the following chapters as the assessment approaches are detailed.

3.1 FIRE DETECTION

The [REDACTED] F&G philosophy (Ref 2) recommends that the target fire size for detection should be [REDACTED] for Grade B areas and [REDACTED] for Grade C areas. For context, across industry, typical target fire sizes for standard risk equipment utilised by major operators typically range from around [REDACTED], depending upon operator and site.

3.2 GAS DETECTION

Reference 8 suggests target gas cloud sizes for detection as:

Table 3.2-1: Project Target Gas Cloud Diameters (Ref 2)

Area type	Target Gas Cloud Diameter
Partially enclosed	[REDACTED]
Open	[REDACTED]

Table 3.2-2: Industry Typical Gas Cloud Diameters

Area type	Target Gas Cloud Diameter
Enclosed/ Partially enclosed (congestion typically 30-40%)	[REDACTED]

The derivation of target gas cloud sizes typically requires consideration of the level of congestion (from many small or thin surfaces) since it is the turbulence produced following deflagration in a congested area that primarily controls the increasing velocity at the leading edge of the gas cloud following ignition. No congestion factors are explicitly stated in derivation of the cloud sizes in Table 3.2-1, however industry practice recommends a target gas cloud of [REDACTED] for congested process areas (Table 3.2-2). For context, the research and scientific basis for this is outlined in detail in Section 5.2. Since the process areas which are assessed in this report could best be described as partially enclosed, assessments have been carried out for target gas cloud diameters of [REDACTED], to give context to the results when assessing based on the project F&G philosophy and when based on typical industry best practice. Given the nature of the average process area make-up within the scope (pockets of heavy congestion exist throughout each area, rather than a constant level of congestion throughout each space), a general 5m gas cloud appears to be a suitable detection target.

3.3 F&G PERFORMANCE TARGETS

The method of setting fire and gas detection performance requirements serves several purposes:

- The performance targets formally record the Operator's expectations of the system. For this the Specifier needs to be able to discuss hazards in terms of the damage they can cause (type of fire, time to escalation, tolerable levels of damage, etc.).
- The method then has to communicate the required system performance and philosophy to the system designers. This should be done in terms which can be related to the layout, quantities and types of detectors, and to the system controls and outputs.
- Lastly, the method provides a clear set of criteria against which the design can be reviewed.

This methodology requires that the Specifier determines for each area of a site:

- "What are the consequences we are trying to prevent?"
- "What hazards can lead to those consequences in this area?"
- "What are we expecting fire or gas detection to do which will give us confidence that we can prevent these consequences?"

This approach (which may draw on data from other sources including the operator experience) will define the minimum size and nature of the hazard the system is intended to detect and mitigate (as per Ref 2).

Performance targets have been prepared using the methods outlined by current industry best practice. The Performance Target definition procedures are based on an approach that has been used successfully on many hydrocarbon production installations by many different operators both in the North Sea and throughout the world.

Performance standards are guidelines which are set out by the operator and are not specific to individual equipment or areas. They outline general requirements (i.e. a level of performance) any system has to achieve and form the basis of compiling detailed performance targets.

Performance targets are used to gauge system performance in detecting and mitigating hazardous events. They are the level to which a system is required to perform and are area/ equipment specific.

4 ASSESSMENT METHODS – FIRE DETECTION

4.1 HAZARDOUS AREAS

4.1.1 Review Method

Utilizing the Equipment Location Plans (Ref 7), Fire and Gas Detector Location Plans (Ref 9) and the Performance Targets (Ref 8); the supplied 3D model was converted into a file usable by HazMap3D for analysis.

4.1.2 Gradings

The Gradings used for flame detection coverage are based on the requirements of the [REDACTED] F&G philosophy (Ref 2) and have been applied to all hazardous items to make up the site performance targets. For full details of the performance targets and description of the gradings, see Ref 8. A brief summary of these are provided in the tables below.

These standards require the system to respond to flaming fires expressed in required detection distance from the graded area. See Appendix A for method of calculating the effective distances of detectors currently specified.

Table 4.1-1: Definition of Flame Detection Grade in terms of Required Detection Distance.

Grade	Alarm	Control Action
B	[REDACTED]	[REDACTED]
C	[REDACTED]	[REDACTED]

4.1.3 Flame Assessment Percentage Coverage Factors

Typical minimum *coverage factors* for flame detection assessments used in industry are generally stated as between 70-90% depending upon the operator and the inherent risk of fire from a particular piece of equipment. This is the coverage the flame detectors provide of the graded areas and includes the loss of view from obstructions and lack of coverage for any other reasons. For this project, a target of 70% coverage of applicable areas and equipment for voted detectors (2ooN) and a target of 80% coverage for non-voted detectors (1ooN, alarms only)

Micropack always point out that meeting a prescribed percentage coverage target which does not take into account the specific nuances of a site/area is not a robust method for analysing the suitability of a detector layout. This is particularly true when carrying out the flame detection assessment using HazMap3D, which provides a fully 3-dimensional visualisation of the flame detector coverage of the area. When the full volume of an area is considered at once as is the case with HazMap3D (coverage at across the entire elevation demonstrated simultaneously) percentage coverage results can appear lower than expected whilst the majority of the area can appear to have suitable coverage. In these cases it is of critical importance to analyse the area and make a judgement upon the suitability of the detection coverage, based upon knowledge of the area/ equipment/ locations relative to most hazardous zones etc, rather than to rely on a prescribed coverage target percentage. Micropack have used this approach in the assessment each area.

4.2 FLAME DETECTION ASSESSMENT USING HAZMAP3D

4.2.1 Application within Software

For this project Micropack's 3D mapping software HazMap3D will be utilised. When using HazMap3D, the physical geometry of the real-life 3D environment being replicated exactly, therefore every blockage (no matter the magnitude) is accounted for when modelling.

4.2.2 The Importance of Analysing Volumes with *Seemingly* Low Coverage

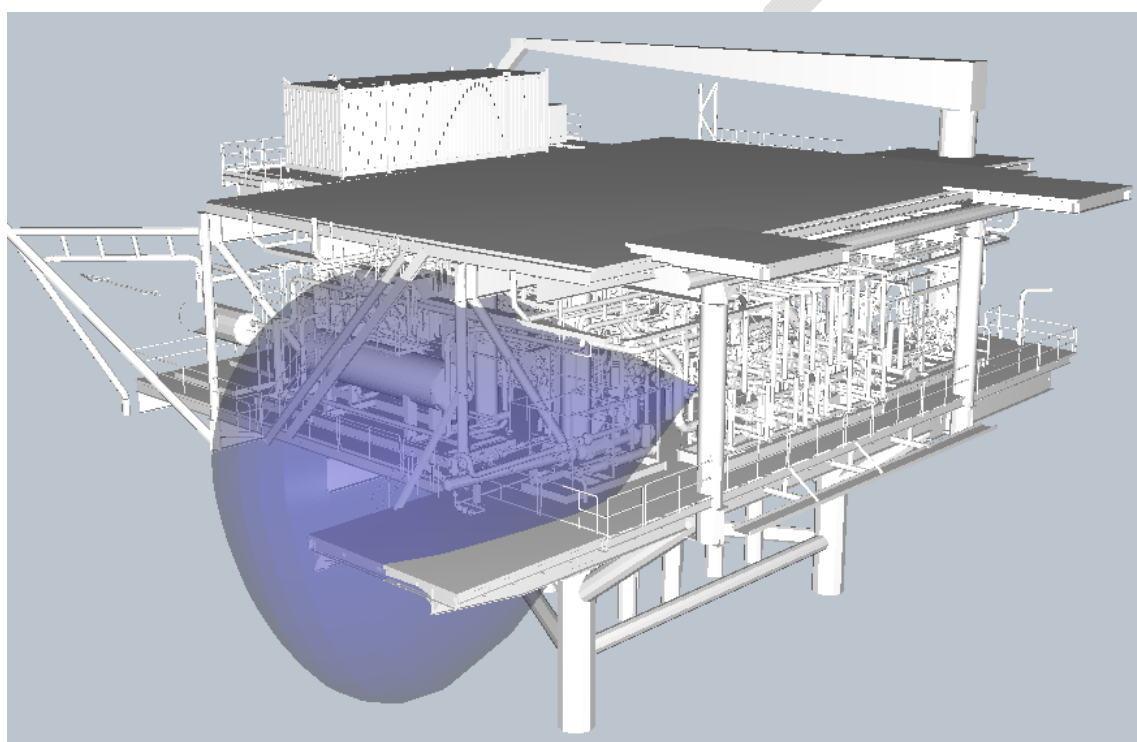
Due to the inclusion of detail such as small bore pipework and other very small items by the HazMap3D software, a situation can arise where a high number of *very small volumes* of the assessment area appear to have low, or no, flame detection coverage. The volumes may be only a few inches wide, but are so numerous that when combined they constitute a significant proportion of the assessment volume. The result is that the an assessment percentage coverage result figure may appear to be very low, below 50% for example, suggesting that the detector layout is insufficient. In reality however, because the volumes of no/ poor coverage are so small/ thin it would not be possible for the expected flame to exist and be confined to these thin volumes alone, and will almost always still be within the field of view of a flame detector. The best way to consider this is to look at an assessment and note whether the small red (no coverage) volumes are adjacent to green (strong coverage) volumes.

This is the approach considered in detail by Micropack when areas with lower-than-expected flame detection coverage have been assessed and no further alterations to the detector layout have been recommended.

4.2.3 Application within Software

The flame detectors are represented as three dimensional cones depicting each detector's field of view, with any obstructions reducing this correspondingly (see figure 4.2-1 below). This 'footprint', as this file is called, is then represented based upon detector manufacturer's information and equated to the required target fire size as stated in Table 4.1-1.

Figure 4.2-1: Generic screenshot depicting flame detector field of view cone within HazMap3D mapping software which will be utilized for the mapping process and presented in the report.

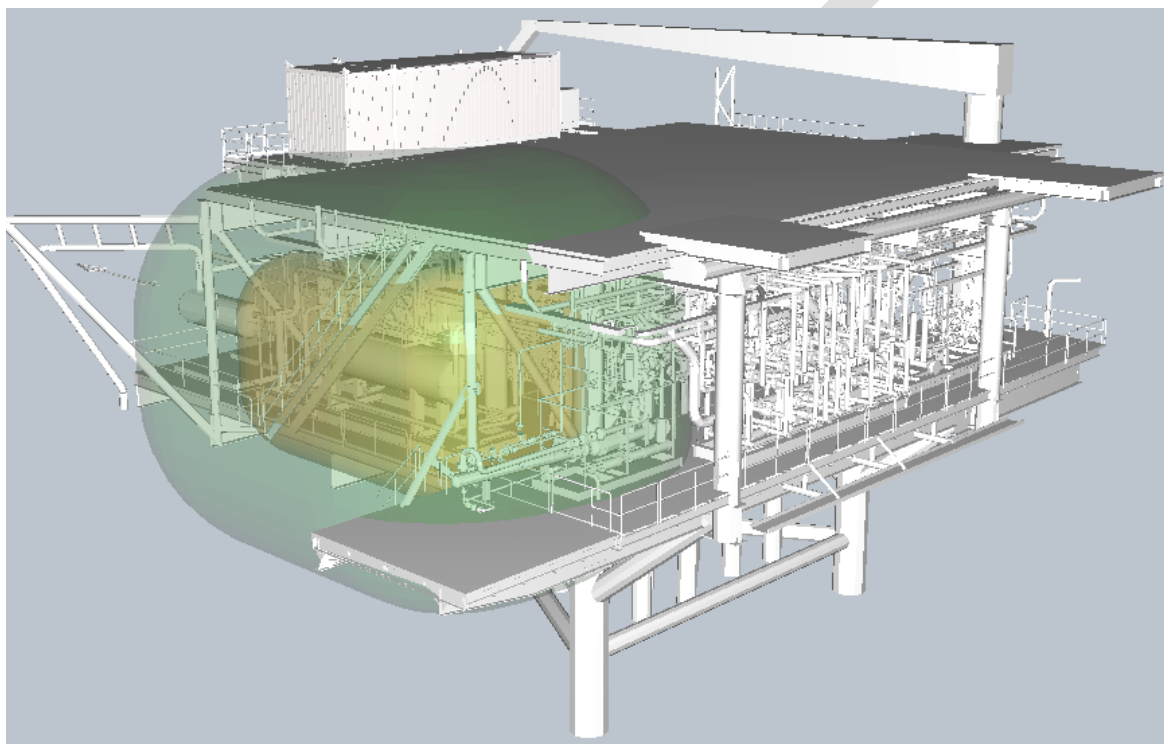


The transparent purple cone is the field of view of a detector's stated field of view (from detector manufacturer literature), which equates to being able to detect a [REDACTED] n-heptane pool fire (the standard detector test fire size). Further larger cones of vision (relating to larger target fires sizes - such as the [REDACTED] applied to this assessment - are also present in the assessment but are invisible as not to clutter the image.

For control action coverage to be achieved for the Grade B and C risks in the current assessment, two or more flame detectors need to have overlapping [REDACTED] cones, respectively. Therefore the cones' FOV visible in the assessments throughout the report are a depiction of the reference detection range to which the detection distance is calculated. The field of view visible on the assessments should therefore not be assumed to be the total range of the detector.

As determined using the performance target specification procedure, each area has been graded according to its local hazards and escalation risks. This information is stored in a 'Grademap' file. This Grademap is essentially the area that requires to be seen by the flame detector. The HazMap3D software then overlays each relevant detector's footprint onto the Grademap and constructs a graphical image of the coverage afforded by the area's detectors.

Figure 4.2-2: Generic screenshot depicting the fire grademap within the software, showing a graded vessel as an example. The highlighted area requires to be covered by flame detection.



The finished graphical file is known as the 'assessment' file (these are presented in Appendix B) and provide an objective estimate of that area's flame detection coverage, however as previously discussed, the results of the mapping assessment must be interpreted in the light of the surveyor/ operator's understanding of the area and good engineering judgement must be applied in order to arrive at an assessment of adequacy.

4.2.4 Interpretation of Results

Key components from the mapping study are automatically generated into a report by HazMap3D, for ease of analysis or presentation. The flame detection assessment report (Appendix B) includes the following.

Front Page

Contains all relevant project information as well as a coverage summary. The most interesting information contained on the front page is contained within the detector contribution table.

This table presents for each detector the individual contribution to coverage but also how much coverage changes if any detector is eliminated due to fault or failure etc. for any given voting strategy.

There is also an 'All Detectors' row which gives the raw voted coverage for all detectors, for various voting strategies. The figures for the individual coverage for various voting strategies are in reference to this row.

Note: A well-designed system should have sufficient redundancy so that a single detector in fault will not have a significant impact under the chosen voting strategy.

Detector Details

Within this table exact positioning of every detector is detailed. The co-ordinates of each detector are given in reference to the client provided model in .nwd format. The Z coordinate is given in ALD (Above Local Deck) format, which should be intuitive for installation/ relocation for the commissioning team. This is specified in reference to a user defined deck Z in the assessment dialog. The orientation of each detector is noted in terms of 'pan' & 'tilt'.

Pan is in reference to the horizontal orientation, which when visualising from above is rotation about the flame detectors location (with East equal to 0 degrees).

Note: This will never be a negative number as it is based on a 360° rotation co-ordinate system.

Tilt is in reference to the vertical orientation, the angle by which the flame detector is 'tilted' up or down. A positive tilt figure is degrees angled down from the horizontal and a negative one is degrees angled up. Although this may appear counterintuitive, flame detectors are designed to be viewing angled down for maximum coverage along the detector center line, hence why this is considered positive tilt. The software has been designed this way purposely to aid the user when entering in multiple detectors.

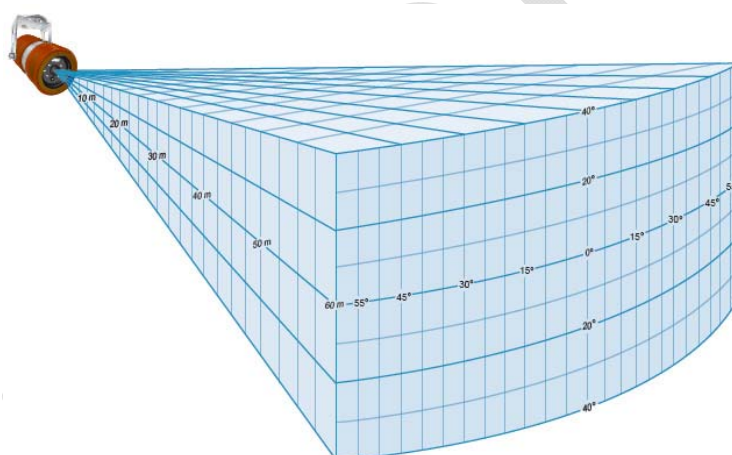
Note: The tilt figure may differ from the detector manufacturers recommendation in some cases. The reader should be aware this can be attributed to the manufacturers figures being based on idealistic test conditions in which the fire will be a significant distance away. The main point when considering tilt is that the centre line of the detector should be pointed towards the hazard to optimise coverage of the hazard and surrounding area. This also ensures prevention of build-up of dirt/moisture/rain on the lens.

Grademap & Printed Layouts

The grademap and printed layouts that are automatically generated are a 2D representation of the 3D grades and assessments at each elevation slice. This is user defined, and can be altered.

The detector effective viewing distance in the horizontal plane (tilt = 0) is noted on the print layouts as a FOV 'bubble'. The reader should be aware that the purpose of this is indicative only, this has been added by request for ease of positioning on site. The 'bubble' is not representative of the detector FOV at the presented slice. The 2D representation of the FOV changes throughout the elevation of the assessment due to the 3D geometric volume covered by the flame detector. This can be easily interpreted by visualising the cross-section at various elevations of the 3D geometric volume covered by a flame detector, as pictured below.

Figure 4.2-3: Depiction of generic 3D geometric volume covered by optical flame detector



5 ASSESSMENT METHODS – GAS DETECTION

5.1 HAZARDOUS AREAS

The flammable gas detectors specified are either IRPGD or OPGD. In process areas a combination of these devices are utilised.

5.1.1 Review Method

The location of existing detection was taken from the Fire and Gas detection layout drawings and confirmed using the Navisworks (Ref 1) model. Where volumetric assessment was required this information was then fed into Micropack's HazMap3D software. F&G detector layouts (Ref 9), Cause & Effects sheets (Ref 10) and Equipment Location Plans (Ref 7) for fire zones for each area within the scope were referred during this assessment.

5.2 VOLUMETRIC GAS DETECTION

The aim of the general area volumetric flammable gas detection system is to detect the presence of flammable gas accumulations which are of sufficient size that, if ignited, could cause damage through the effects of explosion or deflagration. The size of gas accumulation requiring detection is based on the volume of the area and the levels of confinement and congestion throughout the area. This approach comes from the review of research UK HSE publication OTO 93-002 (Ref 3) which presents data on the overpressures associated with a range of ignited gas accumulations across various levels of physical congestion. In summary the report concludes that a 6m cloud of stoichiometrically mixed methane or propane will, if ignited efficiently in an area with a blocking ratio of 0.3–0.4, produce flame speeds greater than 100m/sec or 125 m/sec respectively.

These flame speeds are associated with overpressures approaching 150mBar, a widely accepted minimum threshold for pressure-induced damage. Increased congestion or blockage ratios in an area are likely to decrease the cloud size required to achieve a damaging overpressure. Consequently, it was concluded by industry following the review of research (Ref 3) that a detector spacing approach in reference to the level of local congestion would be effective at detecting clouds of gas before they become large enough to be capable of causing damage in an 'average' plant (Ref 3). This method of detecting the target gas cloud through gas detector spacing is further underlined in a study of high pressure gas releases by IChemE (Ref 4).

With respect to this approach, the following risk volumes are outlined in Ref 2 as to the relevant spacing requirements in prescription of detect the aforementioned gas clouds.

5.2.1 Risk Volumes

Each area classified as a risk volume is categorised as one of the following (partially from Ref 2):

Table 5-1: Flammable Gas Target Cloud Sizes

Zone characteristic	Cloud Size to use	Grademap Key Colour
Enclosed	N/A	N/A
Part-enclosed area (or congested area)		Red
Open area	N/A	N/A

Note: To define the word ‘congested’ used above one has to think about the volume as a cube, if on one face of the cube over 40% of the area is obstructed this is considered congested. Obstructions can and do include all pipework, structure and equipment. Another point to note if you cannot physically ‘see’ through the pipework to the other side of the module or equipment this provides enough congestion which can amplify the flame front and hence cause potentially damaging over pressures.

5.3 PERIMETER GAS DETECTION

Perimeter gas detection is used to eliminate the opportunity for anonymous migration of flammable gas from one area to another, typically from a hazardous process area to non-hazardous areas. IR Open Path gas detectors are normally used to achieve this aim as they offer a significantly more economical method when compared with IR Point Gas Detection.

5.4 GAS DETECTION ASSESSMENT USING HAZMAP3D (VOLUMETRIC)

In this study, volumetric gas detection coverage is assessed using Micropack’s proprietary HazMap3D software assessment tool.

5.4.1 Volumetric Gas Detection Assessment using HazMap3D

The requirement for a volumetric flammable gas detection assessment is determined at the Performance Target definition stage and as outlined in section 5.2.1. This process forms the basis for categorising the area as Enclosed (E), Partially Enclosed/Congested (PE) or Open (O). Perimeter (P) detection is assigned to areas where migration of a flammable gas cloud may be a concern.

The software objectively assesses the coverage of the flammable gas detection system against the proposed performance target and the results must be interpreted in the light of the surveyor/operator's knowledge of the area in order to arrive at a proposed assessment of adequacy.

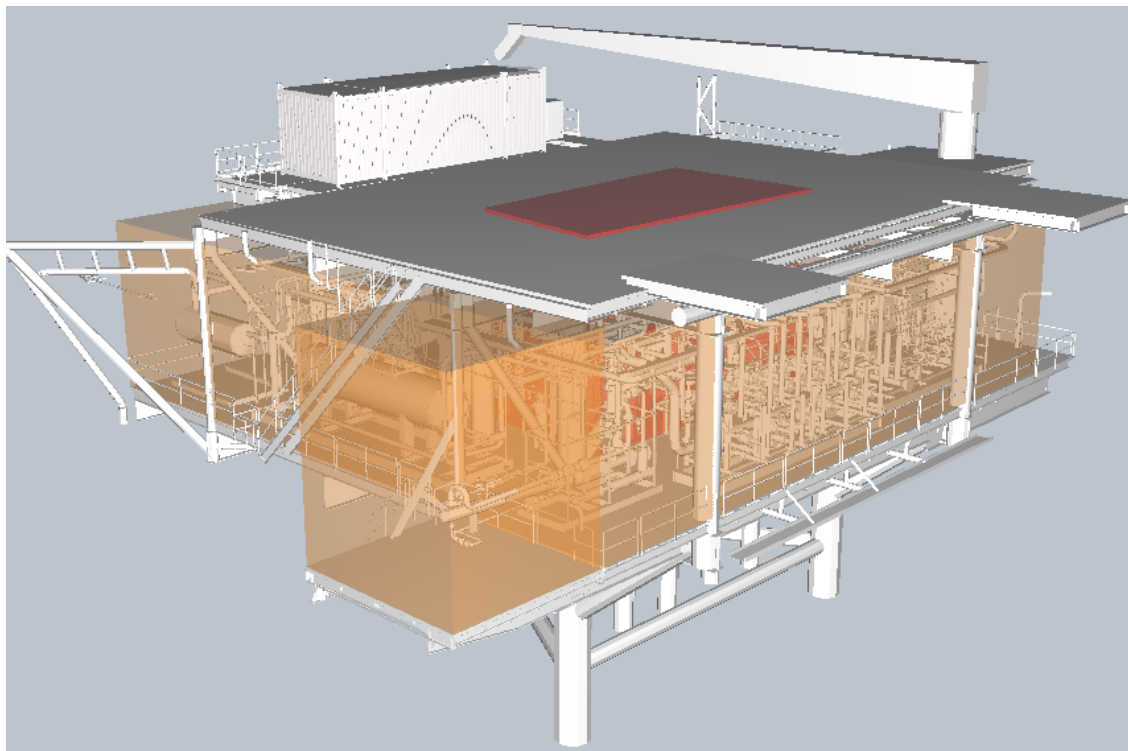
HazMap3D uses a number of simplifying assumptions in order to make it possible to assess complex or congested sites in a reasonable time. This includes the dense and dilute cloud assumption, which is based on the premise that when a high gas concentration (hi alarm) is present at the centre of a cloud – this is not a constant property, and the outer edges of the cloud will be composed of a lower gas concentration due to the natural dispersion of the total gas mass.

Table 5.6-1: Volumetric Flammable Gas Detection Grades Application within Software

Zone characteristic	Gas Detection Grade	Gas Detection Spacing Requirement	Application within HazMap3D	
			Dense Cloud Diameter (H)	Dilute Diameter Cloud (L)
Enclosed	E	■	■	■
Part-enclosed, or Congested area	PE	■	■	■
Open area	O	■	■	■

Note: L and H here refer to the terms Low and High in reference to gas alarm voting strategy. The idealised assumption of gas dispersion is that it diffuses outward in three dimensions equally, and dilution is therefore considered to be inversely proportional to distance. The high gas alarm corresponds to the dense cloud diameter as per the spacing requirement with an in-built factor of safety and the low gas alarm corresponds to the dilute cloud diameter which has been allowed to disperse, albeit in idealised conditions. In practical terms for the assessment an area graded E, PE or O means that green (confirmed, Hi-Low) coverage is based upon at least one alarm within the dense cloud diameter sphere and at least one alarm within the corresponding dilute cloud diameter sphere. These corresponding dense/dilute cloud diameters are given in Table 5.6-1, and volumes of interest that are to be assessed are depicted in the 3D model as displayed in Figure 5.6-1.

Figure 5.6-1: Generic screenshot depicting the volumetric gas grademap within HazMap3D software



5.4.2 Open Path Beam Attenuation Model in HazMap3D

HazMap3D utilizes the beam attenuation principle to measure whether alarm set points for open path gas detectors are reached or not. The software ascertains how much of the open path beam (i.e. the length) passes through the dense and/ or dilute gas clouds (discussed in the previous section). This is then multiplied by the concentrations of the dense and dilute gas clouds (for conservatism this is assigned 60% and 20% LFL on average respectively, however the assumption is acceptable for other setpoints with similar ratios such as 10% Lo / 25% Hi). The product of this is the beam attenuation value in LFLm (distance of beam * concentration it passes through). Hence HazMap3D will produce mapping assessments which show where the alarm LELm set points have been met or not, accounting for the assumed change in concentration across the theoretical gas cloud diameter. An easy way of appreciating this is understanding that the open path beam will have to travel a certain length through the dense cloud and a greater distance through the dilute portion of a cloud to achieve a high enough beam attenuation to meet alarm values/ provide adequate coverage.

5.4.3 Interpretation of Results – Gas Detection Coverage Assessment in HazMap3D

Key components from the mapping study are automatically generated into a report by HazMap3D, for ease of analysis or presentation. The gas detection assessment report (Appendix B) includes the following.

Front Page

As with the flame detection assessment report the front page contains all relevant project information, as well as the module dimensions, assessment parameters and assessment summary also. The detector contribution table has its own page in the report which is after the front page.

Detector Contribution Table

Similarly, with the flame detection contribution table for each detector the individual contribution to coverage but also how much coverage changes if any detector is eliminated due to fault or failure etc. for any given voting strategy.

The individual L/H contribution percentage columns show the percentage of graded volume covered by that detector at L and H range. The remaining contributions columns (L/H/2H/HL/2H) show what percentage of voted coverage is lost if that detector fails, again for a various possible voting strategies.

Note: A well-designed volumetric system should have sufficient redundancy so that a single detector in fault will not have a significant impact under the chosen voting strategy.

Within this table exact positioning of every detector is detailed. The co-ordinates of each detector are given in reference to the client provided model in .obj format. The Z coordinate is given in Elev (Elevation in reference to local deck) format. This is specified in reference to a user defined deck Z in the assessment dialog.

Grademap & Printed Layouts

The grademap and printed layouts that are automatically generated are a 2D representation of the 3D grades and assessments showing slices at multiple elevations throughout the total volume.

6 FIRE DETECTION TECHNOLOGIES

Unlike gas detection (point detectors and open paths) different technologies, makes and models of flame detector can have a vast array of specific attributes in terms of detection distance, false alarm sources and general performance curves. A summary of flame detection technologies utilised within this work scope follows.

6.1 FLAME DETECTION TECHNOLOGY

6.1.1 Infrared (triple-IR) Flame Detector – Throughout Process Areas

The specific detector utilised throughout the process areas is the Simtronics DF-TV7 triple-IR flame detector which provides a viewing distance in *ideal* conditions of around 40m to a 1ft² *petrol* fire, on an unknown sensitivity setting (Ref 6) and therefore an inferred *effective* viewing distance of approximately 22.5m. The detection distance and attributes for a 1ft² *n-heptane* fire- the default fuel used for FM Global detector tests is not given in the detector datasheet (Ref 6).

Figure 6.1-1: Horizontal field of view of Simtronics DF-TV7 3IR Flame Detector

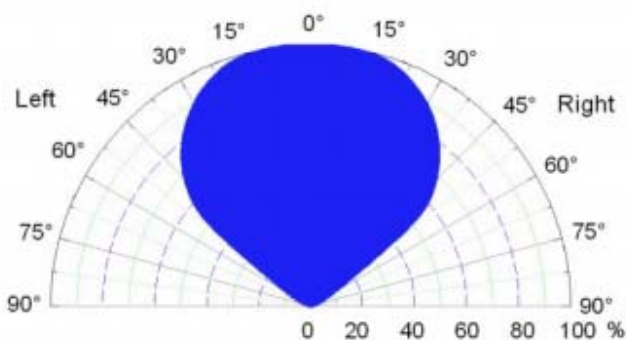


Figure 6.1-1 shows the typical field of view of the detector along the centre of the horizontal and vertical axes (Ref 6). The impact of the filter edge effect can be seen whereby the distance that the detector can see along the outer edge of the field is almost half of the distance the detector can see along the centre of the field. This impact is accounted for in the mapping assessment software. Figure 6.1-2 shows the detector faceplate.



Figure 6.1-2: Simtronics DF-TV7 triple-IR flame detector

7 CELLAR DECK (EL. 57'-0"/17.373 M)

7.1 AREA/HAZARD DESCRIPTION

The potential fire hazards in this area are hydrocarbon gas jet fires (mainly in FZ W10E) of varying pressures and / or liquid pool fires are credible following loss of containment. This area has high obscuration levels in terms of flame detector field of view blockages.

The potential gas hazards in this area include potential for accumulation of HC gas cloud capable of causing damaging overpressure if ignited, especially South of the deck.

For full description of the applied grades on this deck and associated FZs please refer to the Performance Target document (Ref 8).

7.2 FIRE DETECTION

7.2.1 Flame Grading

The figures below show how the graded equipment in the Performance Targets (Ref 8) looks within HazMap3D. Detector arrangements are shown within the following section.



Figure 7.2.1.1: Screenshot showing the fire grademap throughout the Cellar deck within HazMap3D.

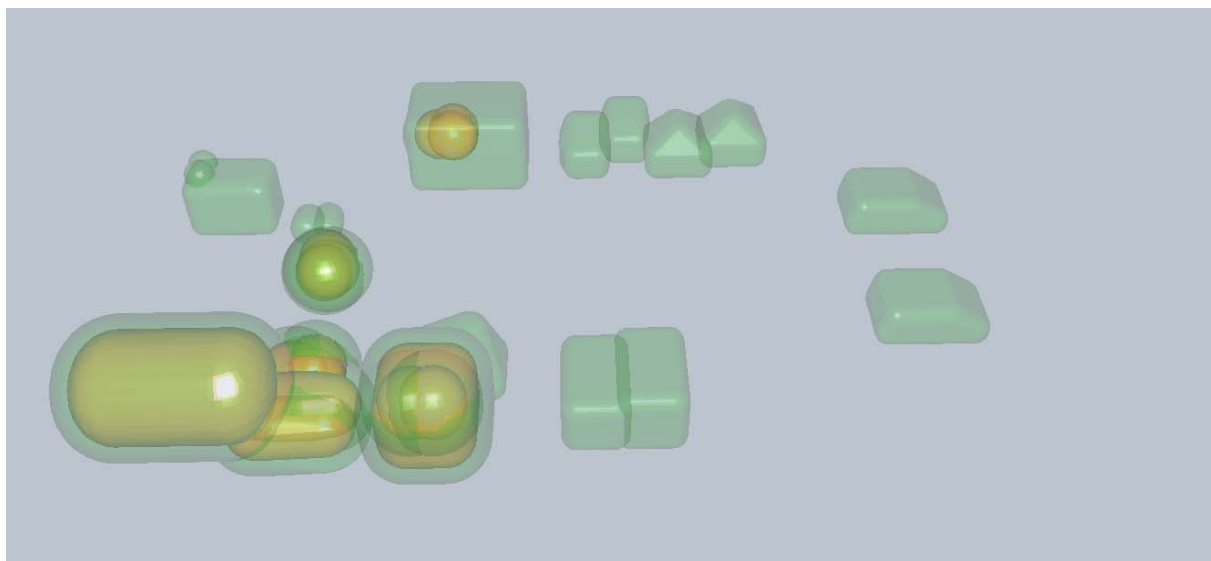


Figure 7.2.1.2. Screenshot showing the fire grademap throughout the Cellar deck within HazMap3D with 3D model excluded.

Note: As noted in the Performance Targets, numerous pumps and drains are normally not graded by Micropack, but have been for this report at the request of the client. Examples of these are open drains pumps, open drains tank, Power Export Voltage regulators, non-hazardous open drains pumps, non-hazardous open drain tanks, fire water pumps and eletrcical transformers. These items make up a large percentage of the equipment in the Performance Targets, but represent little of the overall risk.



7.2.2 Contractor Detection Arrangement

The following table outlines the existing fire detection in this area.

Location	Tag No	Detector Type	El. (m) ALD	Pan (°)	Tilt (°)	Comments
FZ W10W						
Cellar Deck	70FIW10W-031	Simtronics DF TV7-T Multi-spectrum	3.00	48	20	
FZ W10W	70FIW10W-032	Infrared Flame Detector	2.70	219	20	
FZ W10C						
Cellar Deck FZ W10C	70FIW10C-016	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.83	45	20	
	70FIW10C-017		3.31	315	20	
	70FIW10C-018		3.31	45	20	
	70FIW10C-019		3.31	135	20	
	70FIW10C-020		3.34	255	20	
	70FIW10C-021		3.95	135	20	
FZ W10E						
Cellar Deck FZ W10E	70FIW10E-022	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.72	45	20	
	70FIW10E-023		3.31	315	20	
	70FIW10E-024		3.35	45	20	
	70FIW10E-025		2.81	315	20	
	70FIW10E-026		3.04	225	20	
	70FIW10E-027		2.76	135	20	FOV covering hazards within FZ S10E
	70FIW10E-028		2.85	135	20	
FZ S10W						
Cellar Deck	70FIS10W-008	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.11	45	20	
FZ S10W	70FIS10W-009		2.81	225	20	
	70FIS10W-010		3.8	135	20	
	70FIS10W-011		4.62	316	20	
FZ S10E						
Cellar Deck	70FIS10E-006	Simtronics DF TV7-T Multi-spectrum	2.81	45	20	
FZ S10E	70FIS10E-007	Infrared Flame Detector	5.25	225	20	
FZ Q10C						
Cellar Deck	70FIQ10C-001	Simtronics DF TV7-T Multi-spectrum	2.81	45	20	
FZ Q10C	70FIQ10C-002	Infrared Flame Detector	2.81	135	20	

Note: For further information regarding detector tilt and orientation (pan) in relation to HazMap3D, refer to section 4.2.4.

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Flame Detection Assessments.

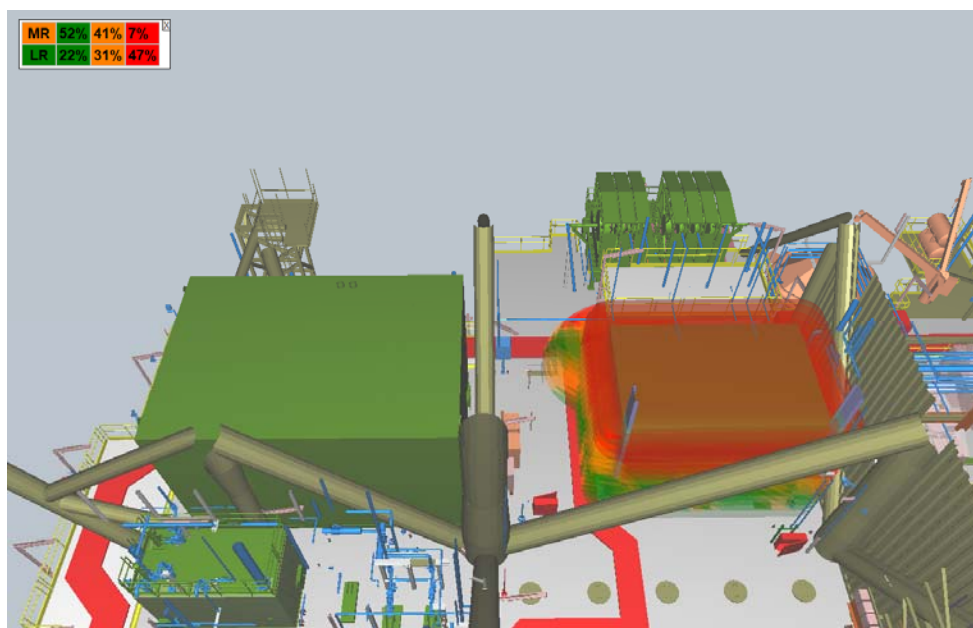


Figure 7.2.2.1. Existing flame assessment result snapshot of Cellar Deck W10W with 3D model included.

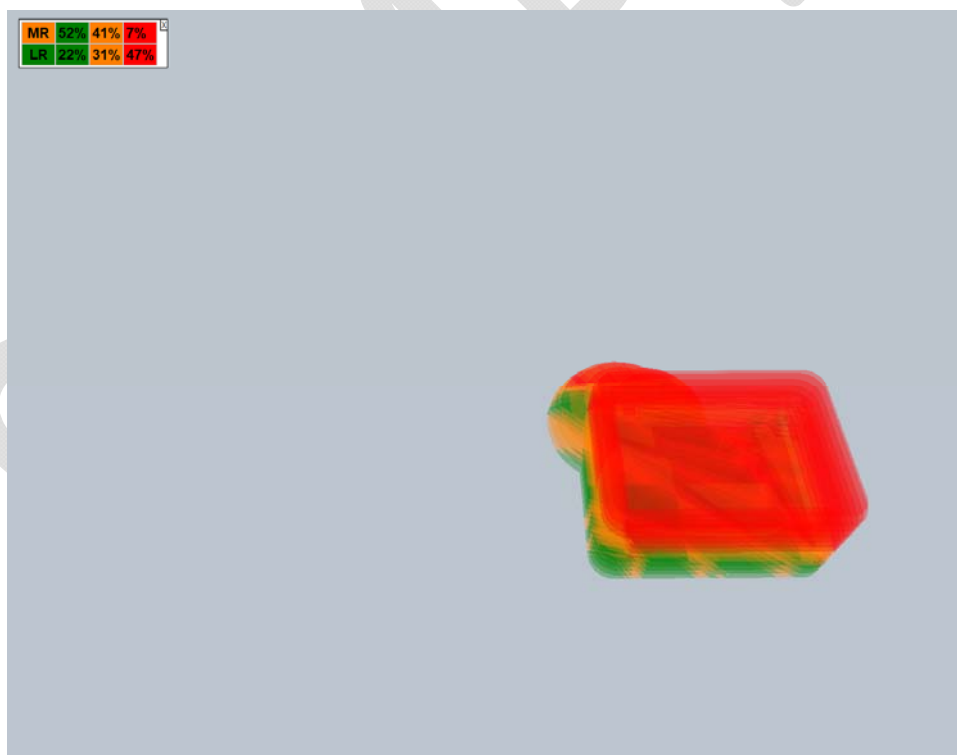


Figure 7.2.2.2. Existing flame assessment result snapshot of Cellar Deck W10W with 3D model excluded.

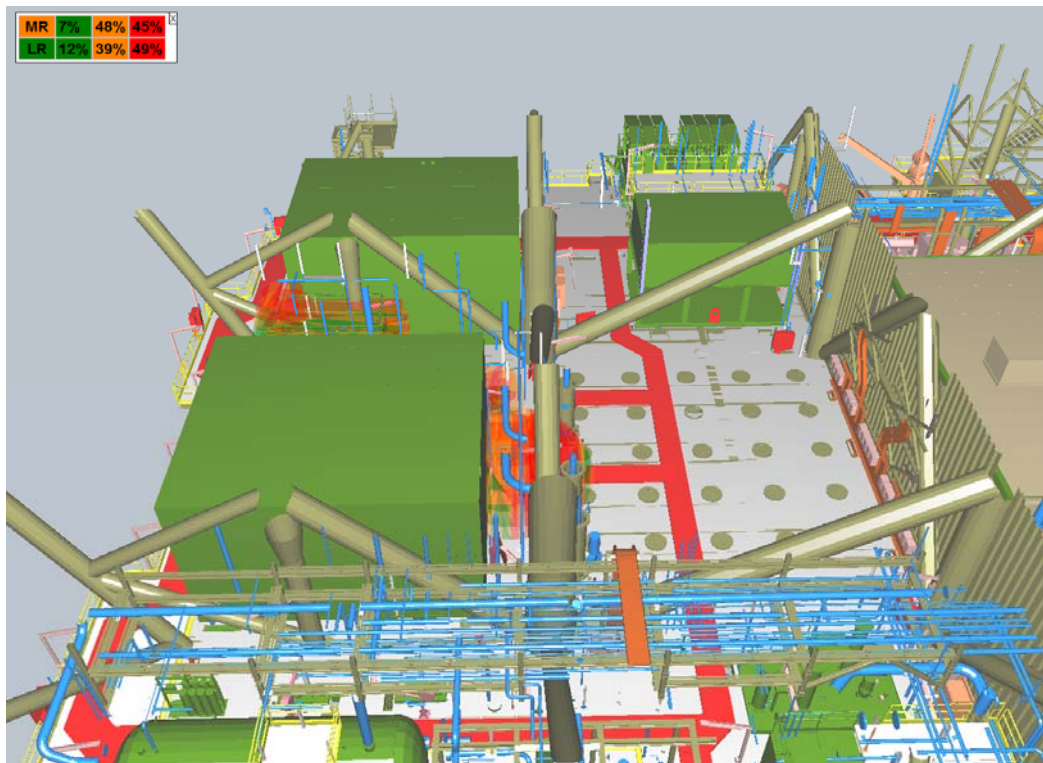


Figure 7.2.2.3. Existing flame assessment result snapshot of Cellar Deck W10C with 3D model included.

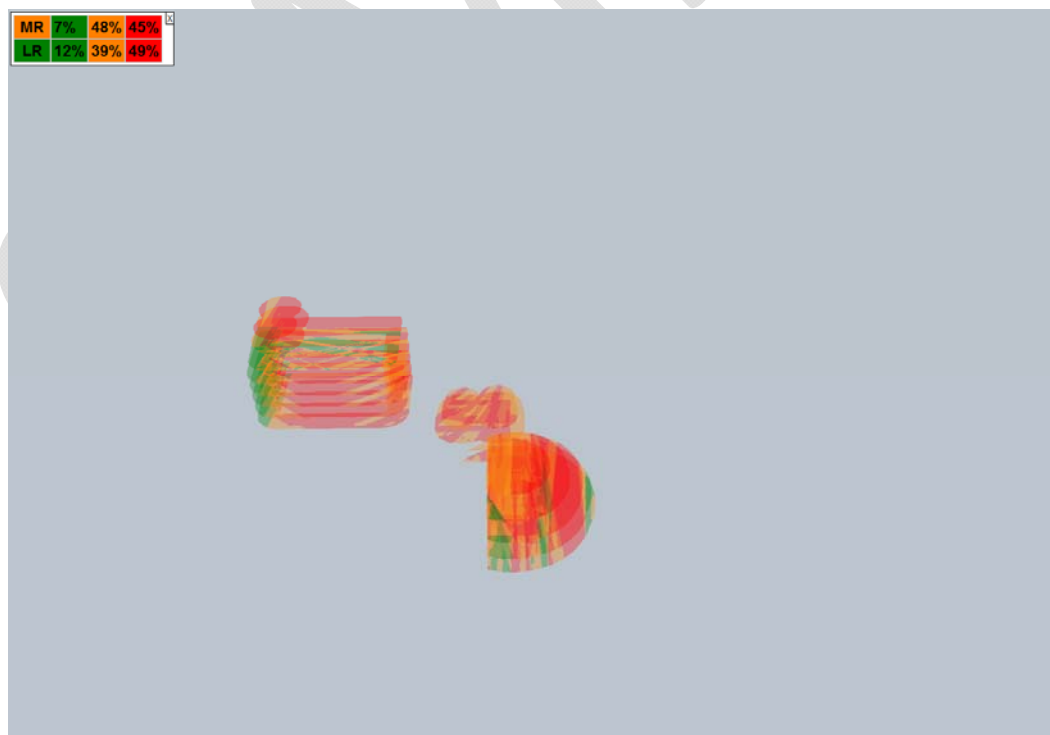


Figure 7.2.2.4. Existing flame assessment result snapshot of Cellar Deck W10C with 3D model excluded.

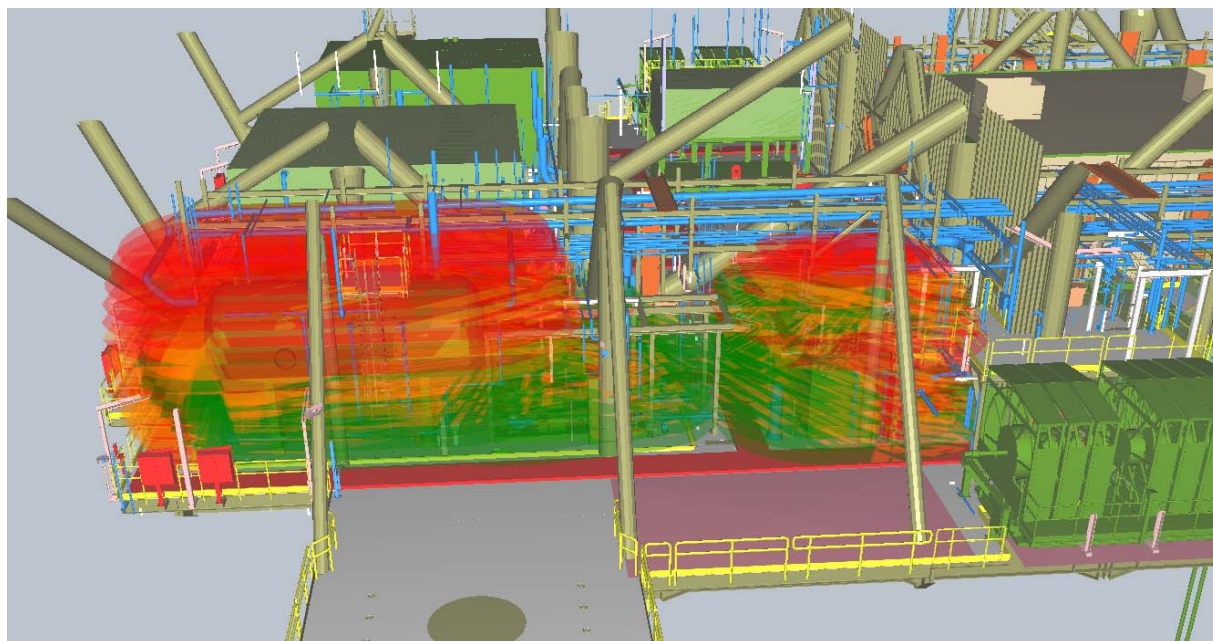


Figure 7.2.2.5. Existing flame assessment result snapshot of Cellar Deck W10E with 3D model included.

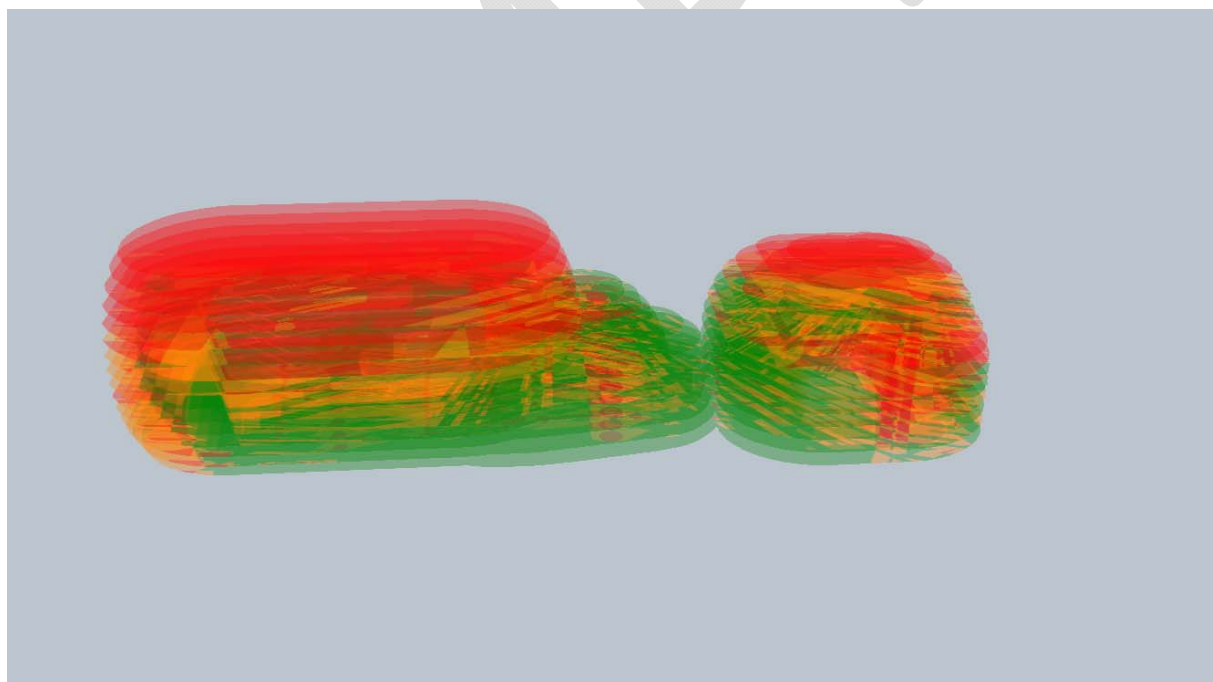


Figure 7.2.2.6. Existing flame assessment result snapshot of Cellar Deck W10E with 3D model excluded.



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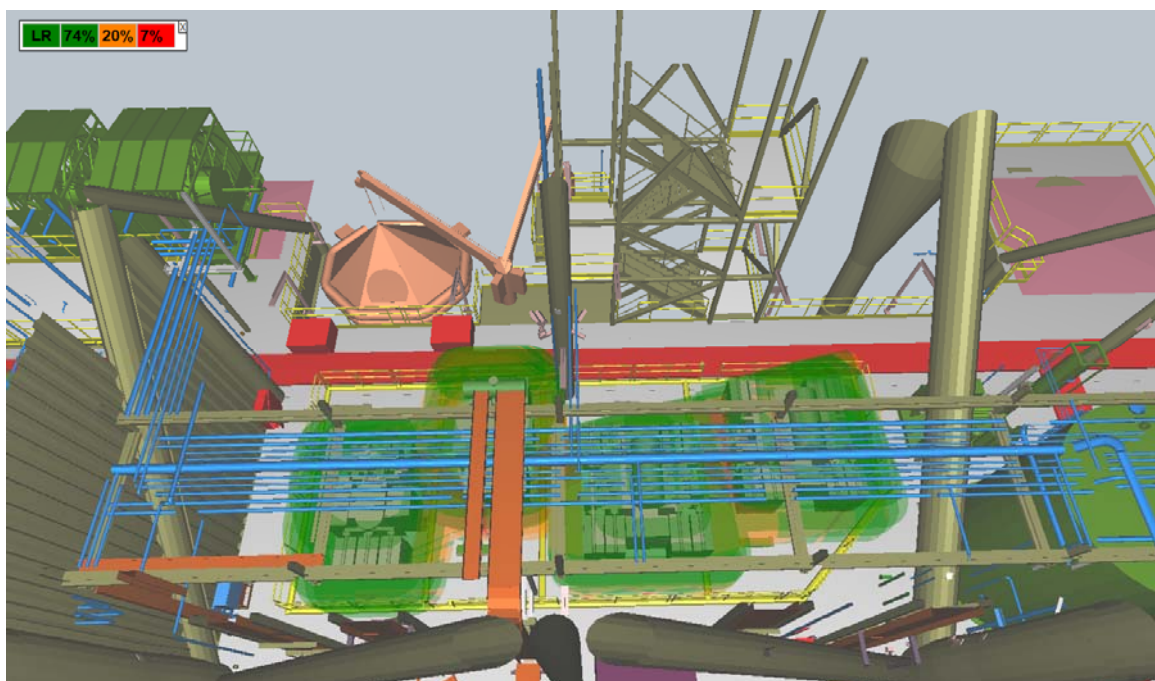


Figure 7.2.2.7. Existing flame assessment result snapshot of Cellar Deck S10W with 3D model included.

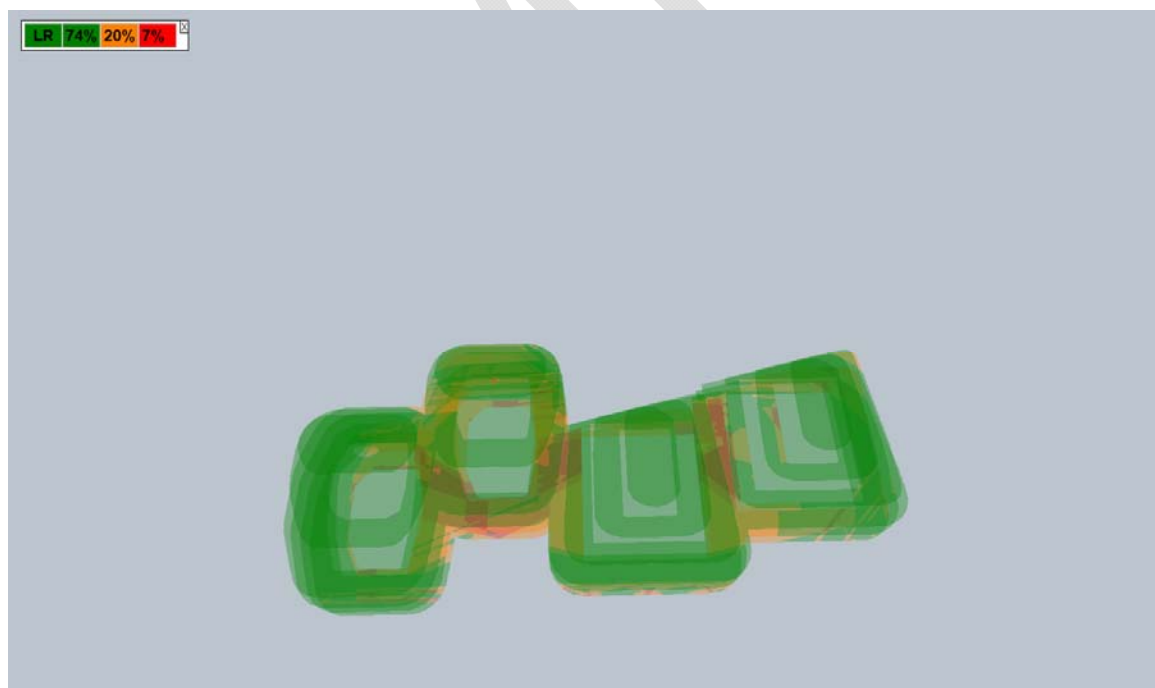


Figure 7.2.2.8. Existing flame assessment result snapshot of Cellar Deck S10W with 3D model excluded.

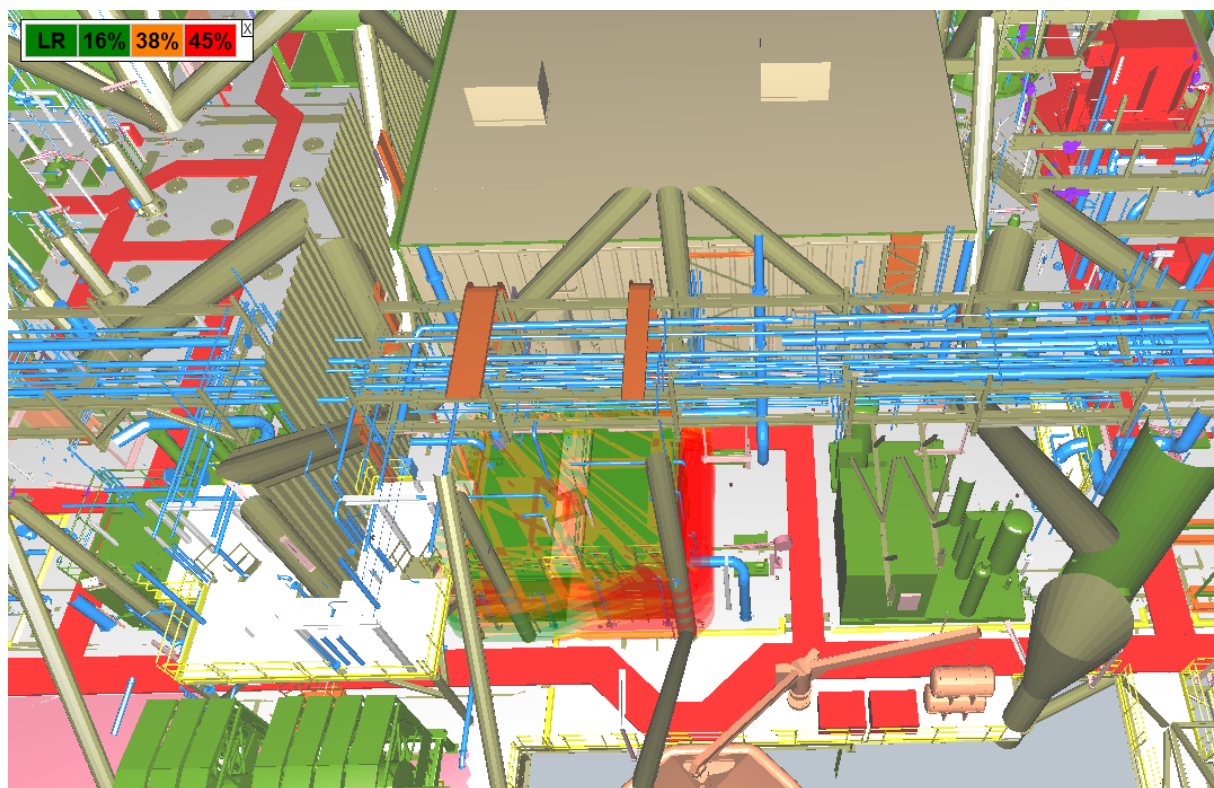


Figure 7.2.2.9. Existing flame assessment result snapshot of Cellar Deck S10E with 3D model included.

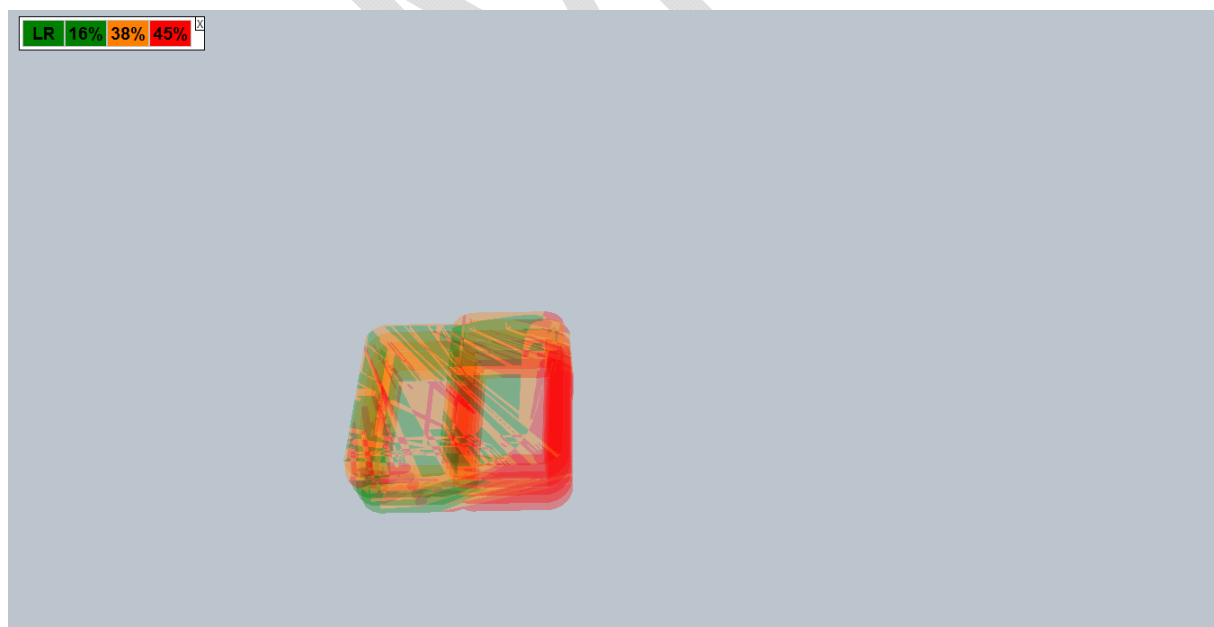


Figure 7.2.2.10. Existing flame assessment result snapshot of Cellar Deck S10E with 3D model excluded.

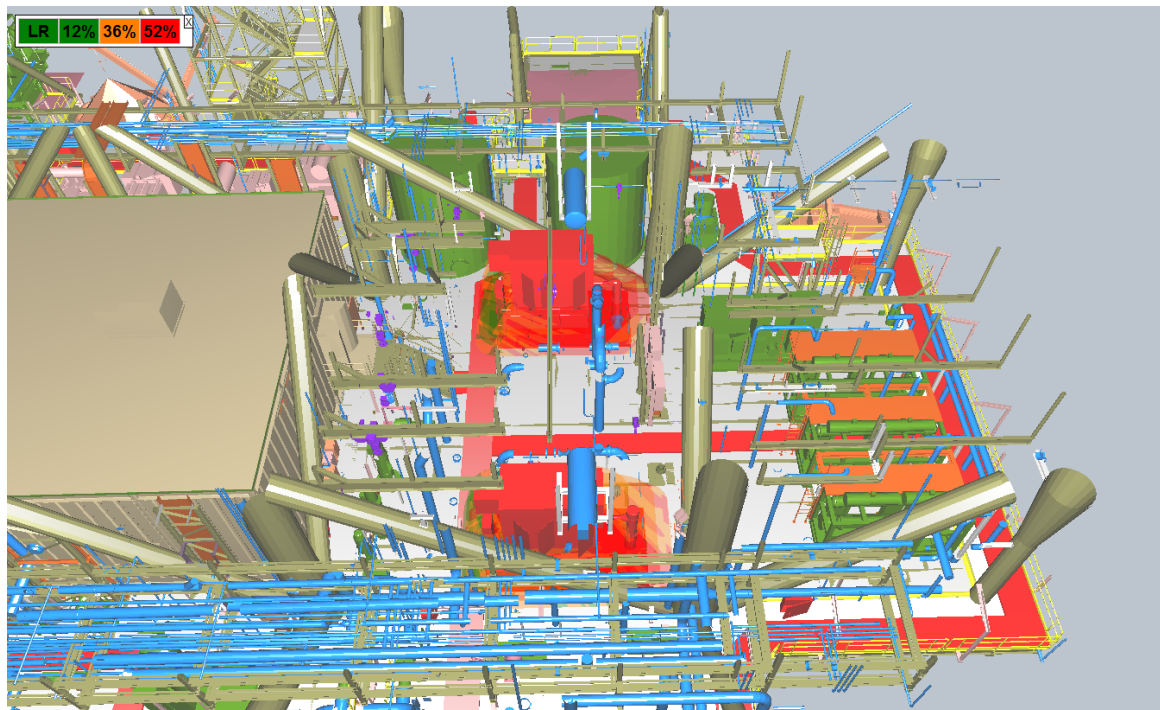


Figure 7.2.2.11. Existing flame assessment result snapshot of Cellar Deck Q10C with 3D model included.

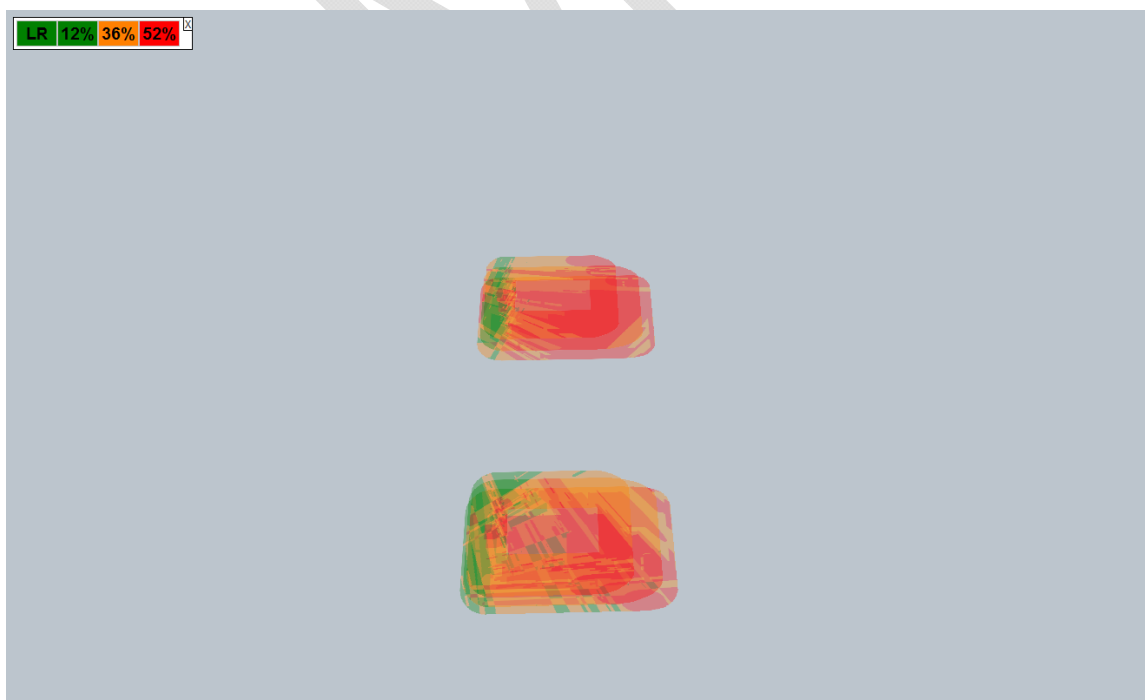


Figure 7.2.2.12. Existing flame assessment result snapshot of Cellar Deck W10C with 3D model excluded.

7.2.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Pan (°)	Tilt (°)	Comments
			X	Y	Z				
FZ W10C									
Cellar Deck FZ W10C	70FIW10C-018	Remove	304.796	306.026	20.696	3.31	45	20	Not covering any hazard as defined in PTs, deemed unnecessary
	70FIW10C-019	Remove	321.560	306.026	20.696	3.31	135	20	
	70FIW10C-016	Relocate: elevation	305.559	290.027	22.210	4.83	70	20	Up 1m
	70FIW10C-020	Relocate: co-cords	318.540	302.476	21.808	3.34	180	20	Relocation to optimise hazard coverage
FZ W10E									
Cellar Deck FZ W10E	NewFDW10E-001	Addition	326.720	291.858	23.000	5.62	60	15	Addition to optimise coverage of top of 43VD001
	70FIW10E-027	Relocate: co-cords	333.400	321.144	20	2.62	145	15	Relocation to monitor S10E
FZ S10W									
Cellar Deck FZ S10W	70FIS10W-010	Remove	304.314	319.017	21.188	3.8	135	20	Considered excessive for LR hazard
	70FIS10W-011	Relocate: co-cords	292.938	335.086	19.810	2.43	320	15	Relocation to optimise hazard coverage
FZ S10E									
Cellar Deck FZ S10E	70FIS10E-007	Relocate: co-cords	330.000	328.542	22.631	5.25	225	20	Relocation to optimise hazard coverage
FZ Q10C									
Cellar Deck FZ Q10C	NewFDQ10C-001	Addition	305.298	351.407	21.140	3.76	320	25	Addition to increase hazard coverage

Note: For further information regarding detector tilt and orientation (pan), see section 4.2.2

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Flame Detection Assessments.



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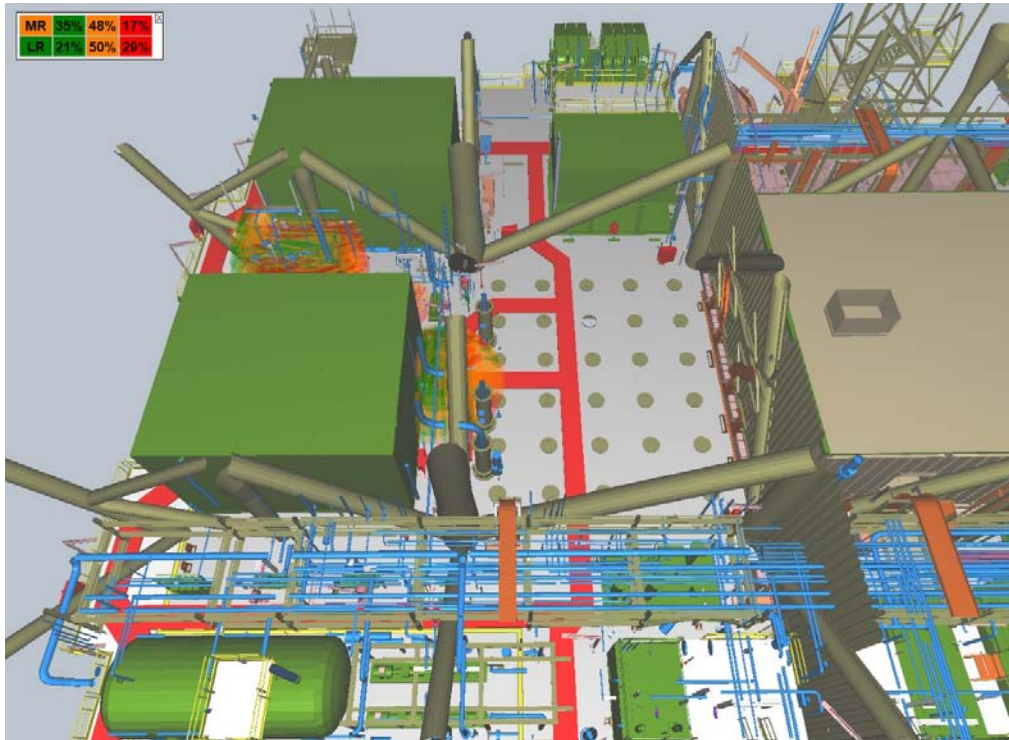


Figure 7.2.3.1. Proposed flame assessment result snapshot of Cellar Deck W10C with 3D model included.

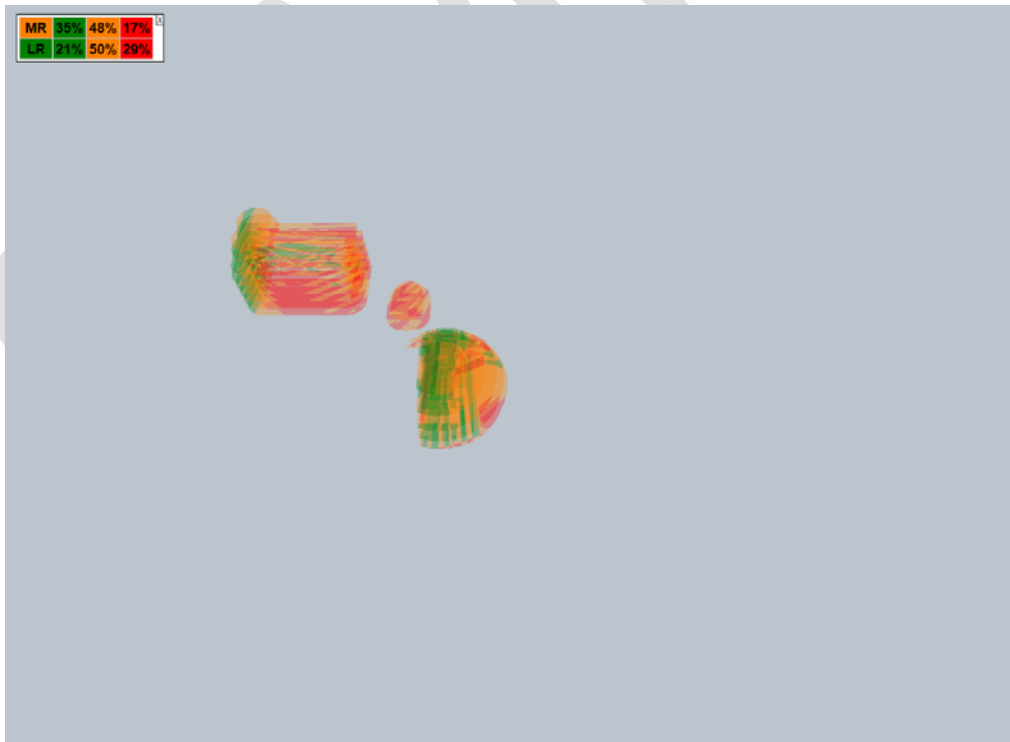


Figure 7.2.3.2. Proposed flame assessment result snapshot of Cellar Deck W10C with 3D model excluded.

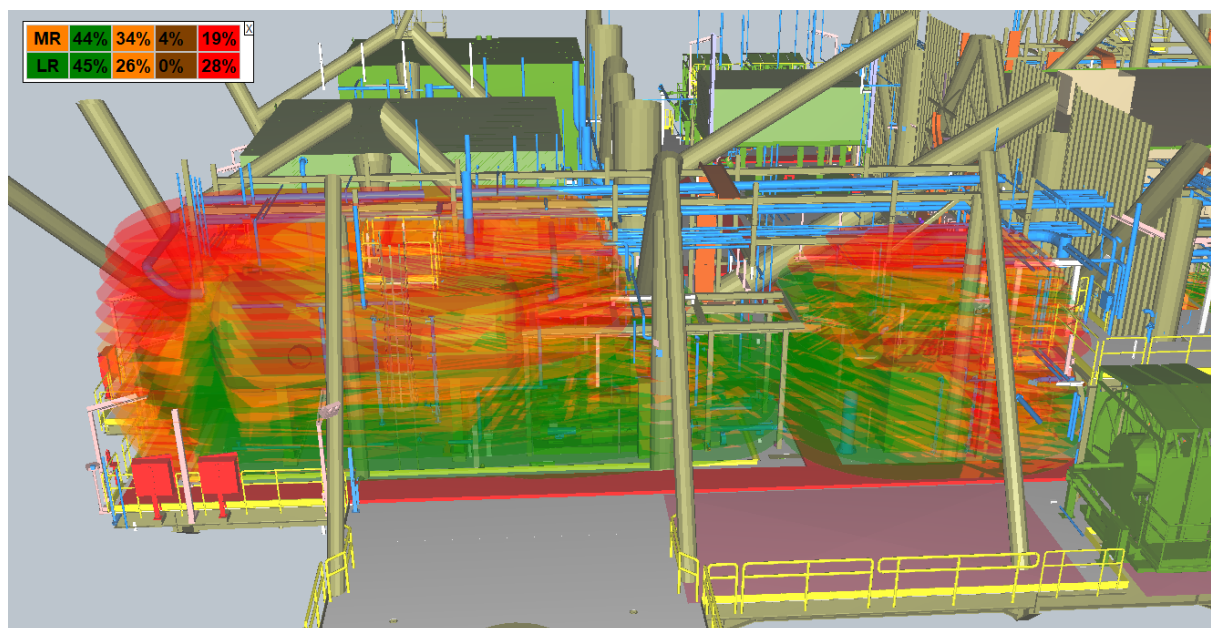


Figure 7.2.3.3. Proposed flame assessment result snapshot of Cellar Deck W10C with 3D model included.

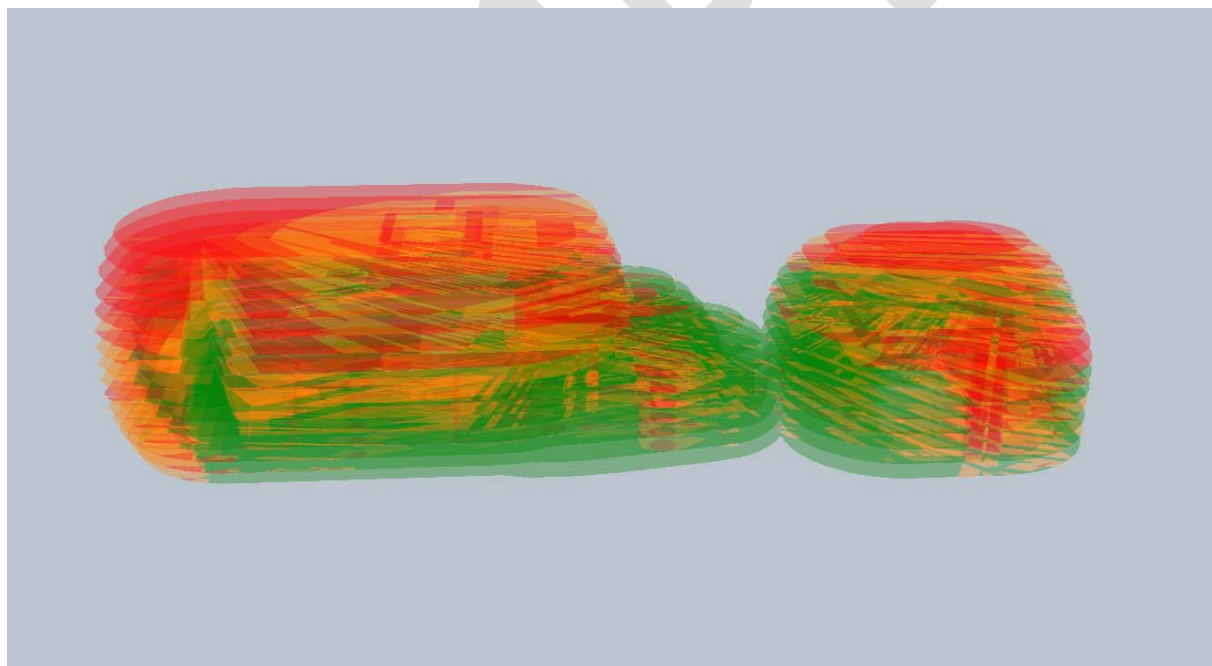


Figure 7.2.3.4. Proposed flame assessment result snapshot of Cellar Deck W10C with 3D model excluded.

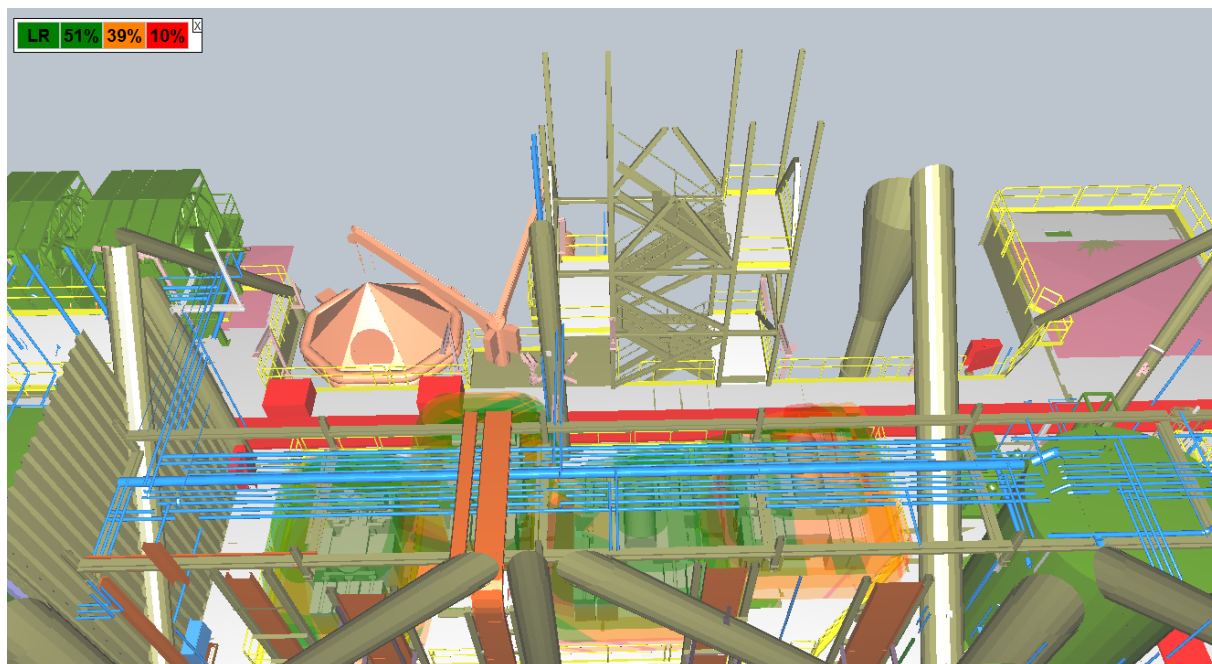


Figure 7.2.3.5. Proposed flame assessment result snapshot of Cellar Deck S10W with 3D model included.

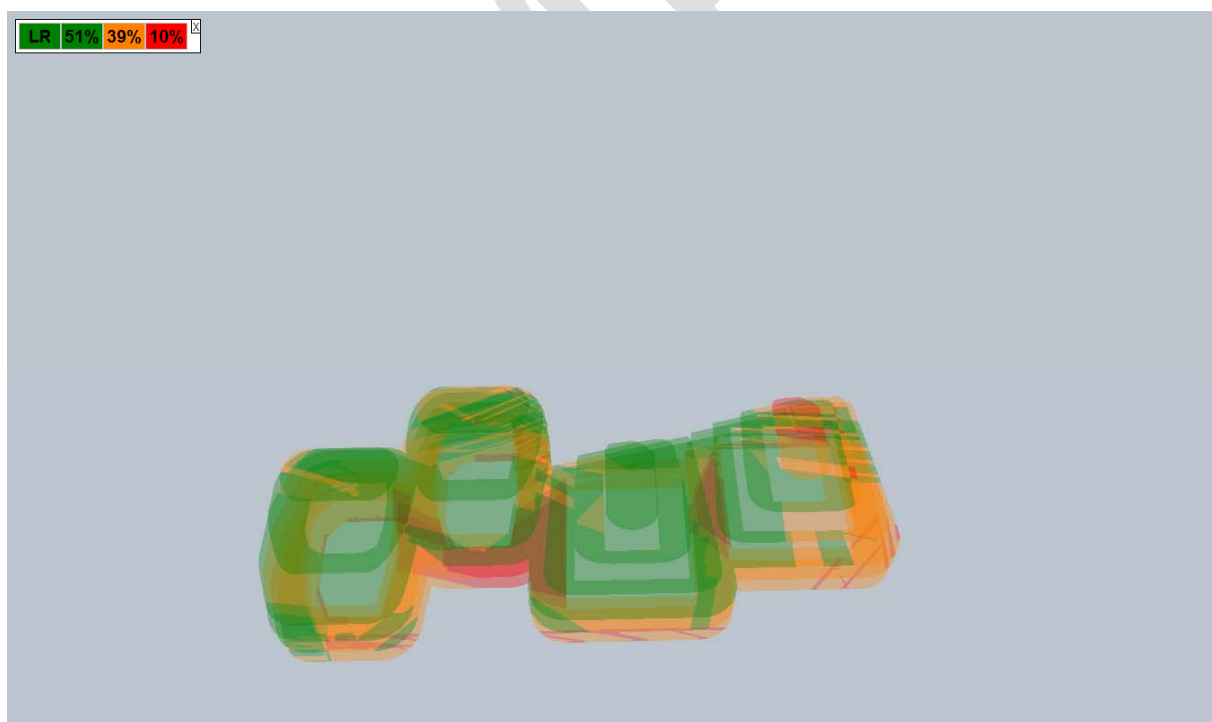


Figure 7.2.3.6. Proposed flame assessment result snapshot of Cellar Deck S10W with 3D model excluded.

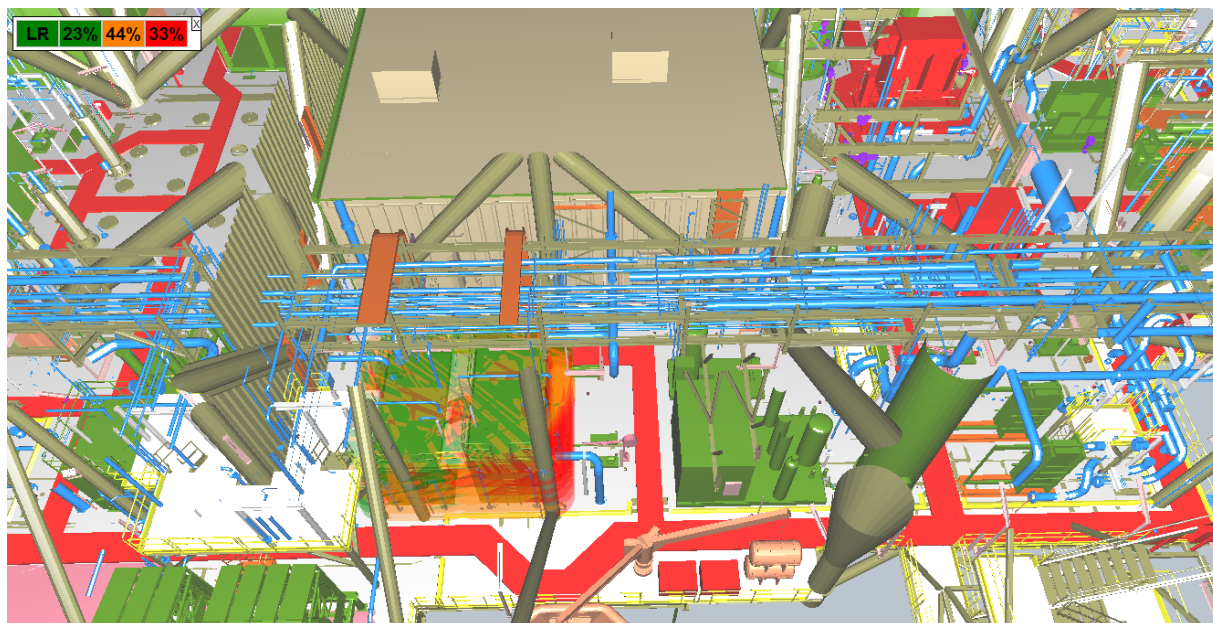


Figure 7.2.3.7. Proposed flame assessment result snapshot of Cellar Deck S10E with 3D model included.

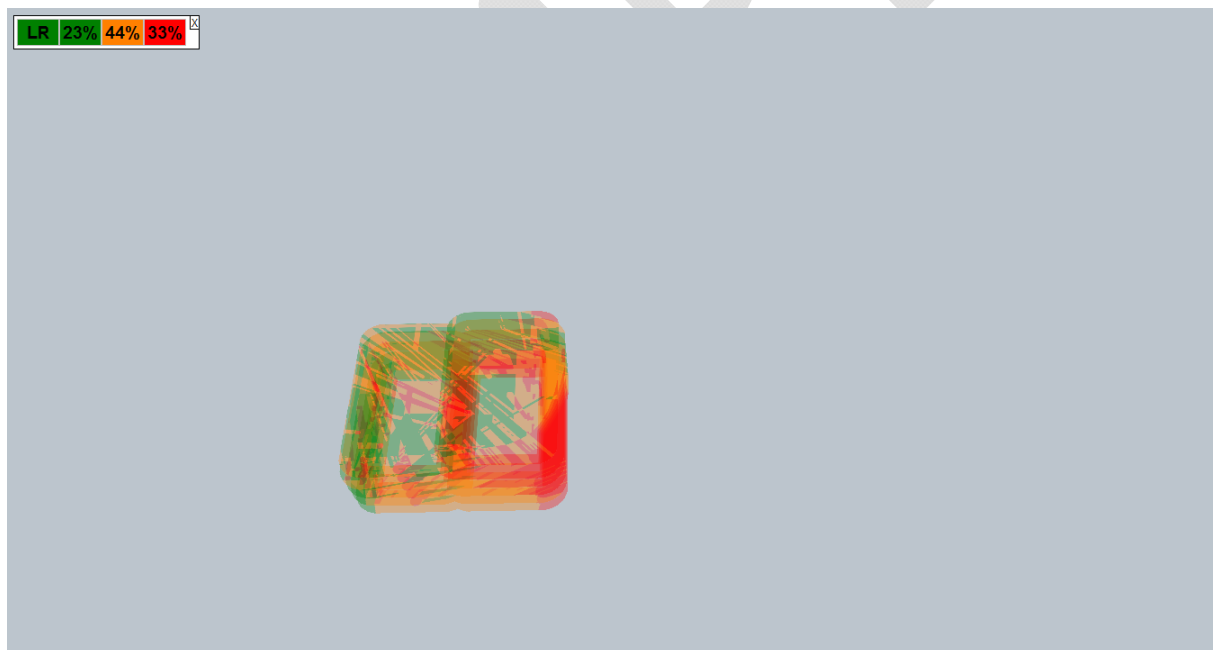


Figure 7.2.3.8. Proposed flame assessment result snapshot of Cellar Deck S10E with 3D model excluded.

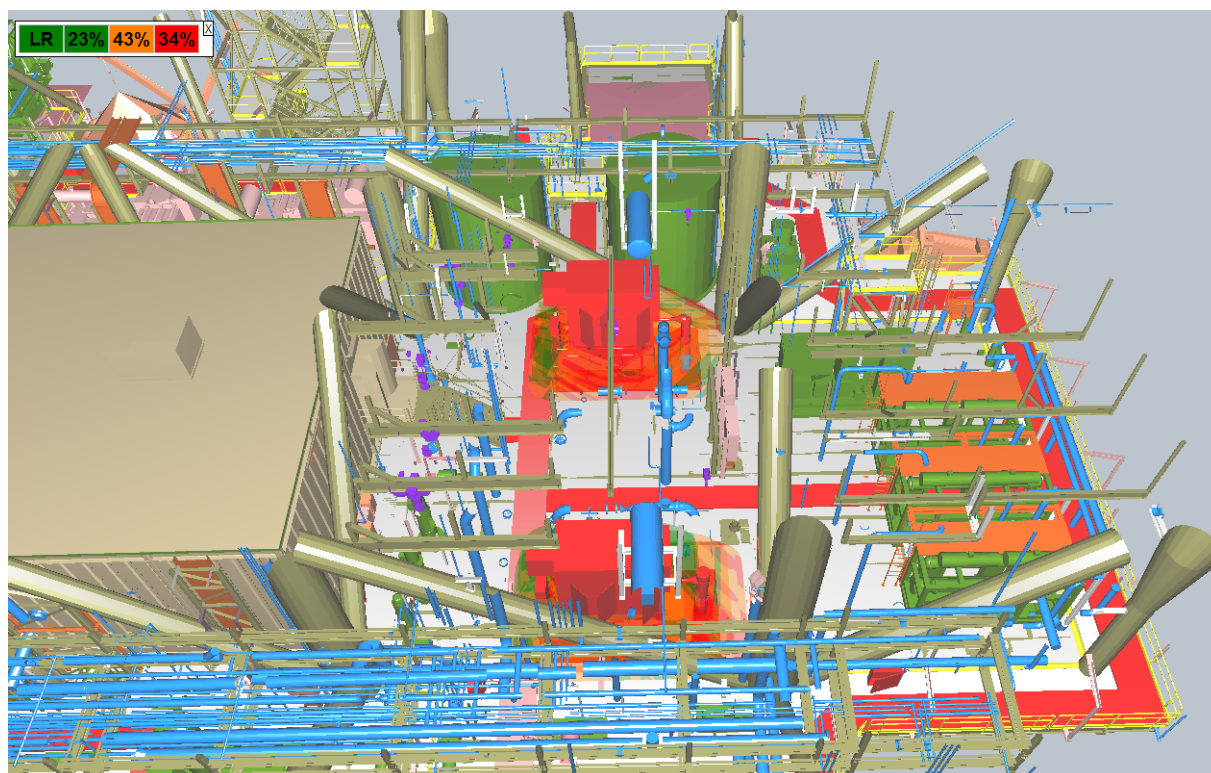


Figure 7.2.3.9. Proposed flame assessment result snapshot of Cellar Deck Q10C with 3D model included.

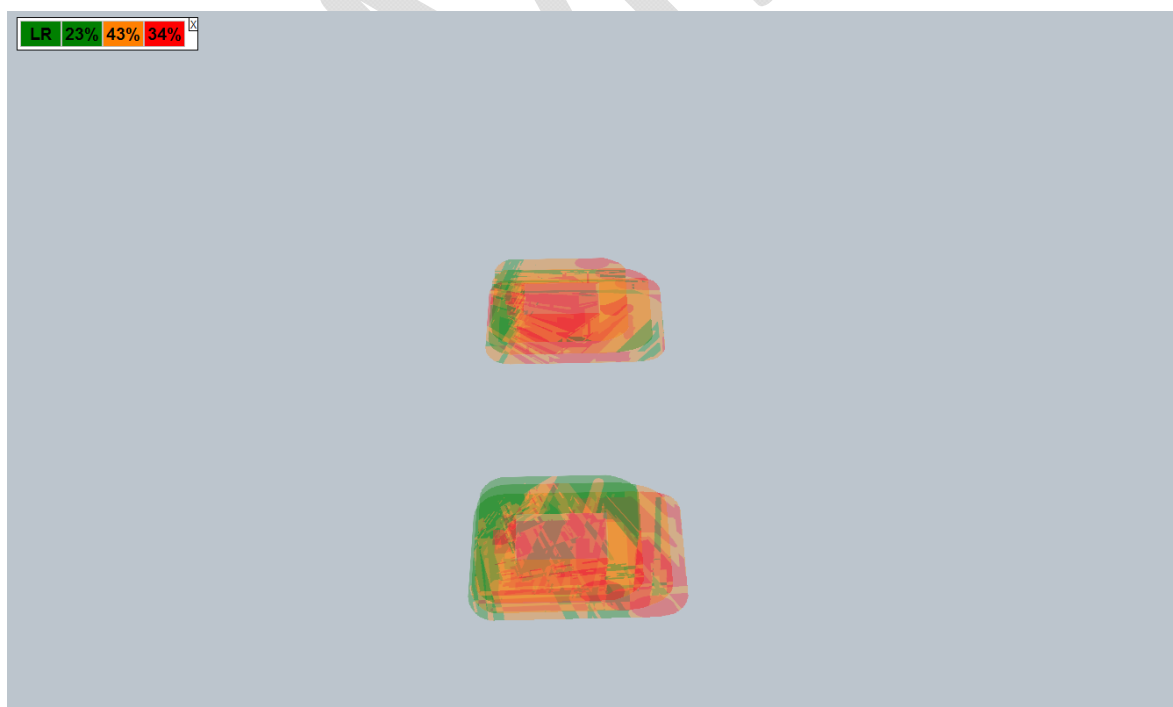


Figure 7.2.3.10. Proposed flame assessment result snapshot of Cellar Deck Q10C with 3D model excluded.

7.3 FIRE DETECTION SUMMARY

7.3.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add FD	Relocate FD	Remove FD
W10W	-	-	-
W10C	-	2	2
W10E	1	1	-
S10W	-	1	1
S10E	-	1	-
Q10C	1	-	-
TOTAL	2	5	3

Note: In the case of the above table 'relocate flame detector' also incorporates those changes noted as reorientated.

7.3.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed fire detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
W10W	MR	52	-	41	-	7	
	LR	22	-	31	-	47	
	TOTAL	25	-	32	-	43	
W10C	MR	7	-	48	-	45	
	LR	12	-	39	-	49	
	TOTAL	11	-	41	-	48	
W10E	MR	40	-	27	4	28	
	LR	43	-	22	-	35	
	TOTAL	41	-	25	3	31	
S10W	LR	74	-	20	-	7	
	TOTAL	74	-	20	-	7	

S10E	LR	16	-	38	-	45	
	TOTAL	16	-	38	-	45	
Q10C	LR	12	-	36	-	52	
	TOTAL	12	-	36	-	52	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
W10W	MR	67	-	29	-	4	No change from existing contractor detection arrangement.
	LR	24	-	29	-	47	
	TOTAL	28	-	29	-	42	
W10C	MR	35	-	48	-	17	2 detectors relocated & 2 removed
	LR	21	-	50	-	29	
	TOTAL	24	-	50	-	26	
W10E	MR	44	-	34	4	19	1 detector relocated, 1 new detector.
	LR	45	-	26	-	28	
	TOTAL	44	-	30	2	23	
S10W	LR	51	-	39	-	10	1 detector relocated & 1 removed.
	TOTAL	51	-	39	-	10	
S10E	LR	23	-	44	-	33	1 detector relocated.
	TOTAL	23	-	44	-	33	
Q10C	LR	23	-	43	-	34	1 new detector.
	TOTAL	23	-	43	-	34	

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 2ooN and 80% for 1ooN. However, this can be justified by considering the following points;

- The majority of areas with no coverage fall either at floor level or in the upper 1-2m of assessed area. Those at floor level can not be improved upon unless detectors are added solely to monitor the gaps between small equipment pieces (see Q10C proposed for example), and the upper 'ceiling' area is too heavily congested with cabletrays and pipework for any detector to be effective (see W10C proposed).
- Practically, this area is rather heavily congested which limits the potential of any proposed system design. Due to the high levels of congestion, the addition of each further flame detector (in these highly

congested areas) results in only a small increase in coverage, suggesting that in order to significantly improve upon the currently recommended layouts, a significant number of flame detectors may be required.

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However, the reader should be aware this will in all likelihood increase the detection quantities.

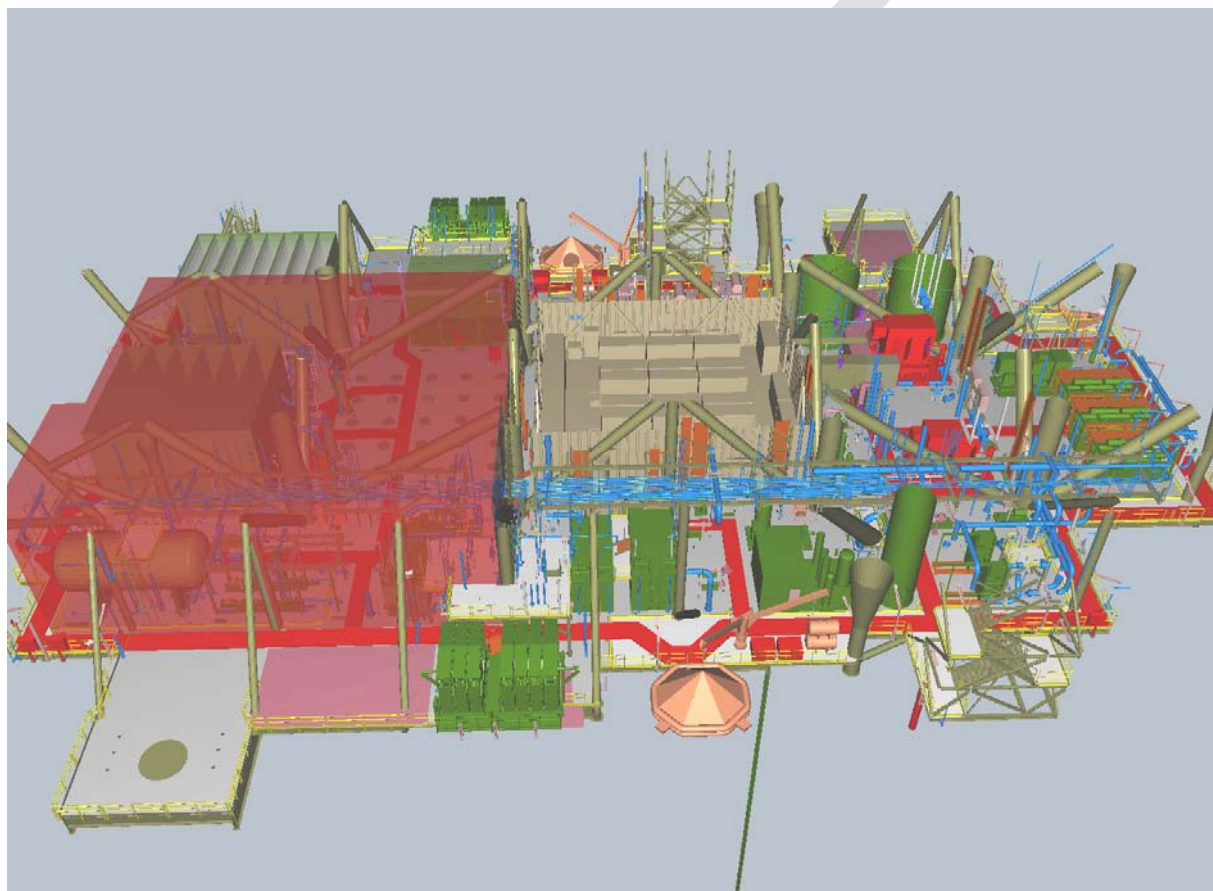
SAMPLE

7.4 GAS DETECTION

7.4.1 Flammable Gas Grading

The figure below shows the graded volumes (see Performance Target document for details on this) within HazMap3D. Detector arrangement graphics are shown within the following section.

Figure 7.4.1.1: Screenshot showing the volumetric flammable gas grademap throughout the Cellar deck within HazMap3D.



Note: W10C and W10E are the only FZs which have had grades applied and therefore, require volumetric gas detection assessments.

7.4.2 Contractor Detection Arrangement

The following table outlines the existing gas detection in this area.

Location	Tag No	Detector Type	Elevation (m) ALD	Comments
FZ W10W				
Cellar Deck FZ W10W	70GSW10W-008	Toxic Gas Detector (H ₂ S)	1.2	Mounted at pump seal
	70GPW10W-109	Infrared Point Gas Detector (HC)	1.22	Mounted at pump seal
	70GPW10W-110		1.52	
	70GPW10W-111		3.05	
	70GPW10W-112		1.22	
	70GPW10W-112		1.22	
FZ W10C				
Cellar Deck FZ W10C	70GSW10C-001	Toxic Gas Detector (H ₂ S)	1.2	Mounted on top of tank
	70GSW10C-002		1.2	Mounted at pump seal
	70GSW10C-003		1.2	Mounted at pump seal
	70GSW10C-004		1.2	Mounted at pump seal
	70GLRW10C-007	Infrared Open Path Gas Detector (HC)	2.96	
	70GLRW10C-008		2.96	
	70GPW10C-094	Infrared Point Gas Detector (HC)	3.91	Mounted on top of tank
	70GPW10C-095		1.22	Mounted at pump seal
	70GPW10C-096		1.22	Mounted at pump seal
	70GPW10C-097		1.22	Mounted at pump seal
FZ W10E				
Cellar Deck FZ W10E	70GSW10E-005	Toxic Gas Detector (H ₂ S)	1.2	Mounted on top of tank
	70GSW10E-006		1.2	Mounted on top of tank
	70GSW10E-007		1.2	
	70GPW10E-098	Infrared Point Gas Detector (HC)	5.86	
	70GPW10E-099		5.86	Mounted on top of tank
	70GPW10E-100		1.22	Mounted at tank seal
	70GPW10E-101		1.22	Mounted at pump seal
	70GPW10E-102		1.22	Mounted at pump seal
	70GPW10E-103		1.22	Mounted on top of tank
	70GPW10E-104		3.68	Mounted on top of tank
	70GPW10E-105		1.22	
	70GPW10E-106		1.52	
	70GPW10E-107		3.35	
	FZ S10E			
Cellar Deck FZ S10E	70GPS10E-081	Infrared Point Gas Detector (HC)	1.22	Mounted at compressor intake. Outwith SOW
	70GPS10E-082		1.22	



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FZ Q10C				
Cellar Deck FZ Q10C	70GPQ10C-038	Infrared Point Gas Detector (HC)	1.293	Local to seawater lift pump
	70GPQ10C-039		1.293	
	70GPQ10C-040		1.293	
	70GPQ10C-041		1.293	

Note: Gas detectors noted as toxic, mounted at intakes and monitoring leaks do not meet the criteria for volumetric mapping, hence will not be present in assessments.

Note: Toxic gas levels within the stream have not been reviewed as they are outwith the scope of work.

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Gas Detection Assessments.

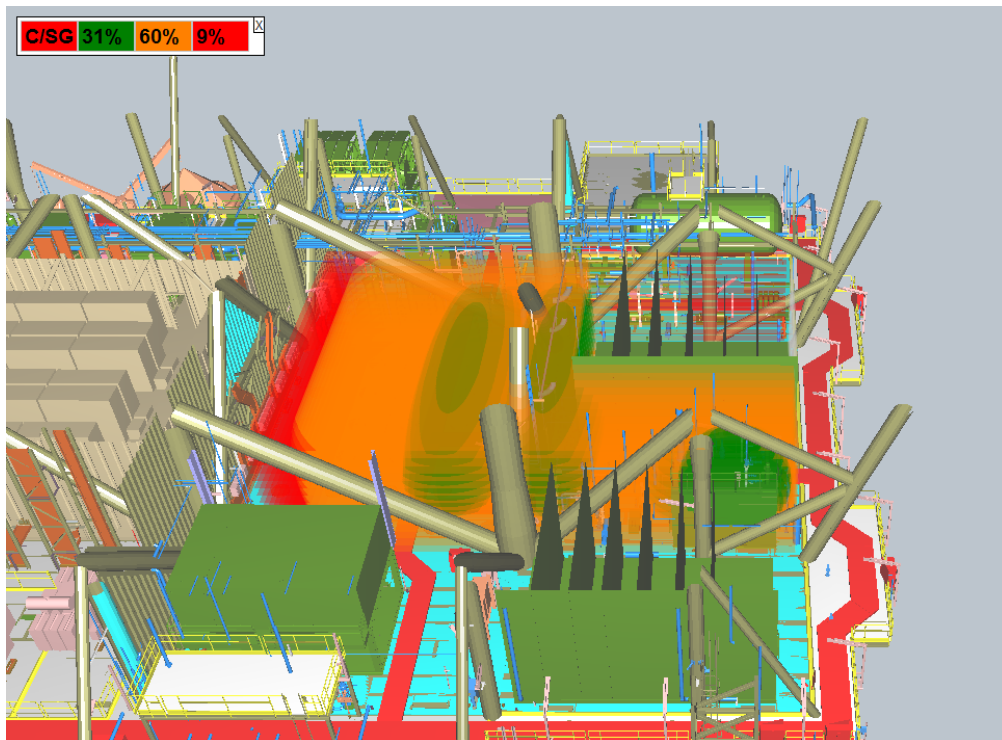


Figure 7.4.2.1. Existing gas assessment result snapshot of Cellar Deck W10C with 3D model included.

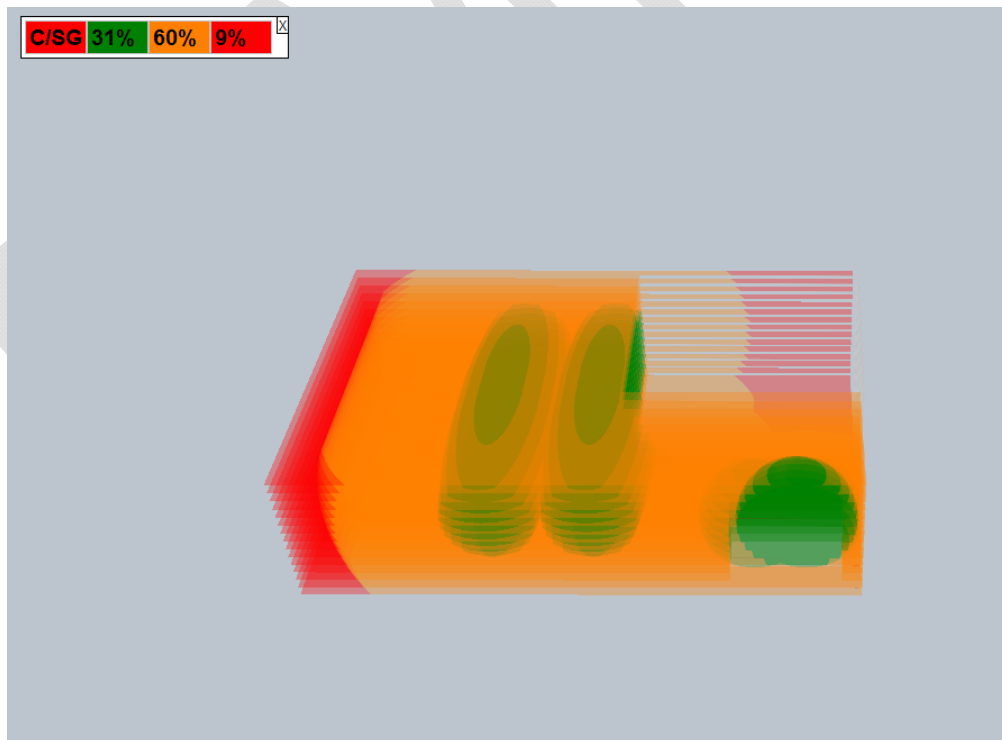


Figure 7.4.2.2. Existing gas assessment result snapshot of Cellar Deck W10C with 3D model excluded.

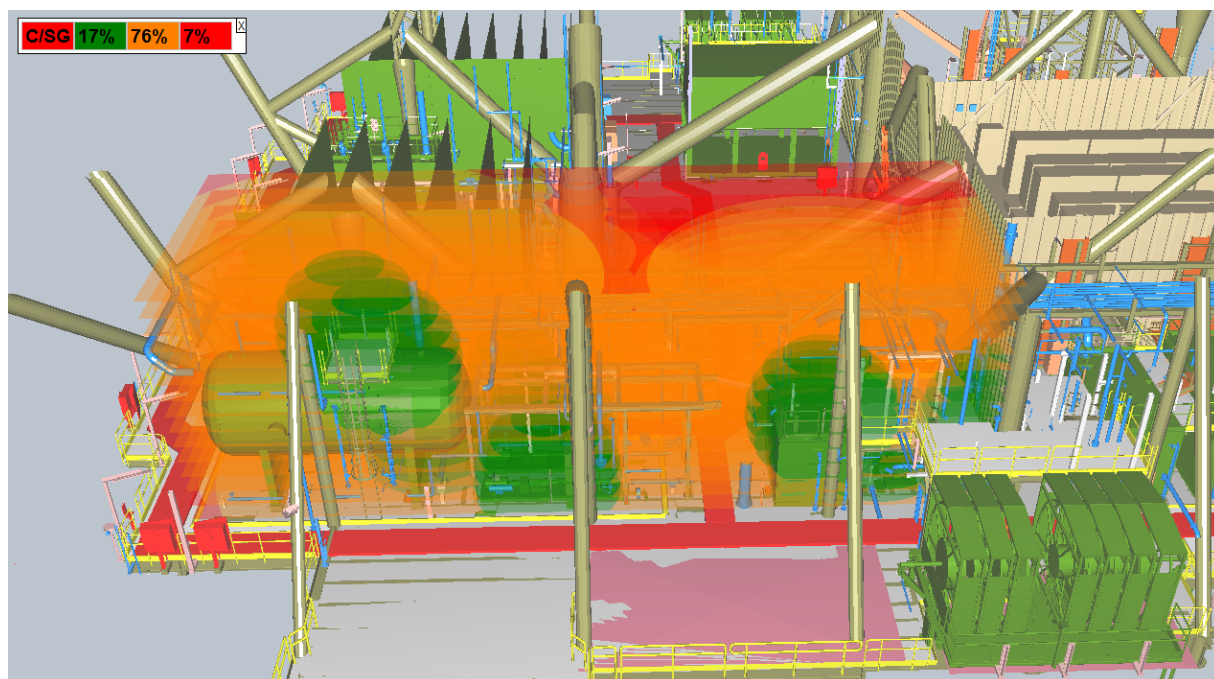


Figure 7.4.2.3. Existing gas assessment result snapshot of Cellar Deck W10E with 3D model included.

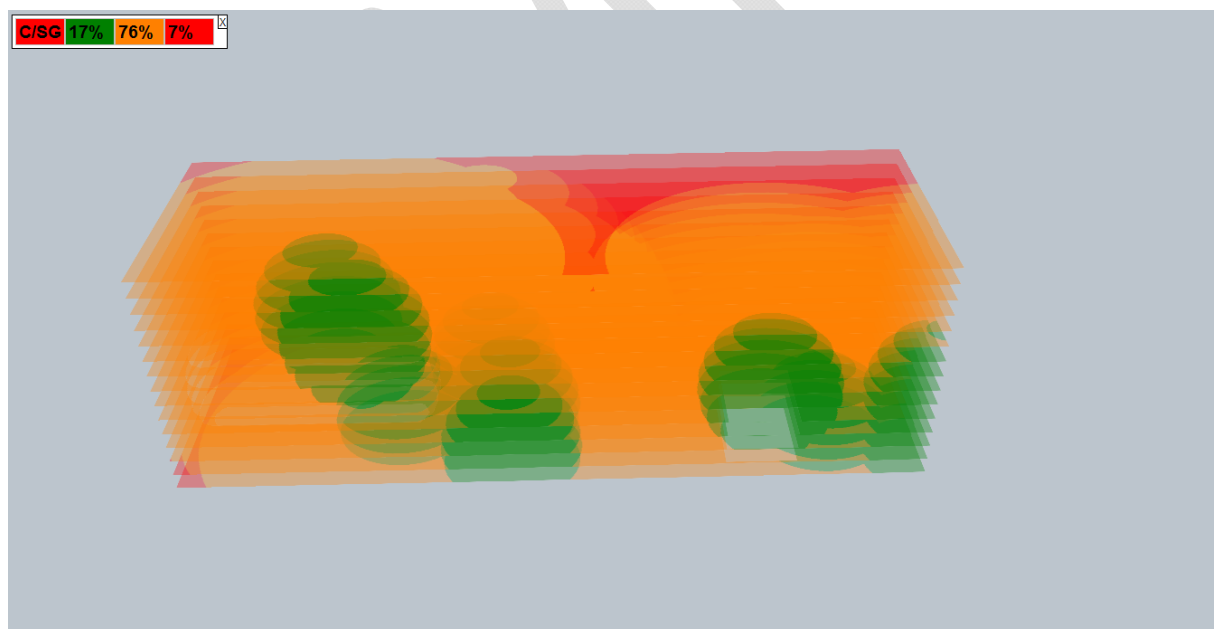


Figure 7.4.2.4. Existing gas assessment result snapshot of Cellar Deck W10E with 3D model excluded.

7.4.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Comments
			X	Y	Z		
FZ W10E							
Cellar Deck FZ W10E	NewGDLW10E-001	Addition	322.692	318.575	20.926	3.552	Transmitter
	NewGDRW10E-001		322.692	289.325	20.926	3.552	Receiver
	NewGDLW10E-002	Addition	325.952	318.530	20.288	3.994	Transmitter
	NewGDRW10E-002		326.170	289.798	21.369	3.994	Receiver
	NewGDLW10E-003	Addition	330.941	318.222	19.639	2.265	Transmitter
	NewGDRW10E-003		330.859	296.257	19.639	2.265	Receiver
FZ W10C							
Cellar Deck FZ W10C	NewGDLW10C-001	Addition	323.432	312.564	20.300	2.930	Transmitter
	NewGDRW10C-001		303.515	312.952	20.300	2.930	Receiver
	NewGDLW10C-002	Addition	323.317	315.644	20.300	2.930	Transmitter
	NewGDRW10C-002		303.738	315.223	20.300	2.930	Receiver
FZ Q10C							
Cellar Deck FZ Q10C	70GPQ10C-038	Remove	-	-	-	1.293	Not required – local to seawater lift pump
	70GPQ10C-039		-	-	-	1.293	
	70GPQ10C-040		-	-	-	1.293	
	70GPQ10C-041		-	-	-	1.293	

Note: Toxic gas levels within the stream have not been reviewed as they are outwith the scope of work. However, it is perceived there is no H₂S hazard on board. Micropack deem these detectors to be unnecessary and recommend they be removed. However, as per PTs (Ref 8), the client has deemed fixed gas detection to be required in FZ's W10W, W10C and W10E. Therefore, the existing toxic gas detection arrangement should remain in place with no further recommendations.

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Gas Detection Assessments.

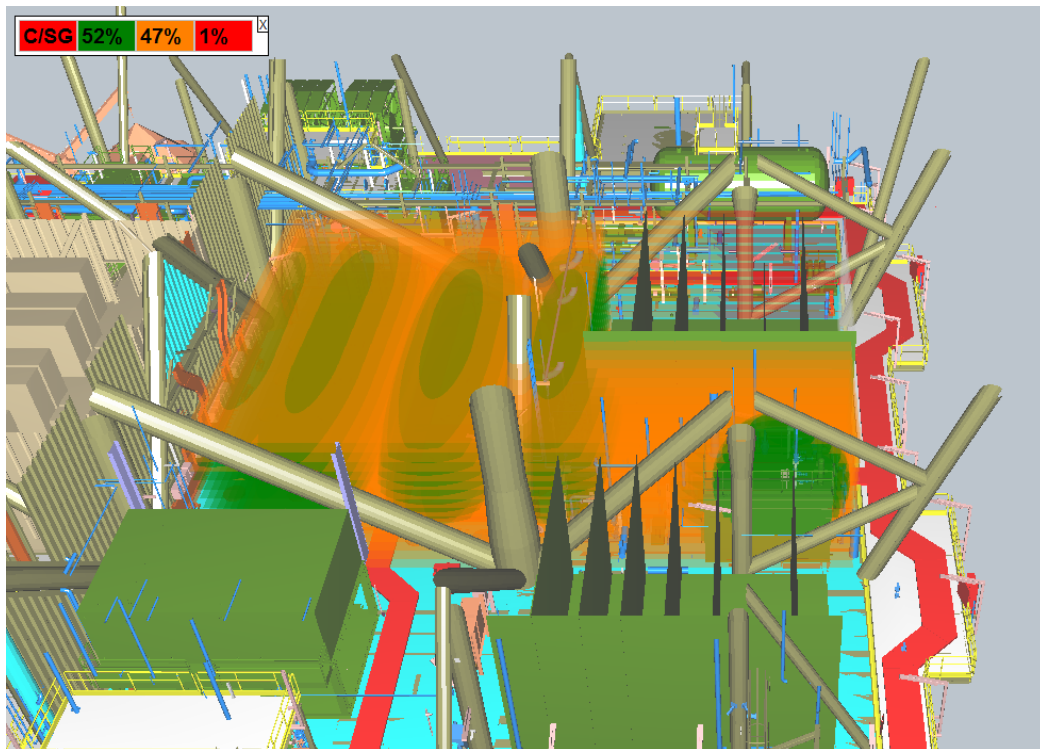


Figure 7.4.3.1. Proposed gas assessment result snapshot of Cellar Deck W10C with 3D model included.

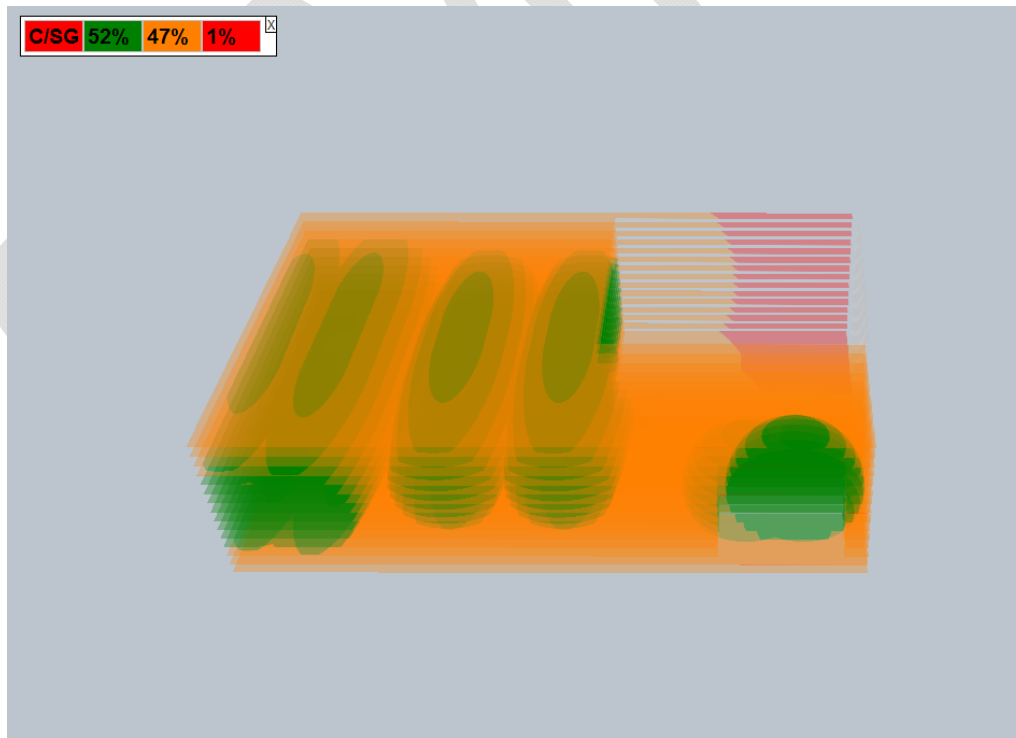


Figure 7.4.3.2. Proposed gas assessment result snapshot of Cellar Deck W10C with 3D model excluded.

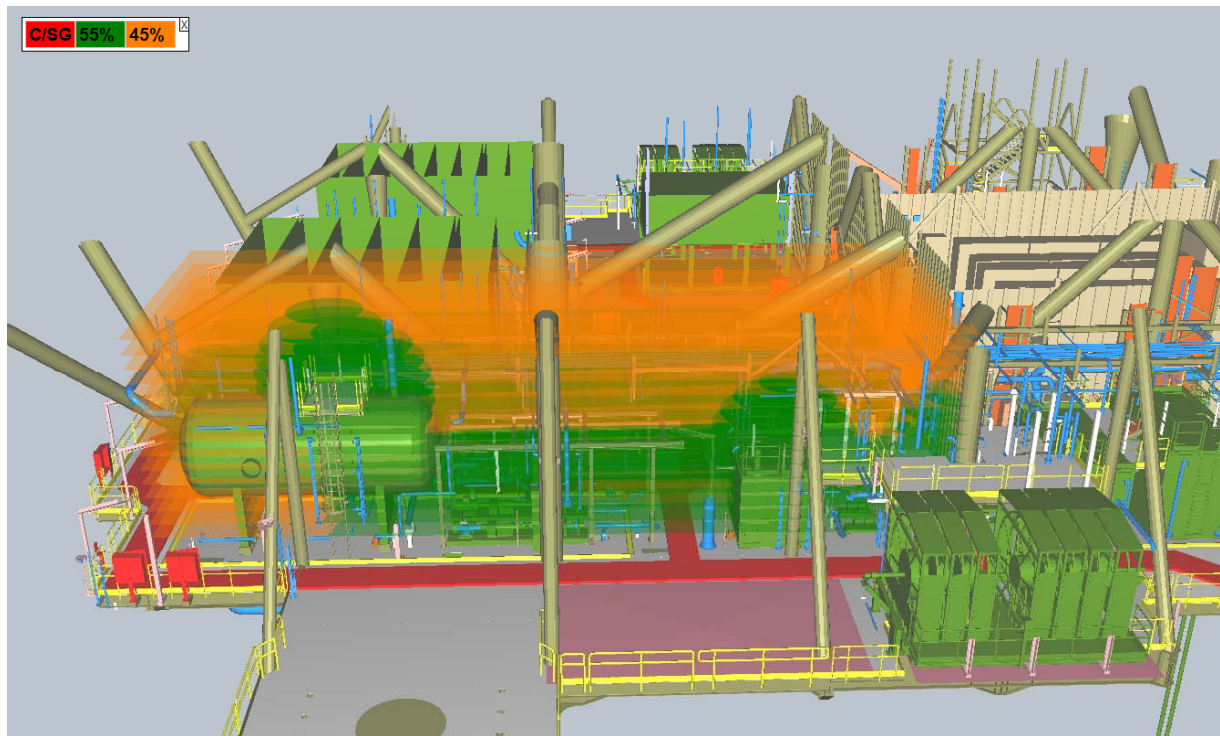


Figure 7.4.3.1. Proposed gas assessment result snapshot of Cellar Deck W10E with 3D model included.

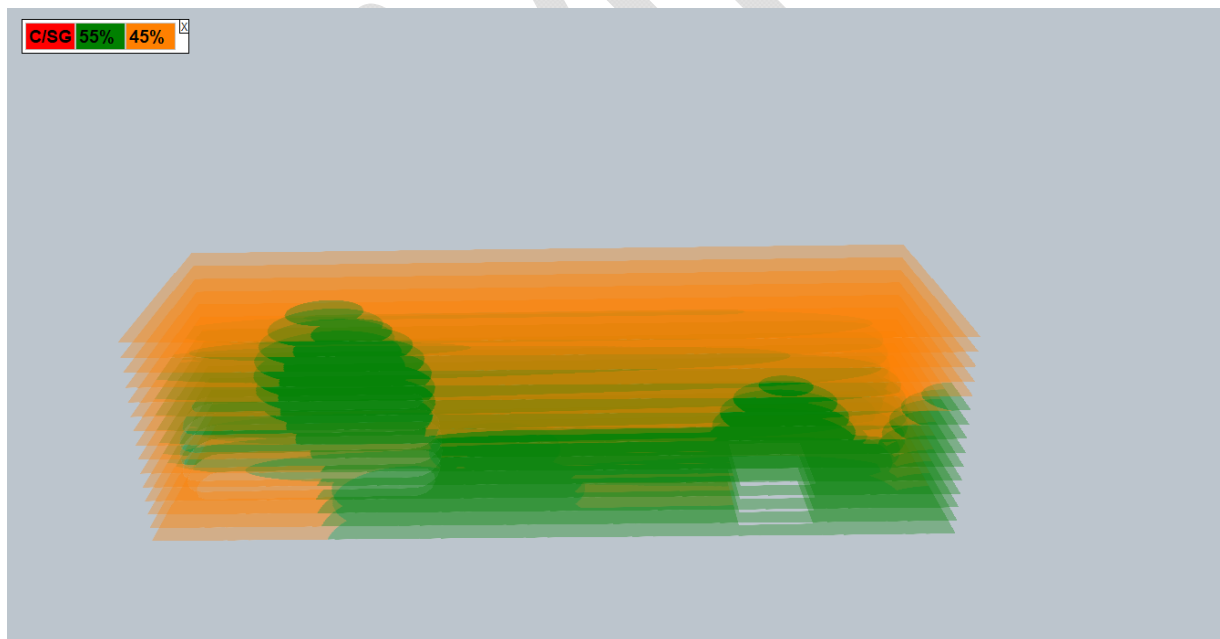


Figure 7.4.3.1. Proposed gas assessment result snapshot of Cellar Deck W10E with 3D model excluded.

7.5 GAS DETECTION SUMMARY

7.5.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add IRPGD	Add OPGD	Relocate IRPGD	Relocate OPGD	Remove IRPGD	Remove OPGD
W10C	-	2	-	-	-	-
W10E	-	3	-	-	-	-
Q10C	-	-	-	-	4	-
TOTAL	-	5	-	-	4	-

7.5.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed gas detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, No Control	No Coverage	Notes
W10C	C/SG	31	60	9	
W10E		17	76	7	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, No Control	No Coverage	Notes
W10C	C/SG	52	47	1	
W10E		55	45	-	

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 200N and 80% for 100N. However, this can be justified by considering the following points;

- Practically, the areas containing only alarm coverage are generally on the periphery of a FZ or near deck levels where clouds are unlikely to linger. Control action coverage is prevalent around hazardous equipment and egress routes- areas of the FZ where control action coverage is critical.
- In reality, because the volumes of no/ poor coverage are so small/ thin, it would not be possible for the expected gas cloud to exist and be confined to these thin volumes alone, and will almost always spread across to areas with alarm coverage.

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However, the reader should be aware this will in all likelihood increase the detection quantities.



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8 WELLHEAD DECK (EL. 90'-0"/27.432 m)

8.1 AREA/HAZARD DESCRIPTION

The potential fire hazards in this area are hydrocarbon gas jet fires of varying pressures and / or liquid pool fires are credible following loss of containment. This area has high obscuration levels in terms of flame detector field of view blockages.

The potential gas hazards in this area include potential for accumulation of HC gas cloud capable of causing damaging overpressure if ignited.

For full description of the applied grades on this deck and associated FZs please refer to the Performance Target document (Ref 8).

8.2 FIRE DETECTION

8.2.1 Flame Grading

The figures below show how the graded equipment in the Performance Targets (Ref 8) looks within HazMap3D. Detector arrangements are shown within the following section.

Note: As noted in the Performance Targets, numerous pumps and drains are normally not graded by Micropack, but have been for this report at the request of the client. Examples of these are open drains pumps, open drains tank, Power Export Voltage regulators, non-hazardous open drains pumps, non-hazardous open drain tanks, fire water pumps and electrical transformers. These items make up a large percentage of the equipment in the Performance Targets, but represent little of the overall risk.



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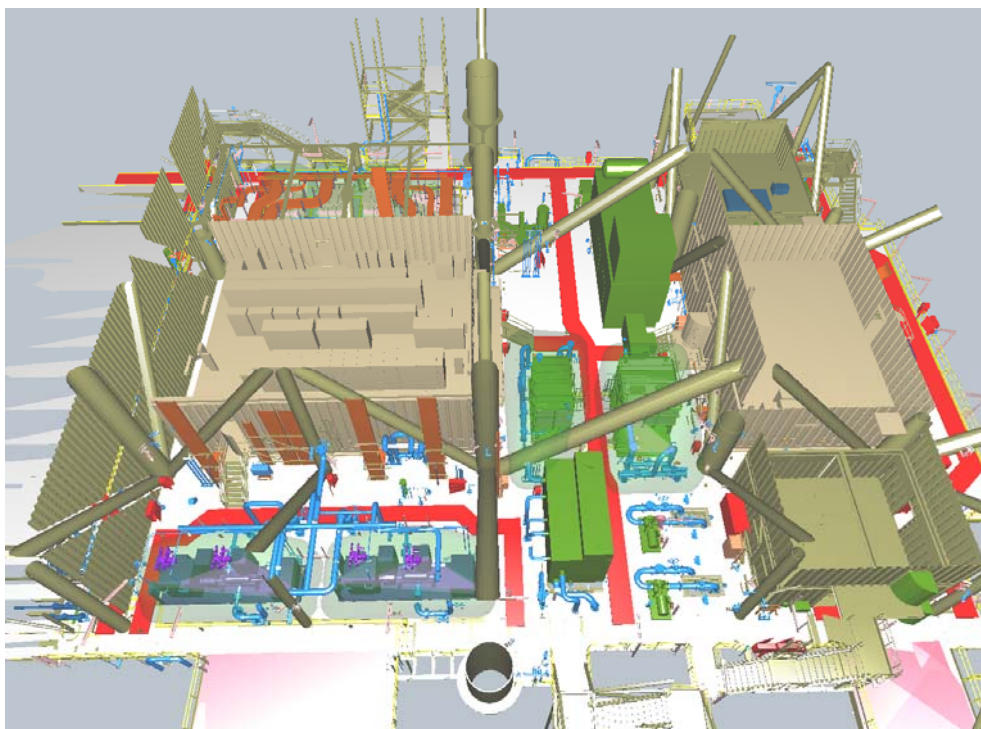


Figure 8.2.1.1: Screenshot showing the fire grademap throughout the Wellhead Deck North within HazMap3D.

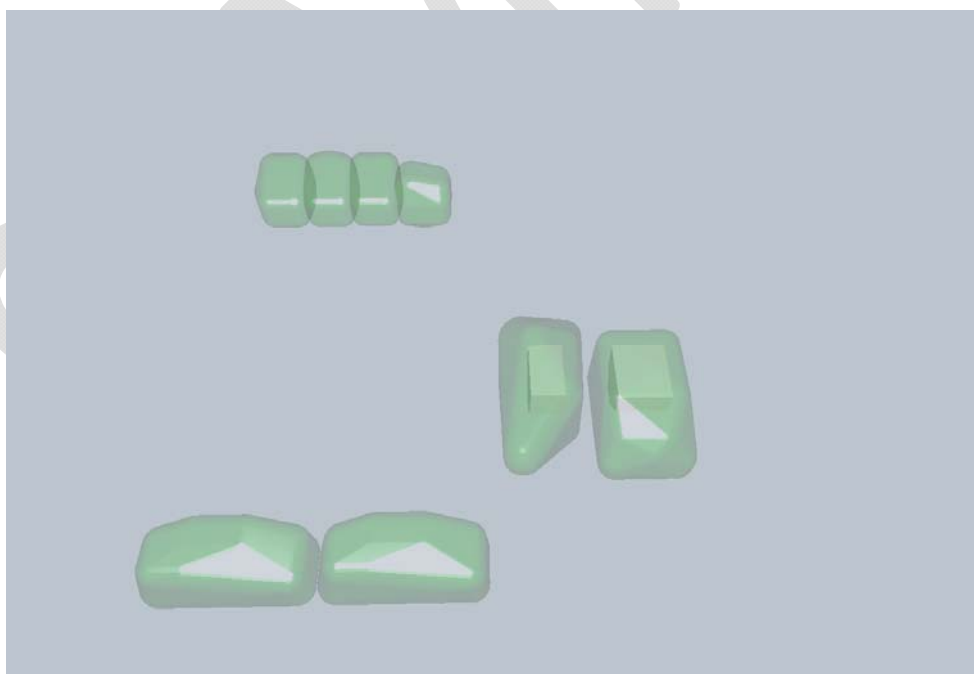


Figure 8.2.1.2. Screenshot showing the fire grademap throughout the Wellhead Deck North within HazMap3D with 3D model excluded.

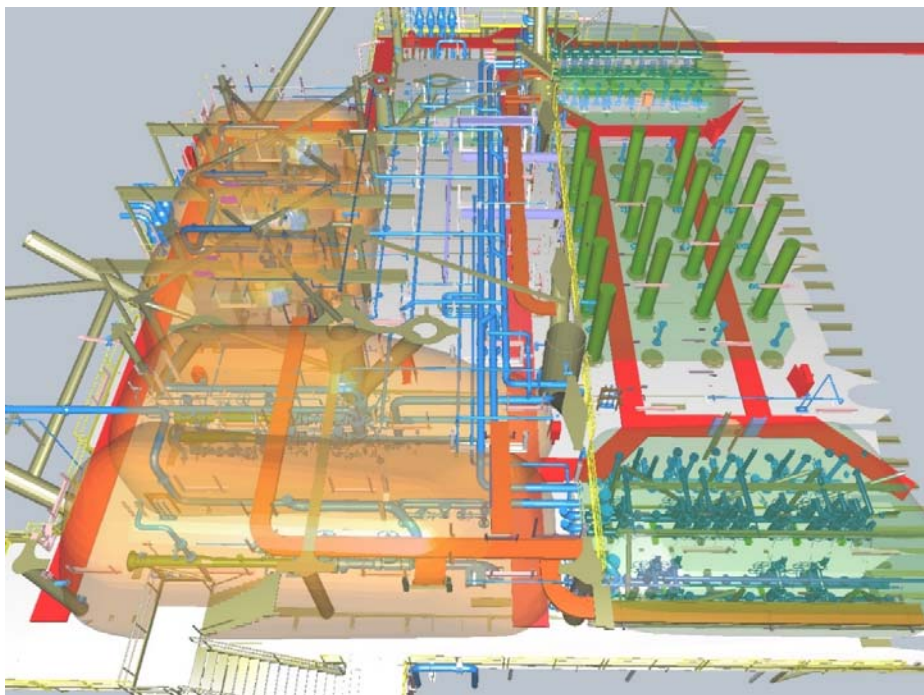


Figure 8.2.1.1: Screenshot showing the fire grademap throughout the Wellhead Deck South within HazMap3D.

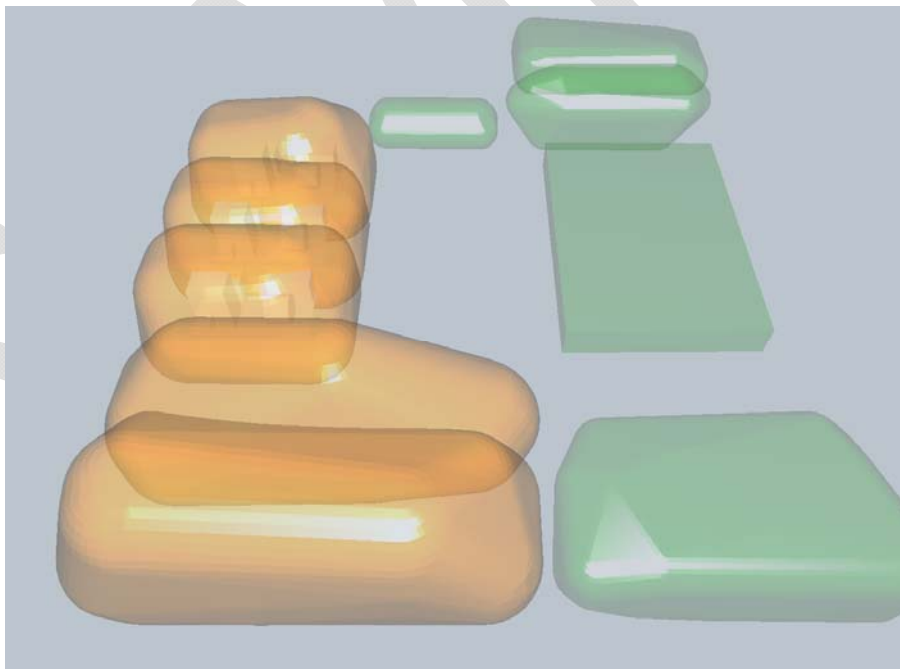


Figure 8.2.1.2. Screenshot showing the fire grademap throughout the Wellhead Deck South within HazMap3D with 3D model excluded.

8.2.2 Contractor Detection Arrangement

The following table outlines the existing fire detection in this area.

Location	Tag No	Detector Type	El. (m) ALD	Pan (°)	Tilt (°)	Comments
FZ W20W						
Wellhead Deck FZ W20W	70FIW20W-054	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.126	315	20	Detectors switched in co-ord spreadsheet
	70FIW20W-055		2.864	45	20	
	70FIW20W-056		2.517	225	20	
	70FIW20W-057		3.431	135	20	
	70FIW20W-058		3.126	45	20	
FZ W20C						
Wellhead Deck FZ W20C	70FIW20C-041	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	2.212	45	20	
	70FIW20C-042		2.212	315	20	
	70FIW20C-043		3.117	270	20	
	70FIW20C-044		3.117	225	20	
	70FIW20C-045		2.517	135	20	
	70FIW20C-046		2.364	90	20	
	70FIW20C-047		3.126	135	20	
	70FIW20C-048		3.126	45	20	
	70FIW20C-049		2.517	135	20	
FZ W20E						
Wellhead Deck FZ W20E	70FIW20E-050	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.117	315	20	
	70FIW20E-051		2.618	135	20	
	70FIW20E-052		3.126	135	20	
	70FIW20E-053		3.126	315	20	
FZ S20W						
Wellhead Deck FZ S20W	70FIS20W-011	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.117	105	20	
	70FIS20W-012		3.117	194	20	
	70FIS20W-013		3.117	286	20	
	70FIS20W-014		3.117	70	20	
FZ S20E						
Wellhead Deck FZ S20E	70FIS20E-010	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	3.117	45	20	
	70FIS20E-011		3.117	135	20	
	70FIS20E-012		3.117	315	20	
	70FIS20E-013		2.969	165	20	
FZ Q20C						
Wellhead Deck FZ Q20C	70FIQ20C-001	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	4.111	315	20	
	70FIQ20C-002		4.111	135	20	



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	70FIQ20C-003		2.988	45	20	
	70FIQ20C-004		2.965	10	20	
FZ Q20E						
Wellhead Deck	70FIQ20E-004	Simtronics DF TV7-T Multi-spectrum	3.114	225	20	Detector monitoring hazards within Q20C
FZ Q20E	70FIQ20E-005	Infrared Flame Detector	3.117	225	20	Detector monitoring hazards within S20E

Note: For further information regarding detector tilt and orientation (pan) in relation to HazMap3D, refer to section 4.2.4.

Note: Snapshots of the above flame detection arrangement are available on request, these are typically included but have been omitted to reduce the size of the report.

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Flame Detection Assessments.

SAMPLE

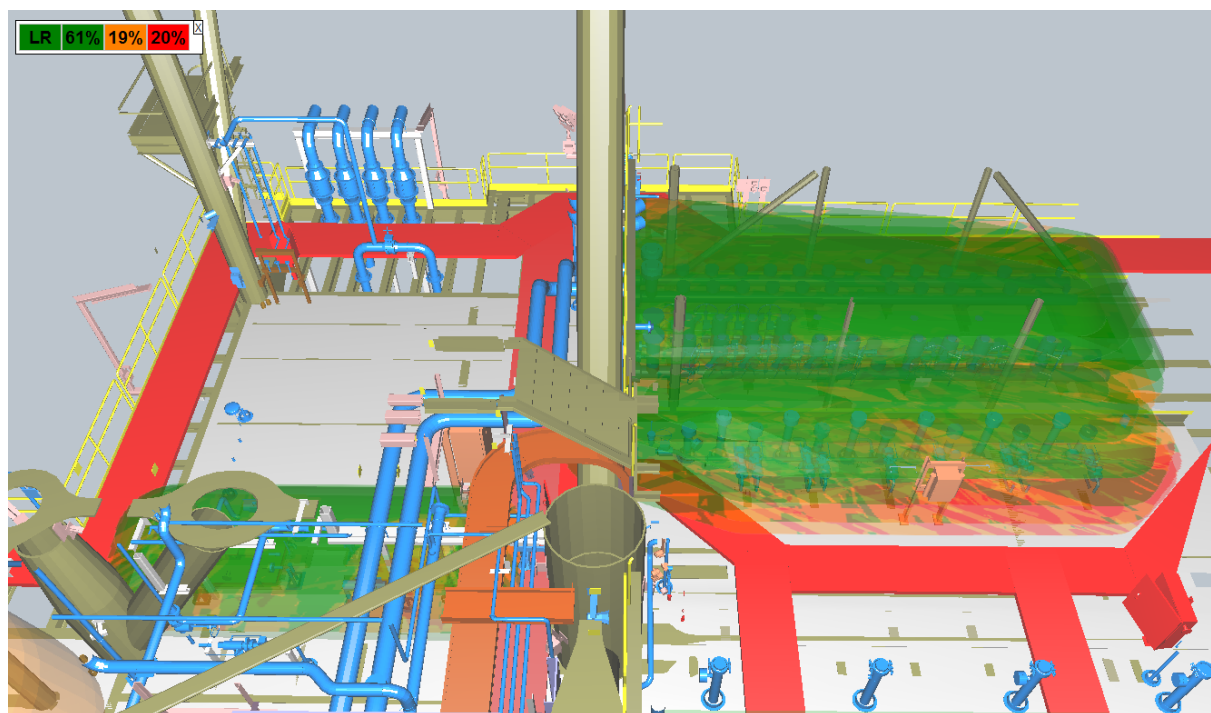


Figure 8.2.2.1. Existing flame assessment result snapshot of Wellhead Deck W20W with 3D model included.

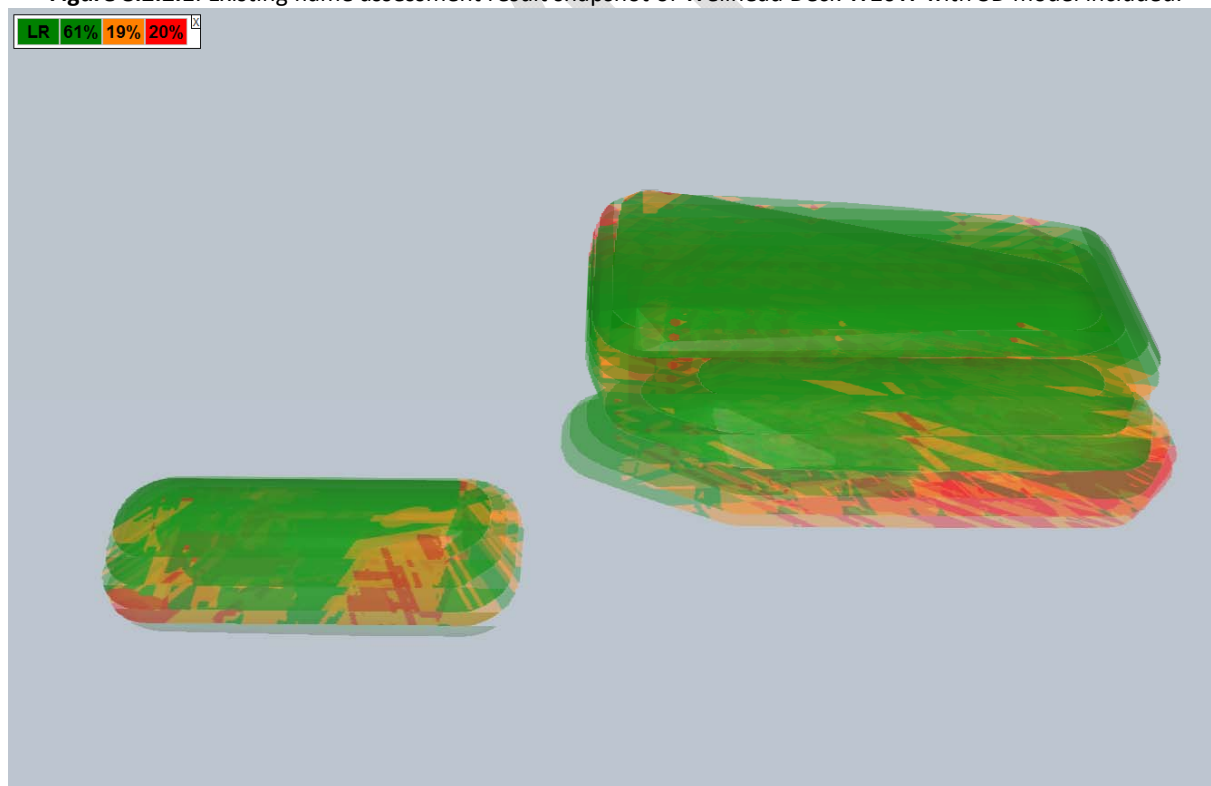


Figure 8.2.2.2. Existing flame assessment result snapshot of Wellhead Deck W20W with 3D model excluded.

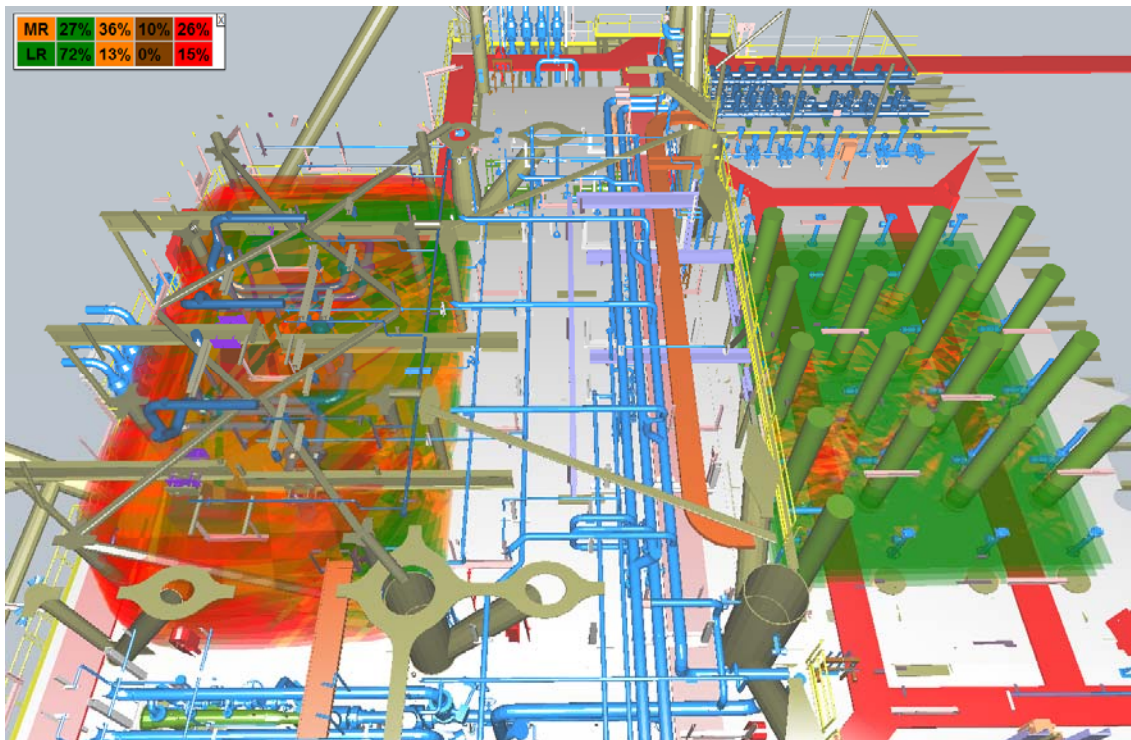


Figure 8.2.2.3. Existing flame assessment result snapshot of Wellhead Deck W20C with 3D model included.

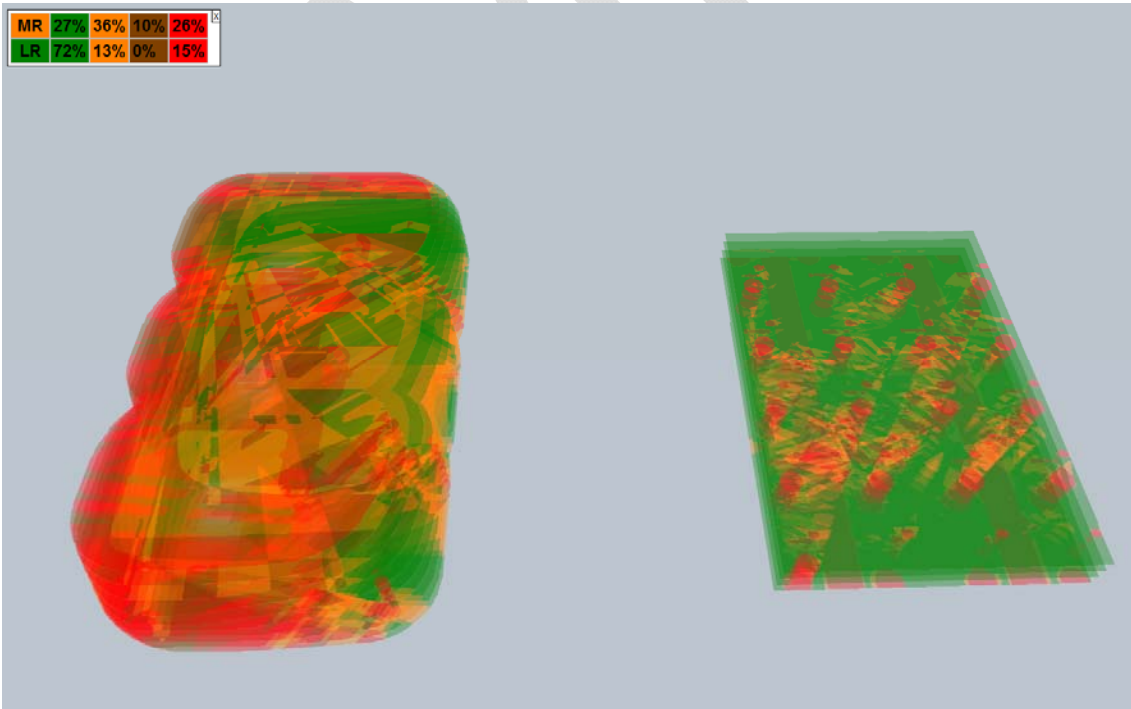


Figure 8.2.2.4. Existing flame assessment result snapshot of Wellhead Deck W20C with 3D model excluded.

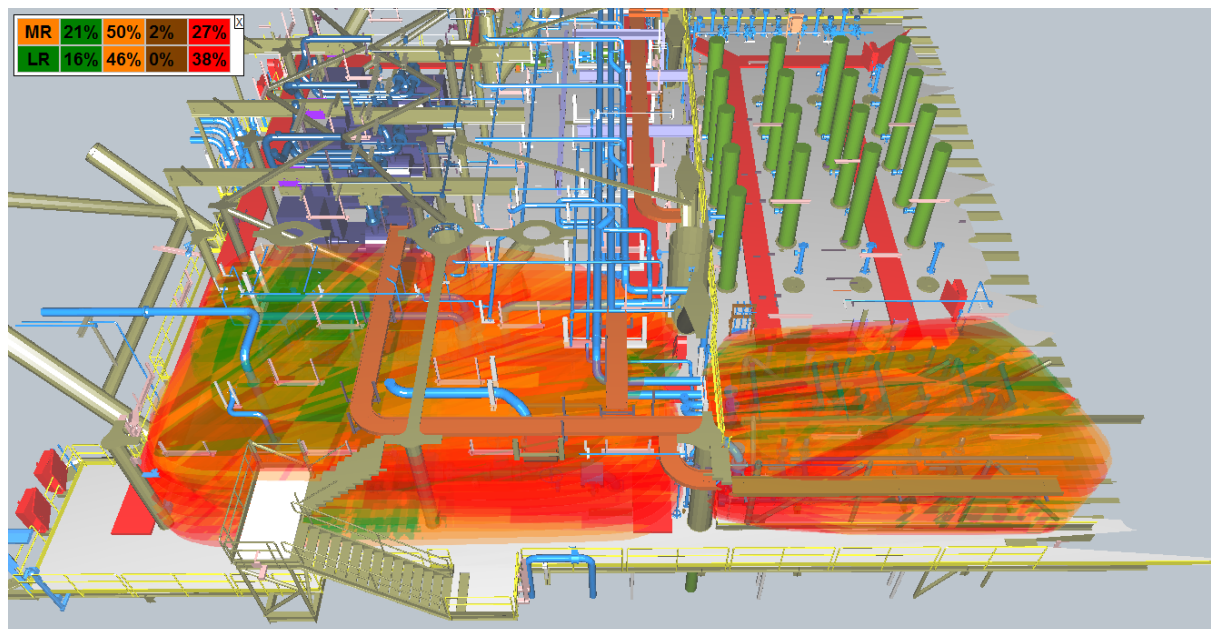


Figure 8.2.2.5. Existing flame assessment result snapshot of Wellhead Deck W20E with 3D model included.

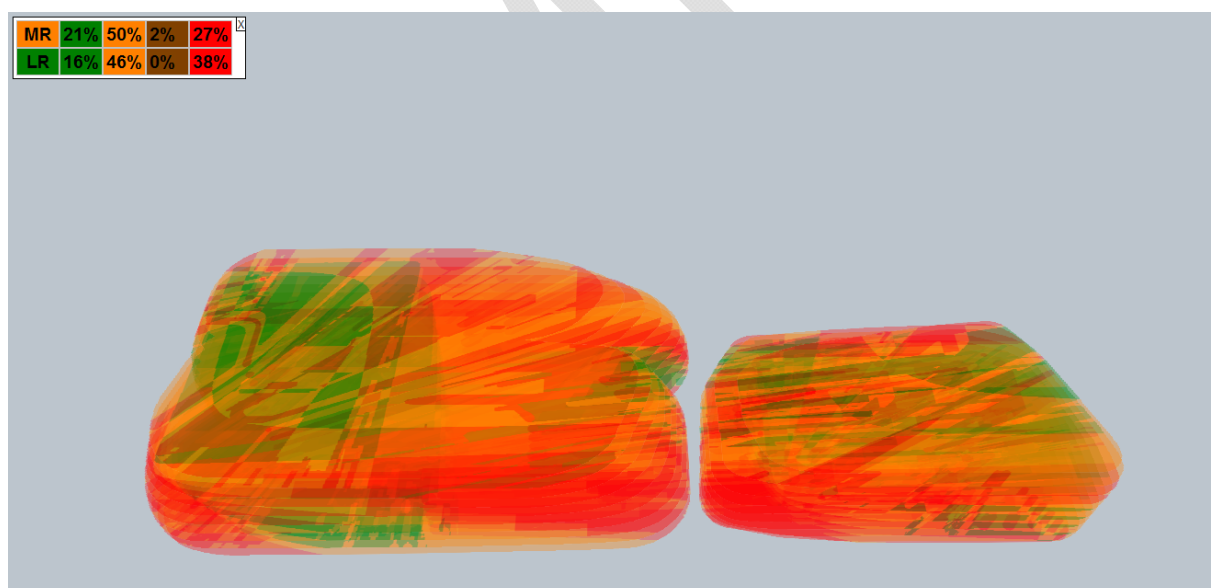


Figure 8.2.2.6. Existing flame assessment result snapshot of Wellhead Deck W20E with 3D model excluded.

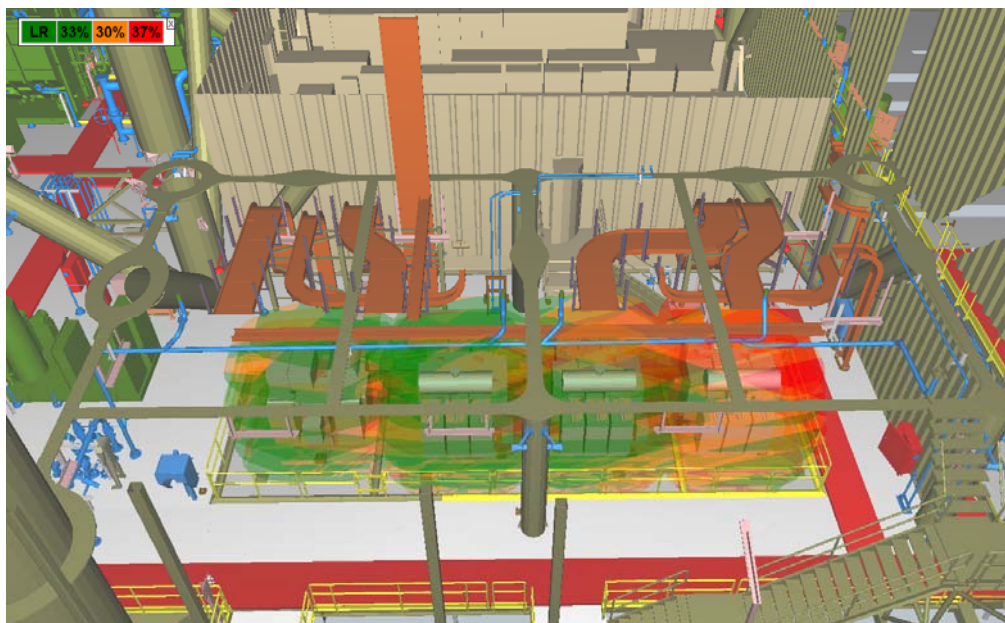


Figure 8.2.2.7. Existing flame assessment result snapshot of Wellhead Deck S20W with 3D model included.



Figure 8.2.2.8. Existing flame assessment result snapshot of Wellhead Deck S20W with 3D model excluded.

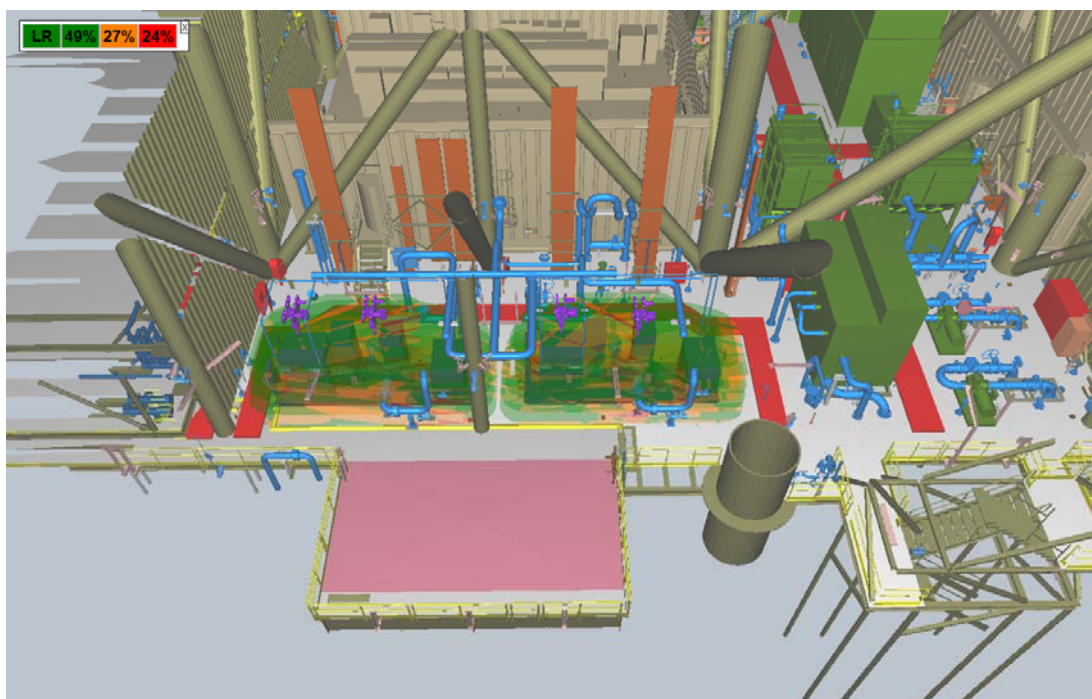


Figure 8.2.2.9. Existing flame assessment result snapshot of Wellhead Deck S20E with 3D model included.



Figure 8.2.2.10. Existing flame assessment result snapshot of Wellhead Deck S20E with 3D model excluded.



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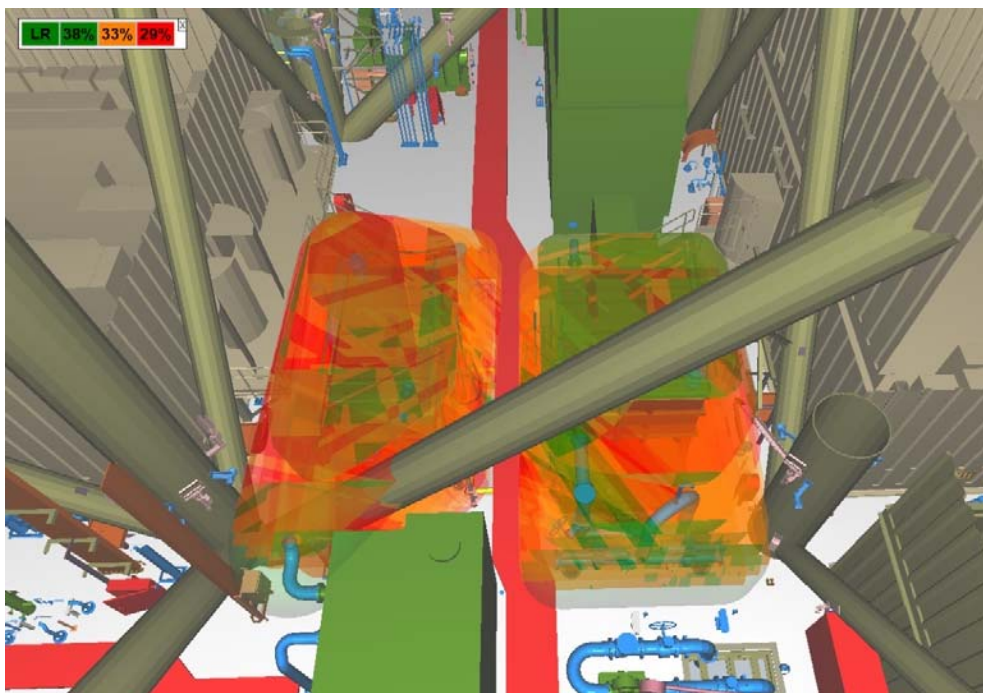


Figure 8.2.2.11. Existing flame assessment result snapshot of Wellhead Deck Q20C with 3D model included.

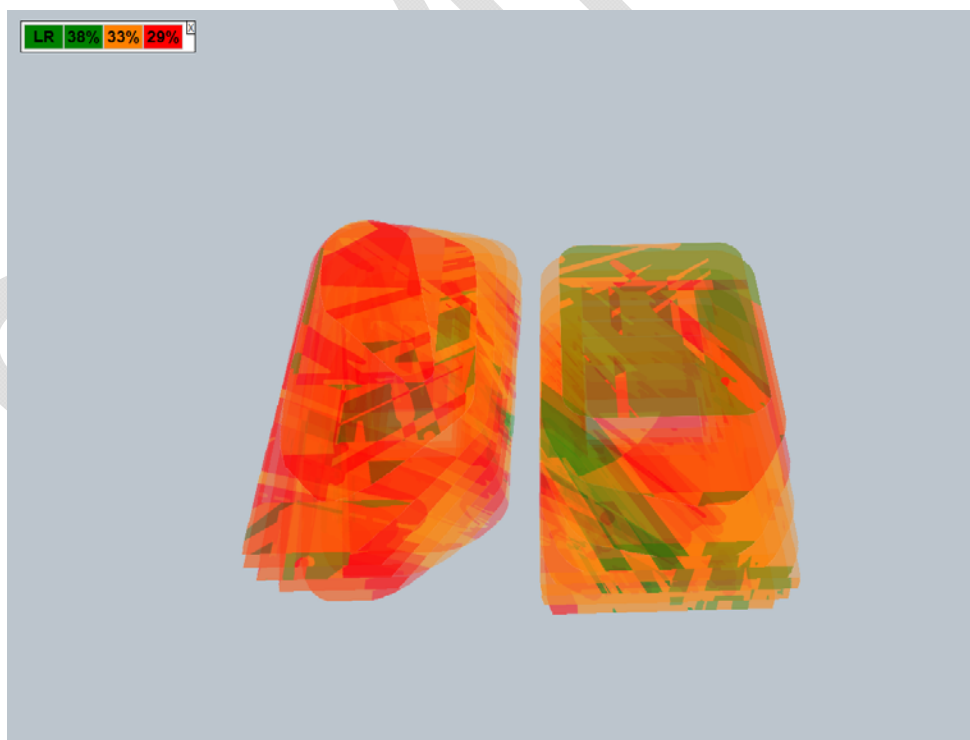


Figure 7.2.2.12. Existing flame assessment result snapshot of Wellhead Deck Q20C with 3D model excluded.



8.2.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Pan (°)	Tilt (°)	Comments
			X	Y	Z				
FZ W20C									
Wellhead Deck FZ W20C	70FIW20C-049	Relocate: co-cords	305.302	297.661	29.947	2.517	315	20	Relocation to optimise hazard coverage
	NewFDW20C001	Addition	320.967	296.496	29.947	2.517	225	20	Addition to increase hazard coverage
FZ W20E									
Wellhead Deck FZ W20E	NewFDW20E-001	Addition	330.603	318.155	30.547	3.117	225	20	Addition to increase hazard coverage
	NewFDW20E-001	Addition	330.486	304.00	30.500	3.07	225	20	
	70FIW20E-053	Relocate: co-cords	322.000	288.432	30.556	3.126	45	20	Relocation to optimise hazard coverage
FZ S20W									
Wellhead Deck FZ S20W	70FIS20W-011	Relocate: FOV	295.650	319.256	30.547	3.117	45	20	Relocations to optimise hazard coverage
	70FIS20W-012	Relocate: FOV	304.051	337.576	30.547	3.117	225	20	
	70FIS20W-013	Relocate: FOV	293.161	337.658	30.547	3.117	315	20	
	70FIS20W-014	Relocate: FOV	304.330	319.004	30.547	3.117	135	20	
FZ S20E									
Wellhead Deck FZ S20E	70FIS20E-013	Remove	330.977	328.509	30.399	2.969	165	20	Considered excessive
FZ Q20C									
Wellhead Deck FZ Q20C	NewFDQ20C-002	Relocate: FOV	313.977	352.654	31.547	4.117	315	20	Relocation to optimise hazard coverage
	NewFDQ20C-004	Remove	323.211	339.119	31.547	4.117	135	20	Considered excessive

Note: For further information regarding detector tilt and orientation (pan), see section 4.2.2

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Flame Detection Assessments.

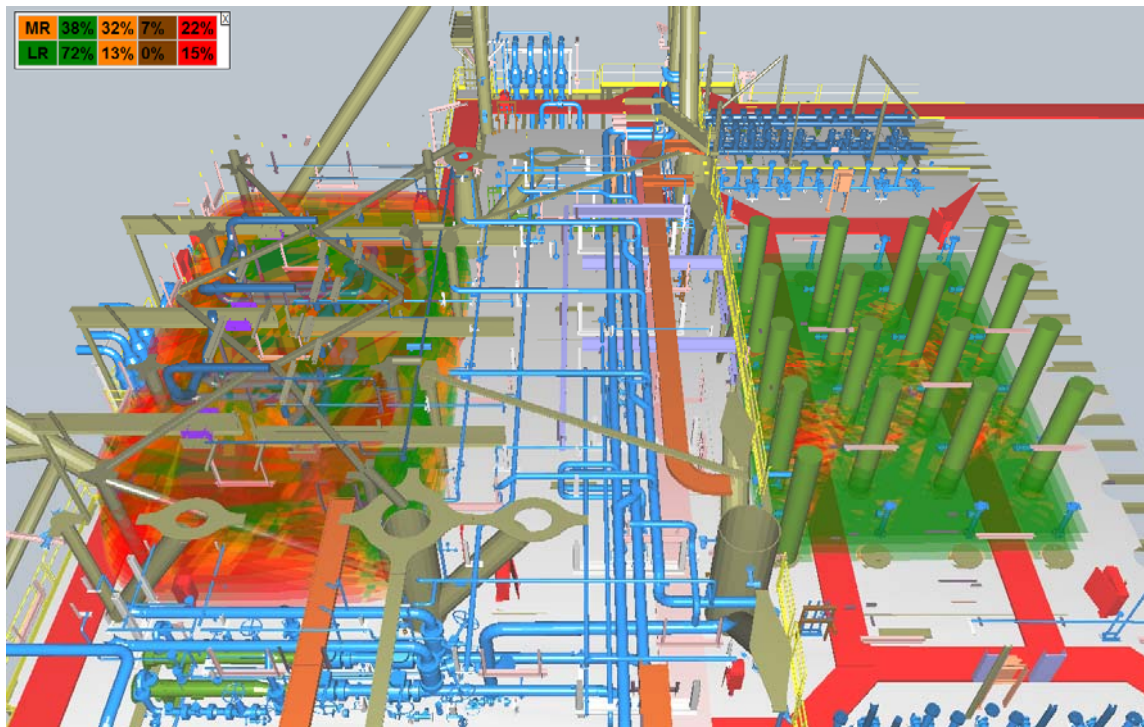


Figure 8.2.3.1. Proposed flame assessment result snapshot of Wellhead Deck W20C with 3D model included.

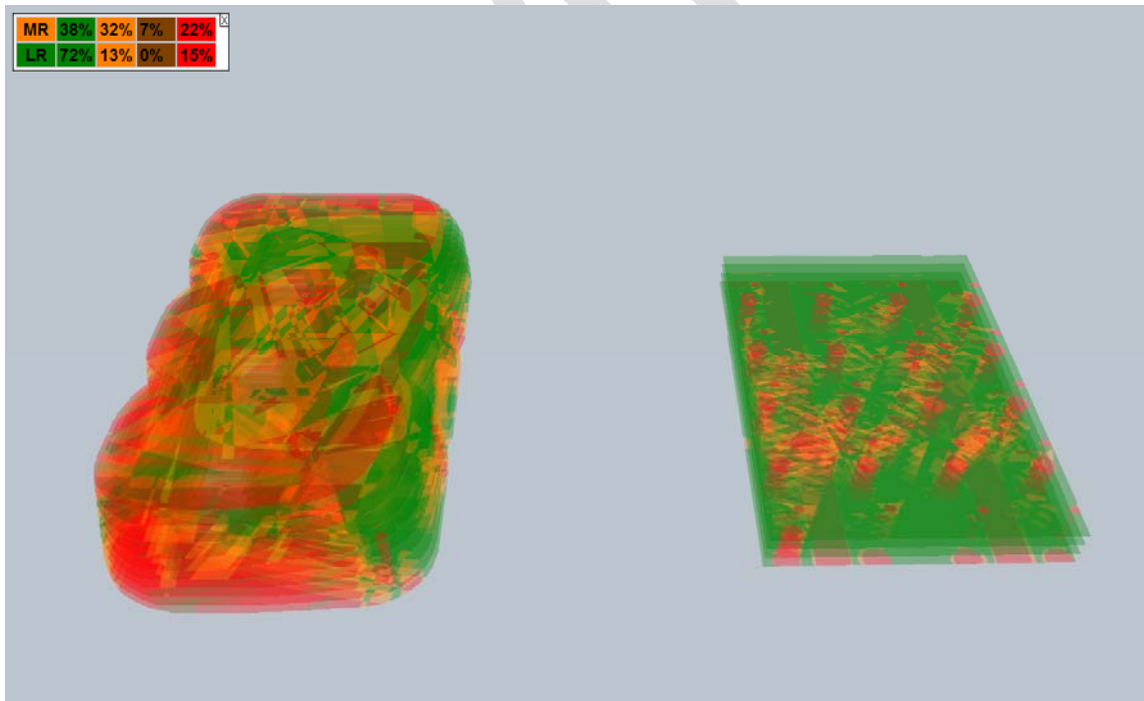


Figure 8.2.3.2. Proposed flame assessment result snapshot of Wellhead Deck W20C with 3D model excluded.

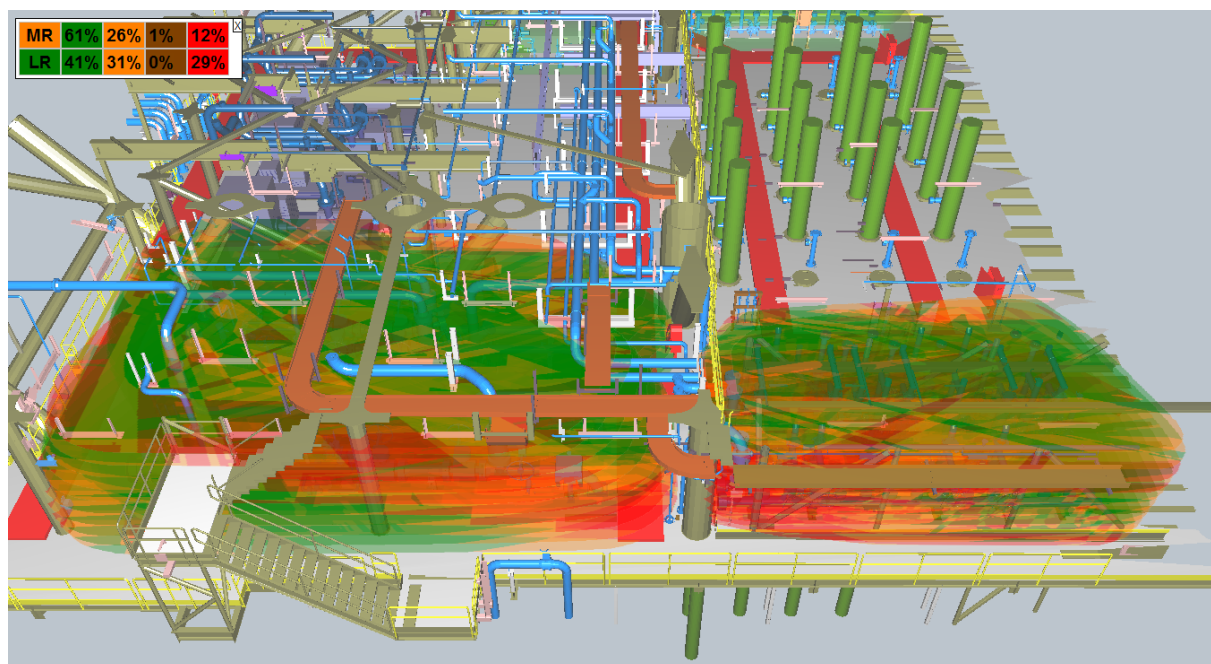


Figure 8.2.3.3. Proposed flame assessment result snapshot of Wellhead Deck W20E with 3D model included.

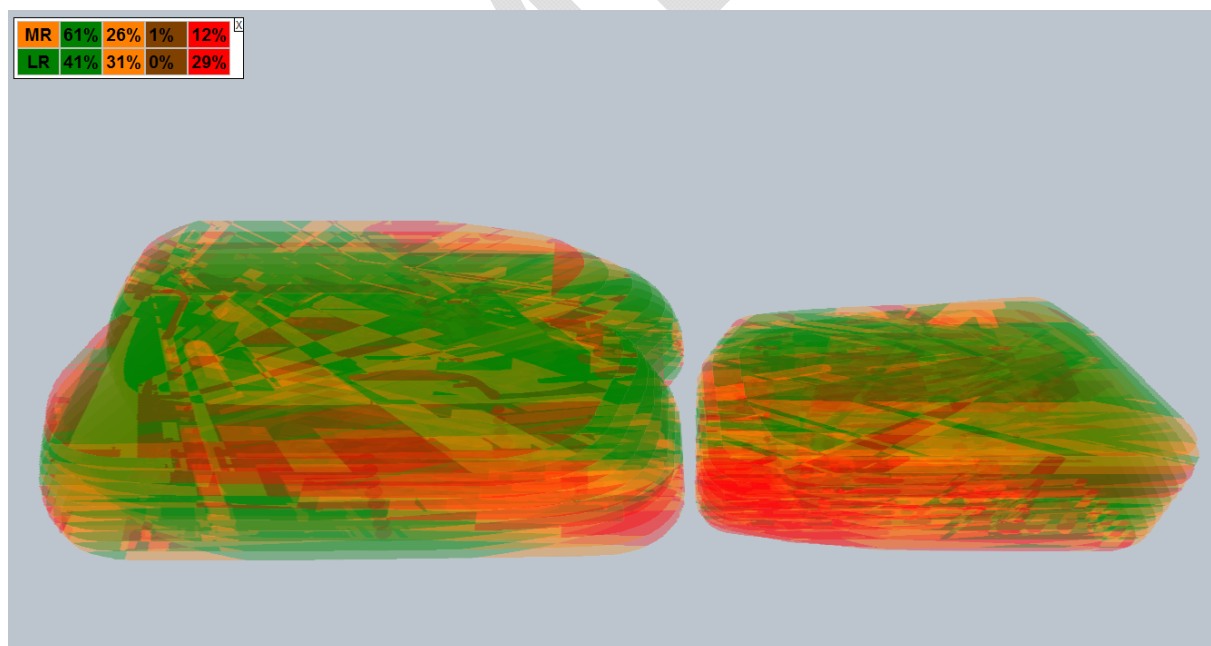


Figure 8.2.3.4. Proposed flame assessment result snapshot of Wellhead Deck W20E with 3D model excluded.

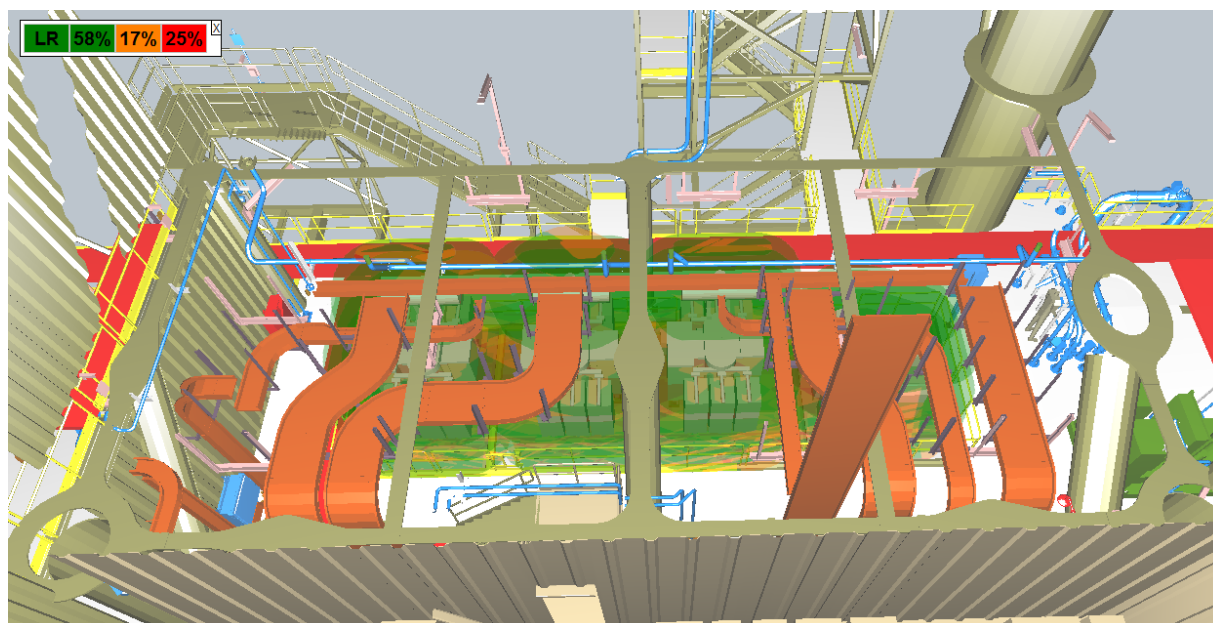


Figure 8.2.3.5. Proposed flame assessment result snapshot of Wellhead Deck S20W with 3D model included.

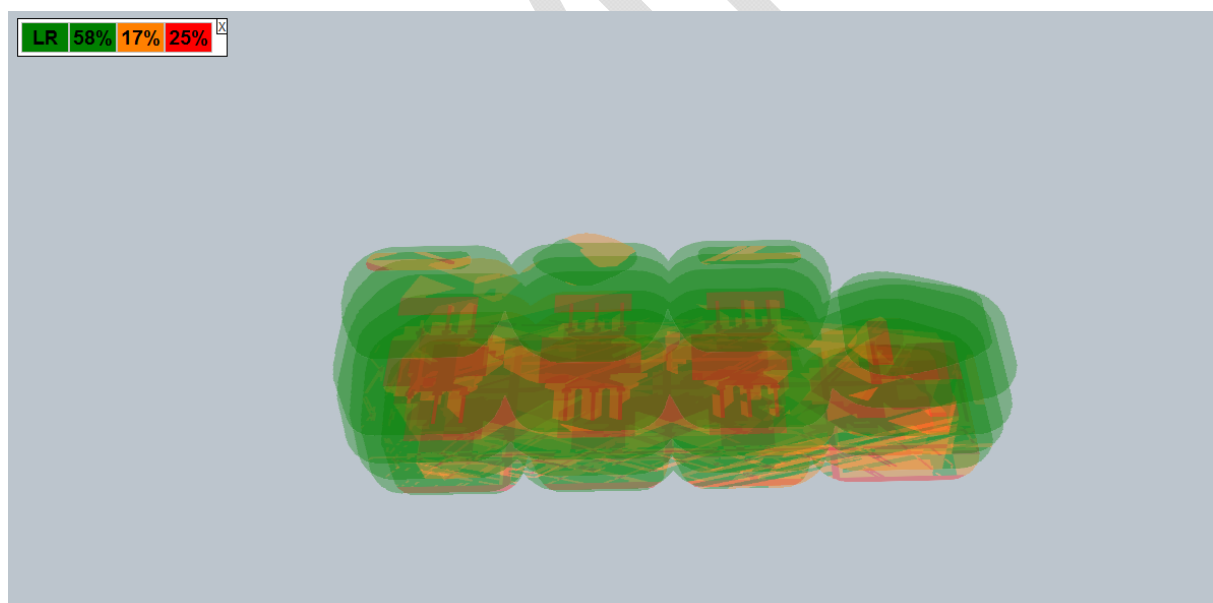


Figure 8.2.3.6. Proposed flame assessment result snapshot of Wellhead Deck S20W with 3D model excluded.

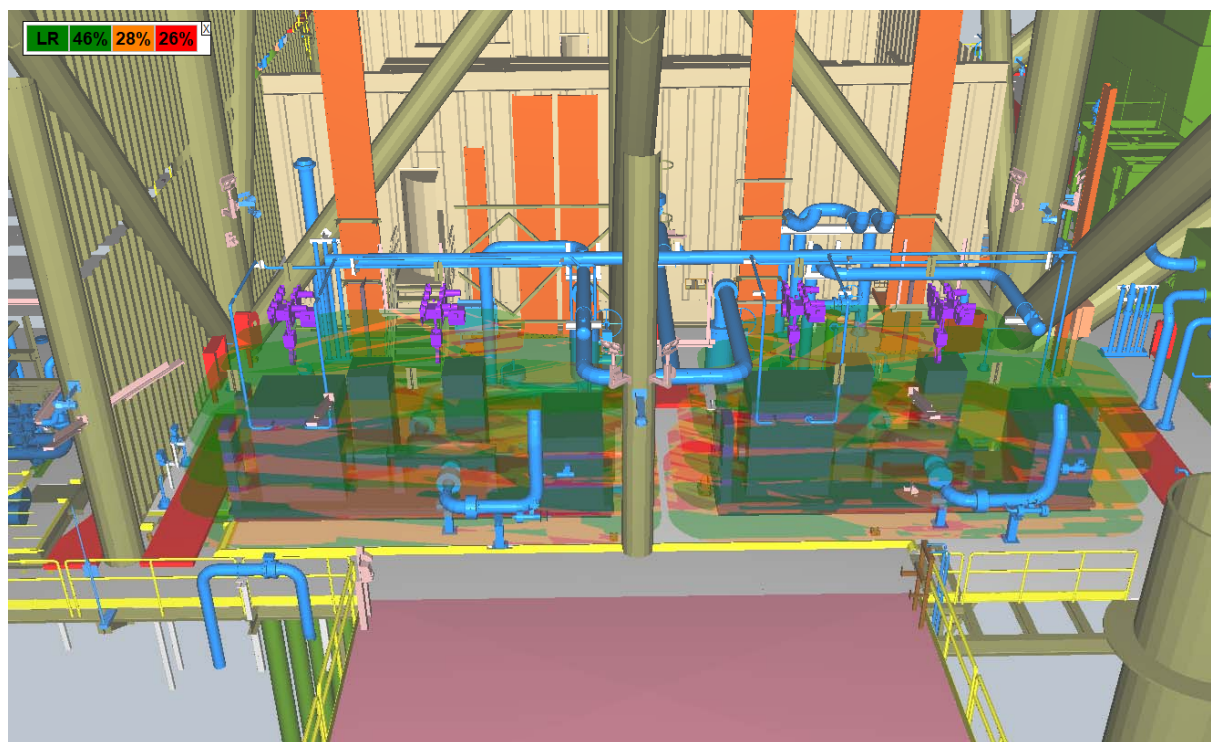


Figure 8.2.3.7. Proposed flame assessment result snapshot of Wellhead Deck S20E with 3D model included.

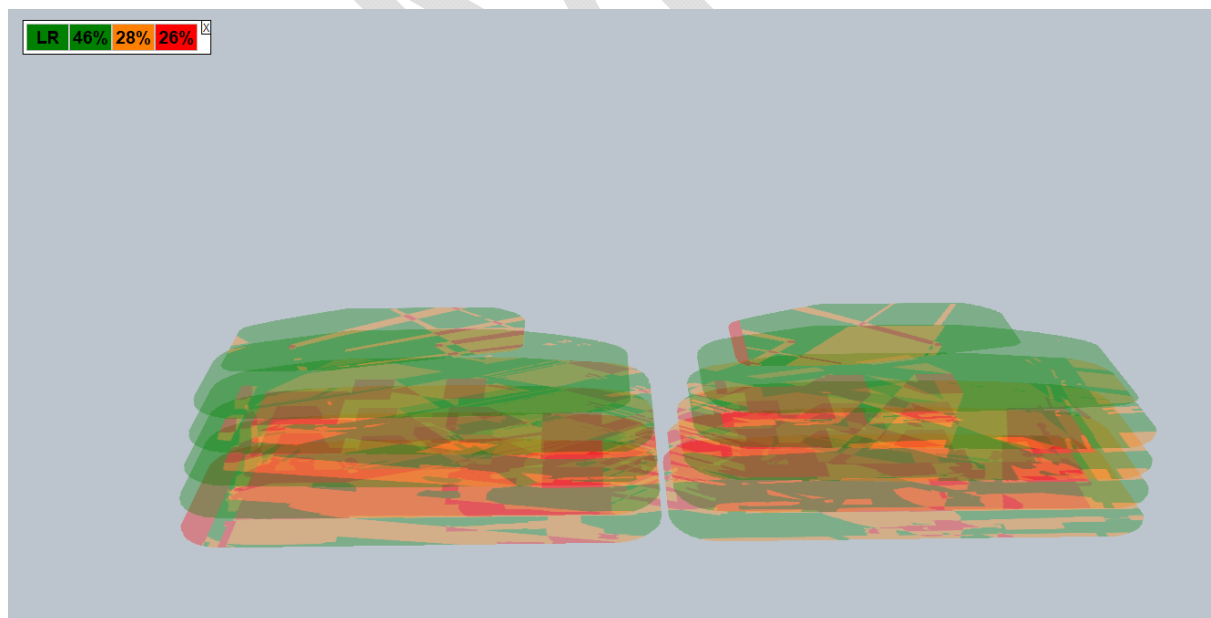


Figure 8.2.3.8. Proposed flame assessment result snapshot of Wellhead Deck S20E with 3D model excluded.

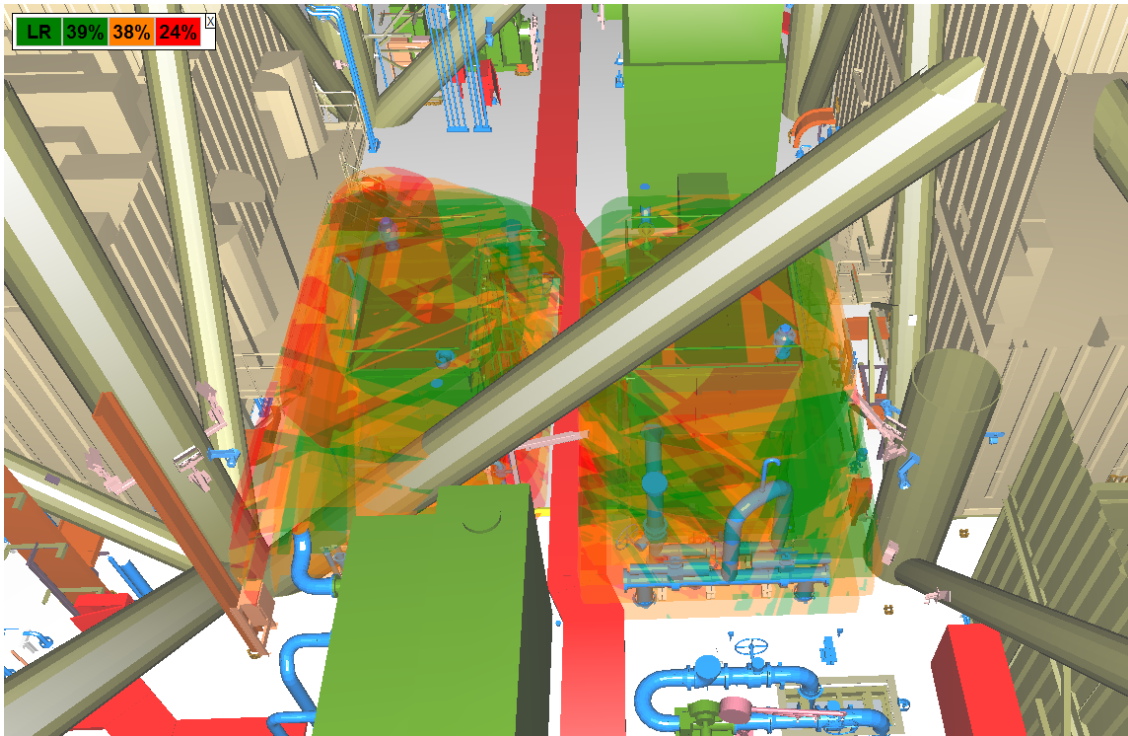


Figure 8.2.3.9. Proposed flame assessment result snapshot of Wellhead Deck Q20C with 3D model included.

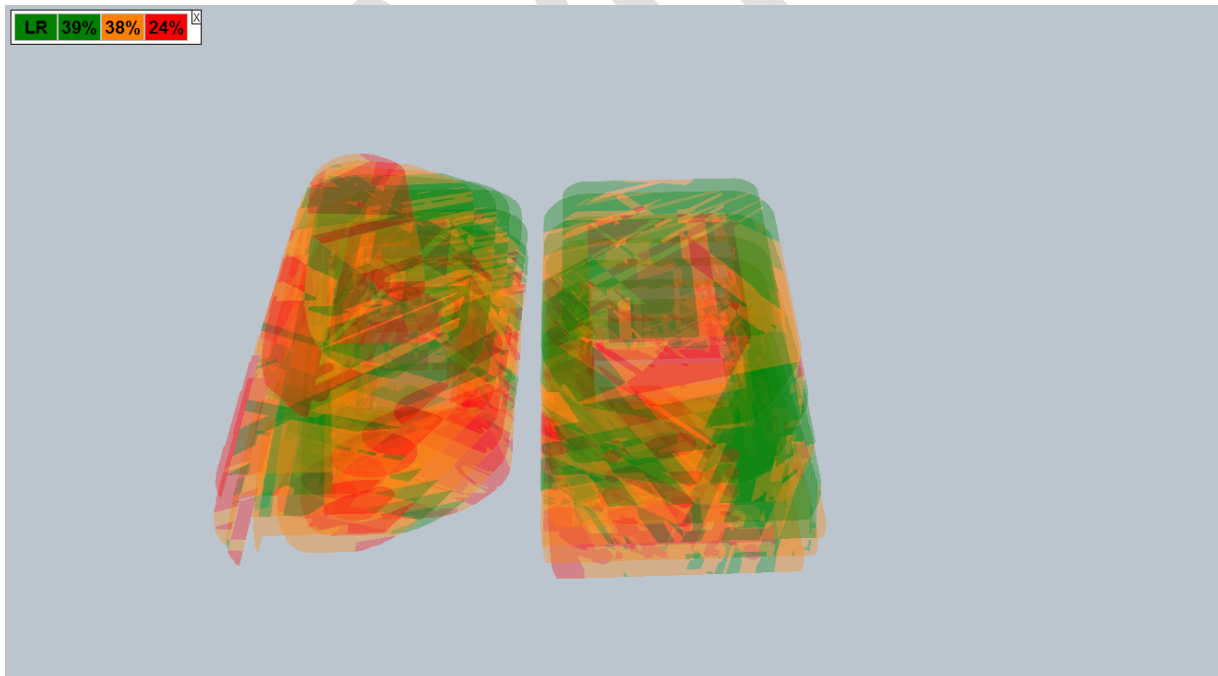


Figure 8.2.3.10. Proposed flame assessment result snapshot of Wellhead Deck Q20C with 3D model excluded.

8.3 FIRE DETECTION SUMMARY

8.3.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add FD	Relocate FD	Remove FD
W20C	1	1	-
W20E	2	1	-
S20W	-	4	-
S20E	-	-	1
Q20C	-	1	1
TOTAL	7	7	2

Note: In the case of the above table 'relocate flame detector' also incorporates those changes noted as reorientated.

8.3.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed fire detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
W20W	LR	61	-	19	-	20	
	TOTAL	61	-	19	-	20	
W20C	MR	27	-	36	10	26	
	LR	72	-	13	-	15	
	TOTAL	39	-	30	8	23	
W20E	MR	21	-	50	2	27	
	LR	16	-	46	-	38	
	TOTAL	19	-	48	1	31	
S20W	LR	33	-	30	-	37	
	TOTAL	33	-	30	-	37	
S20E	LR	49	-	27	-	24	

	TOTAL	49	-	27	-	24	
Q20C	LR	38	-	33	-	29	
	TOTAL	38	-	33	-	29	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
W20W	LR	61	-	19	-	20	No change from existing contractor detection arrangement.
	TOTAL	61	-	19	-	20	
W20C	MR	38	-	32	7	22	1 detector relocated, 1 new detector.
	LR	72	-	13	-	15	
	TOTAL	47	-	27	5	20	
W20E	MR	61	-	26	1	12	1 detector relocated, 2 new detectors.
	LR	41	-	31	0	29	
	TOTAL	54	-	28	1	17	
S20W	LR	58	-	17	-	25	4 detectors relocated.
	TOTAL	58	-	17	-	25	
S20E	LR	46	-	28	-	26	Remove 1 detector.
	TOTAL	46	-	28	-	26	
Q20C	LR	39	-	38	-	24	1 detector relocated & 1 removed.
	TOTAL	39	-	38	-	24	

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 200N and 80% for 100N. However, this can be justified by considering the following points;

- In reality, because the volumes of no/ poor coverage are so small/ thin, it would not be possible for the expected flame to exist and be confined to these thin volumes alone, and will almost always still be within the field of view of a flame detector.
- Practically, this area is rather heavily congested which limits the potential of any proposed system design. Due to the high levels of congestion, the addition of each further flame detector (in these highly congested areas) results in only a small increase in coverage, suggesting that in order to significantly

improve upon the currently recommended layouts, a significant number of flame detectors may be required.

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However, the reader should be aware this will in all likelihood increase the detection quantities.

SAMPLE

8.4 GAS DETECTION

8.4.1 Flammable Gas Grading

The figure below shows the graded volumes (see Performance Target document for details on this) within HazMap3D. Detector arrangement graphics are shown within the following section.

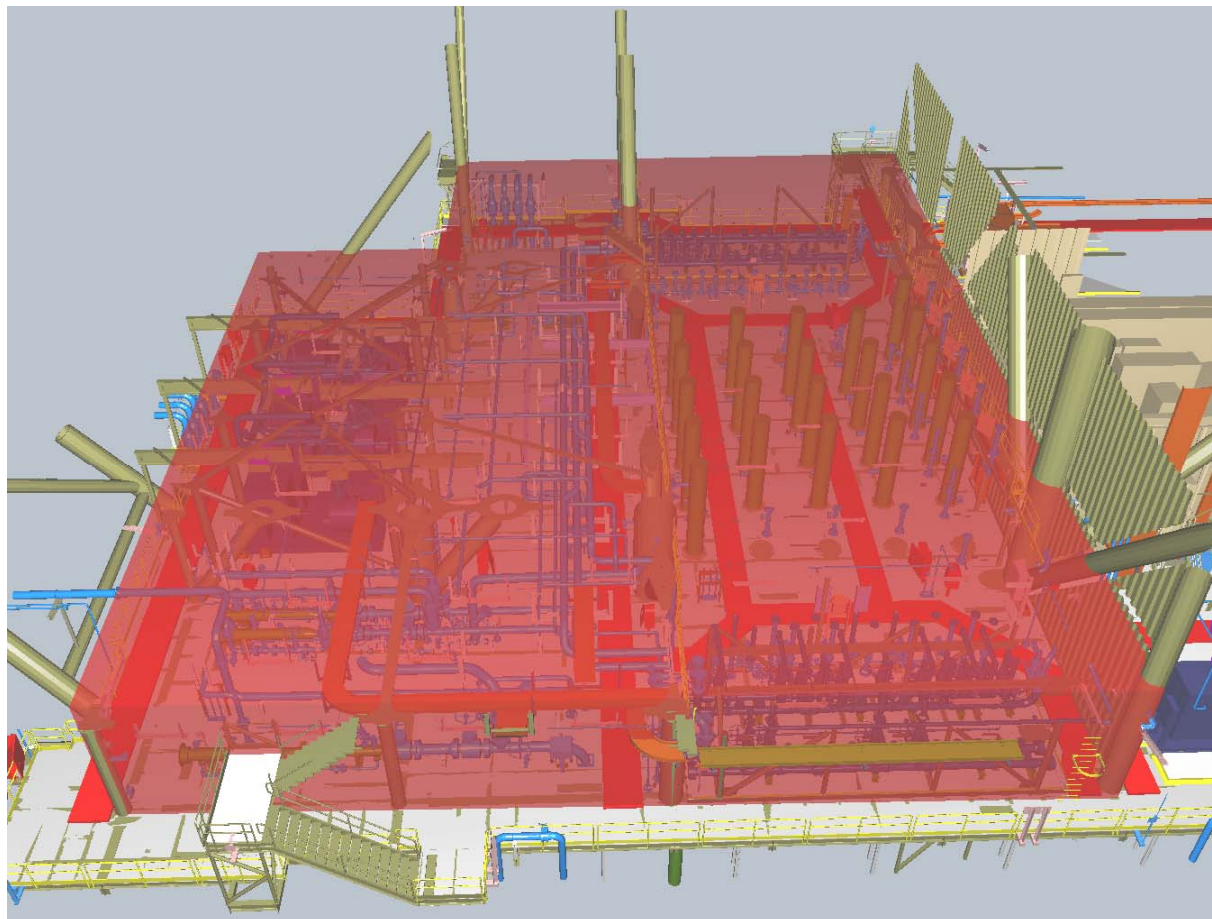


Figure 8.4.1.1: Screenshot showing the volumetric flammable gas grademap throughout the Wellhead deck South within HazMap3D.

Note: W20W, W20C and W20E are the only FZs graded as requiring volumetric gas detection.



8.4.2 Contractor Detection Arrangement

The following table outlines the existing gas detection in this area.

Location	Tag No	Detector Type	Elevation (m) ALD	Comments
FZ W20W				
Wellhead Deck FZ W20W	70GPW20W-037	Infrared Point Gas Detector (HC)	1.406	
	70GPW20W-038		1.406	
	70GPW20W-039		1.533	
	70GPW20W-040		3.058	
	70GPW20W-161		1.406	Not shown on F&G layouts (Rev 4.0)
FZ W20C				
Wellhead Deck FZ W20C	70GLRW20C-013	Infrared Open Path Gas Detector (HC)	3.658	
	70GLRW20C-014		3.252	
	70GPW20C-125	Infrared Point Gas Detector (HC)	3.327	
	70GPW20C-126		3.327	
	70GPW20C-127		3.324	
	70GPW20C-128		3.324	
	70GPW20C-129		3.324	
	70GPW20C-130		3.324	
FZ W20E				
Wellhead Deck FZ W20E	70GPW20E-131	Infrared Point Gas Detector (HC)	1.229	
	70GPW20E-132		1.229	
	70GPW20E-133		1.581	
	70GPW20E-134		1.267	
	70GPW20E-135		1.533	
	70GPW20E-136		3.058	
	70GPW20E-162		1.266	Not shown on F&G layouts (Rev 4.0)

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Gas Detection Assessments.

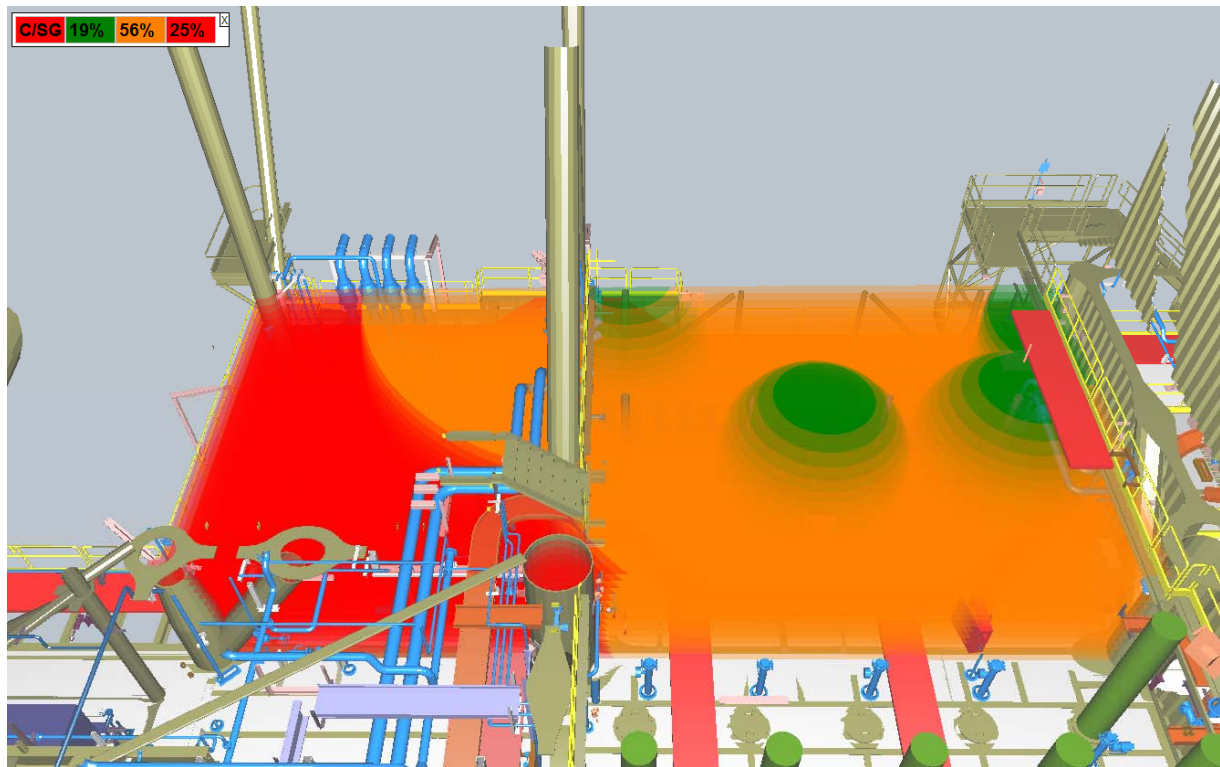


Figure 8.4.2.1. Existing gas assessment result snapshot of Wellhead Deck W20W with 3D model included.

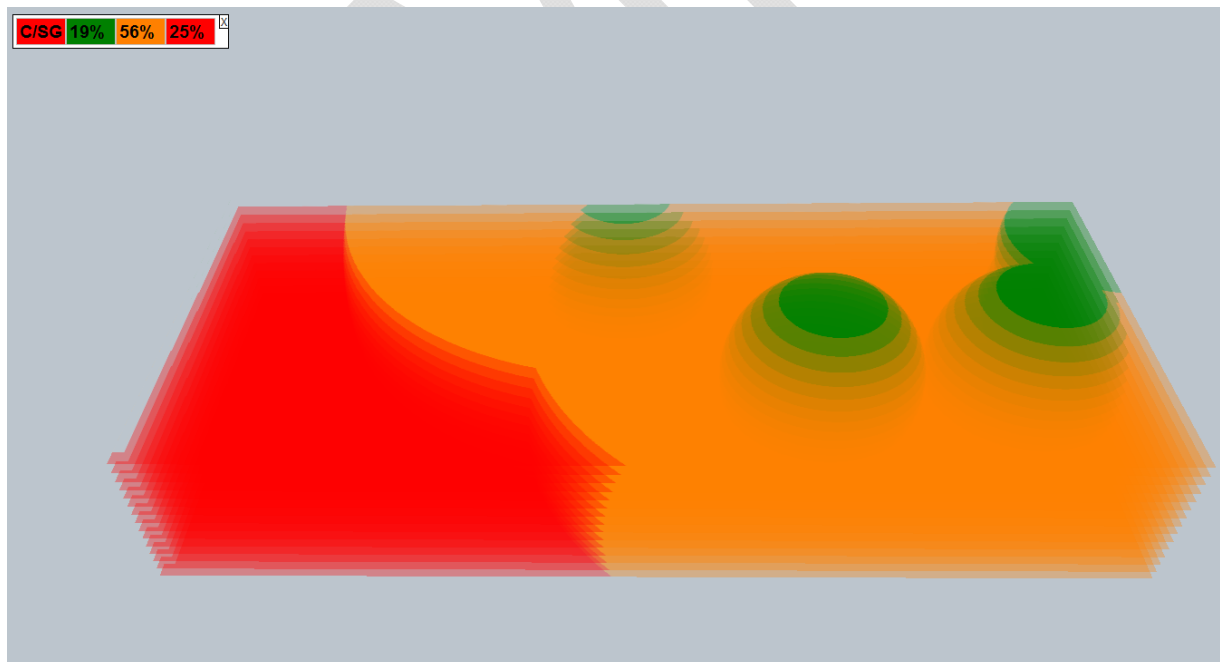


Figure 8.4.2.2. Existing gas assessment result snapshot of Wellhead Deck W20W with 3D model excluded.

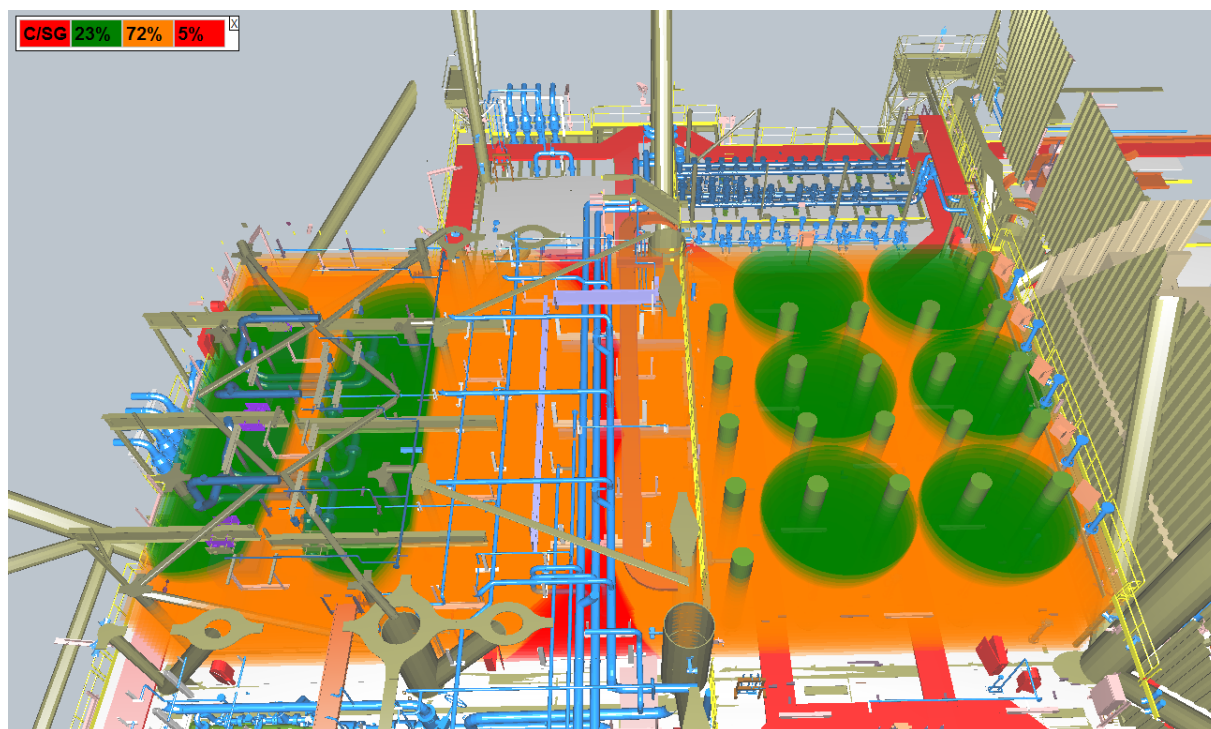


Figure 8.4.2.3. Existing gas assessment result snapshot of Wellhead Deck W20C with 3D model included.

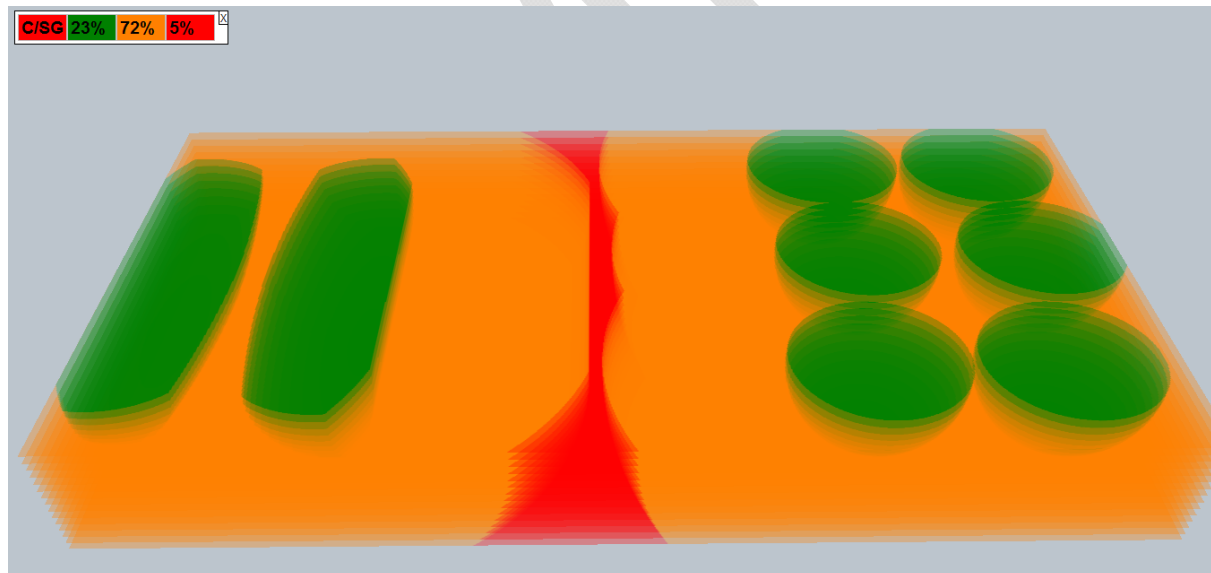


Figure 8.4.2.4. Existing gas assessment result snapshot of Wellhead Deck W20C with 3D model excluded.

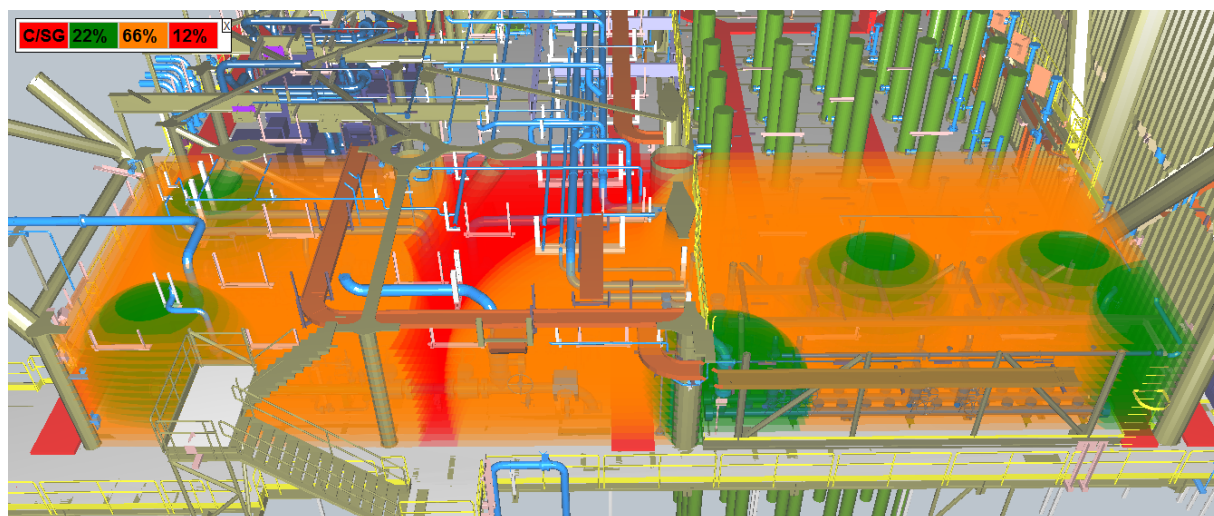


Figure 8.4.2.5. Existing gas assessment result snapshot of Wellhead Deck W20E with 3D model included.

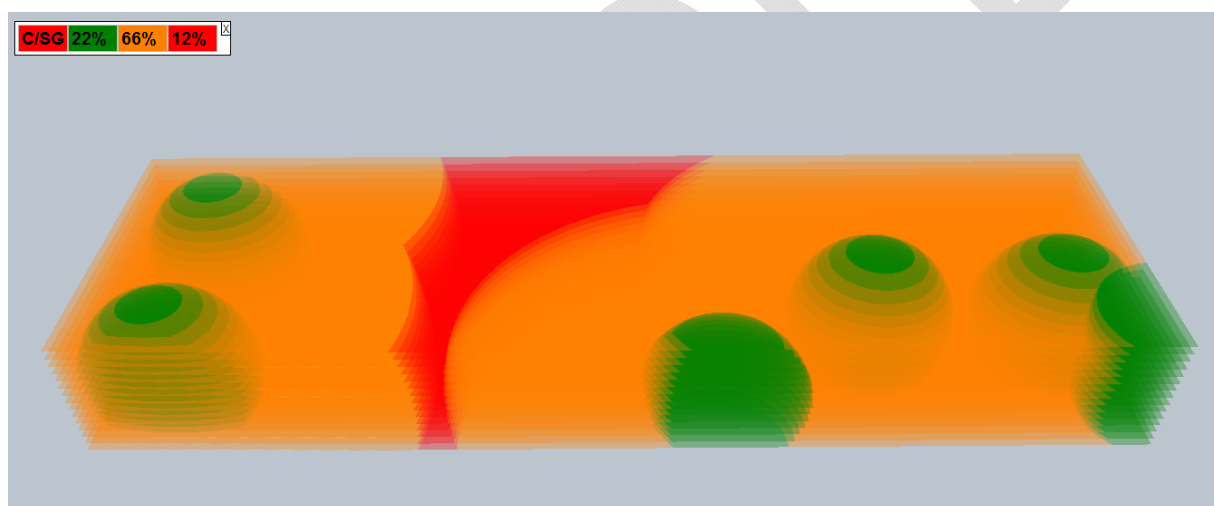


Figure 8.4.2.6. Existing gas assessment result snapshot of Wellhead Deck W20E with 3D model excluded.

8.4.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Comments
			X	Y	Z		
FZ W20W							
Cellar Deck	NewGDLW20W-001	Addition	301.145	318.322	30.430	3.000	Transmitter
	NewGDRW20W-001		301.195	297.107	30.430	3.000	Receiver
FZ W20W	NewGDLW20W-002	Addition	297.580	317.938	30.430	3.000	Transmitter
	NewGDRW20W-002		297.305	296.493	30.430	3.000	Receiver
FZ W20C							
Cellar Deck	NewGDLW20C-001	Addition	320.970	298.853	30.442	3.012	Transmitter
	NewGDRW20C-001		304.147	298.939	30.442	3.012	Receiver
FZ W20C	NewGDLW20C-002	Addition	324.228	303.726	29.930	2.500	Transmitter
	NewGDRW20C-002		303.389	303.690	29.930	2.500	Receiver
FZ W20E							
Cellar Deck	NewGDLW20E-001	Addition	329.148	316.929	29.794	2.364	Transmitter
	NewGDRW20E-001		328.270	288.145	29.794	2.364	Receiver
FZ W20E	NewGDLW20E-002	Addition	322.888	317.888	29.930	2.500	Transmitter
	NewGDRW20E-002		322.495	287.122	29.930	2.500	Receiver

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Gas Detection Assessments.

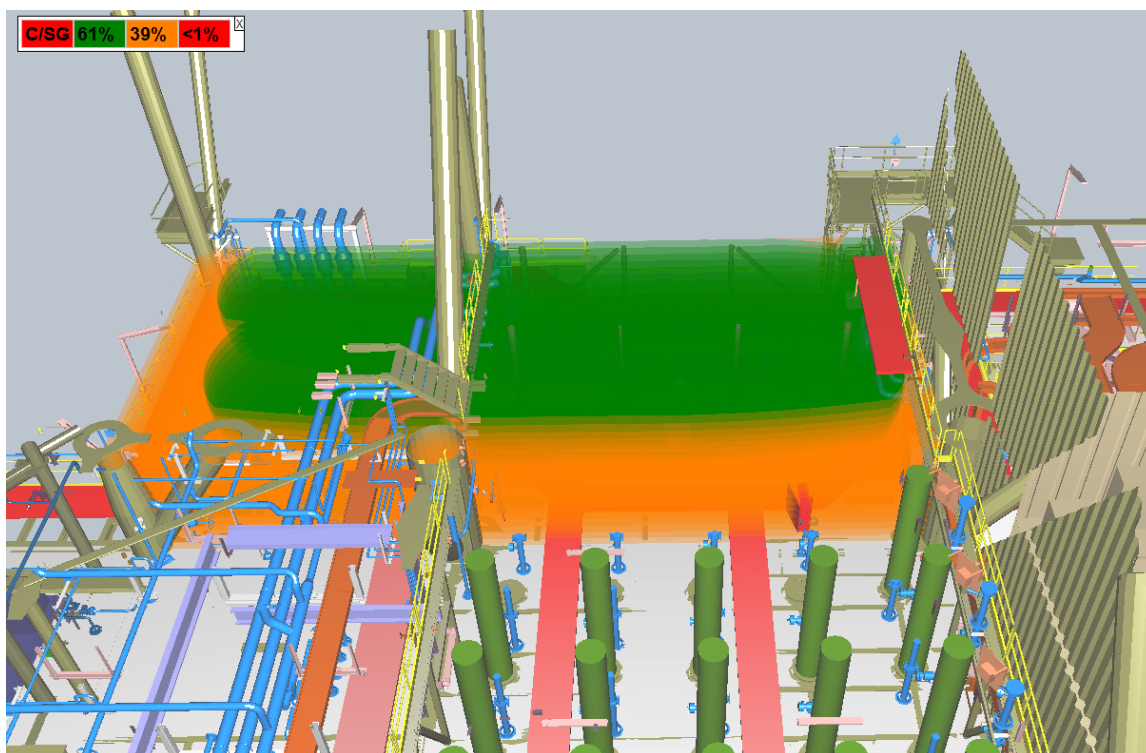


Figure 8.4.3.1. Proposed gas assessment result snapshot of Wellhead Deck W20W with 3D model included.

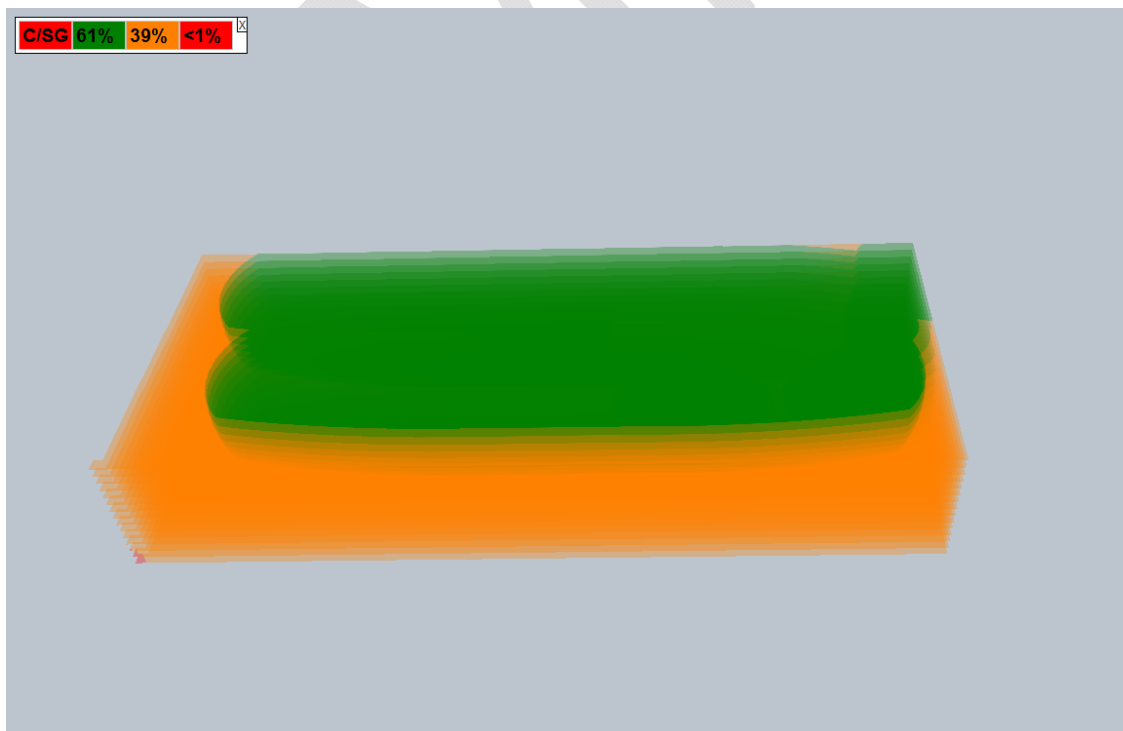


Figure 8.4.3.2. Proposed gas assessment result snapshot of Wellhead Deck W20W with 3D model excluded.



COMPANY NAME	PROJECT NAME	80
Ref: XX.XXX.XX	Rev: 1.0	

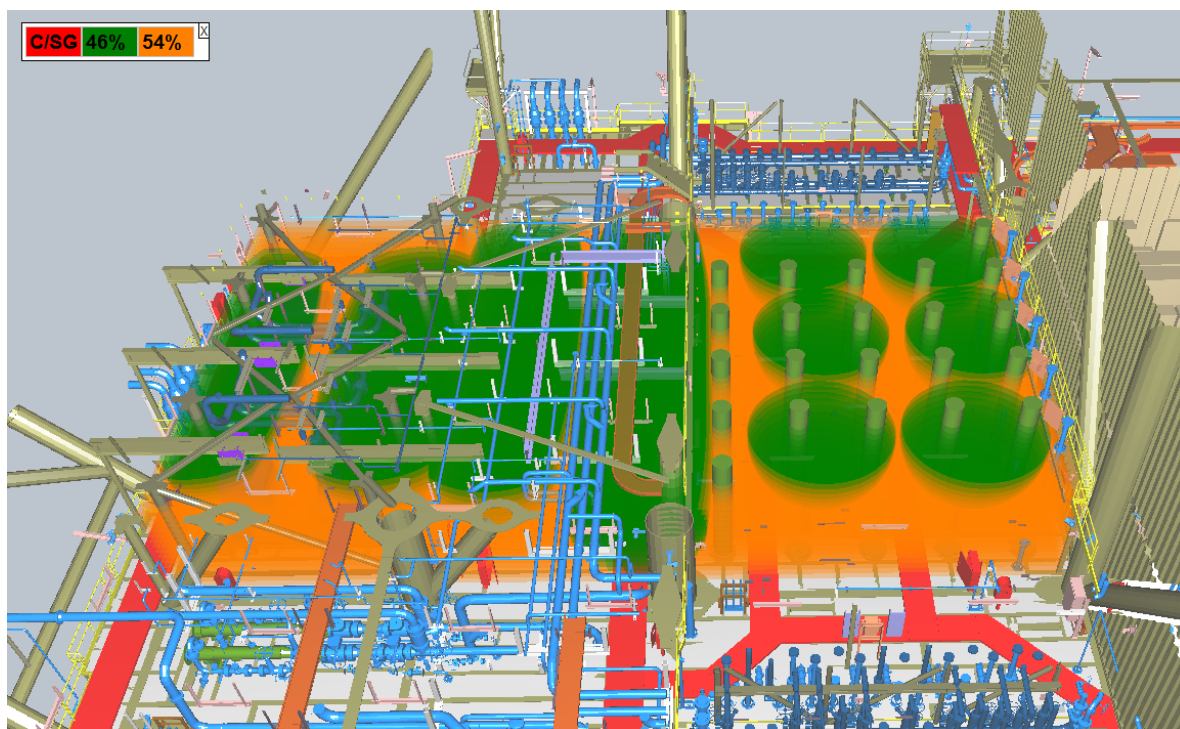


Figure 8.4.3.3. Proposed gas assessment result snapshot of Wellhead Deck W20C with 3D model included.

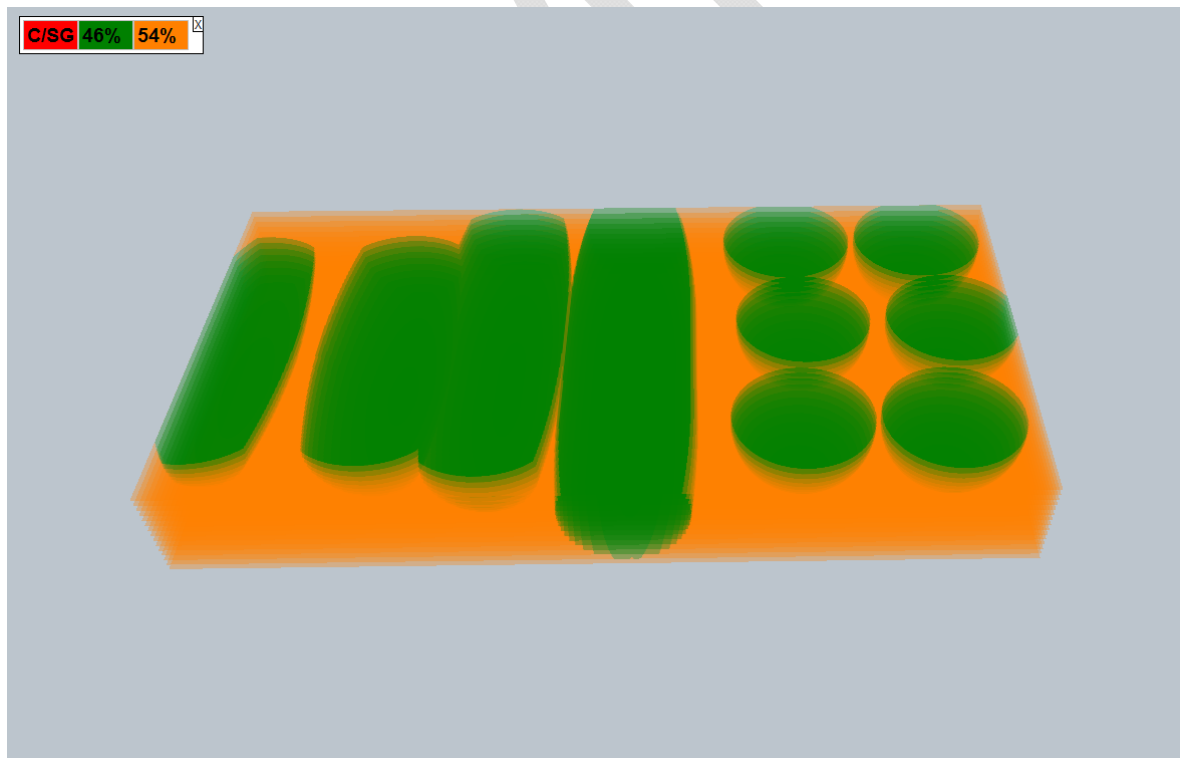


Figure 8.4.3.4. Proposed gas assessment result snapshot of Wellhead Deck W20C with 3D model excluded.

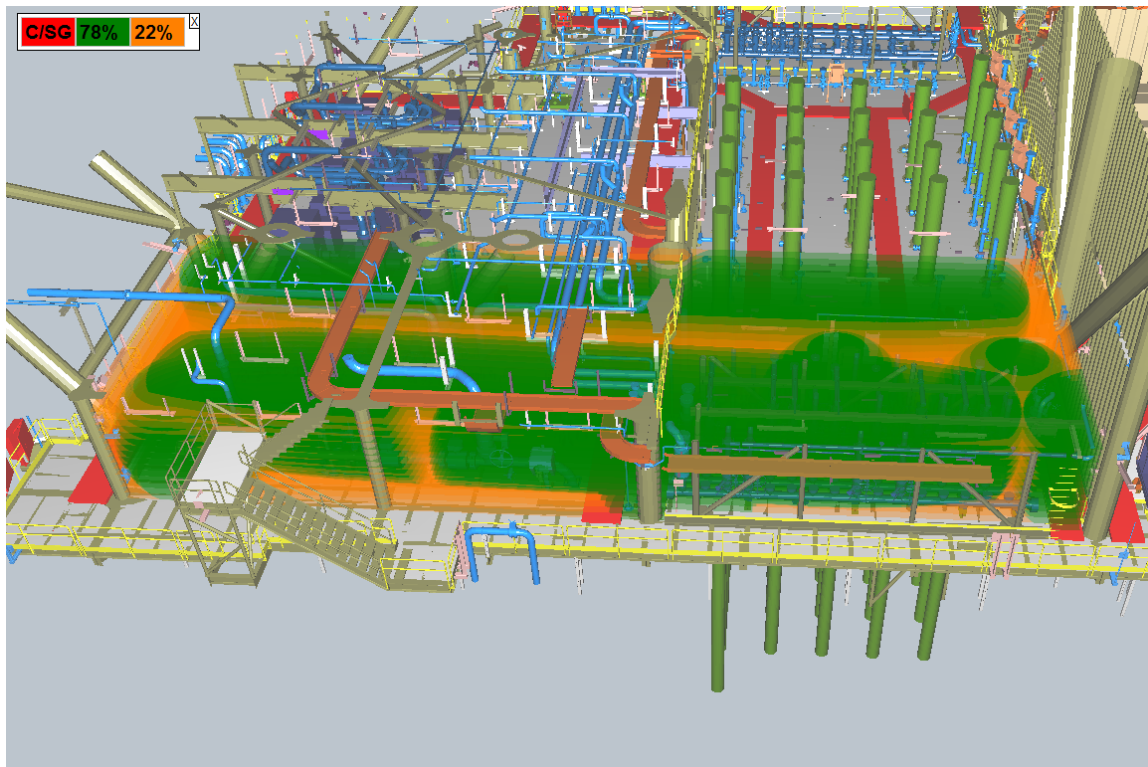


Figure 8.4.3.5. Proposed gas assessment result snapshot of Wellhead Deck W20E with 3D model included.

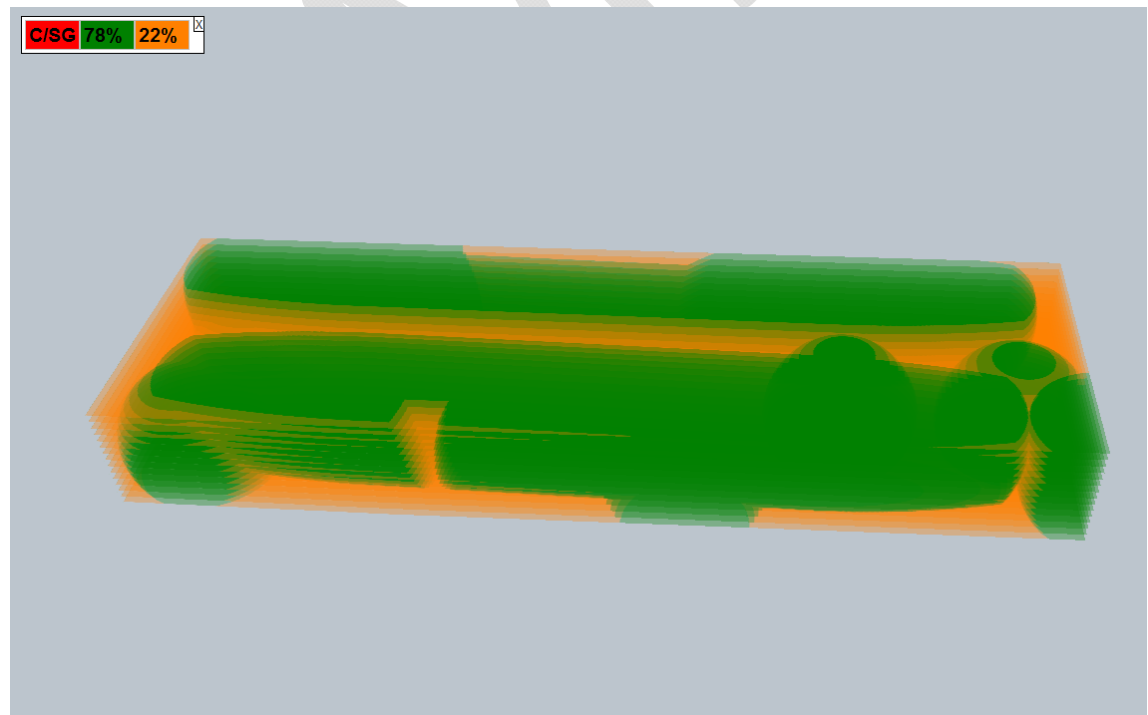


Figure 8.4.3.6. Proposed gas assessment result snapshot of Wellhead Deck W20E with 3D model excluded.

8.5 GAS DETECTION SUMMARY

8.5.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add IRPGD	Add OPGD	Relocate IRPGD	Relocate OPGD	Remove IRPGD	Remove OPGD
W20W	-	2	-	-	-	-
W20C	-	2	-	-	-	-
W20E	-	2	-	-	-	-
TOTAL	-	6	-	-	-	-

8.5.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed gas detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, No Control	No Coverage	Notes
W20W	C/SG	19	56	25	
W20C		23	72	5	
W20E		22	66	12	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, No Control	No Coverage	Notes
W20W	C/SG	61	39	1	
W20C		46	54	-	
W20E		78	22	-	

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 200N and 80% for 100N. However, this can be justified by considering the following points;

- Practically, the areas containing only alarm coverage are generally on the periphery of a FZ or near deck level where clouds are unlikely to linger. Control action coverage is prevalent around hazardous equipment and egress routes- areas of the FZ where control action coverage is critical.
- In reality, because the volumes of no/ poor coverage are so small/ thin, it would not be possible for the expected gas cloud to exist and be confined to these thin volumes alone, and will almost always spread across to areas with alarm coverage.

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However, the reader should be aware this will in all likelihood increase the detection quantities.

9 WELLHEAD NORTH & SOUTH MEZZ DECKS (EL. 108'-0"/32.9184 M & 101'-7"/30.9626 M)

9.1 AREA/HAZARD DESCRIPTION

The potential fire hazards in this area are hydrocarbon gas jet fires of varying pressures and / or liquid pool fires are credible following loss of containment. This area has high obscuration levels in terms of flame detector field of view blockages.

The potential gas hazards in this area include potential for accumulation of HC gas cloud capable of causing damaging overpressure if ignited.

For full description of the applied grades on this deck and associated FZs please refer to the Performance Target document (Ref 8).

9.2 FIRE DETECTION

9.2.1 Flame Grading

The figures below show how the graded equipment in the Performance Targets (Ref 8) looks within HazMap3D. Detector arrangements are shown within the following section.

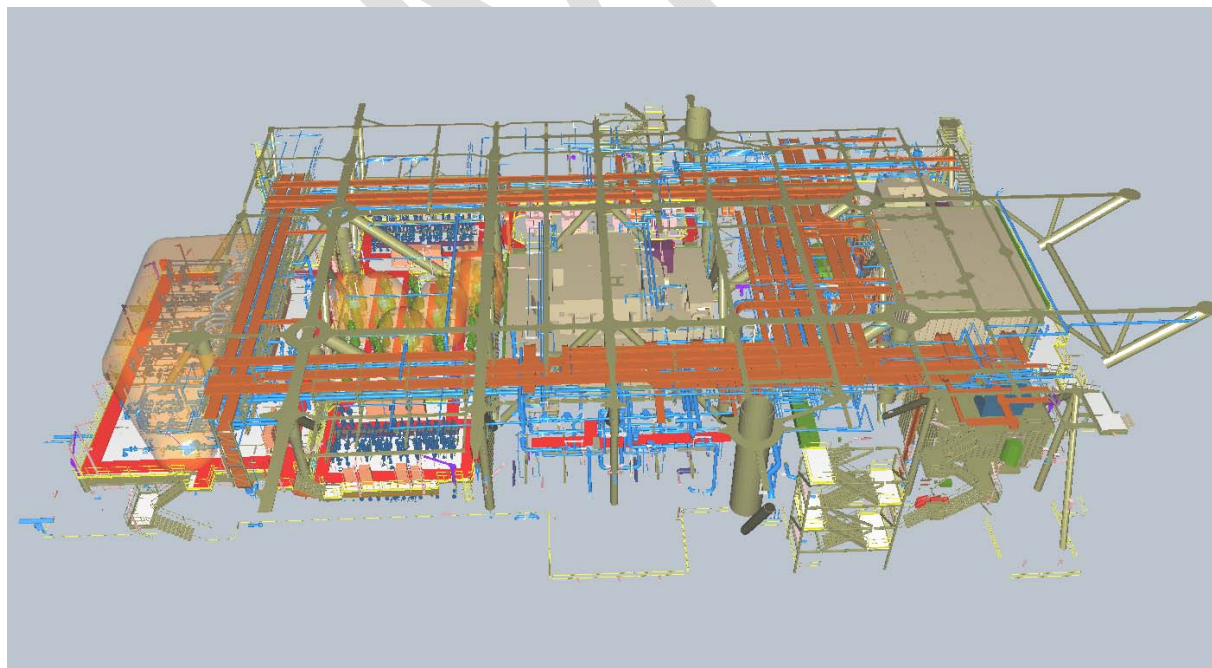


Figure 9.2.1.1: Screenshot showing the fire grademap throughout the Mezz Deck within HazMap3D.



Figure 9.3.1.2. Screenshot showing the fire grademap throughout the Mezz Deck within HazMap3D with 3D model excluded.

Note: As noted in the Performance Targets, numerous pumps and drains are normally not graded by Micropack, but have been for this report at the request of the client. Examples of these are open drains pumps, open drains tank, Power Export Voltage regulators, non-hazardous open drains pumps, non-hazardous open drain tanks, fire water pumps and electrical transformers. These items make up a large percentage of the equipment in the Performance Targets, but represent little of the overall risk.



9.2.2 Contractor Detection Arrangement

The following table outlines the existing fire detection in this area.

Location	Tag No	Detector Type	El. (m) ALD	Pan (°)	Tilt (°)	Comments
FZ S25W						
Wellhead Mezz Deck FZ S25W	70FIS25W-013	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	2.81	315	20	
	70FIS25W-014		2.82	135	20	
FZ W25C						
Wellhead Mezz Deck FZ W25C	70FIW25C-059	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	1.72	45	20	
	70FIW25C-060		1.62	315	20	
	70FIW25C-061		2.08	270	20	
	70FIW25C-062		1.62	225	20	
	70FIW25C-063		1.24	135	20	
	70FIW25C-064		2.84	90	20	
	70FIW25C-065		3.46	225	20	Detector elevation incorrect in co-ord spreadsheet. Updated to similar elevation to neighbouring detection to maintain continuity.
	70FIW25C-066		2.89	90	20	
	70FIW25C-067		3.46	315	20	
FZ W25E						
Wellhead Mezz Deck FZ W25E	70FIW25E-068	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	1.72	315	20	
	70FIW25E-069		1.72	135	20	
	70FIW25E-072		2.58	225	20	
	70FIW25E-073		2.84	135	20	
	70FIW25E-080		1.63	45	20	
	70FIW25E-081		1.72	225	20	
	70FIW25E-082		2.84	45	20	
	70FIW25E-083		2.71	307	20	
FZ W25W						
Wellhead Mezz Deck FZ W25W	70FIW25W-070	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	1.72	45	20	
	70FIW25W-071		1.72	225	20	

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Flame Detection Assessments.

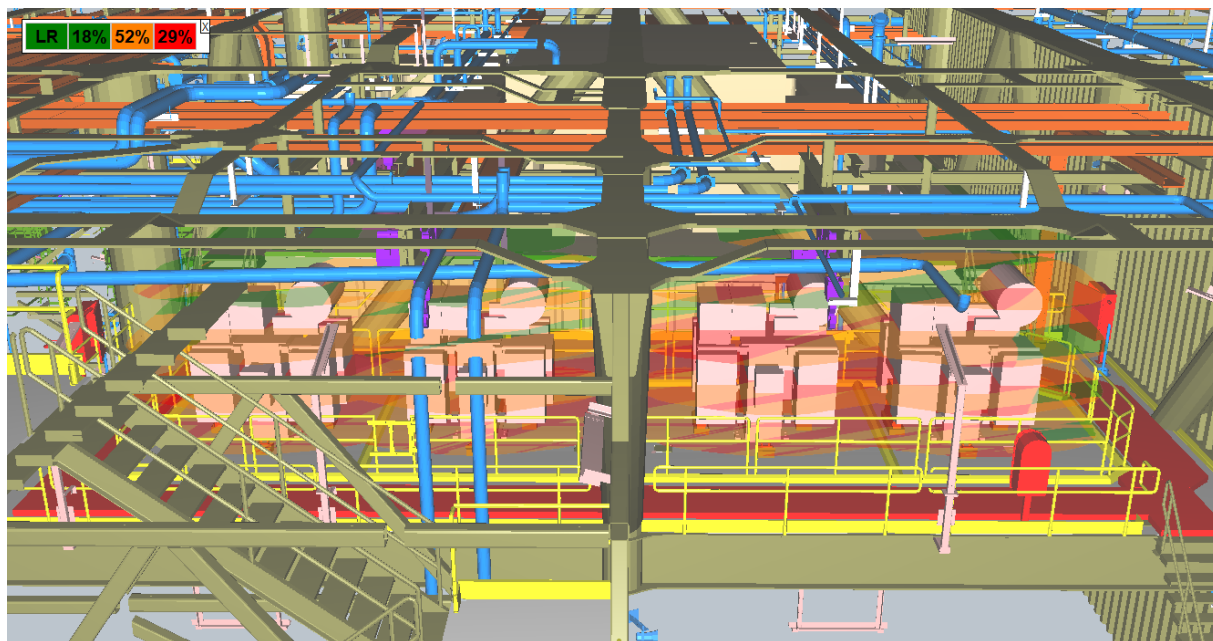


Figure 9.2.2.1. Existing flame assessment result snapshot of Mezz Deck S25W with 3D model included.

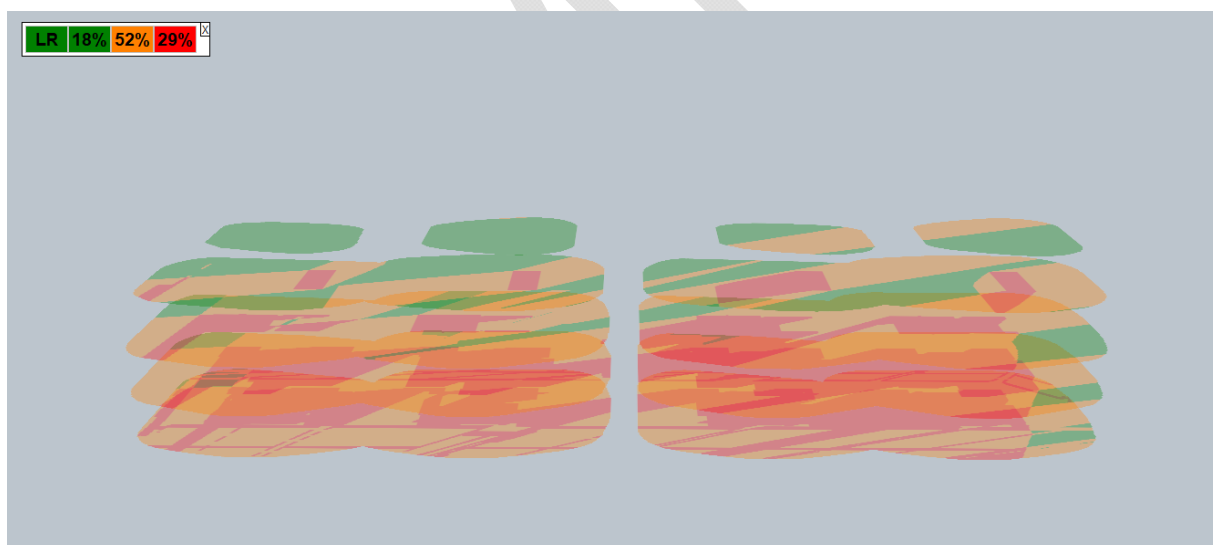


Figure 9.2.2.2. Existing flame assessment result snapshot of Mezz Deck S25W with 3D model excluded.

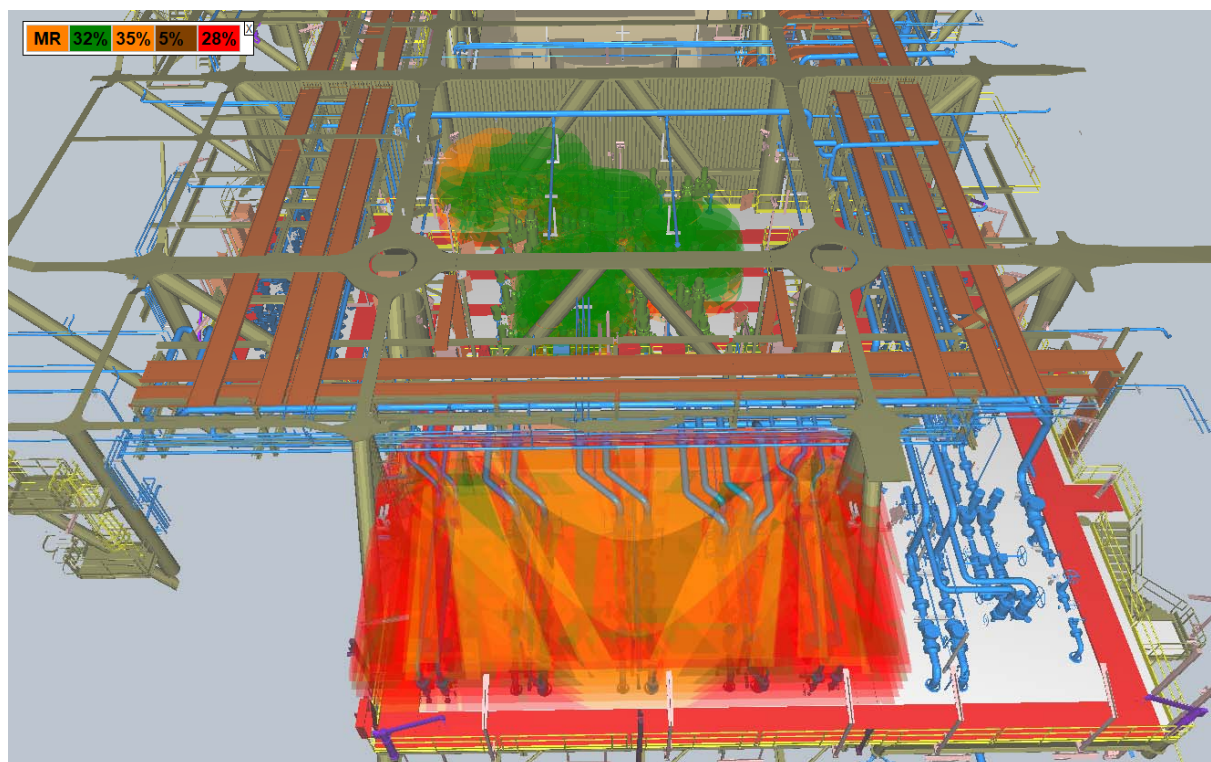


Figure 9.2.2.3. Existing flame assessment result snapshot of Mezz Deck W25C with 3D model included.

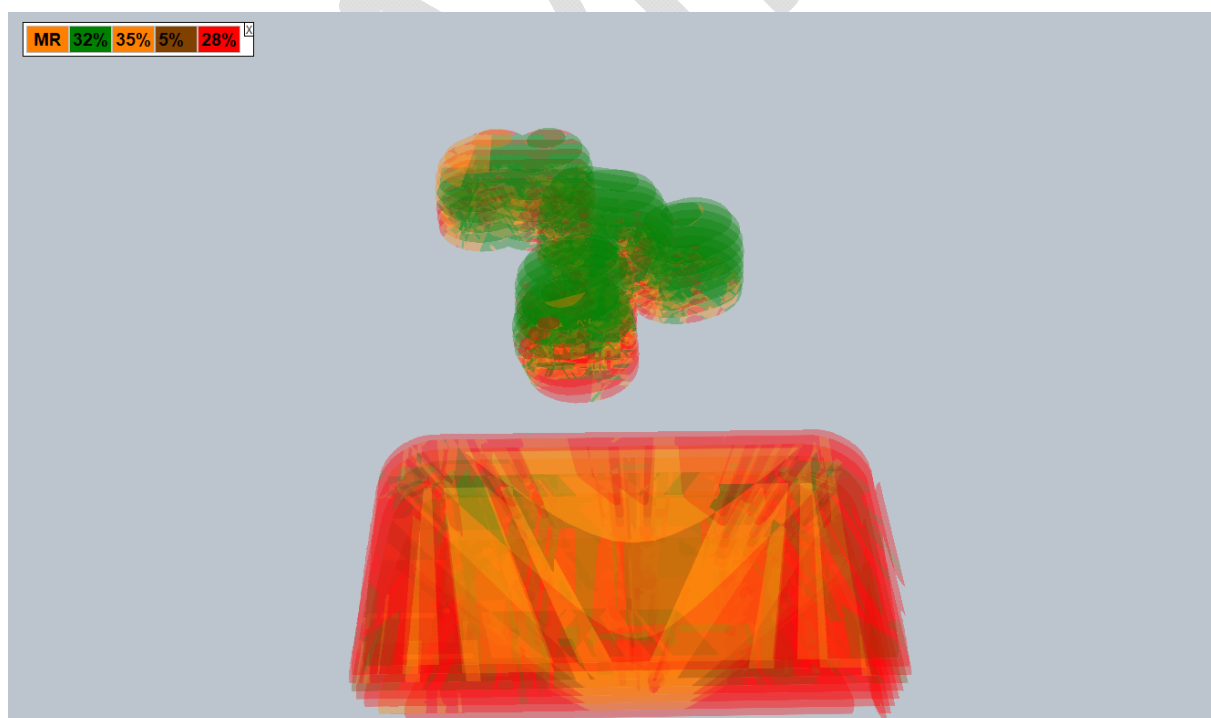


Figure 9.2.2.4. Existing flame assessment result snapshot of Mezz Deck W25C with 3D model excluded.

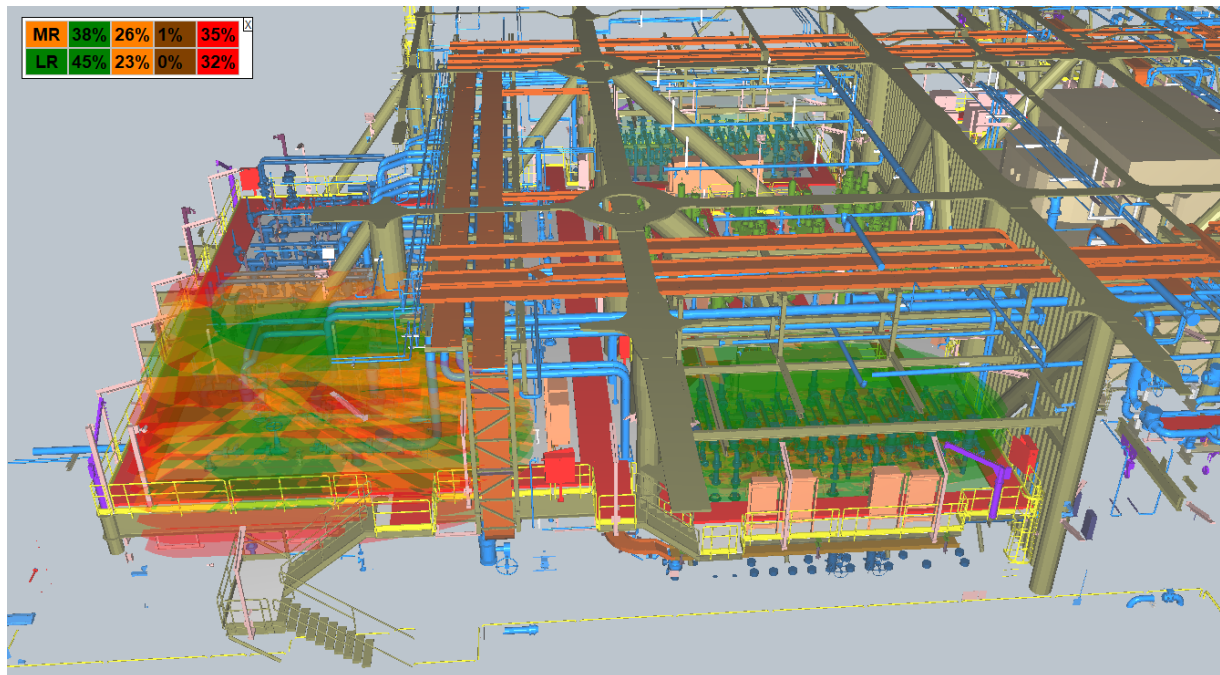


Figure 9.2.2.5. Existing flame assessment result snapshot of Mezz Deck W25E with 3D model included.

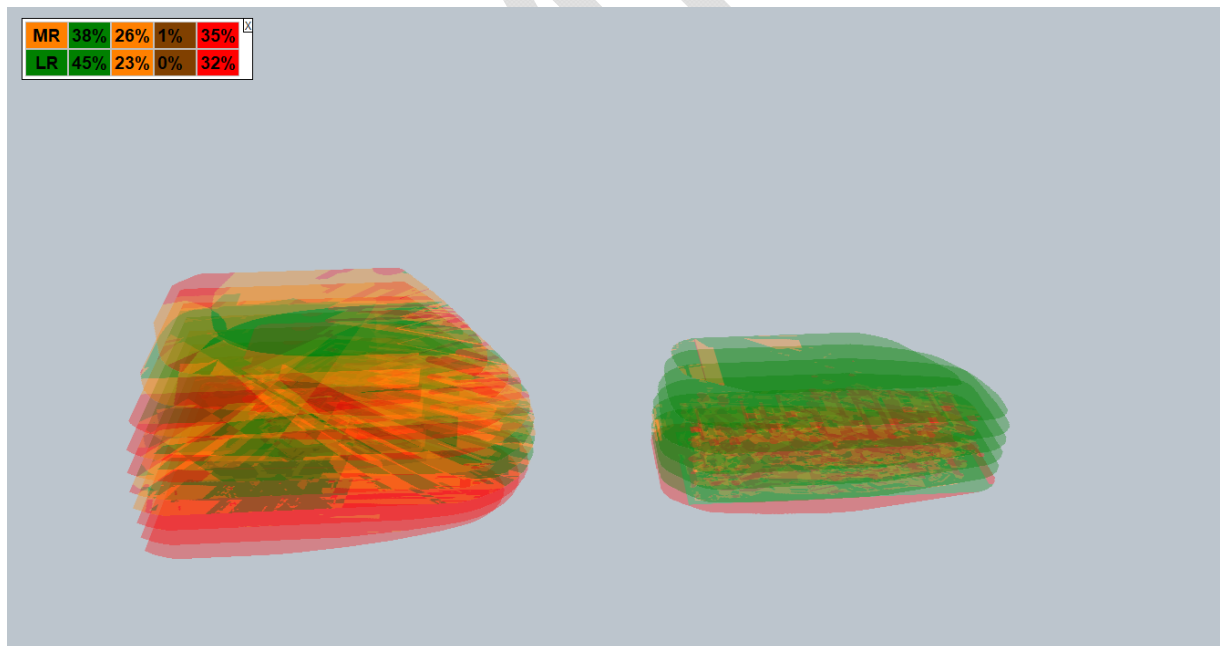


Figure 9.2.2.6. Existing flame assessment result snapshot of Mezz Deck W25E with 3D model excluded.

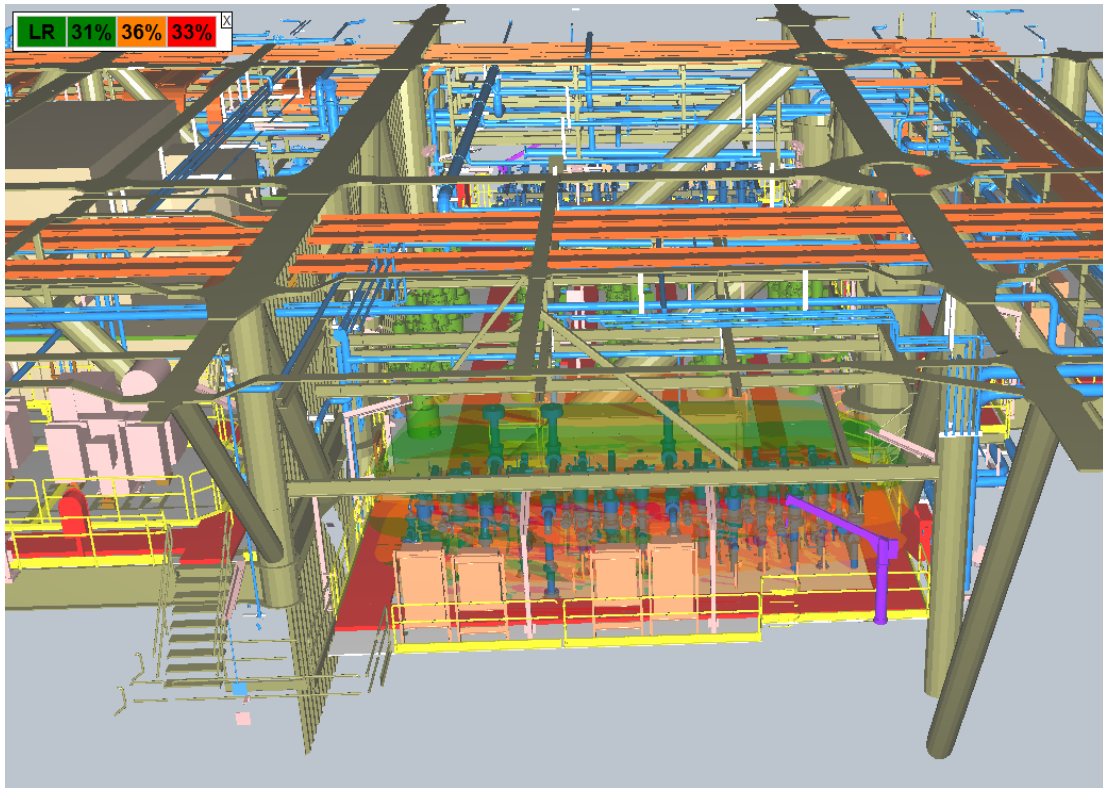


Figure 9.2.2.7. Existing flame assessment result snapshot of Mezz Deck W25W with 3D model included.

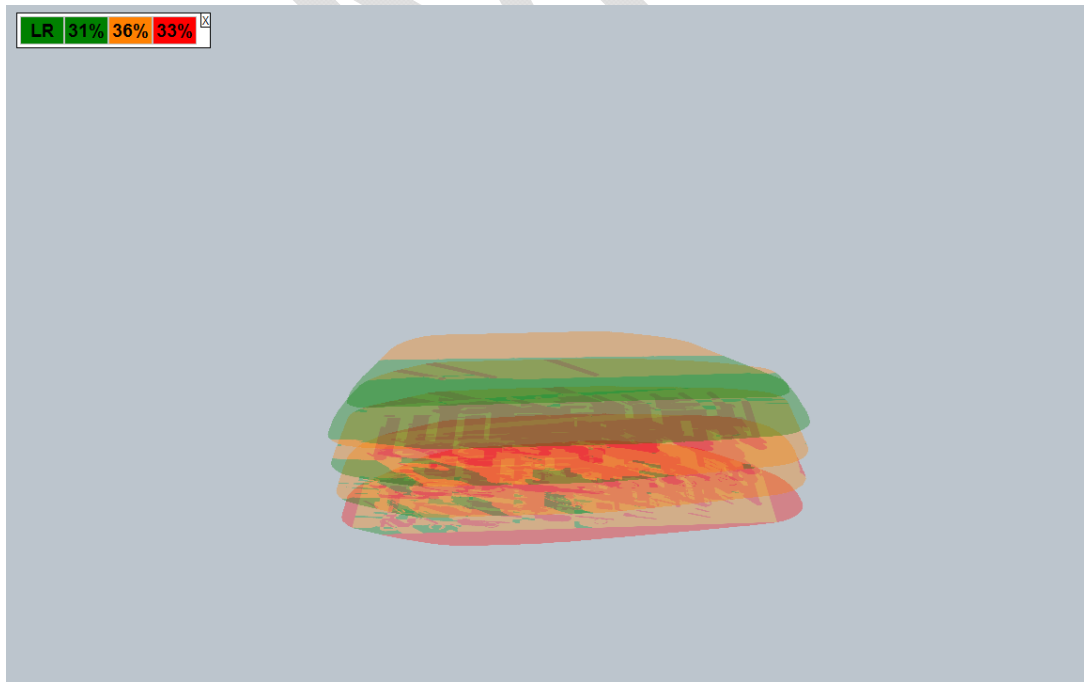


Figure 9.2.2.8. Existing flame assessment result snapshot of Mezz Deck W25W with 3D model excluded.

9.2.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Pan (°)	Tilt (°)	Comments
			X	Y	Z				
FZ S25W									
Wellhead Mezz Deck FZ S25W	NewFDS25W-001	Addition	295.868	318.824	35.738	3.37	45	20	Addition to increase hazard coverage
FZ W25C									
Wellhead Mezz Deck FZ W25C	NewFDW25C-001	Addition	321.251	288.216	35.258	2.89	135	20	Addition to increase hazard coverage
	70FIW25C-065	Relocate: co-cords	320.653	297.887	35.832	3.46	225	20	Relocation to optimise hazard coverage
	70FIW25C-066	Relocate: co-cords	305.677	287.911	35.258	2.89	45	20	
	70FIW25C-067	Relocate: co-cords	305.704	297.899	36.332	3.96	315	20	
FZ W25E									
Wellhead Mezz Deck FZ W25E	70FIW25E-068	Relocate: FOV	326.009	318.154	34.090	1.72	315	20	Relocations to optimise hazard coverage
	70FIW25E-072	Relocate: FOV	330.710	304.026	34.950	2.58	225	20	
	70FIW25E-083	Remove	321.753	295.839	35.086	2.71	303	20	Considered excessive
FZ W25W									
Wellhead Mezz Deck FZ W25W	NewFDW25W-001	Addition	295.728	318.149	34.09	2.99	315	20	Addition to increase hazard coverage

Note: For further information regarding detector tilt and orientation (pan), see section 4.2.2

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Flame Detection Assessments.

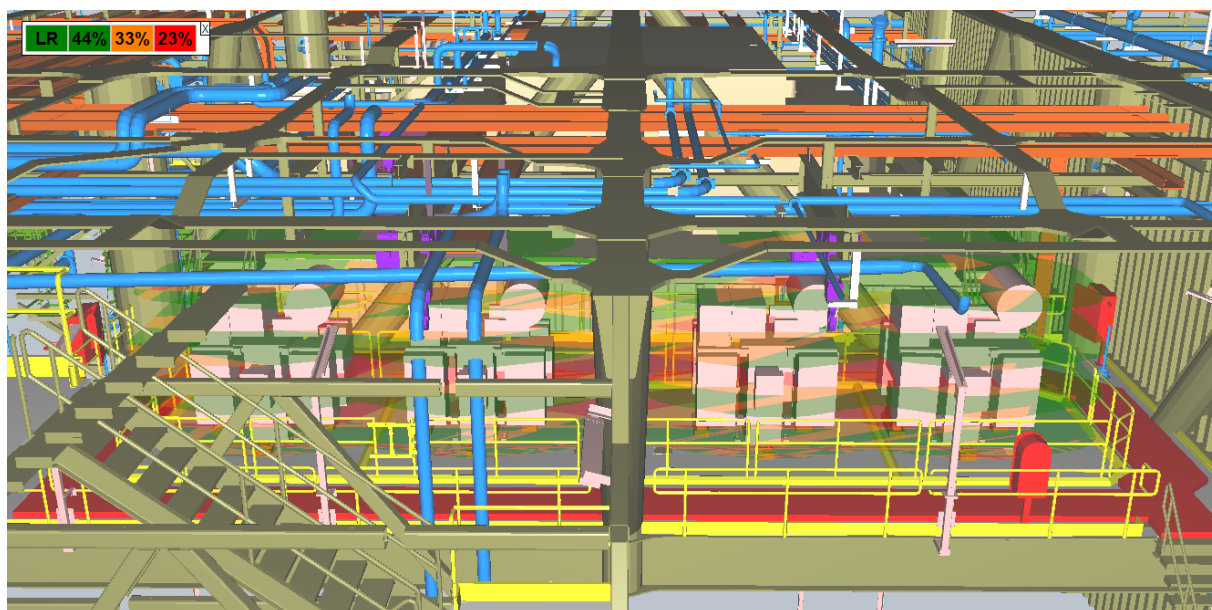


Figure 9.2.3.1. Proposed flame assessment result snapshot of Mezz Deck S25W with 3D model included.

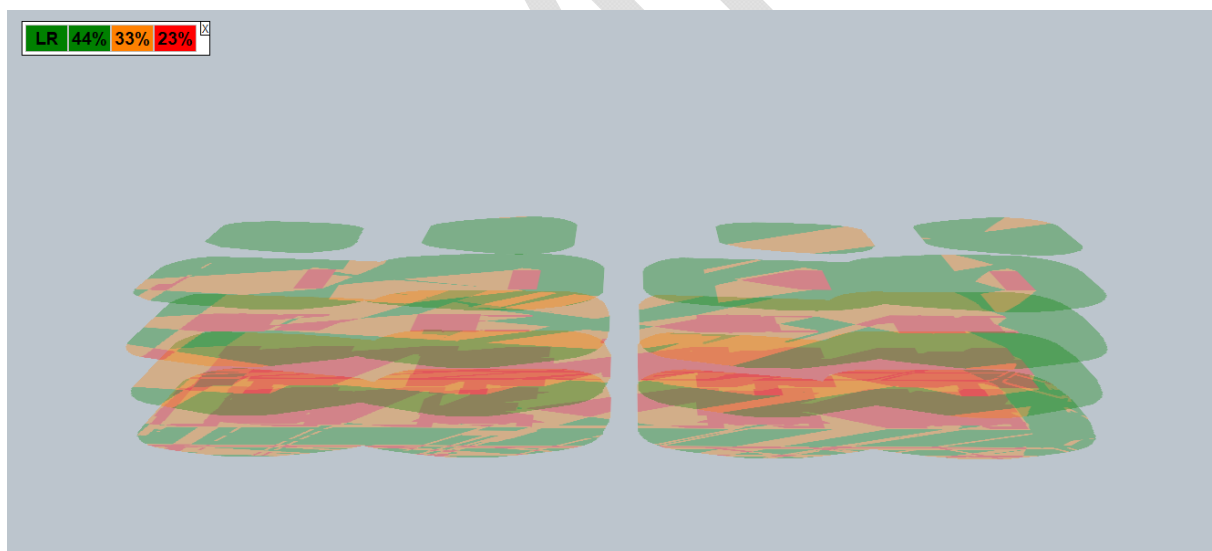


Figure 9.2.3.2. Proposed flame assessment result snapshot of Mezz Deck S25W with 3D model excluded.

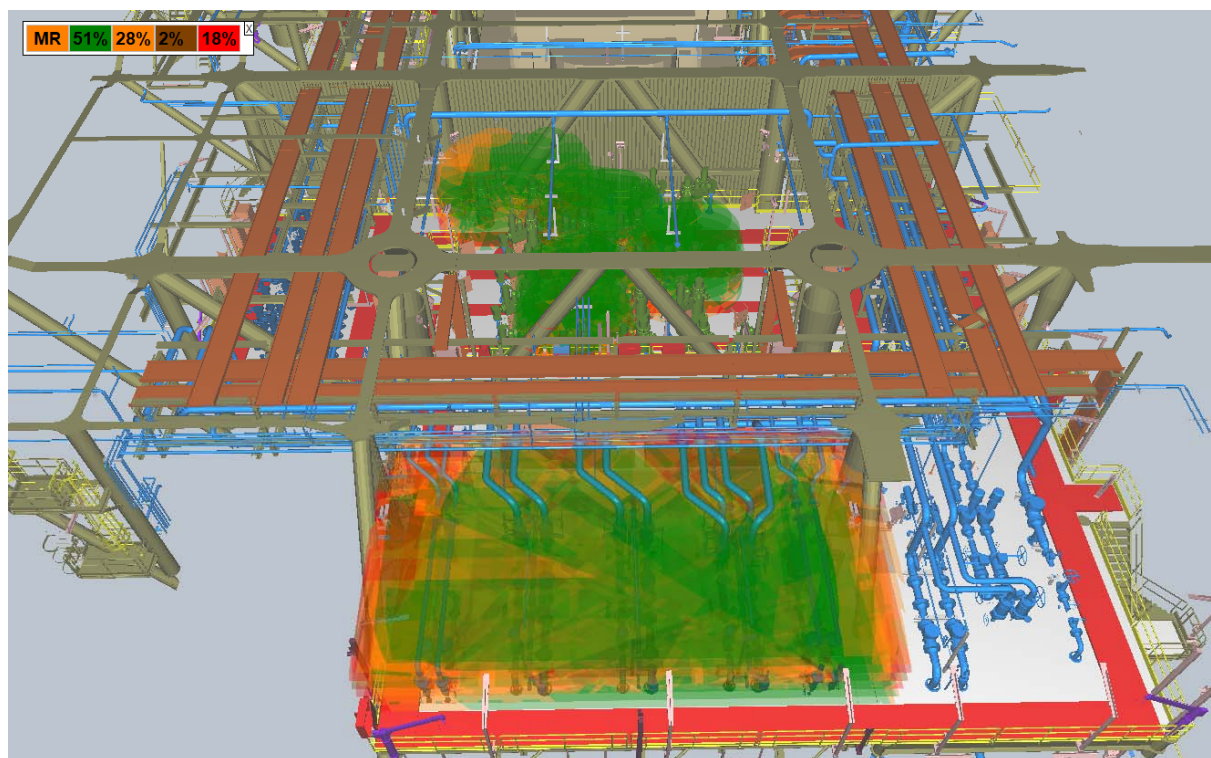


Figure 9.2.3.3. Proposed flame assessment result snapshot of Mezz Deck W25C with 3D model included.

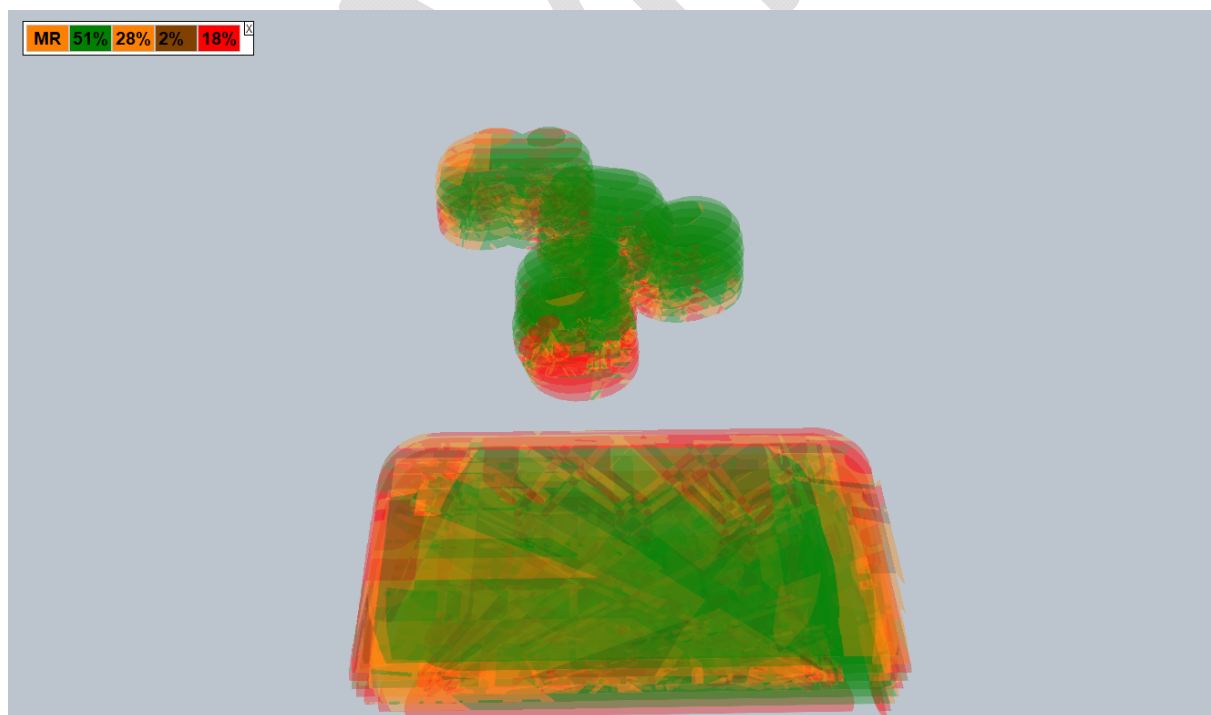


Figure 9.2.3.4. Proposed flame assessment result snapshot of Mezz Deck W25C with 3D model excluded.

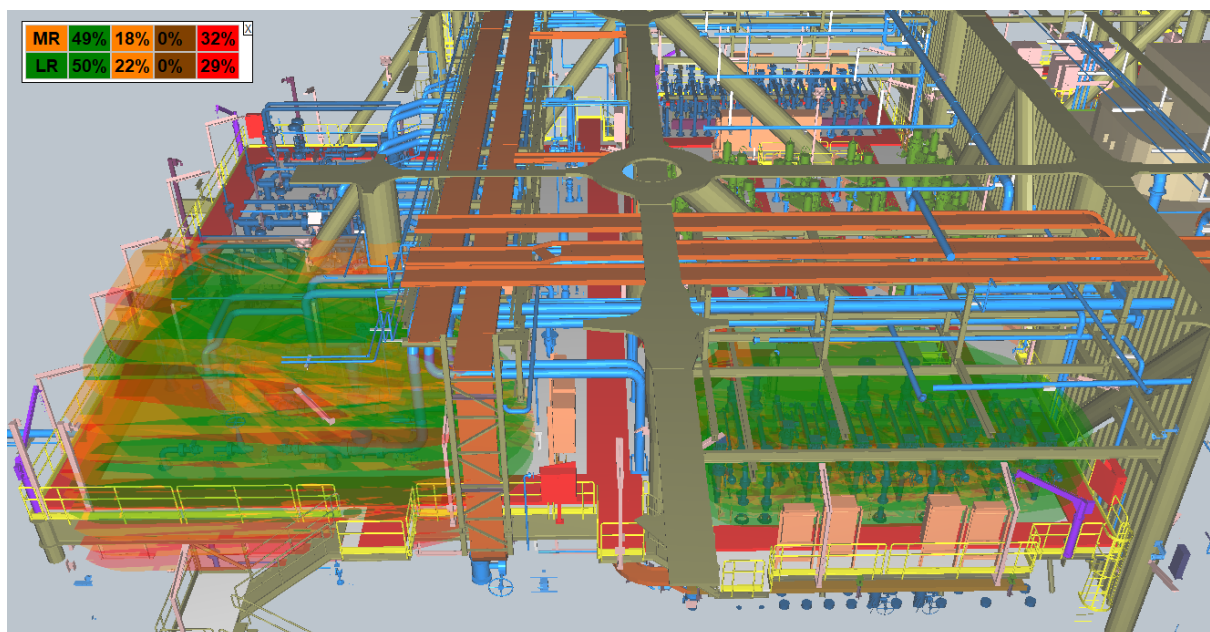


Figure 9.2.3.5. Proposed flame assessment result snapshot of Mezz Deck W25E with 3D model included.

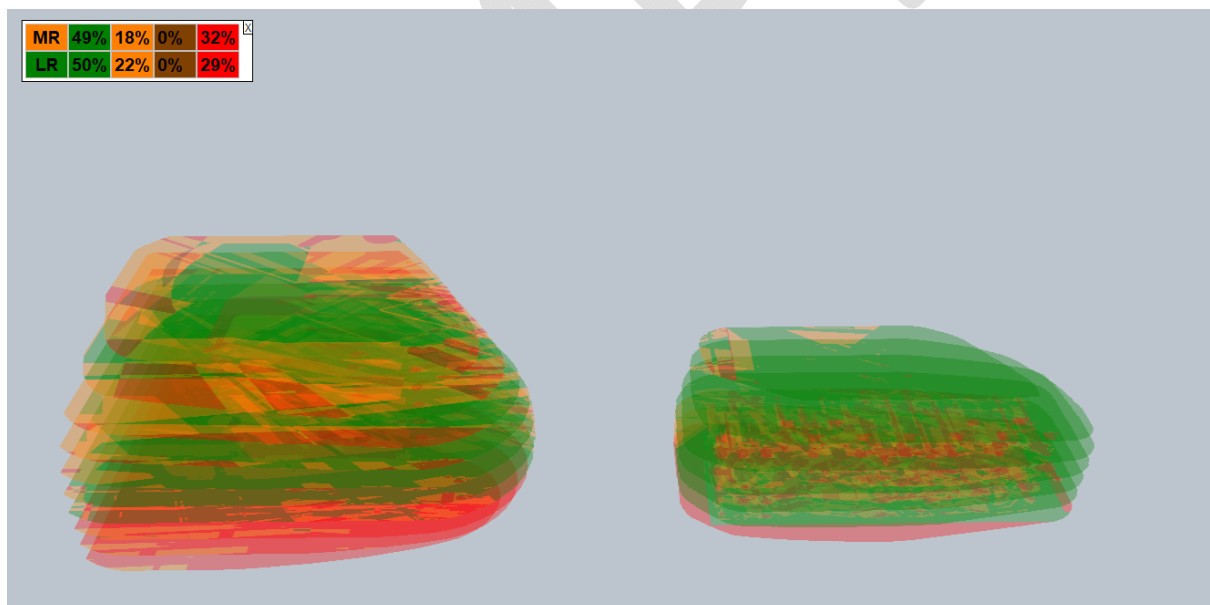


Figure 9.2.3.6. Proposed flame assessment result snapshot of Mezz Deck W25E with 3D model excluded.

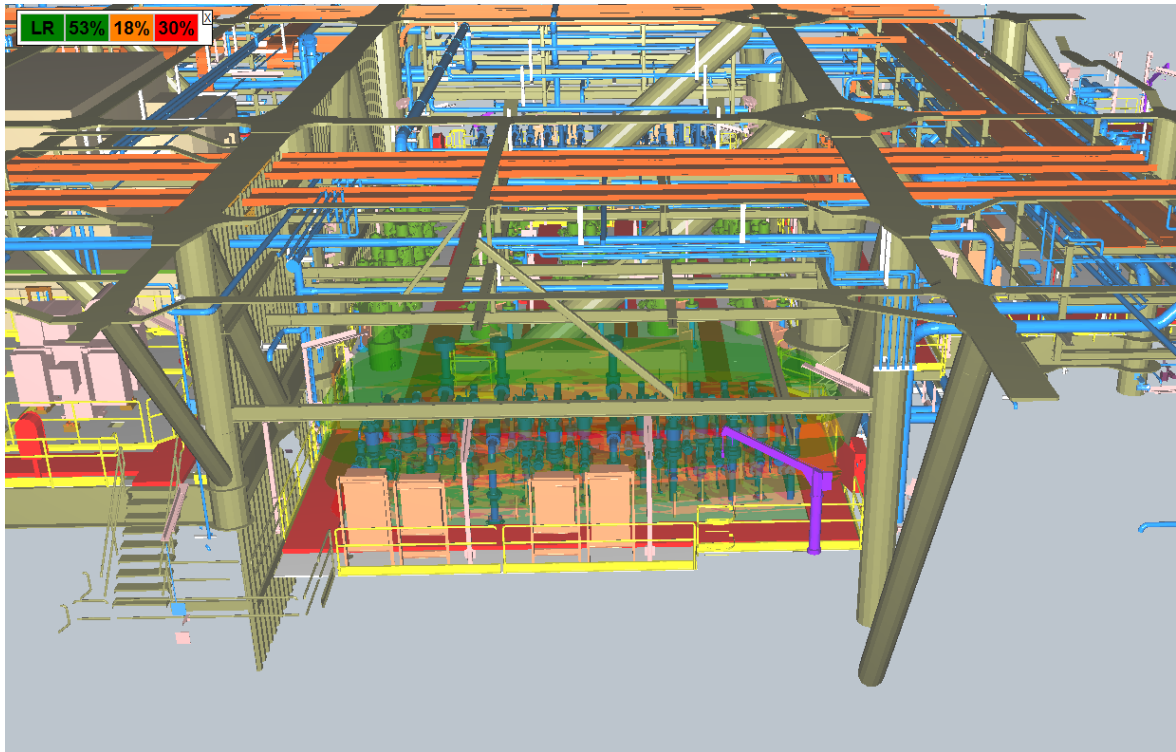


Figure 9.2.3.7. Proposed flame assessment result snapshot of Mezz Deck W25W with 3D model included.



Figure 9.2.3.8. Proposed flame assessment result snapshot of Mezz Deck W25W with 3D model excluded.

9.3 FIRE DETECTION SUMMARY

9.3.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add FD	Relocate FD	Remove FD
S25W	1	-	-
W25C	1	3	-
W25E	-	2	1
W25W	1	-	-
TOTAL	6	5	1

Note: In the case of the above table 'relocate flame detector' also incorporates those changes noted as reorientated.

9.3.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed fire detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
S25W	LR	18	-	52	-	29	
	TOTAL	18	-	52	-	29	
W25C	MR	32	-	35	5	28	
	TOTAL	32	-	35	5	28	
W25E	MR	38	-	26	1	35	
	LR	45	-	23	-	32	
	TOTAL	42	-	24	1	33	
W25W	LR	31	-	36	-	33	
	TOTAL	31	-	36	-	33	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
S25W	LR	44	-	33	-	23	1 new detector.
	TOTAL	44	-	33	-	23	
W25C	MR	51	-	28	2	18	3 detectors relocated, 1 new detector.
	TOTAL	51	-	28	2	18	
W25E	MR	49	-	18	-	32	3 new detectors.
	LR	50	-	22	-	29	
	TOTAL	50	-	20	-	30	
W25W	LR	53	-	18	-	30	1 new detector.
	TOTAL	53	-	18	-	30	

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 200N and 80% for 100N. However, this can be justified by considering the following points;

- In reality, because the volumes of no/ poor coverage are so small/ thin, it would not be possible for the expected flame to exist and be confined to these thin volumes alone, and will almost always still be within the field of view of a flame detector.
- Practically, this area is rather heavily congested which limits the potential of any proposed system design. Due to the high levels of congestion, the addition of each further flame detector (in these highly congested areas) results in only a small increase in coverage, suggesting that in order to significantly improve upon the currently recommended layouts, a significant number of flame detectors may be required.
- The majority of areas with no coverage fall either at floor level or in the upper 1-2m of assessed area. Those at floor level can not be improved upon unless detectors are added solely to monitor the gaps between small equipment pieces (see S25W proposed for example), and the upper 'ceiling' area is too heavily congested with cabletrays and pipework for any detector to be effective (see W25C proposed).

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However, the reader should be aware this will in all likelihood increase the detection quantities.

9.4 GAS DETECTION

9.4.1 Flammable Gas Grading

The figure below shows the graded volumes (see Performance Target document for details on this) within HazMap3D. Detector arrangement graphics are shown within the following section.

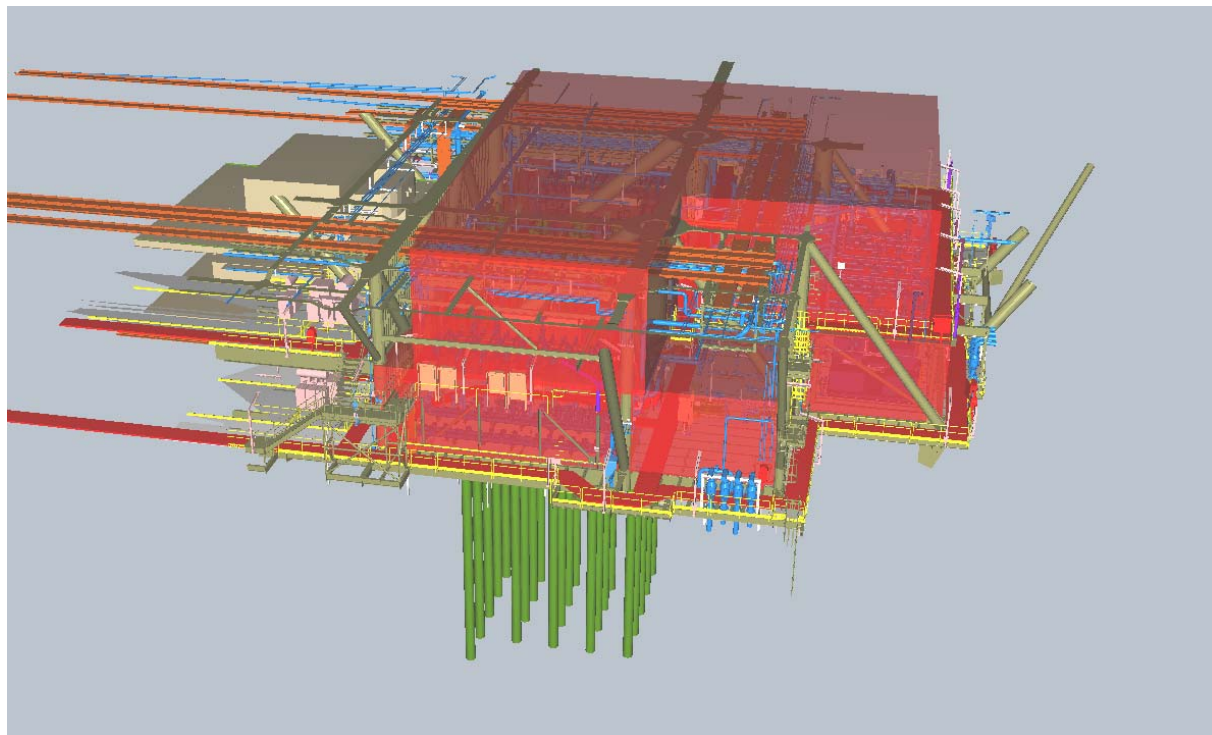


Figure 9.4.1.1: Screenshot showing the volumetric flammable gas grademap throughout the Mezz Deck within HazMap3D.

Note: South side of the deck contain the only graded areas requiring volumetric gas detection/ assessment.



9.4.2 Contractor Detection Arrangement

The following table outlines the existing gas detection in this area.

Location	Tag No	Detector Type	Elevation (m) ALD	Comments
FZ W25C				
Wellhead Mezz Deck	70GLRW25C-017	Infrared Open Path Gas Detector (HC)	3.12	
FZ W25C	70GLRW25C-018		3.45	
	70GLRW25C-019		3.06	
FZ W25E				
Wellhead Mezz Deck FZ W25E	70GLRW25E-020	Infrared Open Path Gas Detector (HC)	3.19	
	70GLRW25E-021		4.42	
	70GLRW25E-022		4.32	
	70GPW25E-144	Infrared Point Gas Detector (HC)	1.19	
	70GPW25E-145		1.27	
	70GPW25E-160		1.43	
FZ W25W				
Wellhead Mezz Deck	70GLRW25W-023	Infrared Open Path Gas Detector (HC)	3.12	
FZ W25W	70GPW25W-146	Infrared Point Gas Detector (HC)	1.29	
	70GPW25W-147		1.29	
	70GPW25W-159		1.44	

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Gas Detection Assessments.

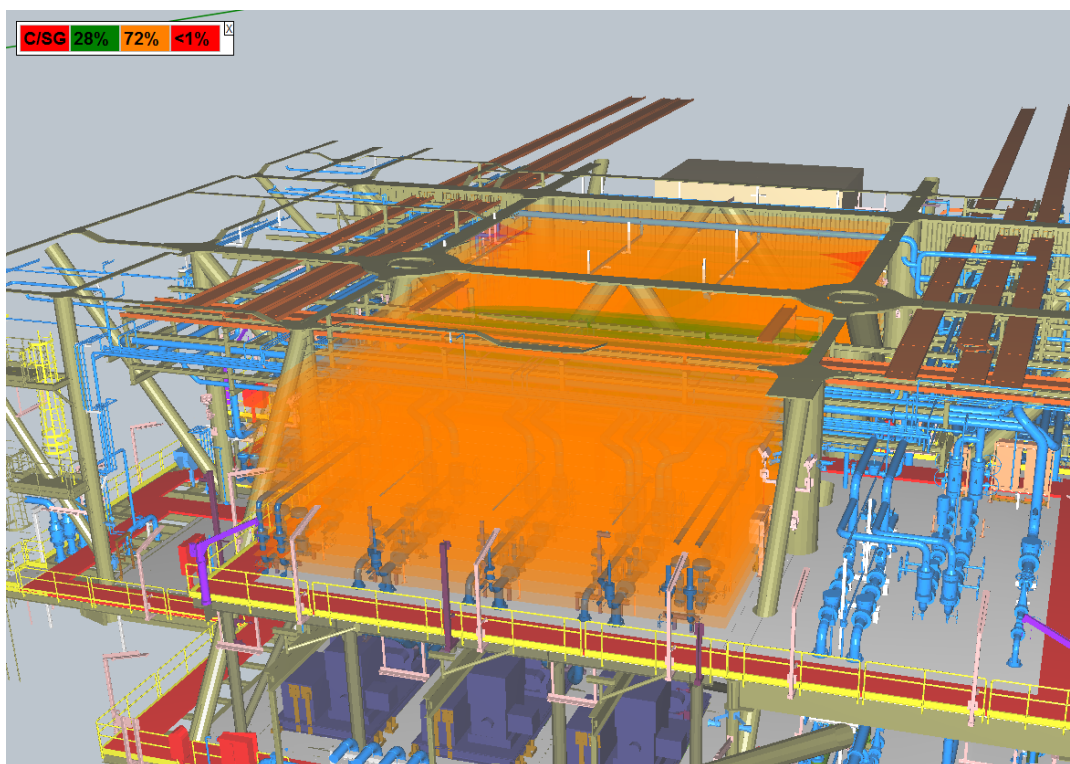


Figure 9.4.2.1. Existing gas assessment result snapshot of Mezz Deck W25C with 3D model included.

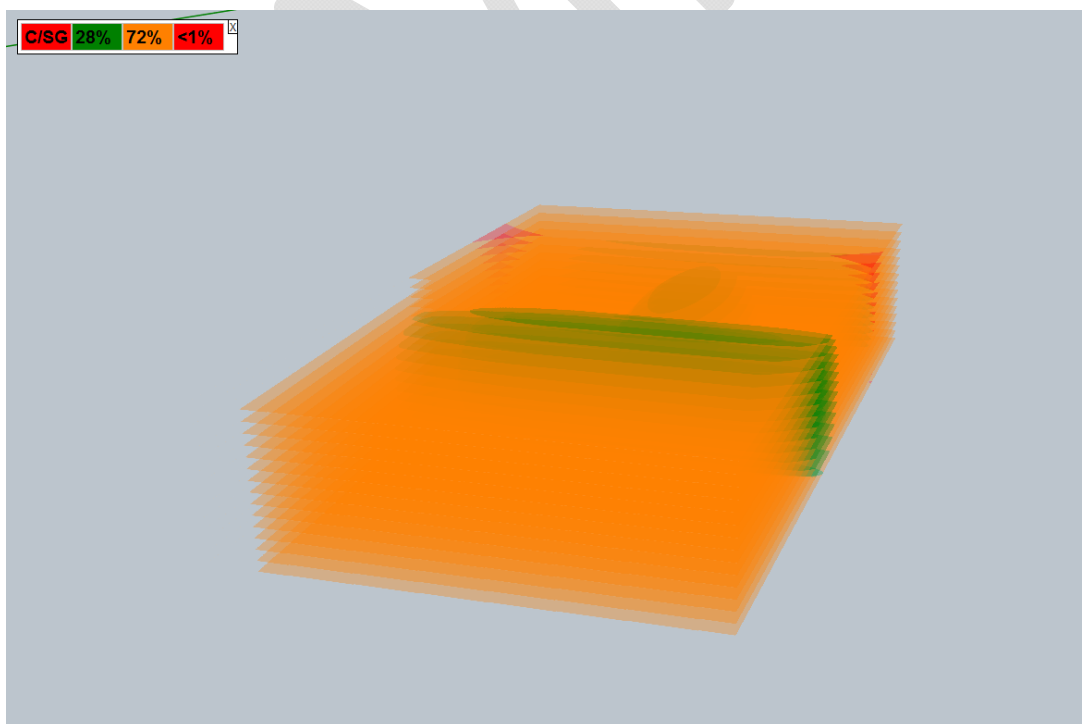


Figure 9.4.2.2. Existing gas assessment result snapshot of Mezz Deck W25C with 3D model excluded.

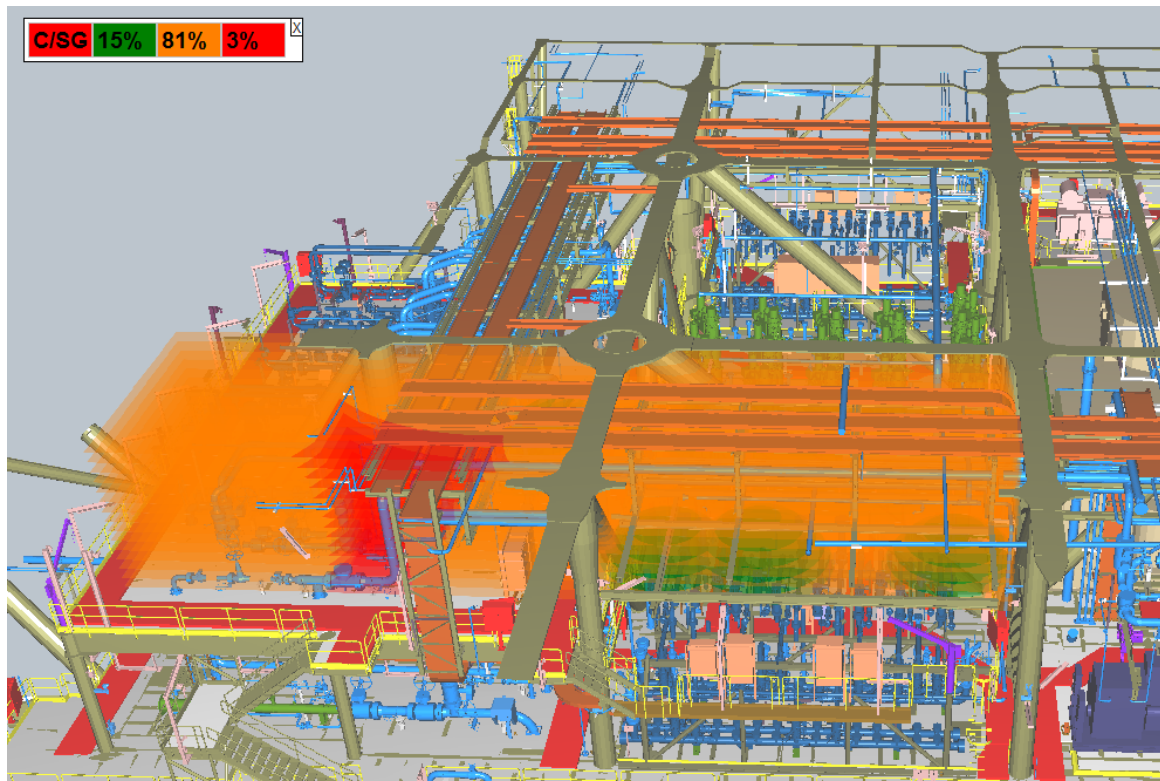


Figure 9.4.2.3. Existing gas assessment result snapshot of Mezz Deck W25E with 3D model included.

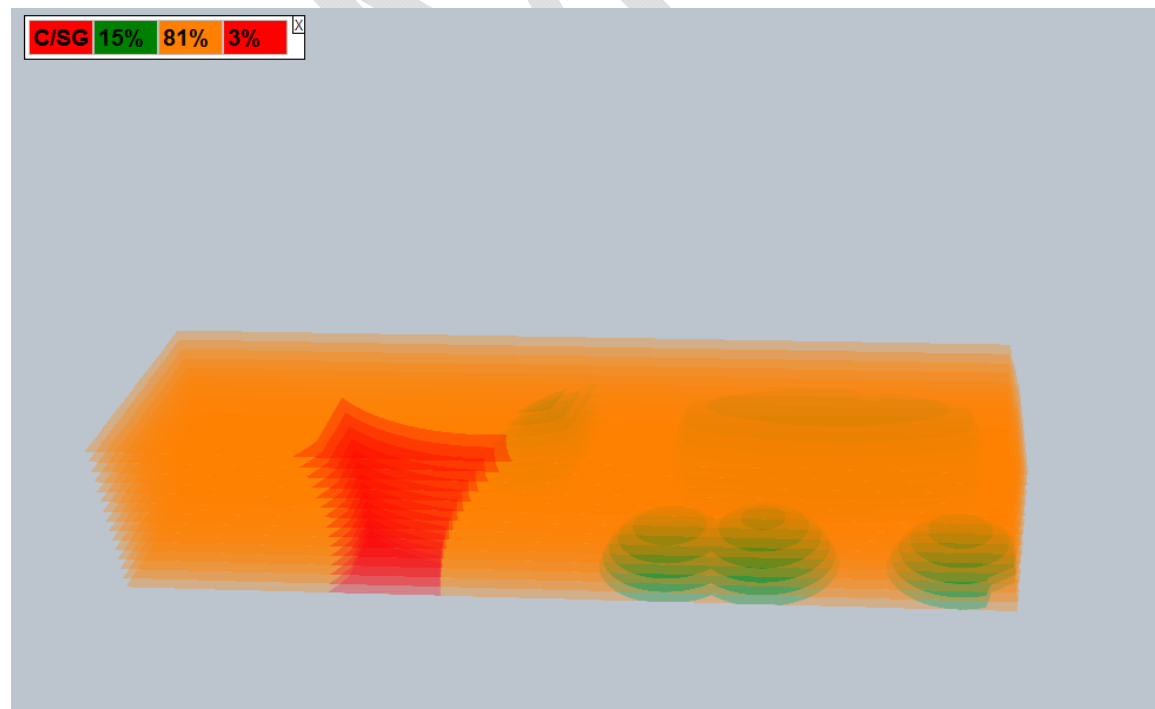


Figure 9.4.2.4. Existing gas assessment result snapshot of Mezz Deck W25E with 3D model excluded.

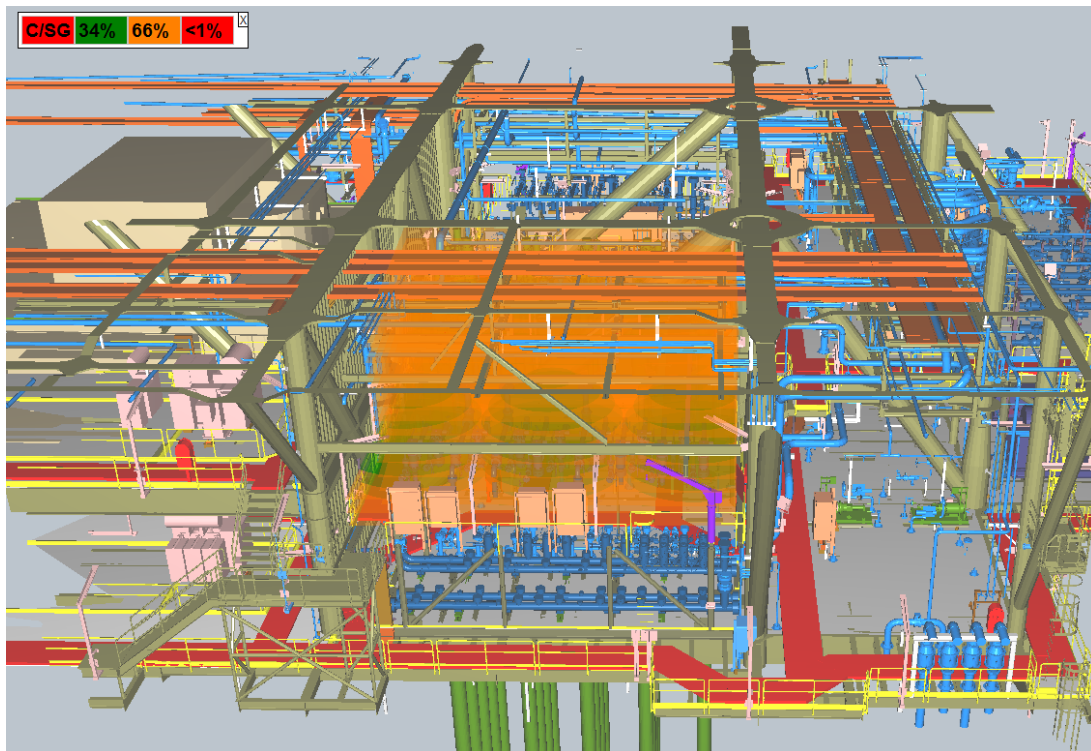


Figure 9.4.2.5. Existing gas assessment result snapshot of Mezz Deck W25W with 3D model included.

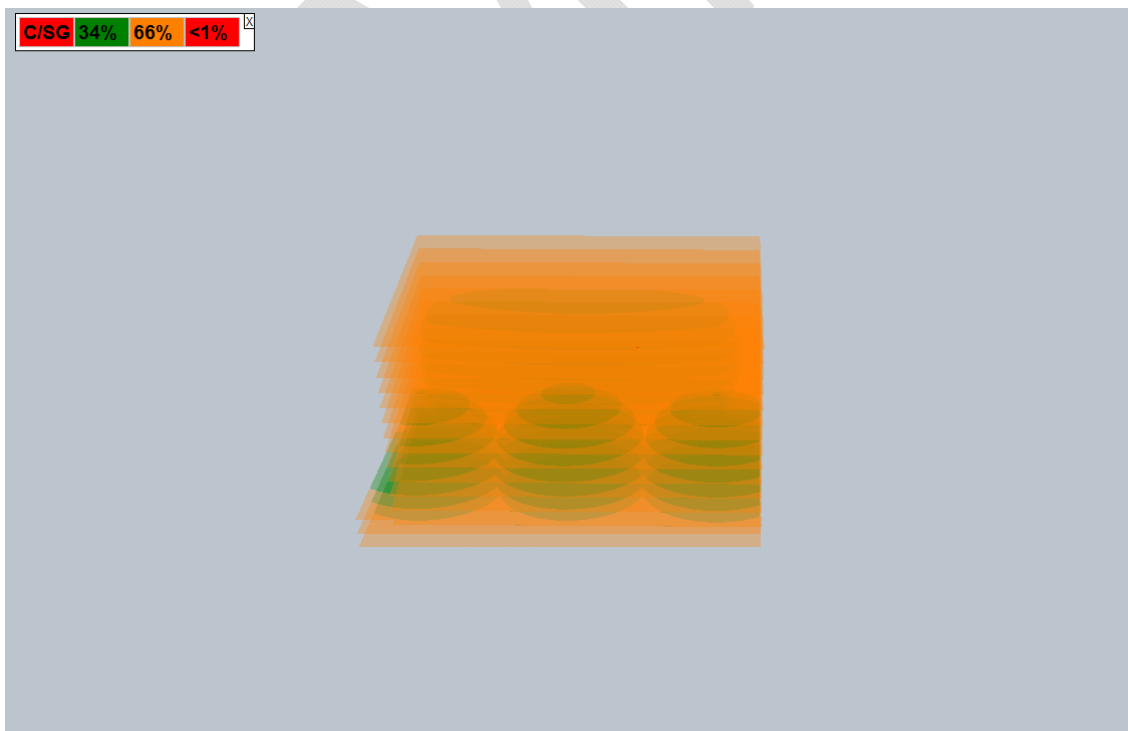


Figure 9.4.2.6. Existing gas assessment result snapshot of Mezz Deck W25W with 3D model excluded.

9.4.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Comments
			X	Y	Z		
FZ W25C							
Wellhead Mezz Deck FZ W25C	NewGDLW25C-001	Addition	307.951	318.530	35.794	4.834	Transmitter
	NewGDRW25C-001		308.234	289.98	35.794	4.834	Receiver
	NewGDLW25C-002	Addition	312.503	318.573	35.794	4.834	Transmitter
	NewGDRW25C-002		315.615	288.616	35.794	4.834	Receiver
	NewGDLW25C-003	Addition	318.593	318.607	35.794	4.834	Transmitter
	NewGDRW25C-003		318.614	288.848	35.794	4.834	Receiver
FZ W25E							
Wellhead Mezz Deck FZ W25E	NewGDLW25E-001	Addition	323.154	318.530	35.794	4.834	Transmitter
	NewGDRW25E-001		323.218	288.960	35.794	4.834	Receiver
	NewGDLW25E-002	Addition	327.675	318.536	35.794	4.834	Transmitter
	NewGDRW25E-002		327.183	288.664	35.794	4.834	Receiver
FZ W25W							
Wellhead Mezz Deck FZ W25W	NewGDLW25W-001	Addition	300.017	318.295	36.960	6.000	Transmitter
	NewGDRW25W-001		299.930	303.222	36.960	6.000	Receiver

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Gas Detection Assessments.

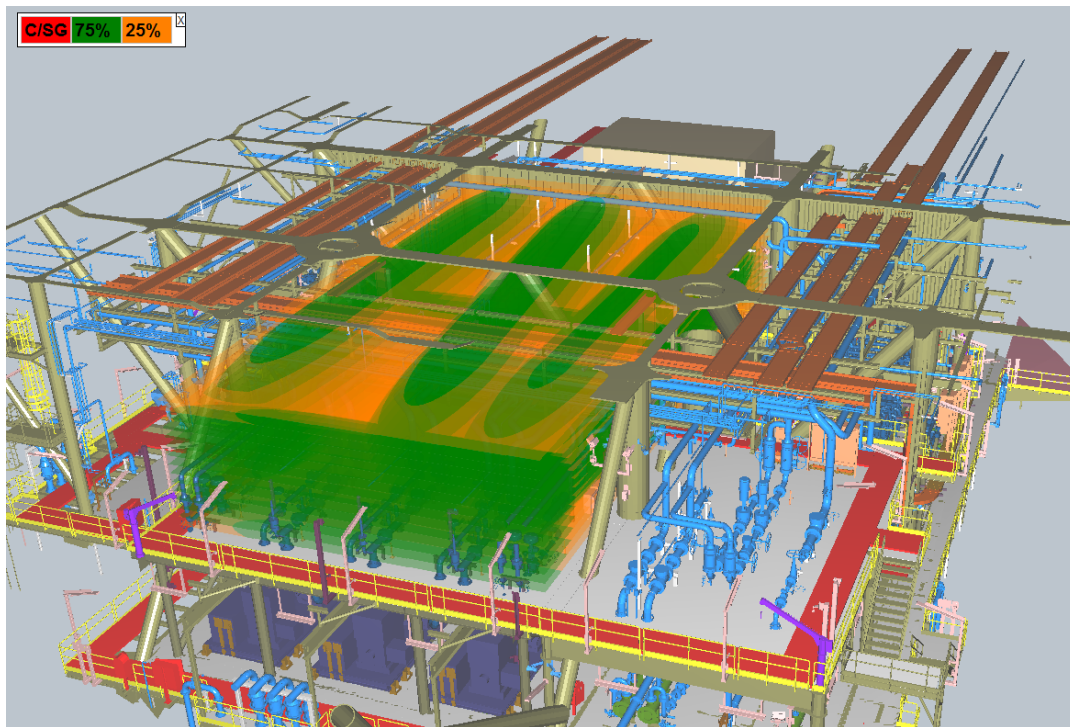


Figure 9.4.3.1. Proposed gas assessment result snapshot of Mezz Deck W25C with 3D model included.

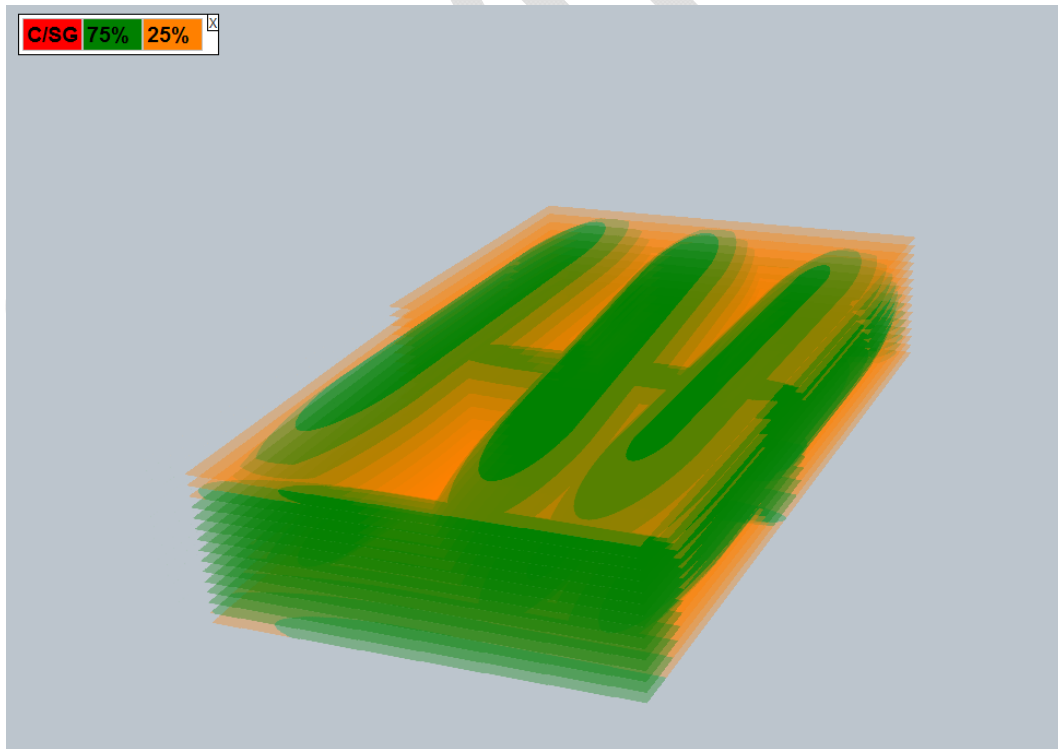


Figure 9.4.3.2. Proposed gas assessment result snapshot of Mezz Deck W25C with 3D model excluded.

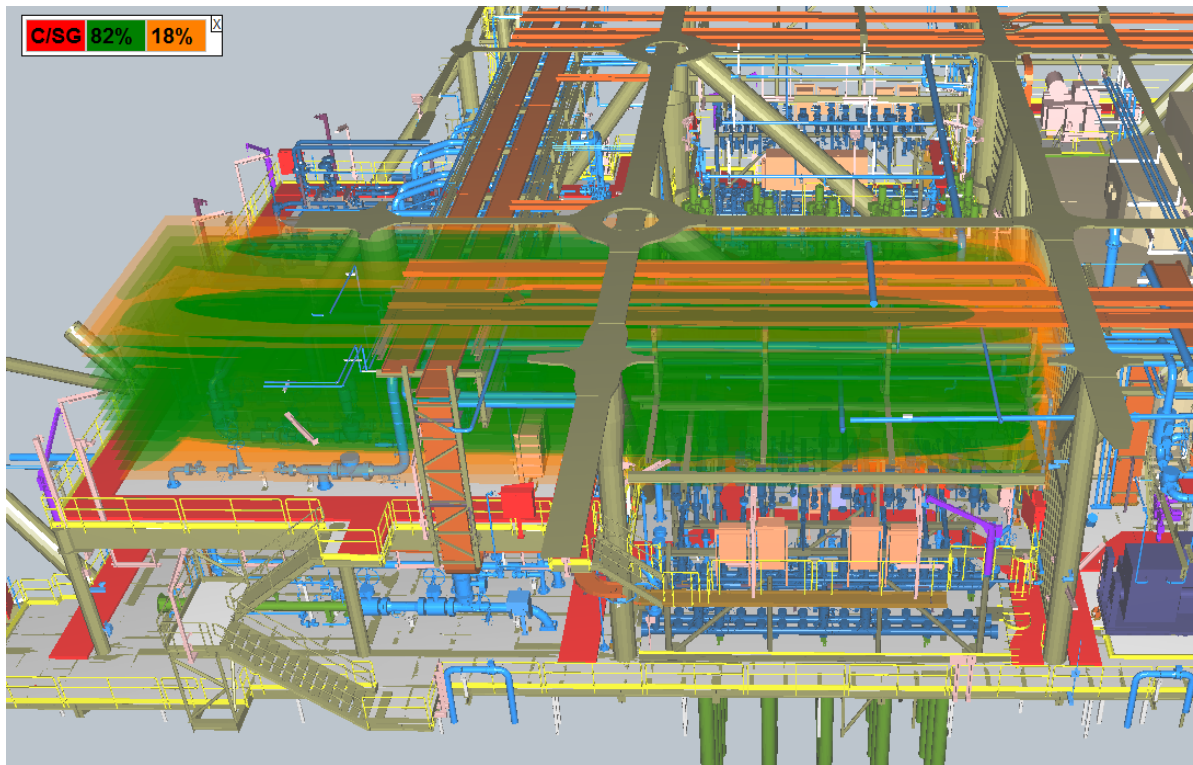


Figure 9.4.3.3. Proposed gas assessment result snapshot of Mezz Deck W25E with 3D model included.

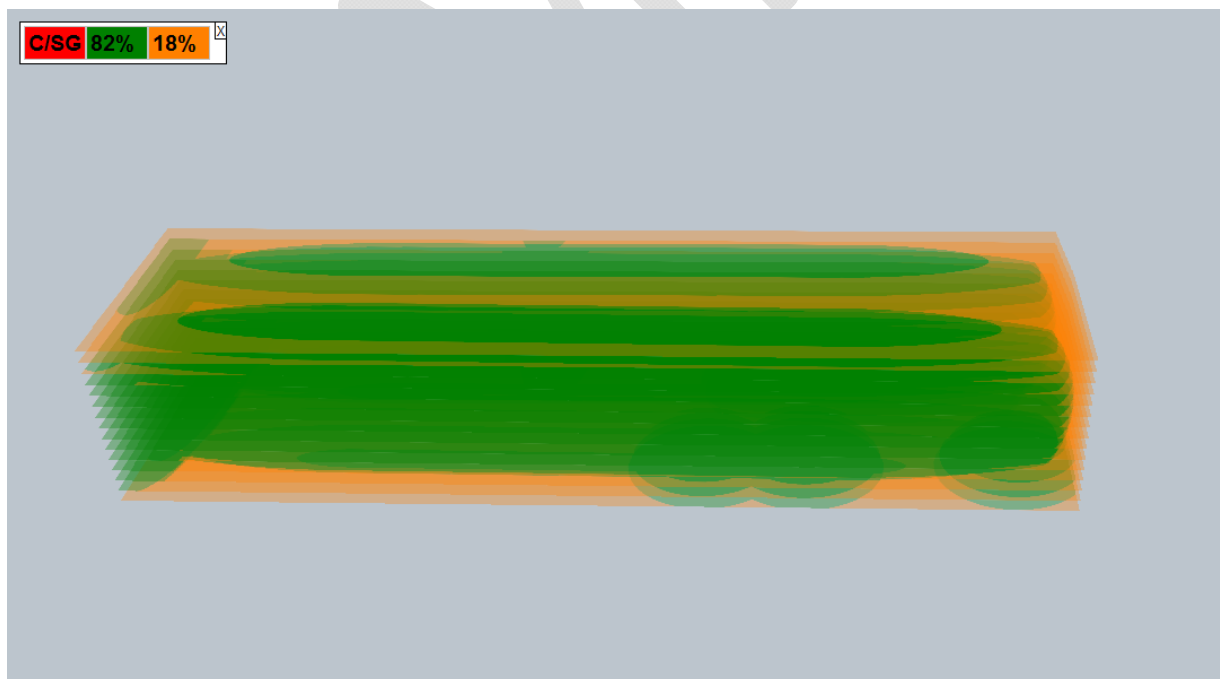


Figure 9.4.3.4. Proposed gas assessment result snapshot of Mezz Deck W25E with 3D model excluded.

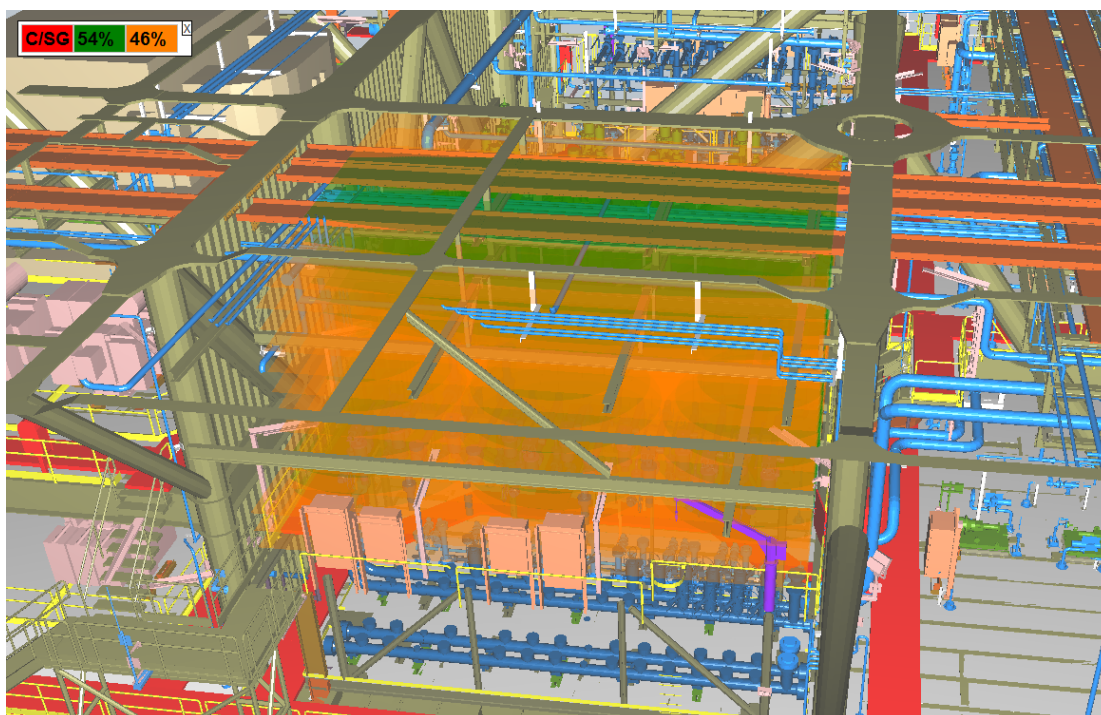


Figure 9.4.3.5. Proposed gas assessment result snapshot of Mezz Deck W25W with 3D model included.

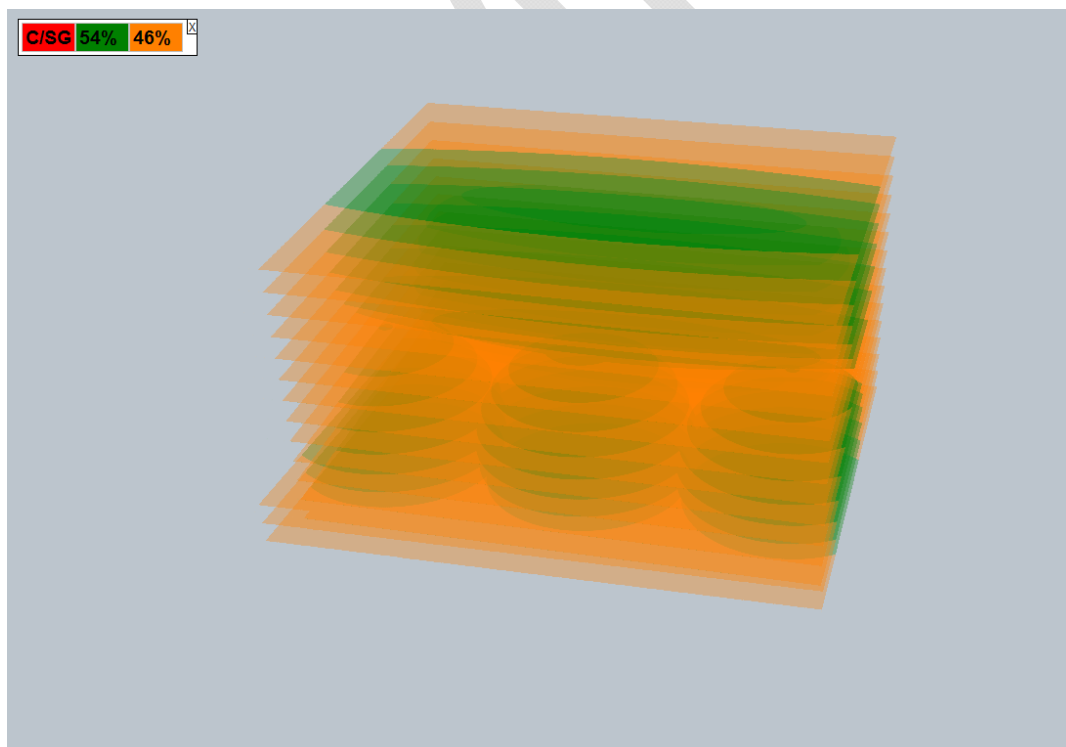


Figure 9.4.3.6. Proposed gas assessment result snapshot of Mezz Deck W25W with 3D model excluded.

9.5 GAS DETECTION SUMMARY

9.5.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add IRPGD	Add OPGD	Relocate IRPGD	Relocate OPGD	Remove IRPGD	Remove OPGD
W25C	-	3	-	-	-	-
W25E	-	2	-	-	-	-
W25W	-	1	-	-	-	-
TOTAL	-	6	-	-	-	-

9.5.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed gas detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, No Control	No Coverage	Notes
W25C	C/SG	28	72	1	
W25E		15	81	3	
W25W		34	66	1	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, No Control	No Coverage	Notes
W25C	C/SG	76	24	-	
W25E		82	18	-	
W25W		54	46	-	

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 200N and 80% for 100N. However, this can be justified by considering the following points;

- Practically, the areas containing only alarm coverage are generally on the periphery of a FZ or near deck levels where clouds are unlikely to linger. Control action coverage is prevalent around hazardous equipment and egress routes- areas of the FZ where control action coverage is critical.
- In reality, because the volumes of no/ poor coverage are so small/ thin, it would not be possible for the expected gas cloud to exist and be confined to these thin volumes alone, and will almost always spread across to areas with alarm coverage.

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However, the reader should be aware this will in all likelihood increase the detection quantities.

10 DRILLING DECK (EL. 130'-0"/39.624 m)

10.1 AREA/HAZARD DESCRIPTION

The potential fire hazards in this area are hydrocarbon gas jet fires of varying pressures and / or liquid pool fires are credible following loss of containment.

The potential gas hazards in this area include potential for accumulation of HC gas cloud capable of causing damaging overpressure if ignited.

For full description of the applied grades on this deck and associated FZs please refer to the Performance Target document (Ref 8).

10.2 FIRE DETECTION

10.2.1 Flame Grading

The figures below show how the graded equipment in the Performance Targets (Ref 8) looks within HazMap3D. Detector arrangements are shown within the following section.

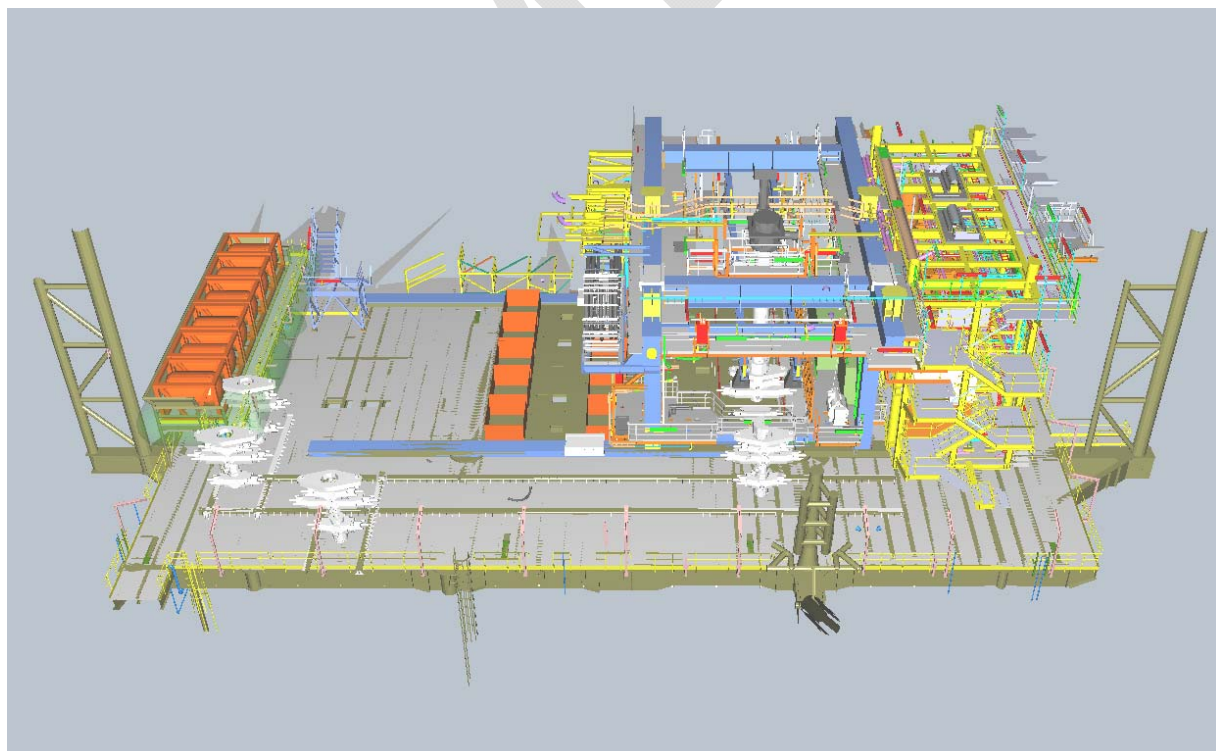


Figure 10.2.1.1: Screenshot showing the fire grademap throughout FZs W30W, W30C and W30E on the Drilling deck within HazMap3D.

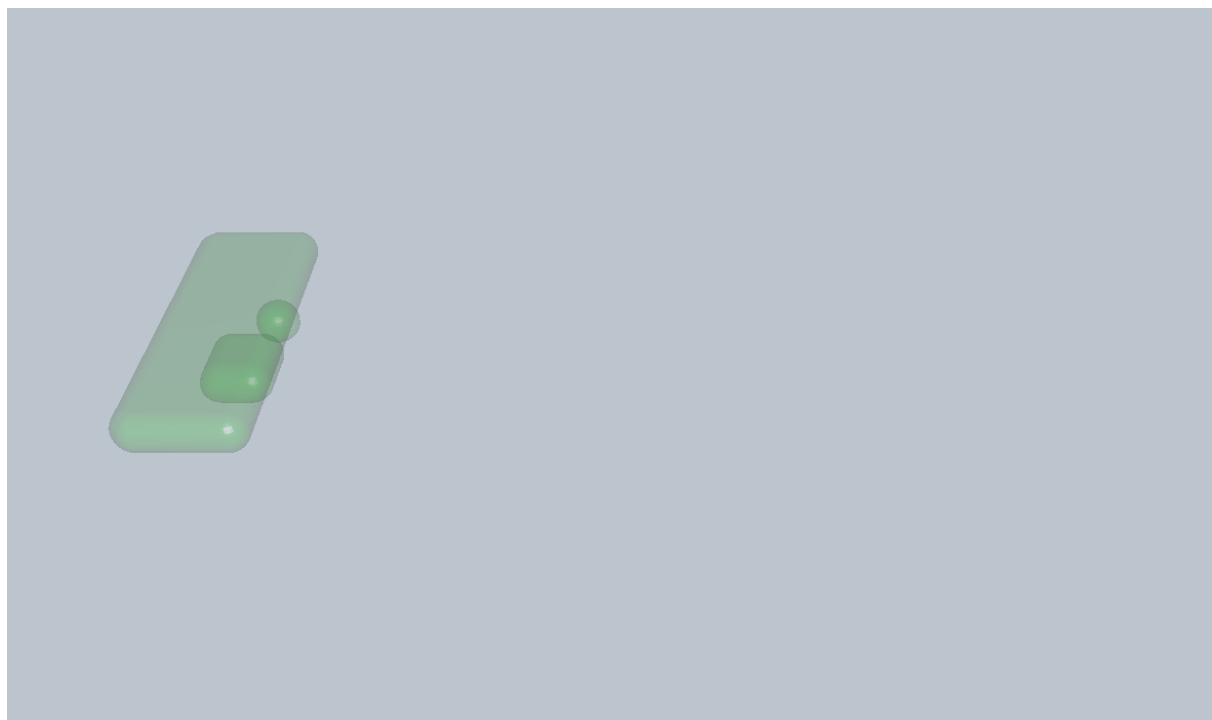


Figure 10.2.1.2. Screenshot showing the fire grademap throughout FZs W30W, W30C and W30E on the Drilling deck within HazMap3D with 3D model excluded.

Note: As noted in the Performance Targets, numerous pumps and drains are normally not graded by Micropack, but have been for this report at the request of the client. The tote tanks themselves have not been graded, instead the grading has been applied considering pool fires on the local platform, which is the most credible scenario after loss of containment.

10.2.2 Contractor Detection Arrangement

The following table outlines the existing fire detection in this area.

Location	Tag No	Detector Type	El. (m) ALD	Pan (°)	Tilt (°)	Comments
FZ W30W						
Drilling Deck FZ W30W	70FIW30W-074	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	5.858	45	20	
FZ S30W						
Drilling Deck FZ S30W	70FIS30W-015	Simtronics DF TV7-T Multi-spectrum Infrared Flame Detector	7.716	315	20	Monitoring tote tanks within W30W. Tag on F&G layouts differs from co-ord spreadsheet [70FIE302-015]

Note: For further information regarding detector tilt and orientation (pan) in relation to HazMap3D, refer to section 4.2.4.

Note: Snapshots of the above flame detection arrangement are available on request, these are typically included but have been omitted to reduce the size of the report.

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as existing layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the existing HazMap3D Flame Detection Assessments.

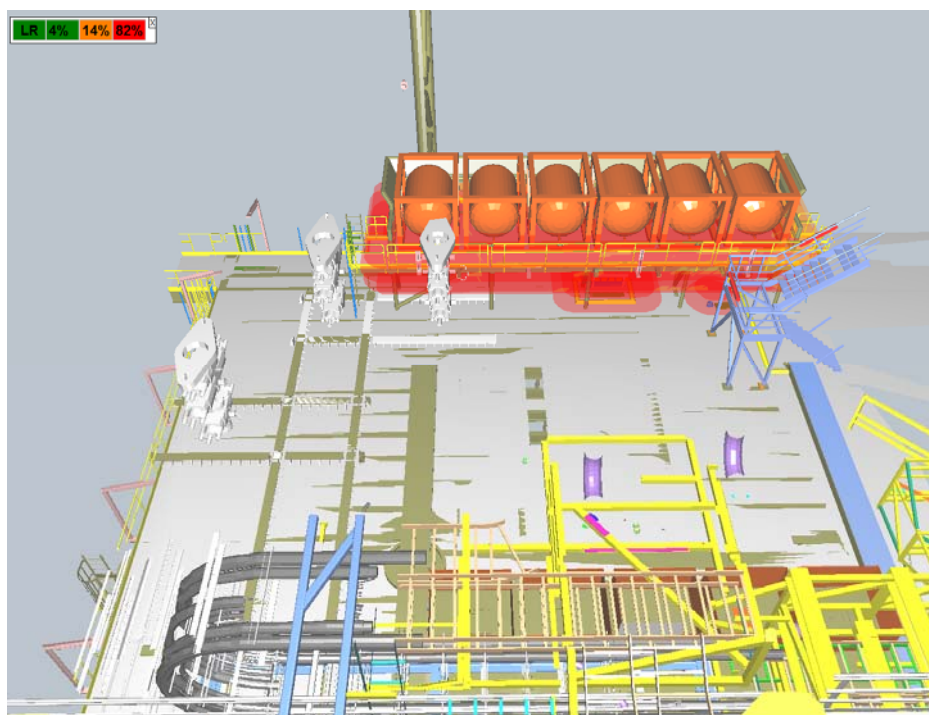


Figure 10.2.2.1. Existing flame assessment result snapshot of Drilling Deck W30W with 3D model included.

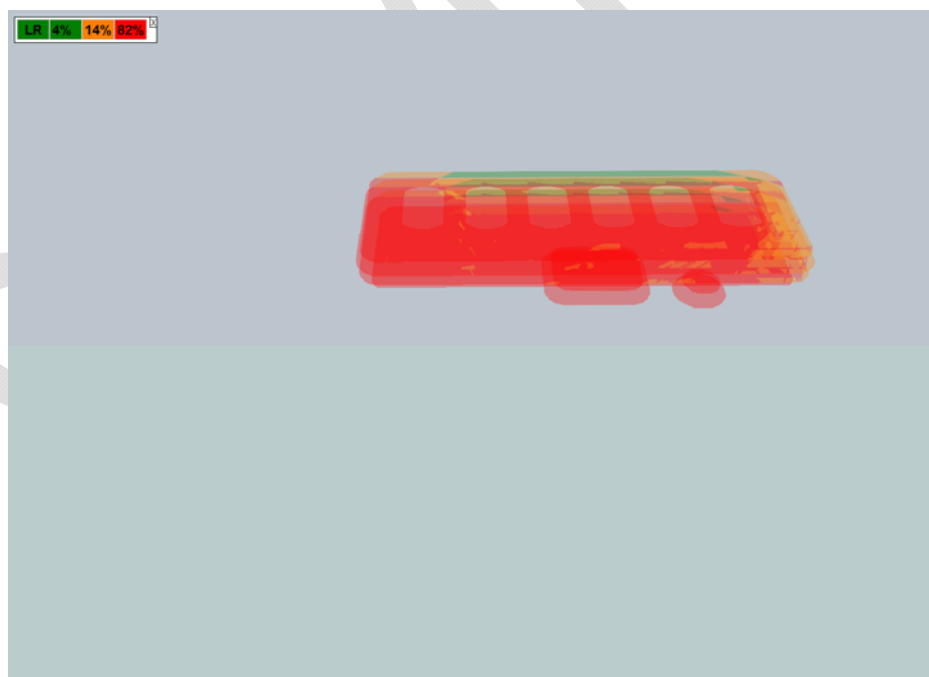


Figure 10.2.2.2. Existing flame assessment result snapshot of Drilling Deck W30C with 3D model excluded.

10.2.3 Micropack Recommendations

The current arrangement does not meet the site performance targets and recommendations have been made as outlined in the following table.

Location	Tag No	Change	Co-ordinates (m)			El. (m) ALD	Pan (°)	Tilt (°)	Comments
			X	Y	Z				
FZ W30C									
Cellar Deck FZ W10C	70FIW30W-074	Relocate: elevation	299.362	321.141	47.547	7.927	225	20	Relocation to optimise hazard coverage
	70FIS30W-015	Relocate: co-cords	289.905	321.141	43.000	3.38	285	15	
	NewFDS30W-001	Addition	297.605	316.983	41.336	1.716	205	10	Addition to increase hazard coverage

Note: For further information regarding detector tilt and orientation (pan), see section 4.2.2

2D plan views of all assessments (showing multiple assessment elevations throughout the area), as well as proposed layouts and detector coordinates (where applicable) can be found in Appendix B.

The following pages show 3D images of the proposed HazMap3D Flame Detection Assessments.

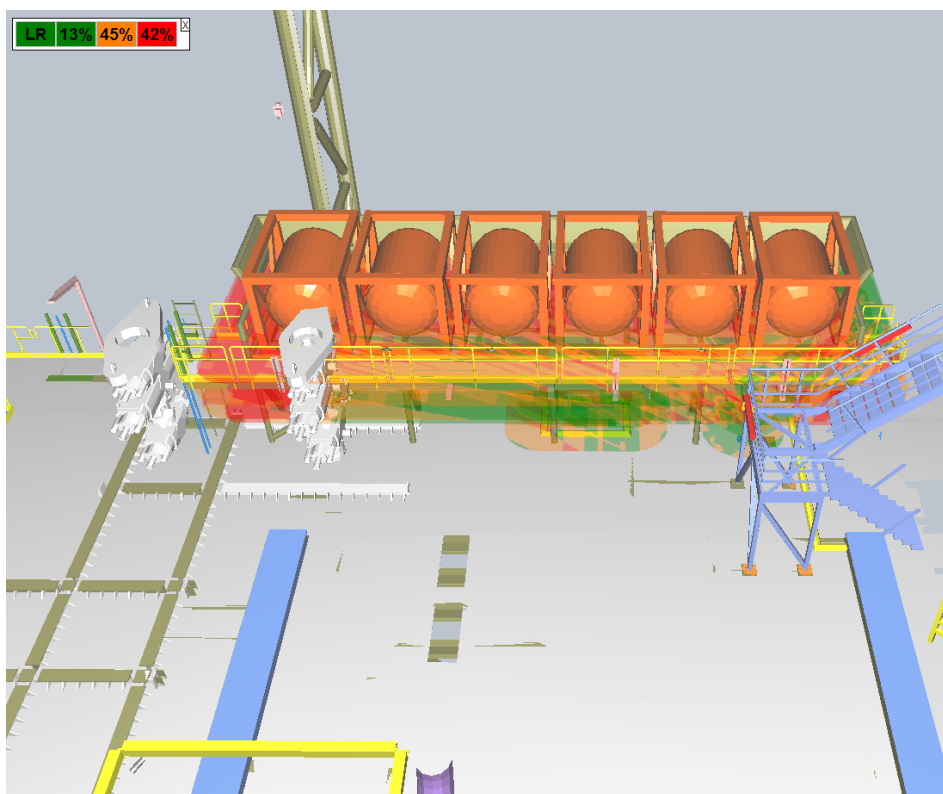


Figure 10.2.3.1. Proposed flame assessment result snapshot of Drilling Deck W30W with 3D model included.

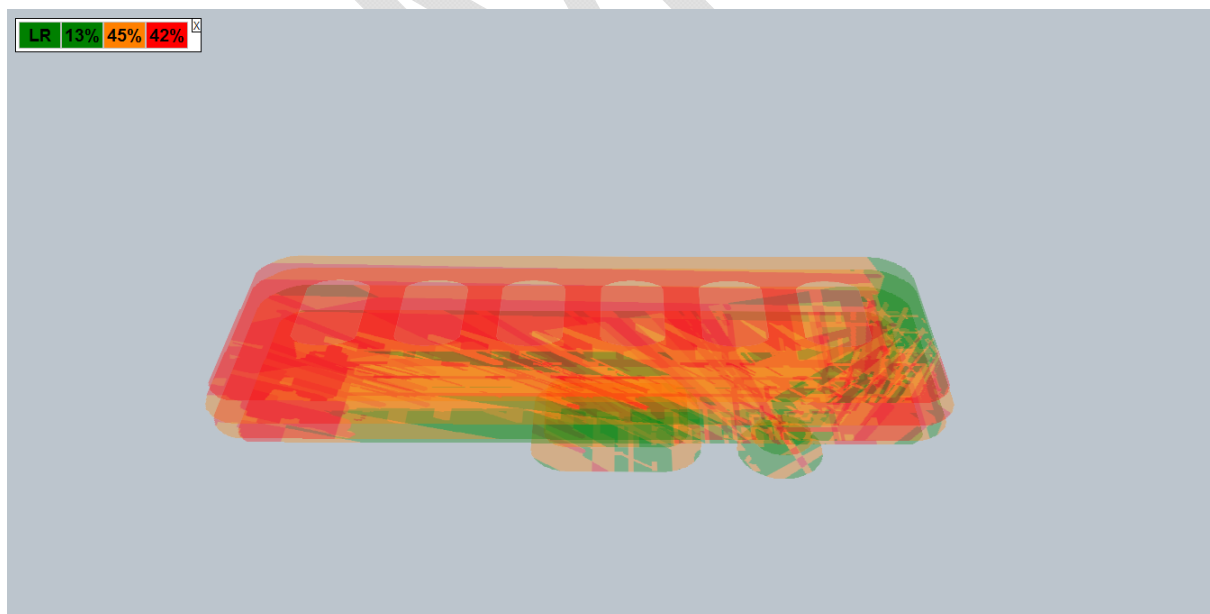


Figure 10.2.3.2. Proposed flame assessment result snapshot of Drilling Deck W30C with 3D model excluded.

10.3 FIRE DETECTION SUMMARY

10.3.1 Detector Quantities

The table below summarises the required modifications to the existing fire detection arrangement in terms of meeting the Performance Targets.

FZ	Add FD	Relocate FD	Remove FD
W30W	1	2	-
TOTAL	1	2	-

Note: In the case of the above table 'relocate flame detector' also incorporates those changes noted as reorientated.

10.3.2 Area Percentage Coverage

The tables below summarise the percentage coverages for both the existing and proposed fire detection arrangements.

Existing Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
W30W	LR	4	-	14	-	82	
	TOTAL	4	-	14	-	82	

Proposed Detection Arrangement Percentage Coverages

Zone	Grade	Alarm + Control	1 Alarm, Delayed Control	1 Alarm, No Control	Late Alarm Only	No Coverage	Notes
W30W	LR	13	-	45	-	42	
	TOTAL	13	-	45	-	42	2 detectors relocated, 1 new detector.

Note: Obtained coverage assumes any alterations proposed by Micropack throughout the report and summarised in Section 2 have been implemented.

The coverage noted above does not meet the project requirements of 70% for 2ooN and 80% for 1ooN. However, this can be justified by considering the following points;

- The risk of fire within W30W is minimal,
- Practically, with the drilling derrick neighbouring the area, the credible/suitable/practical mounting locations (providing sufficient/effective detection) are vastly reduced to only one corner of the deck.

Note: Should the client wish to rigidly adhere to meeting these percentage factors, the study can be revisited. However the reader should be aware this will in all likelihood increase the detection quantities.

SAMPLE

10.4 GAS DETECTION

10.4.1 Flammable Gas Grading

The drilling deck requires only perimeter gas detection. There is currently leak detection in place on the crane cabin platforms. There are no graded volumes on this deck and therefore, no requirement for volumetric gas assessment.

10.4.2 Contractor Detection Arrangement

The following table outlines the existing gas detection in this area.

Location	Tag No	Detector Type	Elevation (m) ALD	Comments
FZ K60W				
Drilling Deck FZ K60W	70GPK60W-004	Infrared Point Gas Detector (HC)	?	Located on landing below crane cab
	70GPK60W-005		?	
	70GPK60W-006		?	
FZ K60E				
Drilling Deck FZ K60E	70GPK60E-001	Infrared Point Gas Detector (HC)	?	Located on landing below crane cab
	70GPK60E-002		?	
	70GPK60E-003		?	
FZ G00W				
Drilling Deck FZ G00W	70GLRG00W-001	Infrared Open Path Gas Detector (HC)	?	Perimter detection
	70GLRG00W-002		?	
FZ G00E				
Drilling Deck FZ G00E	70GLRG00E-001	Infrared Open Path Gas Detector (HC)	?	Perimter detection
	70GLRG00E-002		?	

This area only requires perimeter gas detection. Therefore, no volumetric gas detection assessments are necessary.

10.4.3 Micropack Recommendations

The current arrangement meets the site performance targets and no recommendations have been made.



COMPANY NAME	PROJECT NAME	118
Ref: XX.XXX.XX	Rev: 1.0	

REFERENCES

1. [REDACTED] 3D Navisworks Model – “TOPSIDES-DRILLING.nwd” (5/1/17)
2. [REDACTED] WHP-C Project F&G Detection Philosophy (C140-MU-S-FD-005) Rev 5.
3. Offshore Technology Report – OTO 93 002 Offshore Gas Detector Siting Criterion, Investigation of Detector Spacing (HSE, April 1993).
4. Trans IChemE, Part B, Process Safety and Environmental Protection, 83(B3):262-26, 2005. Sensitivity Studies of Offshore Gas Detector Networks Based on Experimental Simulations of High Pressure Gas Releases.
5. [REDACTED] II WHP-C Deck Detail Design Fire and Gas Mapping Study Scope of Work (C140-MU-S-RB-0027) Rev A.
6. Detector datasheet: Simtronics DF-TV7 triple-IR.
7. [REDACTED] - Equipment Location Plans (C140-MU-L-XF-0001-01 Rev 8, C140-MU-L-XF-0002-01 Rev 8, C140-MU-L-XF-0002-02 Rev 8, C140-MU-L-XF-0003-01 Rev 8, C140-MU-L-XF-0004-01 Rev 6, C140-MU-L-XF-0005-01) Rev 6.
8. [REDACTED] - Performance Targets (MDA 0672) Rev 2.
9. [REDACTED] - Fire Detector Location Plan, Gas Detector Location Plan (C140-MU-J-XF-0001-02 through 07) Rev 4, 5, & 6.
10. Cause and Effect Chart, [REDACTED] Wellhead Platform “C”- Fire and Gas (C140-MU-J-LA-0006) Rev 01.

APPENDIX A: FLAME DETECTOR EFFECTIVE VIEWING DISTANCE

The following method is typically followed to calculate the effective viewing distance of a flame detector (D_{eff}).

D_{eff} is the effective viewing distance calculated from parameters X, F1, F2 and F3, as follows:

$$D = X \times F1 \times F2 \times F3$$

1. X = Specified detection distance for a 1ft² (0.1m²) n-heptane pool fire under ideal FM 3260 conditions at the chosen sensitivity setting, if applicable, and to give the required response time. This distance can be obtained from the detector specification, manual or FM 3260 test report.
2. F1 = Factor representing reduction in sensitivity to genuine flame in the presence of unwanted stimuli. From the detector manual or, otherwise, from the detector manufacturer, obtain the detection distances at the chosen sensitivity setting for the FM 3260 tests for a 1ft² (0.1m²) n-heptane pool fire in the presence of the following false alarm sources:
 - a. Sunlight (direct, modulated, reflected).
 - b. Arc Welding
 - c. 6kW heater, modulated at 24.4m (80ft) at 3m (10ft).
 - d. 300 W incandescent lamp, modulated at 0.9m (3ft).
 - e. 500 W shielded quartz halogen lamp, modulated at 2.4m (8ft).
 - f. 500 W unshielded quartz halogen lamp, modulated at 2.4m (8ft).
 - g. 250 W vapour lamp modulated.
 - h. Two 34 W fluorescent lamps modulated.
3. Take the average detection distance (D_{av}) from these eight tests with a weighted factor of 3 for the sunlight test. This means adding the 8 distances plus twice the sunlight test distance and dividing by ten. If not all of these tests have been performed select a similar number of similar type false alarm source tests. F1 will have the effect of reducing the ideal detection distance X to the midpoint of X and D_{av} . Thus, $F1 = (X + D_{\text{av}}) / 2X$
4. F2 = Factor representing reduction in sensitivity due to dirty optics. Determine from the detector specification or instruction manual the fraction of maximum detection distance at which the dirty optics fault alarm occurs. F2 is the midpoint between this fraction and 1. Thus, if the dirty optics alarm is initiated at 60% of maximum distance, F2 will be 0.8.
5. F3 = Factor representing reduction in sensitivity across the claimed field of view from the maximum at the centreline. A default value of 0.9 should be used, unless a different value is justified from analysis of the detector field of view diagrams for horizontal and vertical planes.



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Ref: XX.XXX.XX	Rev: 1.0	

The following is the Effective Viewing Distance for the Simtronics DF-TV7 3IR:

X = 40m (detector data sheet)

F1 = 0.75 (Values taken from similar technology)

F2 = 0.75 (Reduction to dirty optics = 50%. Midpoint between 0.50 and 1 is 0.75- Figure from FM3260 test report).

F3 = 1.0 (default value)

therefore:

$$\begin{aligned} D &= X \times F1 \times F2 \times F3 \\ &= 40 \times 0.75 \times 0.75 \times 1.0 \\ &= \mathbf{22.50\ m} \end{aligned}$$

APPENDIX B: HazMap3D ASSESSMENT RESULTS

This results section includes a significant amount of information (upwards of 600 pages).

It is not critical to read this section in fine detail, however it is important that this full information set be included so that technical questions which may arise about the detection assessment models in future may be addressed.

This section also presents the existing and proposed assessments for which recommended detector changes can be seen. Tabulated data for each detector is also presented herein.

Subsequently, since the assessment information in this section is provided for multiple elevations within each area (unlike in the main body of the report where 3D model snapshots are provided) holding down the keyboard 'page down' key can allow for fast scrolling through all elevations of each area. This can be an effective way to gain an understanding of the true coverage contours throughout complex, congested sections of each platform area. This information is important to have available as 3D coverage images may make coverage look better or worse, depending upon the angle of the view.

It should be reiterated here that when presenting data for all elevations simultaneously, percentage coverage can seem lower than expected. The 2D assessment plans provide the opportunity to analyse whether areas of seemingly-low coverage is due to large blocked areas (not desirable), or many small no coverage zones, amongst which expected fires should still be picked up by flame detectors.



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 18:41



PROJECT INFORMATION

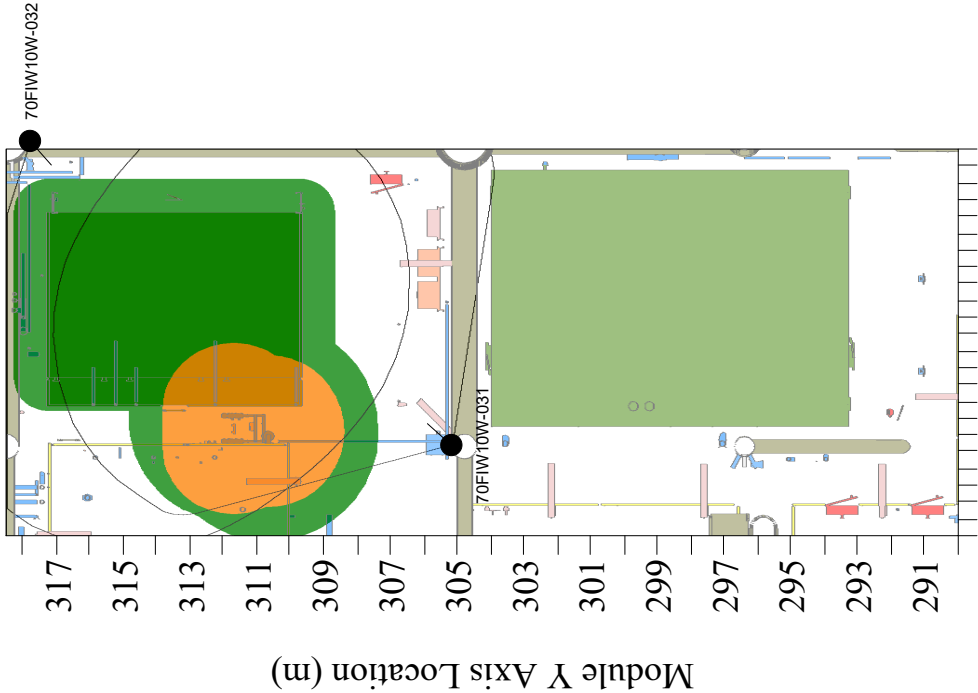
Project name: **Project Name**
Assessment title: **Fire Detection Area W10W**
Number of detectors: 2 (2 existing, 0 new, 0 relocated)
Overall coverage: 57% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

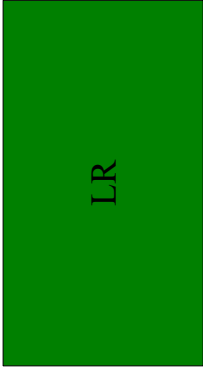
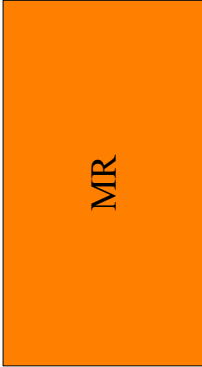
MR	52%	41%	7%
LR	22%	31%	47%
Totals	25%	32%	43%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



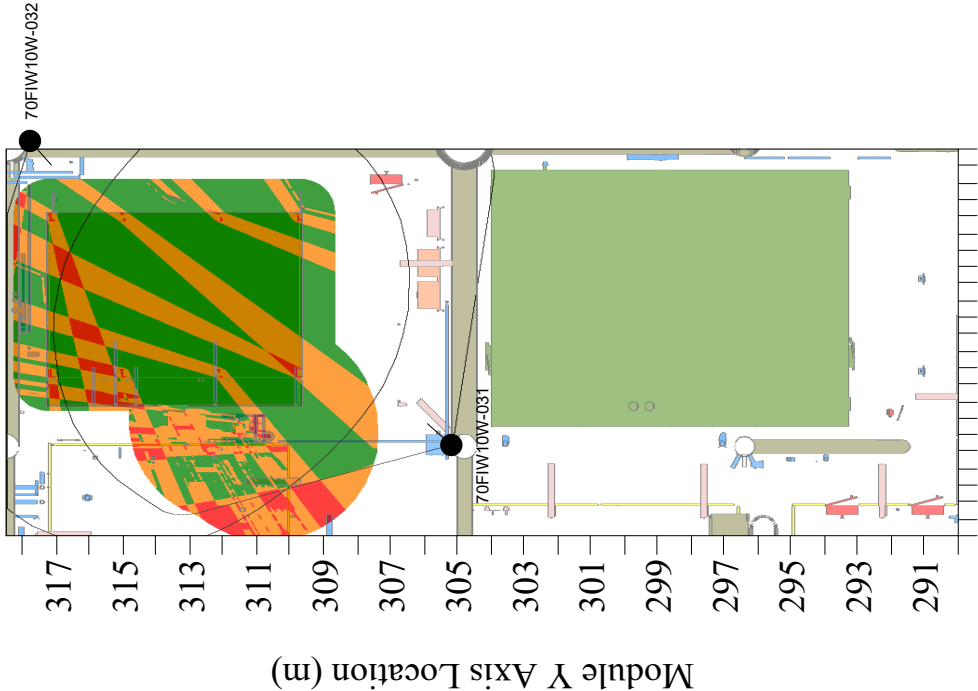
GRADE COLOURS



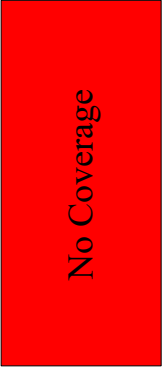
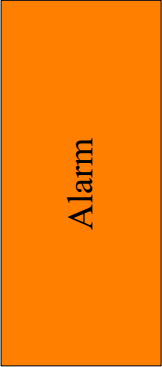
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Grademap (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 0.620 m ALD



COVERAGE KEY



Control Action

Alarm

No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area W10W

Project Name-Fire Detection Area W10W

Platform/site

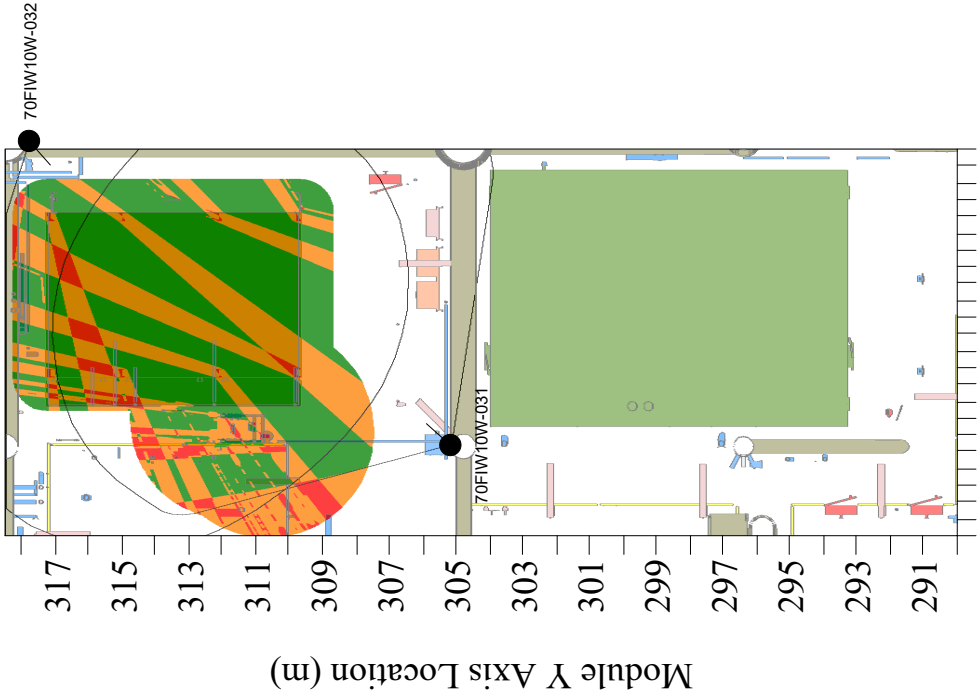
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Fire Detection Area W10W

Fire Detector coverage at 1.049 m ALD



COVERAGE KEY

Control Action

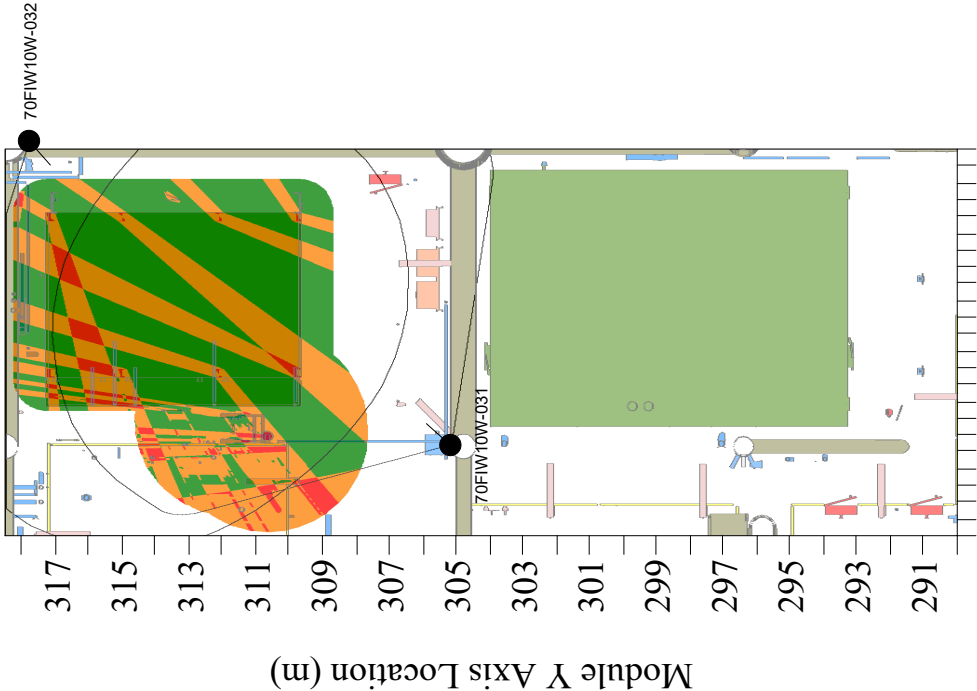
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 1.477 m ALD



COVERAGE KEY

Control Action

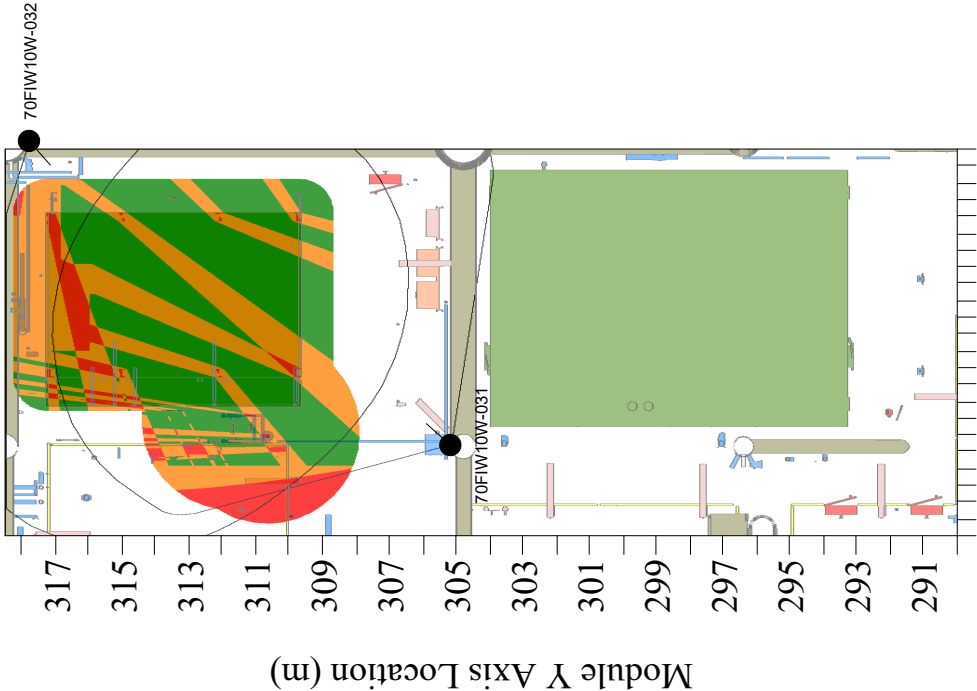
Alarm

No Coverage

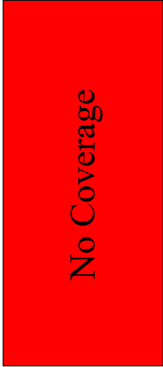
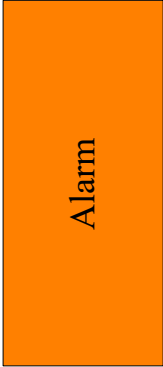
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 1.906 m ALD



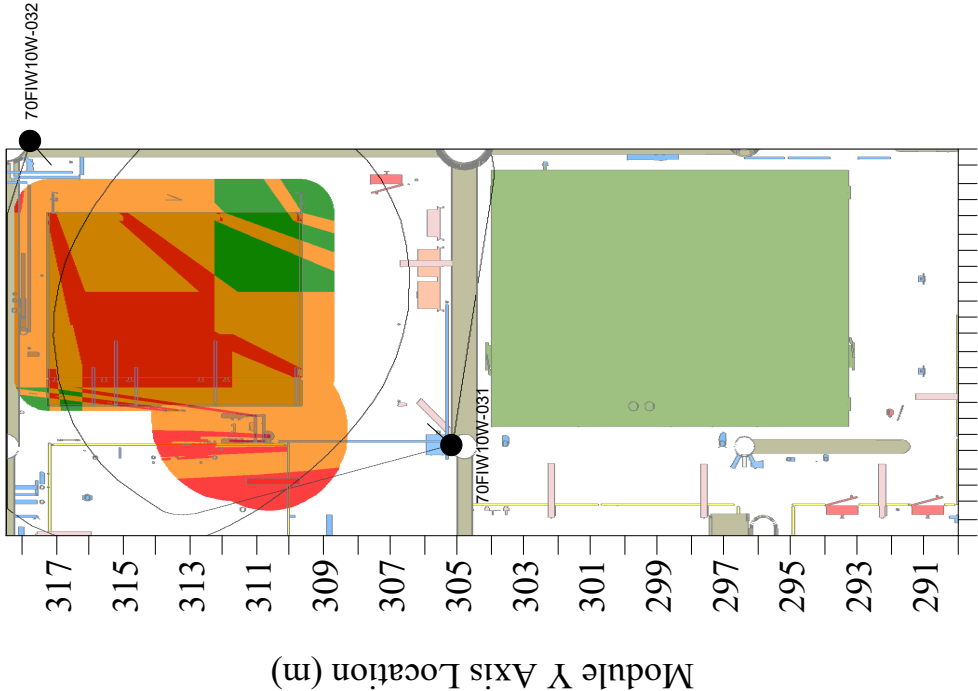
COVERAGE KEY



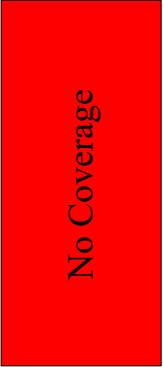
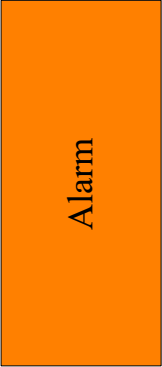
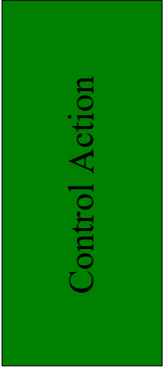
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 2.334 m ALD



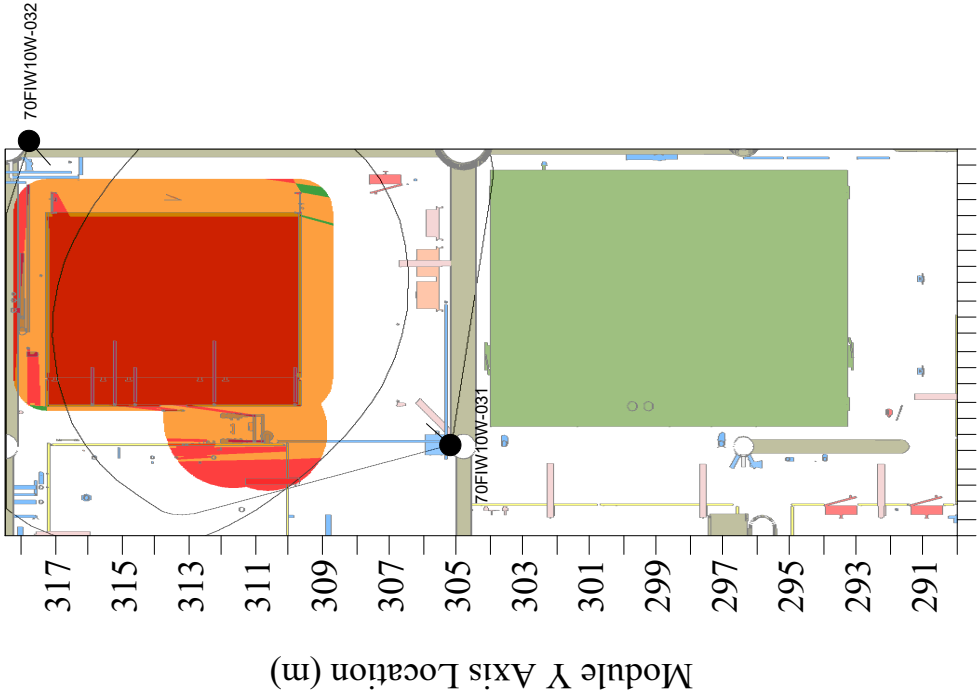
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 2.763 m ALD



COVERAGE KEY

Control Action

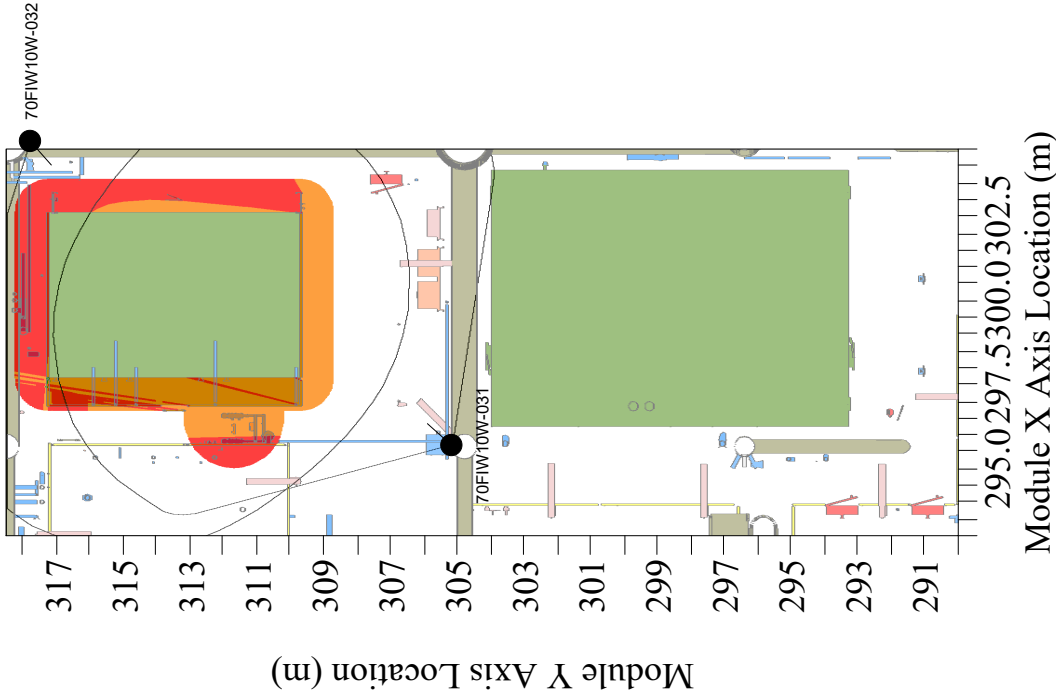
Alarm

No Coverage

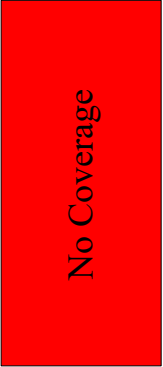
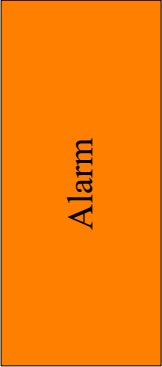
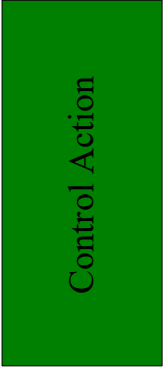
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 3.191 m ALD



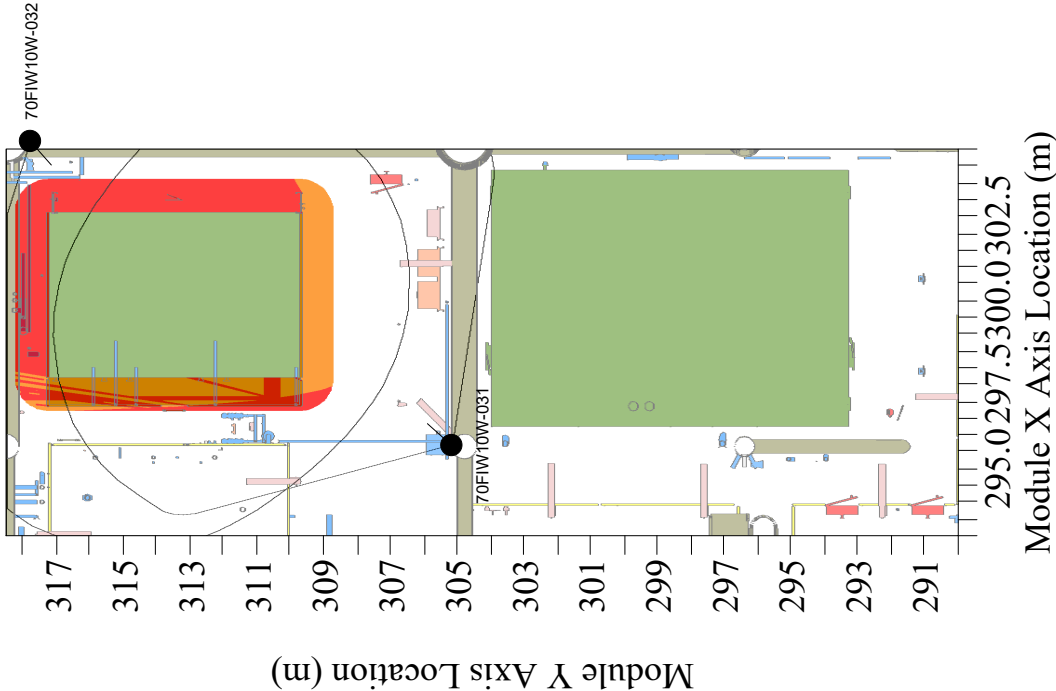
COVERAGE KEY



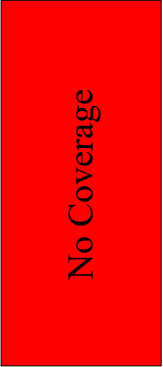
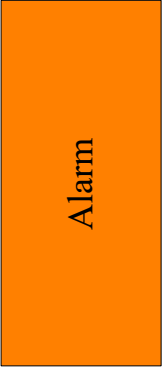
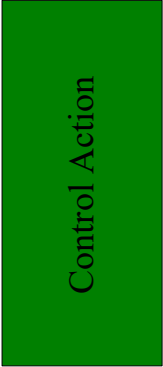
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 3.620 m ALD



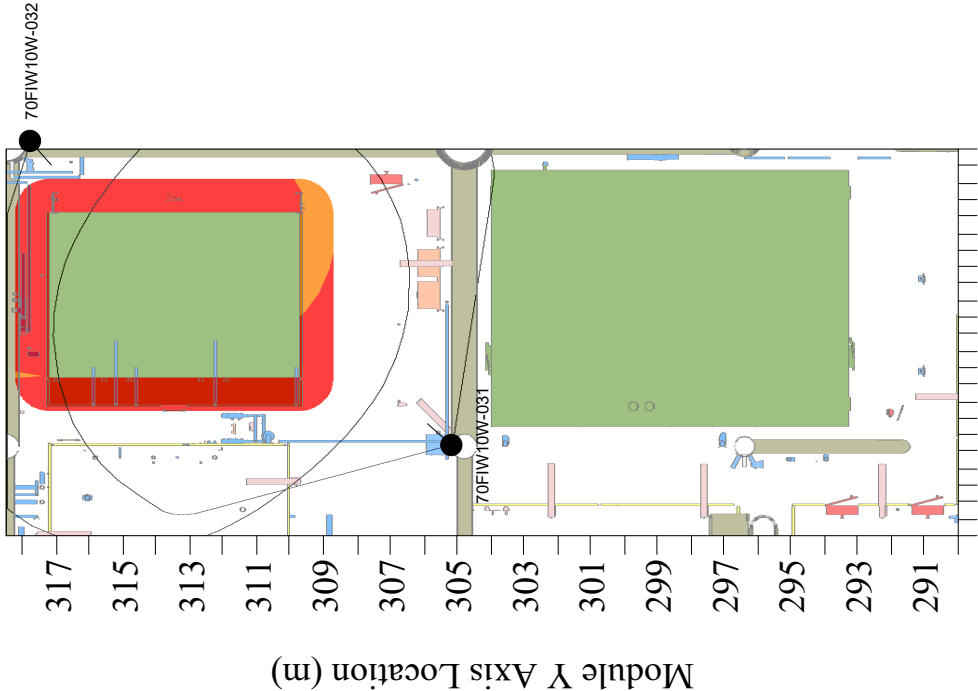
COVERAGE KEY



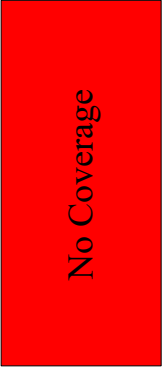
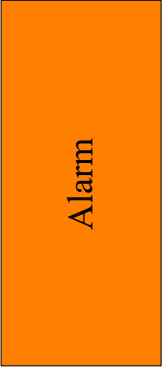
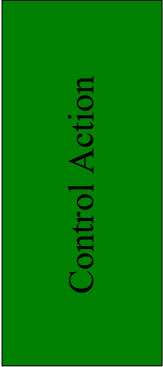
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 4.049 m ALD



COVERAGE KEY



Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area W10W

Project Name-Fire Detection Area W10W

Platform/site

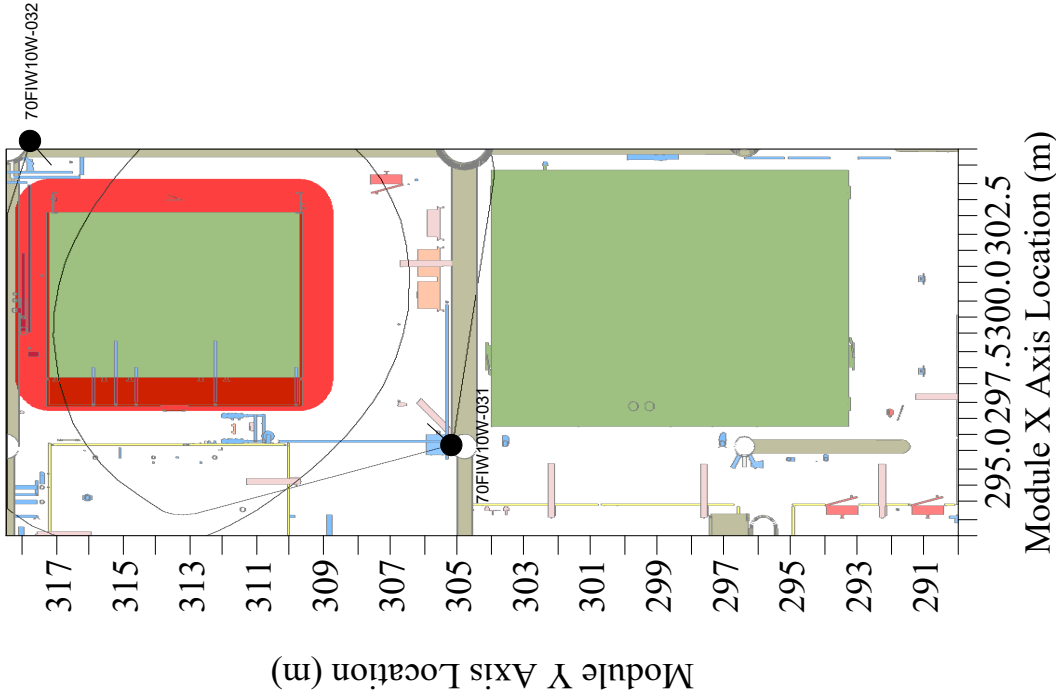
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Fire Detection Area W10W

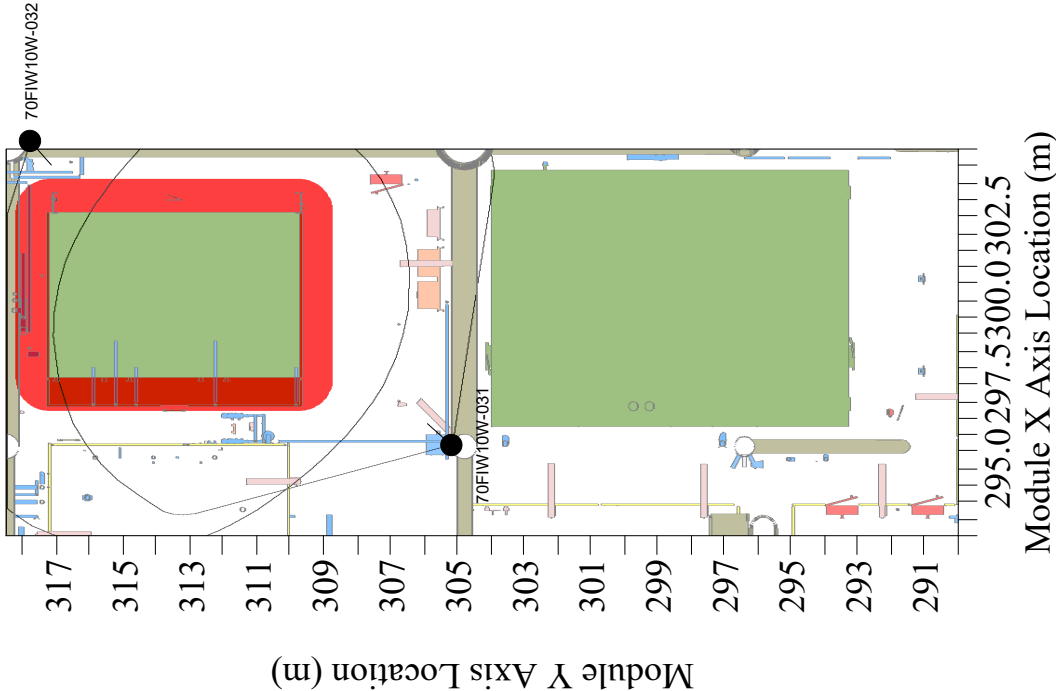
Fire Detector coverage at 4.477 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

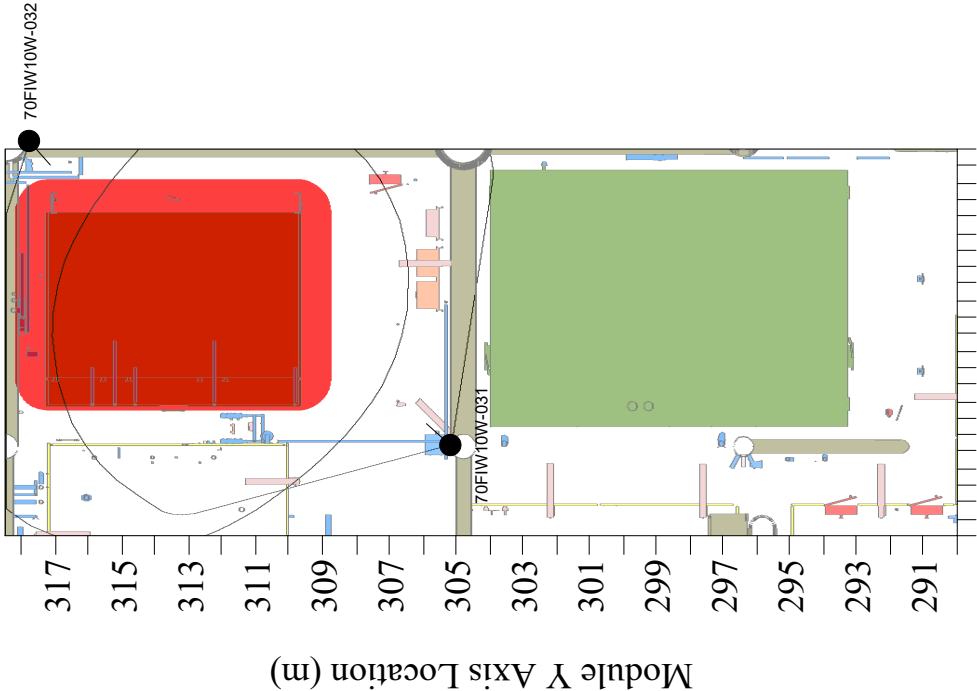
Fire Detector coverage at 4.906 m ALD



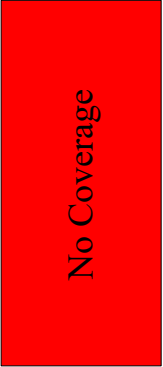
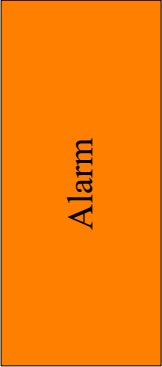
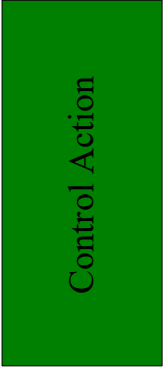
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 5.334 m ALD



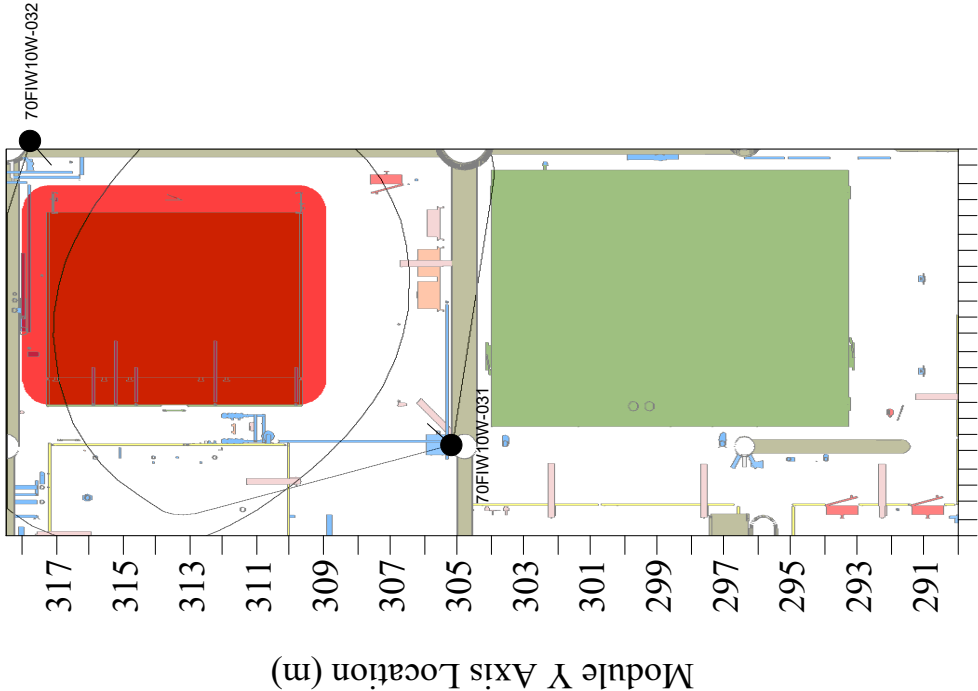
COVERAGE KEY



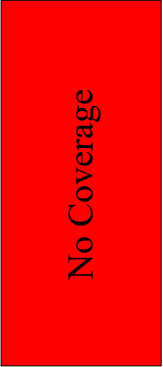
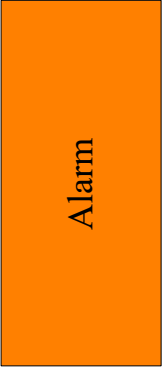
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			

Project Name-Fire Detection Area W10W

Fire Detector coverage at 5.763 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 18:48



PROJECT INFORMATION

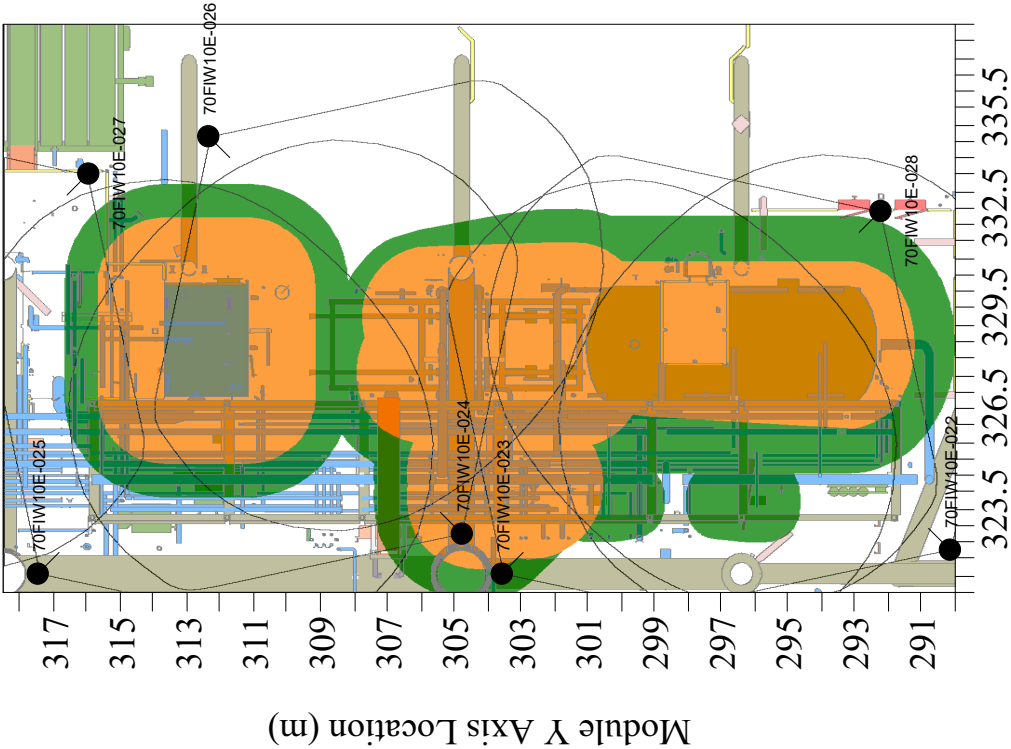
Project name: **Project Name**
Assessment title: **Fire Detection Area W10E**
Number of detectors: 7 (7 existing, 0 new, 0 relocated)
Overall coverage: 67% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

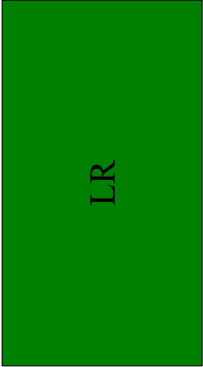
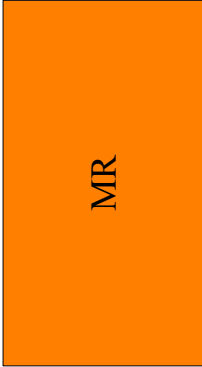
MR	40%	27%	4%	28%
LR	43%	22%	0%	35%
Totals	41%	25%	3%	31%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



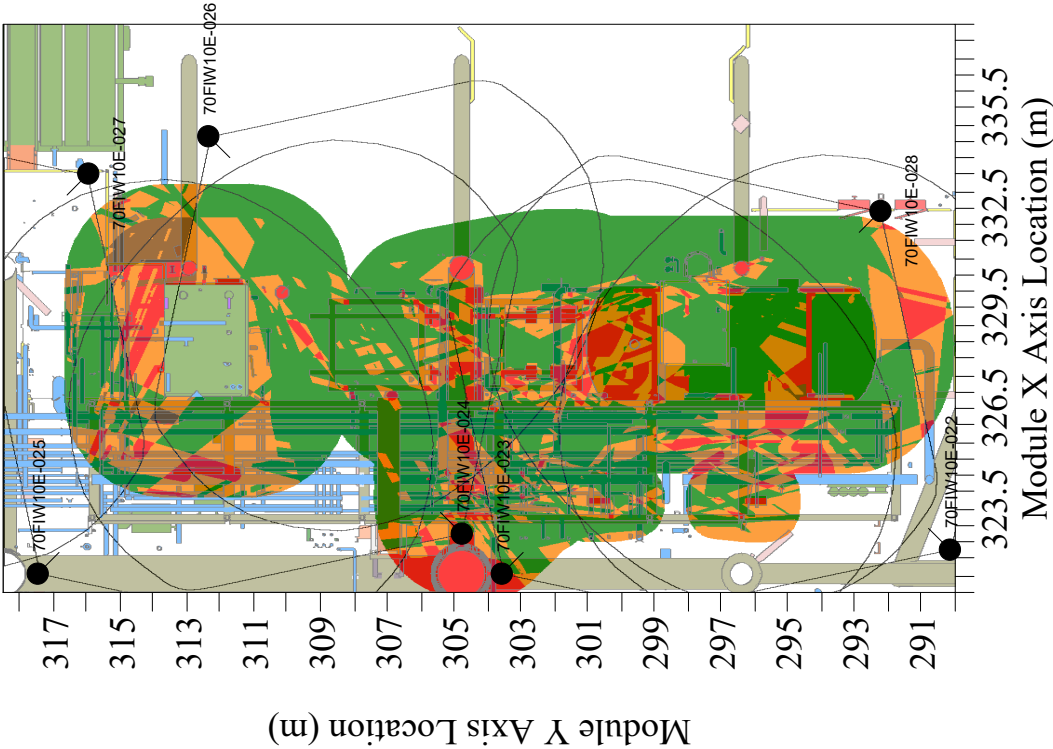
GRADE COLOURS



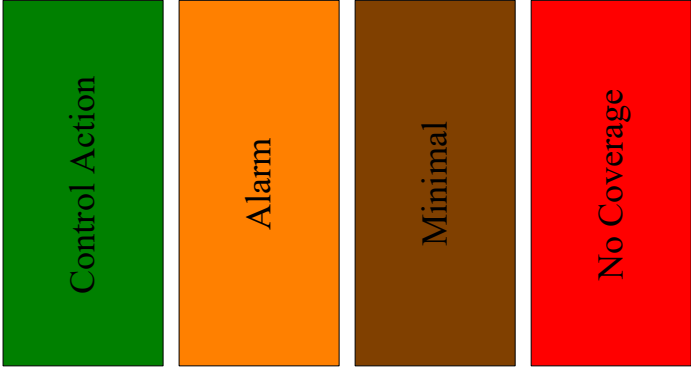
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Grademap (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 0.620 m ALD



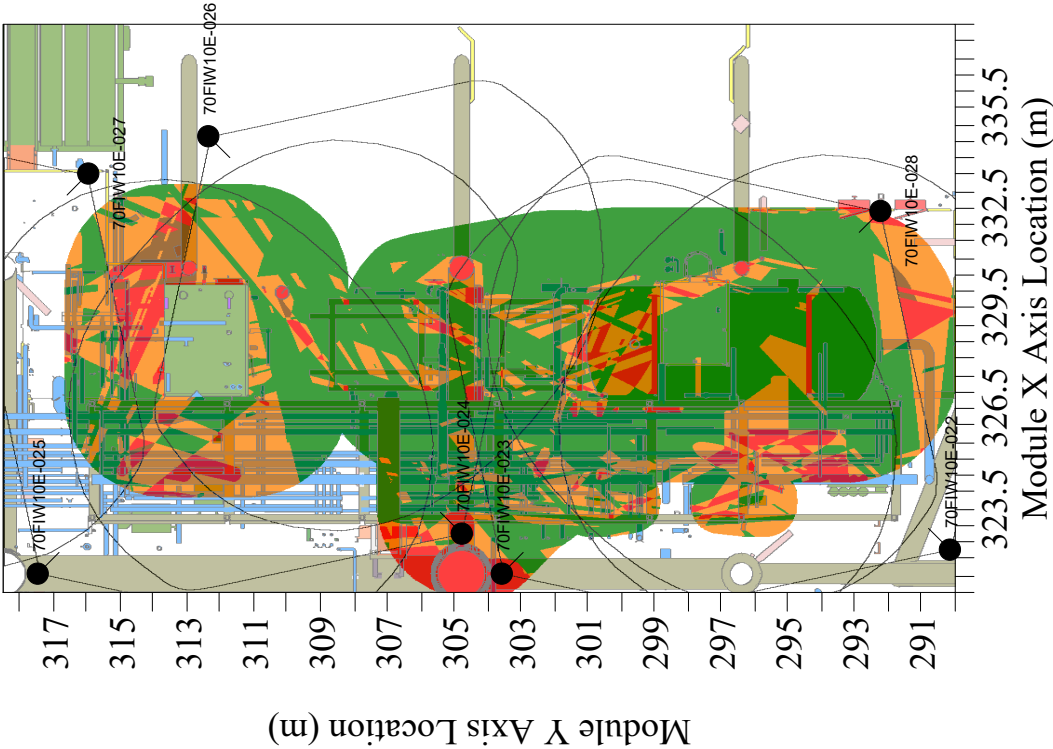
COVERAGE KEY



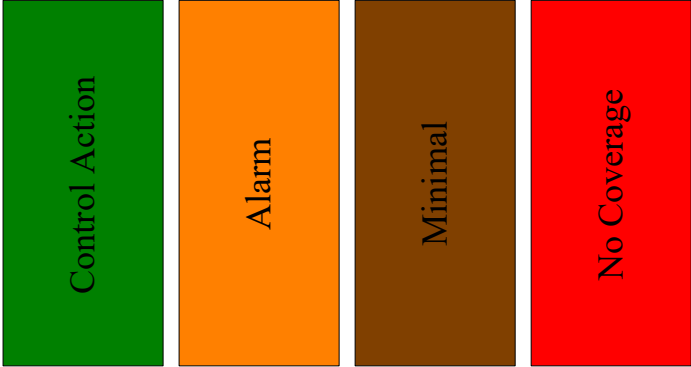
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 1.049 m ALD



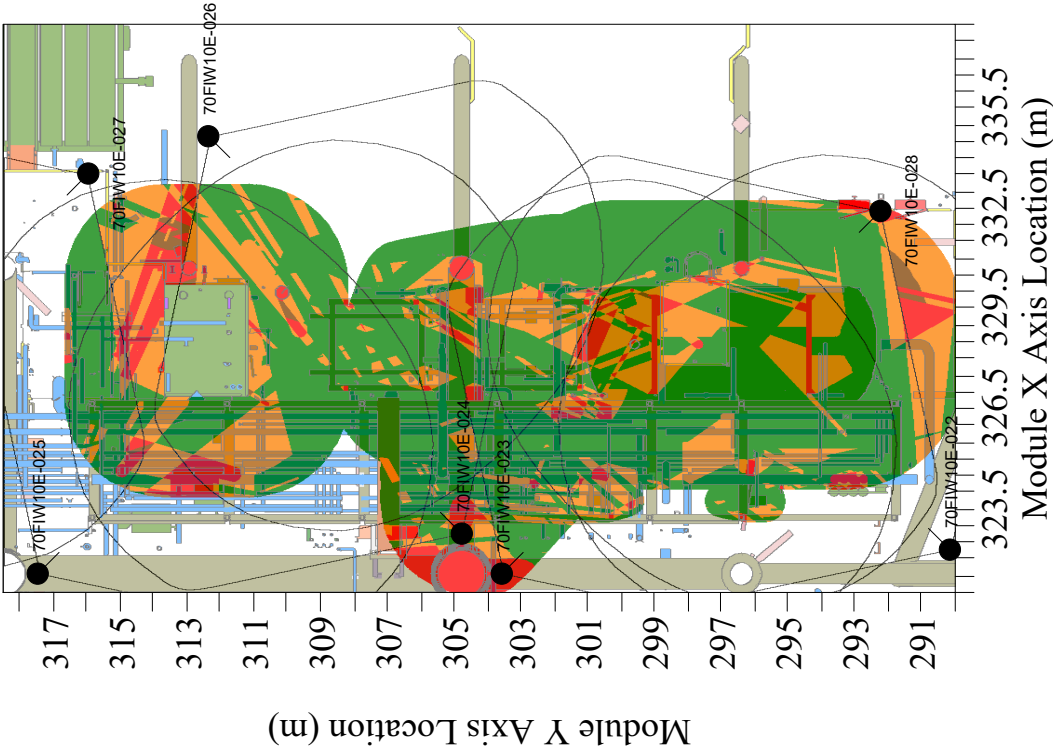
COVERAGE KEY



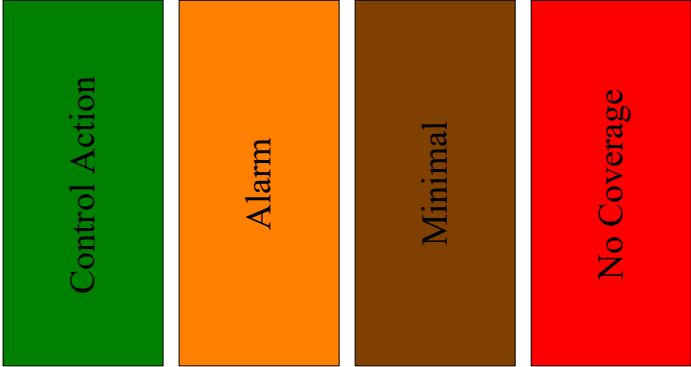
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 1.477 m ALD



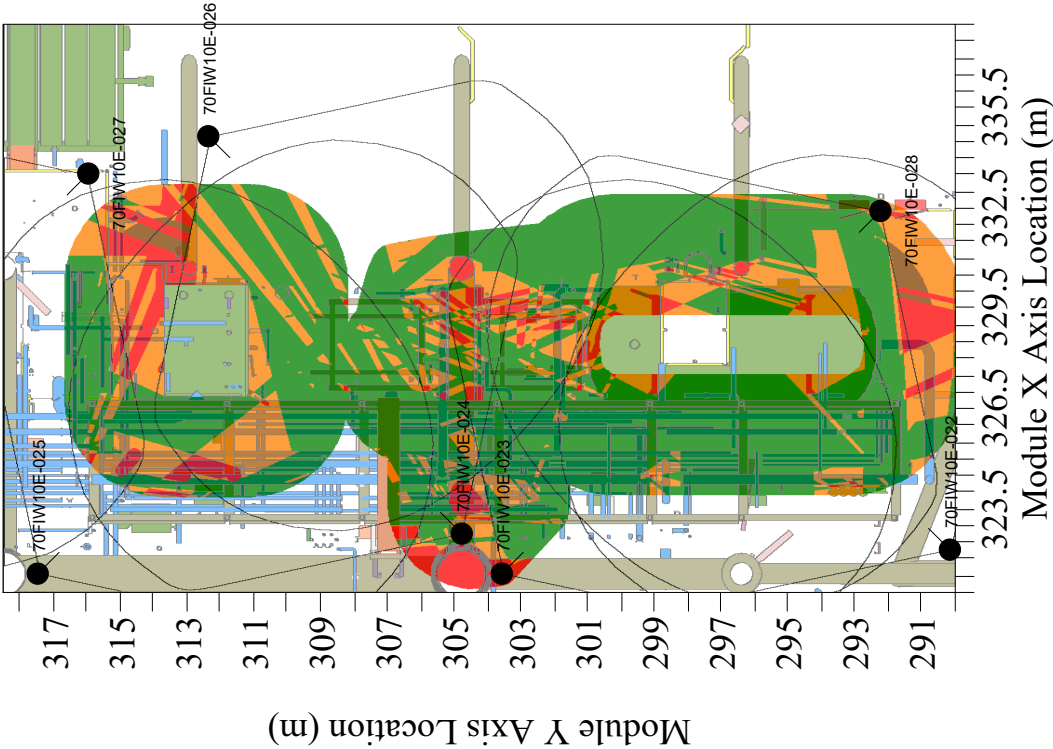
COVERAGE KEY



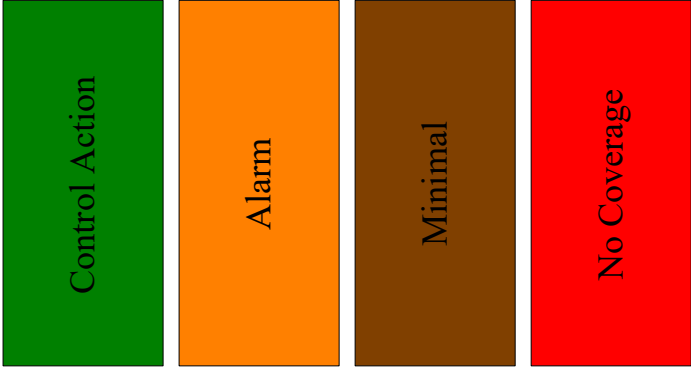
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 1.906 m ALD



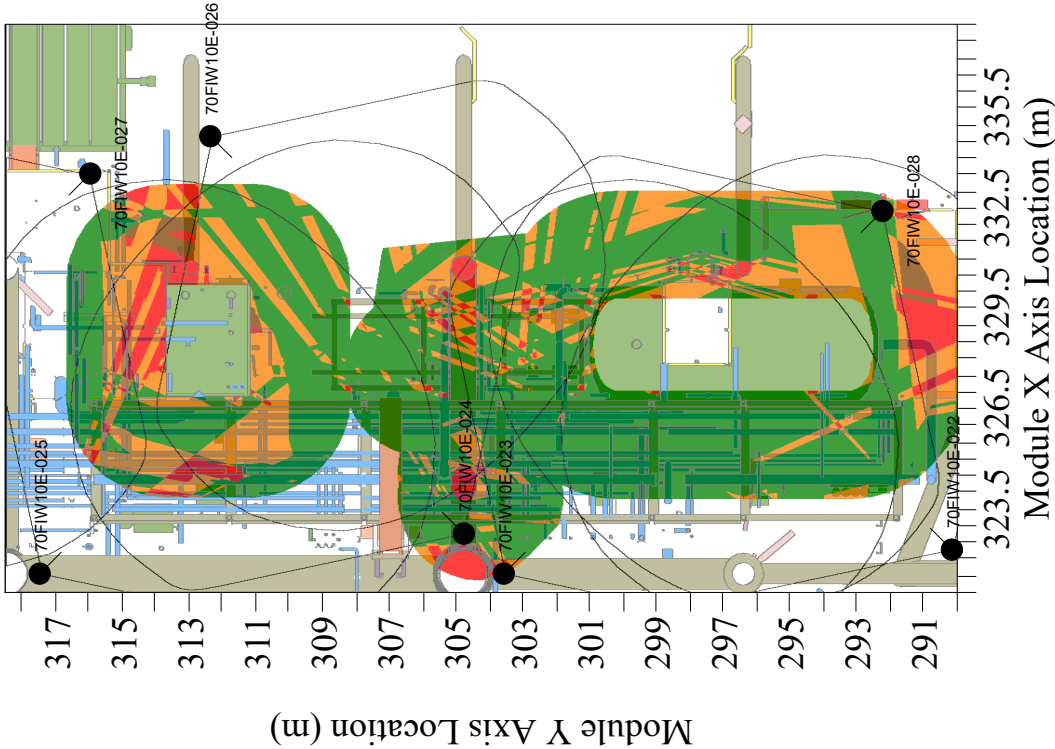
COVERAGE KEY



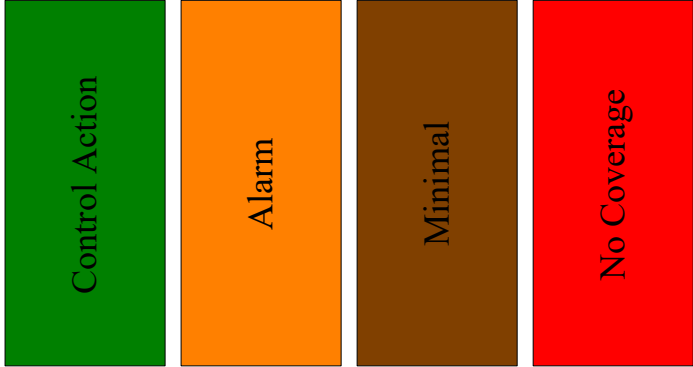
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 2.334 m ALD



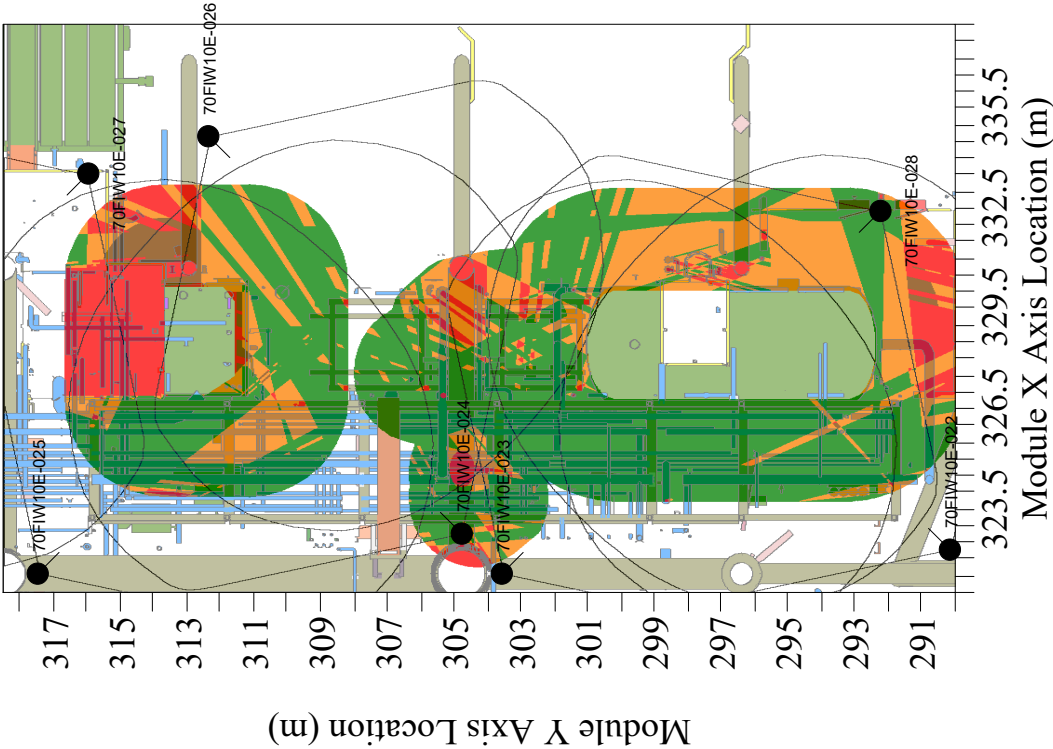
COVERAGE KEY



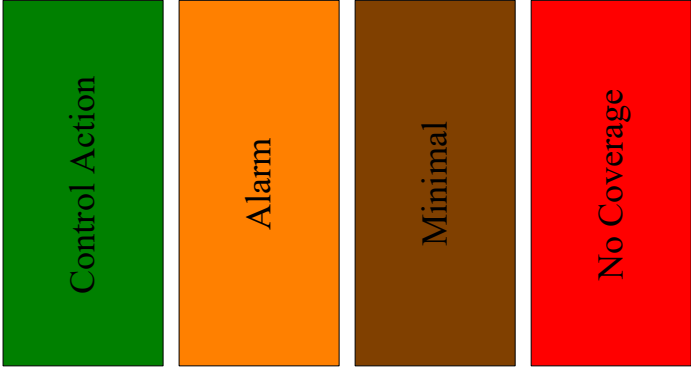
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 2.763 m ALD



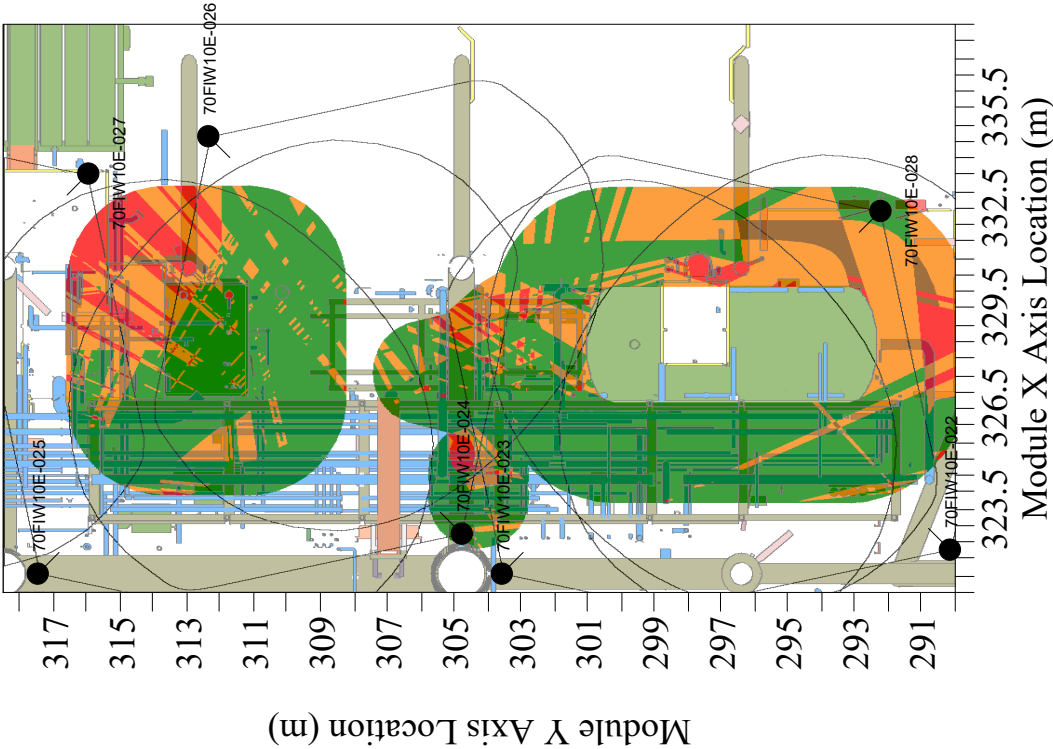
COVERAGE KEY



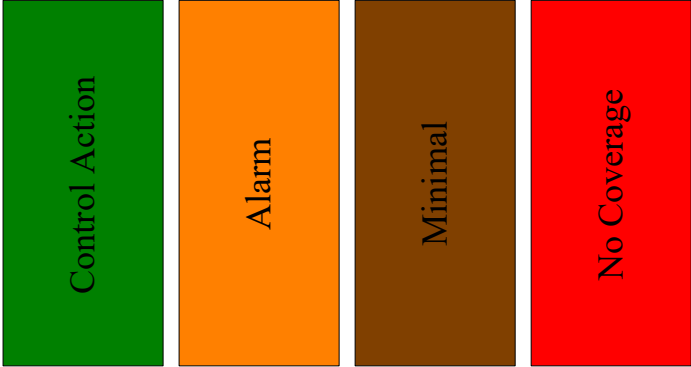
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 3.191 m ALD



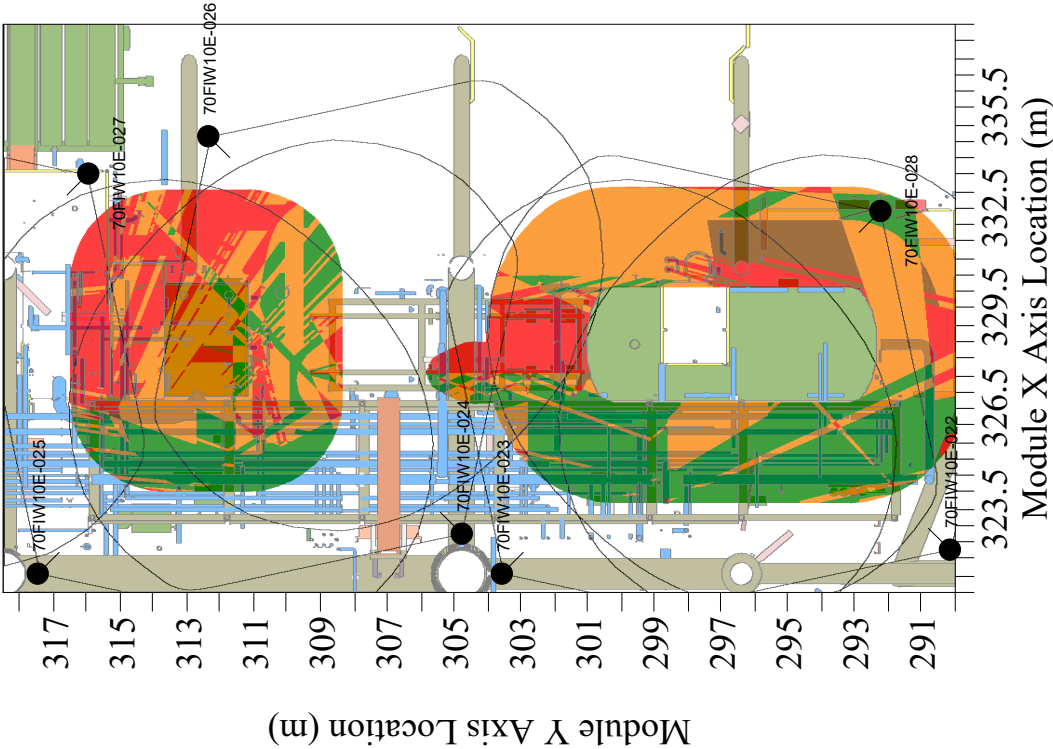
COVERAGE KEY



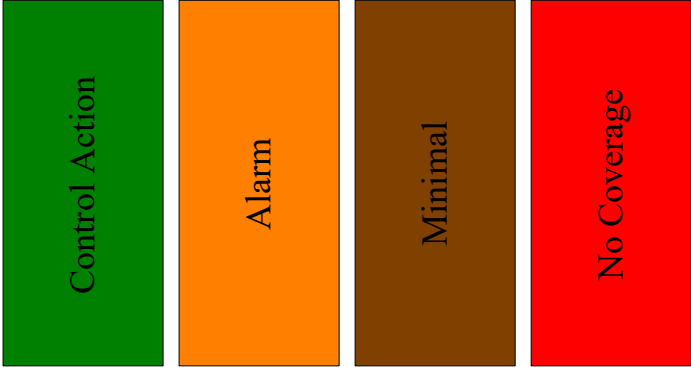
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 3.620 m ALD



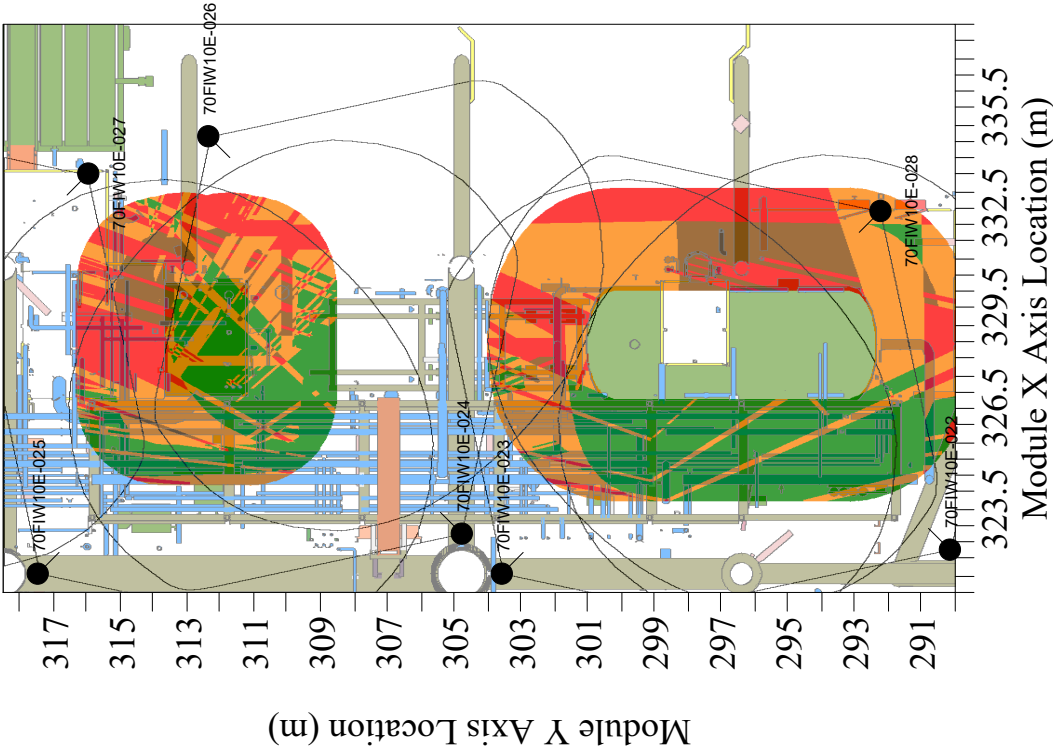
COVERAGE KEY



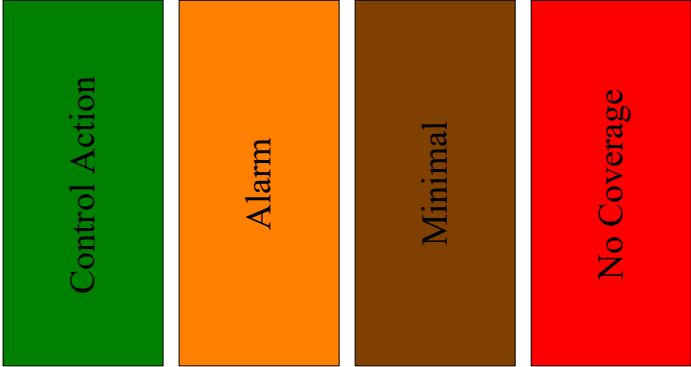
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 4.049 m ALD



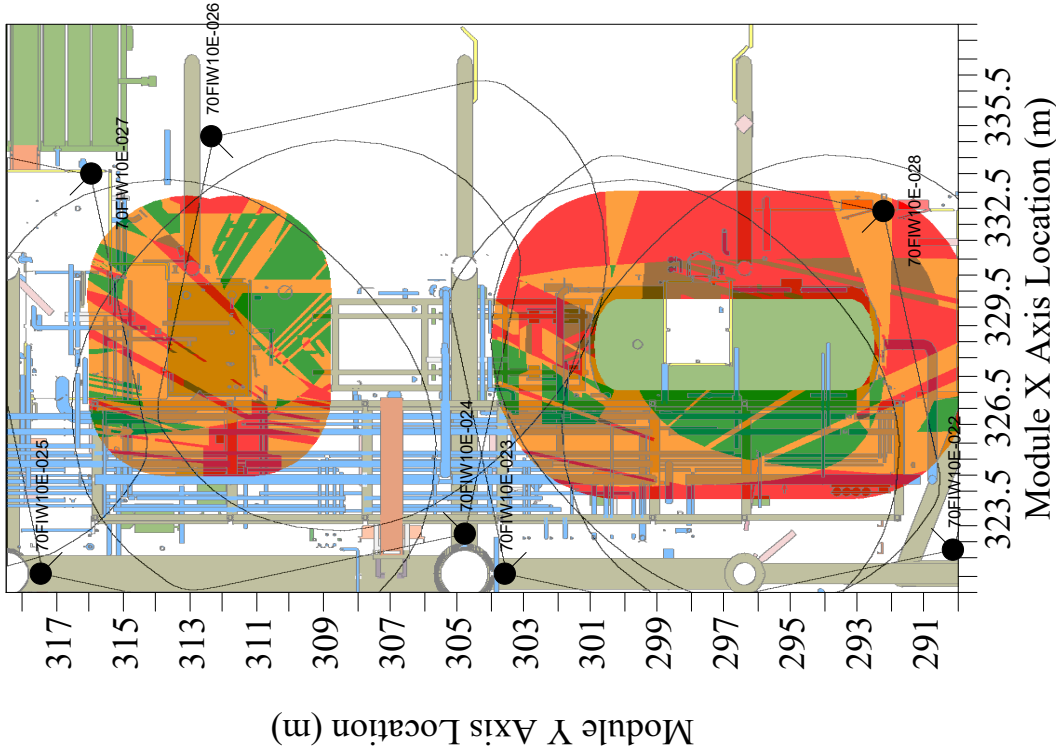
COVERAGE KEY



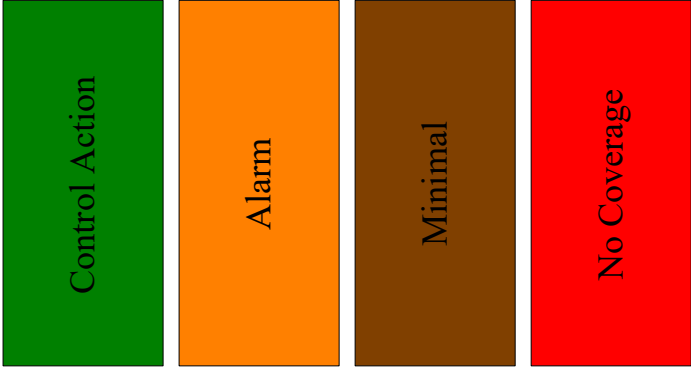
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 4.477 m ALD



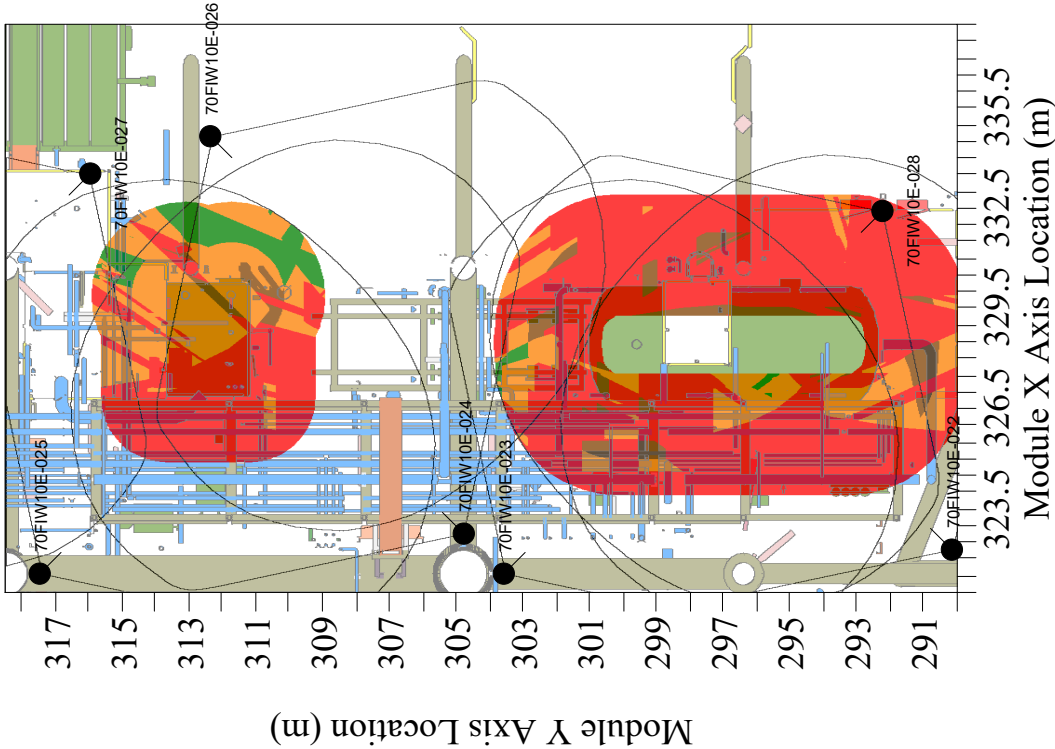
COVERAGE KEY



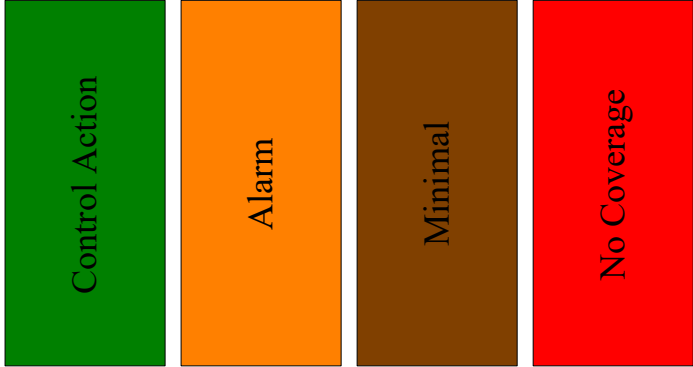
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 4.906 m ALD



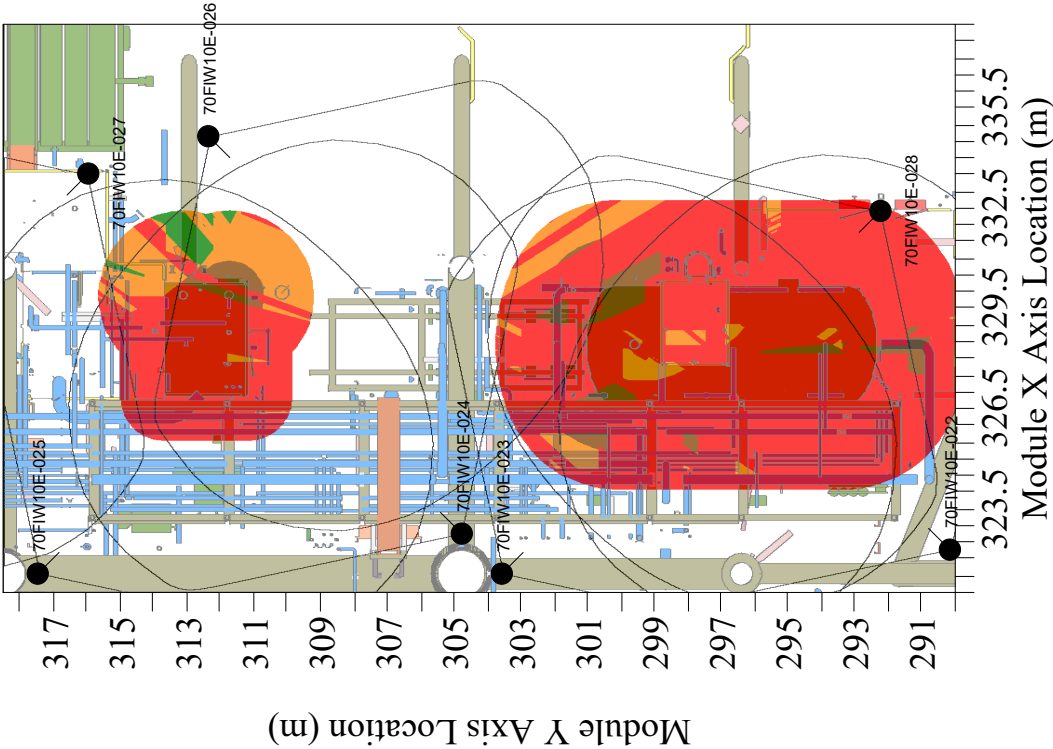
COVERAGE KEY



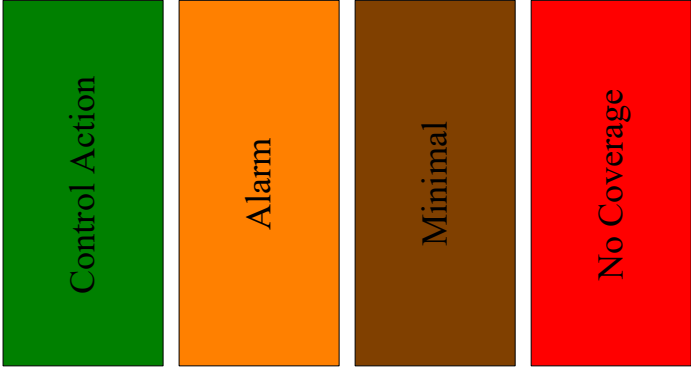
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 5.334 m ALD



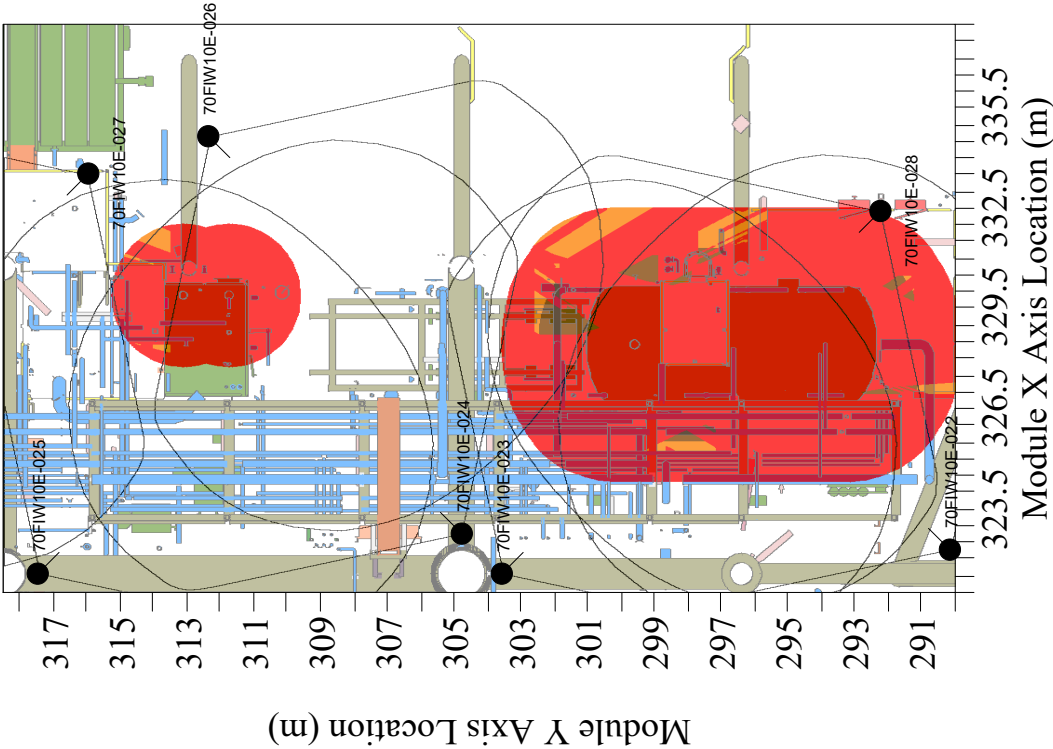
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 5.763 m ALD



COVERAGE KEY

Control Action

Alarm

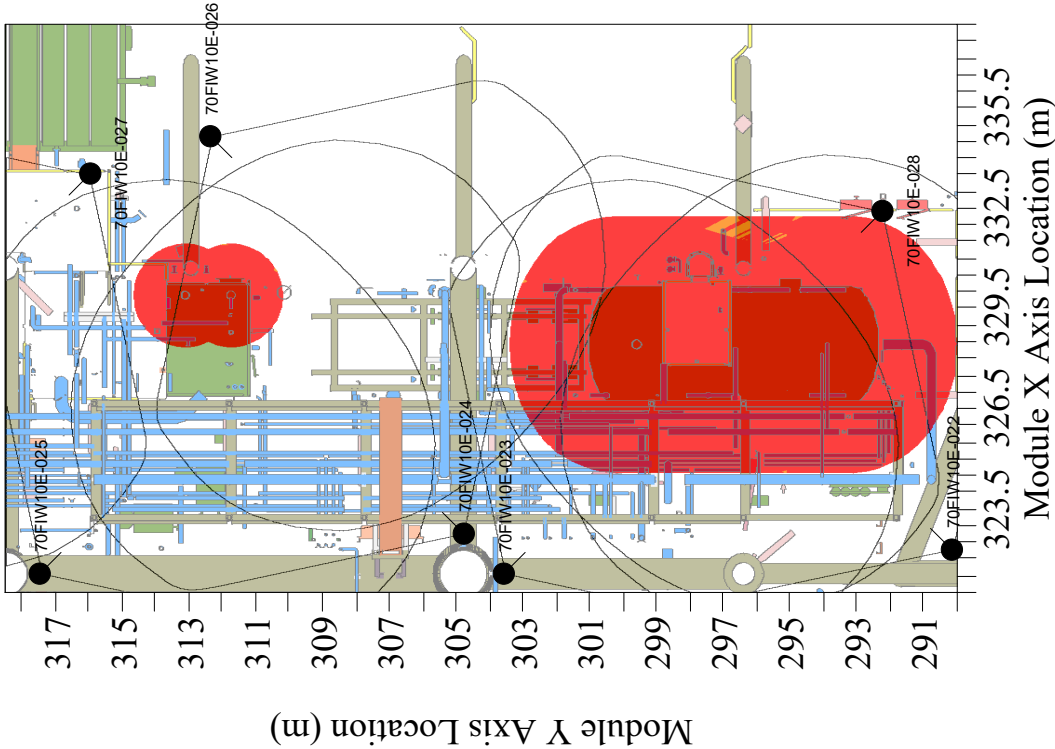
Minimal

No Coverage

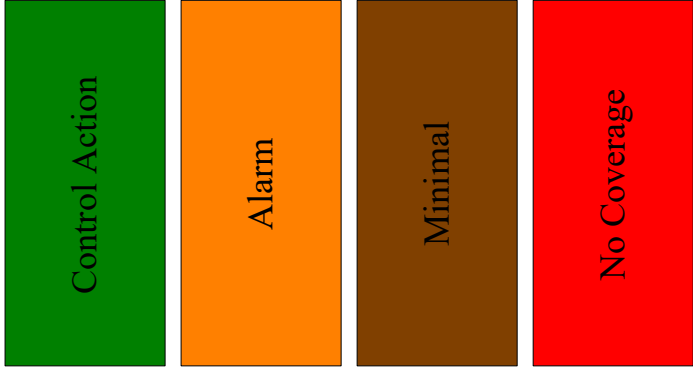
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 6.191 m ALD



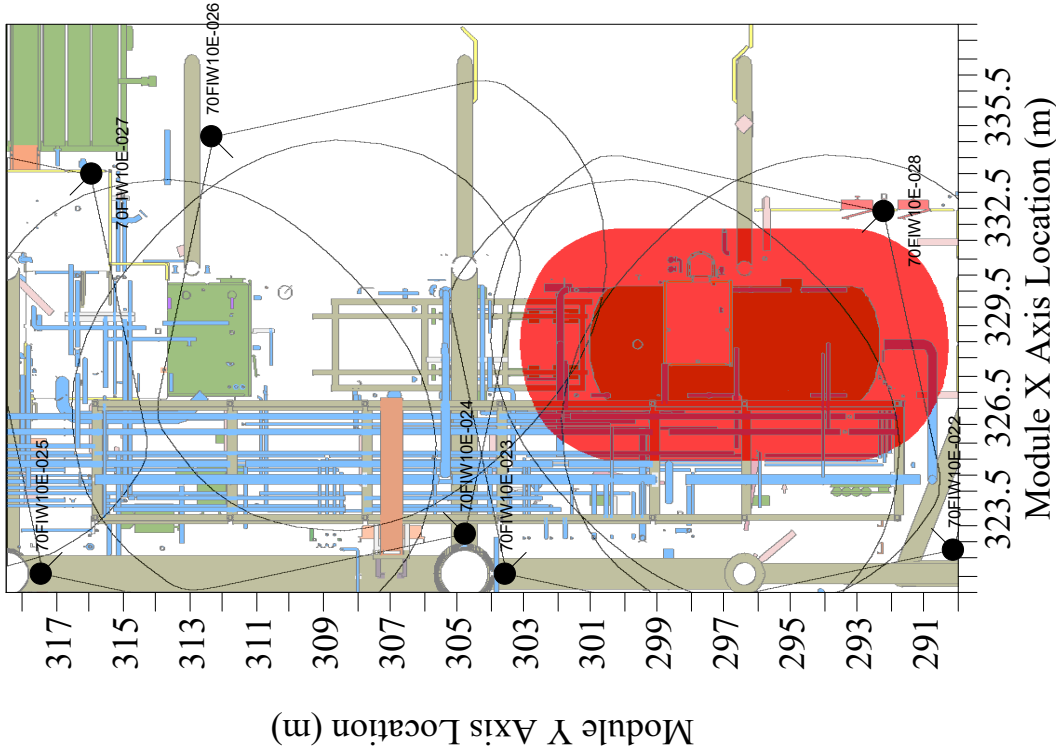
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			

Project Name-Fire Detection Area W10E

Fire Detector coverage at 6.620 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 18:58



PROJECT INFORMATION

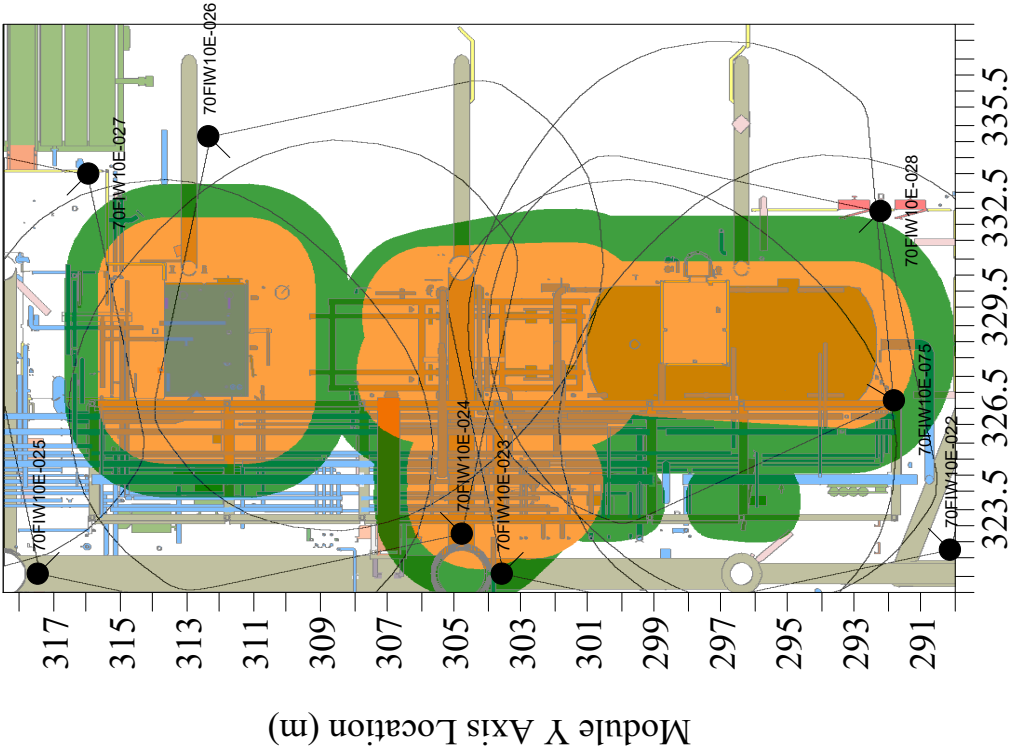
Project name: **Project Name**
Assessment title: **Proposed W10E**
Number of detectors: 8 (6 existing, 1 new, 1 relocated)
Overall coverage: 75% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

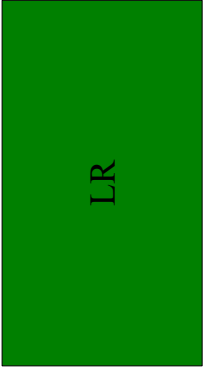
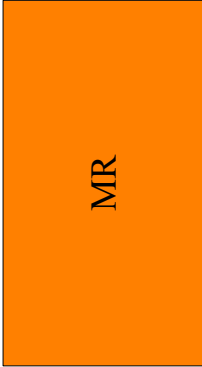
MR	44%	34%	4%	19%
LR	45%	26%	0%	28%
Totals	44%	30%	2%	23%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



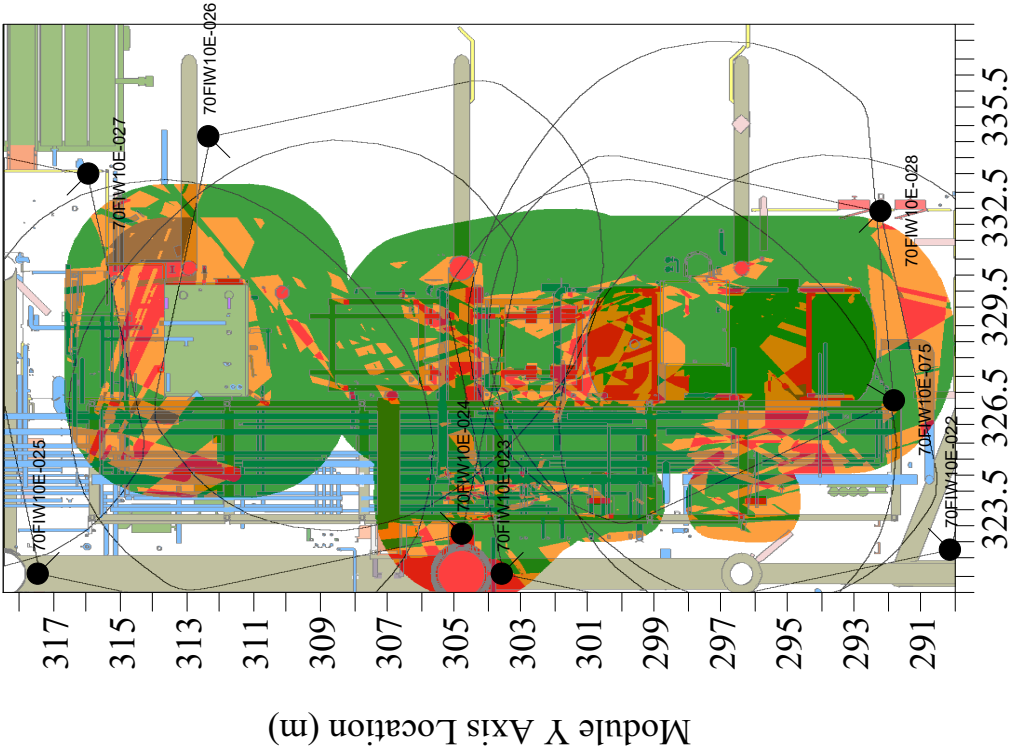
GRADE COLOURS



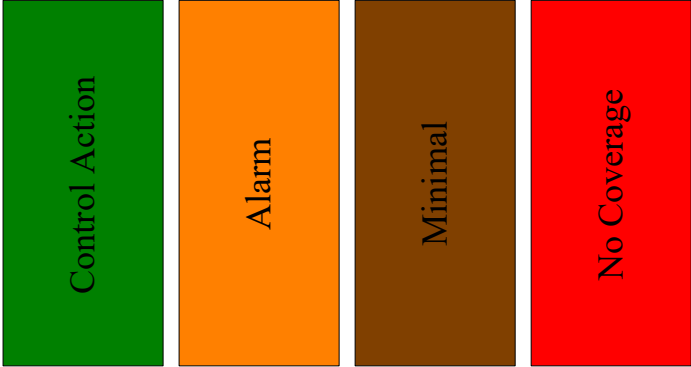
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Grademap (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 0.620 m ALD



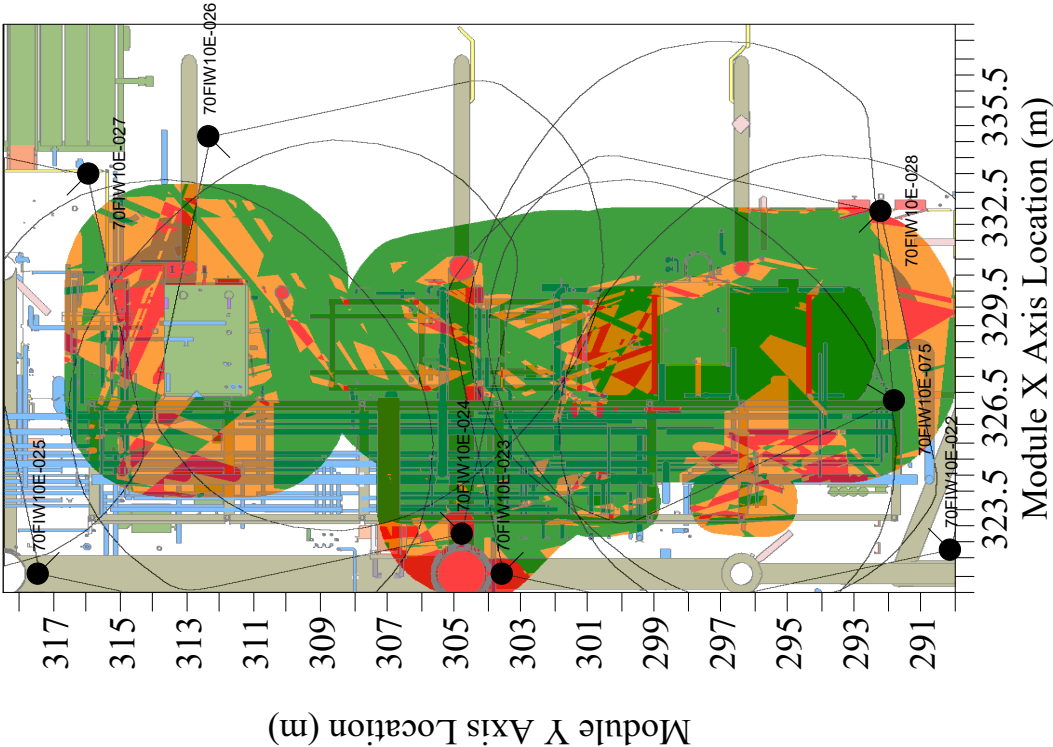
COVERAGE KEY



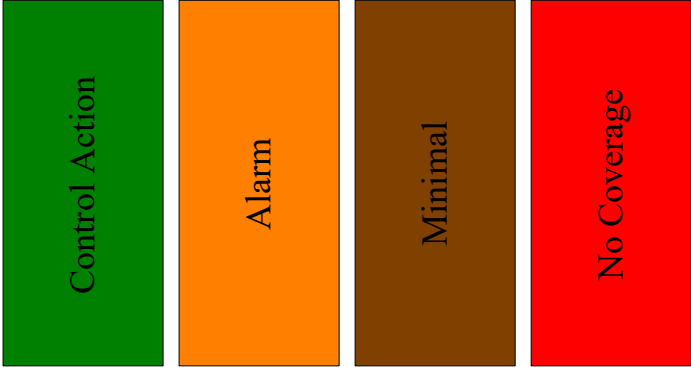
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 1.049 m ALD



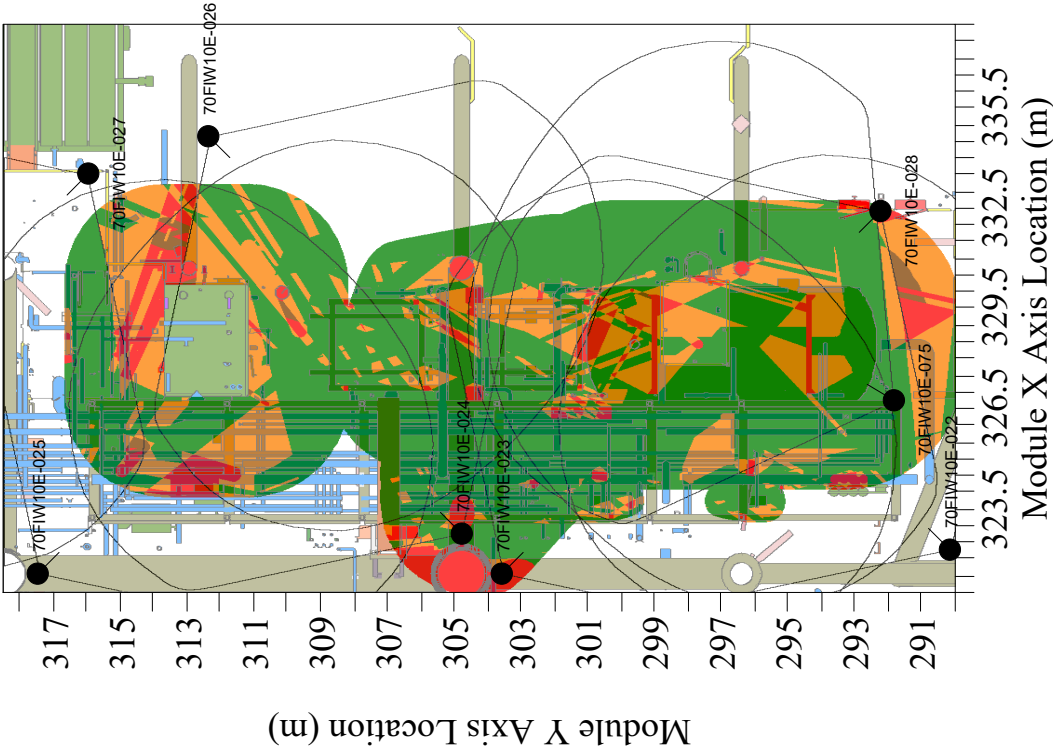
COVERAGE KEY



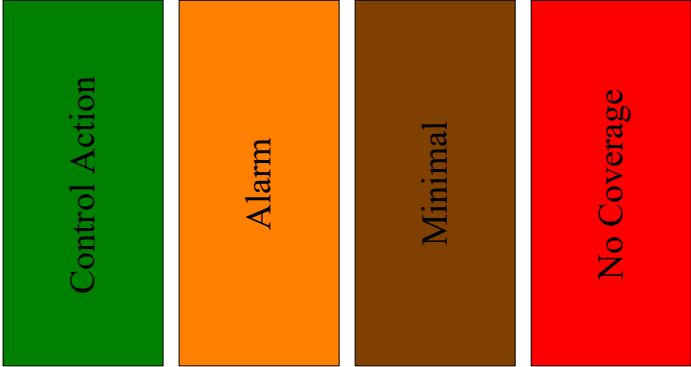
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 1.477 m ALD



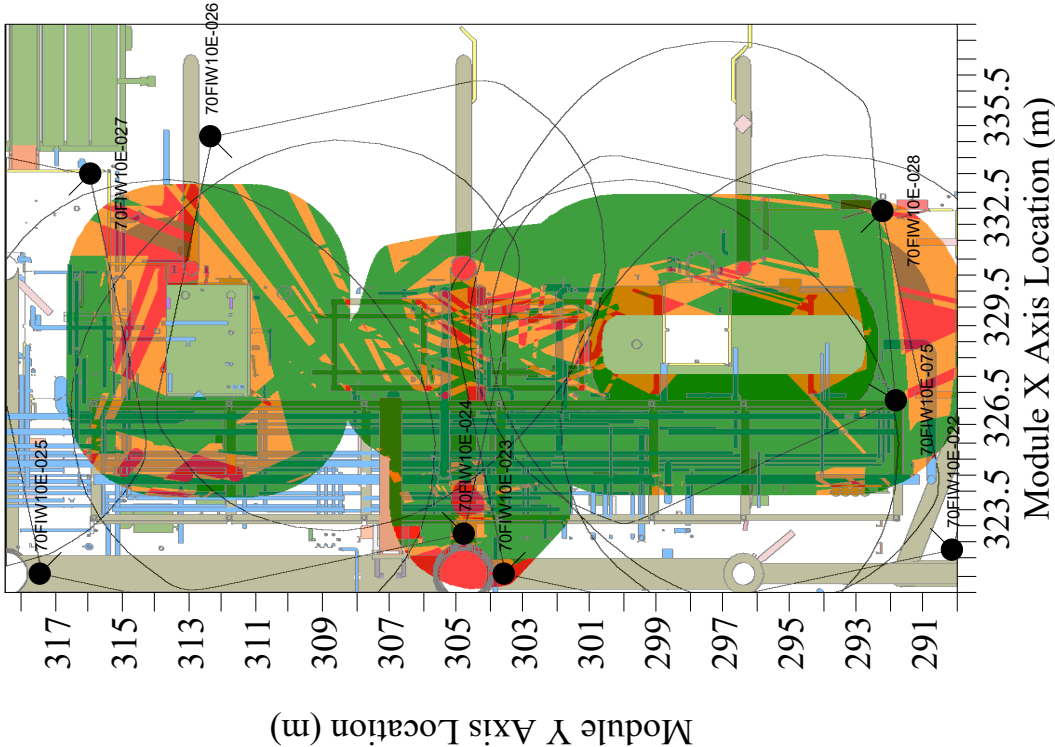
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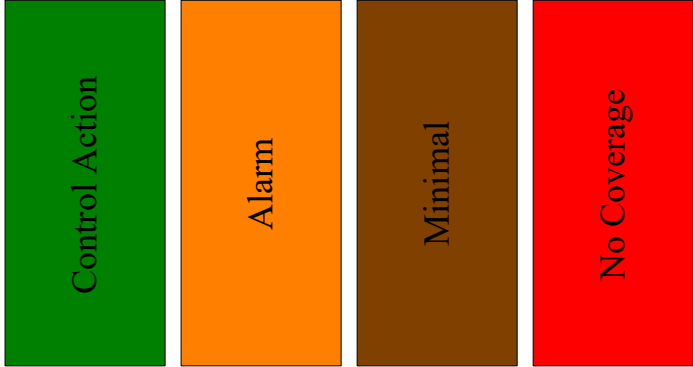
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 1.906 m ALD



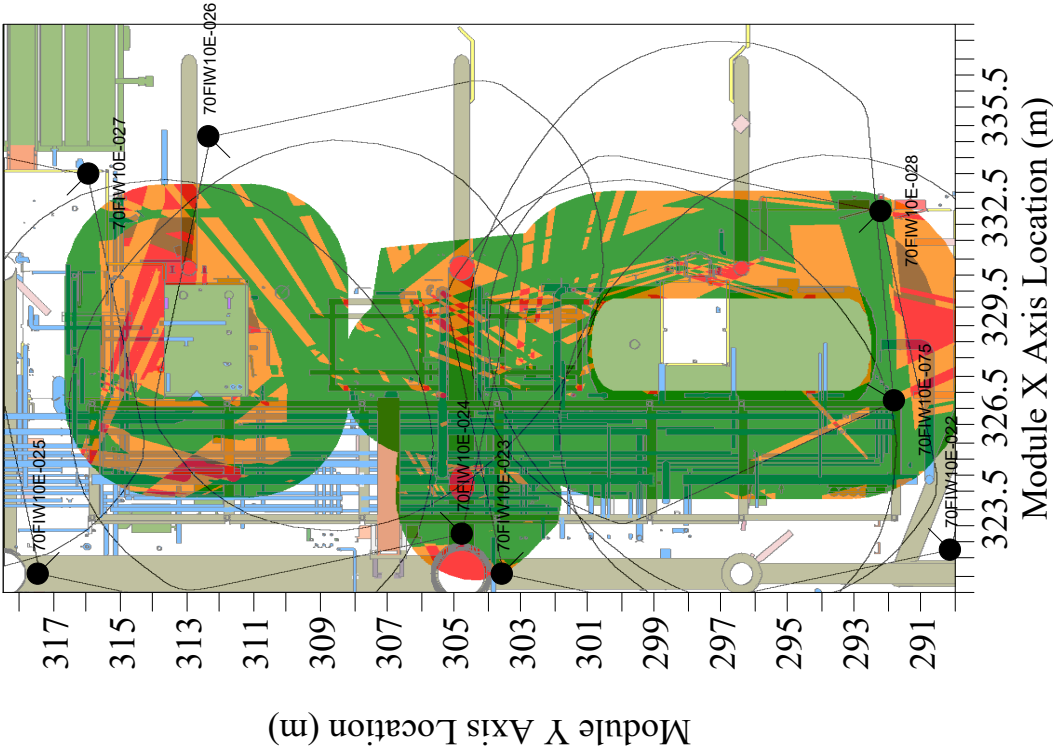
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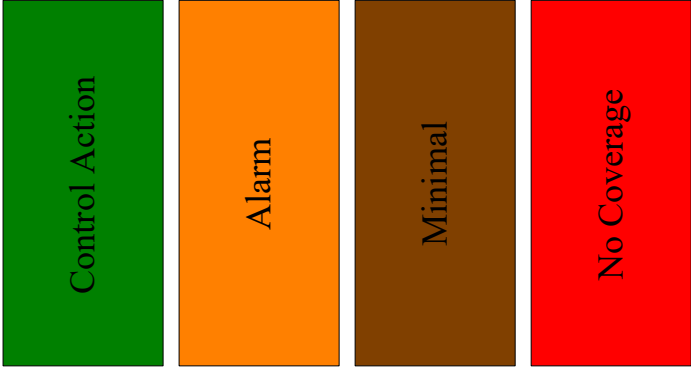
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 2.334 m ALD



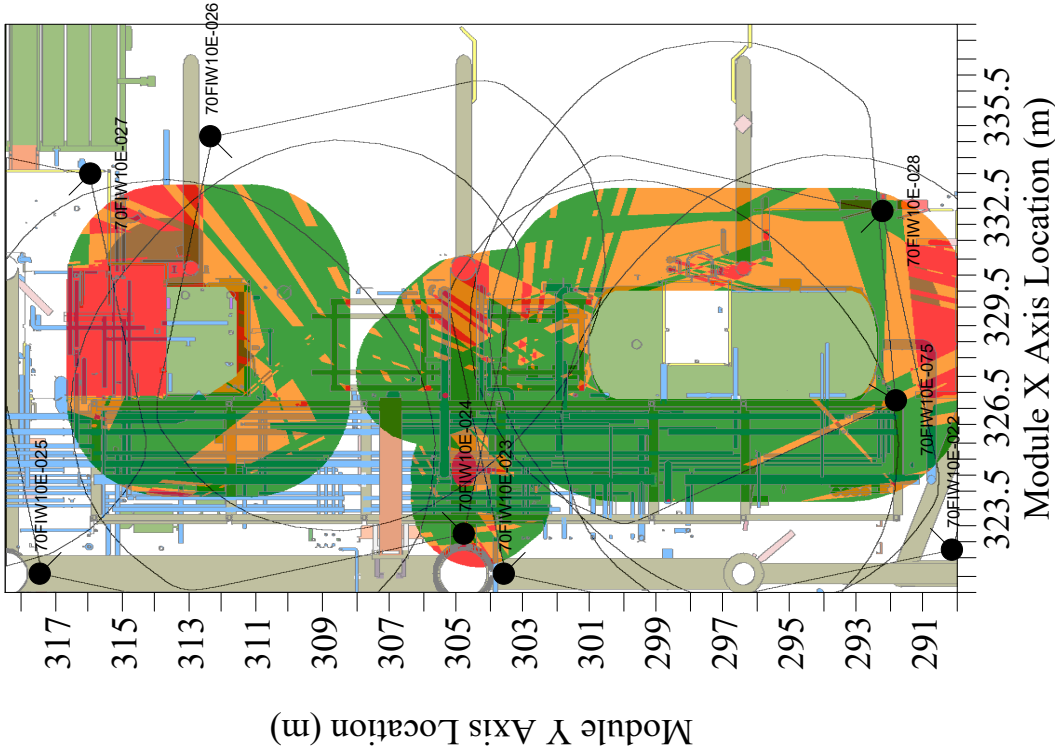
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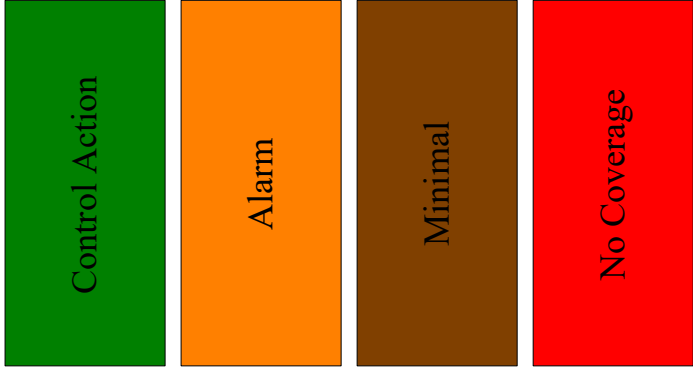
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 2.763 m ALD



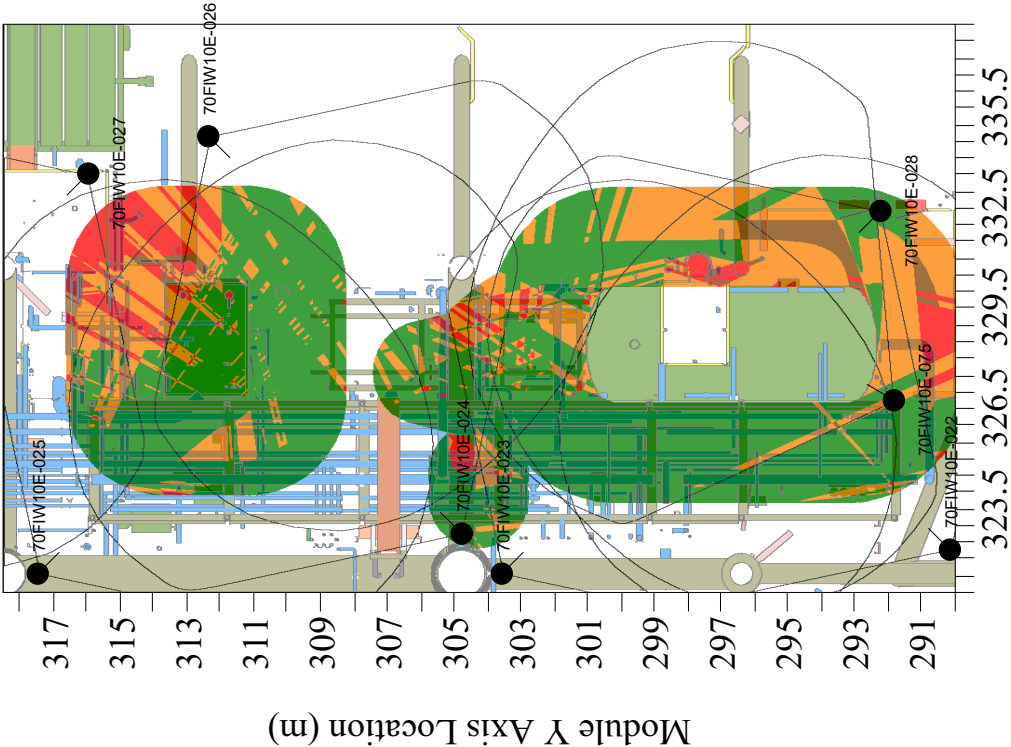
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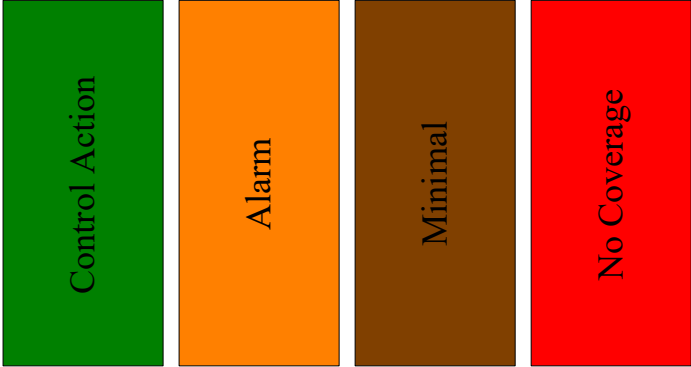
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 3.191 m ALD



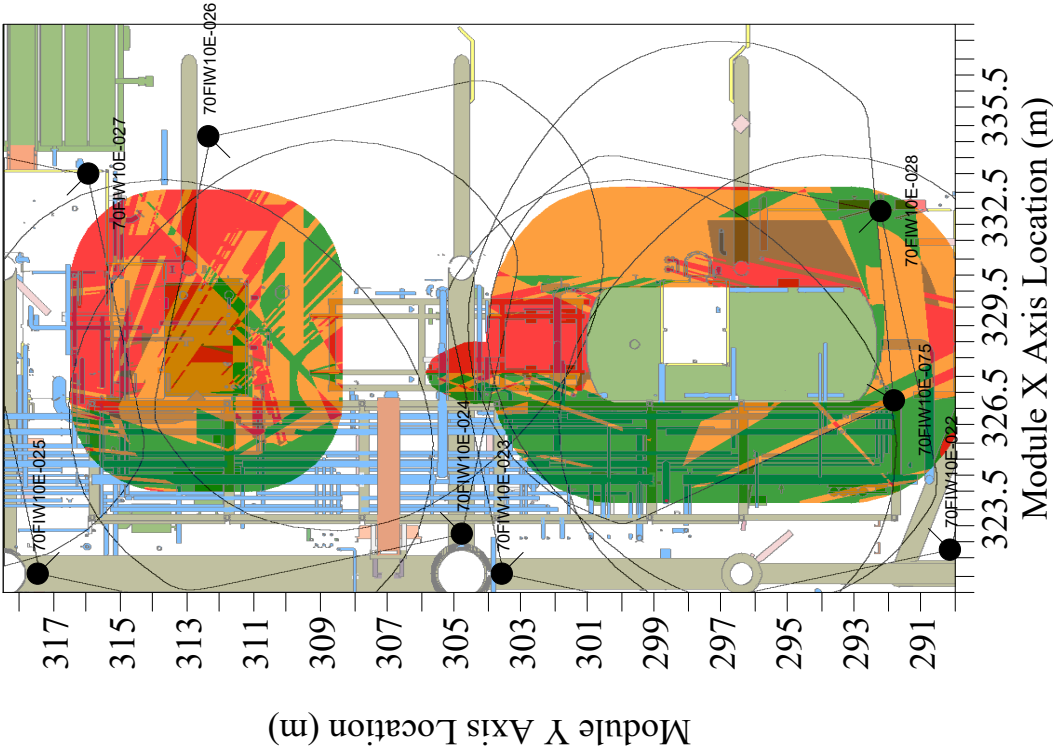
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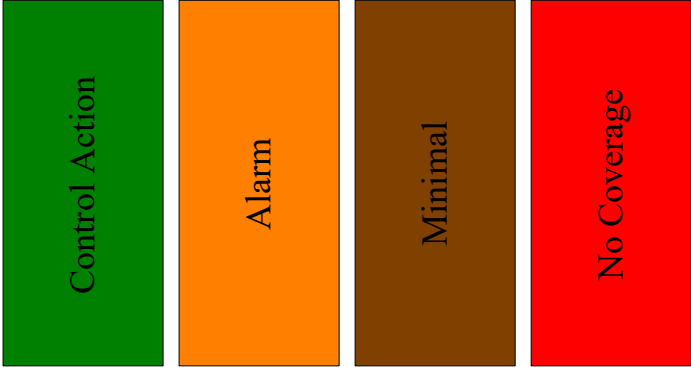
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 3.620 m ALD



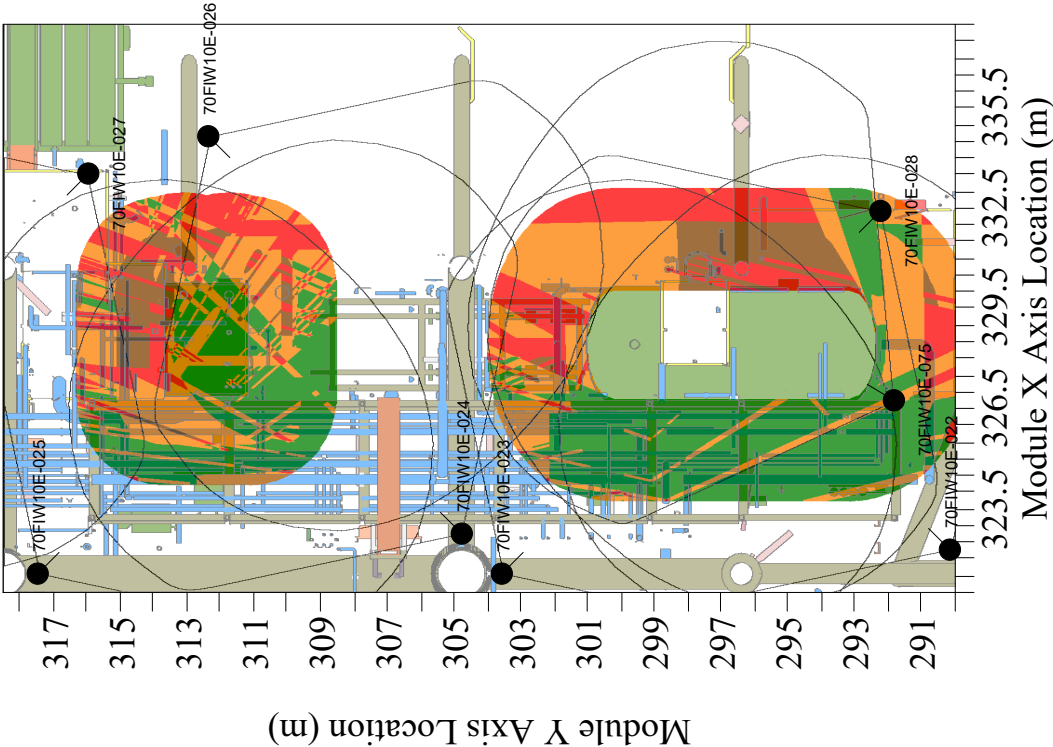
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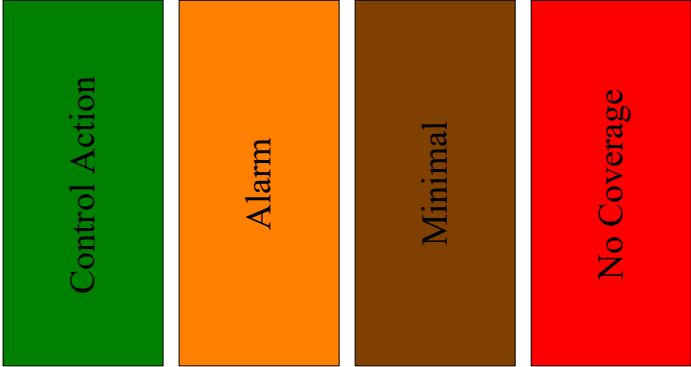
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 4.049 m ALD



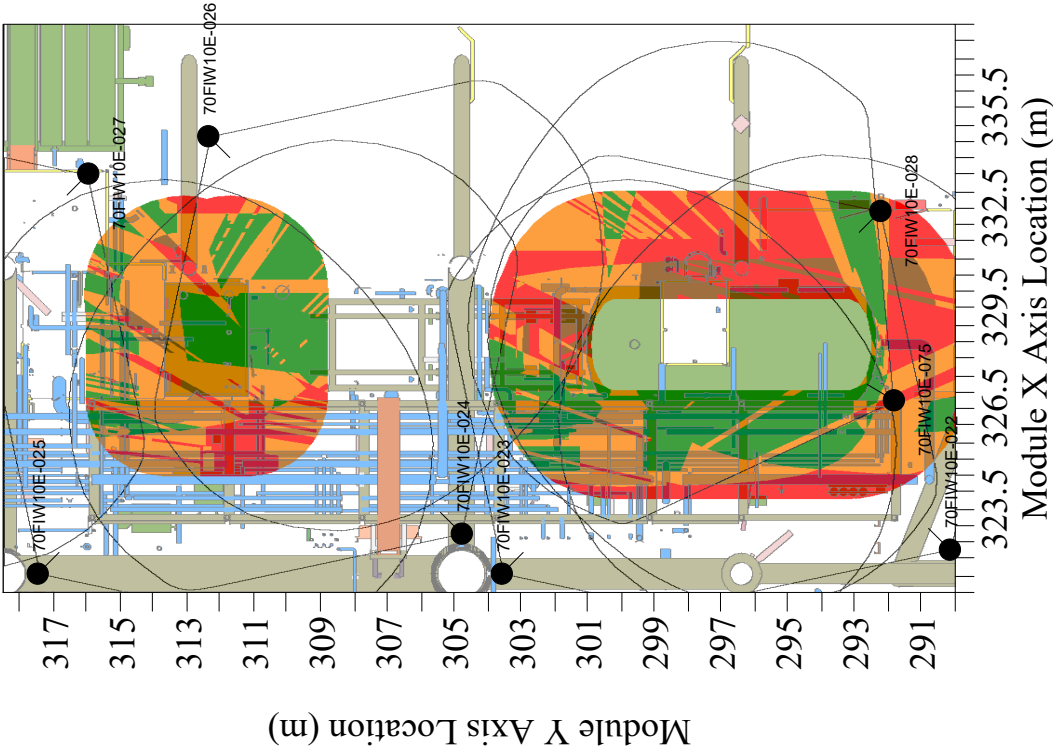
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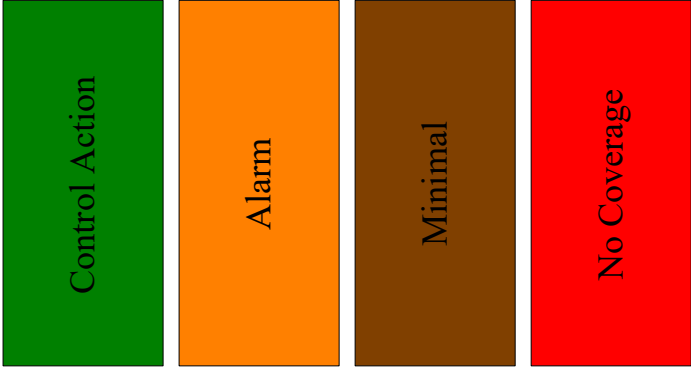
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 4.477 m ALD



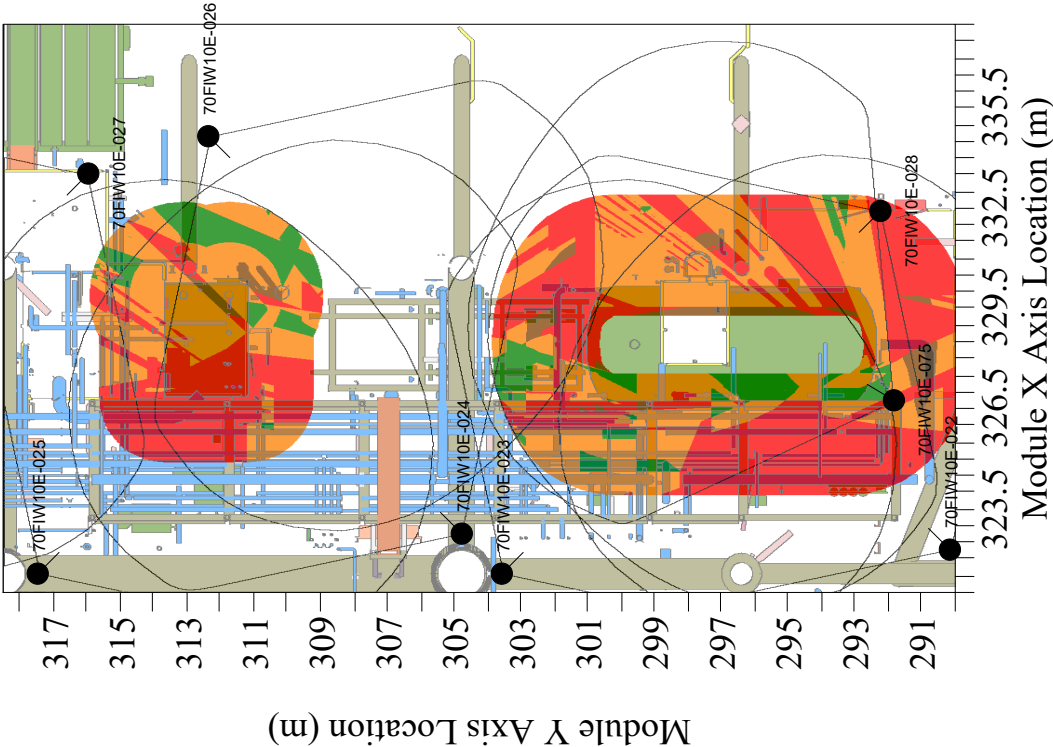
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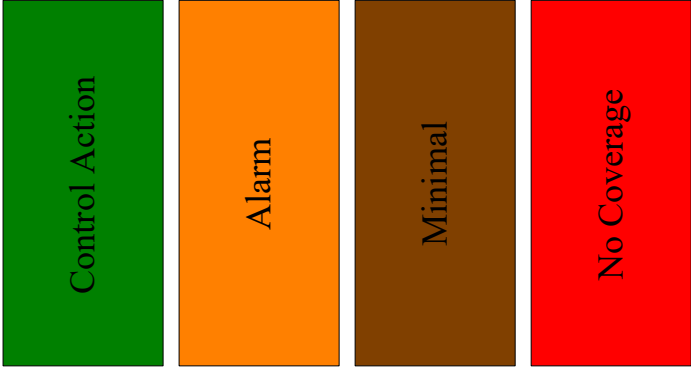
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 4.906 m ALD



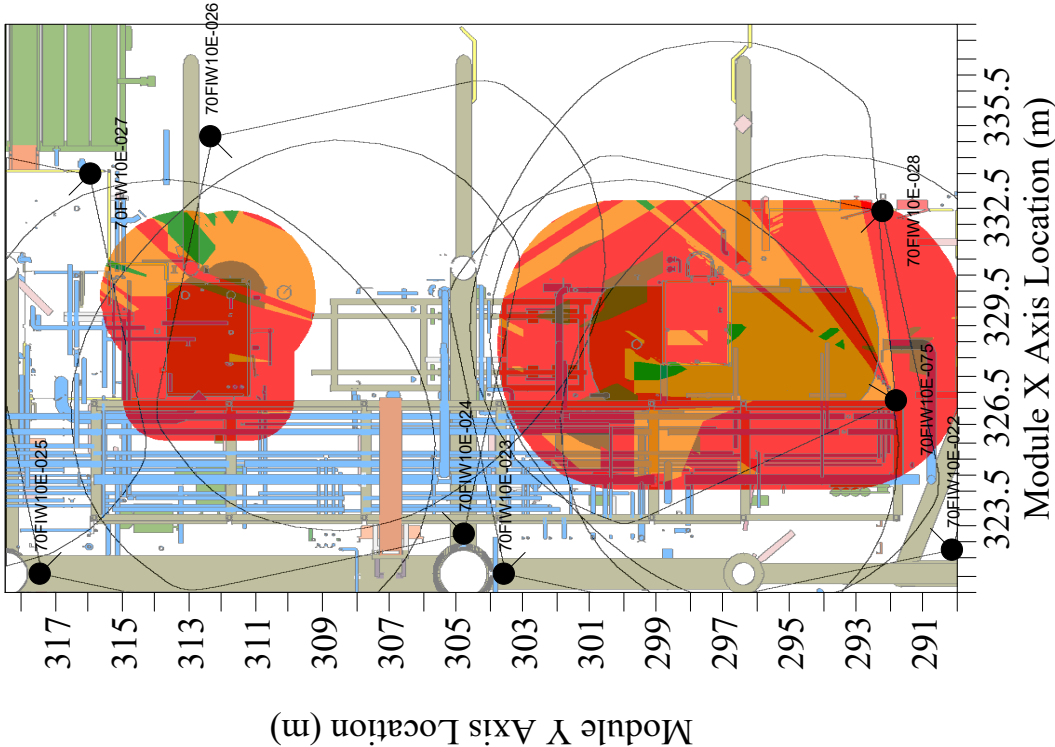
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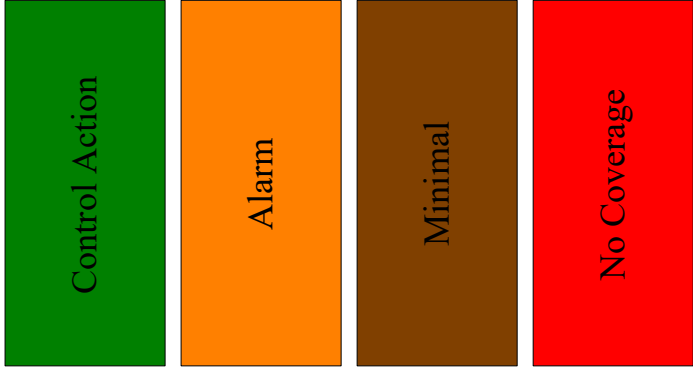
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 5.334 m ALD



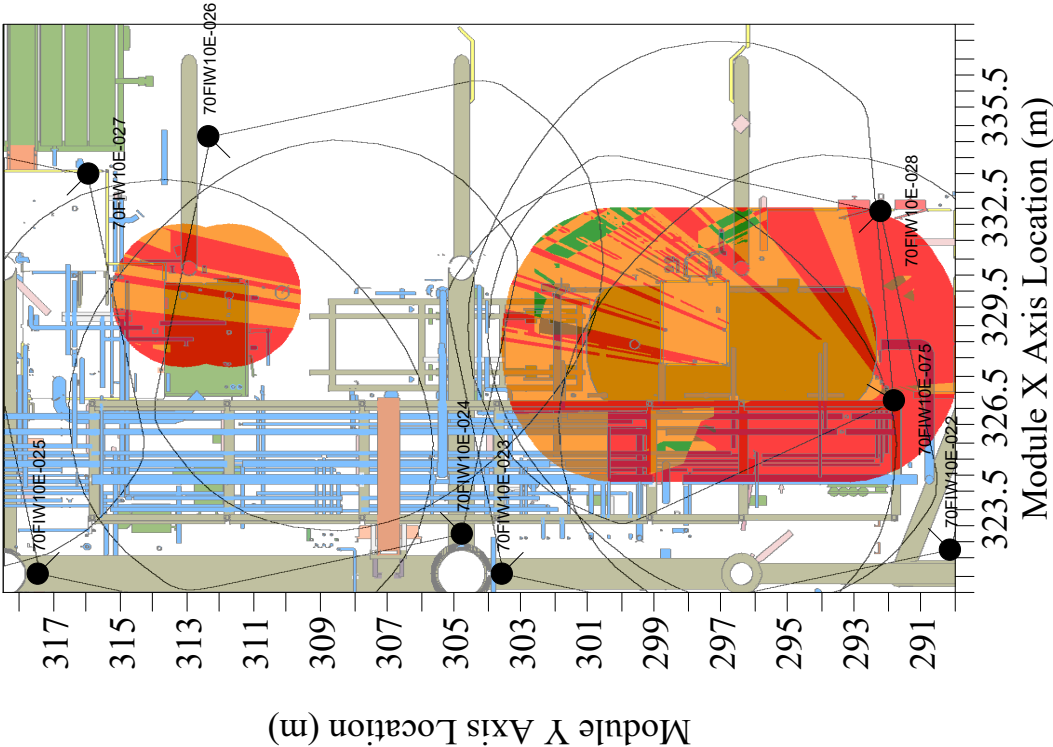
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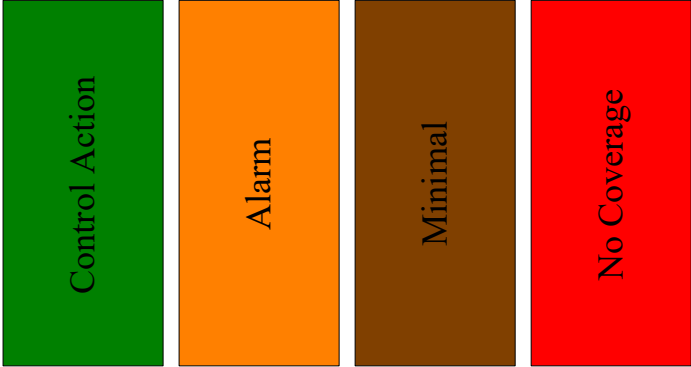
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 5.763 m ALD



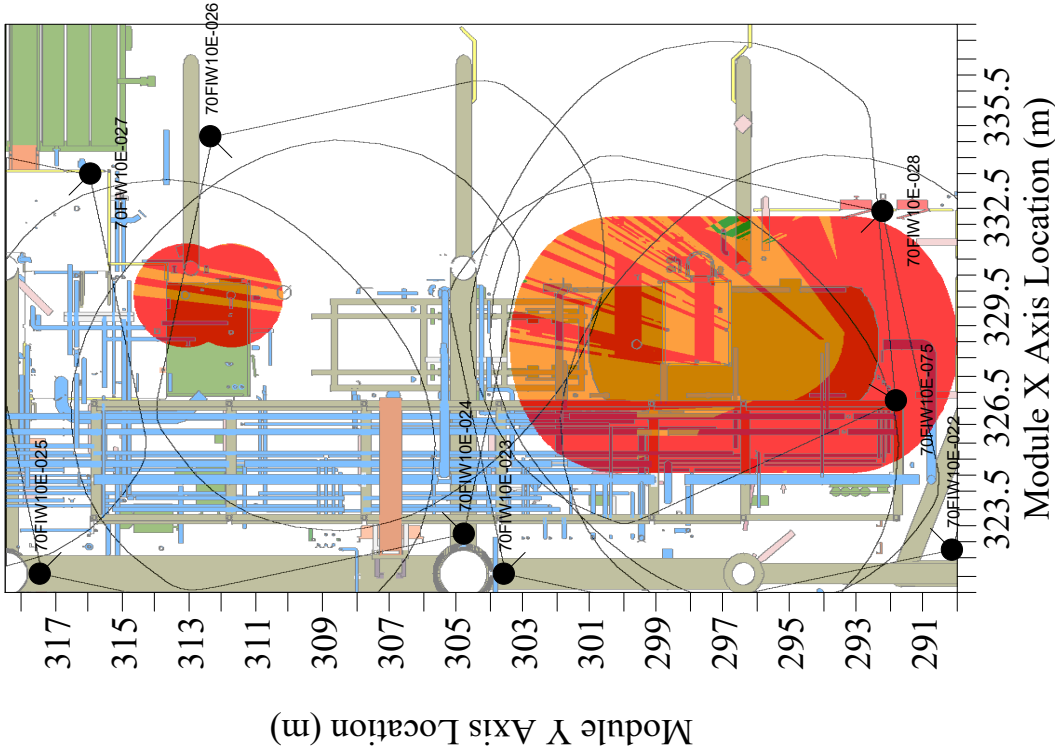
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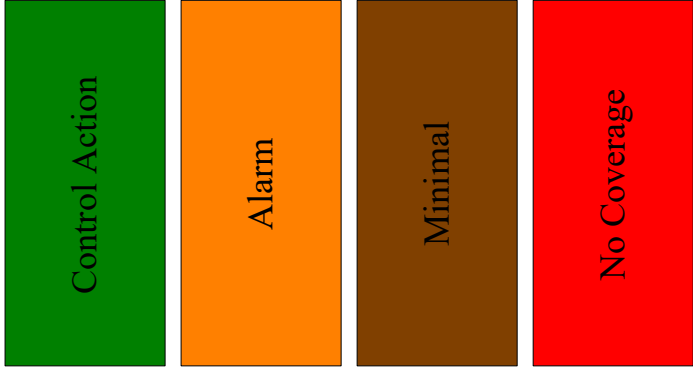
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 6.191 m ALD



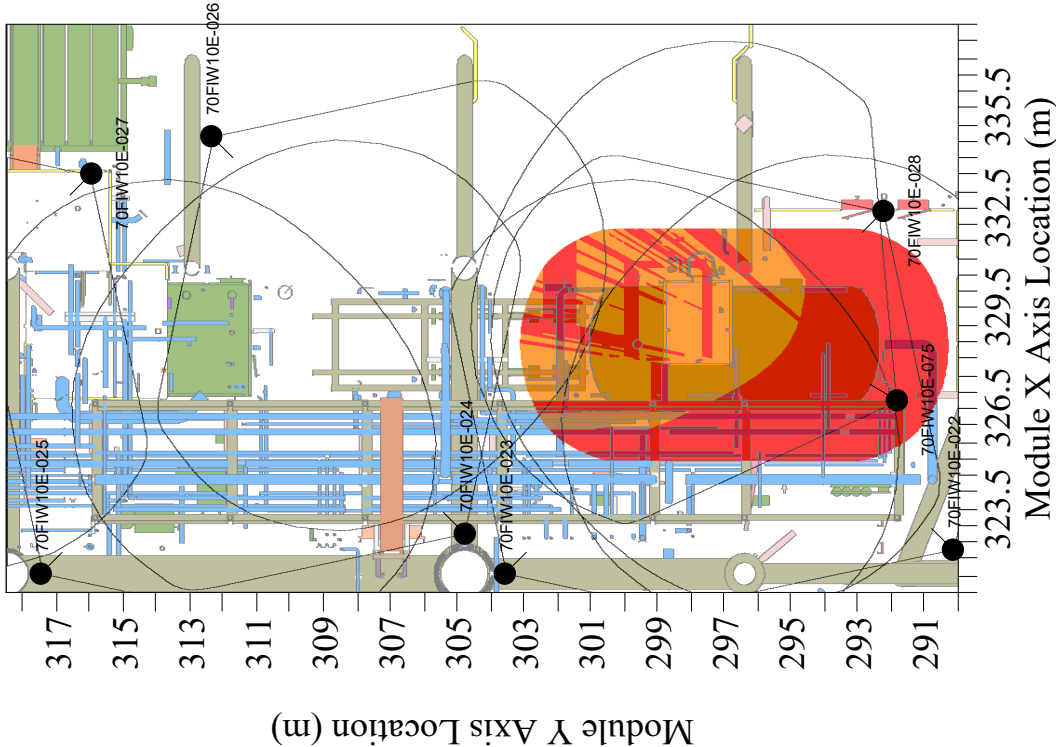
COVERAGE KEY



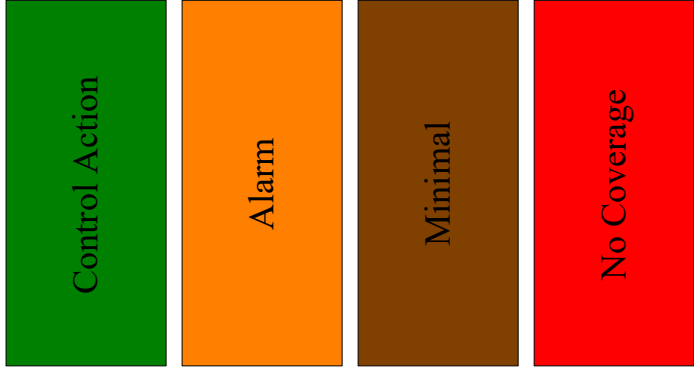
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Fire Detector coverage at 6.620 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:01



PROJECT INFORMATION

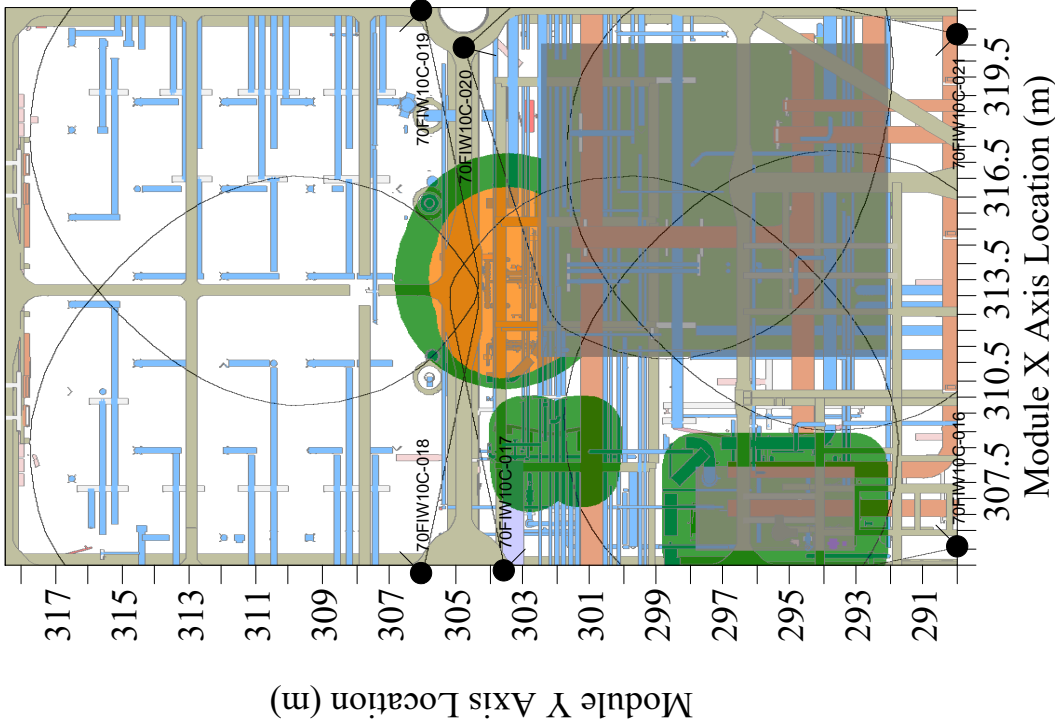
Project name: **Project Name**
Assessment title: **Fire Detection Area W10C**
Number of detectors: 6 (6 existing, 0 new, 0 relocated)
Overall coverage: 52% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

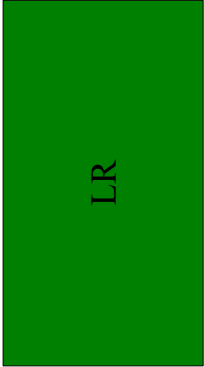
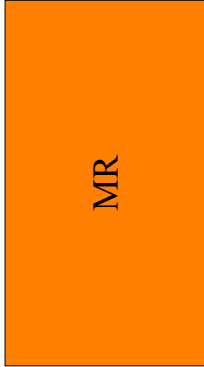
MR	7%	48%	45%
LR	12%	39%	49%
Totals	11%	41%	48%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.626 m ALD)



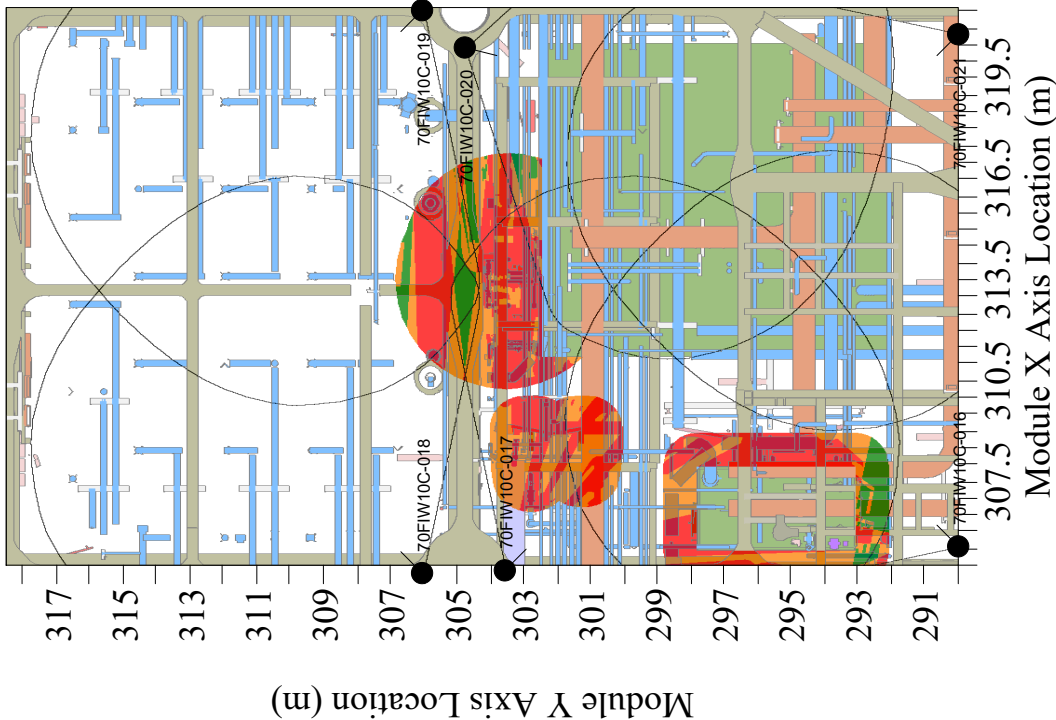
GRADE COLOURS



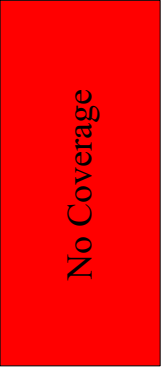
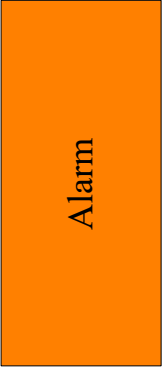
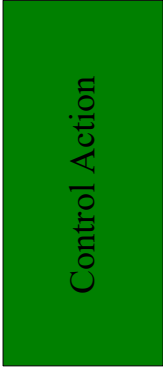
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Grademap (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 0.626 m ALD



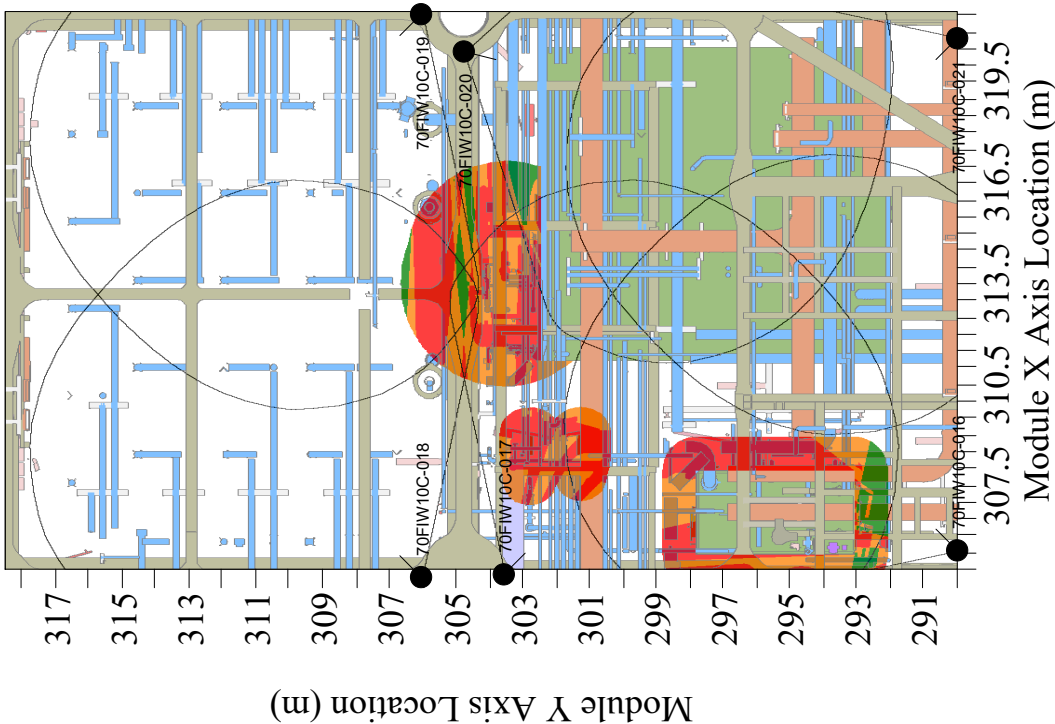
COVERAGE KEY



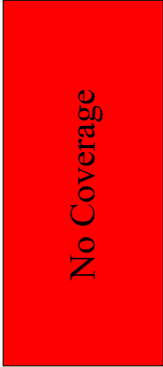
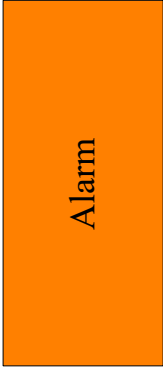
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 1.269 m ALD



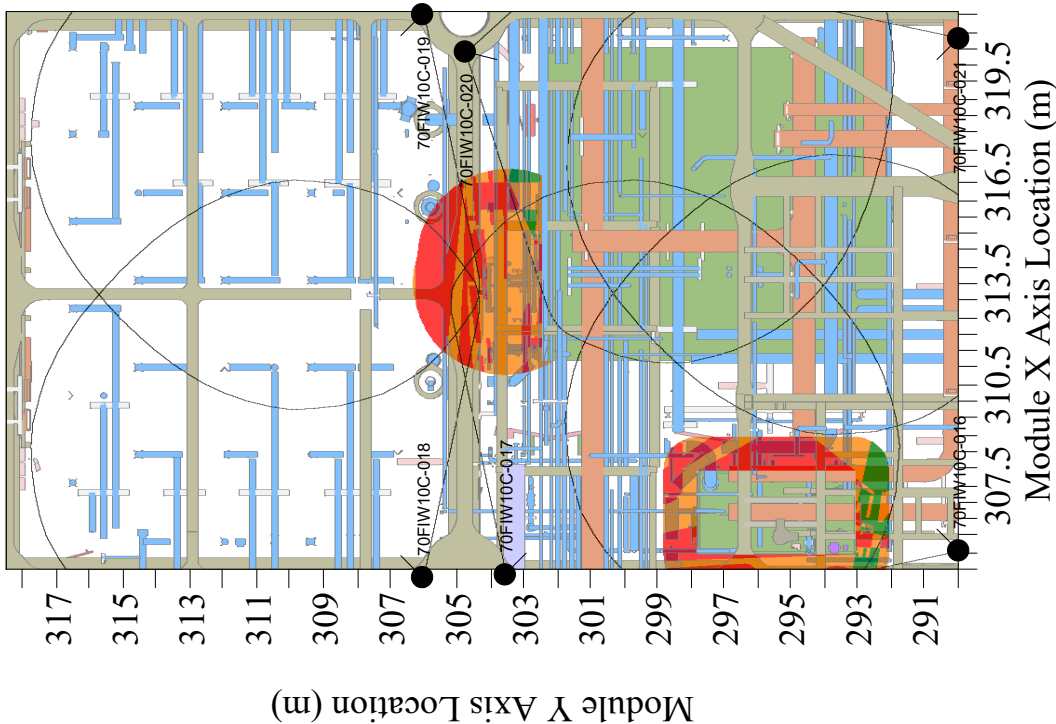
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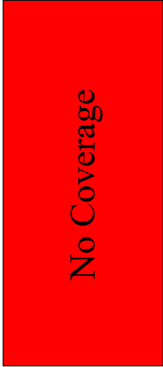
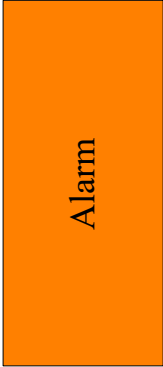
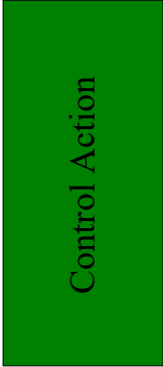
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 1.912 m ALD



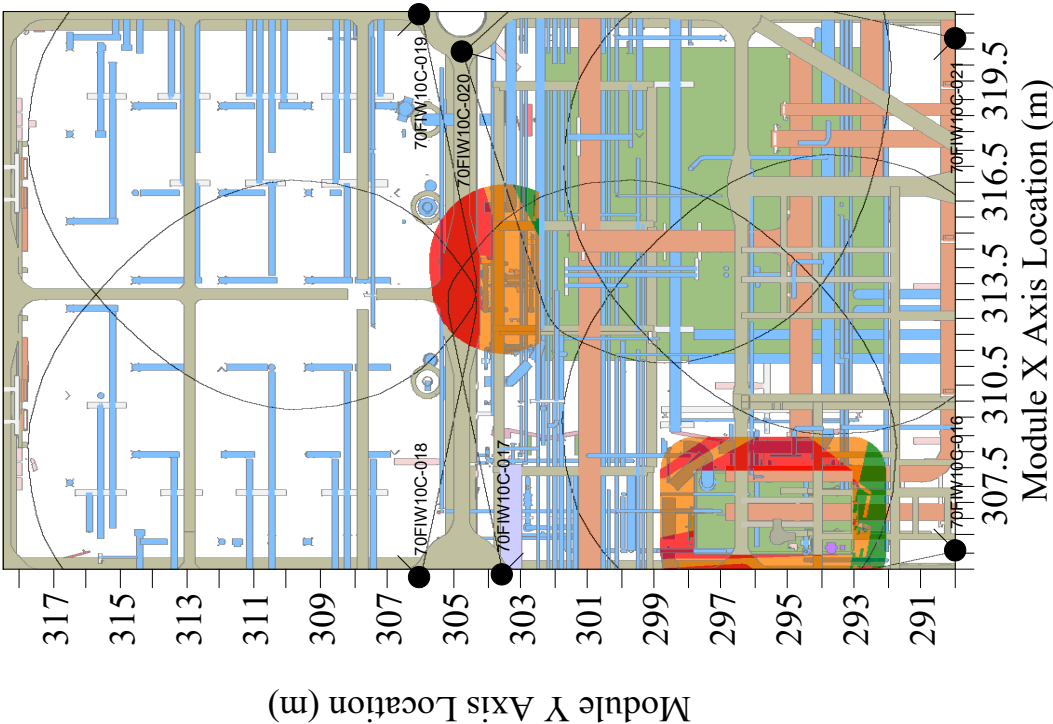
COVERAGE KEY



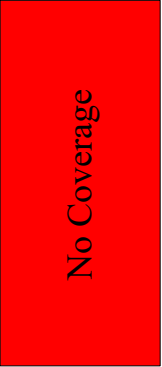
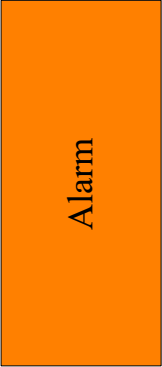
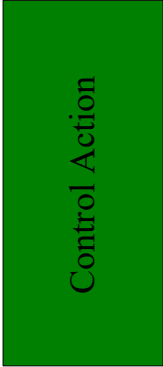
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 2.555 m ALD



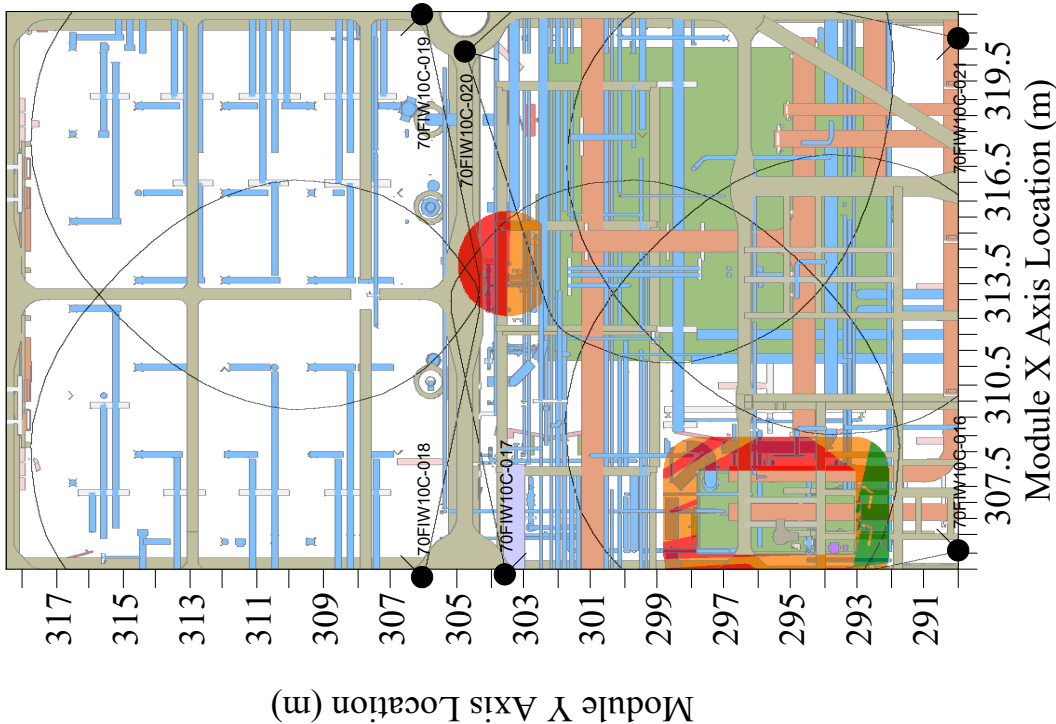
COVERAGE KEY



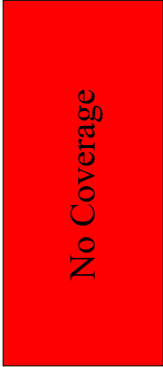
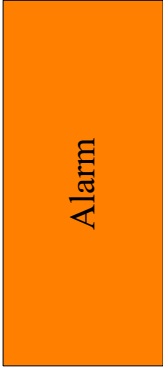
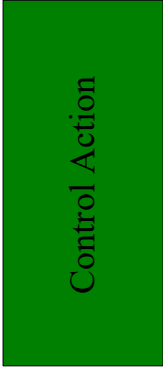
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 3.197 m ALD



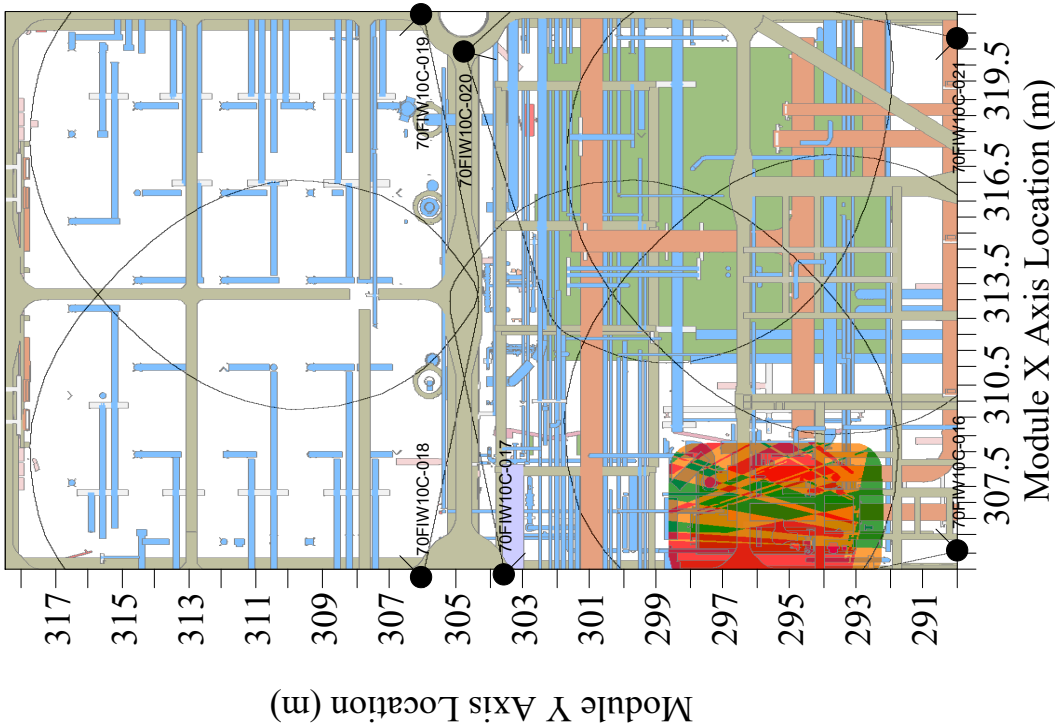
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

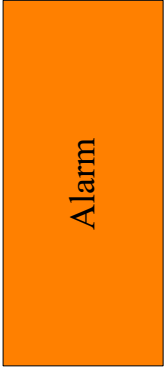
Fire Detector coverage at 3.840 m ALD



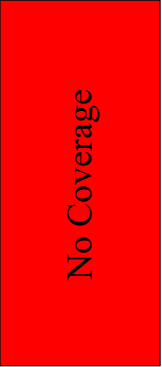
COVERAGE KEY



Control Action



Alarm

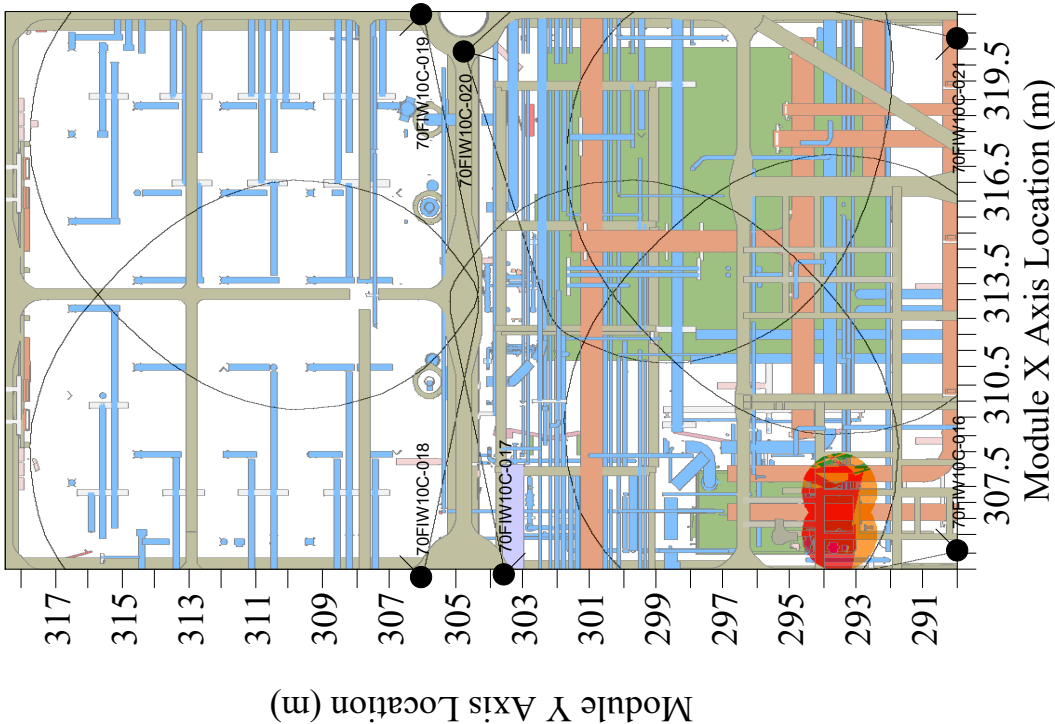


No Coverage

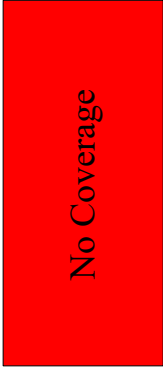
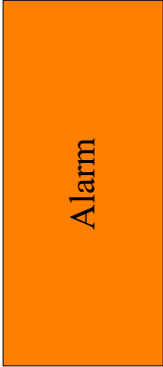
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 4.483 m ALD



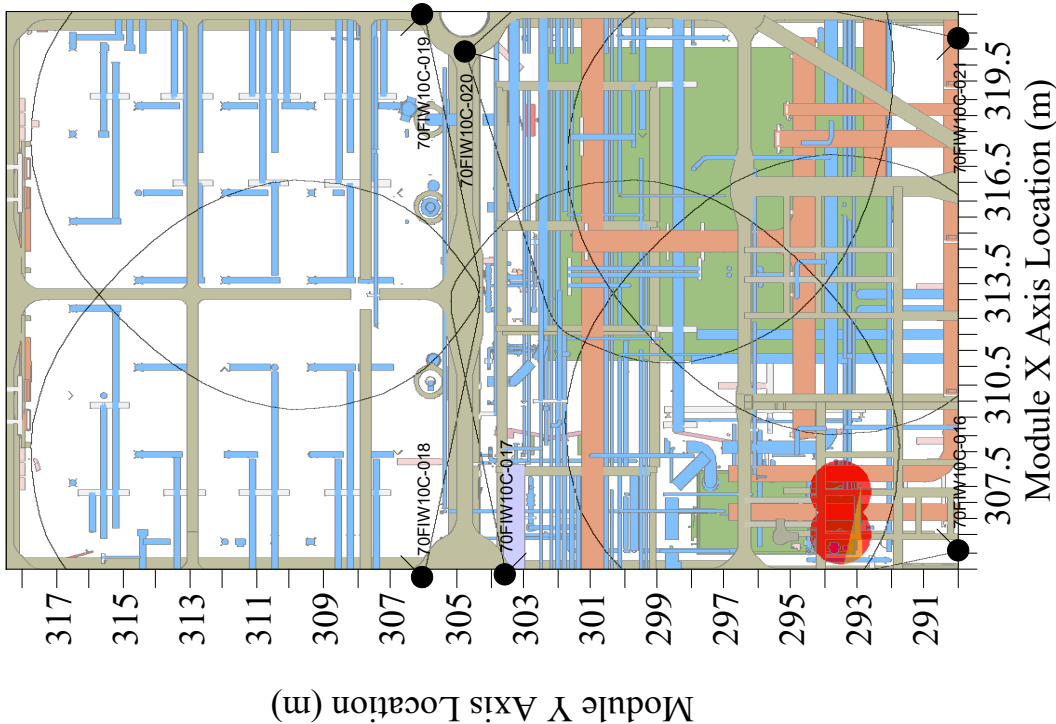
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			

Project Name-Fire Detection Area W10C

Fire Detector coverage at 5.126 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area W10C			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:02



PROJECT INFORMATION

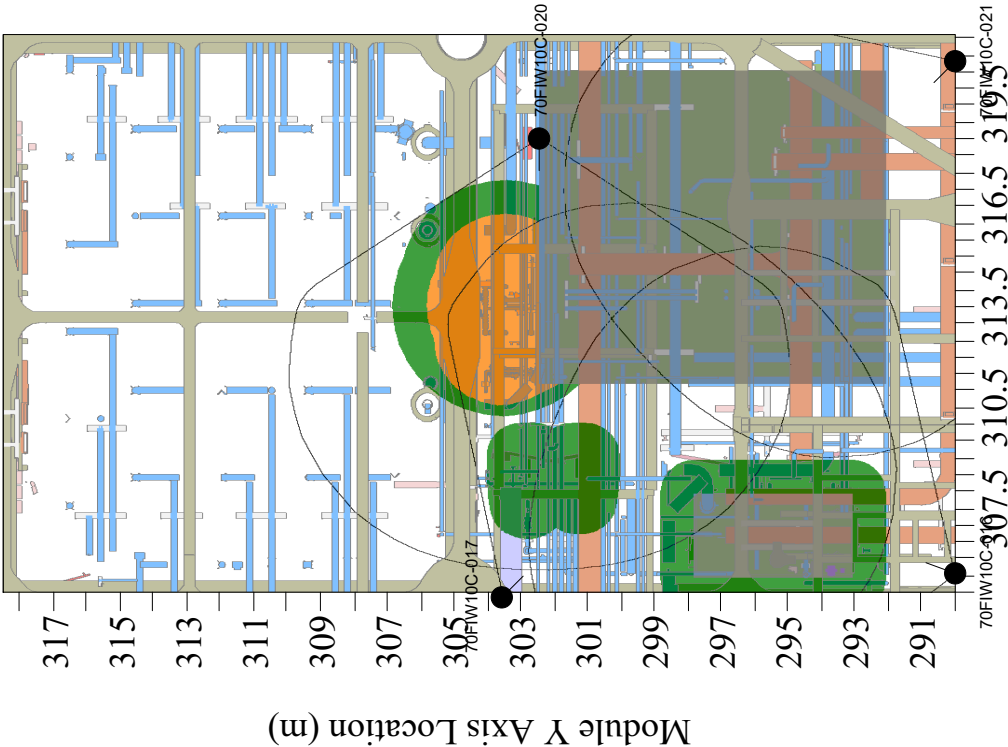
Project name: **Project Name**
Assessment title: **Proposed W10C**
Number of detectors: 4 (2 existing, 0 new, 2 relocated)
Overall coverage: 74% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

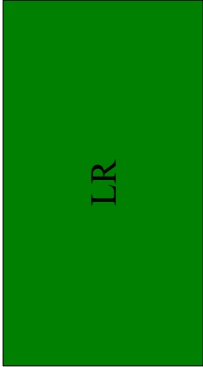
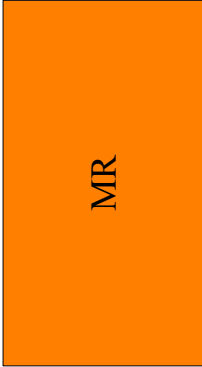
MR	35%	48%	17%
LR	21%	50%	29%
Totals	24%	50%	26%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.626 m ALD)



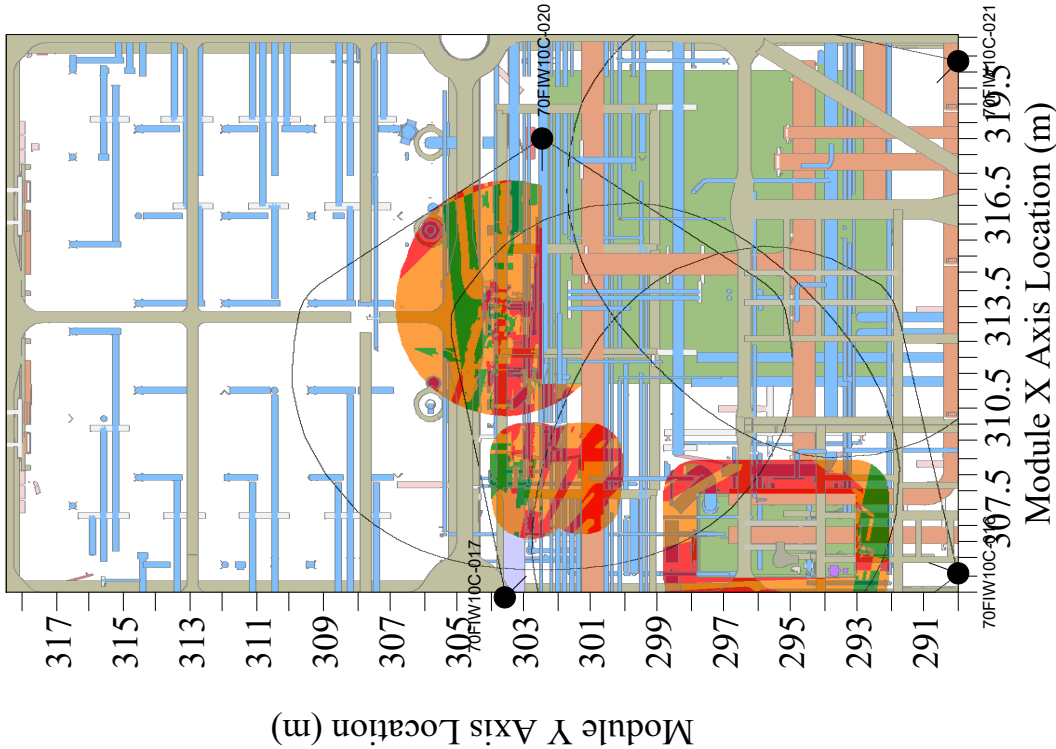
GRADE COLOURS



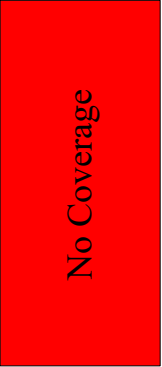
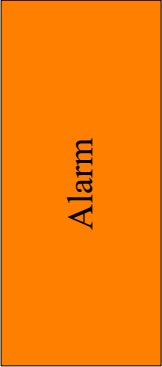
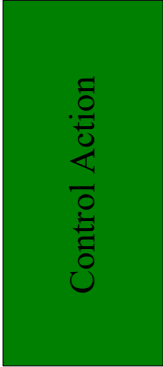
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Grademap (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 0.626 m ALD



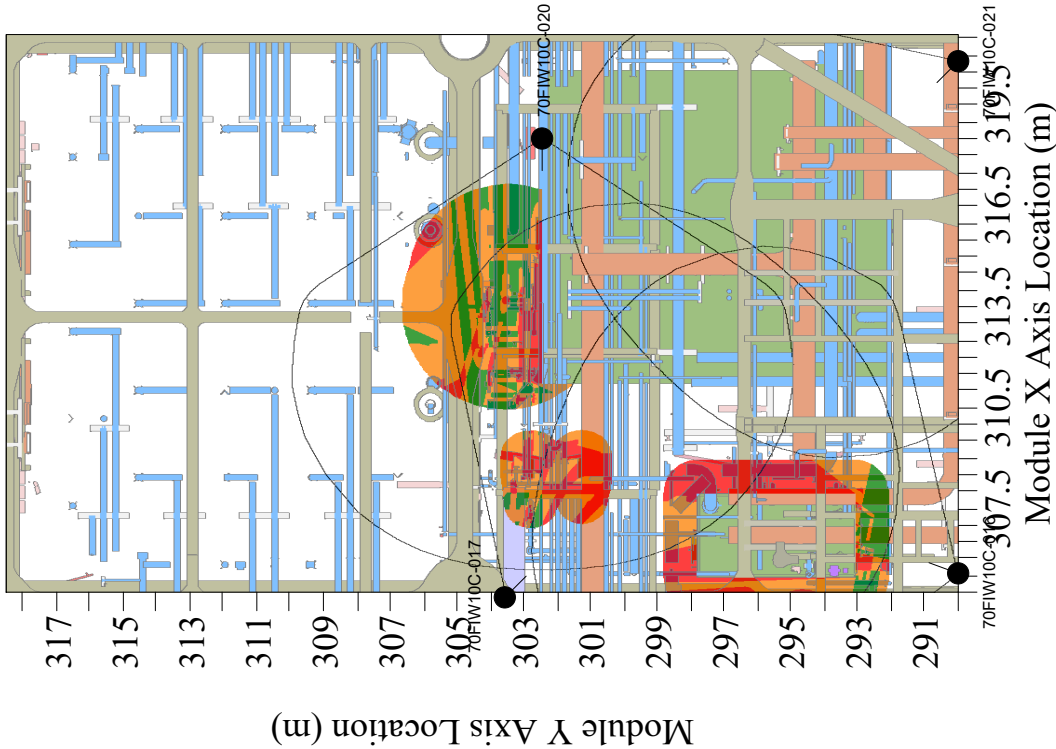
COVERAGE KEY



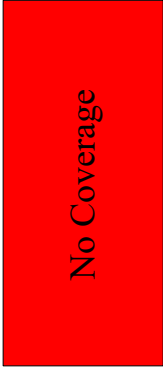
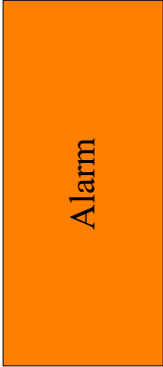
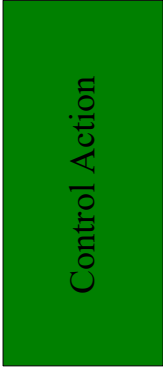
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 1.269 m ALD



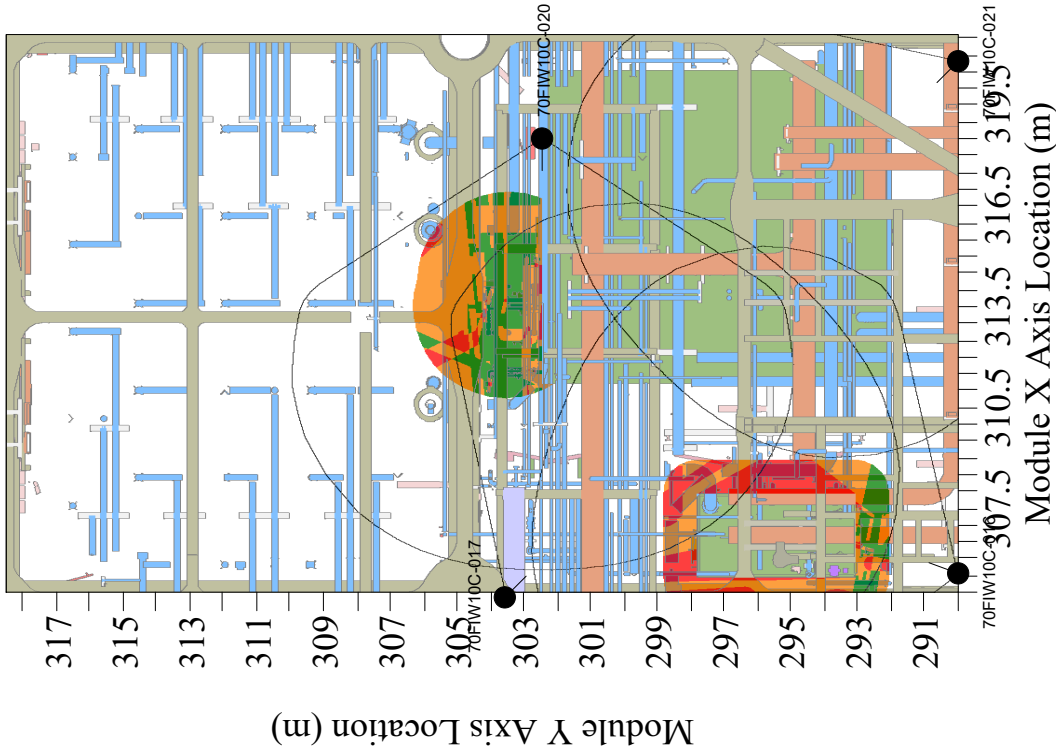
COVERAGE KEY



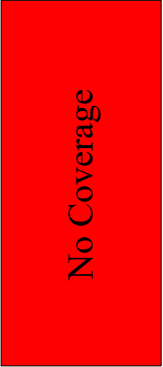
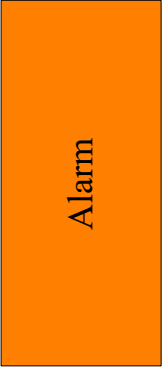
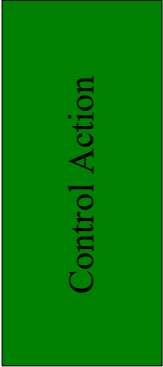
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 1.912 m ALD



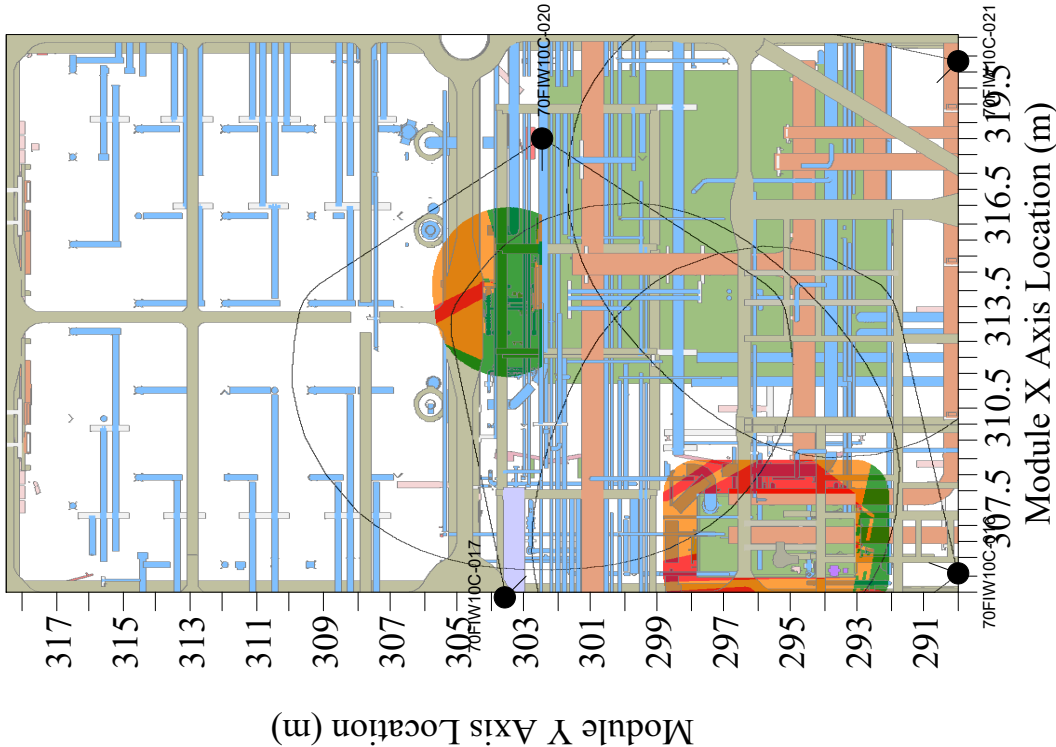
COVERAGE KEY



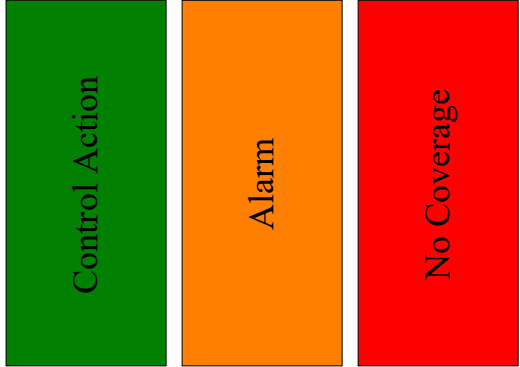
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 2.555 m ALD



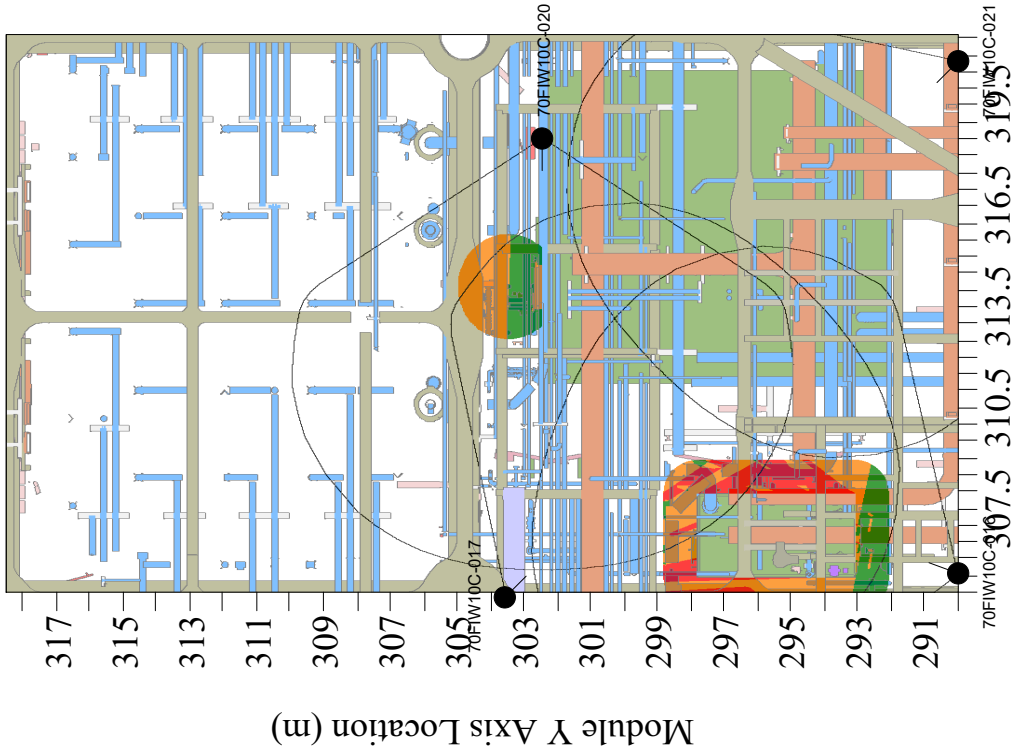
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 3.197 m ALD



COVERAGE KEY

Control Action

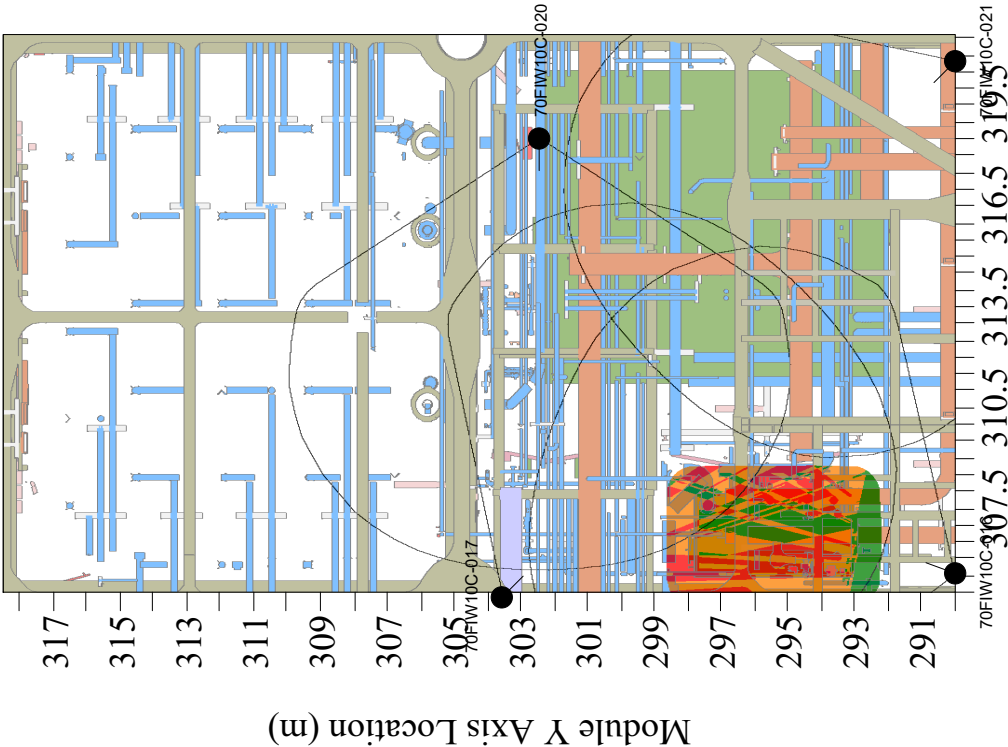
Alarm

No Coverage

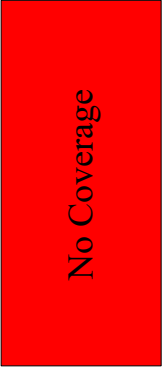
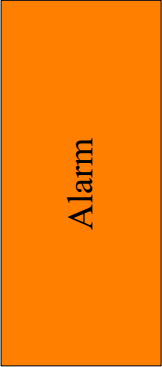
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 3.840 m ALD



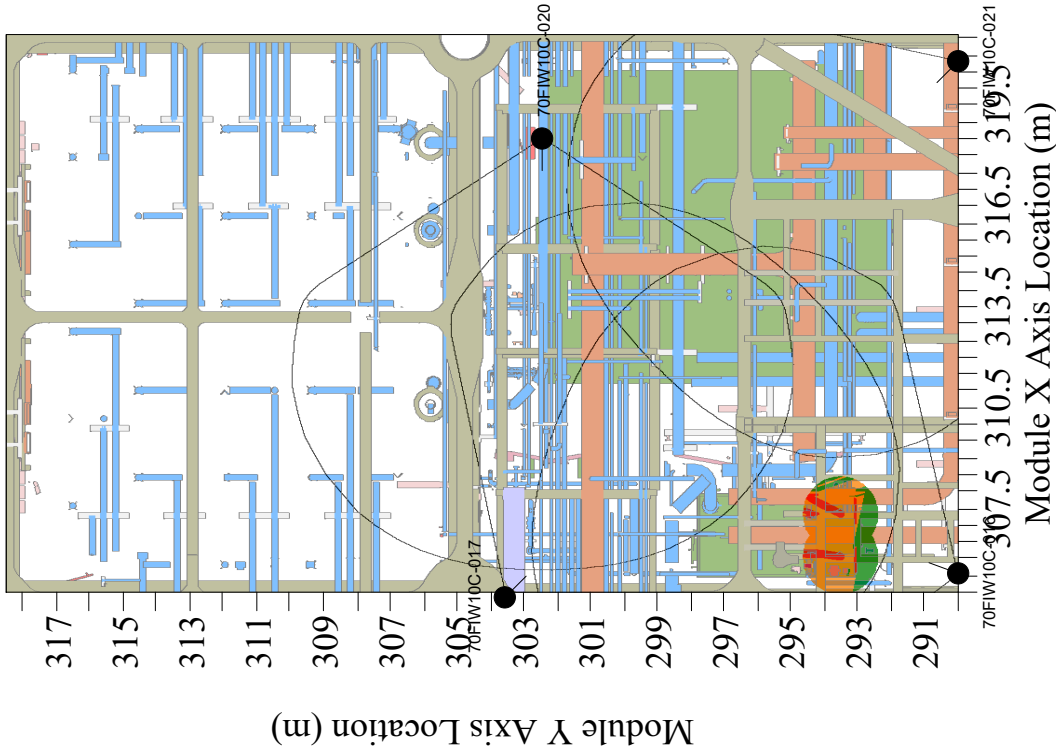
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

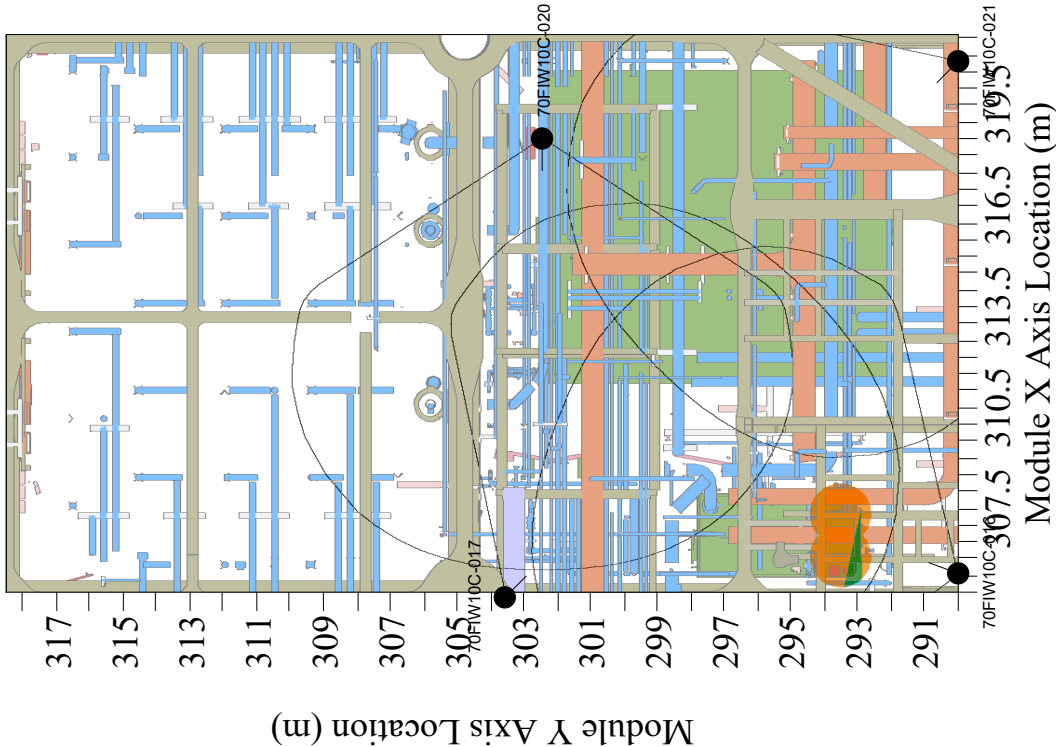
Fire Detector coverage at 4.483 m ALD



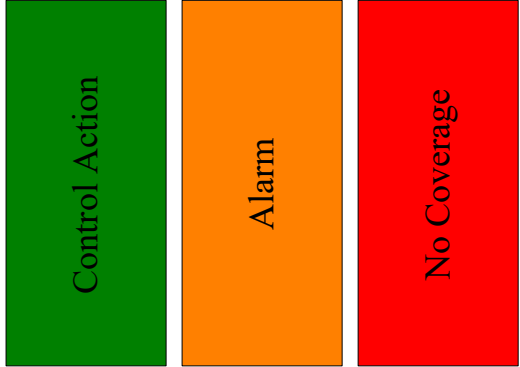
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Fire Detector coverage at 5.126 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed W10C			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:04



PROJECT INFORMATION

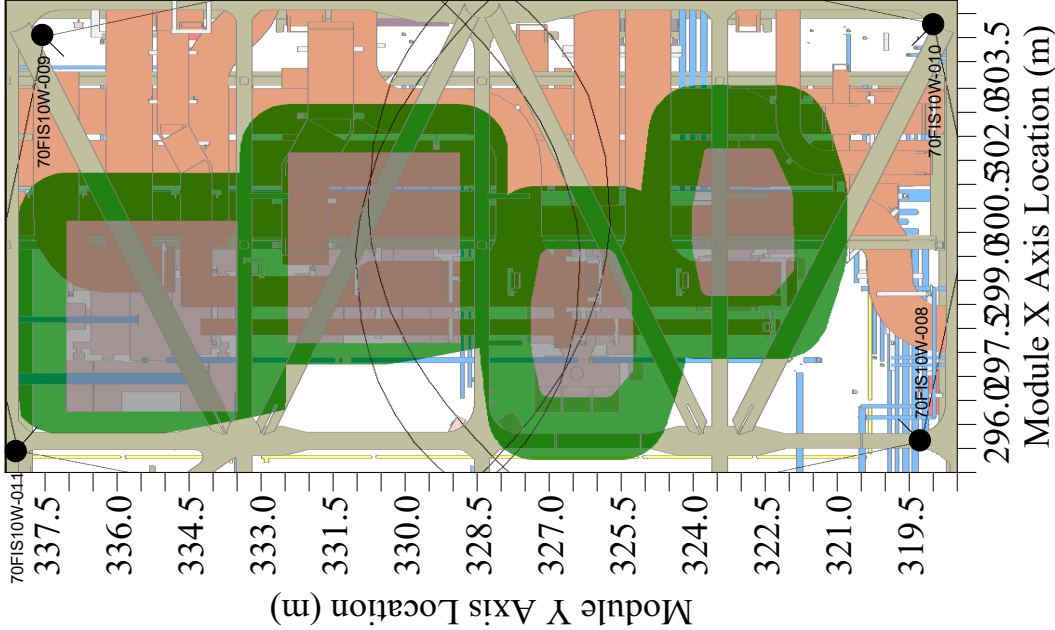
Project name: **Project Name**
Assessment title: **Fire Detection Area S10W**
Number of detectors: 4 (4 existing, 0 new, 0 relocated)
Overall coverage: 93% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

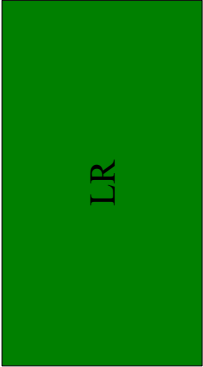
LR	74%	20%	7%
Totals	74%	20%	7%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



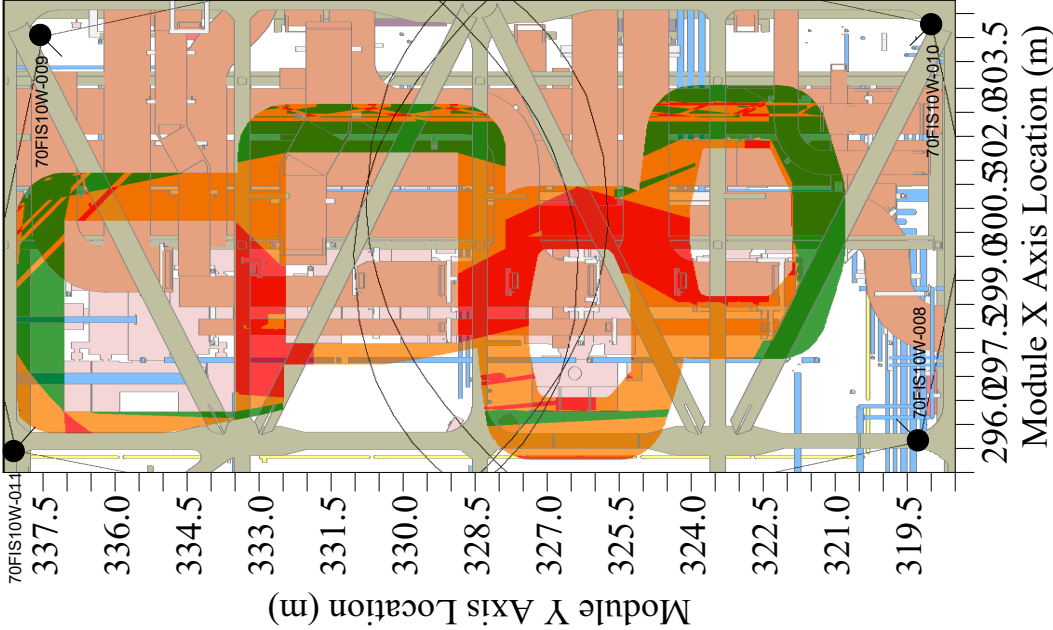
GRADE COLOURS



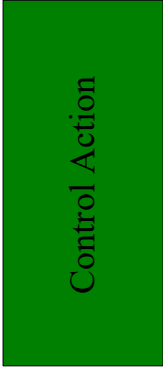
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10W		Drg category	Grademap (19-Jul-2018)
	Project Name-Fire Detection Area S10W			

Project Name-Fire Detection Area S10W

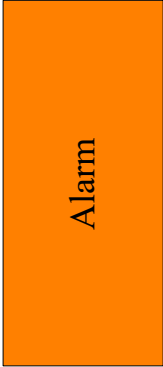
Fire Detector coverage at 0.620 m ALD



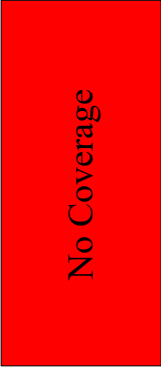
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area S10W

Project Name-Fire Detection Area S10W

Platform/site

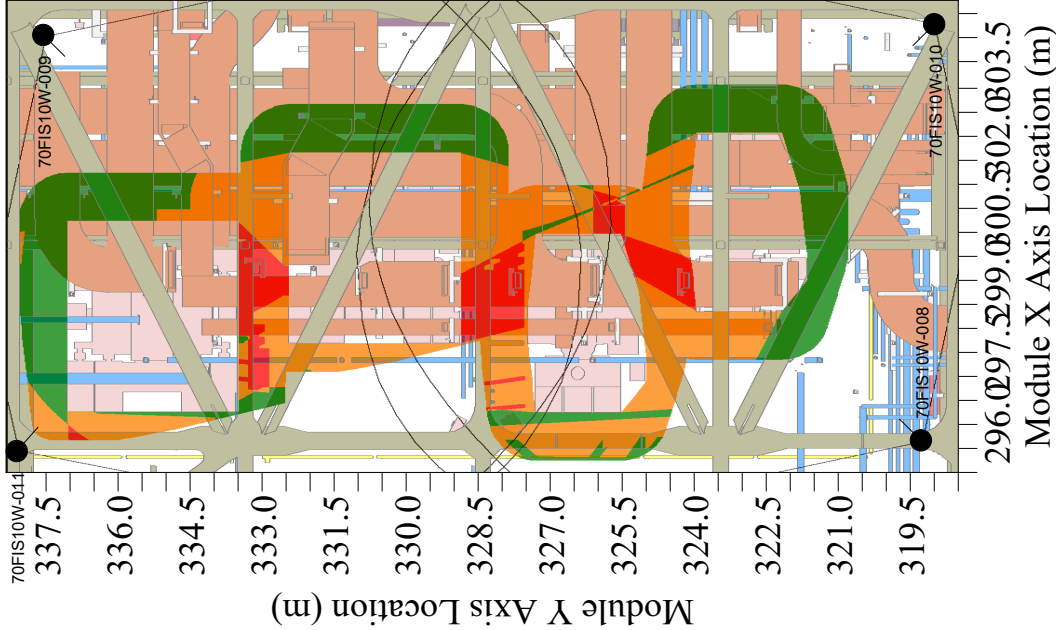
Drg category

Project Name

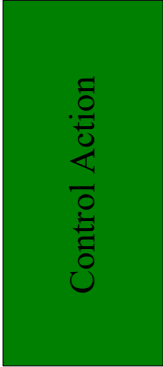
Assessment result (19-Jul-2018)

Project Name-Fire Detection Area S10W

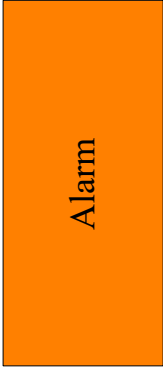
Fire Detector coverage at 1.263 m ALD



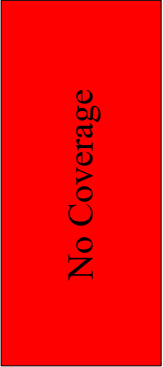
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area S10W

Project Name-Fire Detection Area S10W

Platform/site

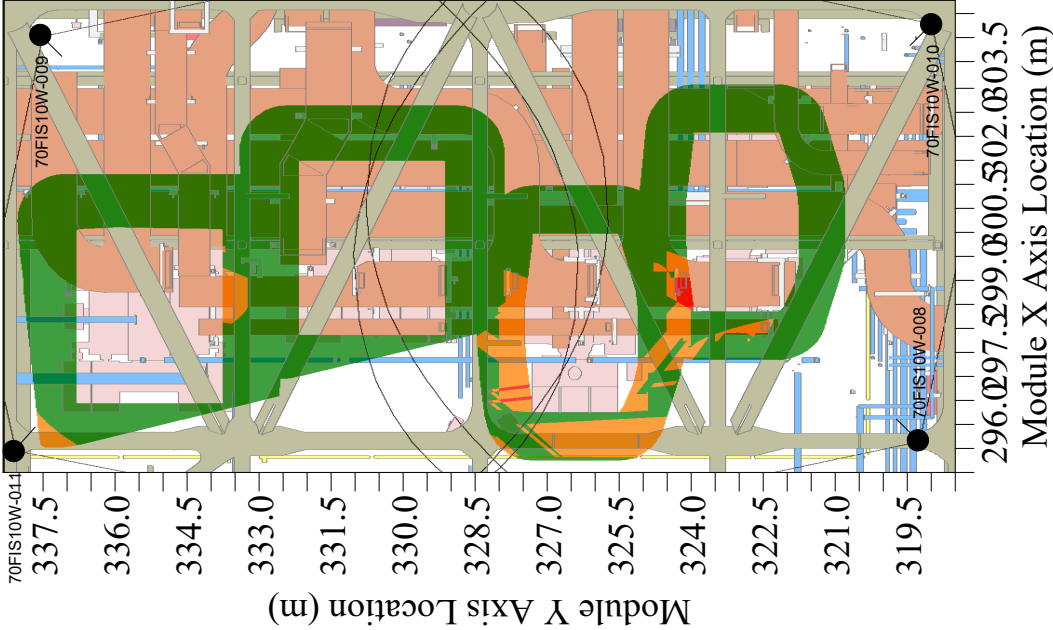
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Fire Detection Area S10W

Fire Detector coverage at 1.906 m ALD



COVERAGE KEY

Control Action

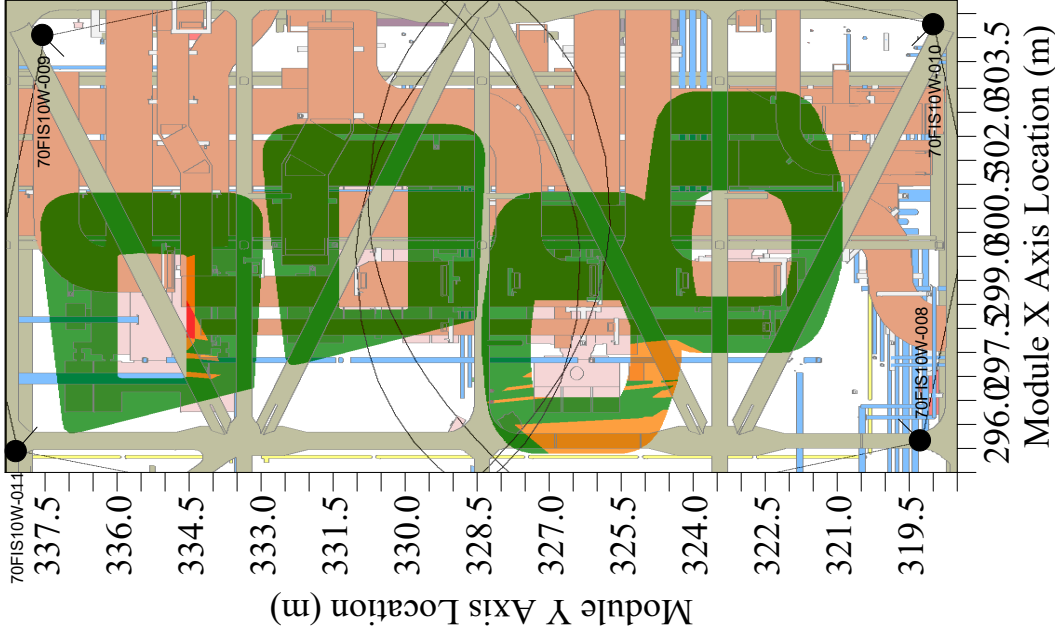
Alarm

No Coverage

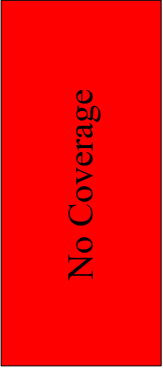
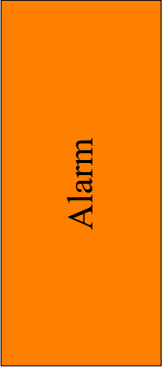
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area S10W			

Project Name-Fire Detection Area S10W

Fire Detector coverage at 2.549 m ALD



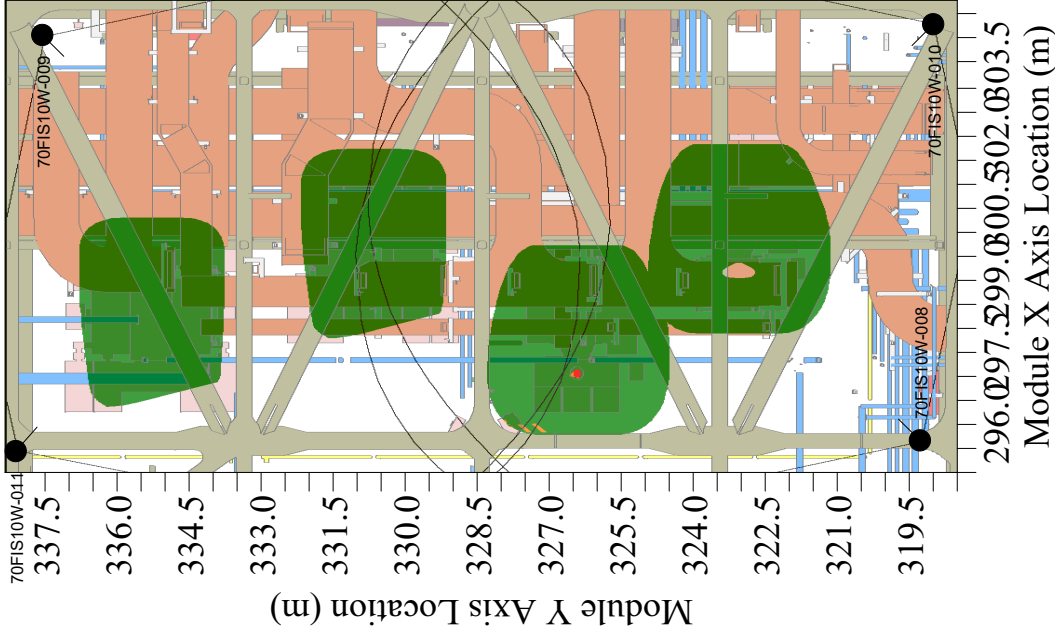
COVERAGE KEY



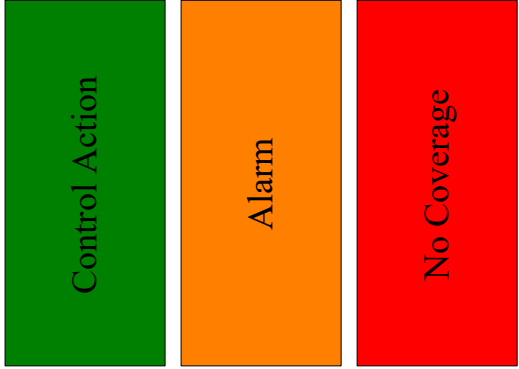
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area S10W			

Project Name-Fire Detection Area S10W

Fire Detector coverage at 3.191 m ALD



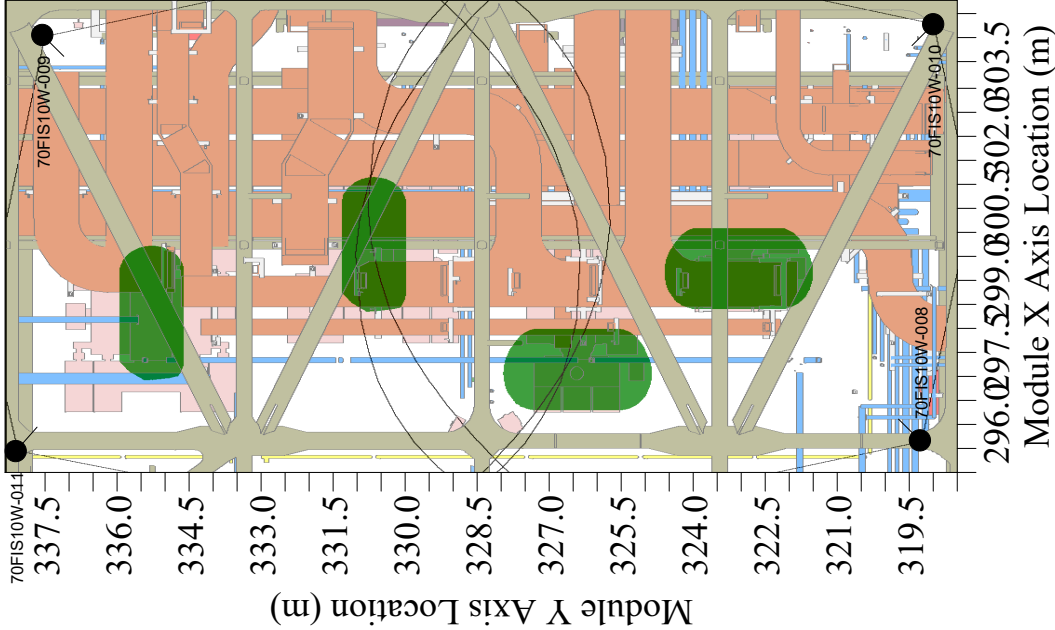
COVERAGE KEY



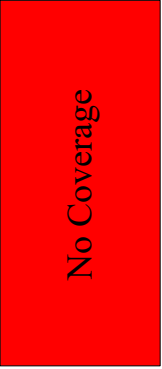
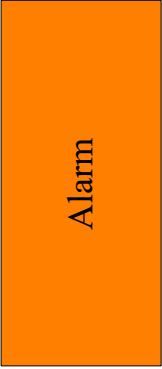
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area S10W			

Project Name-Fire Detection Area S10W

Fire Detector coverage at 3.834 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area S10W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:05



PROJECT INFORMATION

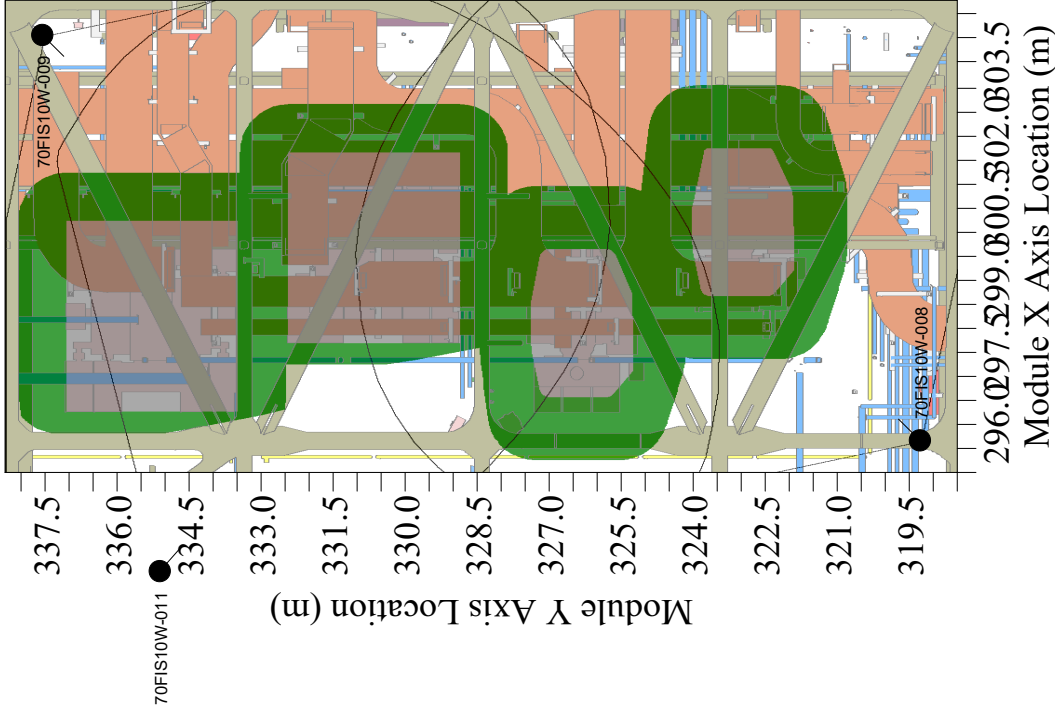
Project name: **Project Name**
Assessment title: **Proposed S10W**
Number of detectors: 3 (2 existing, 0 new, 1 relocated)
Overall coverage: 90% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	51%	39%	10%
Totals	51%	39%	10%

GRADEMAP

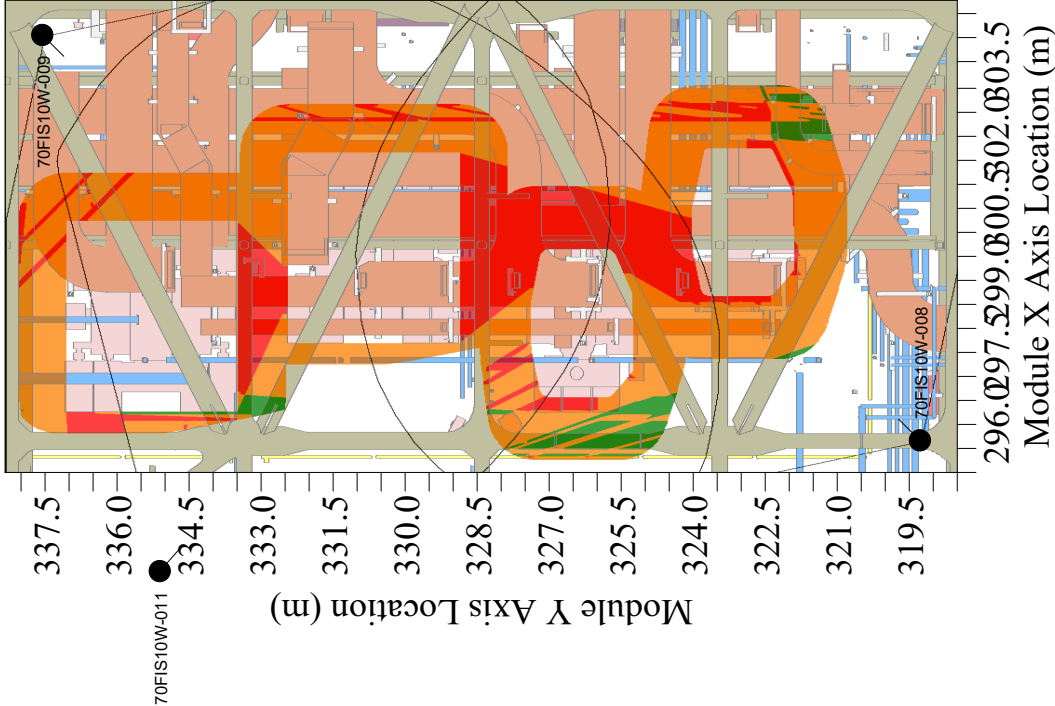
Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



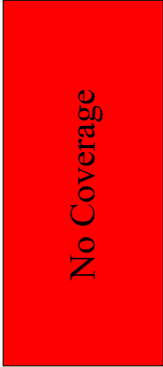
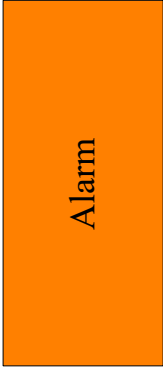
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Grademaps (19-Jul-2018)
	Project Name-Proposed S10W			

Project Name-Proposed S10W

Fire Detector coverage at 0.620 m ALD



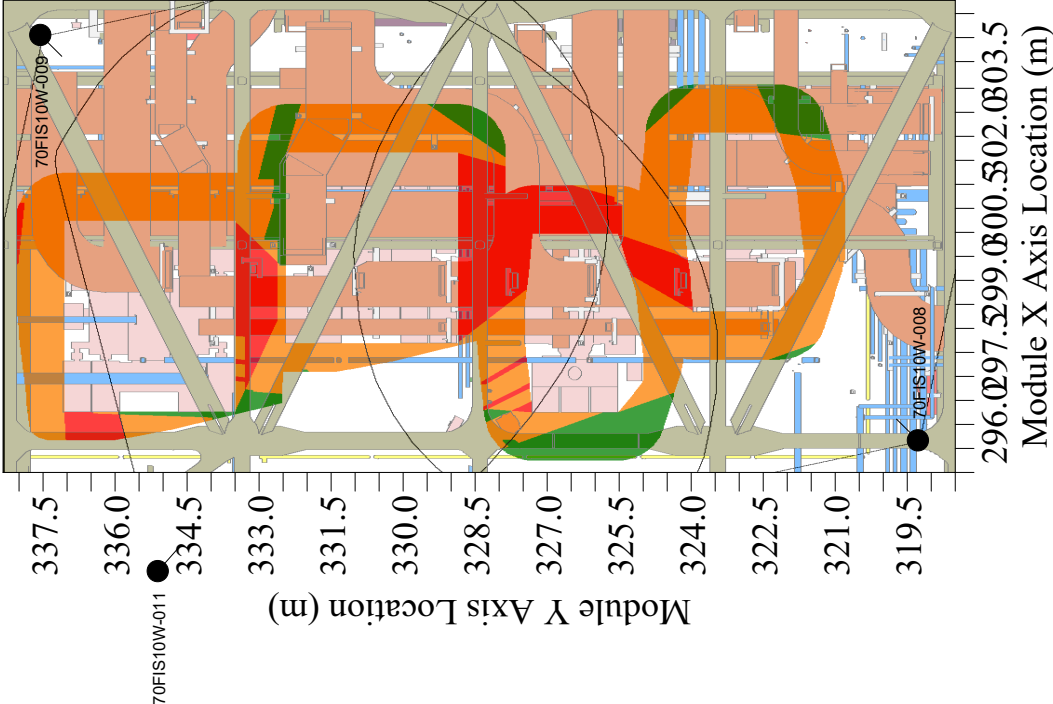
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10W			

Project Name-Proposed S10W

Fire Detector coverage at 1.263 m ALD



COVERAGE KEY

Control Action

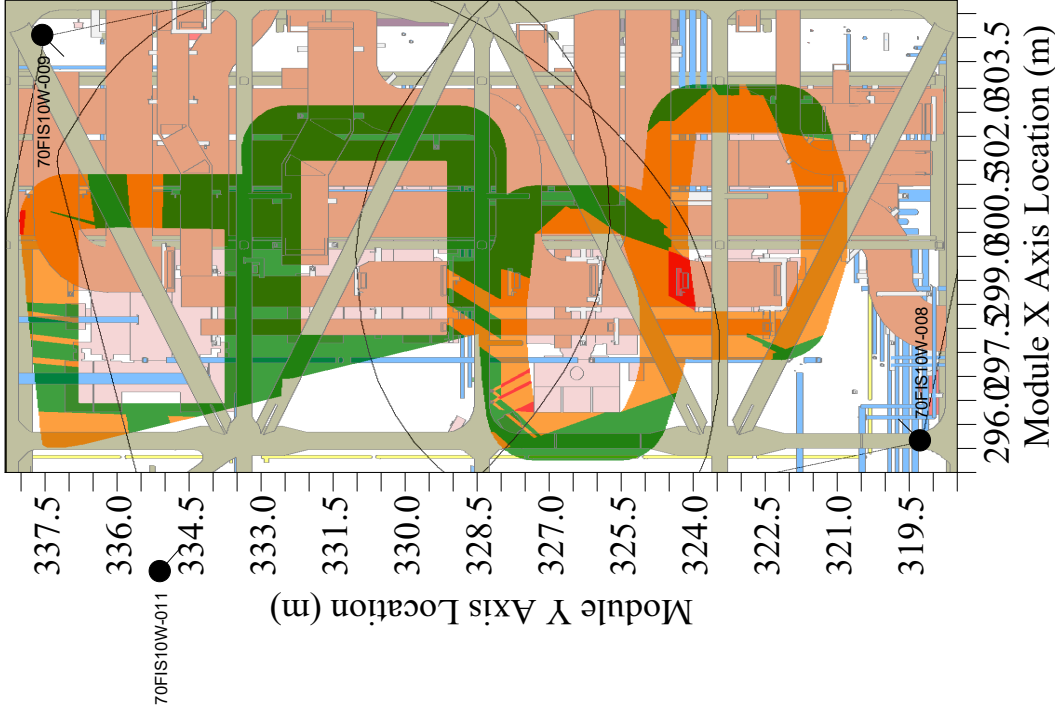
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10W			

Project Name-Proposed S10W

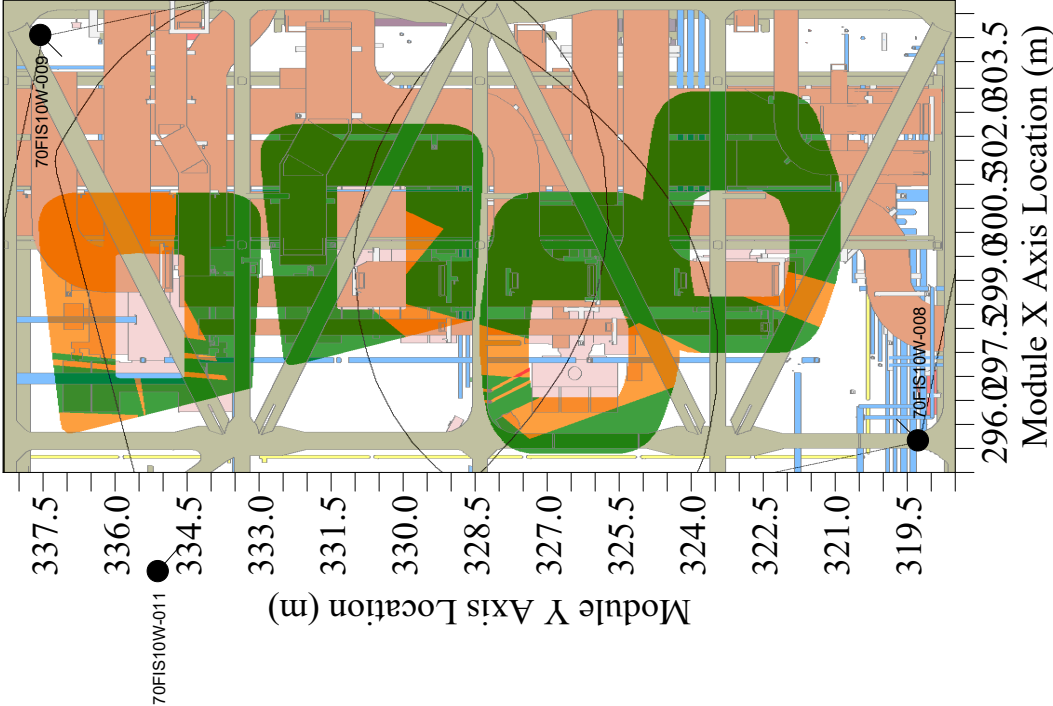
Fire Detector coverage at 1.906 m ALD



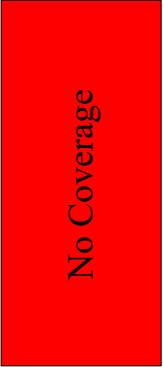
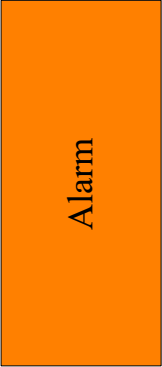
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10W			

Project Name-Proposed S10W

Fire Detector coverage at 2.549 m ALD



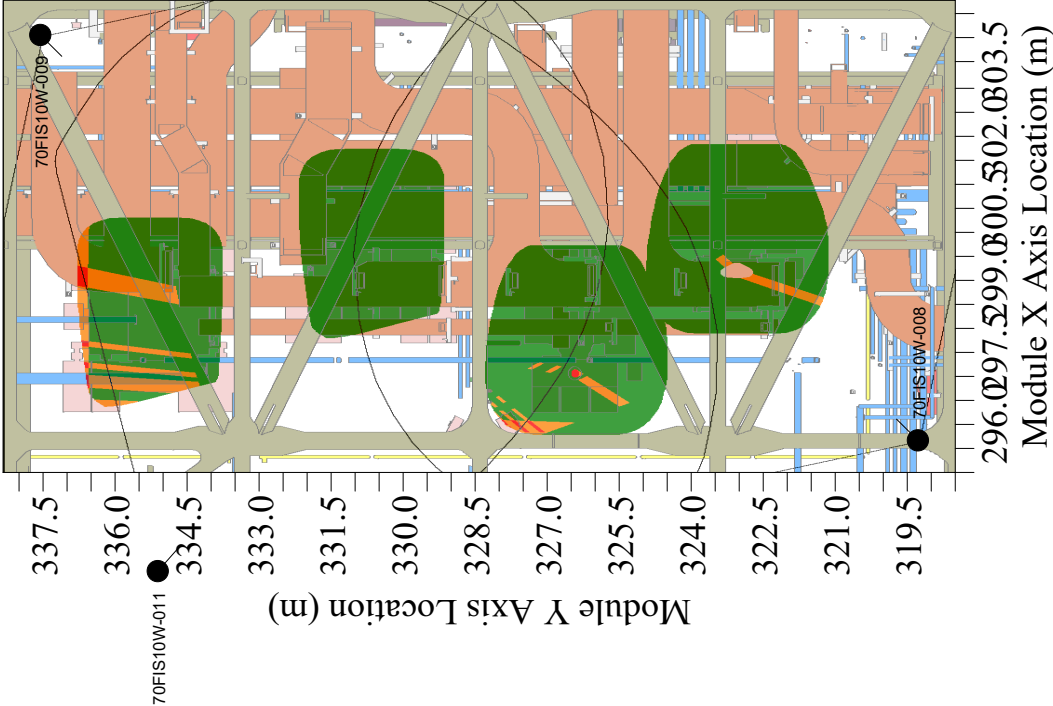
COVERAGE KEY



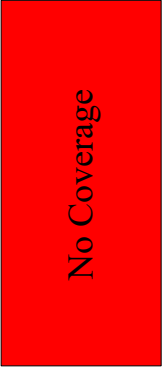
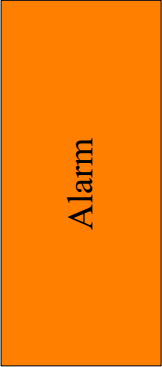
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10W			

Project Name-Proposed S10W

Fire Detector coverage at 3.191 m ALD



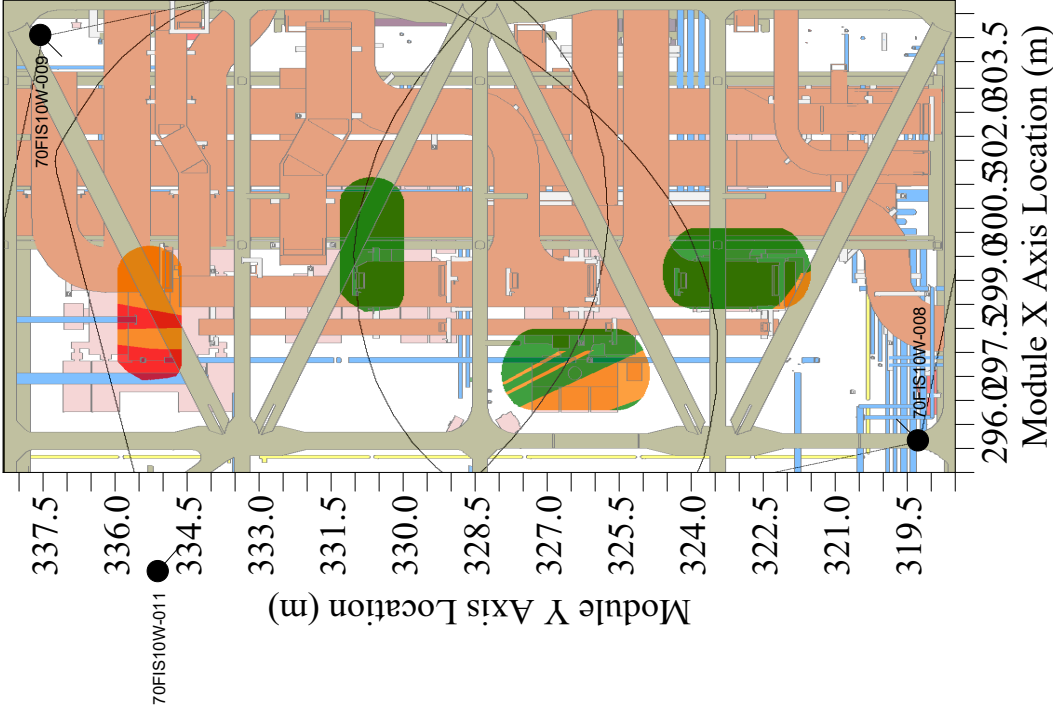
COVERAGE KEY



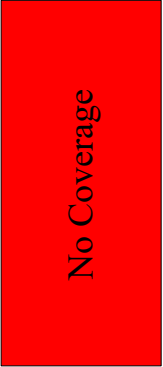
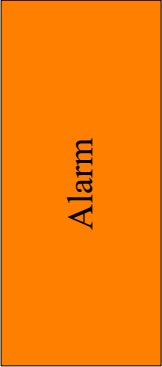
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10W			

Project Name-Proposed S10W

Fire Detector coverage at 3.834 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10W		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:11



PROJECT INFORMATION

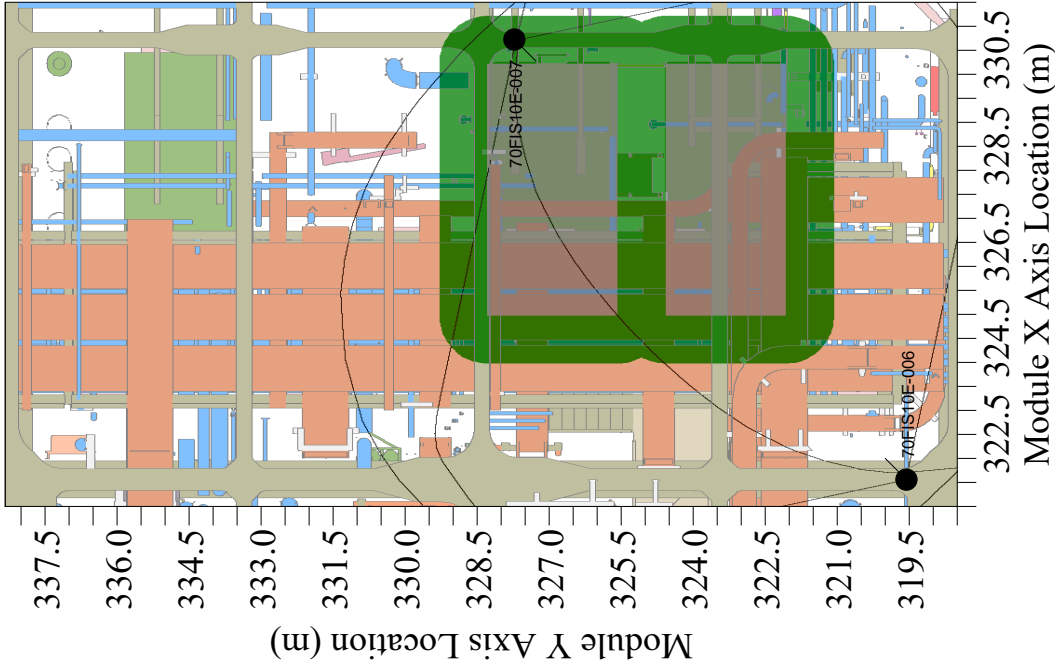
Project name: **Project Name**
Assessment title: **Fire Detection Area S10E**
Number of detectors: 3 (3 existing, 0 new, 0 relocated)
Overall coverage: 55% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

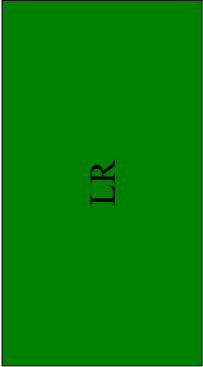
LR	16%	38%	45%
Totals	16%	38%	45%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



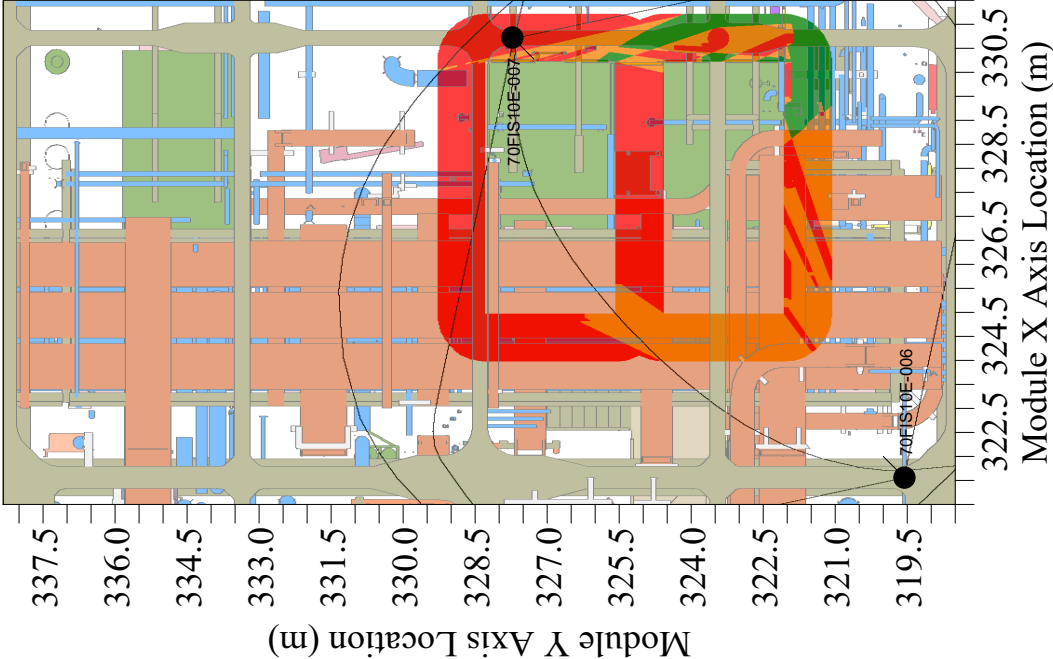
GRADE COLOURS



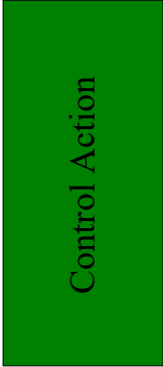
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10E		Drg category	Grademap (19-Jul-2018)
	Project Name-Fire Detection Area S10E			

Project Name-Fire Detection Area S10E

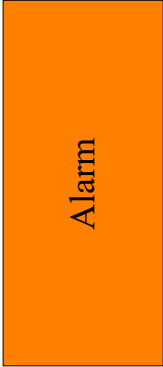
Fire Detector coverage at 0.620 m ALD



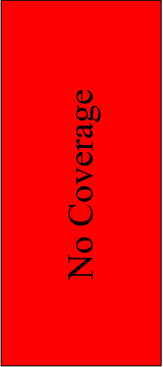
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

70FW40E-027

Drawing Description

Fire Detection Area S10E

Project Name-Fire Detection Area S10E

Platform/site

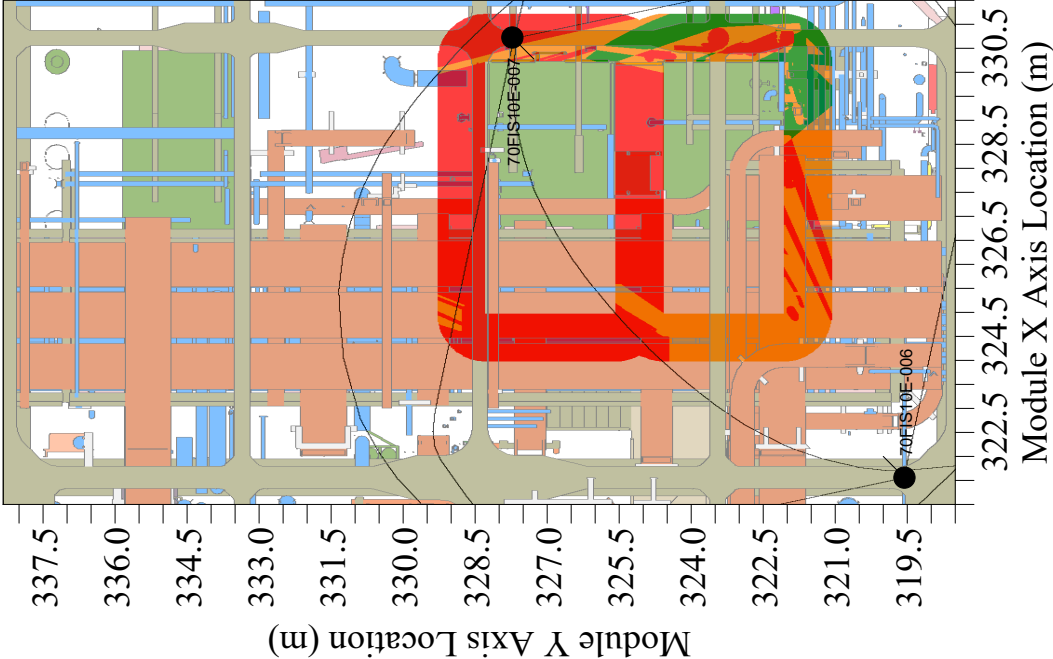
Drg category

Project Name

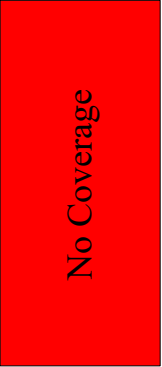
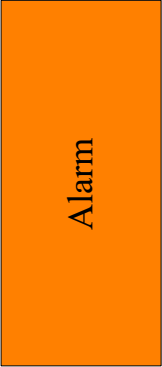
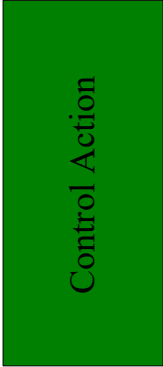
Assessment result (19-Jul-2018)

Project Name-Fire Detection Area S10E

Fire Detector coverage at 1.263 m ALD



COVERAGE KEY



Company Name

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www.micropack.co.uk

70FW40E-027

Drawing Description

Fire Detection Area S10E

Project Name-Fire Detection Area S10E

Platform/site

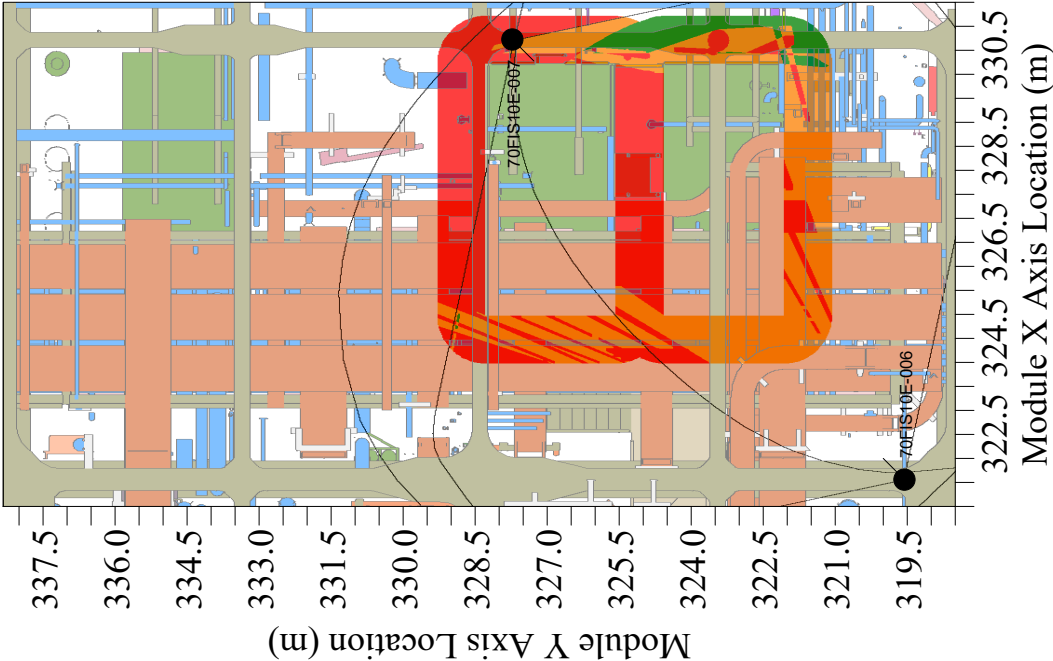
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Fire Detection Area S10E

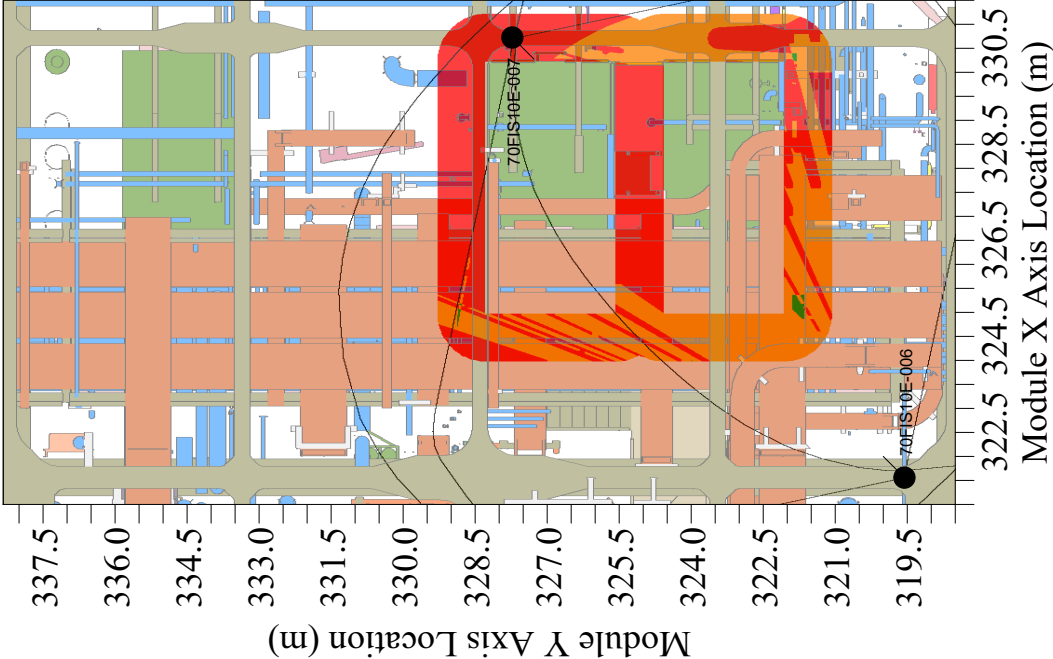
Fire Detector coverage at 1.906 m ALD



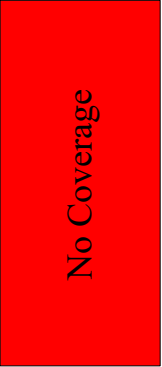
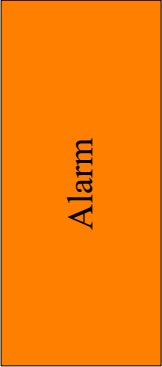
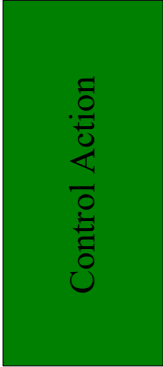
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area S10E			

Project Name-Fire Detection Area S10E

Fire Detector coverage at 2.549 m ALD



COVERAGE KEY



Company Name

Powered by Hazmap3D
www.micropack.co.uk

70FW40E-027

Drawing Description

Fire Detection Area S10E

Project Name-Fire Detection Area S10E

Platform/site

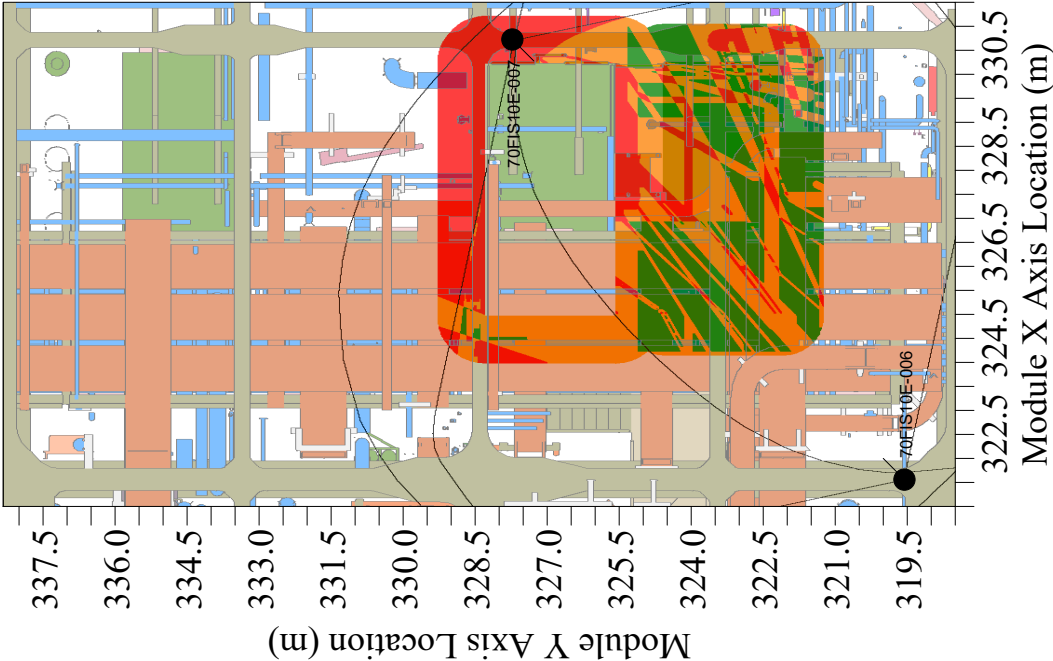
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Fire Detection Area S10E

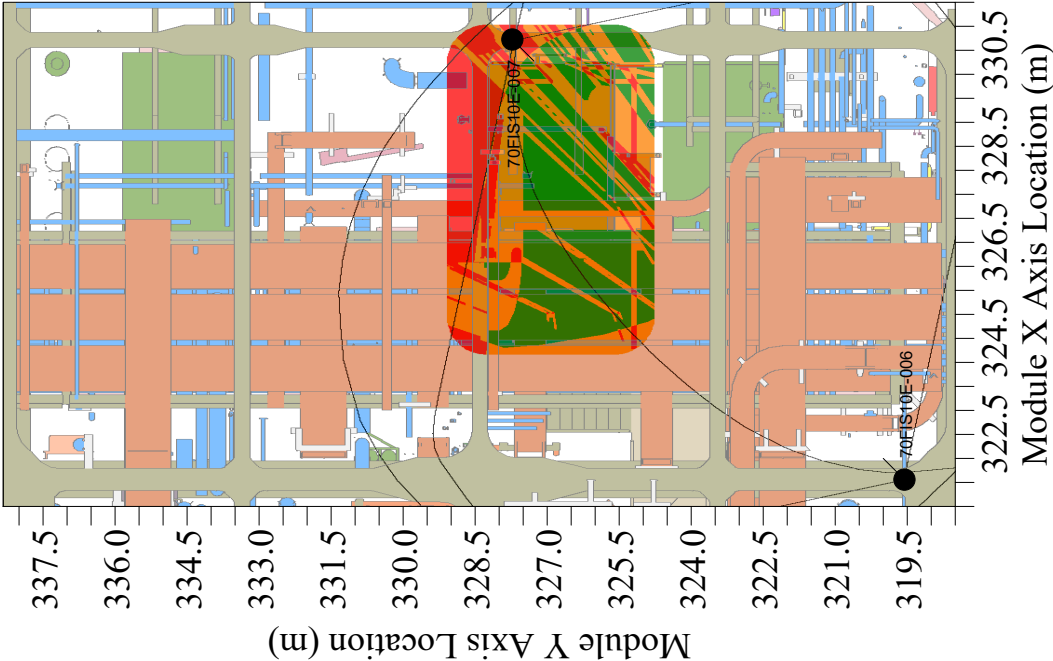
Fire Detector coverage at 3.191 m ALD



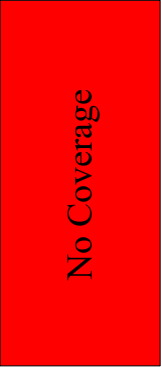
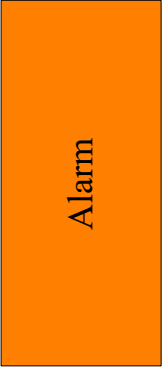
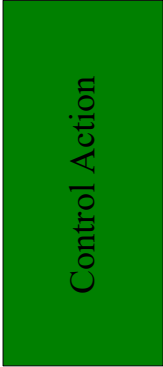
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area S10E			

Project Name-Fire Detection Area S10E

Fire Detector coverage at 3.834 m ALD



COVERAGE KEY



Company Name

Powered by Hazmap3D
www.micropack.co.uk

70FW40E-027

Drawing Description

Fire Detection Area S10E

Project Name-Fire Detection Area S10E

Platform/site

Drg category

Project Name

Assessment result (19-Jul-2018)



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:11



PROJECT INFORMATION

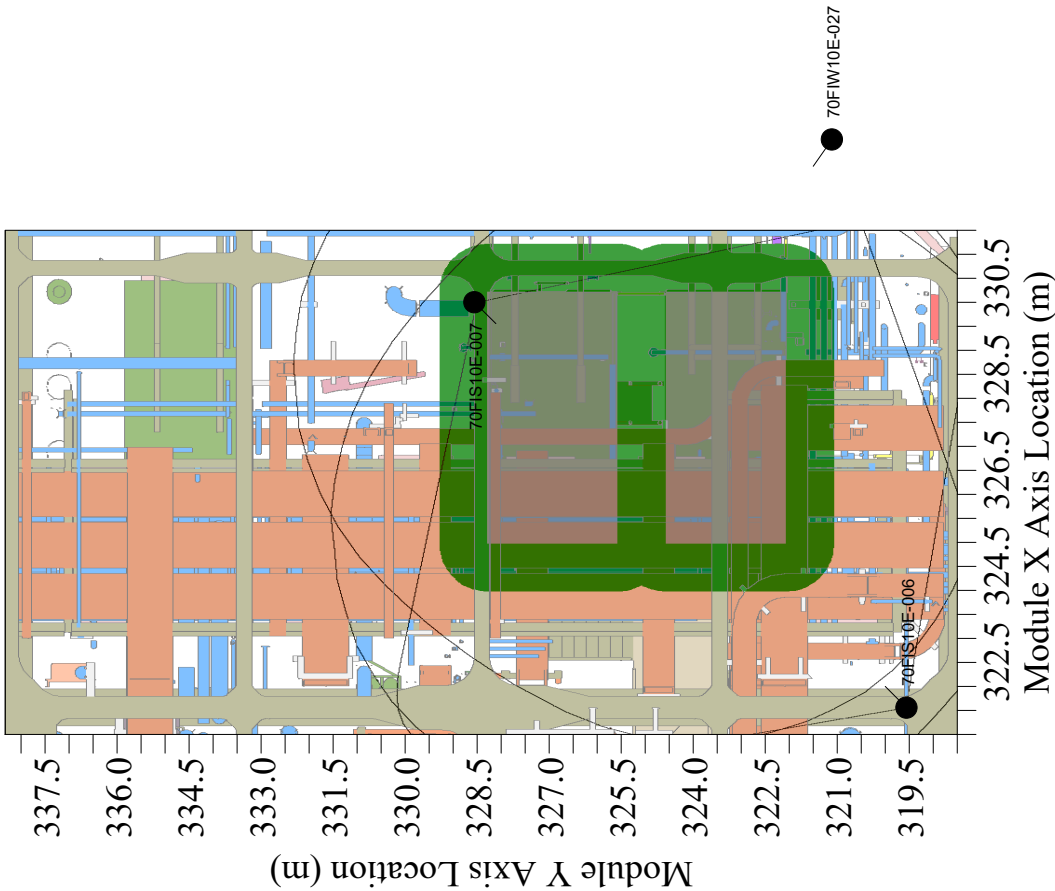
Project name: **Project Name**
Assessment title: **Proposed S10E**
Number of detectors: 3 (1 existing, 0 new, 2 relocated)
Overall coverage: 67% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	23%	44%	33%
Totals	23%	44%	33%

GRADEMAP

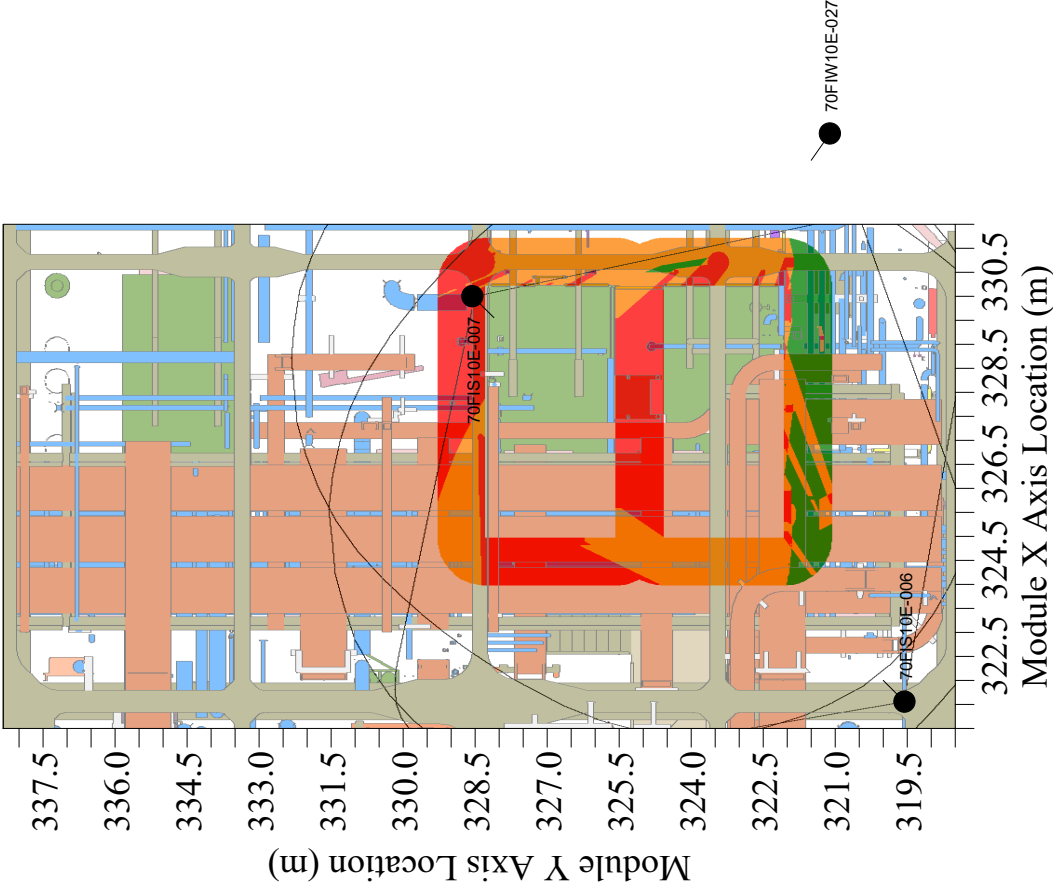
Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



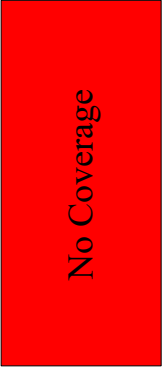
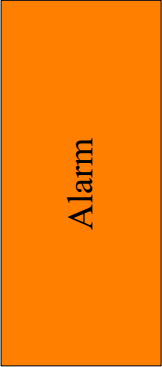
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10E		Drg category	Grademap (19-Jul-2018)
	Project Name-Proposed S10E			

Project Name-Proposed S10E

Fire Detector coverage at 0.620 m ALD



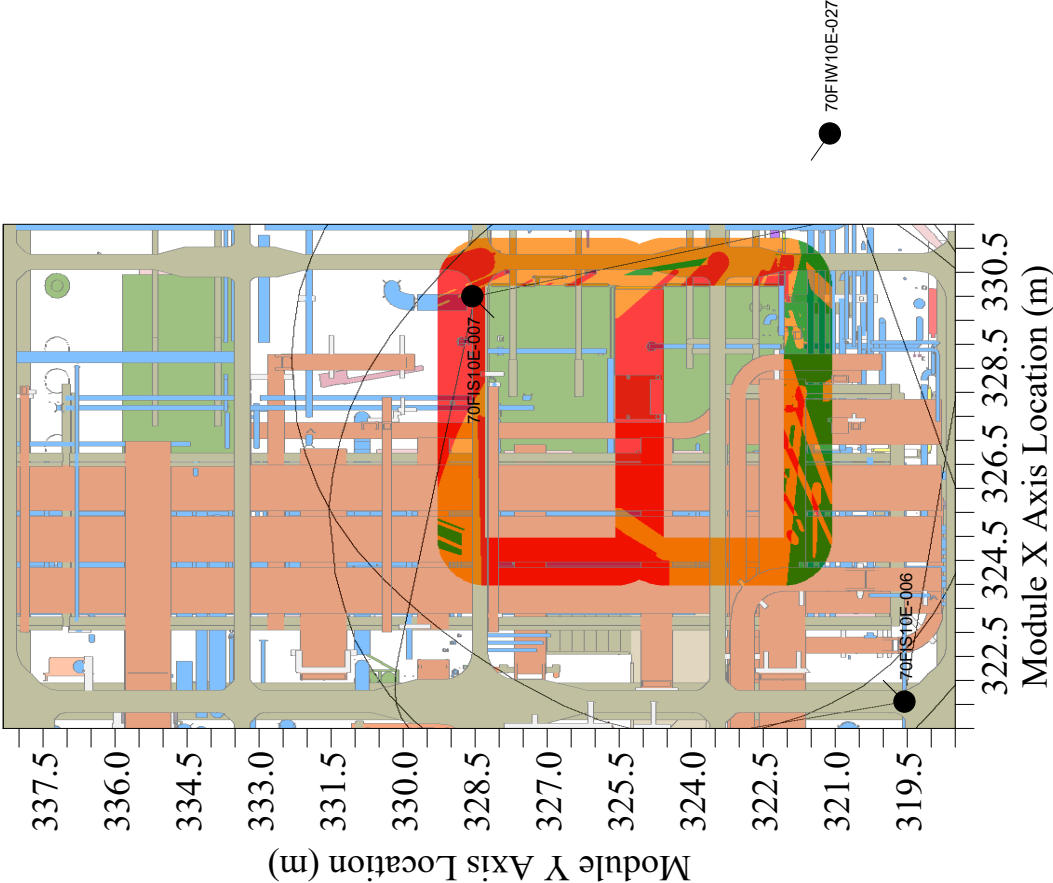
COVERAGE KEY



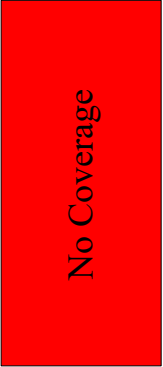
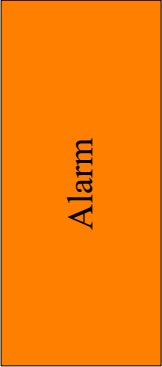
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10E			

Project Name-Proposed S10E

Fire Detector coverage at 1.263 m ALD



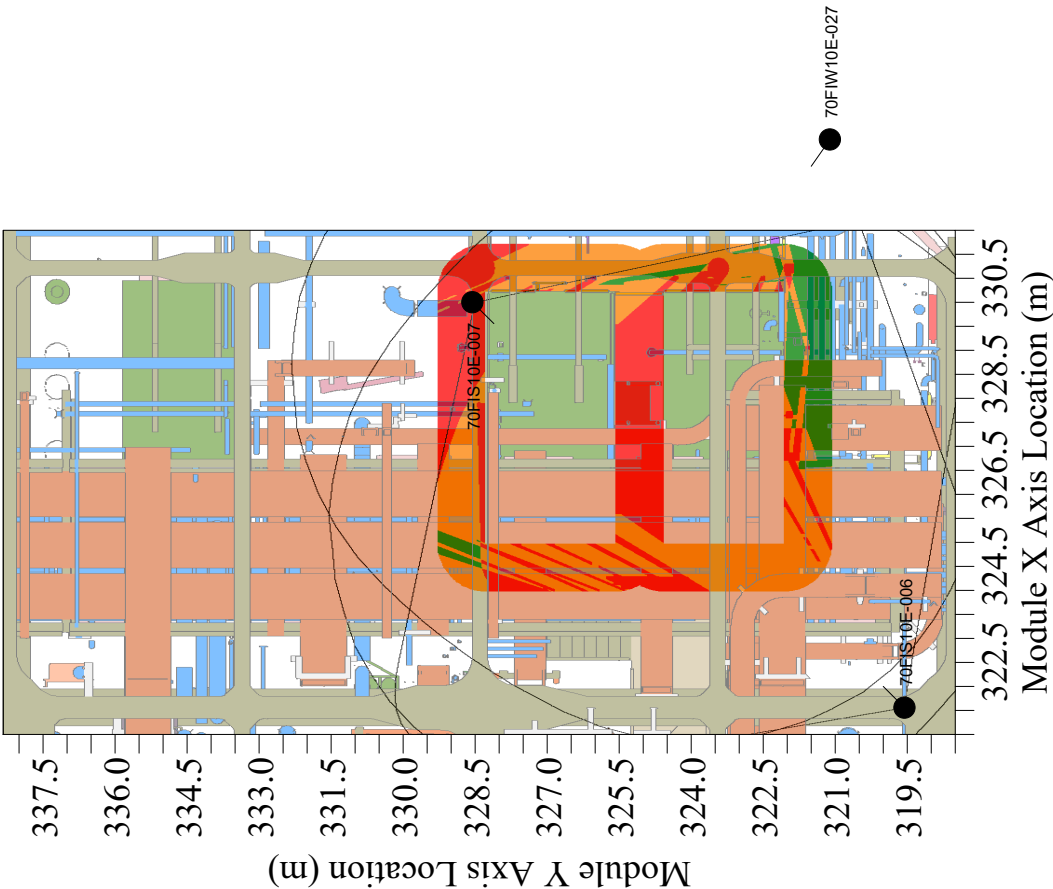
COVERAGE KEY



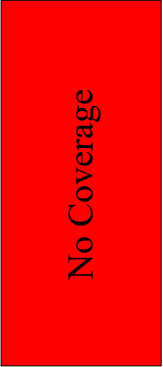
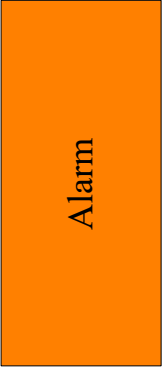
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10E			

Project Name-Proposed S10E

Fire Detector coverage at 1.906 m ALD



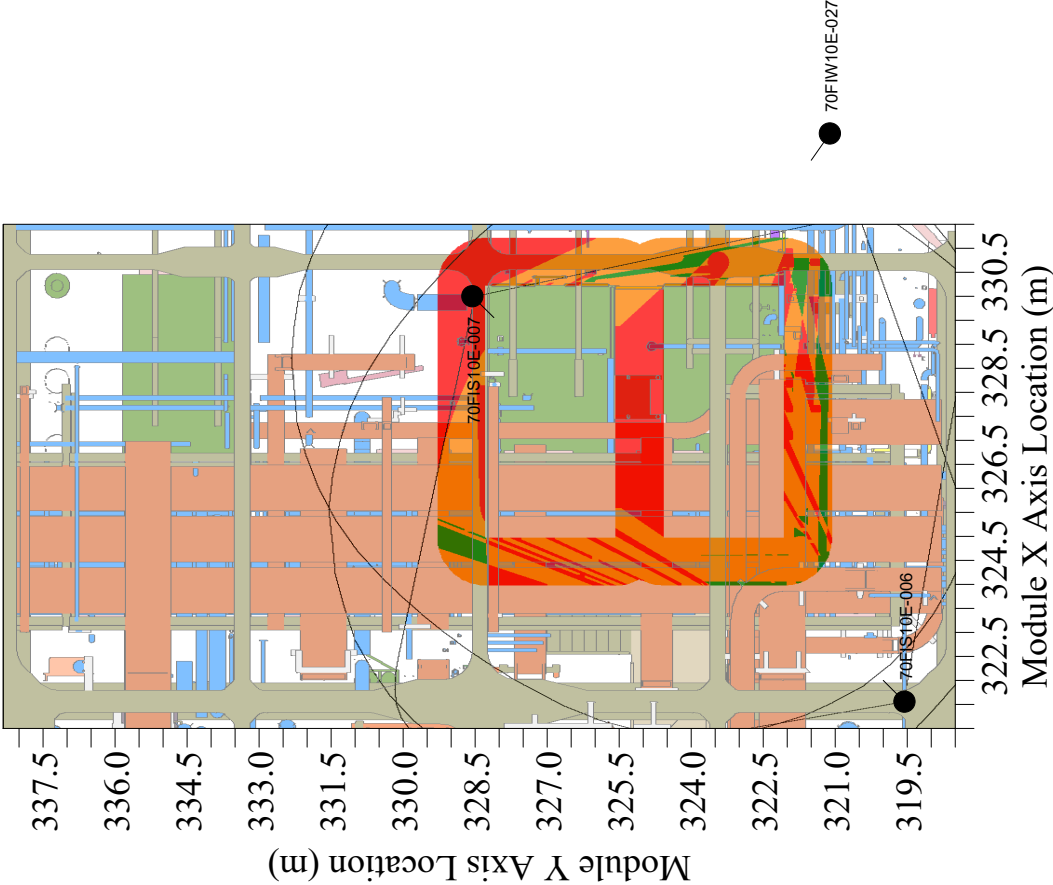
COVERAGE KEY



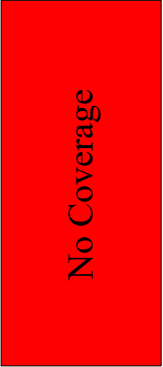
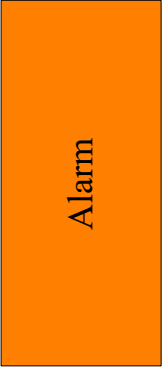
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10E			

Project Name-Proposed S10E

Fire Detector coverage at 2.549 m ALD



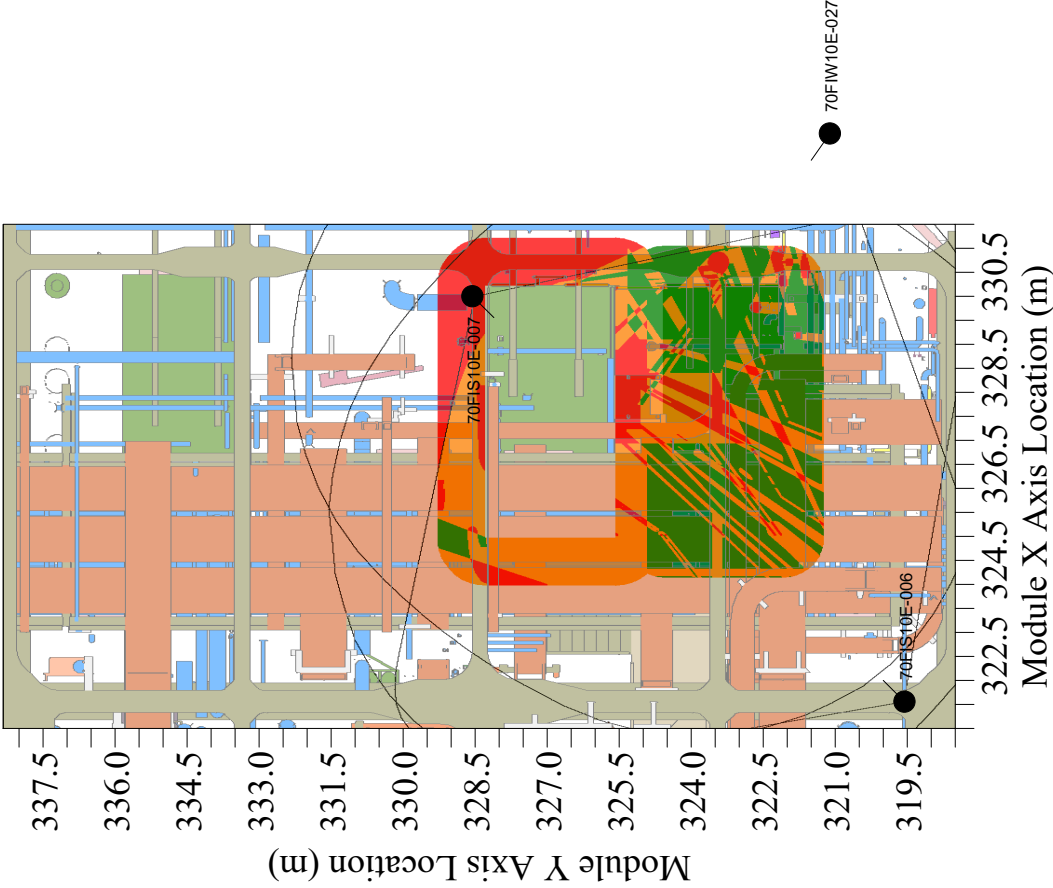
COVERAGE KEY



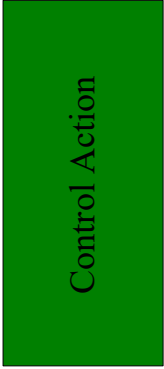
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10E			

Project Name-Proposed S10E

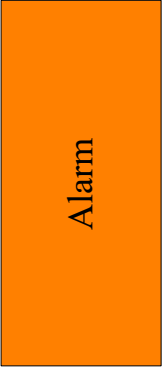
Fire Detector coverage at 3.191 m ALD



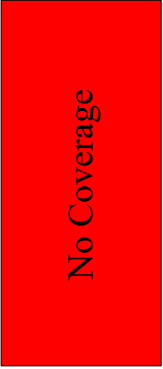
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed S10E

Project Name-Proposed S10E

Platform/site

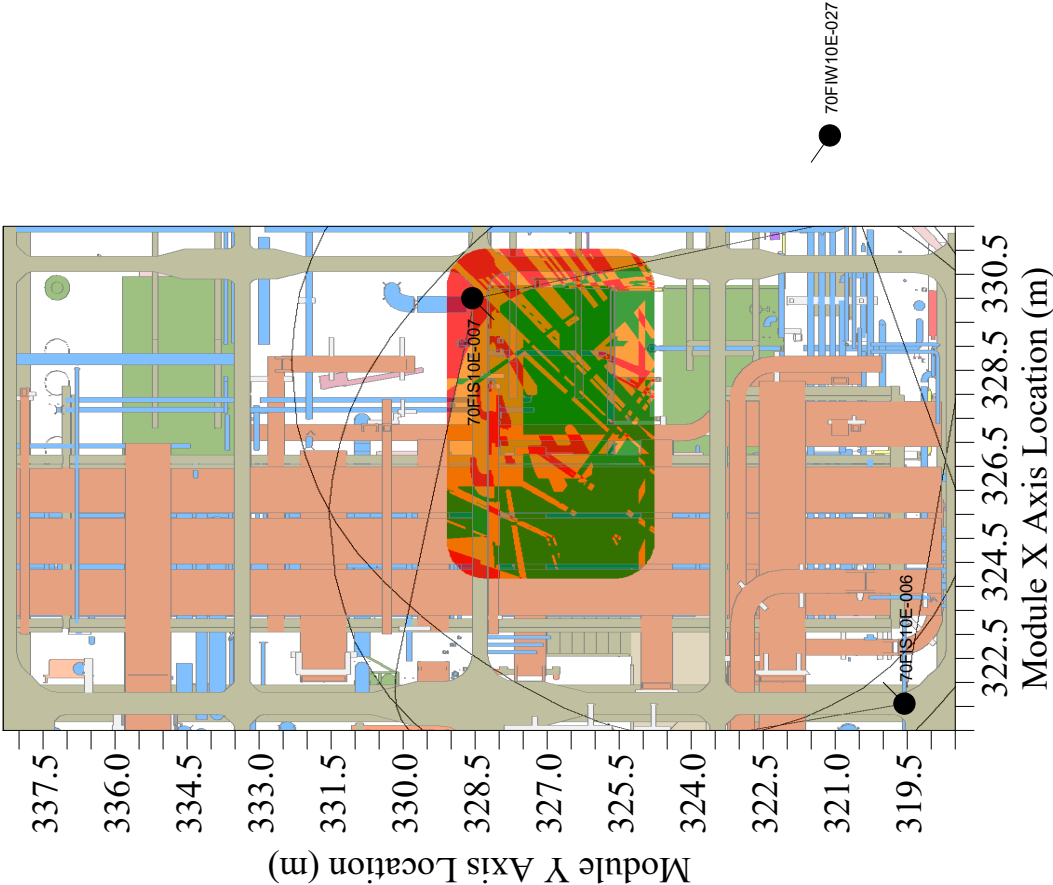
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Proposed S10E

Fire Detector coverage at 3.834 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S10E		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed S10E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:14



PROJECT INFORMATION

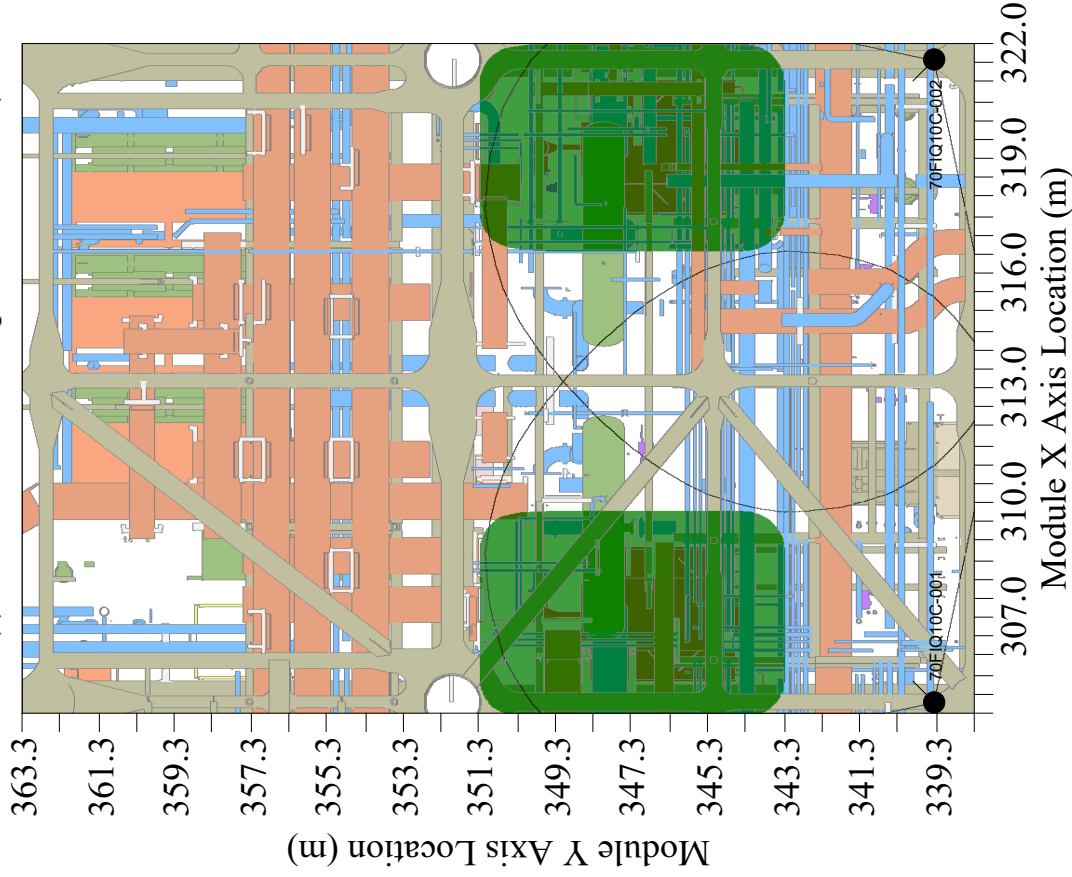
Project name: **Project Name**
Assessment title: **Fire Detection Area Q10C**
Number of detectors: 2 (2 existing, 0 new, 0 relocated)
Overall coverage: 48% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	12%	36%	52%
Totals	12%	36%	52%

GRADEMAP

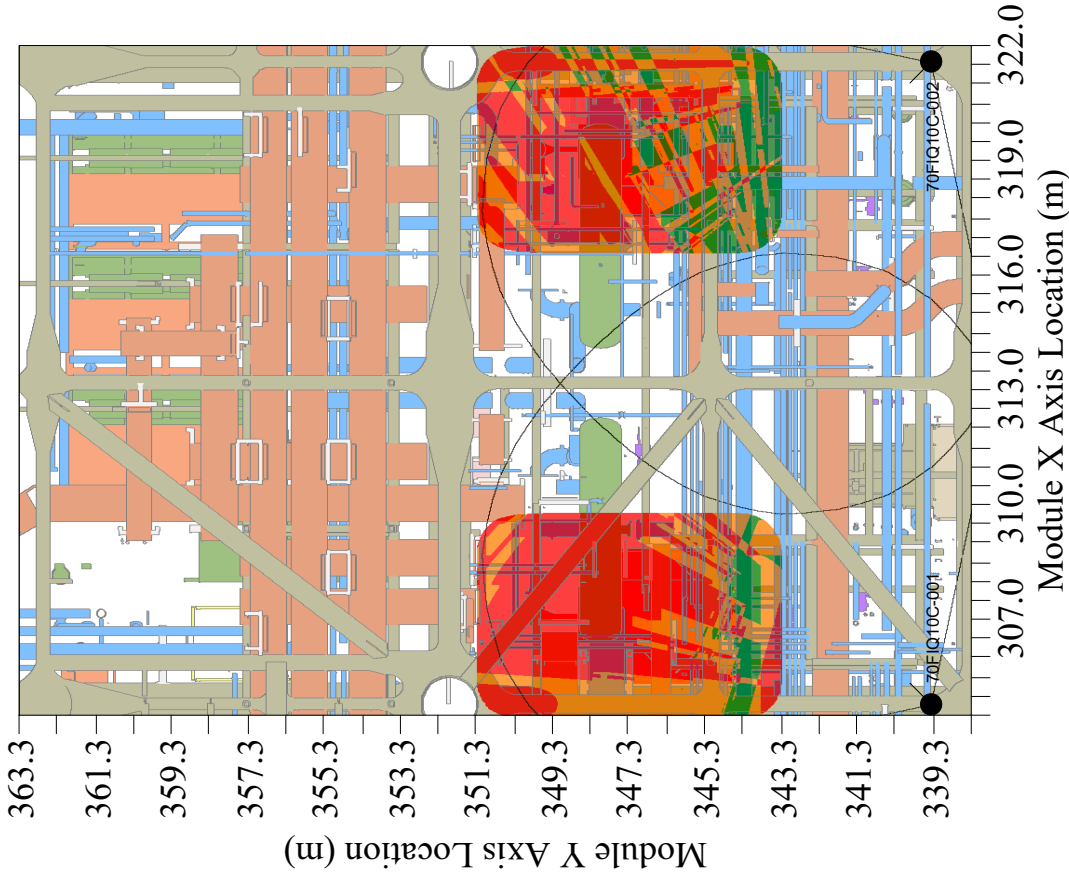
Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



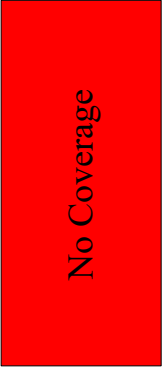
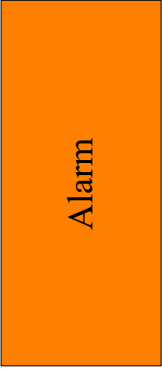
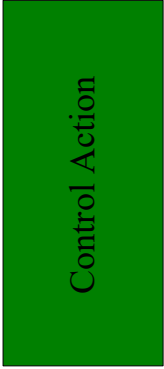
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area Q10C		Drg category	Grademap (19-Jul-2018)
	Project Name-Fire Detection Area Q10C			

Project Name-Fire Detection Area Q10C

Fire Detector coverage at 0.620 m ALD



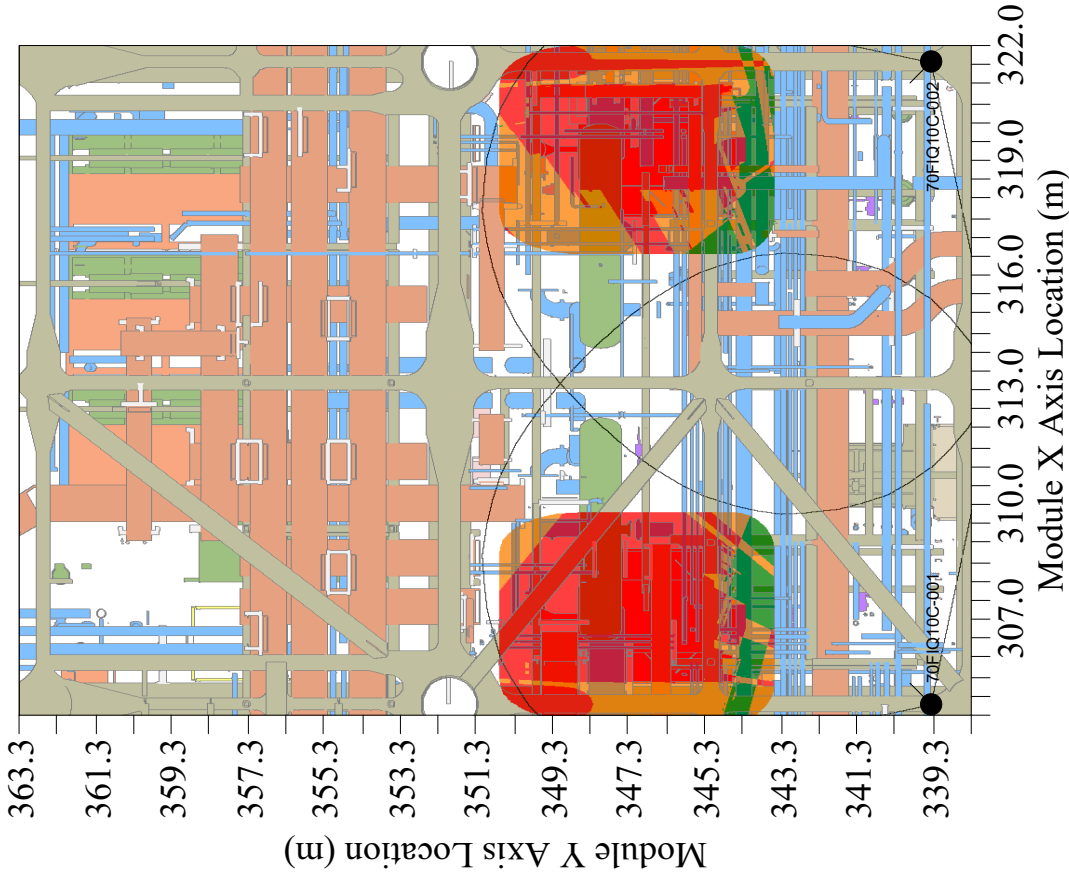
COVERAGE KEY



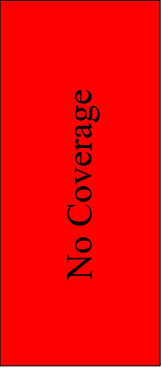
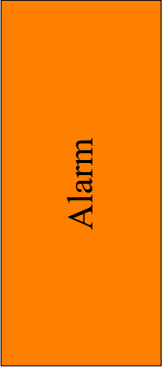
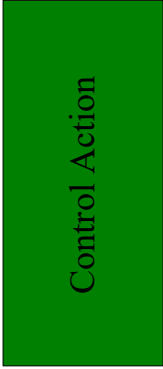
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area Q10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area Q10C			

Project Name-Fire Detection Area Q10C

Fire Detector coverage at 1.263 m ALD



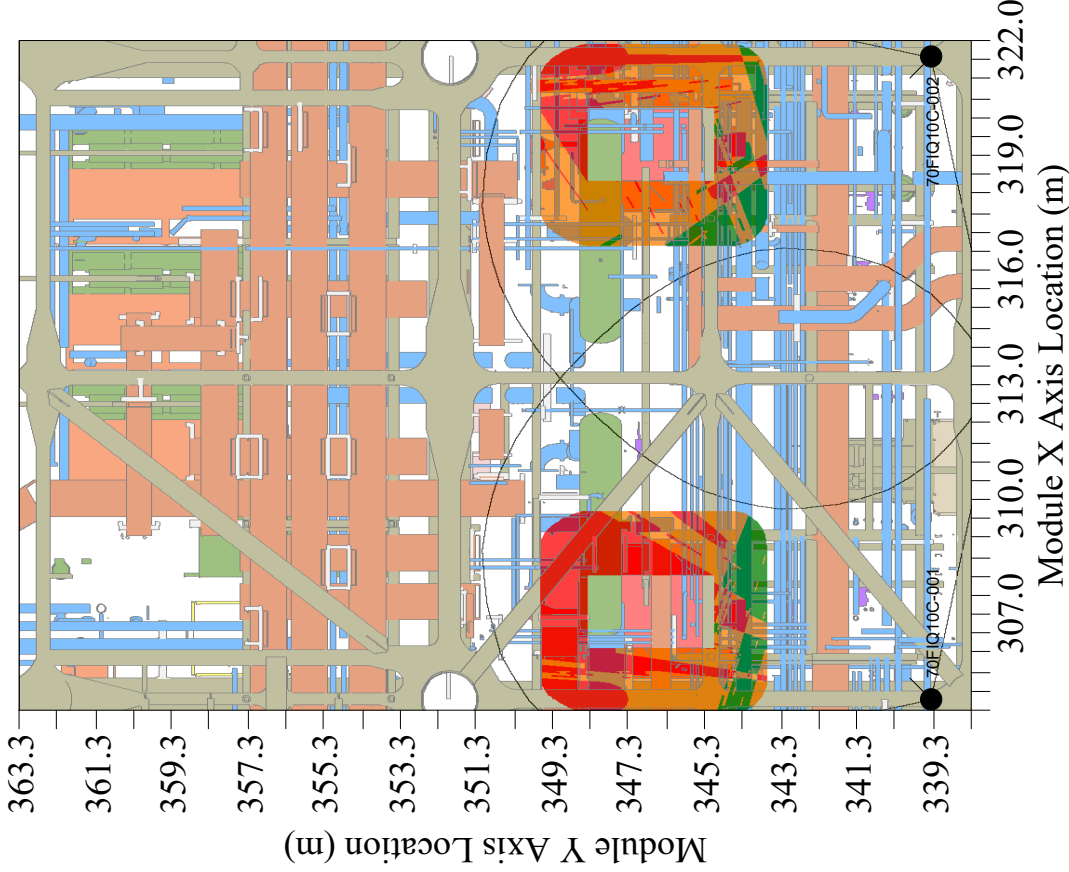
COVERAGE KEY



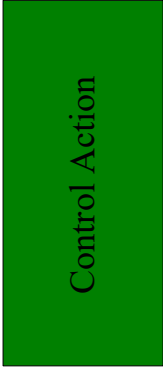
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area Q10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Fire Detection Area Q10C			

Project Name-Fire Detection Area Q10C

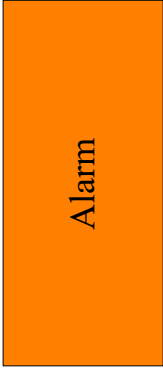
Fire Detector coverage at 1.906 m ALD



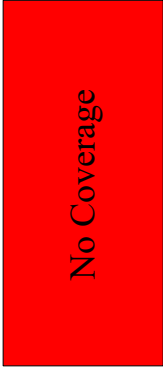
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area Q10C

Project Name-Fire Detection Area Q10C

Platform/site

Drg category

Project Name

Assessment result (19-Jul-2018)



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 19-Jul-2018 at 19:16



PROJECT INFORMATION

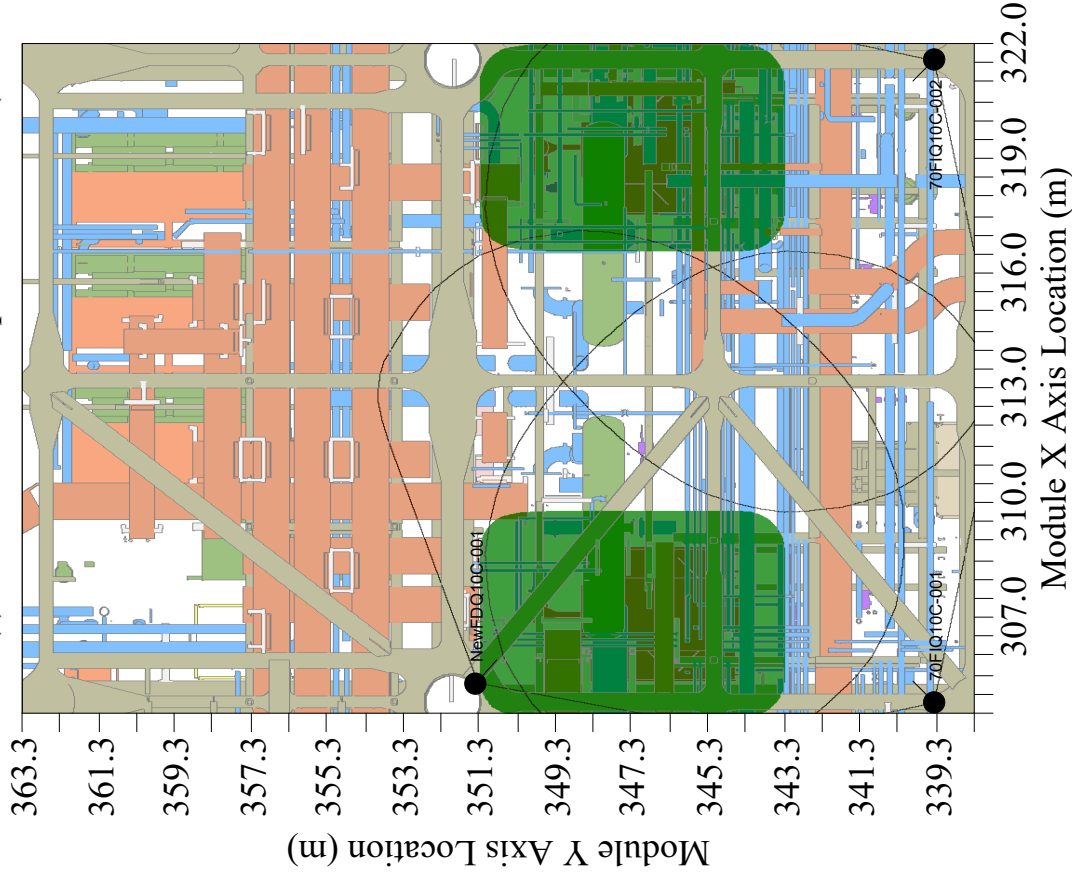
Project name: **Project Name**
Assessment title: **Proposed Q10C**
Number of detectors: 3 (2 existing, 1 new, 0 relocated)
Overall coverage: 66% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

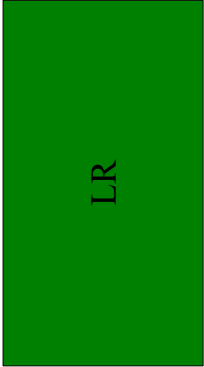
LR	23%	43%	34%
Totals	23%	43%	34%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.620 m ALD)



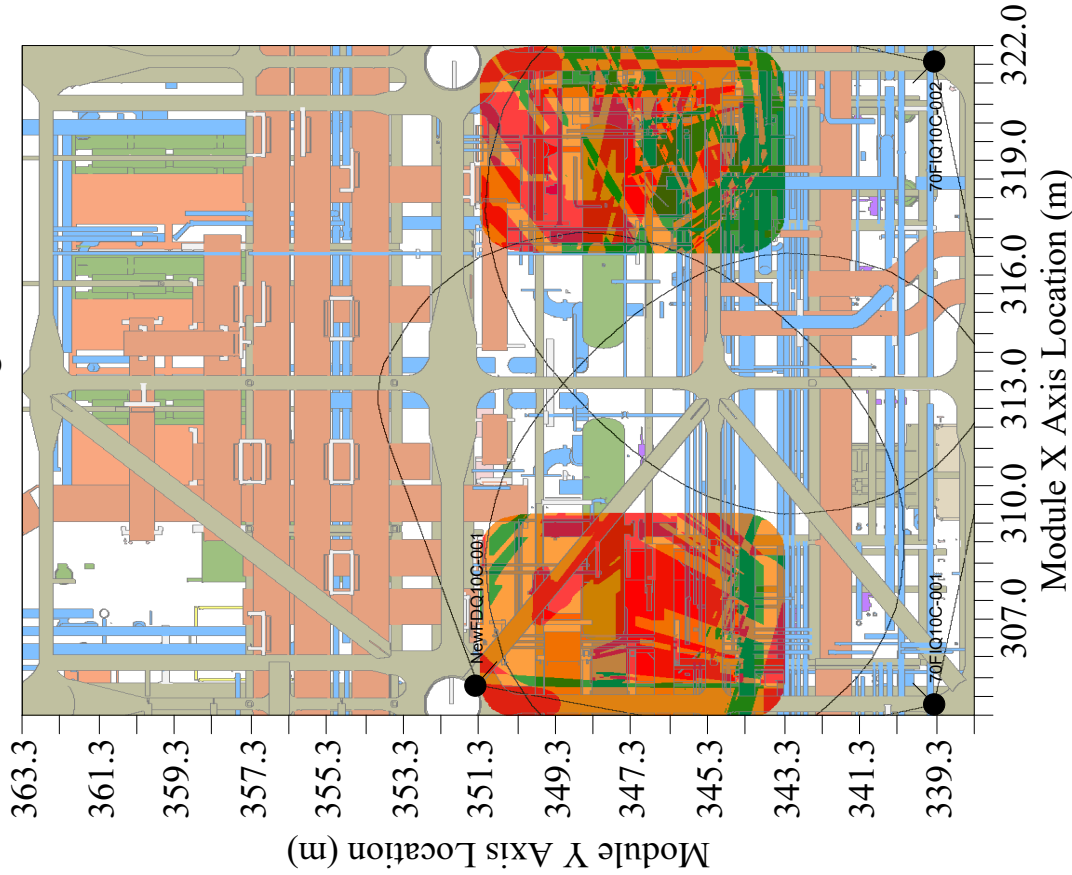
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q10C		Drg category	Grademap (19-Jul-2018)
	Project Name-Proposed Q10C			

Project Name-Proposed Q10C

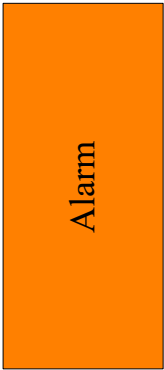
Fire Detector coverage at 0.620 m ALD



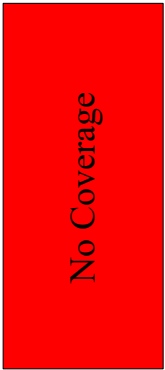
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Q10C

Project Name-Proposed Q10C

Platform/site

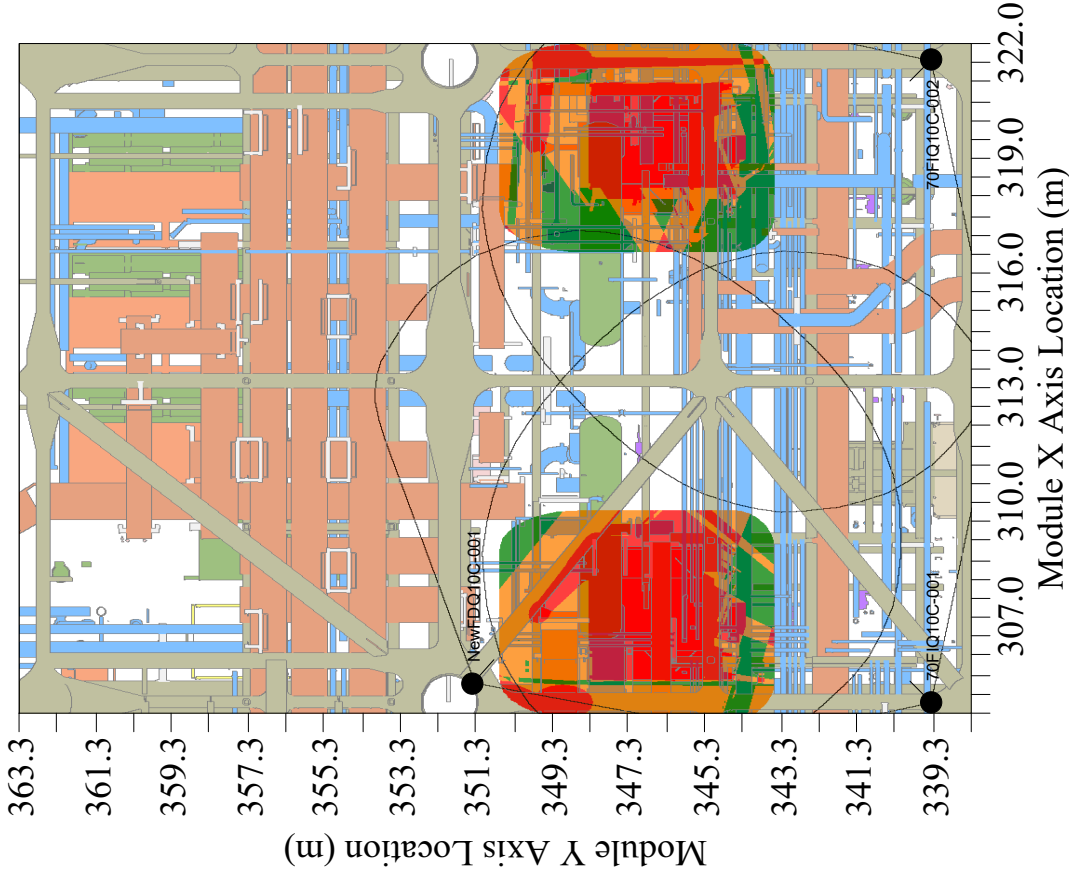
Drg category

Project Name

Assessment result (19-Jul-2018)

Project Name-Proposed Q10C

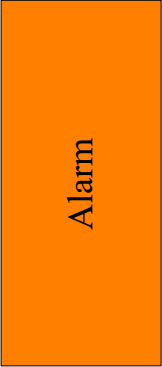
Fire Detector coverage at 1.263 m ALD



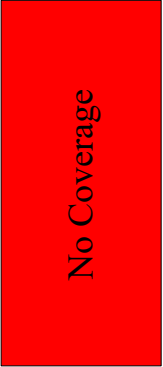
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Q10C

Project Name-Proposed Q10C

Platform/site

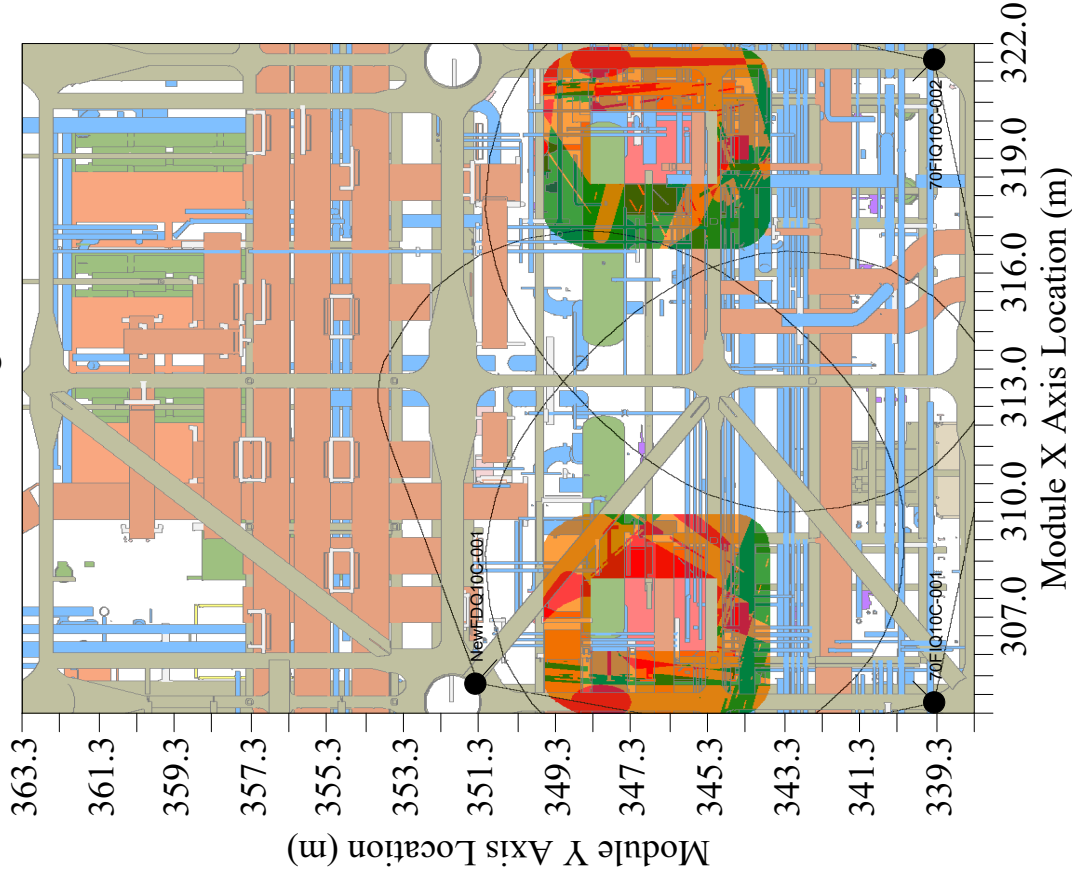
Drg category

Project Name

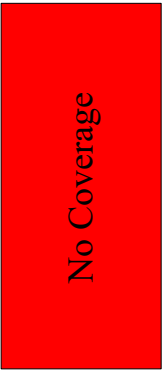
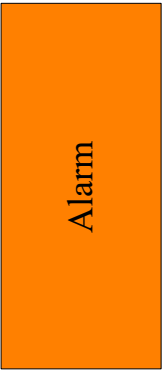
Assessment result (19-Jul-2018)

Project Name-Proposed Q10C

Fire Detector coverage at 1.906 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q10C		Drg category	Assessment result (19-Jul-2018)
	Project Name-Proposed Q10C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:22



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W10C**
Number of detectors: 6
Calculation model: Dispersion

ASSESSMENT VOLUME DIMENSIONS

Height: 6.00 m Length: 24.00 m Width: 16.00 m Deck Z: 17.37 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

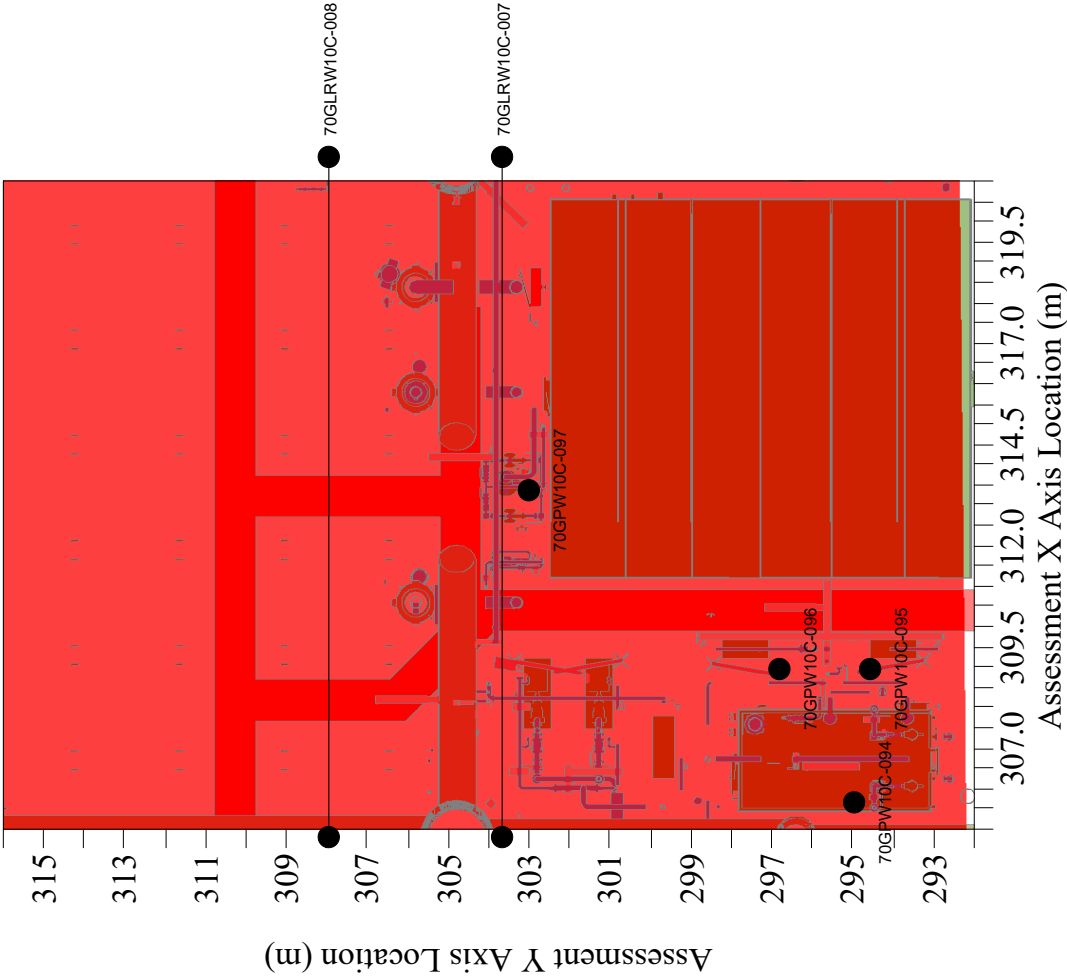
Assessment performed using 15 slices from 17.50 m to 23.50 m
Increment between 3D assessment slices: 0.43 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	31%	31%
Some coverage	60%	60%
No coverage	9%	9%

Project Name-Area W10C

Graded Volume(s) Cross Section at representative Z (0.126 m ALD)



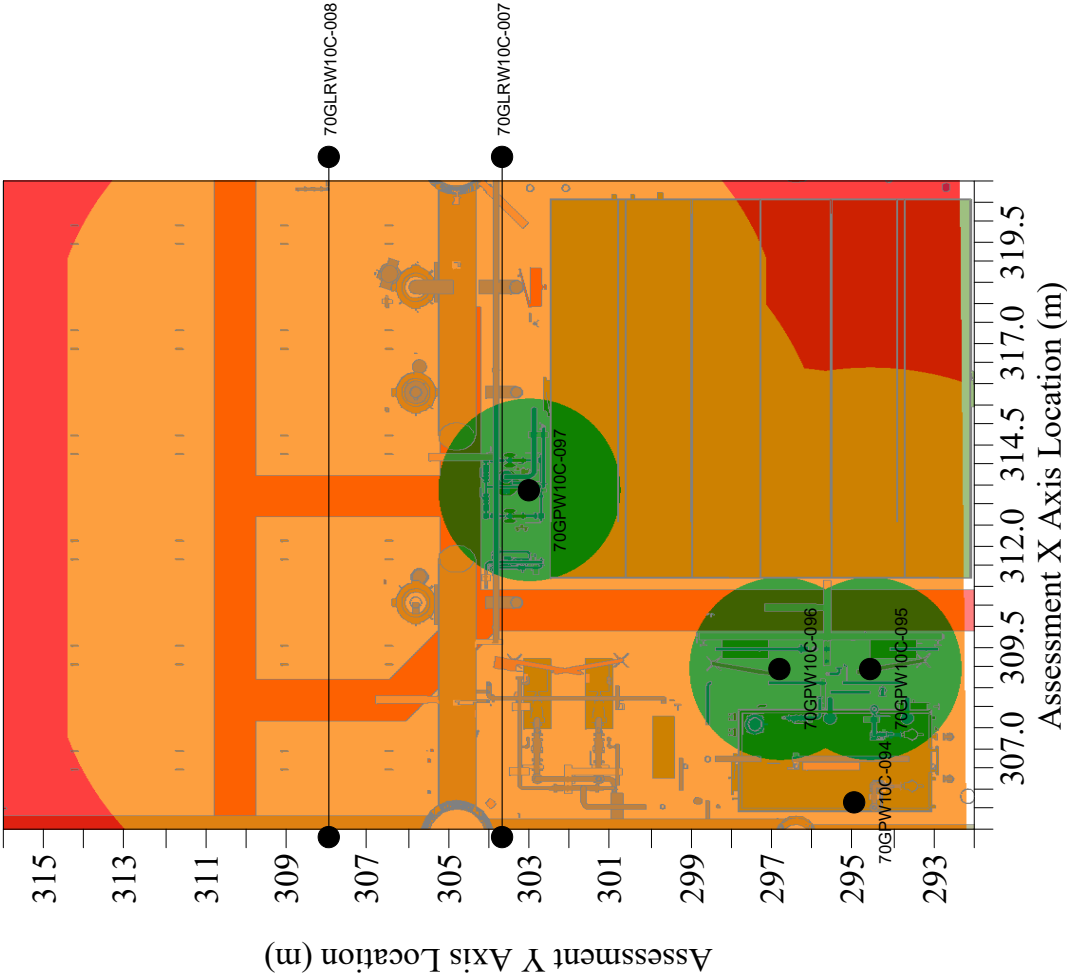
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 0.126 m ALD



COVERAGE KEY

Control Action

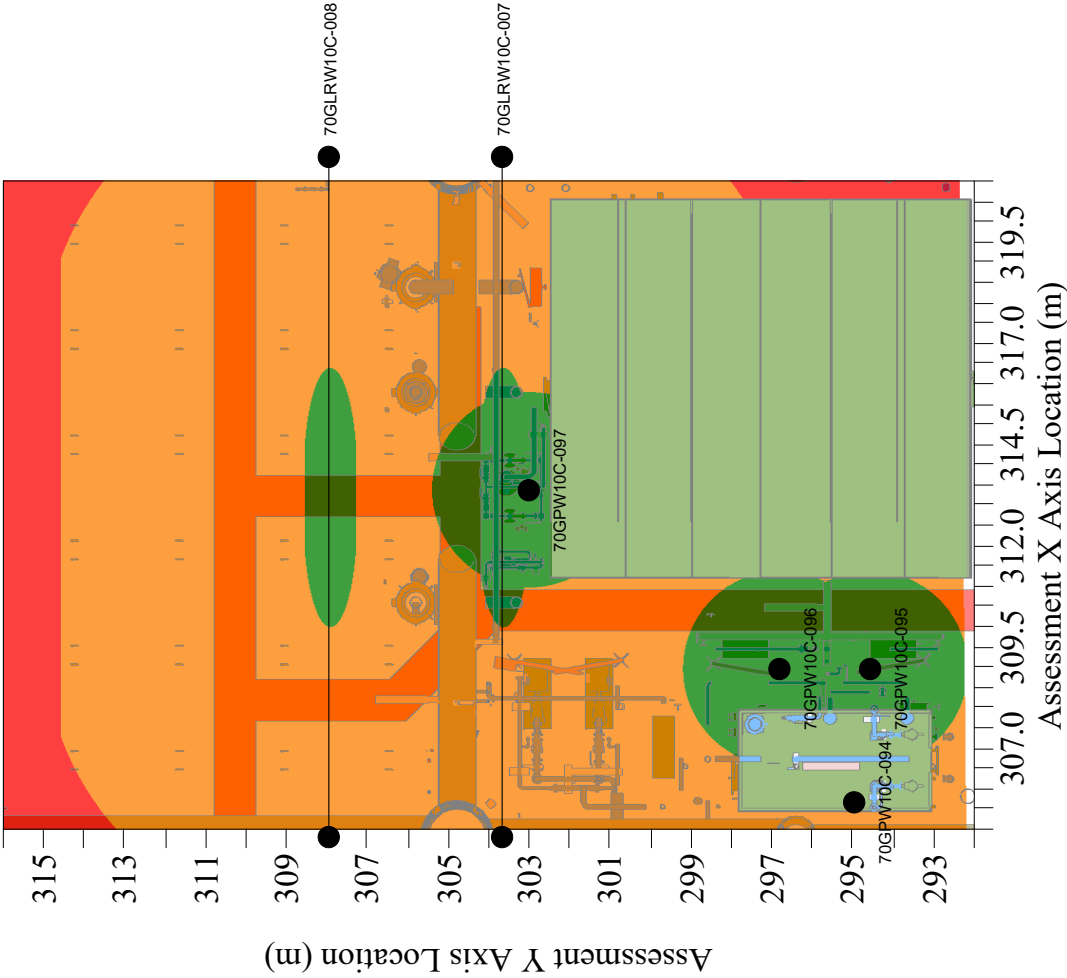
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 0.555 m ALD



COVERAGE KEY

Control Action

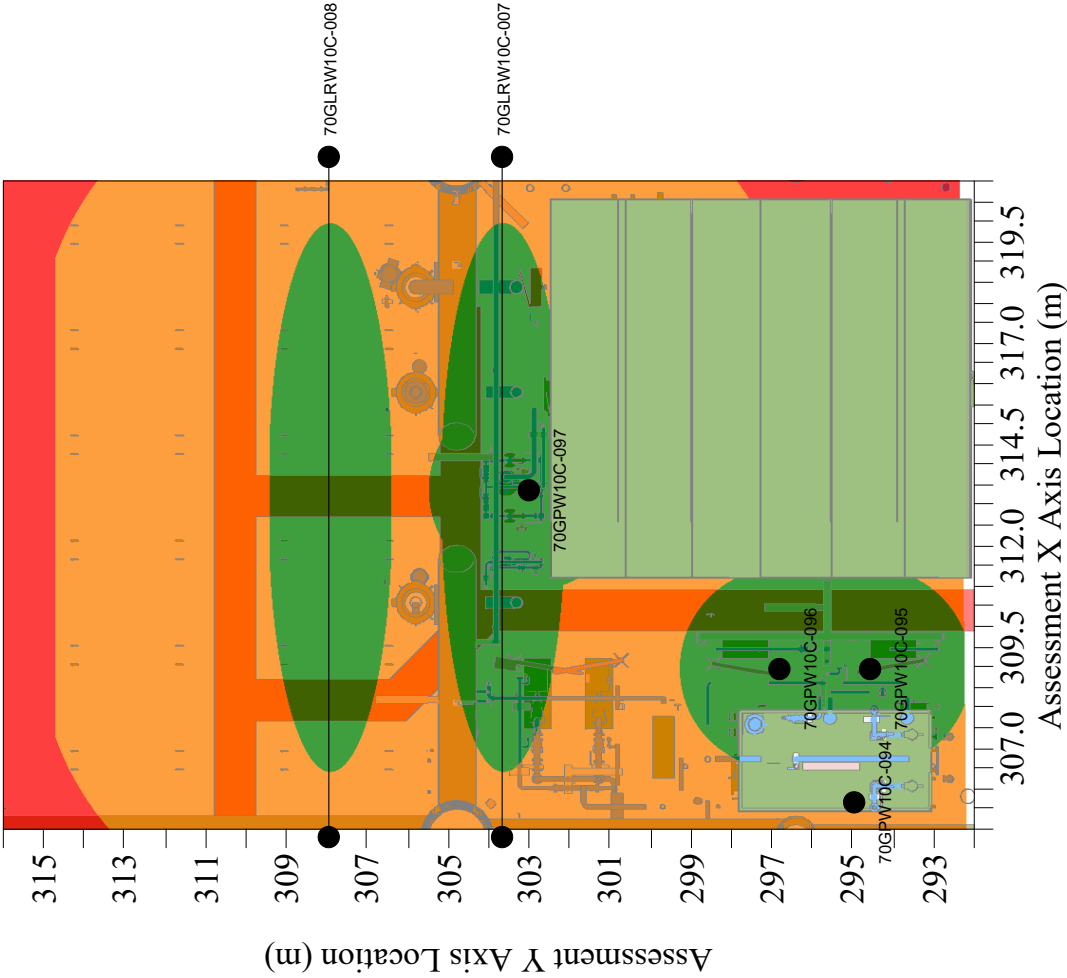
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 0.983 m ALD



COVERAGE KEY

Control Action

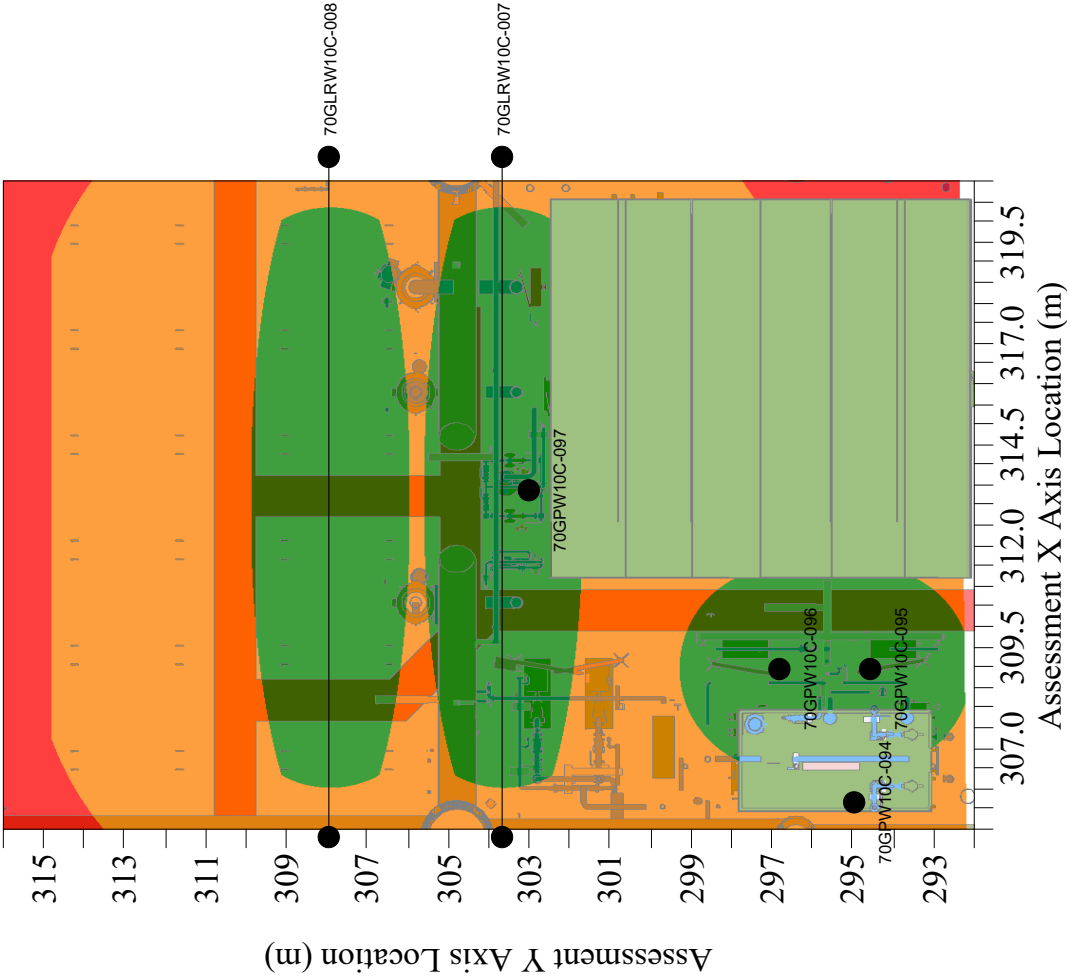
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 1.412 m ALD



COVERAGE KEY

Control Action

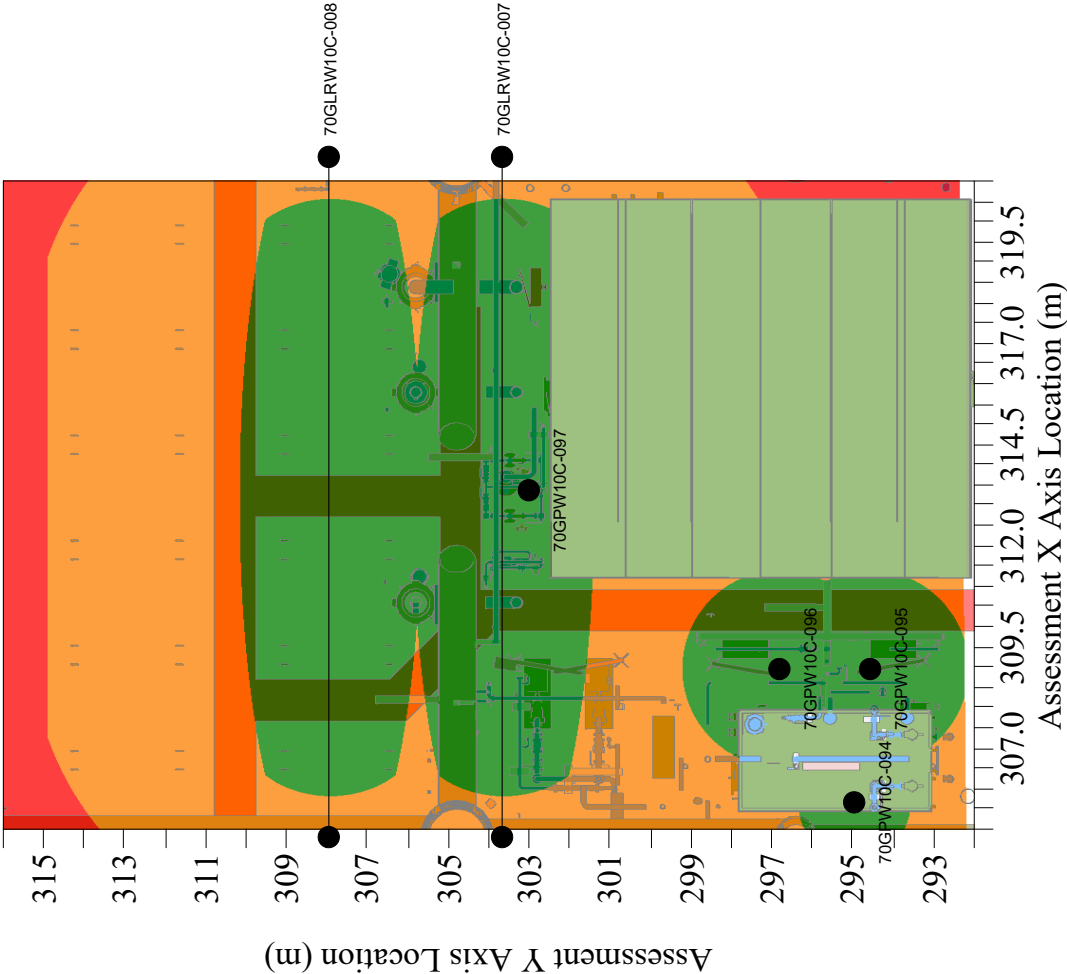
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 1.840 m ALD



COVERAGE KEY

Control Action

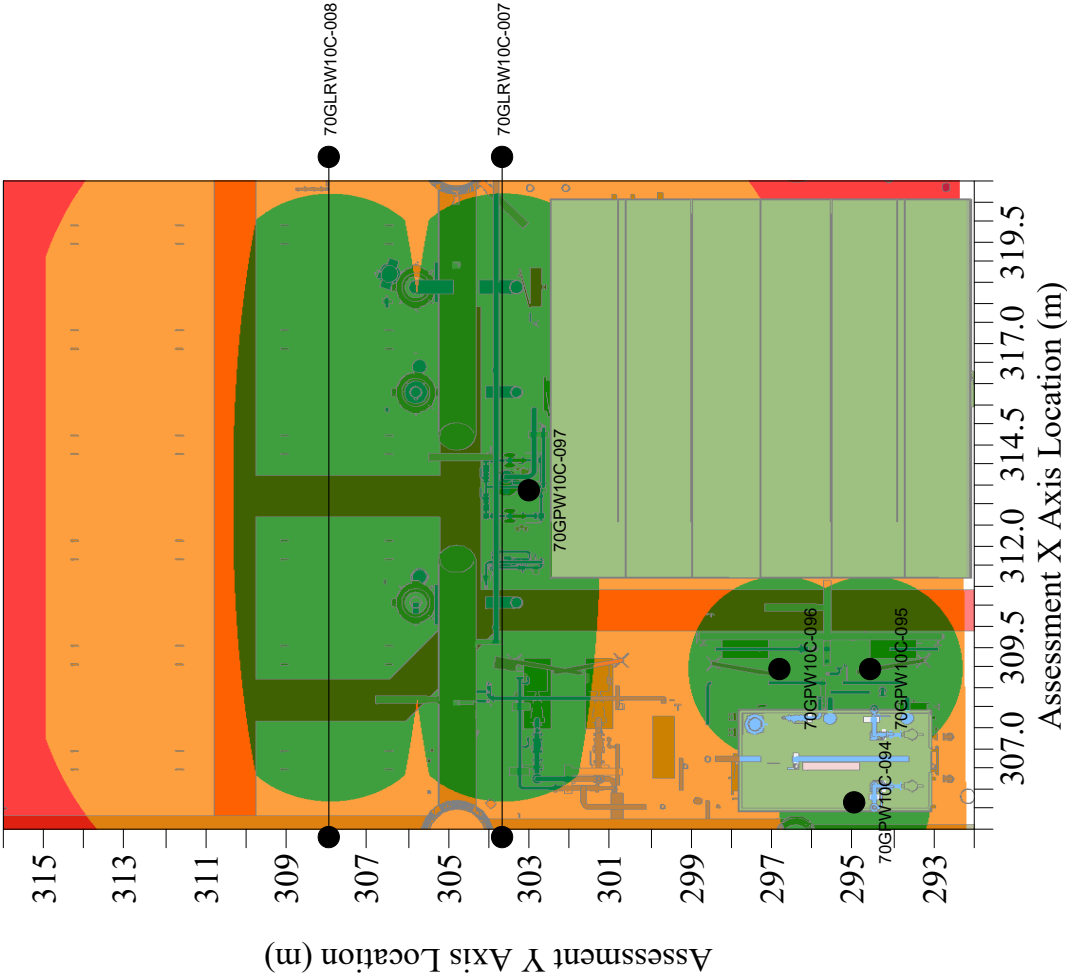
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 2.269 m ALD



COVERAGE KEY

Control Action

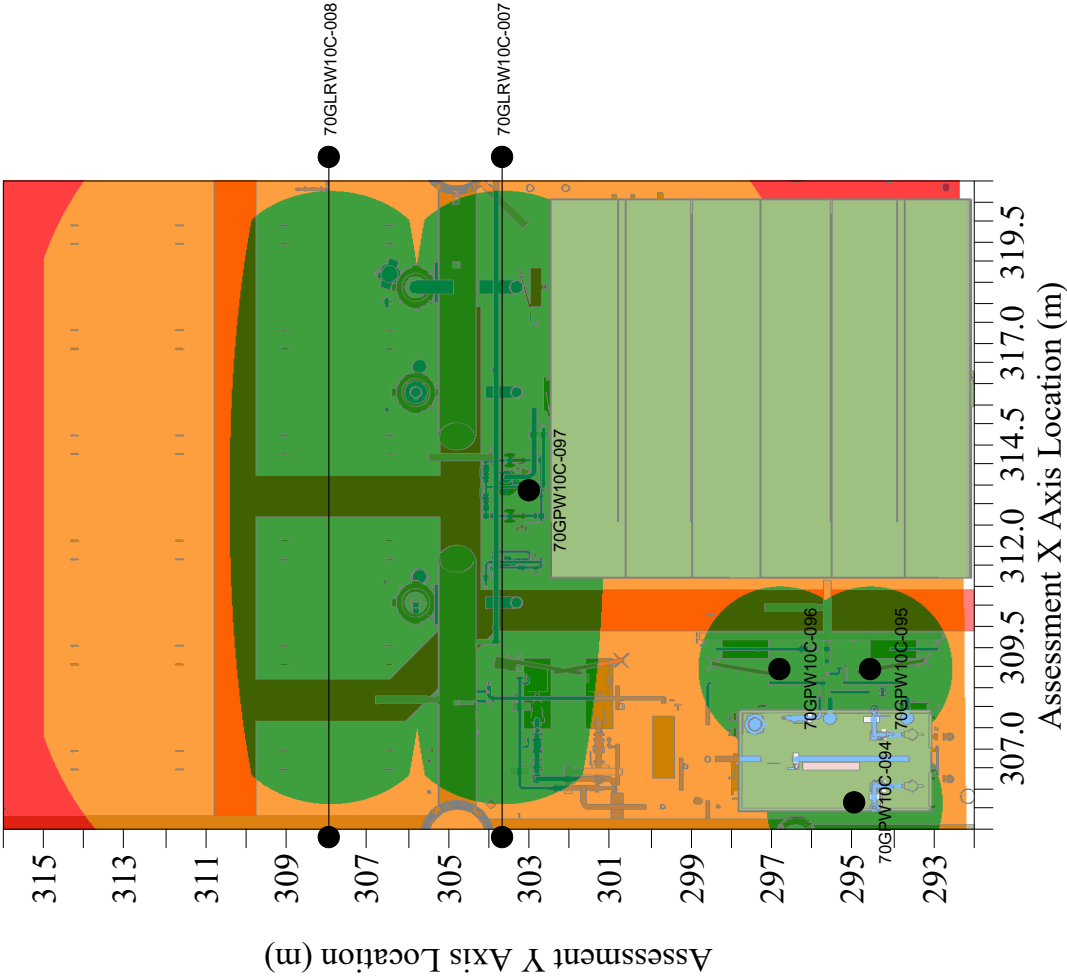
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 2.697 m ALD



COVERAGE KEY

Control Action

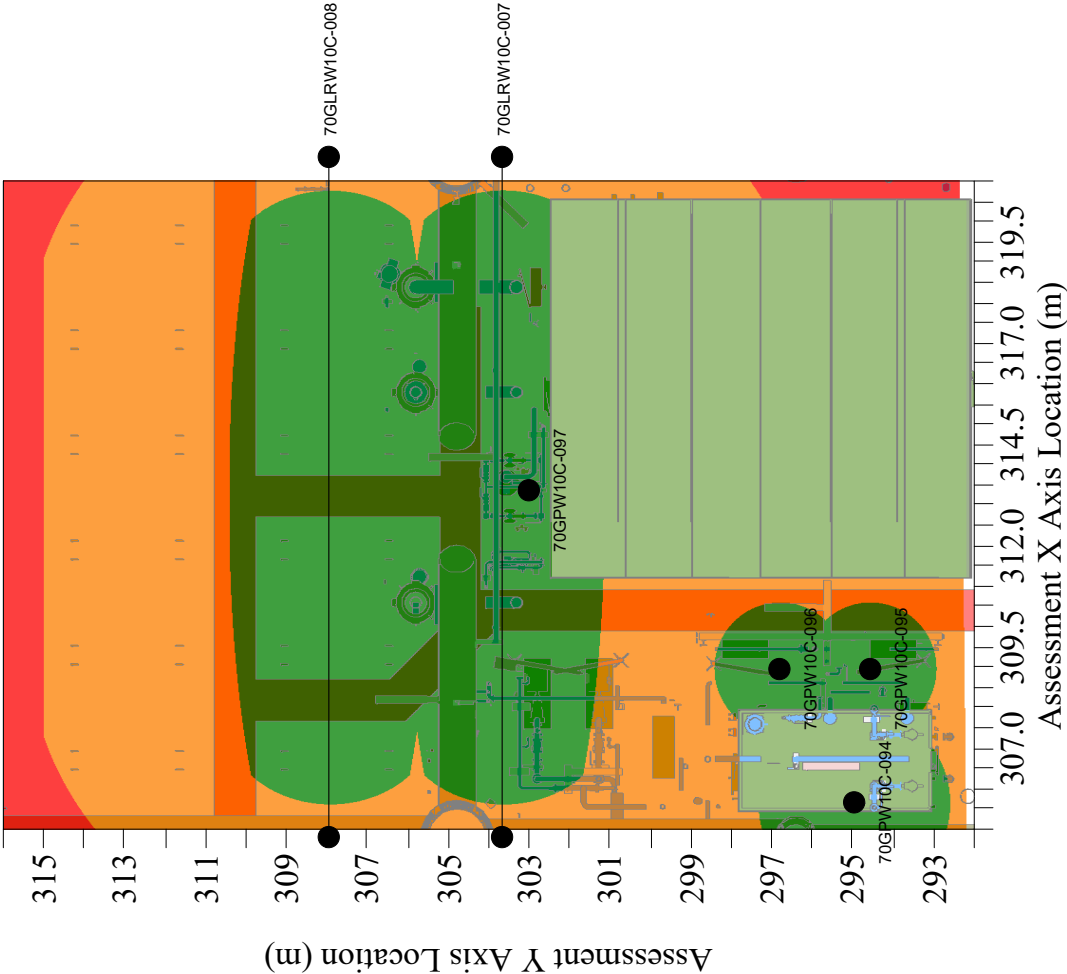
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 3.126 m ALD



COVERAGE KEY

Control Action

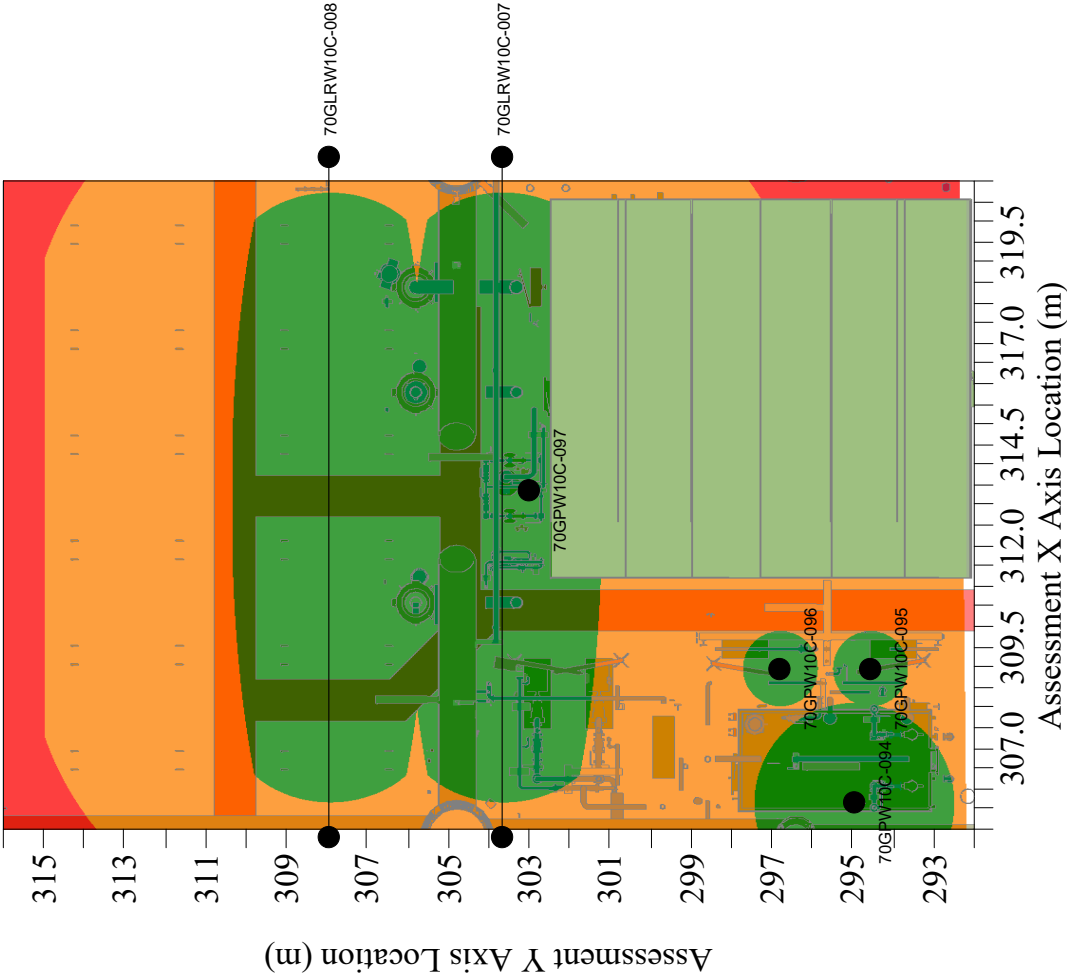
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 3.555 m ALD



COVERAGE KEY

Control Action

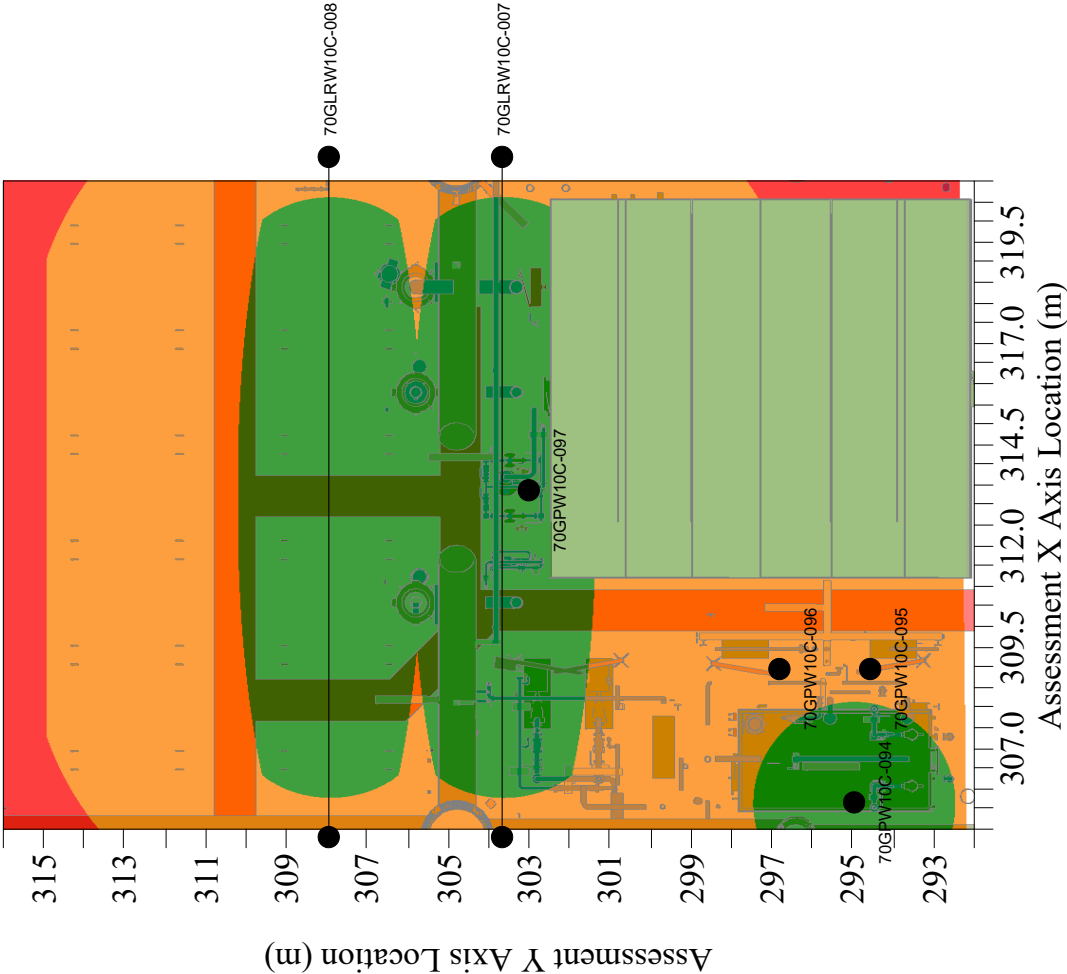
Alarm

No Coverage

Drawing Description Area W10C Project Name-Area W10C	Platform/site	Project Name
	Drg category	Assessment result (20-Jul-2018)

Project Name-Area W10C

Gas Detector coverage at 3.983 m ALD



COVERAGE KEY

Control Action

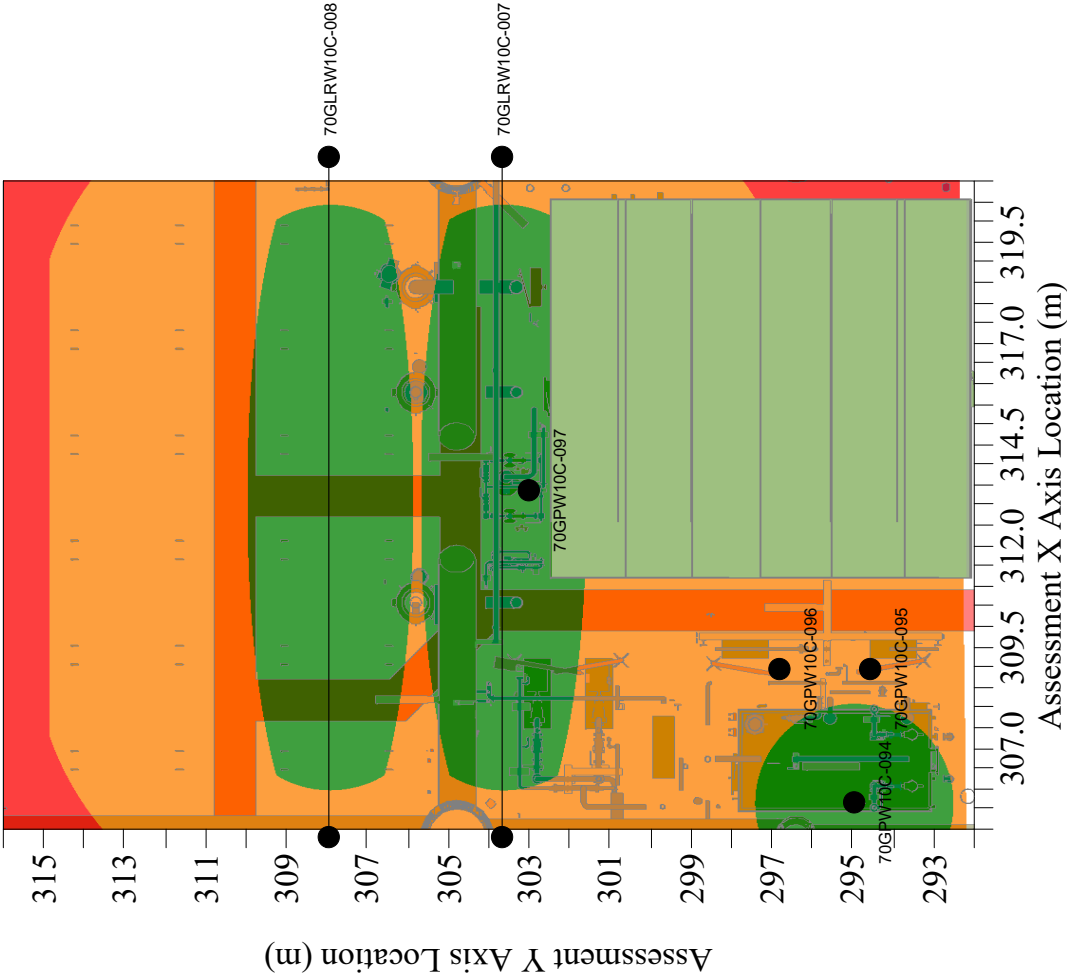
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 4.412 m ALD



COVERAGE KEY

Control Action

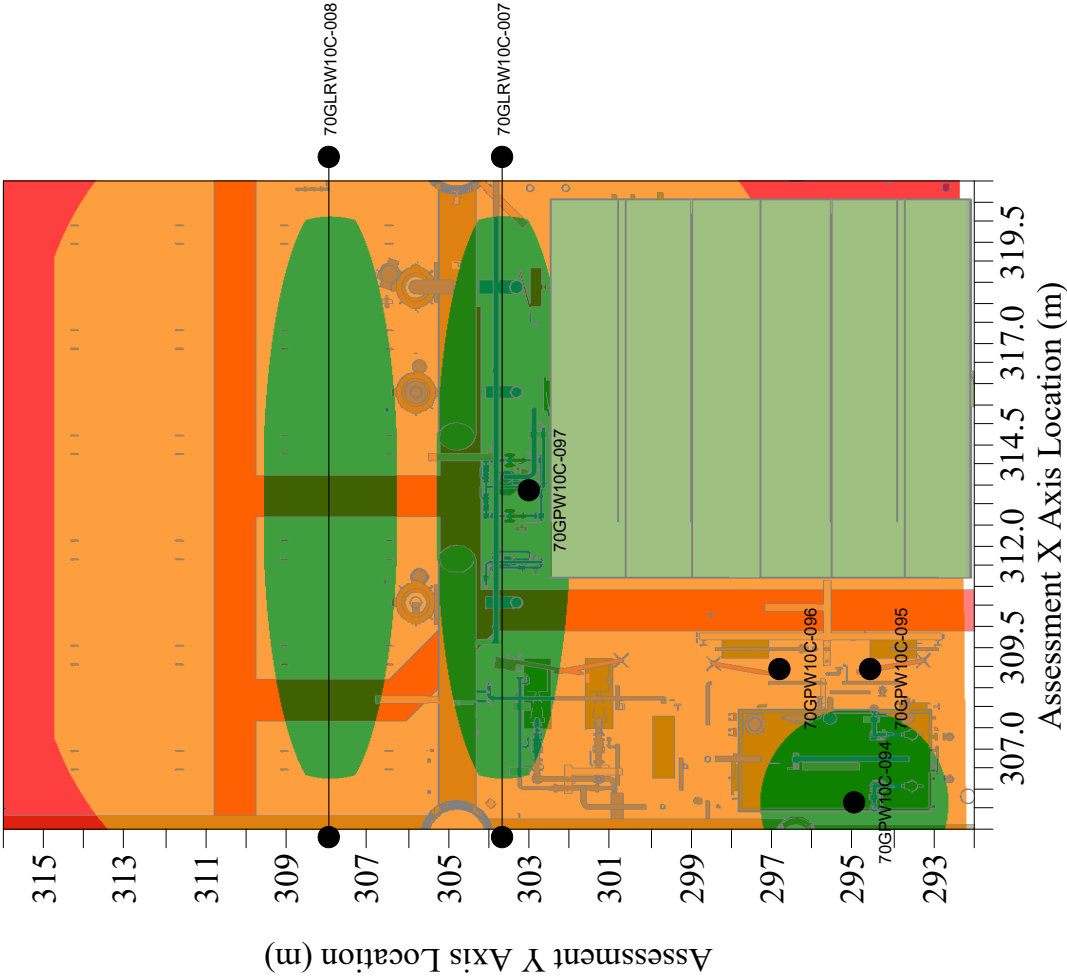
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 4.840 m ALD



COVERAGE KEY

Control Action

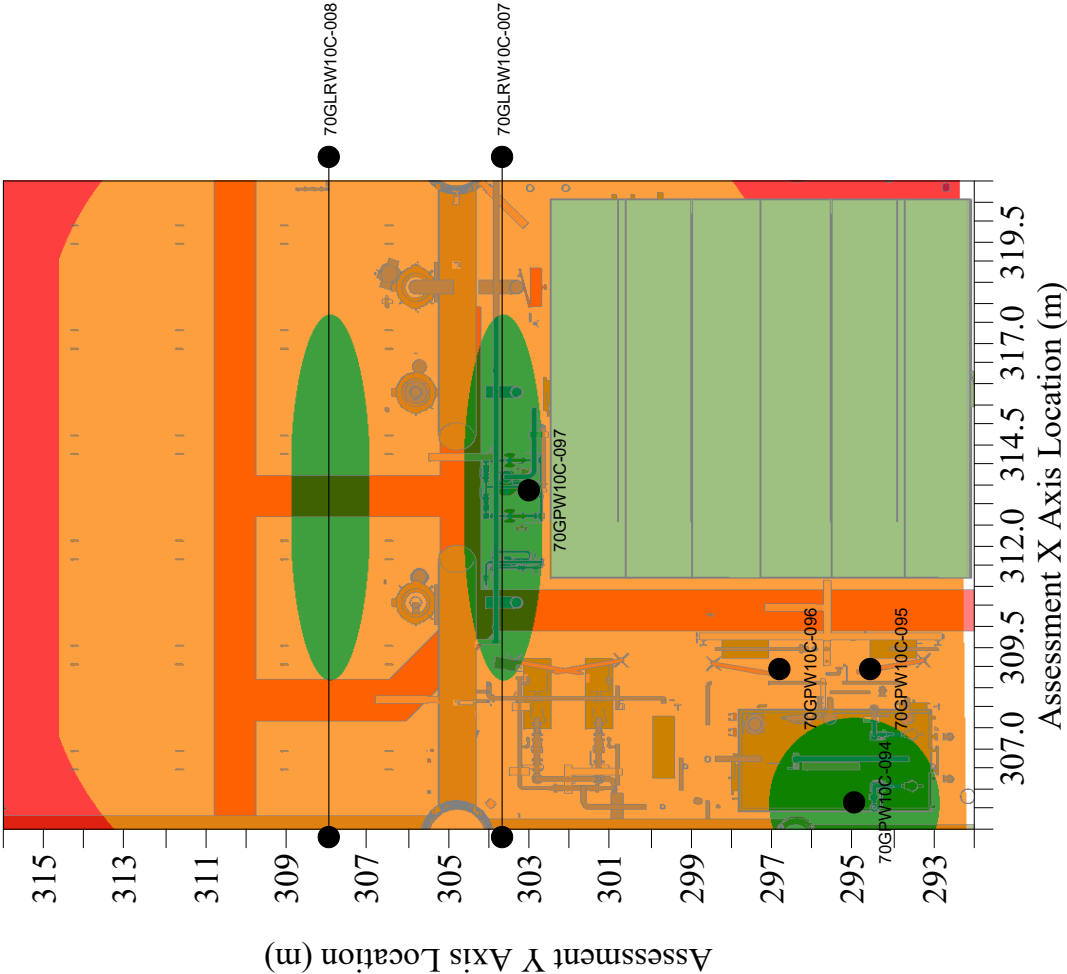
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 5.269 m ALD



COVERAGE KEY

Control Action

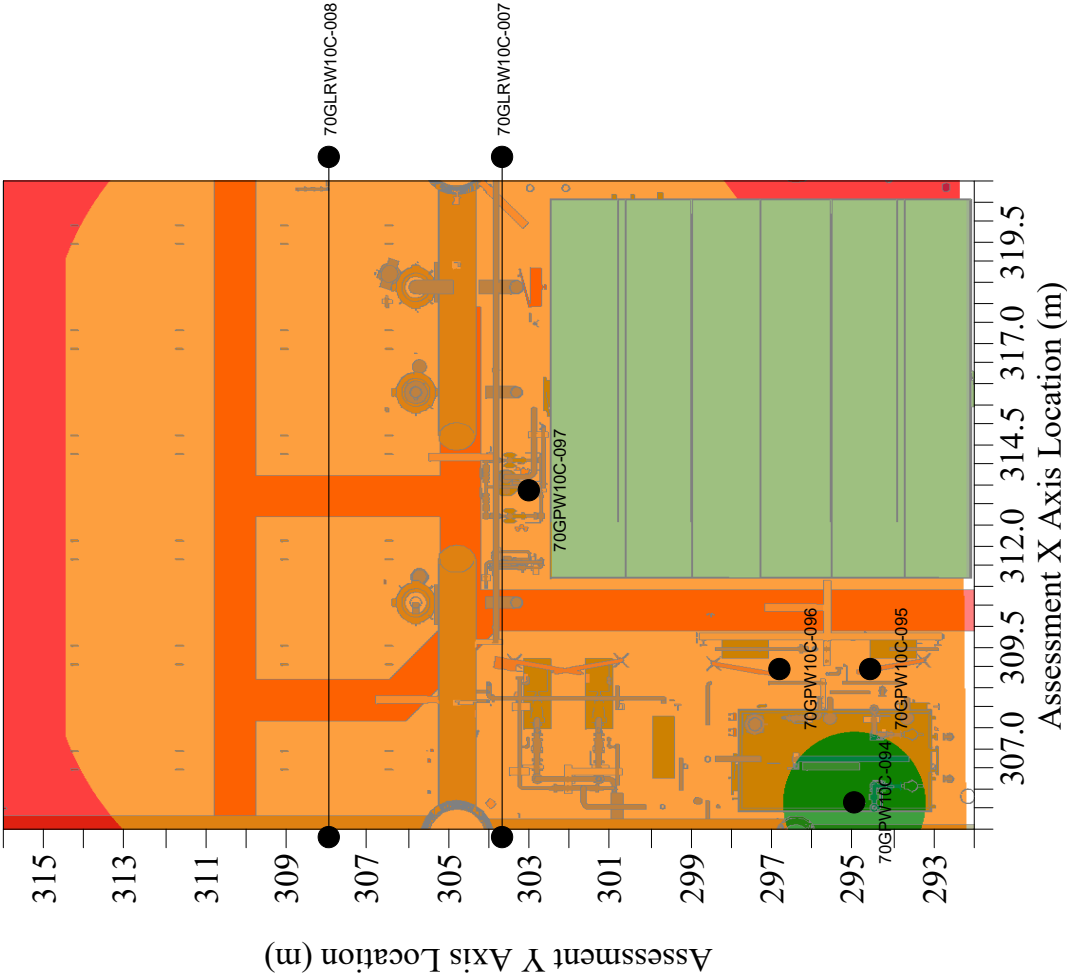
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 5.697 m ALD



COVERAGE KEY

Control Action

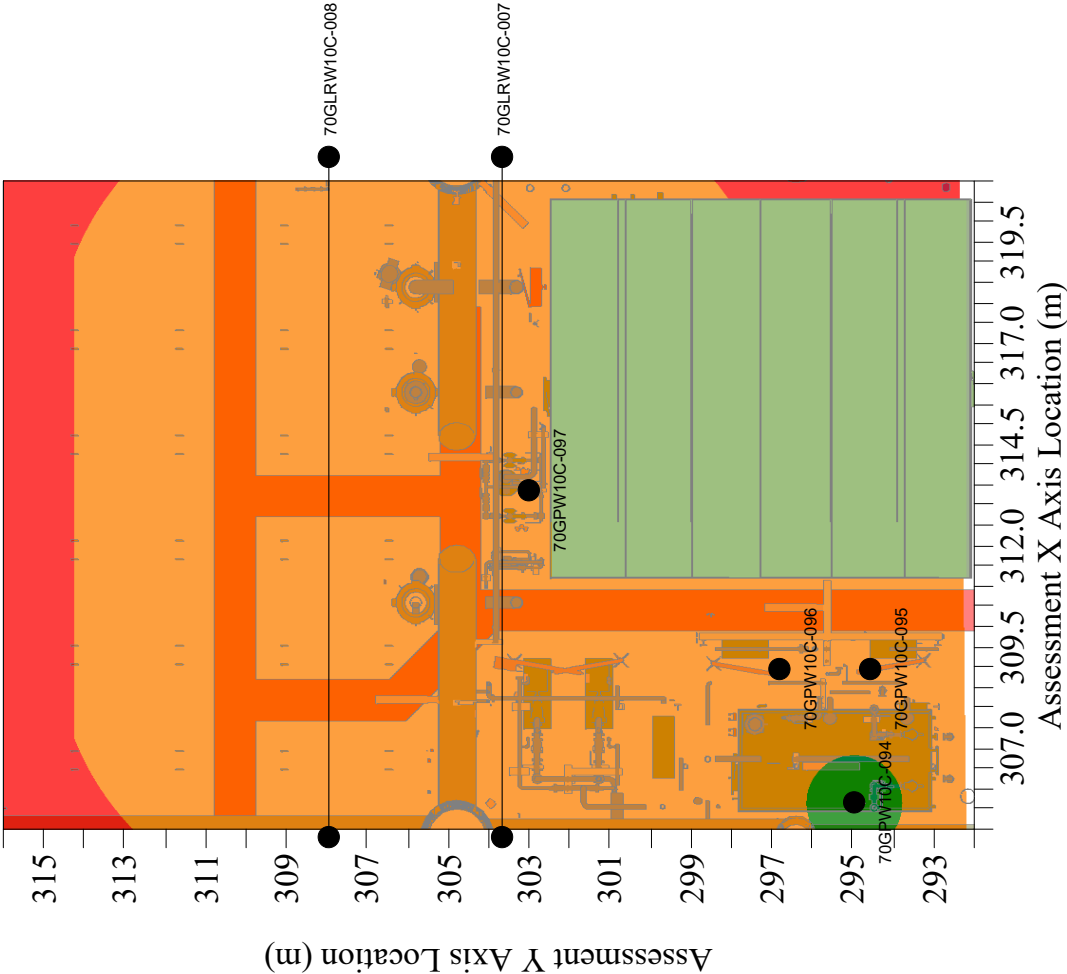
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			

Project Name-Area W10C

Gas Detector coverage at 6.126 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:23



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed W10C**
Number of detectors: 8
Calculation model: Dispersion

ASSESSMENT VOLUME DIMENSIONS

Height: 6.00 m Length: 24.00 m Width: 16.00 m Deck Z: 17.37 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

Assessment performed using 15 slices from 17.50 m to 23.50 m
Increment between 3D assessment slices: 0.43 m

ASSESSMENT SUMMARY

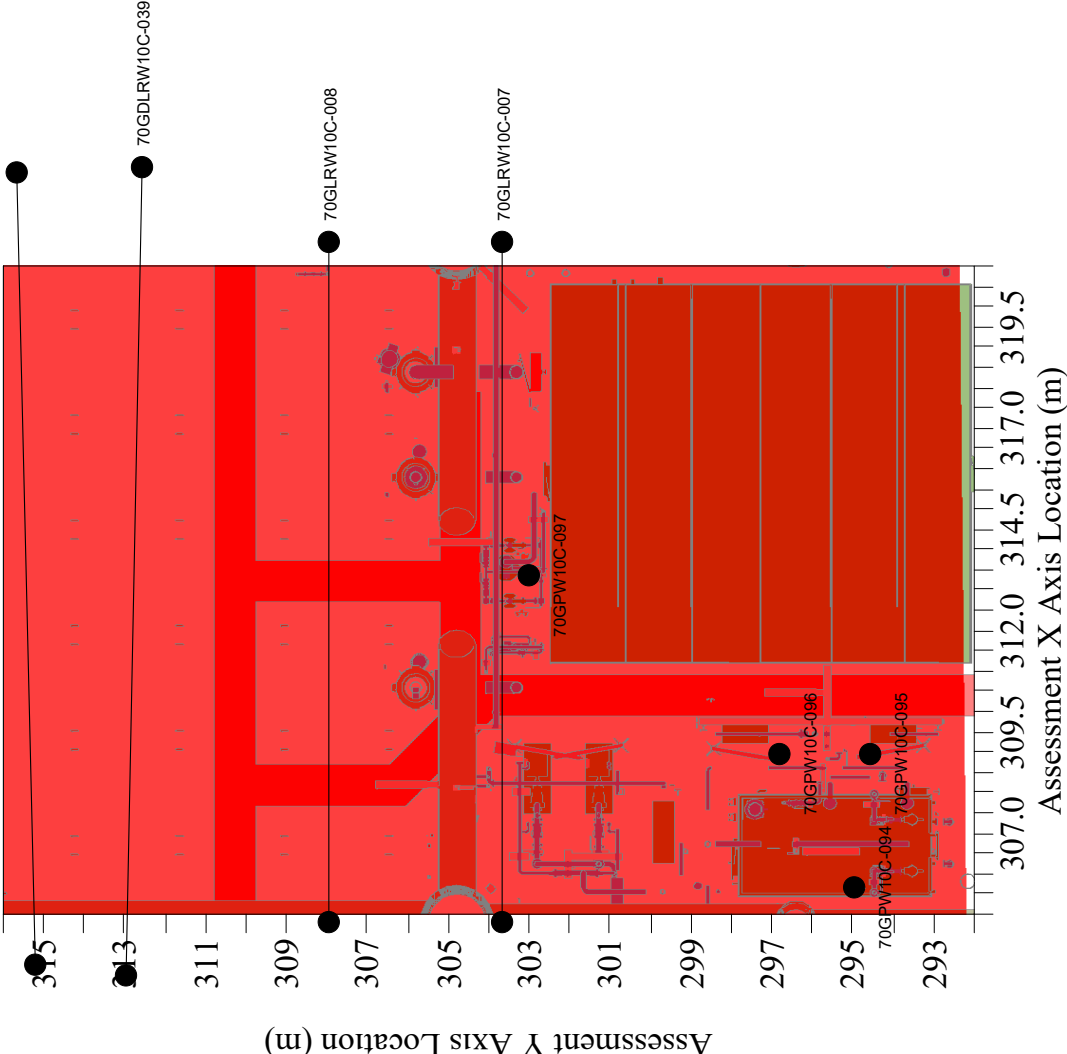
Assessment	Grade C/SG	Overall
Full control action	52%	52%
Some coverage	47%	47%
No coverage	1%	1%

Project Name-Proposed W10C

Graded Volume(s) Cross Section at representative Z (0.126 m ALD)
70GDLRW10C-040

GRADE COLOURS

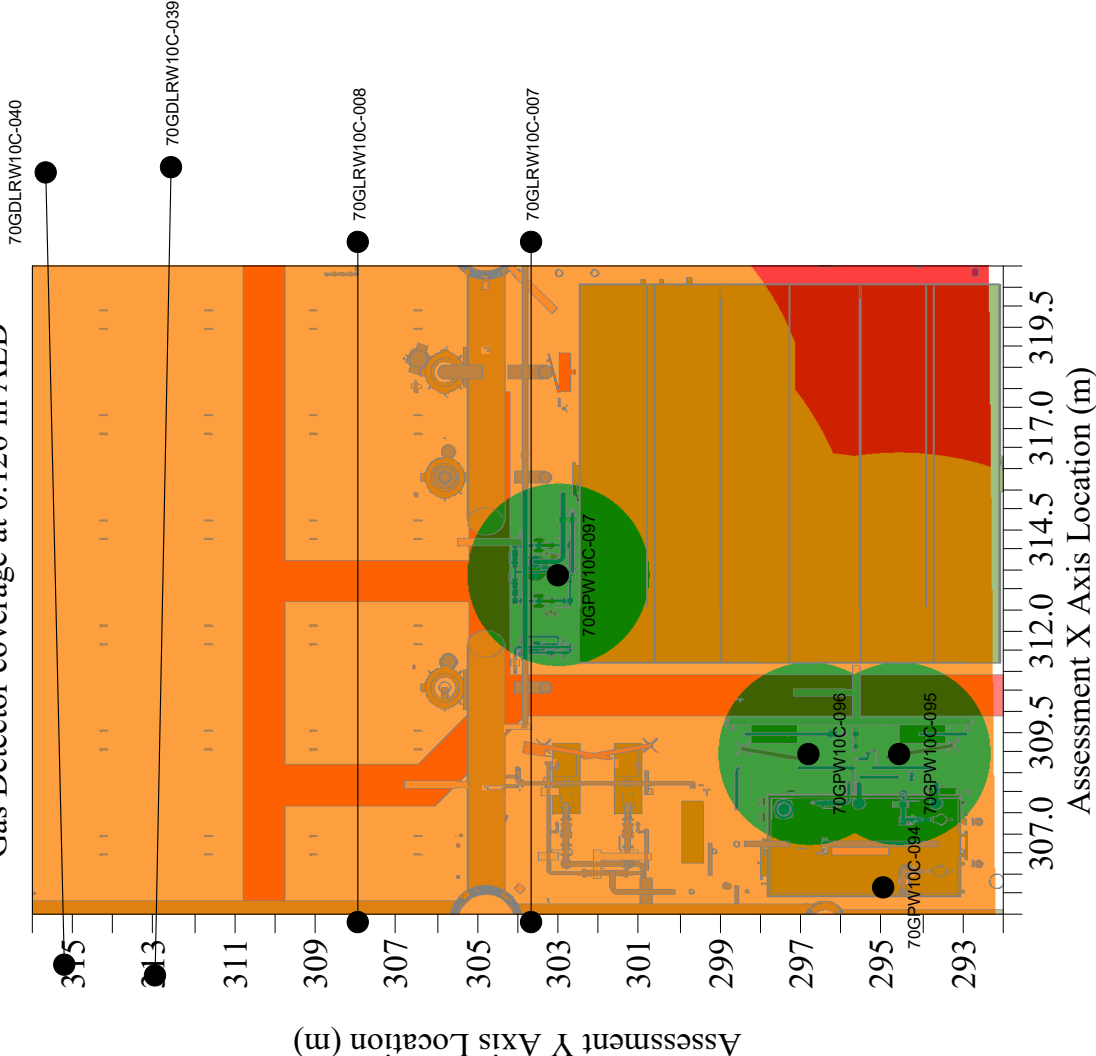
Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

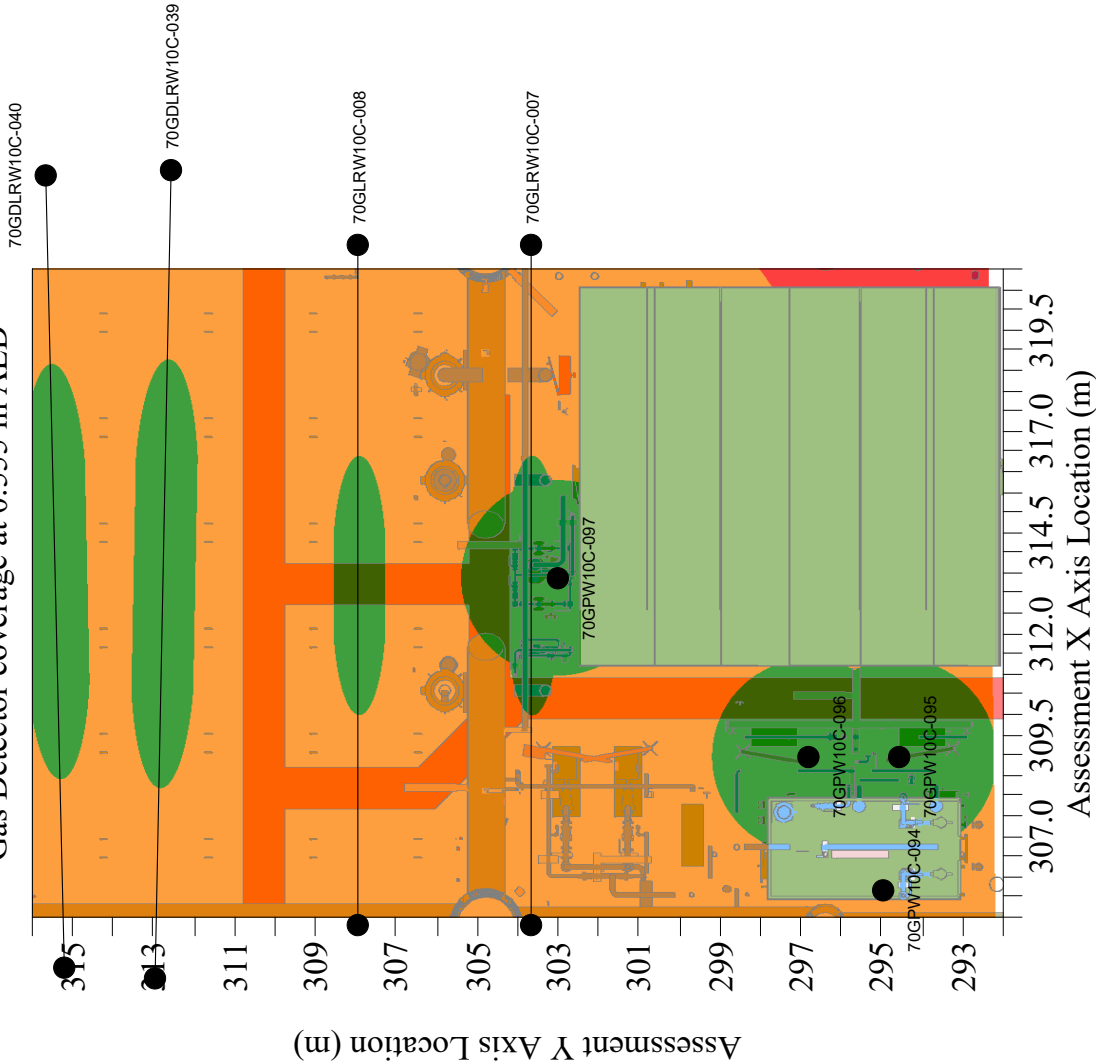
Gas Detector coverage at 0.126 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

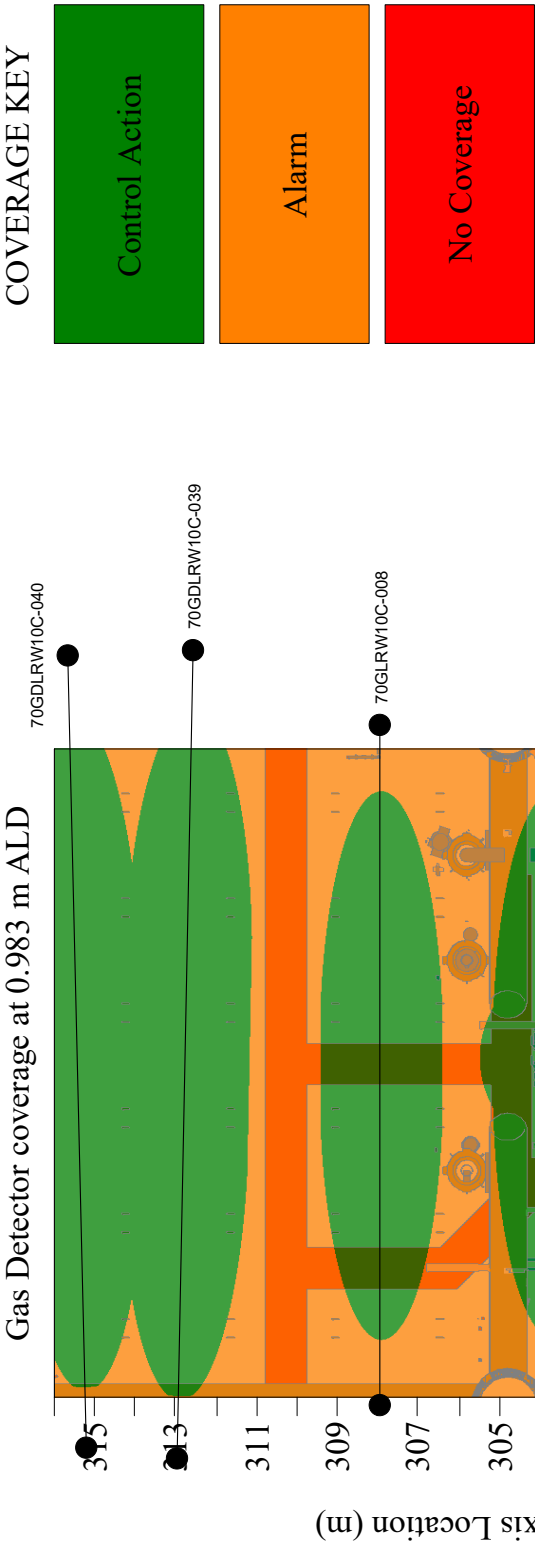
Gas Detector coverage at 0.555 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

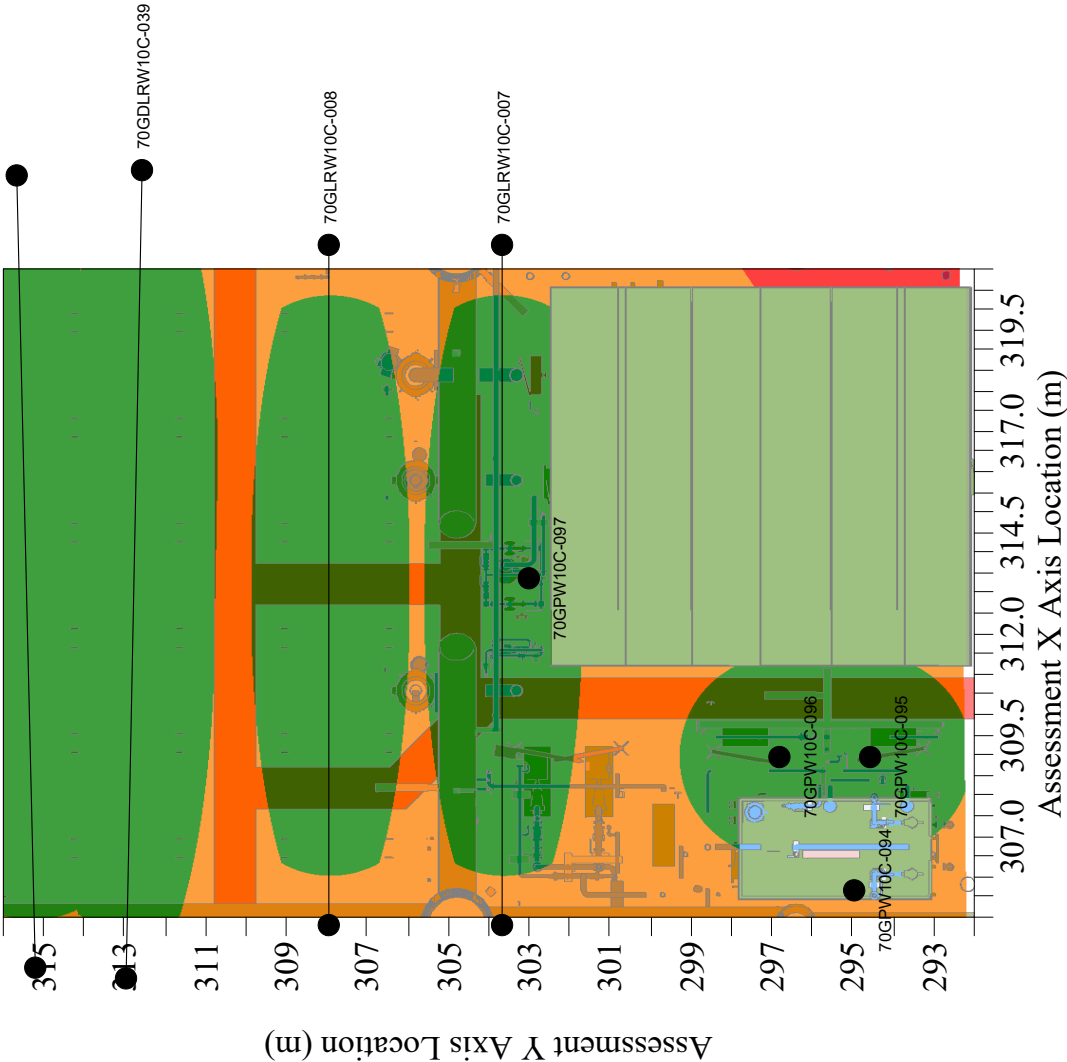
Gas Detector coverage at 0.983 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

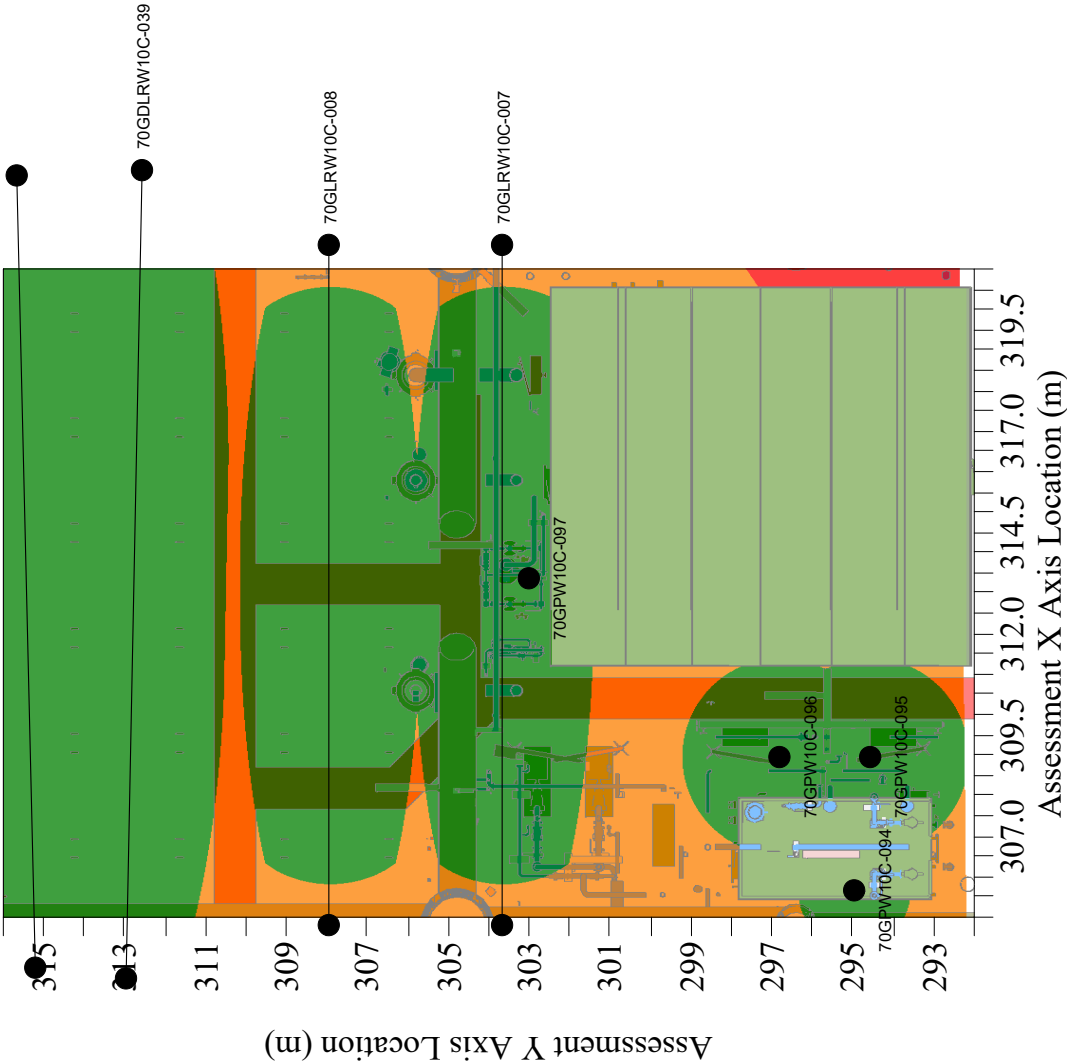
Gas Detector coverage at 1.412 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Gas Detector coverage at 1.840 m ALD



COVERAGE KEY

Control Action

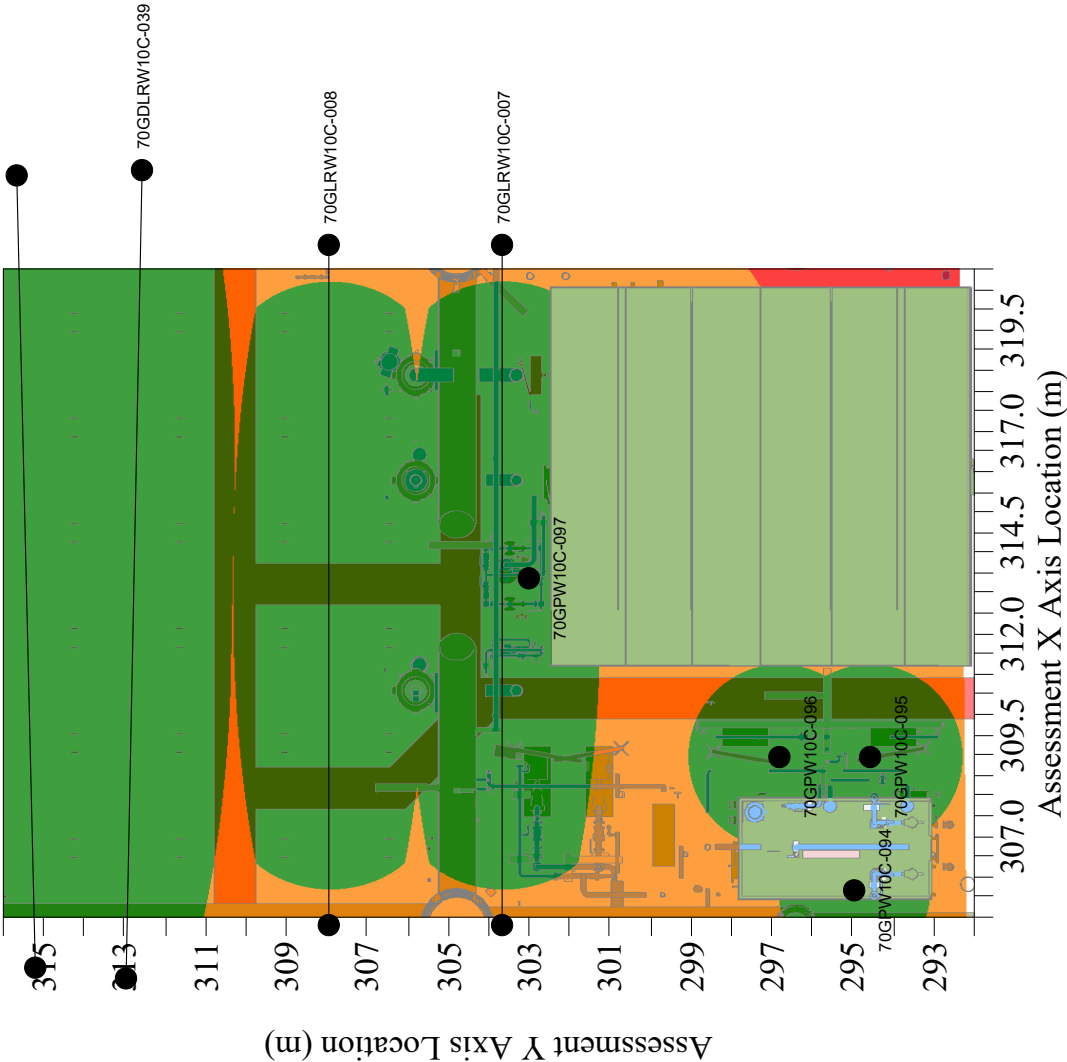
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

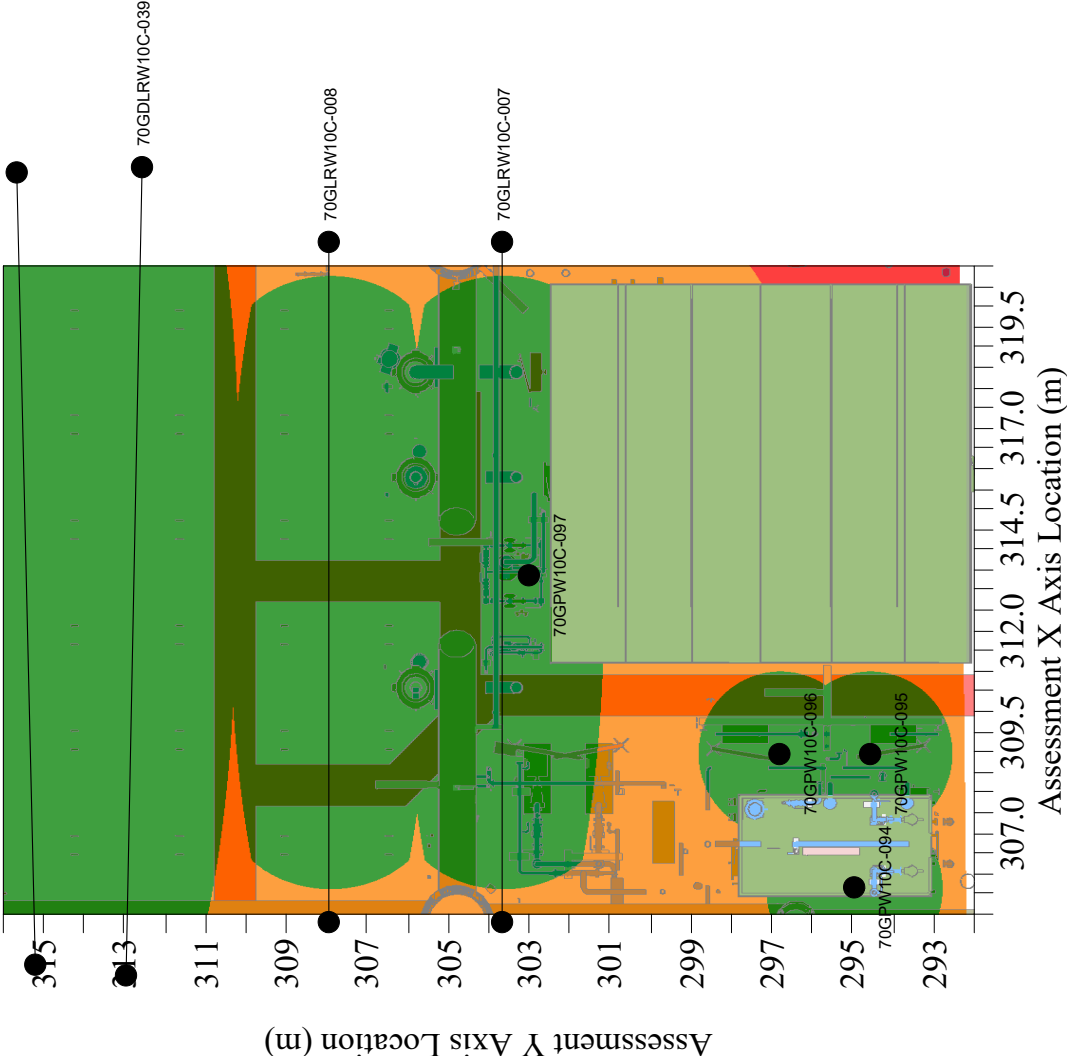
Gas Detector coverage at 2.269 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

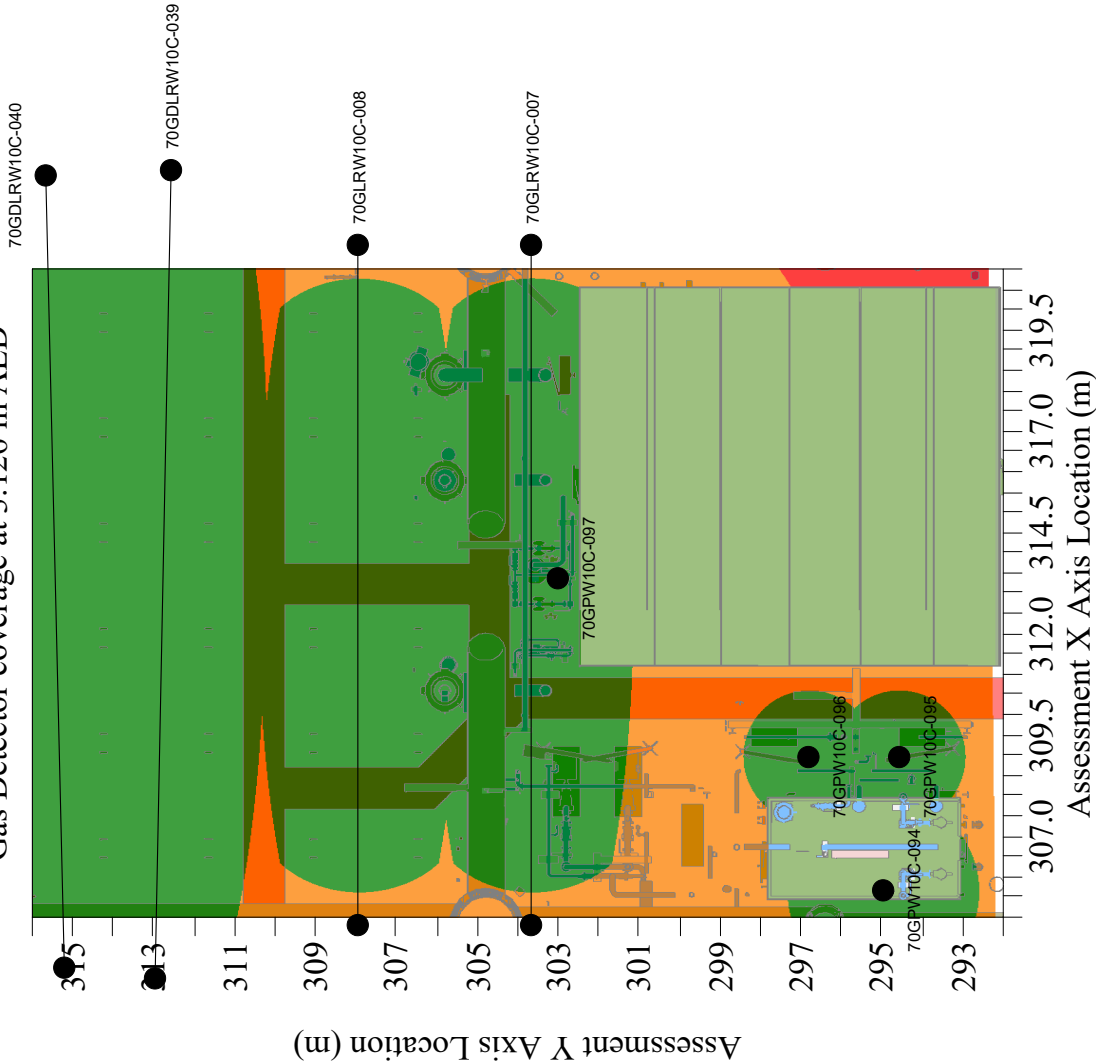
Gas Detector coverage at 2.697 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

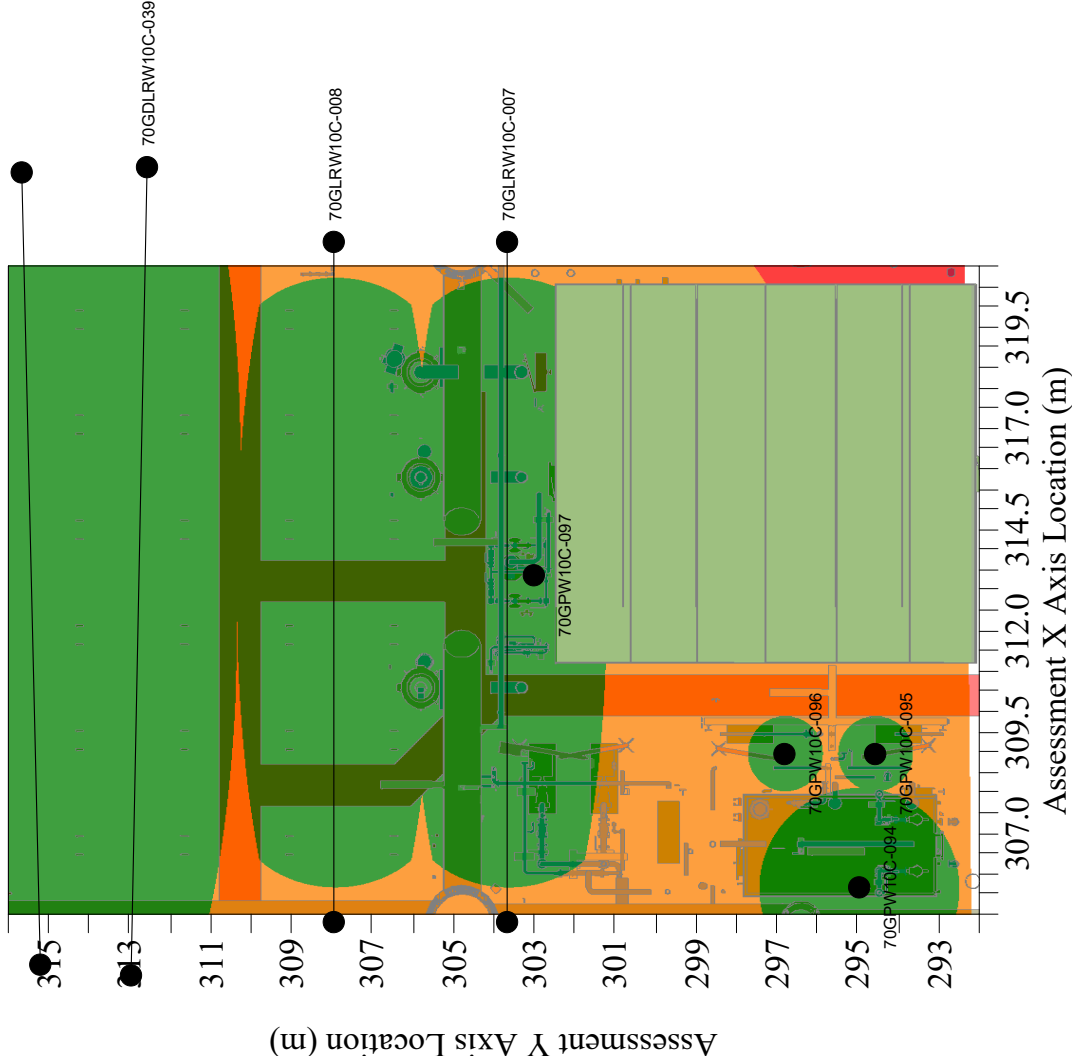
Gas Detector coverage at 3.126 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Gas Detector coverage at 3.555 m ALD



COVERAGE KEY

Control Action

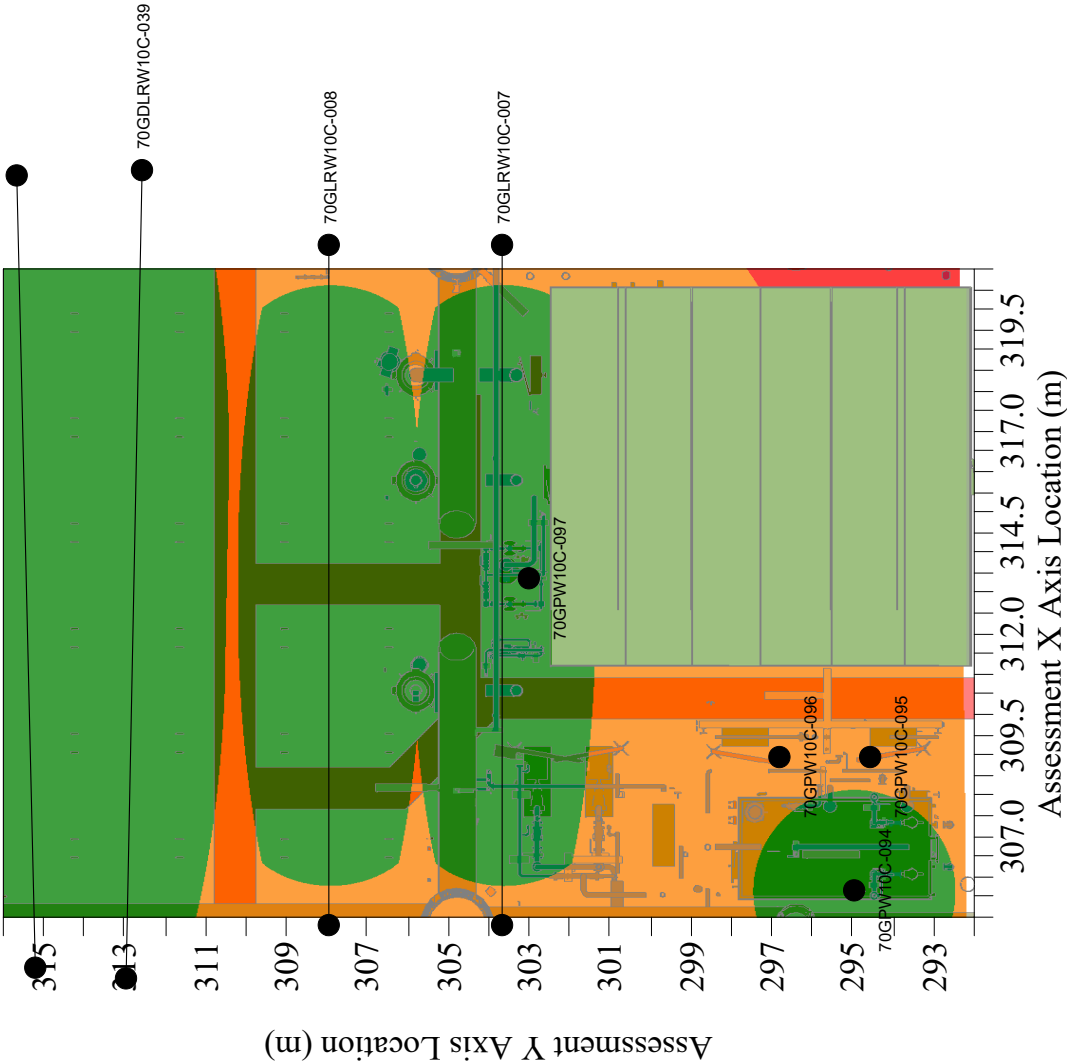
Alarm

No Coverage

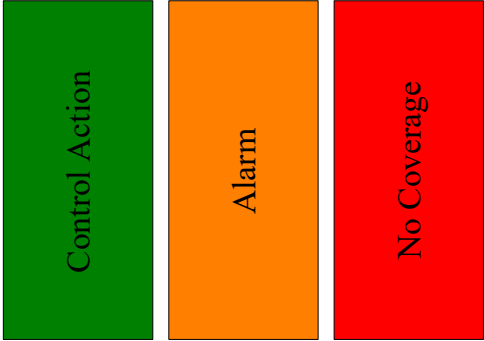
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Gas Detector coverage at 3.983 m ALD



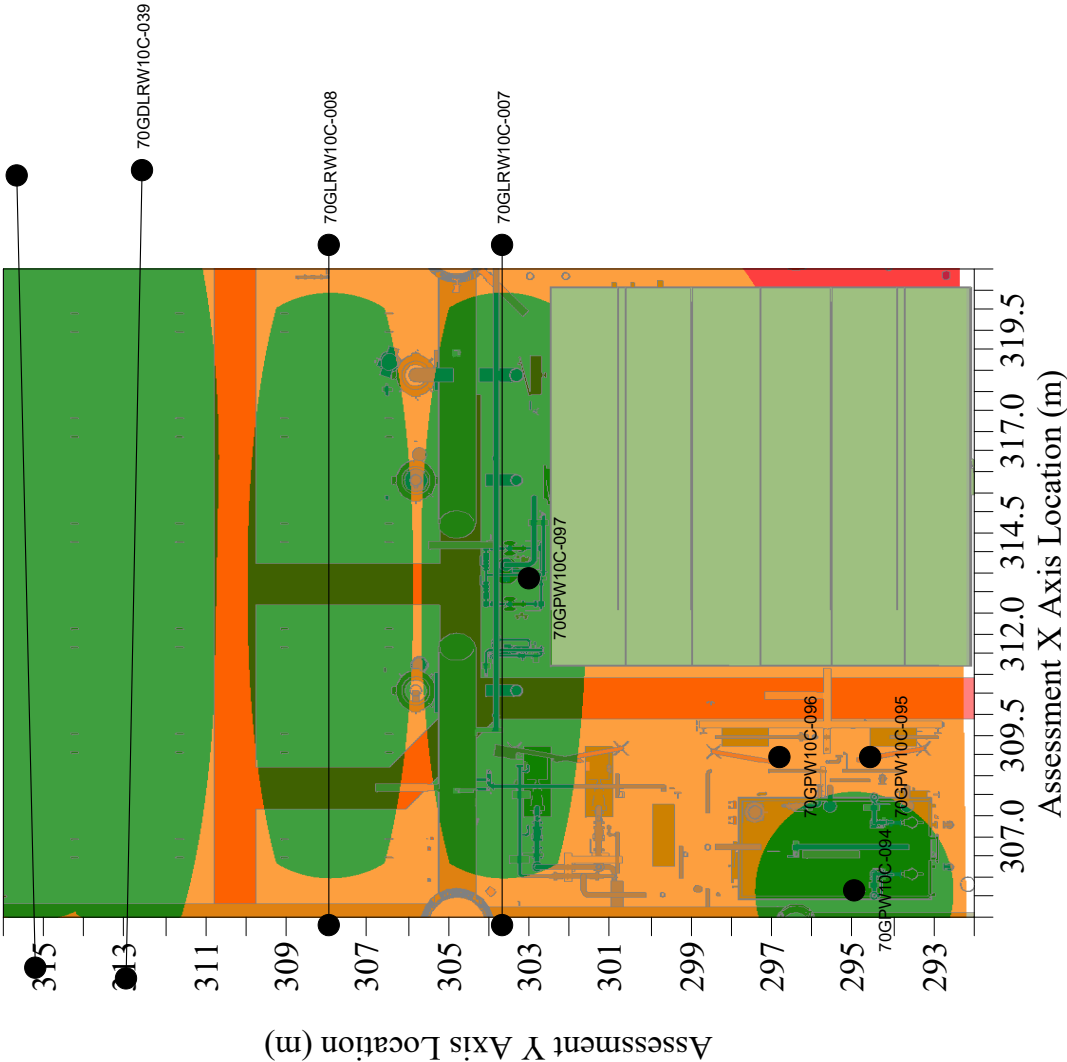
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Gas Detector coverage at 4.412 m ALD



COVERAGE KEY

Control Action

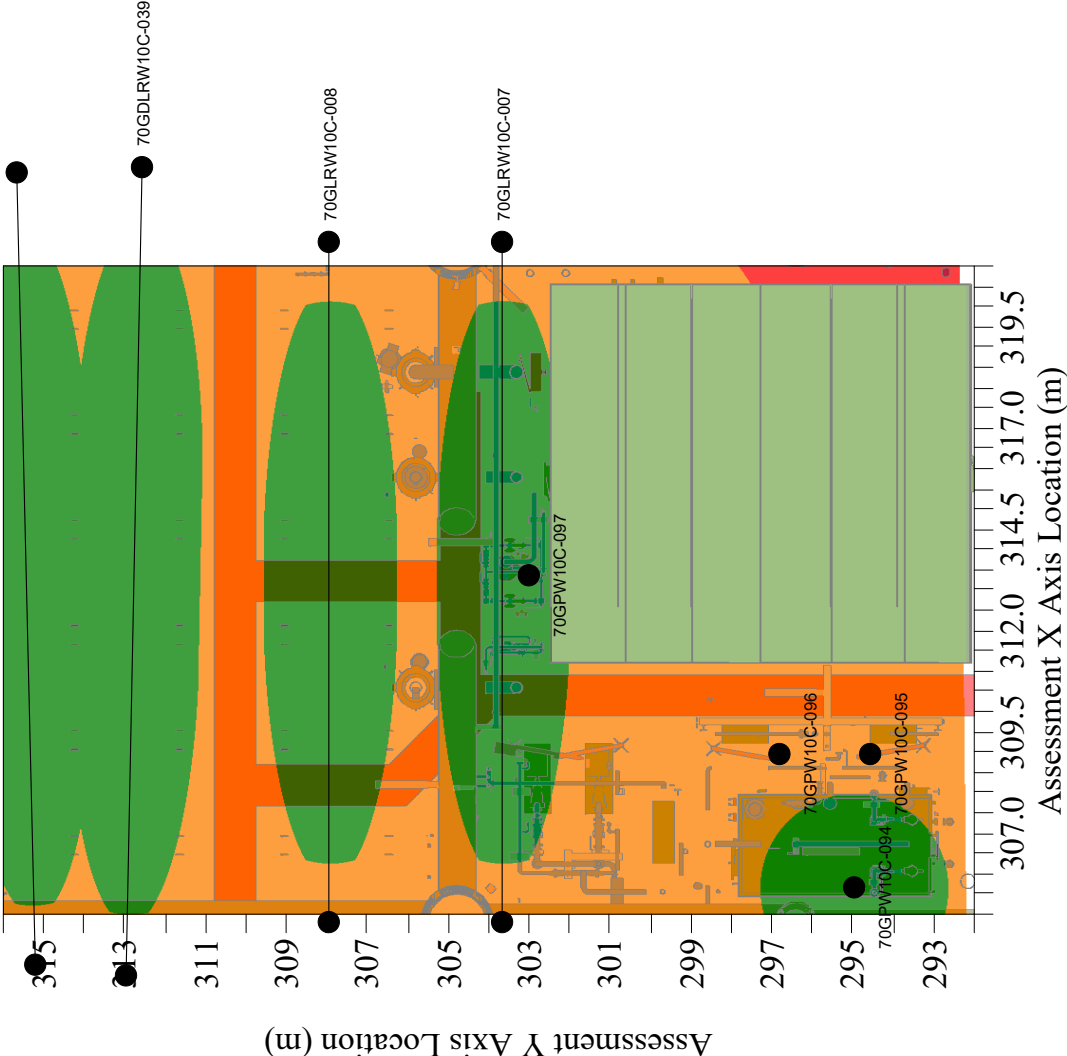
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Gas Detector coverage at 4.840 m ALD



COVERAGE KEY

Control Action

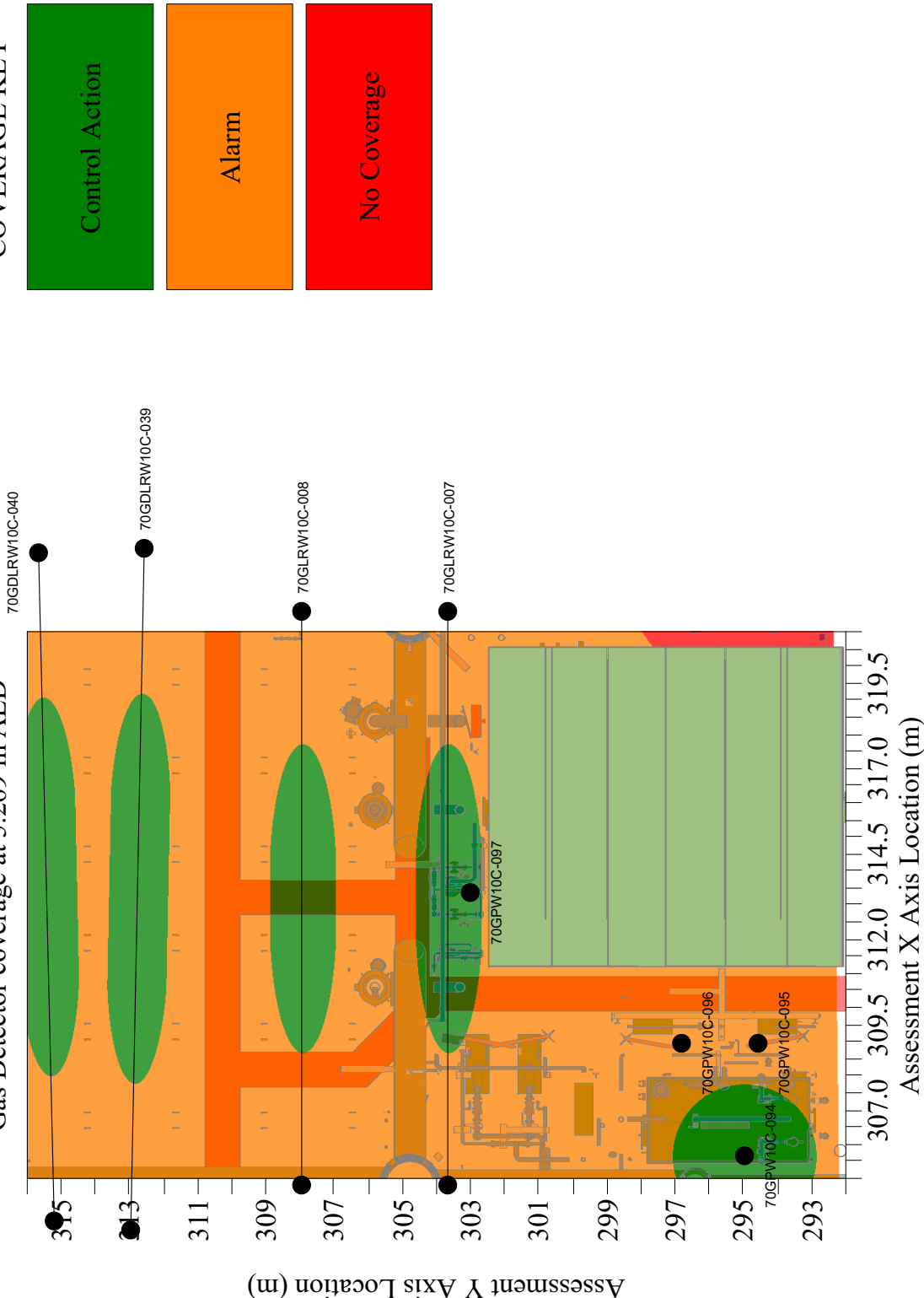
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

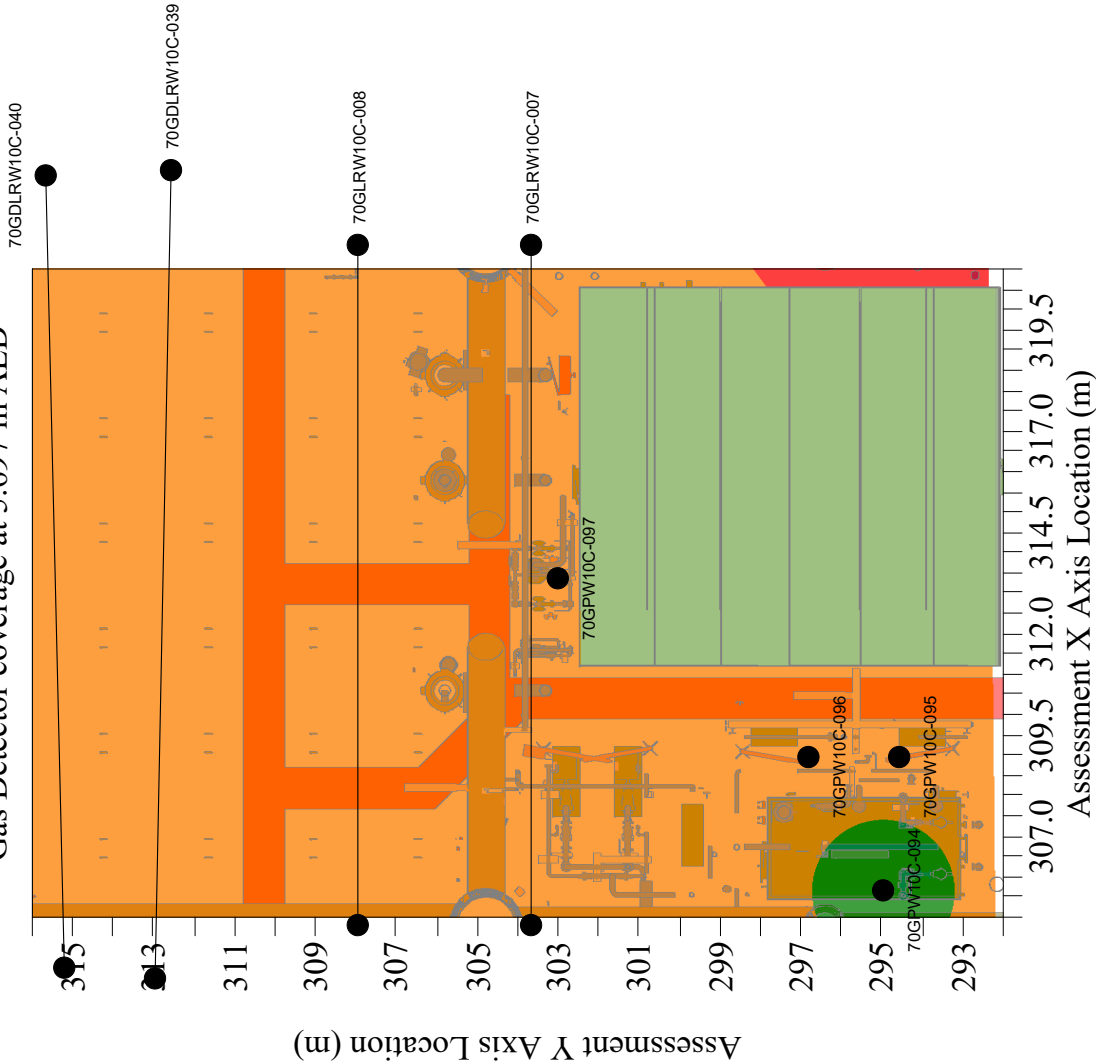
Gas Detector coverage at 5.269 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

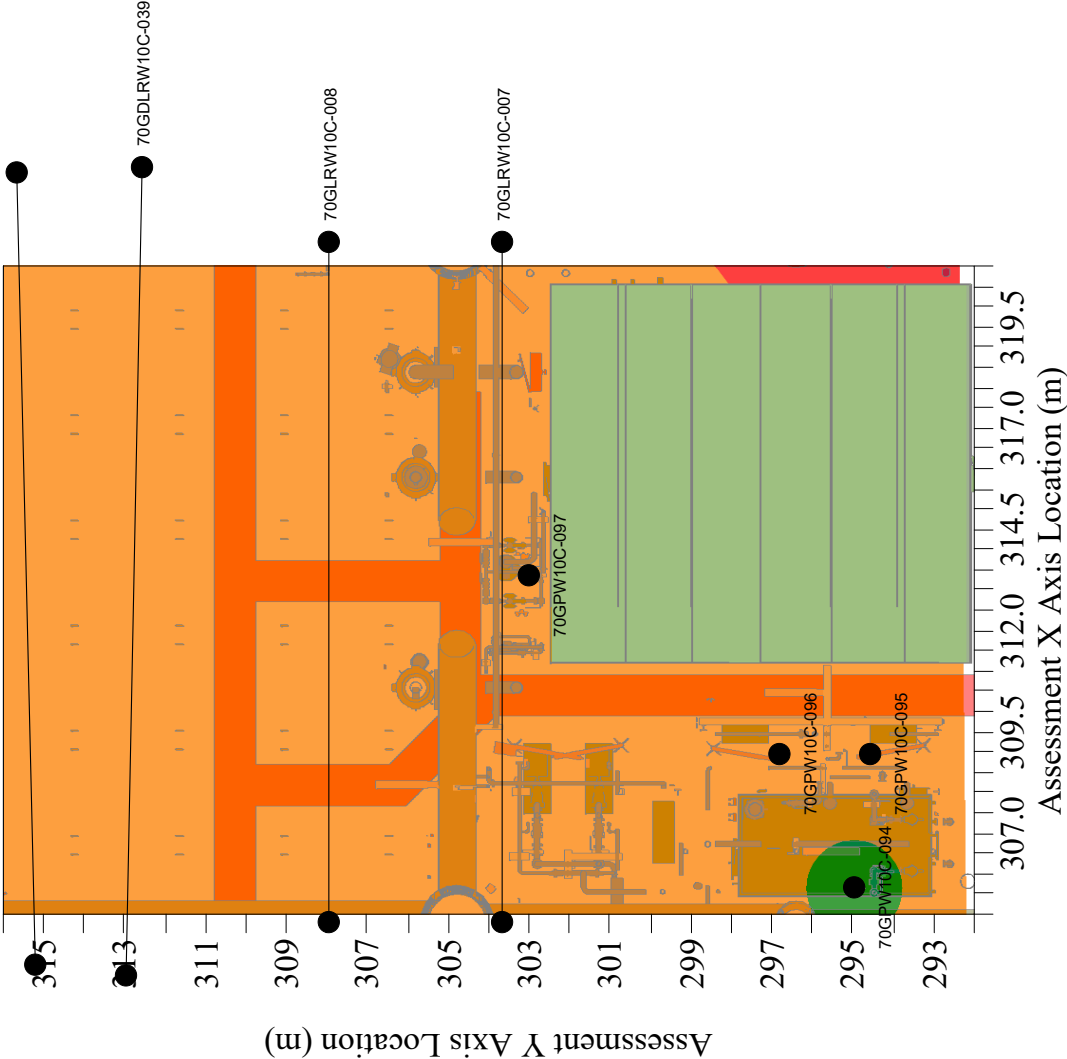
Gas Detector coverage at 5.697 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			

Project Name-Proposed W10C

Gas Detector coverage at 6.126 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:31



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W10E**
Number of detectors: 10
Calculation model: Dispersion

ASSESSMENT VOLUME DIMENSIONS

Height: 7.00 m Length: 28.50 m Width: 17.00 m Deck Z: 17.38 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

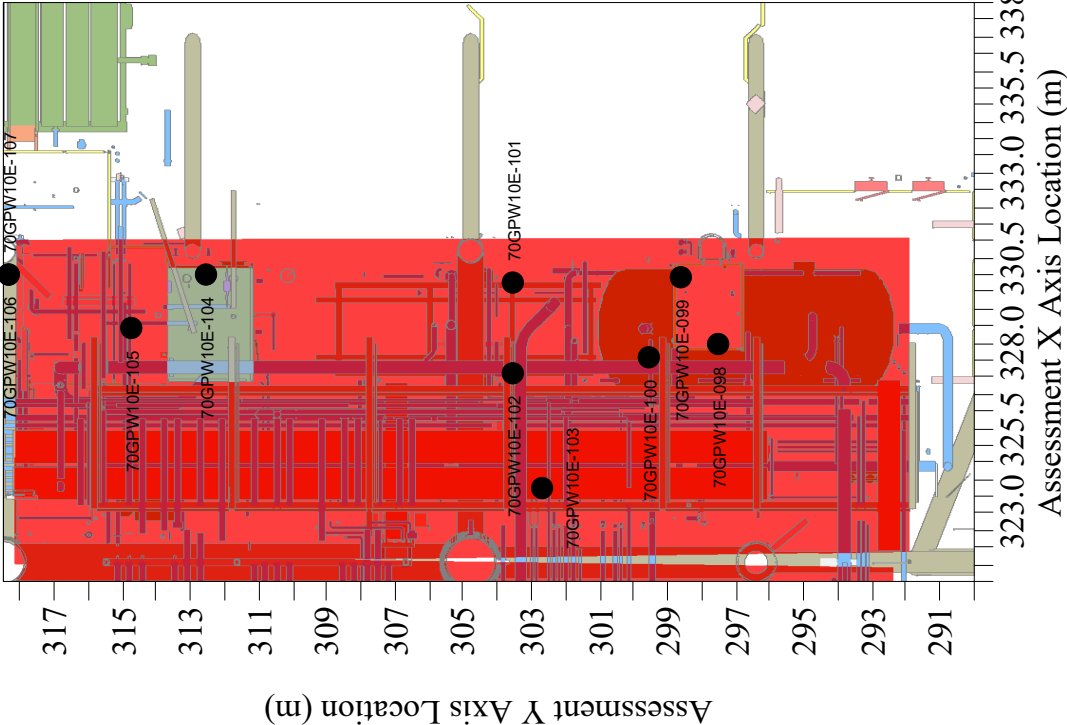
Assessment performed using 15 slices from 18.40 m to 25.40 m
Increment between 3D assessment slices: 0.50 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	17%	17%
Some coverage	76%	76%
No coverage	7%	7%

Project Name-Area W10E

Graded Volume(s) Cross Section at representative Z (1.020 m ALD)



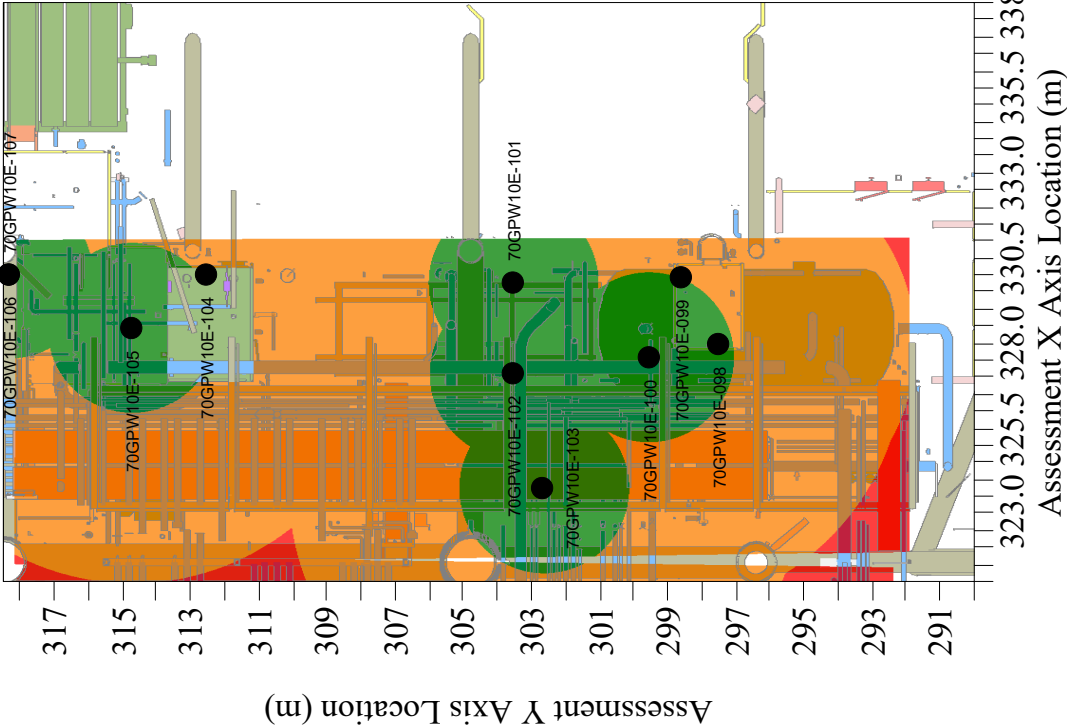
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 1.020 m ALD



COVERAGE KEY

Control Action

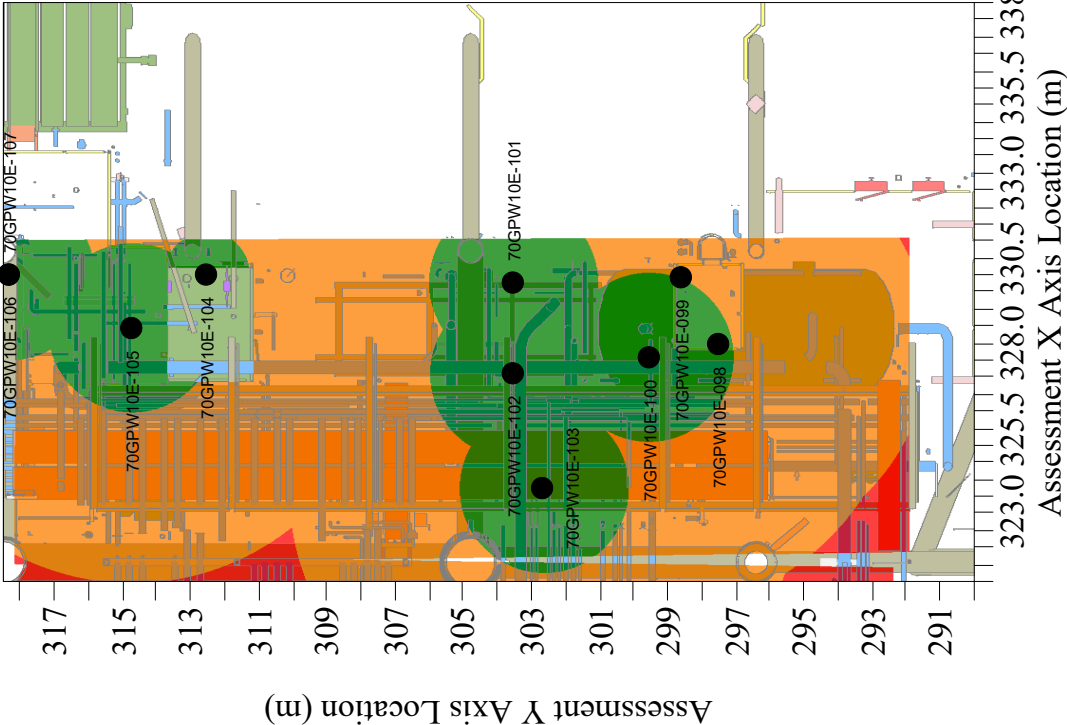
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 1.520 m ALD



COVERAGE KEY

Control Action

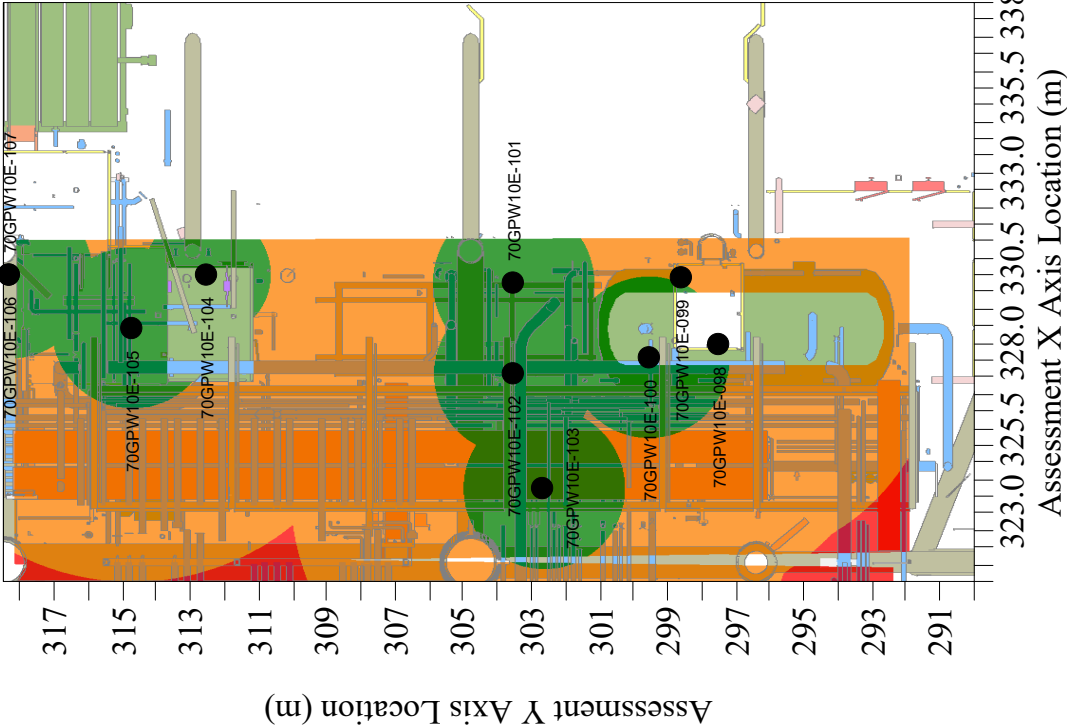
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 2.020 m ALD



COVERAGE KEY

Control Action

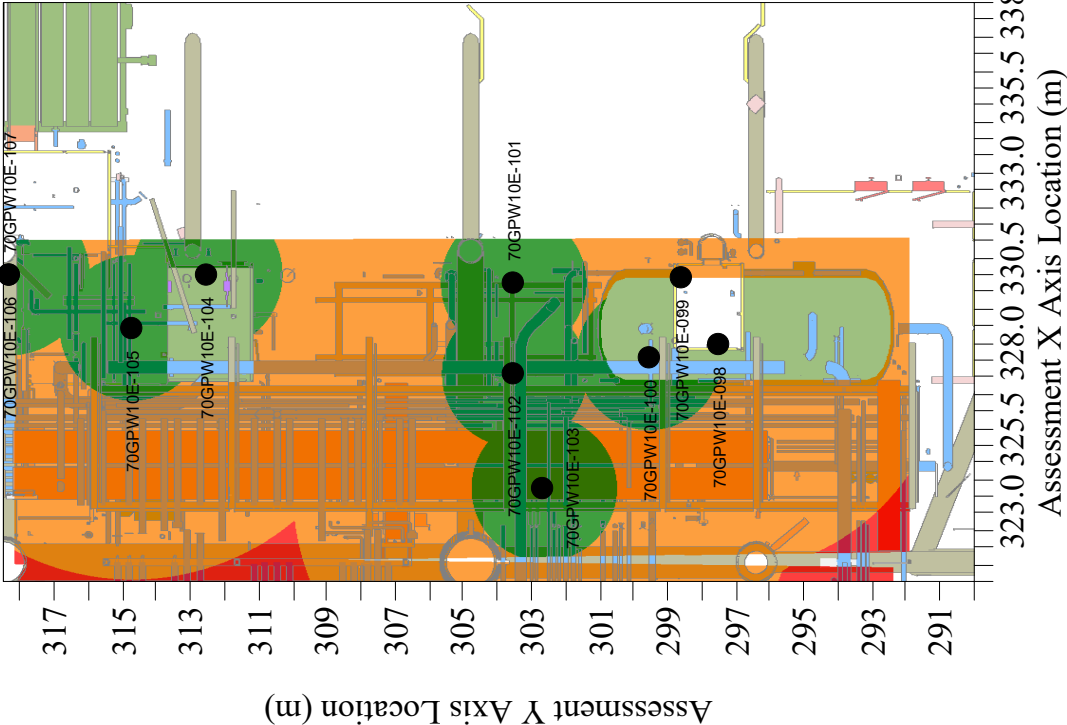
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 2.520 m ALD



COVERAGE KEY

Control Action

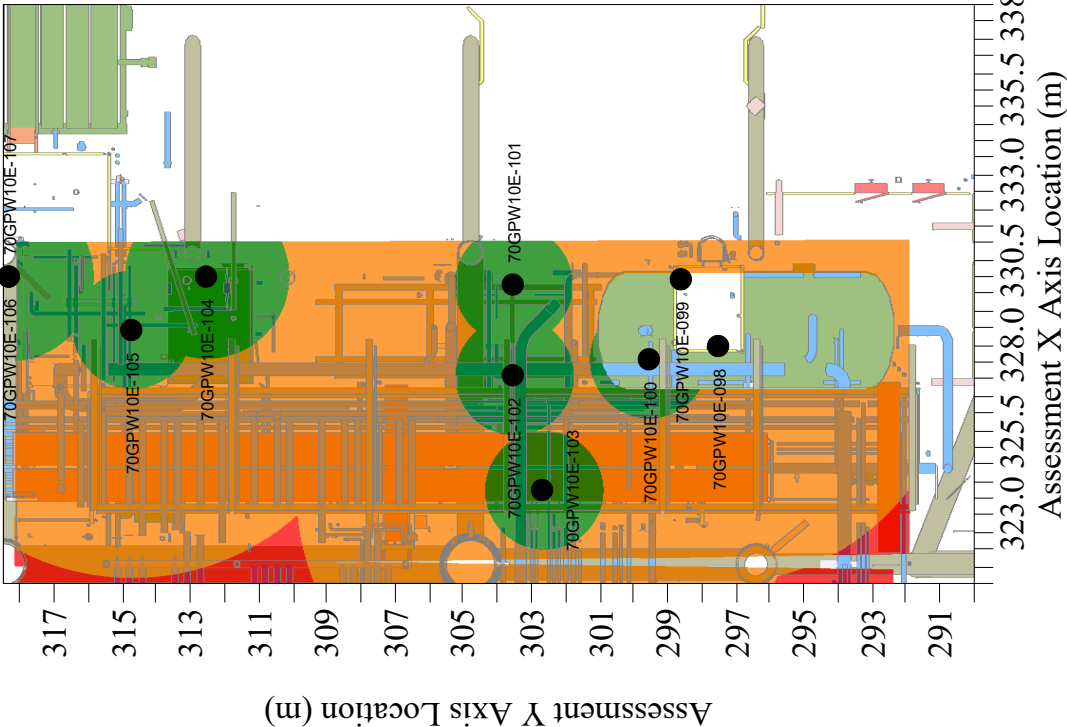
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

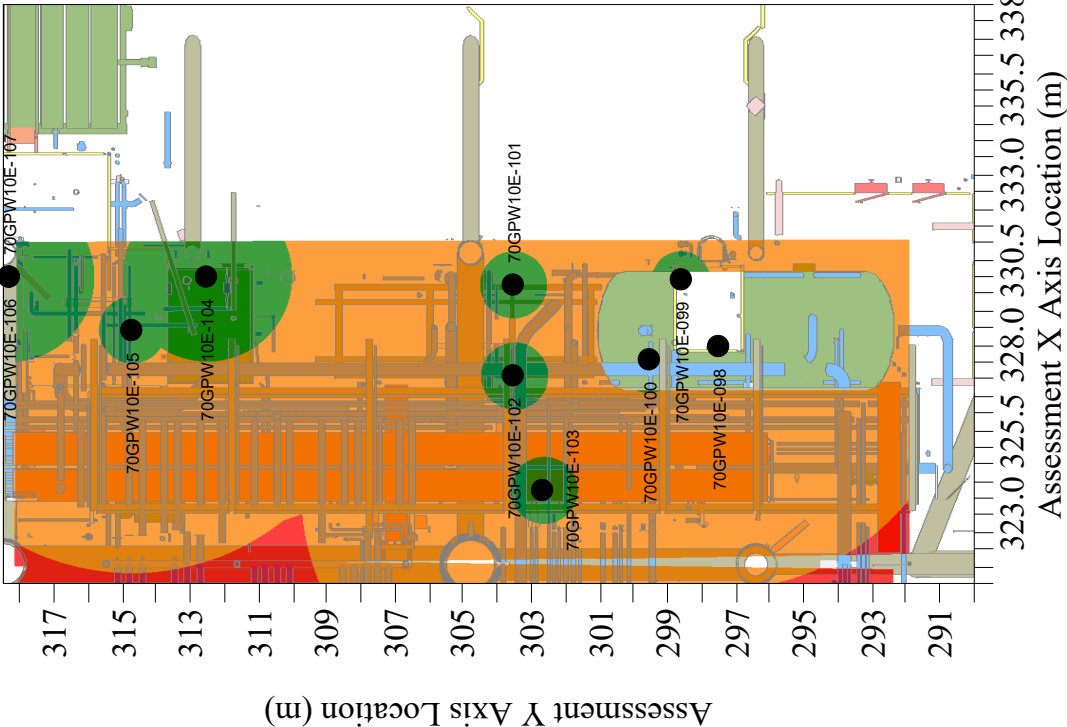
Gas Detector coverage at 3.020 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 3.520 m ALD



COVERAGE KEY

Control Action

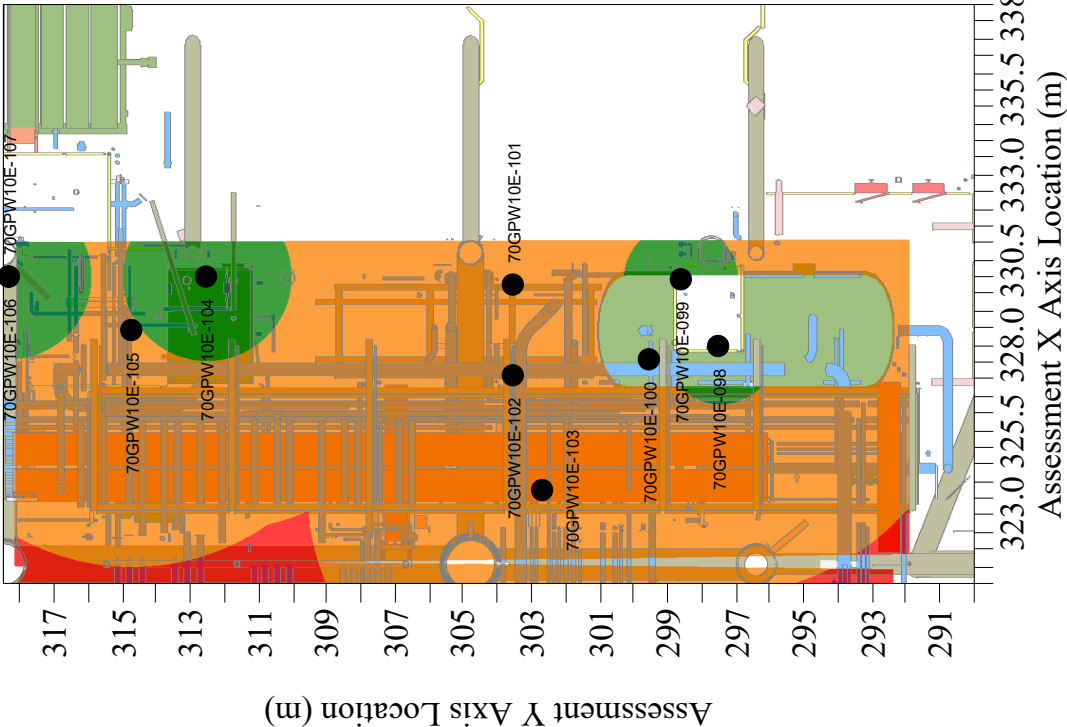
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 4.020 m ALD



COVERAGE KEY

Control Action

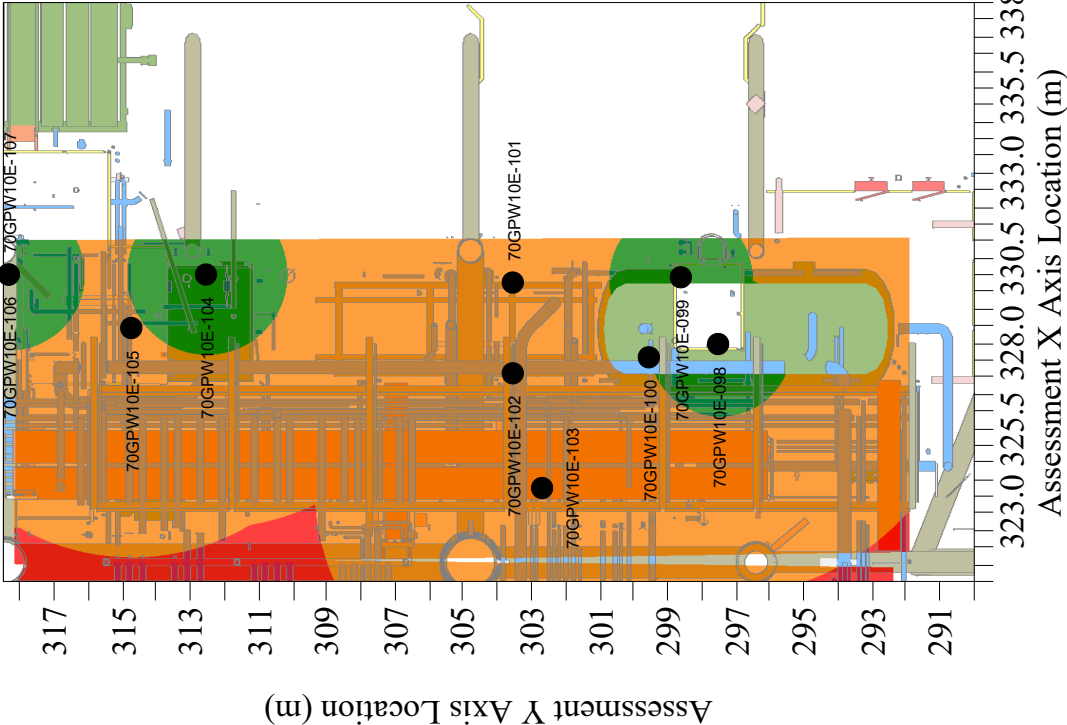
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 4.520 m ALD



COVERAGE KEY

Control Action

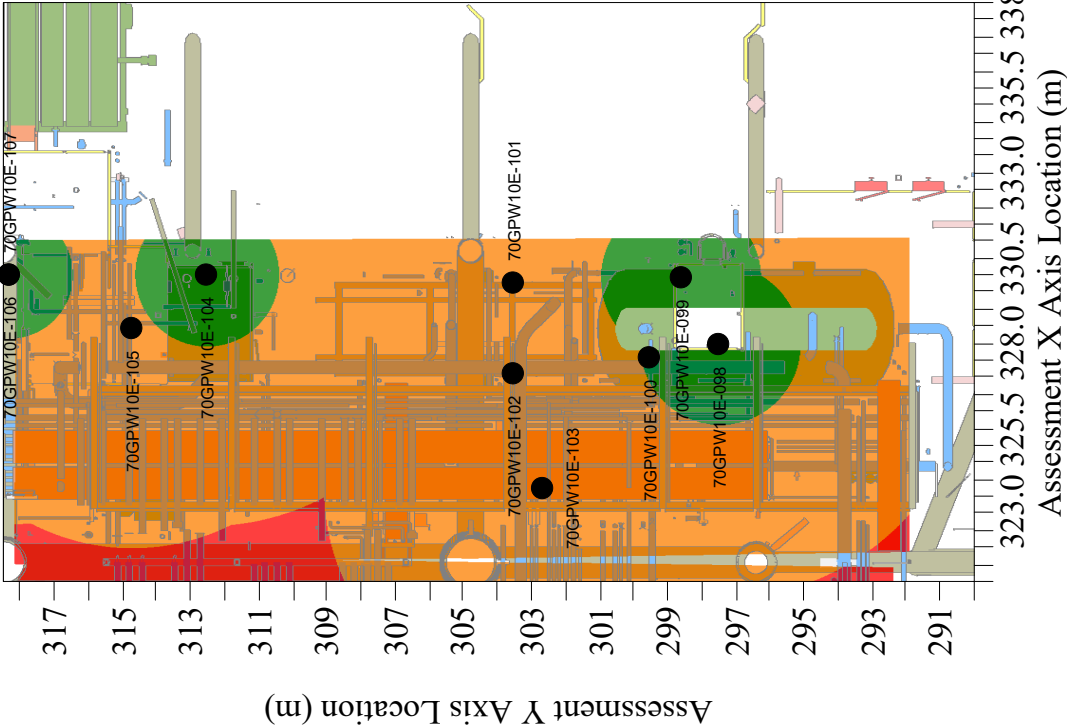
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

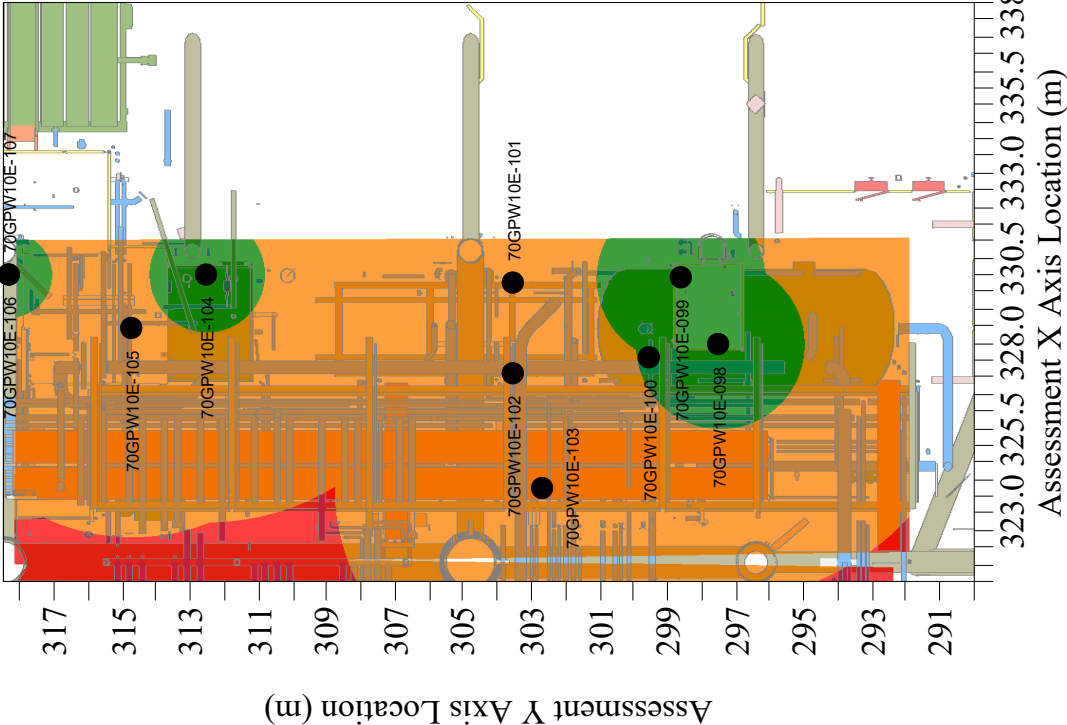
Gas Detector coverage at 5.020 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 5.520 m ALD



COVERAGE KEY

Control Action

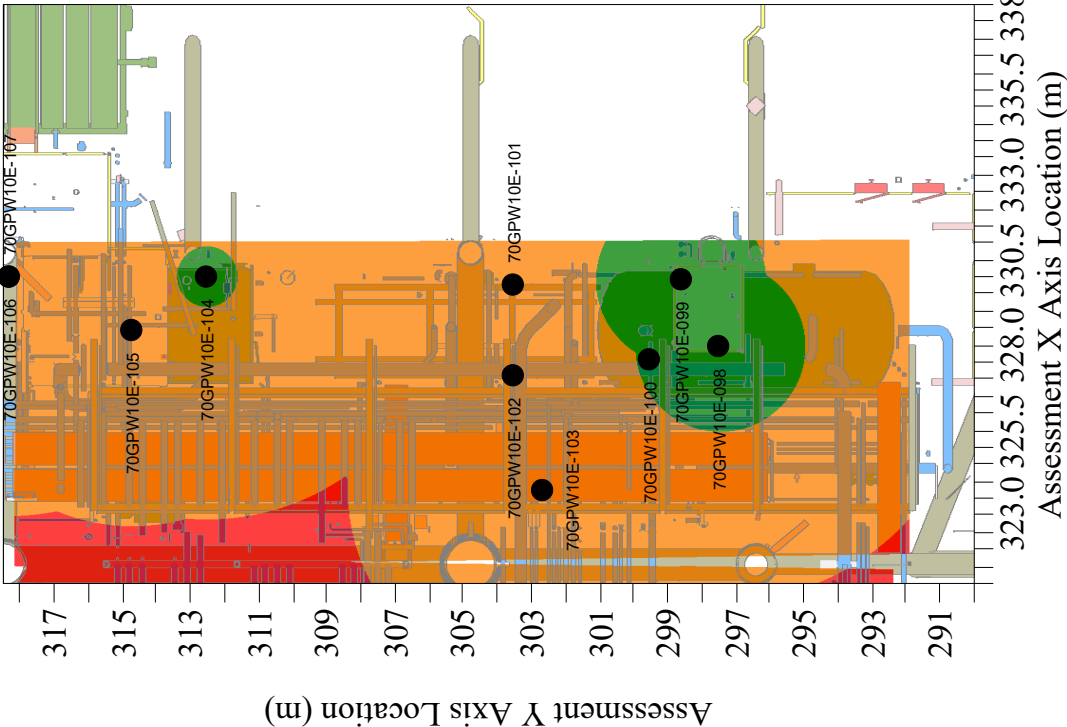
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 6.020 m ALD



COVERAGE KEY

Control Action

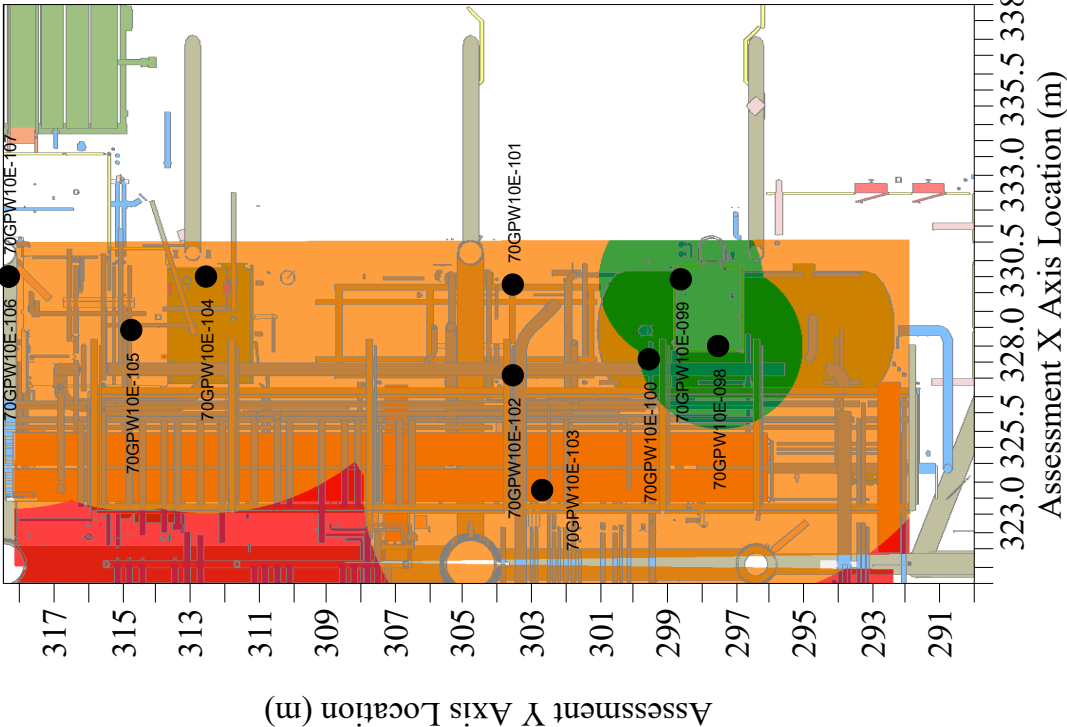
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 6.520 m ALD



COVERAGE KEY

Control Action

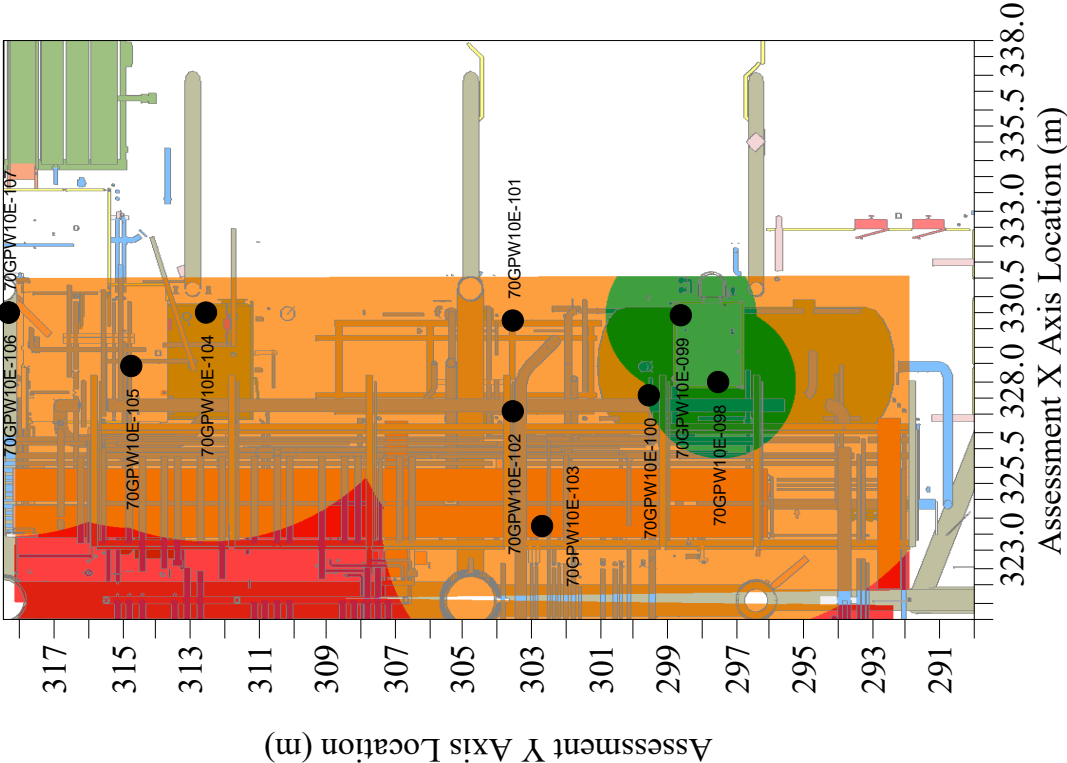
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 7.020 m ALD



COVERAGE KEY

Control Action

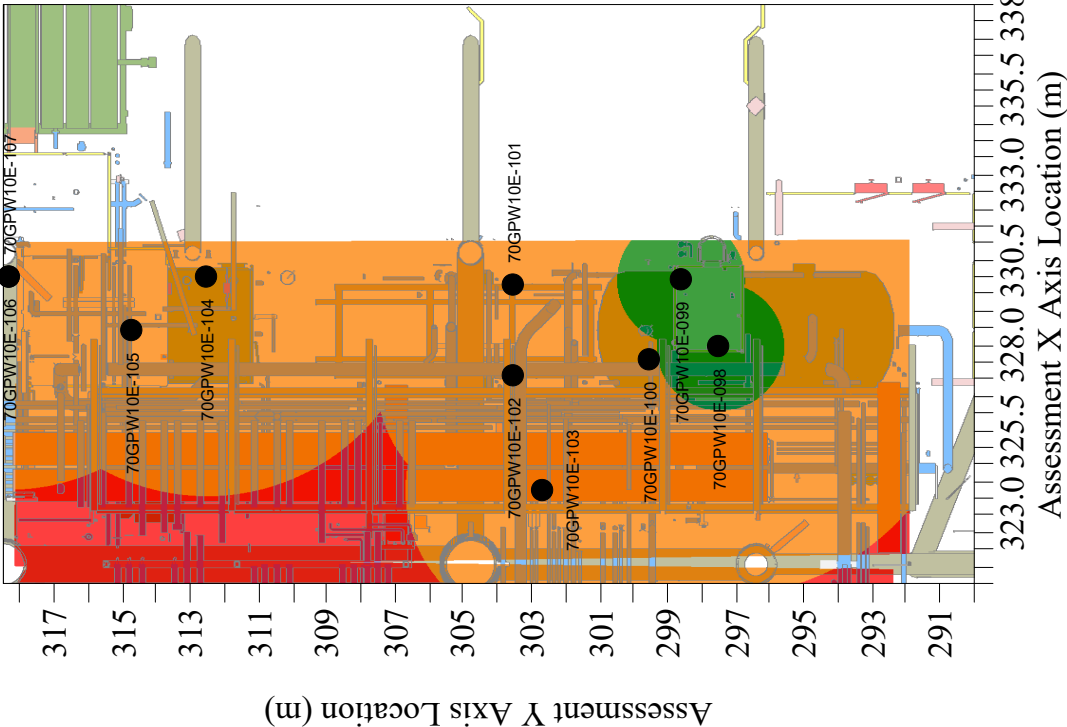
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 7.520 m ALD



COVERAGE KEY

Control Action

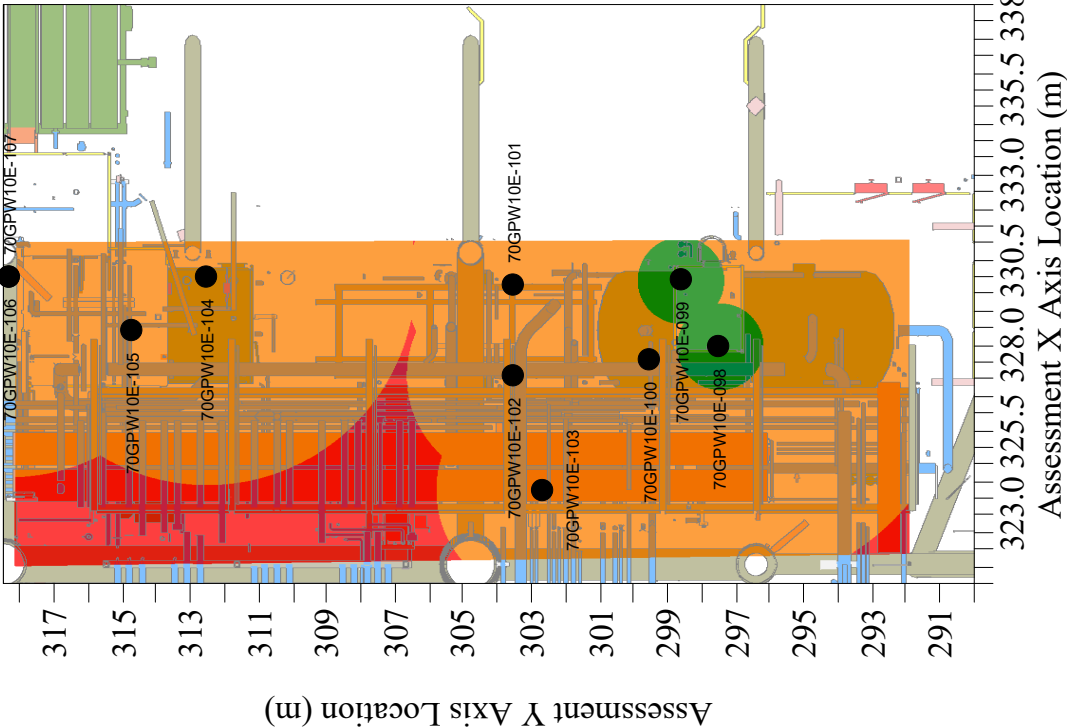
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			

Project Name-Area W10E

Gas Detector coverage at 8.020 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W10E			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:35



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed W10E**
Number of detectors: 13
Calculation model: Dispersion

ASSESSMENT VOLUME DIMENSIONS

Height: 7.00 m Length: 28.50 m Width: 17.00 m Deck Z: 17.38 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

Assessment performed using 15 slices from 18.40 m to 25.40 m
Increment between 3D assessment slices: 0.50 m

ASSESSMENT SUMMARY

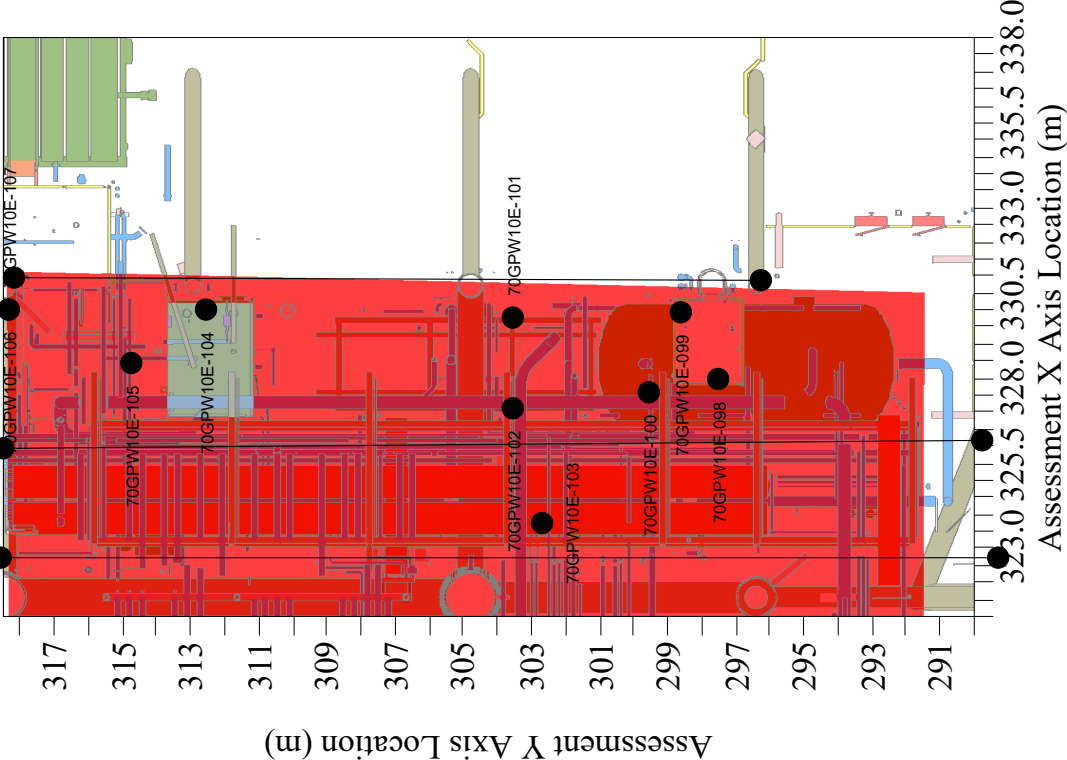
Assessment	Grade C/SG	Overall
Full control action	55%	55%
Some coverage	45%	45%

Project Name-Proposed W10E

Graded Volume(s) to Cross Section at representative Z (1.020 m ALD)

GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

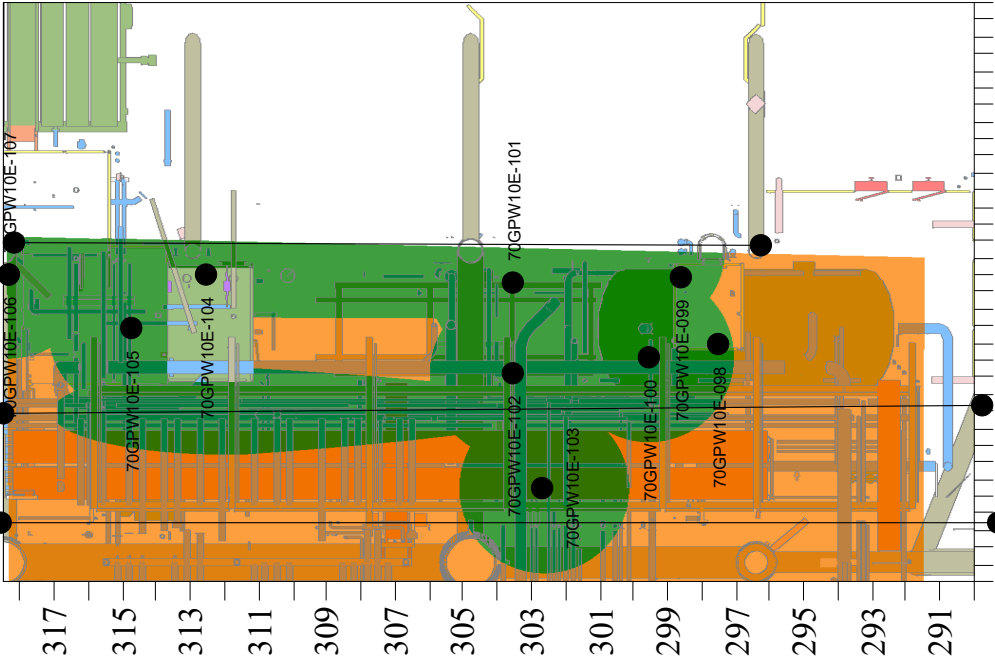


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 1.020 m ALD

70GPW10E-098
70GPW10E-099
70GPW10E-100
70GPW10E-101
70GPW10E-102
70GPW10E-103
70GPW10E-104
70GPW10E-105
70GPW10E-106
70GPW10E-107



Assessment Y Axis Location (m)

Assessment X Axis Location (m)

COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W10E

Project Name-Proposed W10E

Platform/site

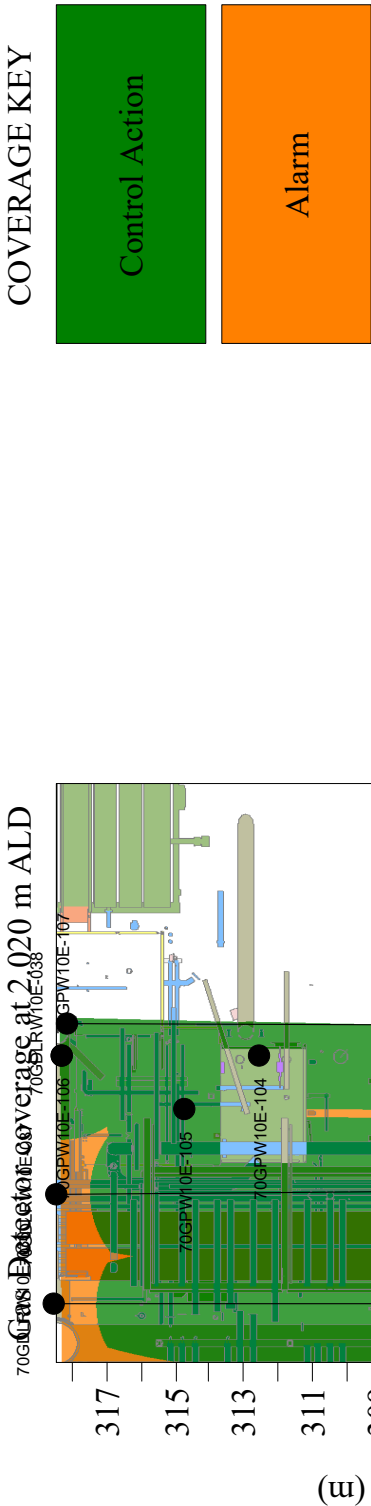
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed W10E

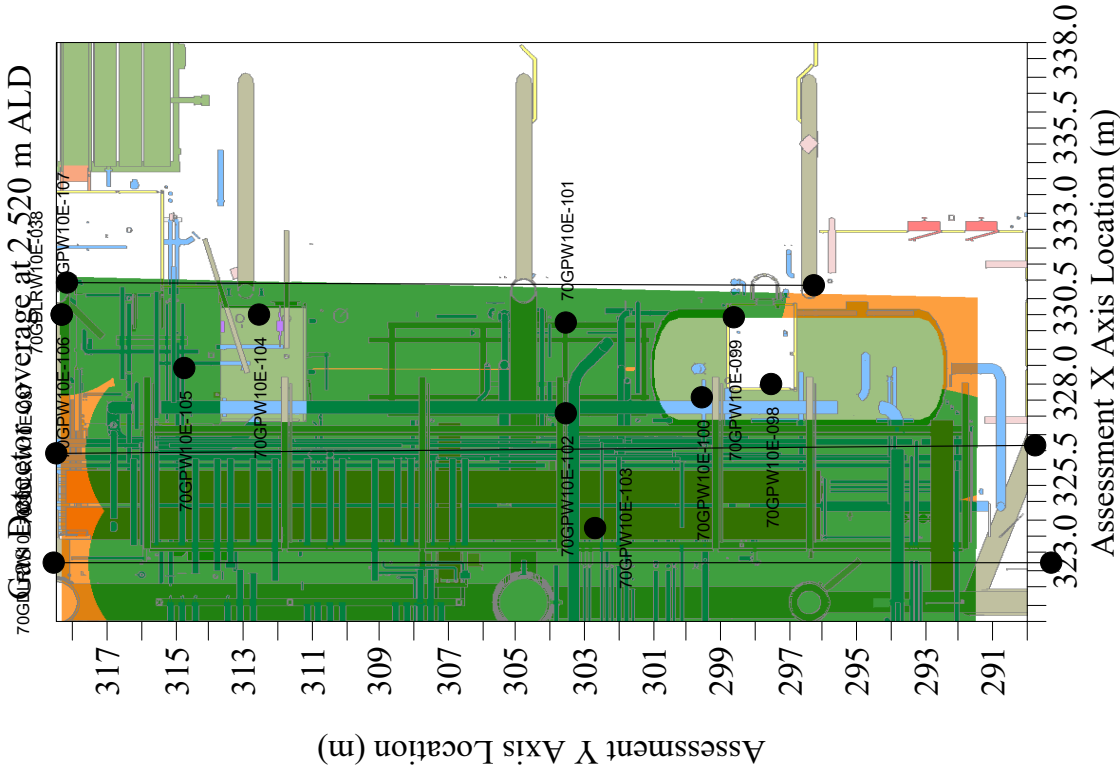
Gas Detection coverage at 2.020 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 2.520 m ALD

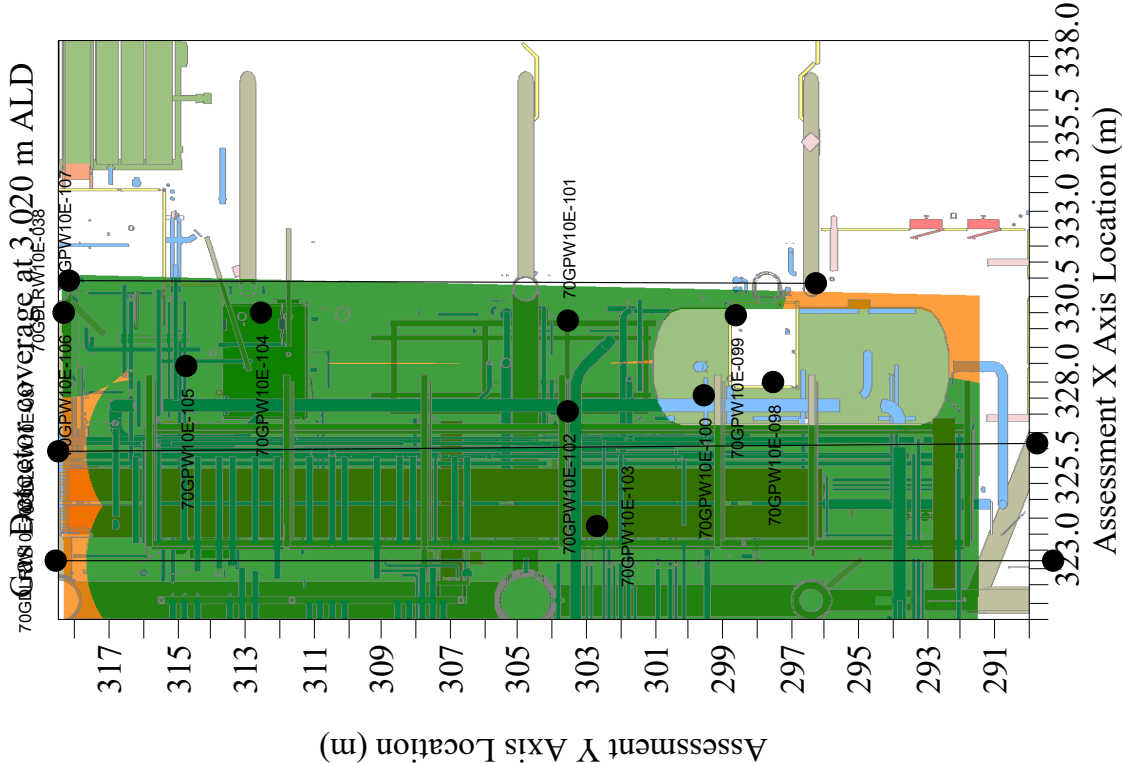


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 3.020 m ALD

COVERAGE KEY

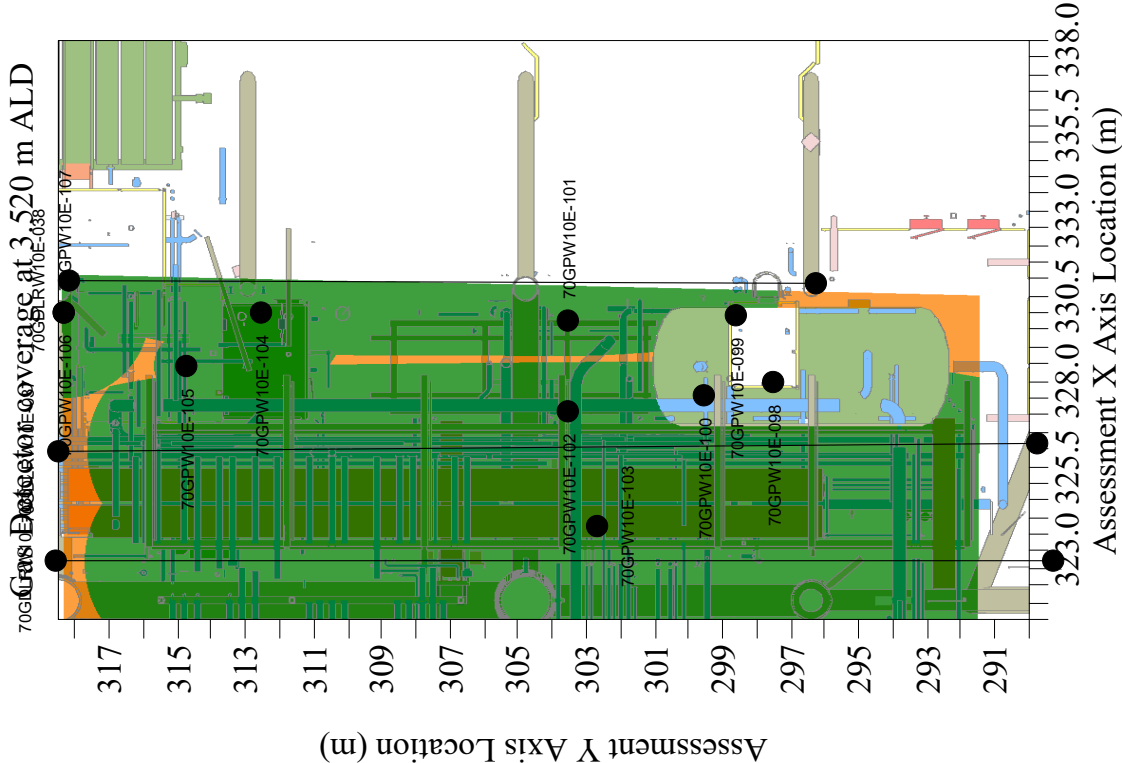


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 3 520 m ALD

COVERAGE KEY

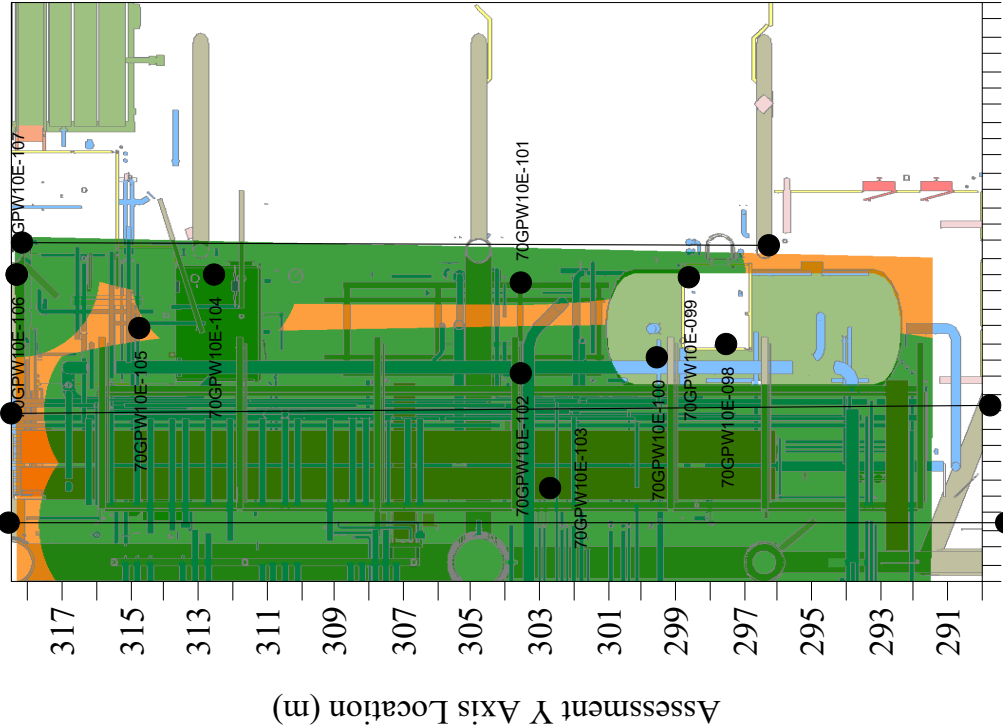


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 4.020 m ALD

70GPW10E-098



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W10E

Project Name-Proposed W10E

Platform/site

Drg category

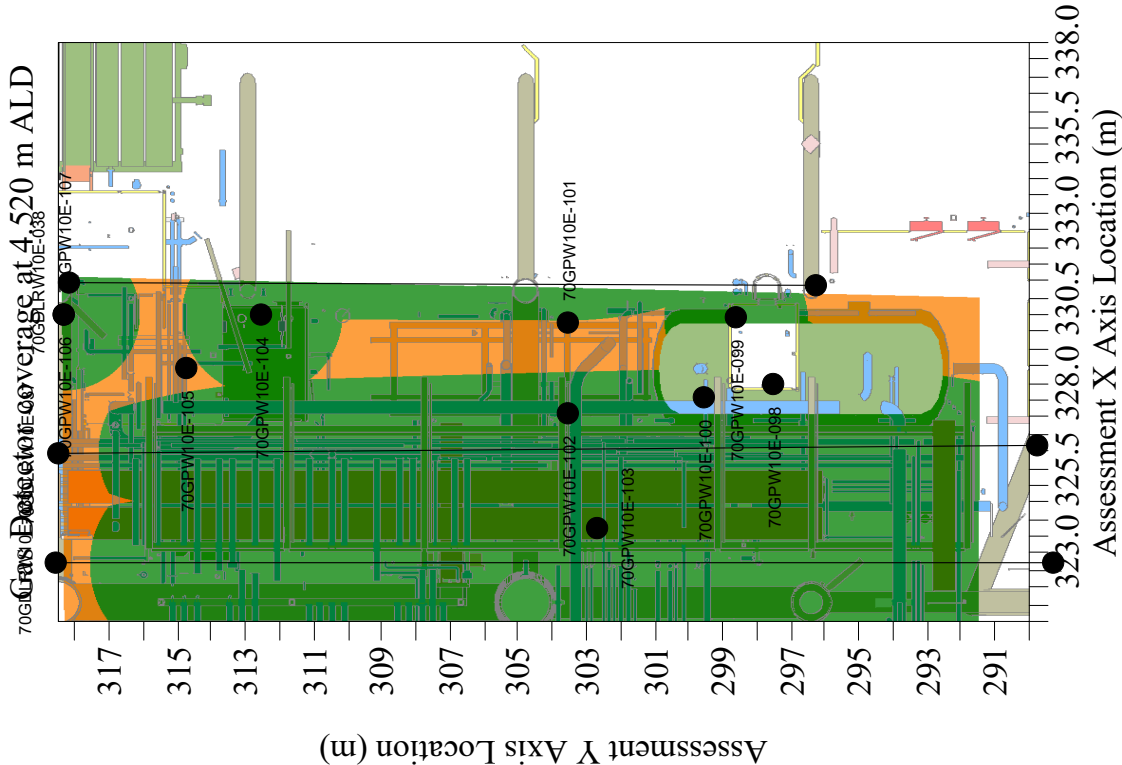
Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed W10E

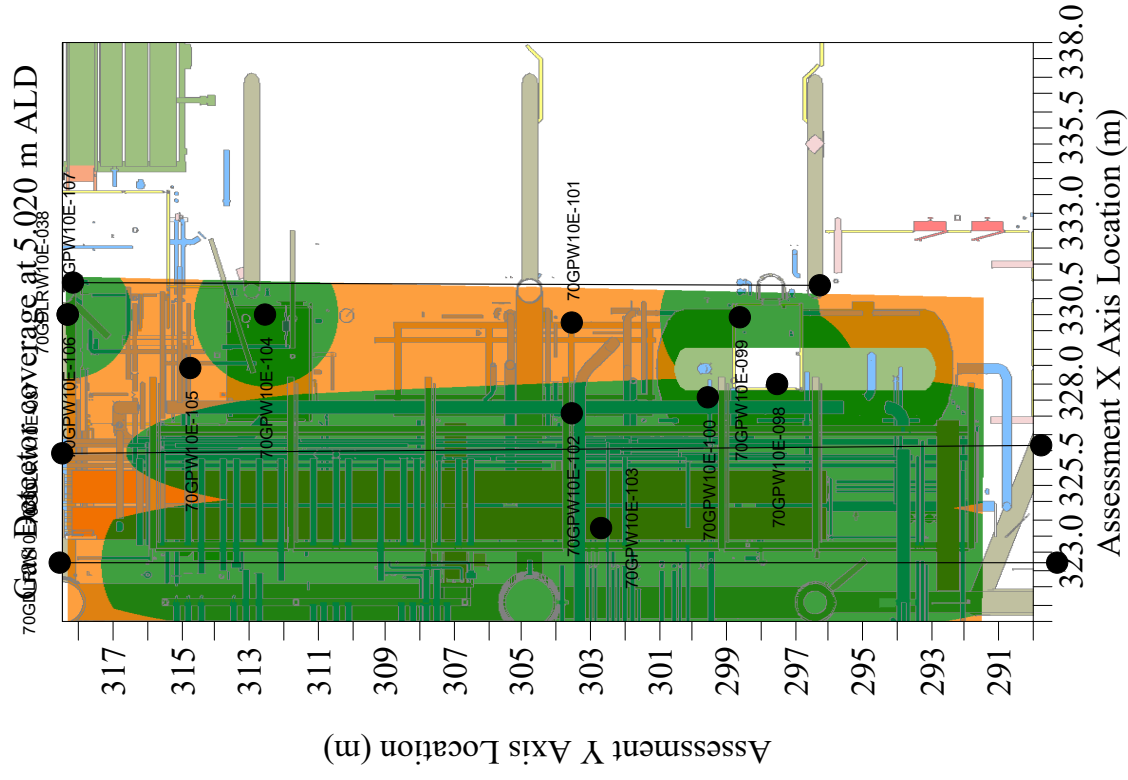
Gas Detection coverage at 4 520 m ALD

COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E



COVERAGE KEY

Control Action

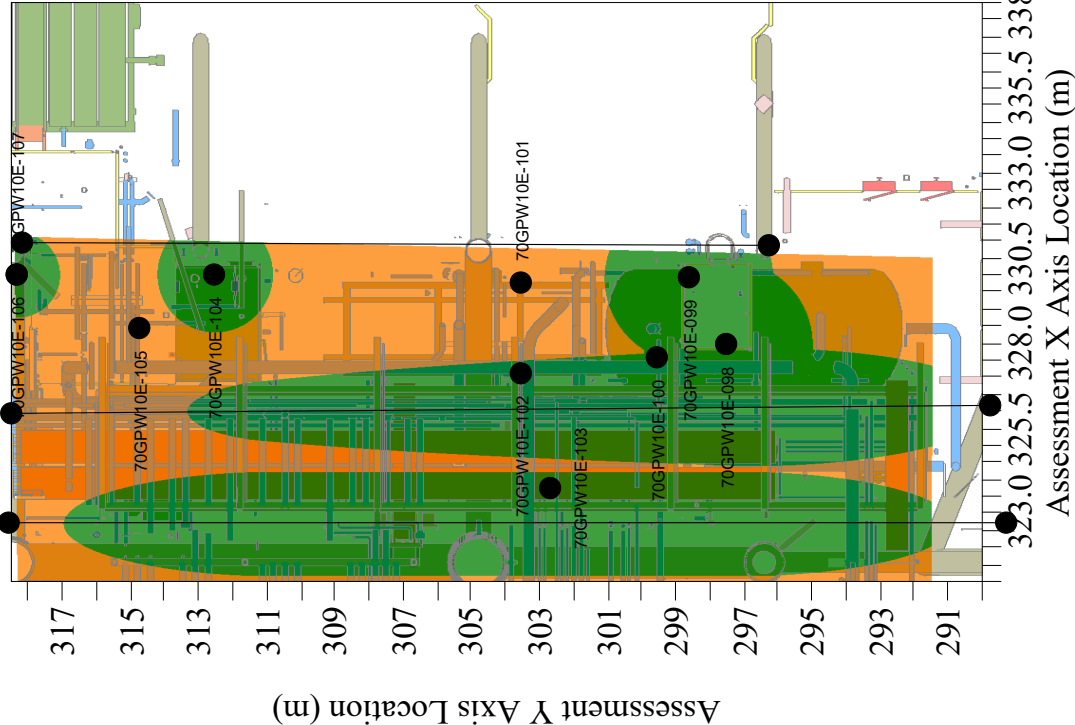
Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description	Platform/site	Project Name
	Proposed W10E	Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E		

Project Name-Proposed W10E

Gas Detection coverage at 5.520 m ALD

70GPW10E-099
70GPW10E-100
70GPW10E-101
70GPW10E-102
70GPW10E-103
70GPW10E-104
70GPW10E-105
70GPW10E-106
70GPW10E-107



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W10E

Project Name-Proposed W10E

Platform/site

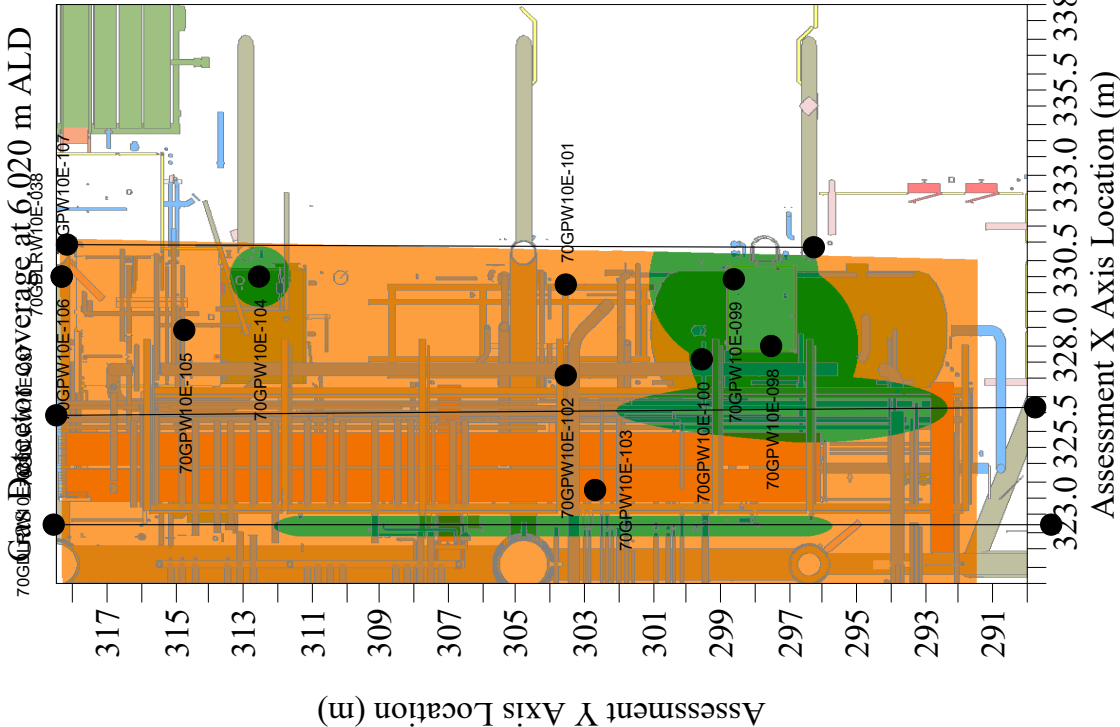
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed W10E

Gas Detection coverage at 6.020 m ALD

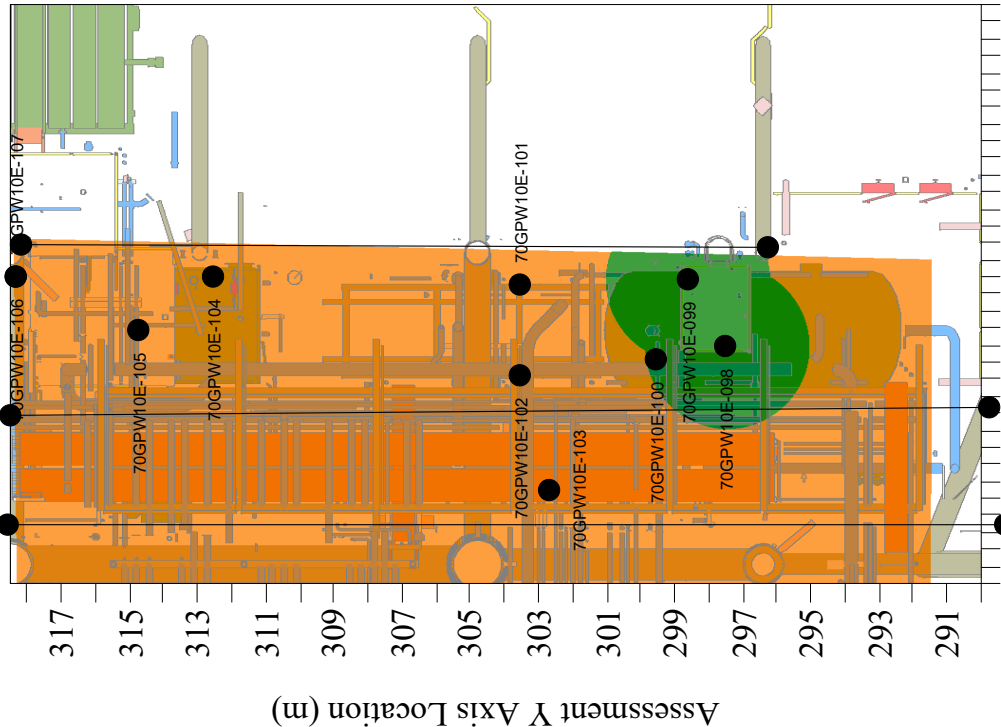


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Current Detection coverage at 6 520 m ALD

70GPW10E-098
70GPW10E-099
70GPW10E-100
70GPW10E-101
70GPW10E-102
70GPW10E-103
70GPW10E-104
70GPW10E-105
70GPW10E-106
70GPW10E-107



COVERAGE KEY

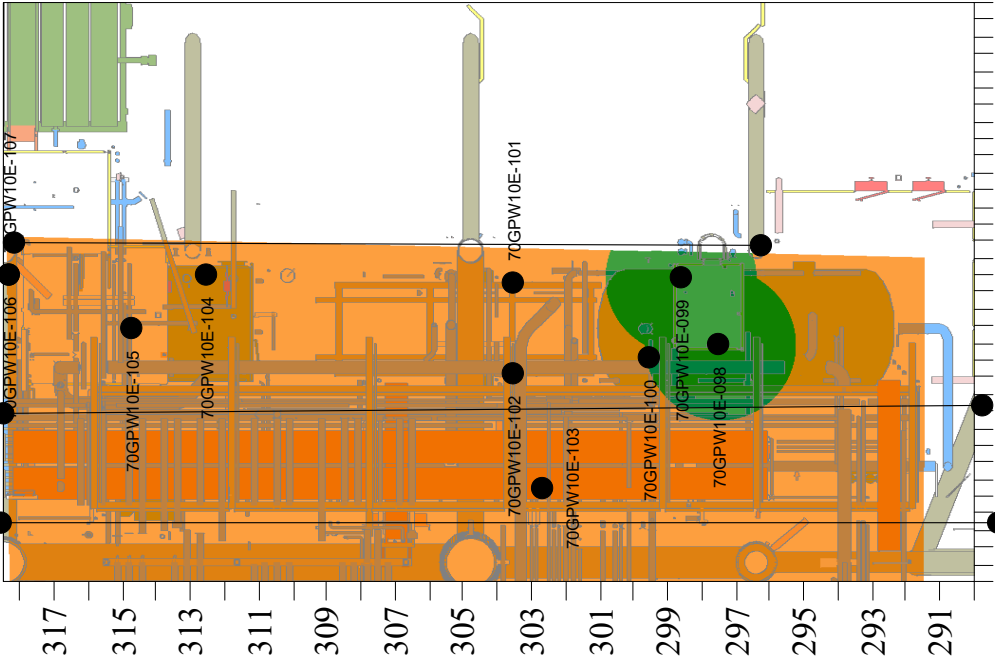


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 7.020 m ALD

70GPW10E-098
70GPW10E-099
70GPW10E-100
70GPW10E-101
70GPW10E-102
70GPW10E-103
70GPW10E-104
70GPW10E-105
70GPW10E-106
70GPW10E-107



Assessment Y Axis Location (m)

Assessment X Axis Location (m)

COVERAGE KEY



Control Action

Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W10E

Project Name-Proposed W10E

Platform/site

Drg category

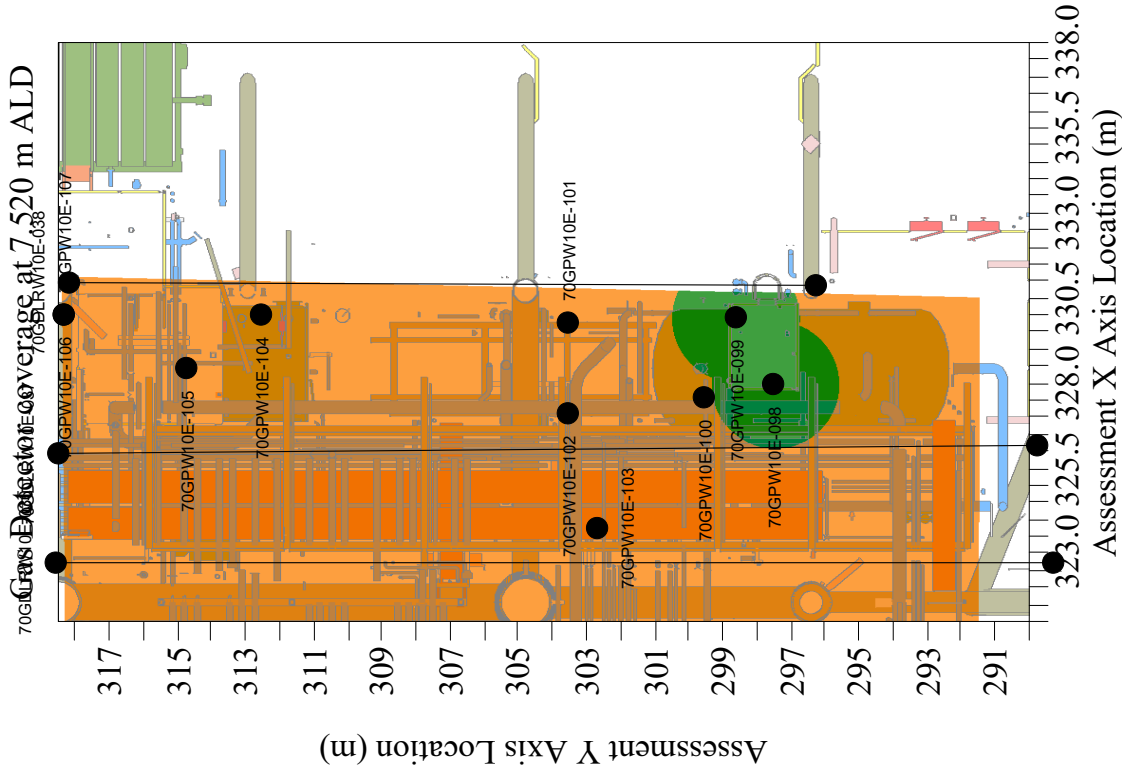
Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed W10E

Gas Detection coverage at 7.520 m ALD

COVERAGE KEY

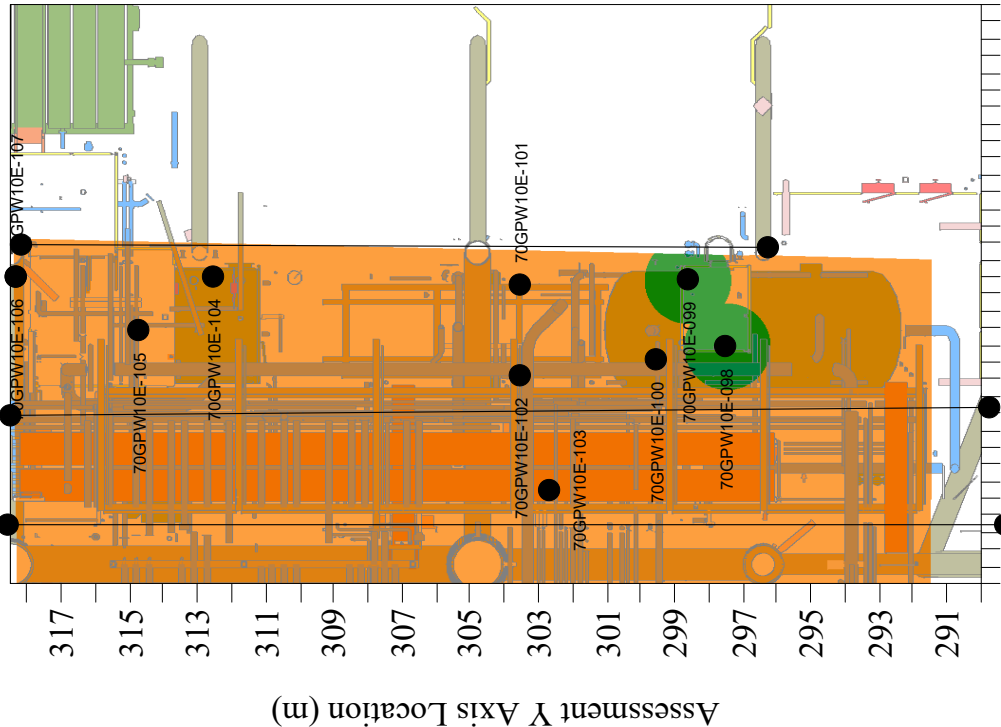


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			

Project Name-Proposed W10E

Gas Detection coverage at 8.020 m ALD

70GPW10E-098
70GPW10E-099
70GPW10E-100
70GPW10E-101
70GPW10E-102
70GPW10E-103
70GPW10E-104
70GPW10E-105
70GPW10E-106
70GPW10E-107



COVERAGE KEY



Control Action



Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W10E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W10E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:43



PROJECT INFORMATION

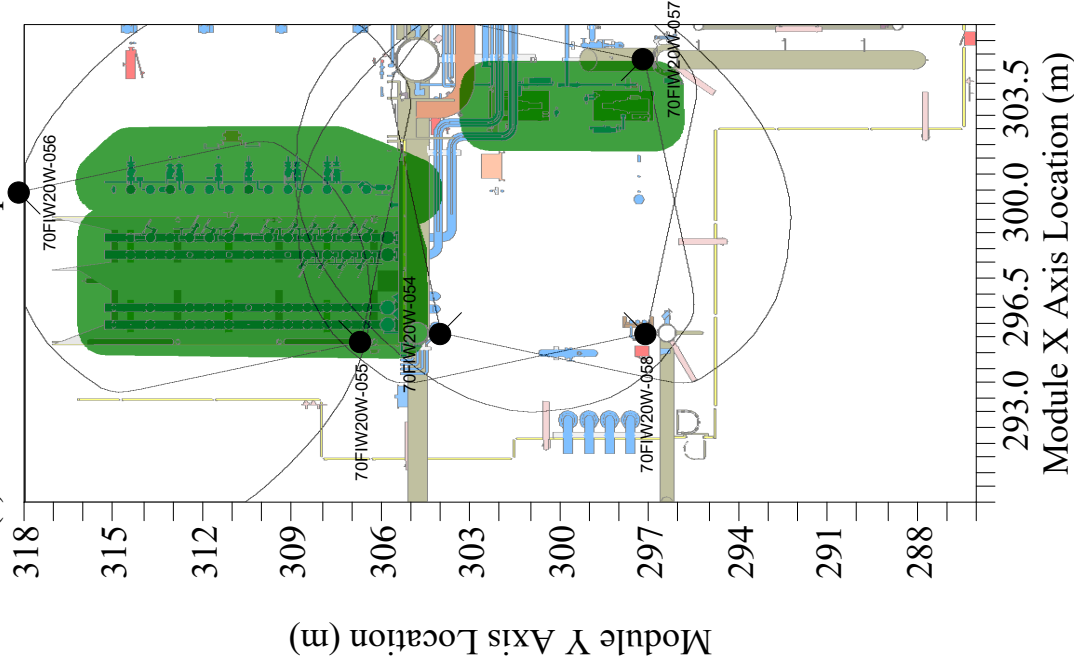
Project name: **Project Name**
Assessment title: **Fire Detection Area W20W**
Number of detectors: 5 (5 existing, 0 new, 0 relocated)
Overall coverage: 80% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	61%	19%	20%
Totals	61%	19%	20%

Graded Volume(s) Cross Section at representative Z (0.268 m ALD)

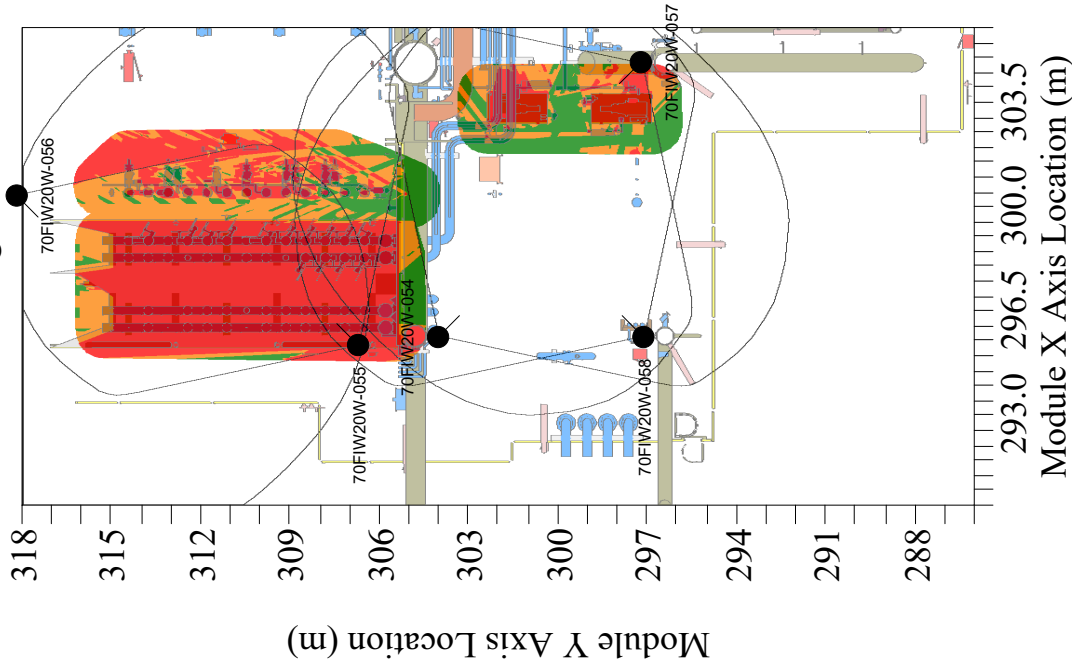
LR



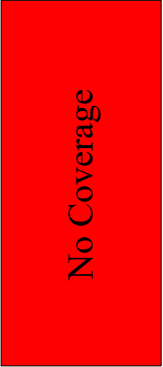
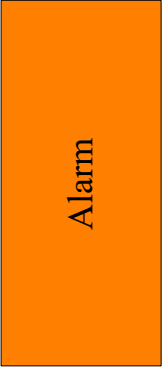
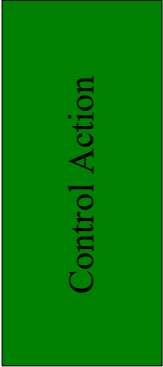
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description	Project Name
	Fire Detection Area W20W	Gradenap (20-Jul-2018)
	Project Name-Fire Detection Area W20W	

Project Name-Fire Detection Area W20W

Fire Detector coverage at 0.268 m ALD



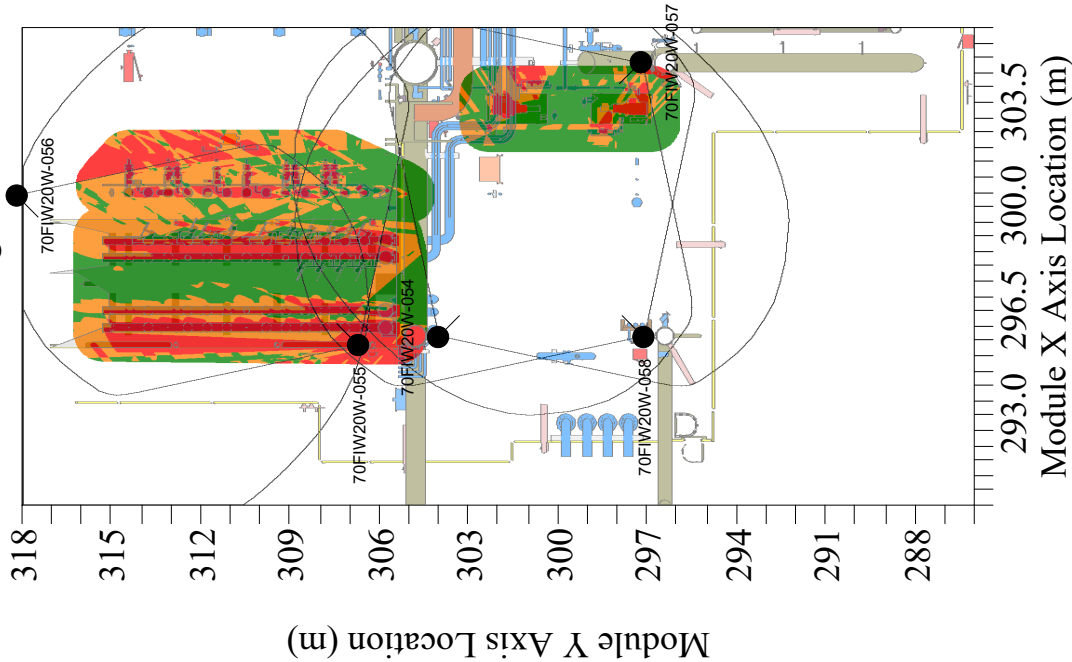
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			

Project Name-Fire Detection Area W20W

Fire Detector coverage at 0.657 m ALD



COVERAGE KEY

Control Action

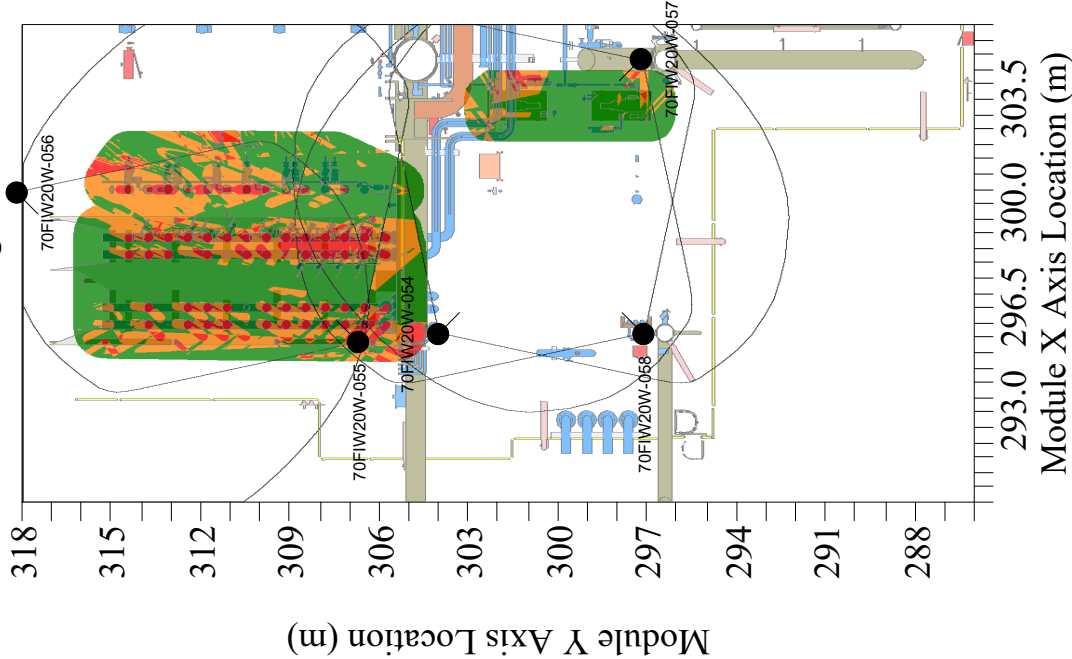
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			

Project Name-Fire Detection Area W20W

Fire Detector coverage at 1.046 m ALD



COVERAGE KEY

Control Action

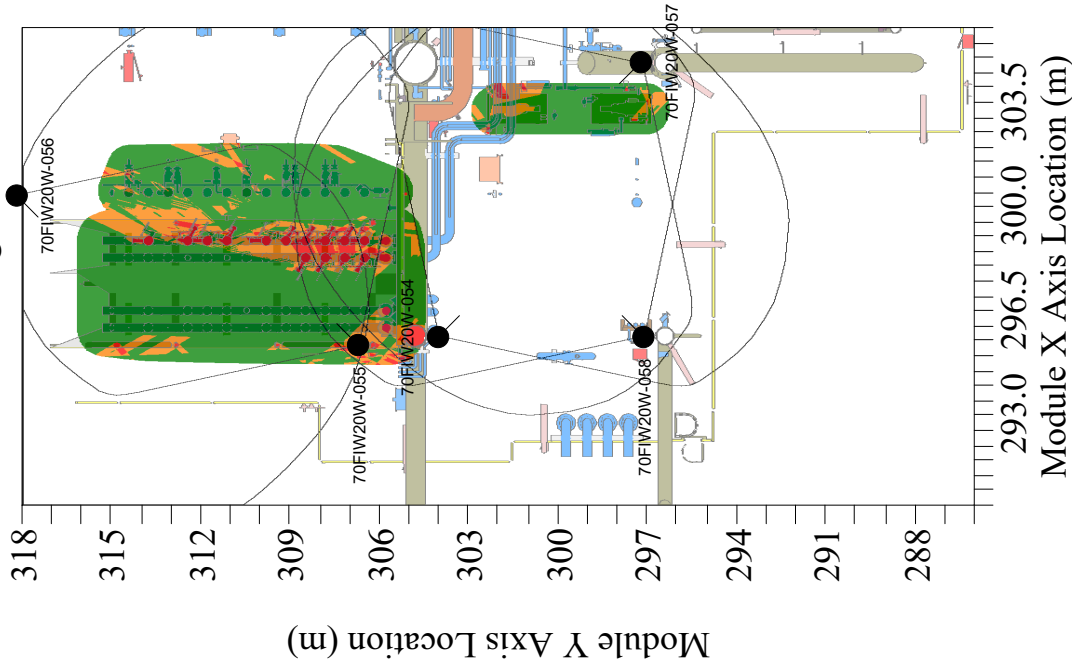
Alarm

No Coverage

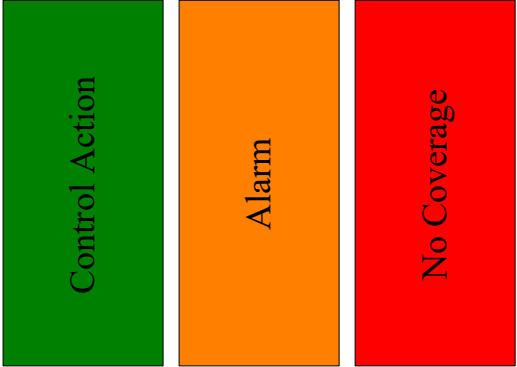
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			

Project Name-Fire Detection Area W20W

Fire Detector coverage at 1.435 m ALD



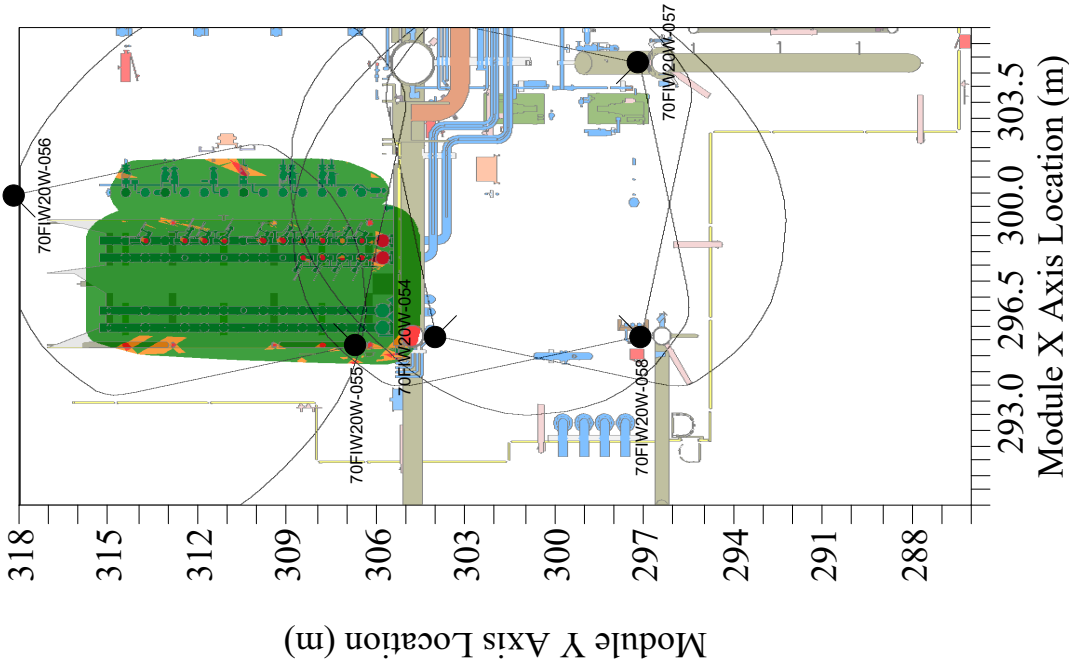
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			

Project Name-Fire Detection Area W20W

Fire Detector coverage at 1.824 m ALD



COVERAGE KEY

Control Action

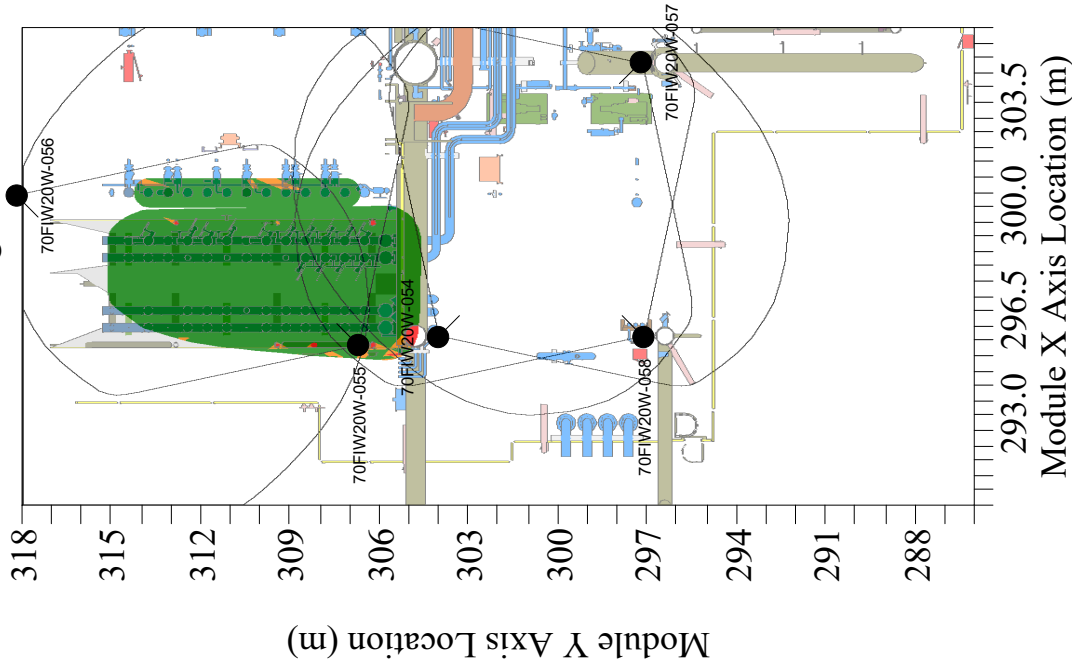
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			

Project Name-Fire Detection Area W20W

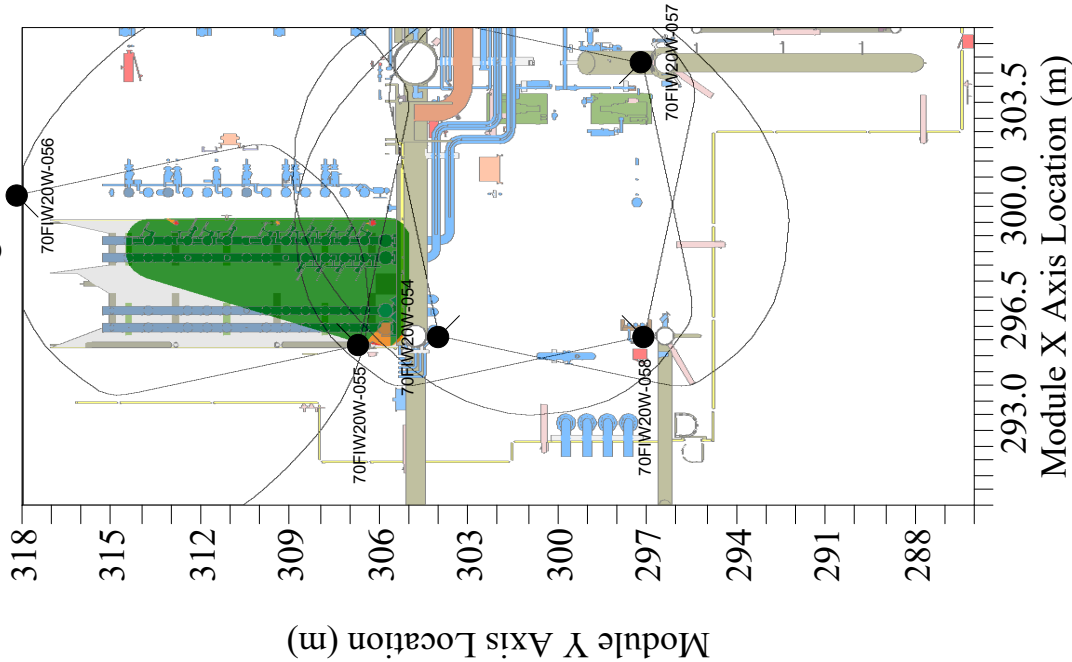
Fire Detector coverage at 2.212 m ALD



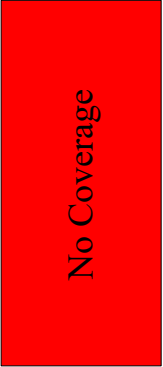
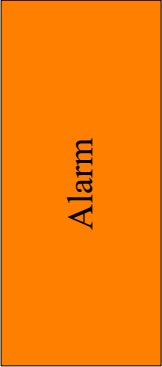
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			

Project Name-Fire Detection Area W20W

Fire Detector coverage at 2.601 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:48



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Fire Detection Area W20C**
Number of detectors: 9 (9 existing, 0 new, 0 relocated)
Overall coverage: 69% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

MR	27%	36%	10%	26%
LR	72%	13%	0%	15%
Totals	39%	30%	8%	23%

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)

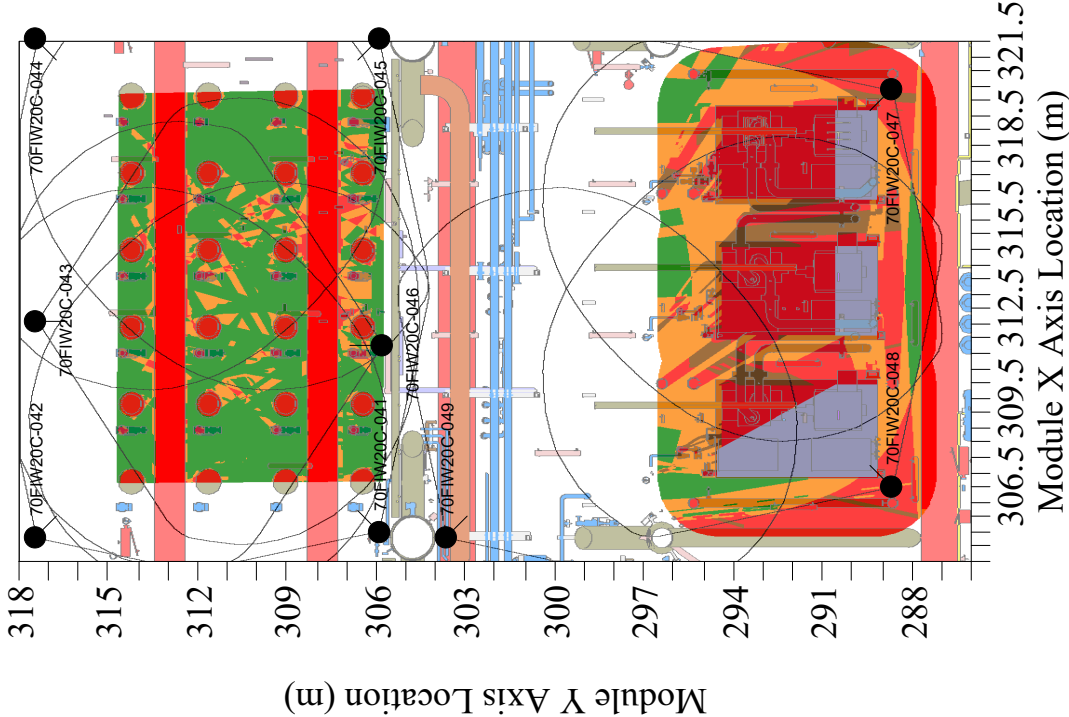


LR

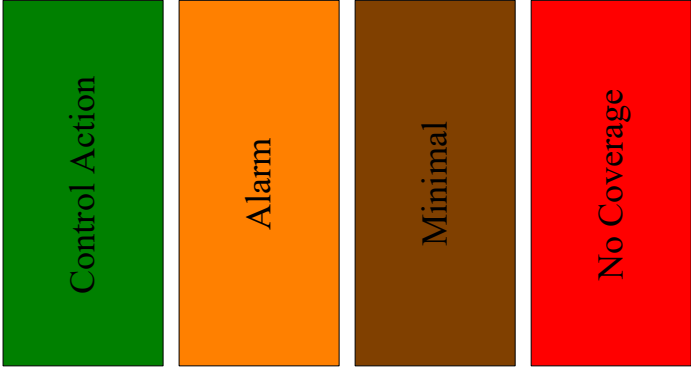
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description	Platform/site	Project Name
	Fire Detection Area W20C	Dig category	Grademap (20-Jul-2018)
	Project Name-Fire Detection Area W20C		

Project Name-Fire Detection Area W20C

Fire Detector coverage at 0.068 m ALD



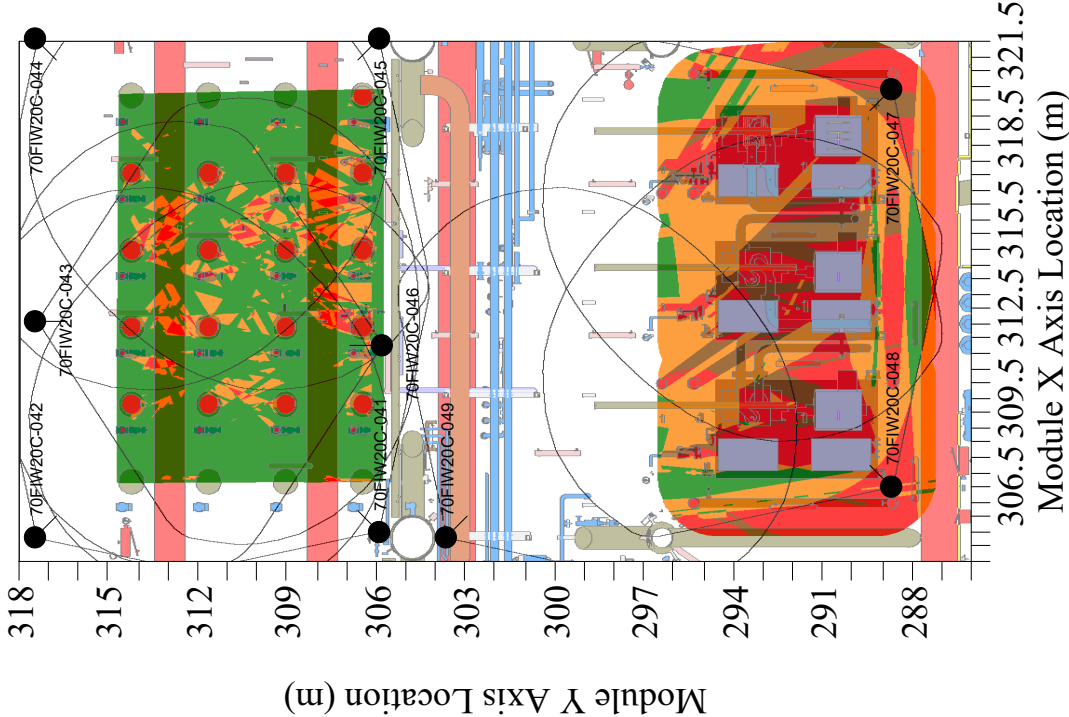
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 0.457 m ALD



COVERAGE KEY

Control Action

Alarm

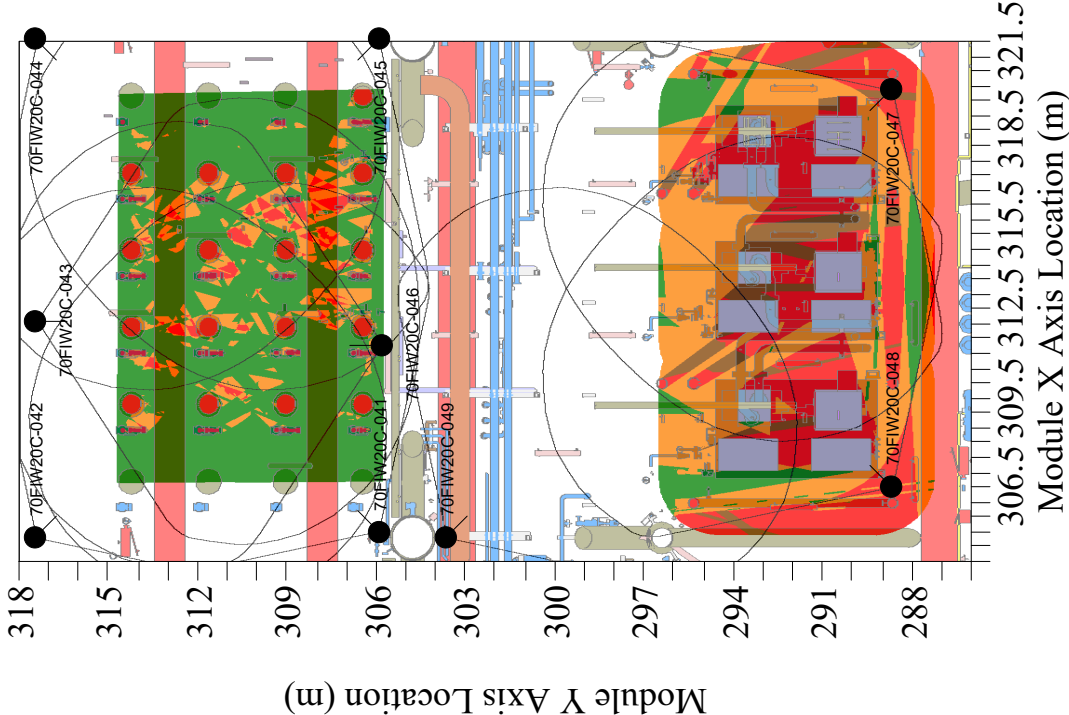
Minimal

No Coverage

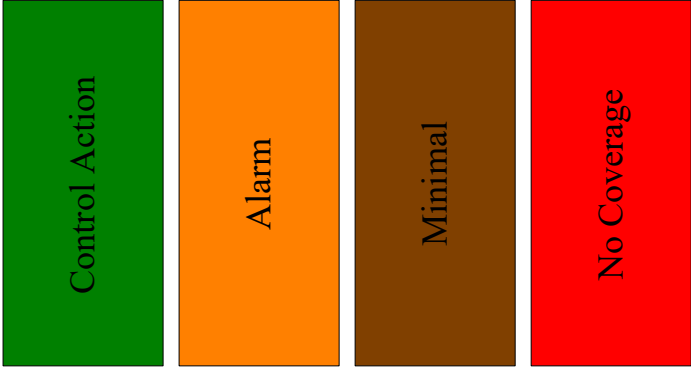
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 0.846 m ALD



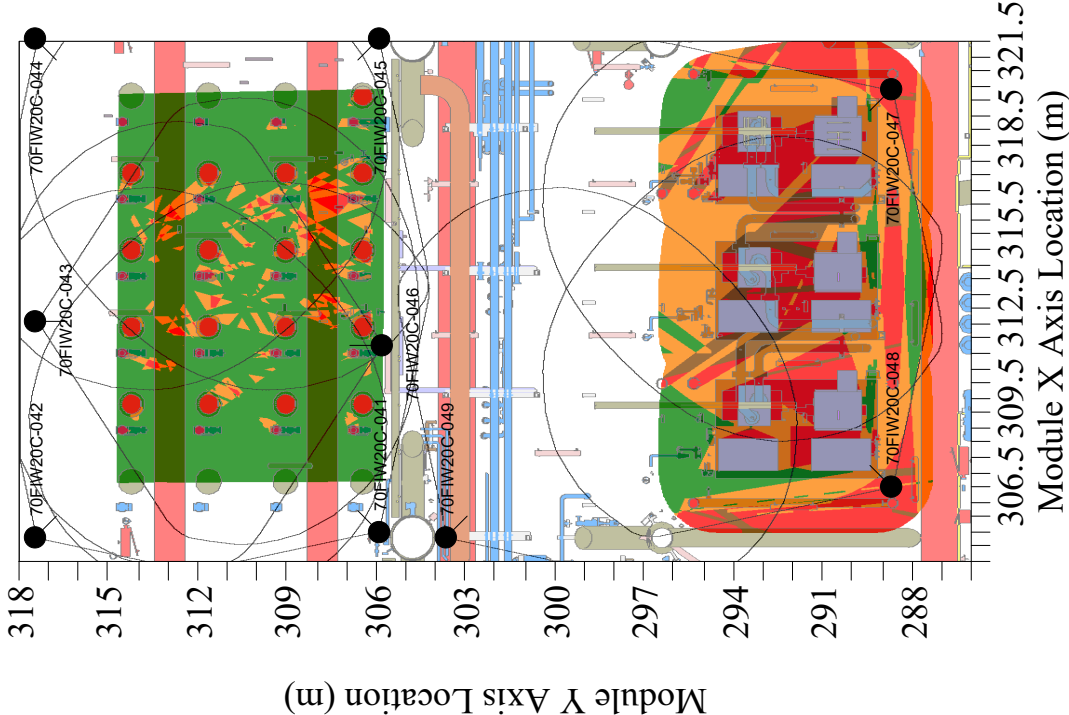
COVERAGE KEY



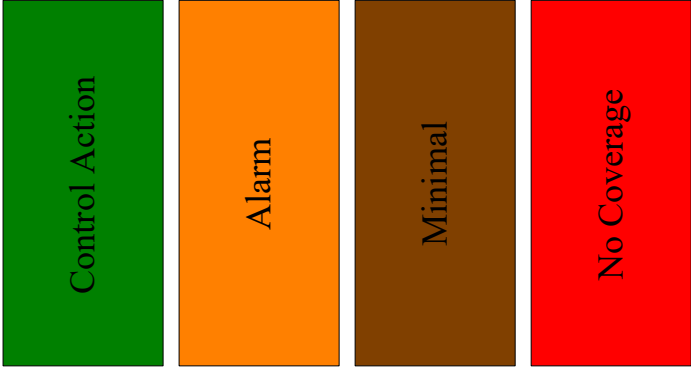
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 1.235 m ALD



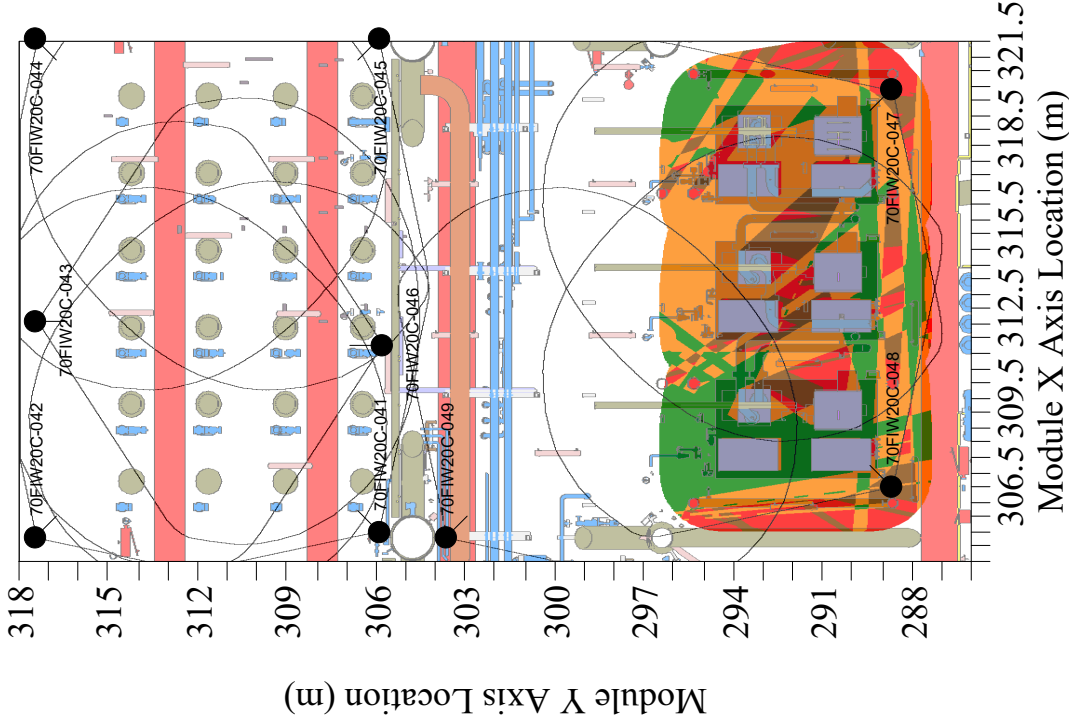
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 1.624 m ALD



COVERAGE KEY

Control Action

Alarm

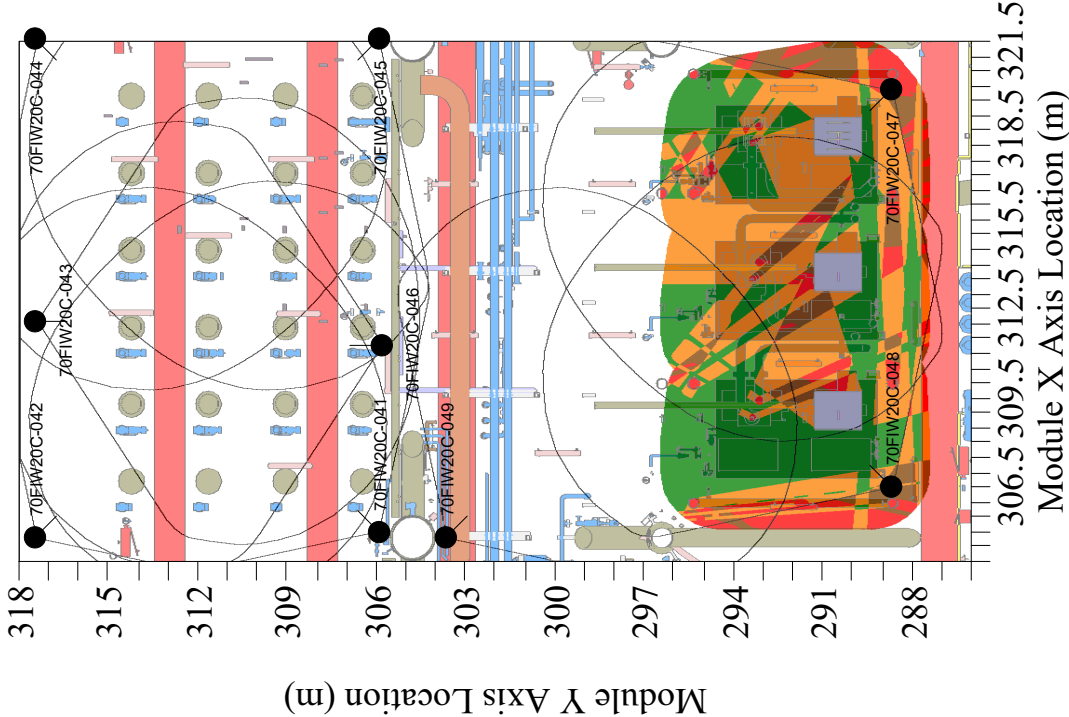
Minimal

No Coverage

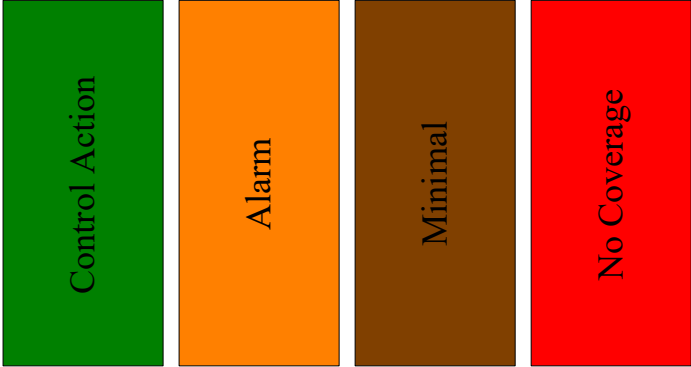
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 2.012 m ALD



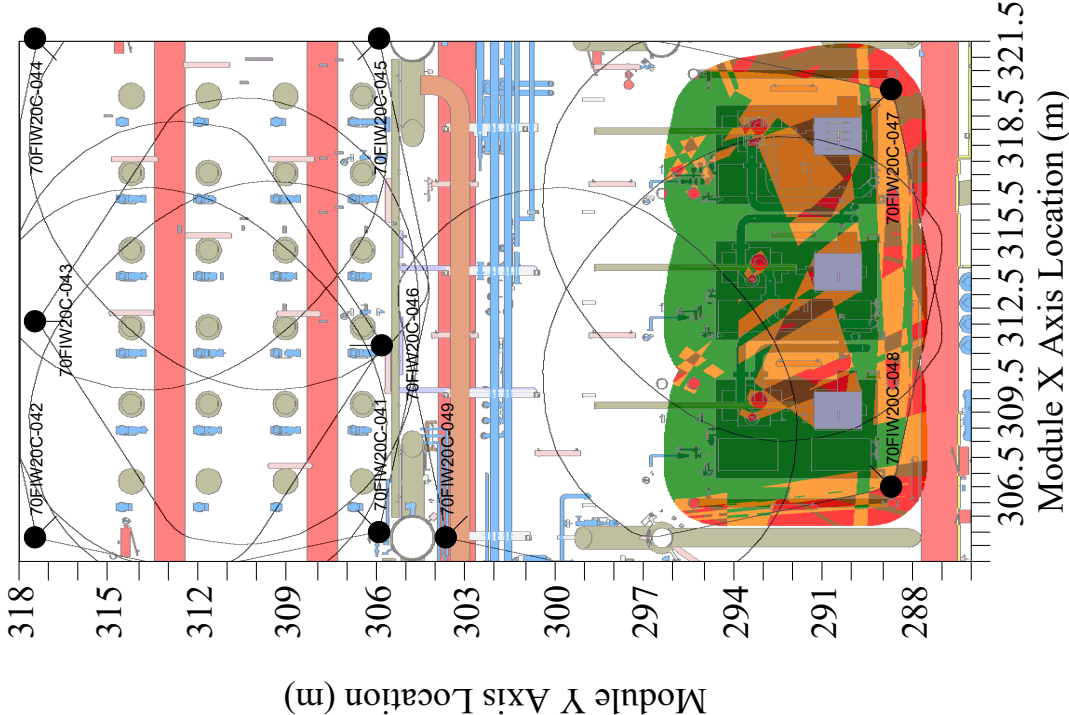
COVERAGE KEY



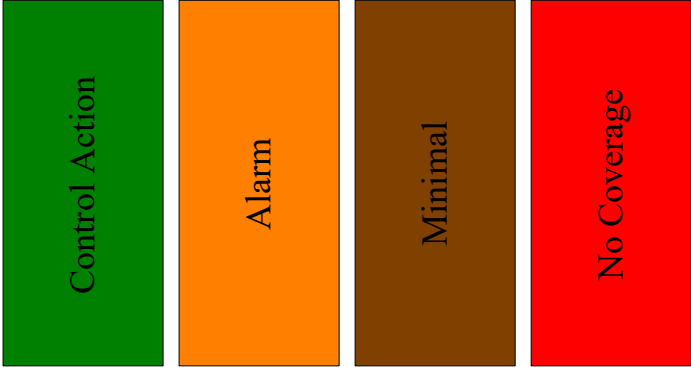
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 2.401 m ALD



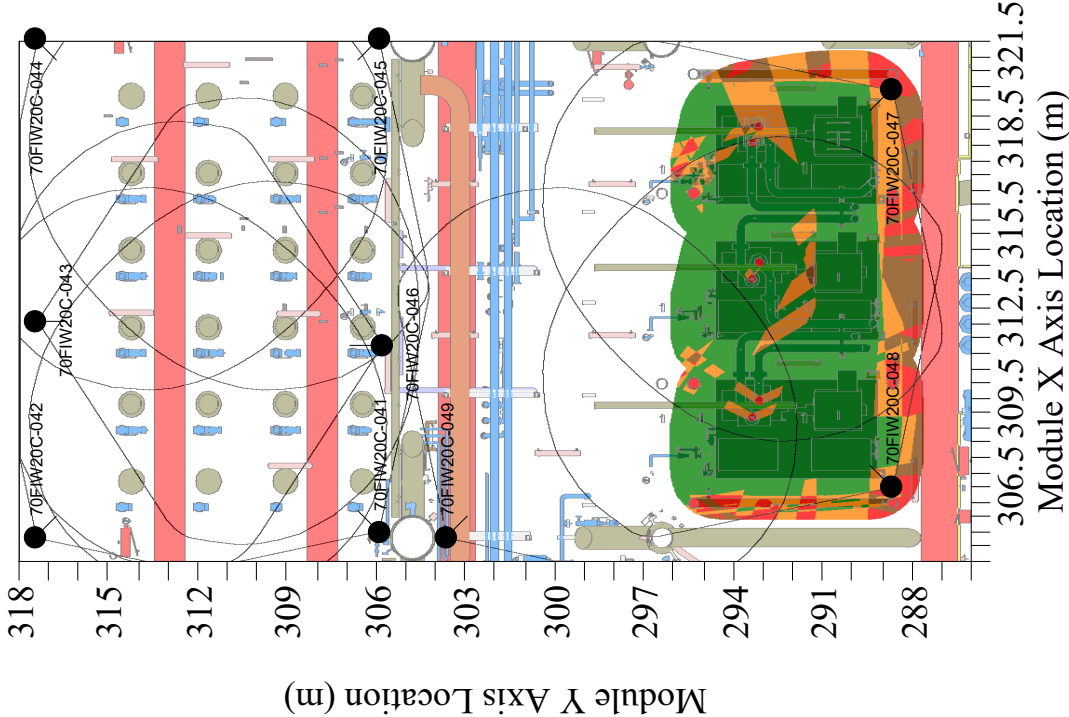
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 2.790 m ALD



COVERAGE KEY

Control Action

Alarm

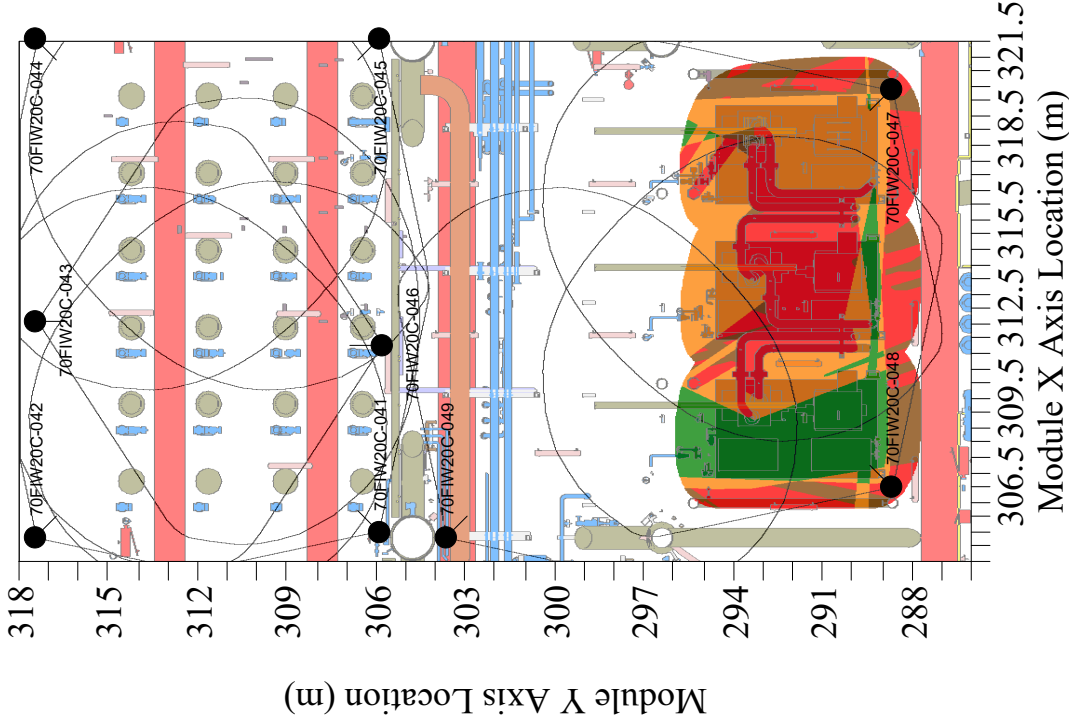
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 3.179 m ALD



COVERAGE KEY

Control Action

Alarm

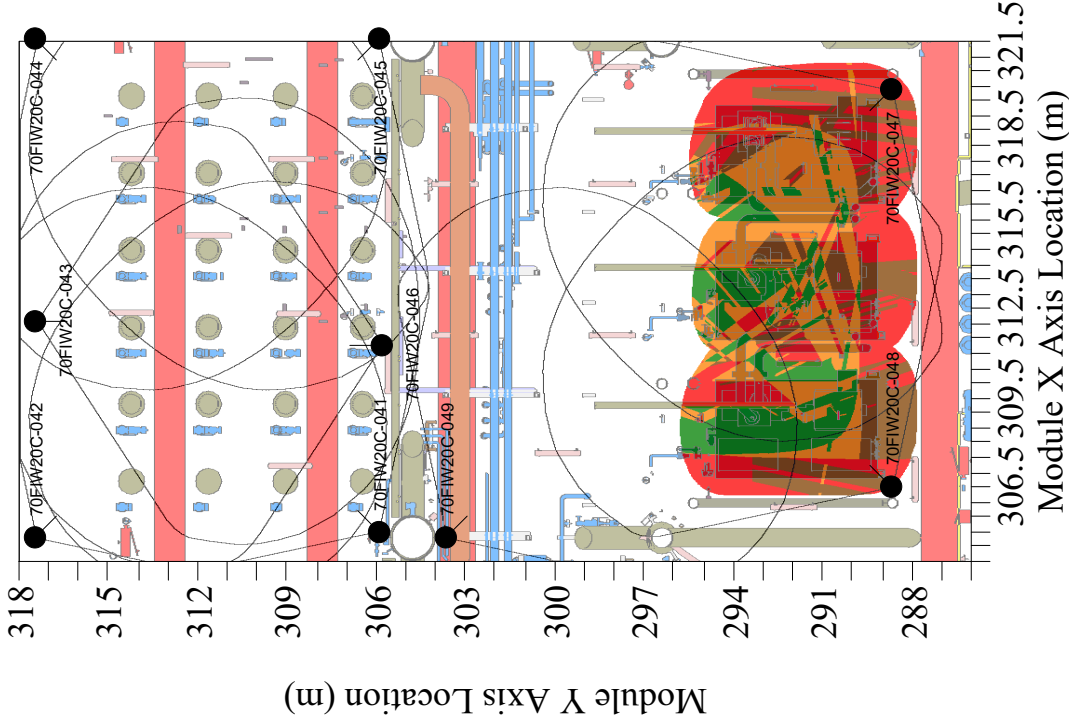
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			

Project Name-Fire Detection Area W20C

Fire Detector coverage at 3.568 m ALD



COVERAGE KEY

Control Action

Alarm

Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20C			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:47



PROJECT INFORMATION

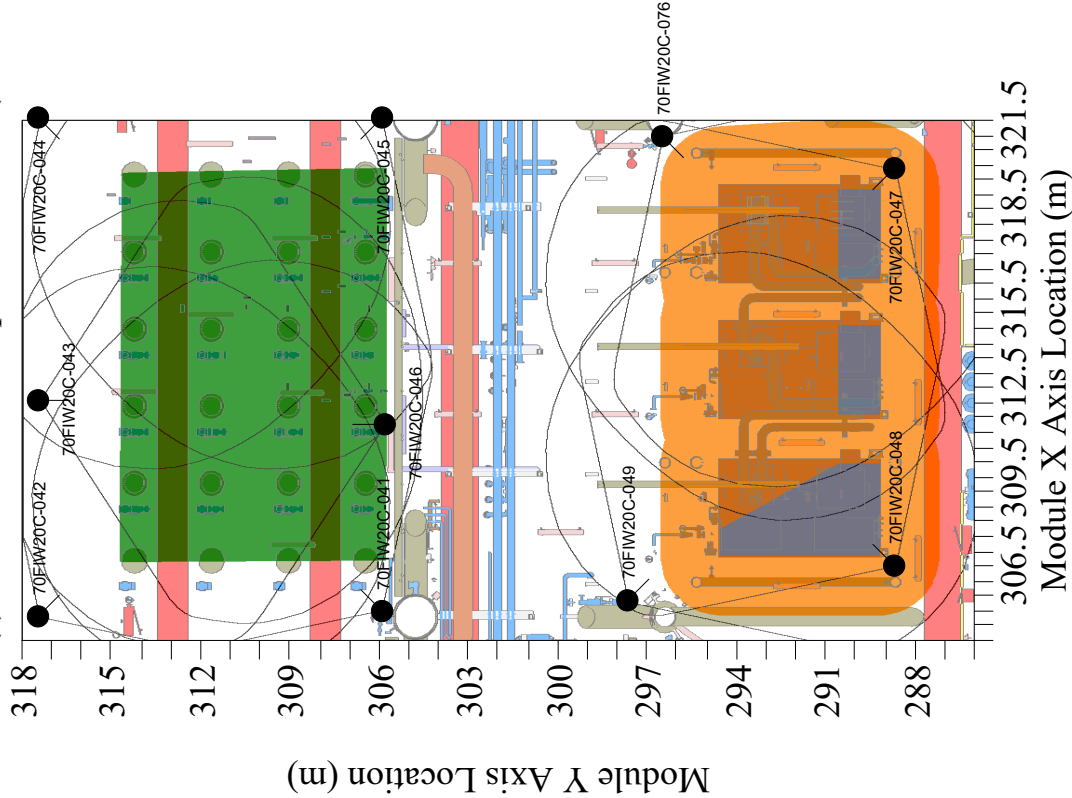
Project name: **Project Name**
Assessment title: **Proposed W20C**
Number of detectors: 10 (8 existing, 1 new, 1 relocated)
Overall coverage: 74% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

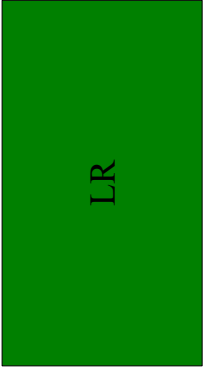
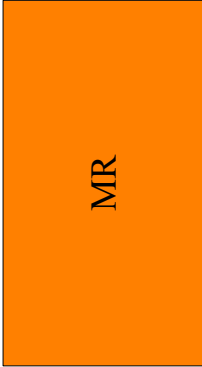
MR	38%	32%	7%	22%
LR	72%	13%	0%	15%
Totals	47%	27%	5%	20%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



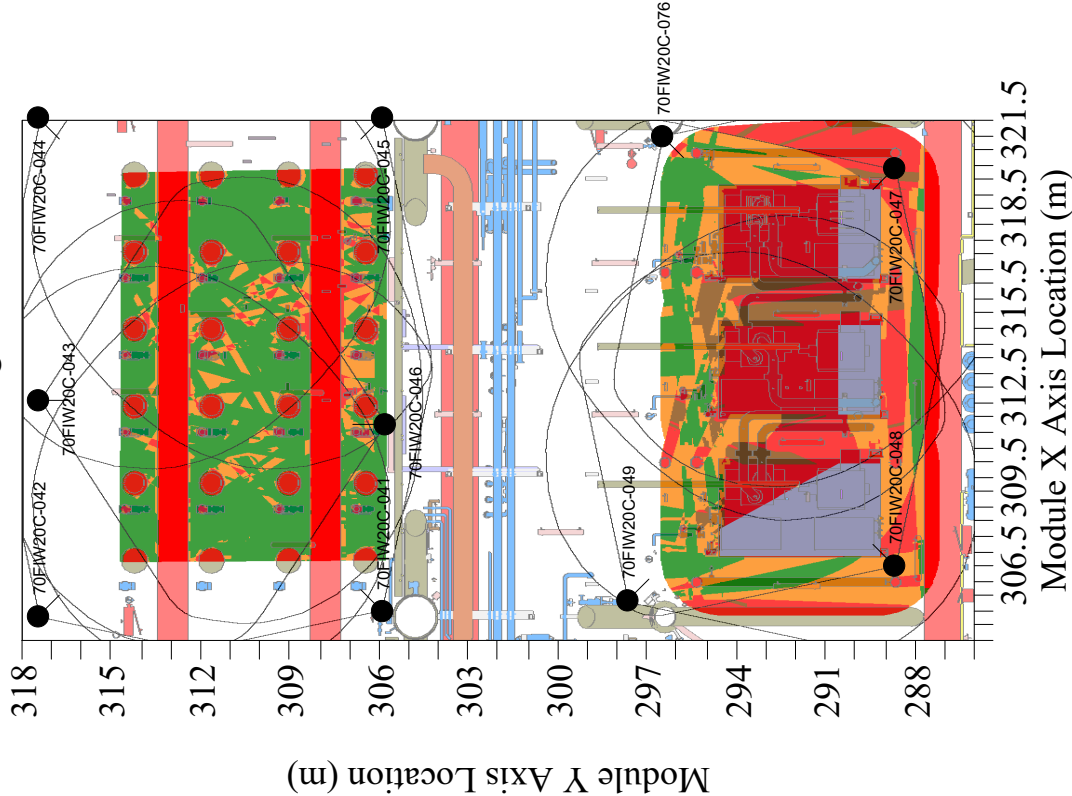
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 0.068 m ALD



COVERAGE KEY

Control Action

Alarm

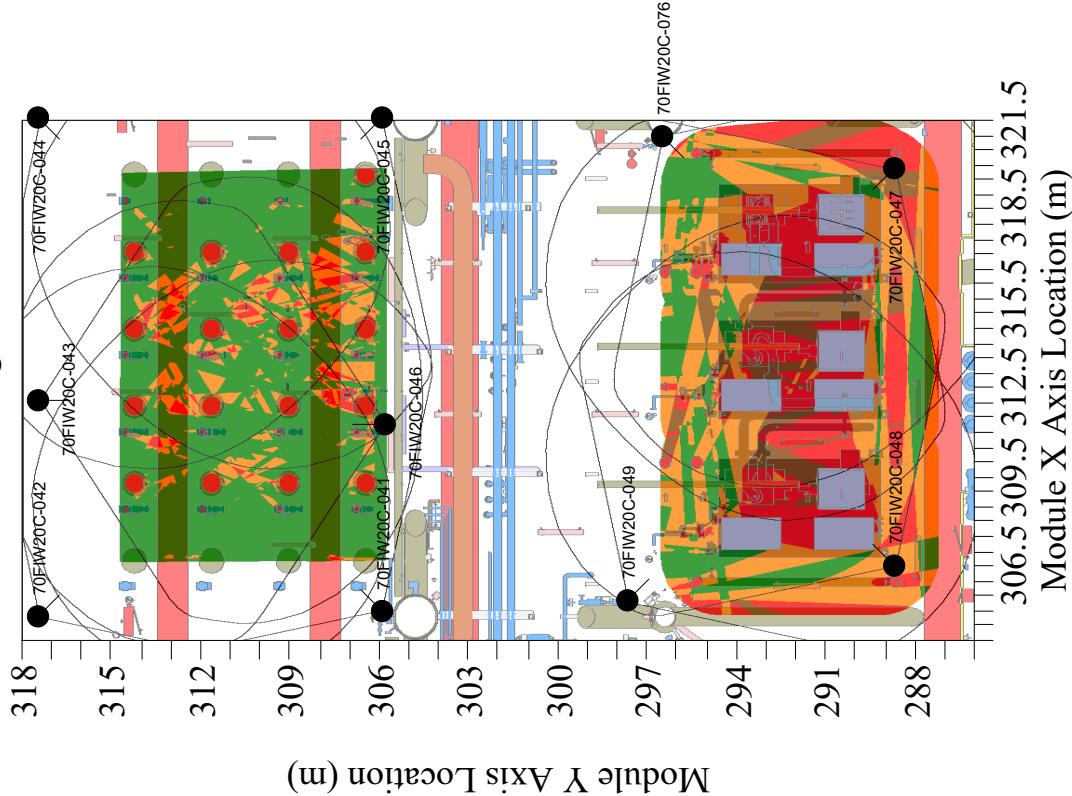
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 0.457 m ALD



COVERAGE KEY

Control Action

Alarm

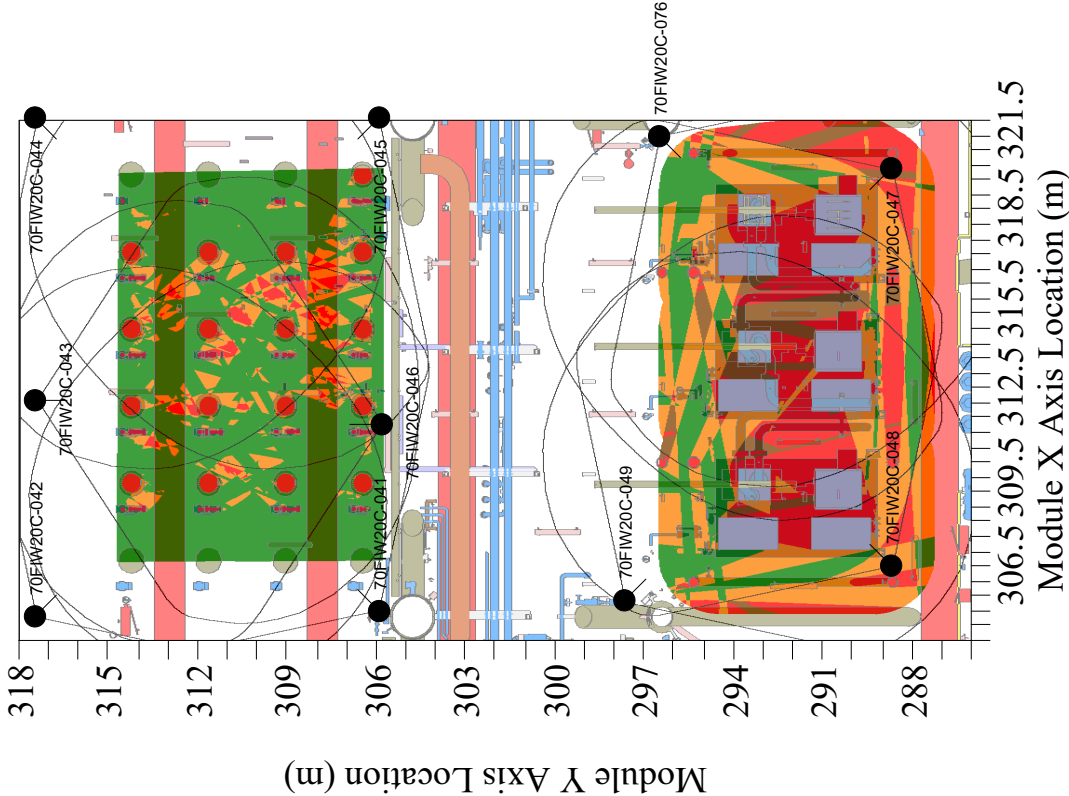
Minimal

No Coverage

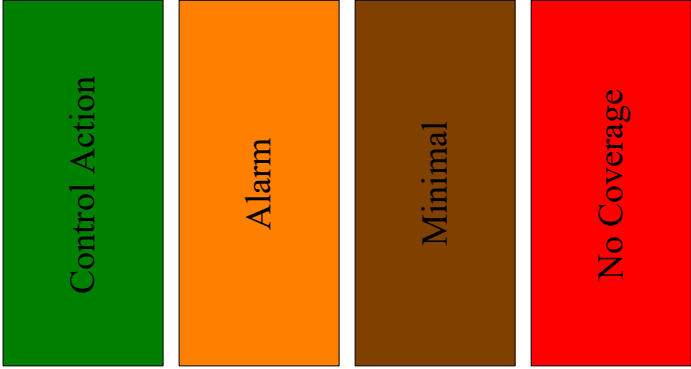
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 0.846 m ALD



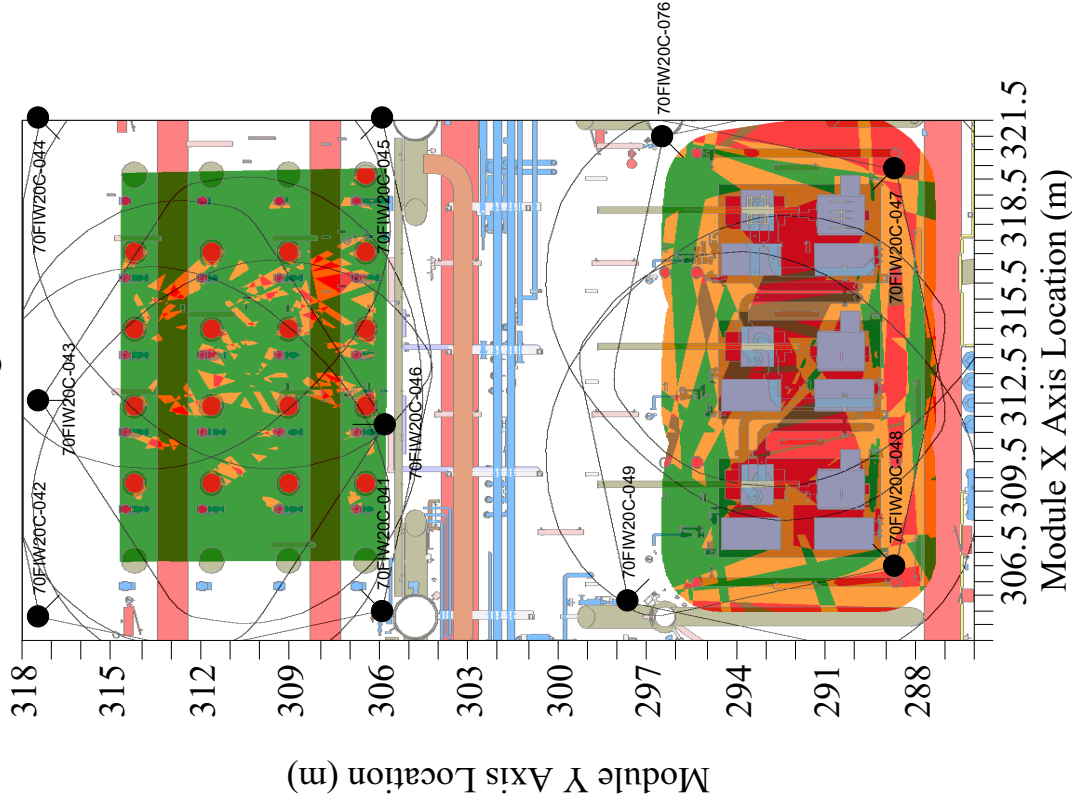
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 1.235 m ALD



COVERAGE KEY

Control Action

Alarm

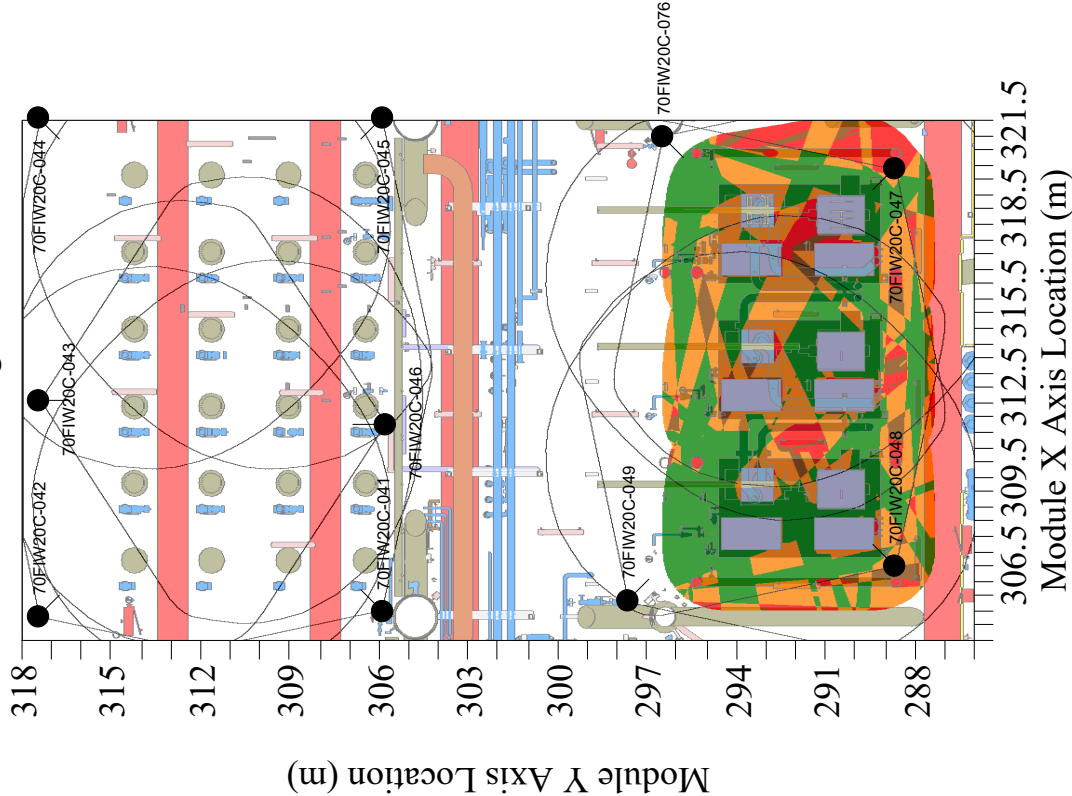
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 1.624 m ALD



COVERAGE KEY

Control Action

Alarm

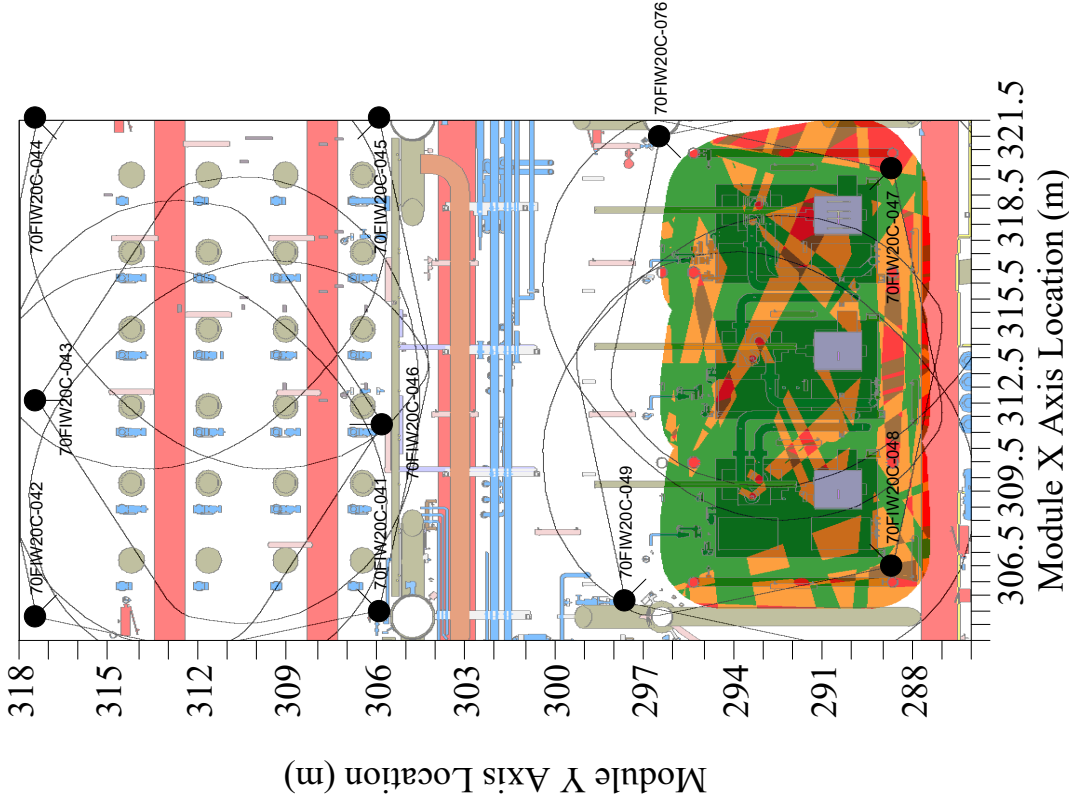
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 2.012 m ALD



COVERAGE KEY

Control Action

Alarm

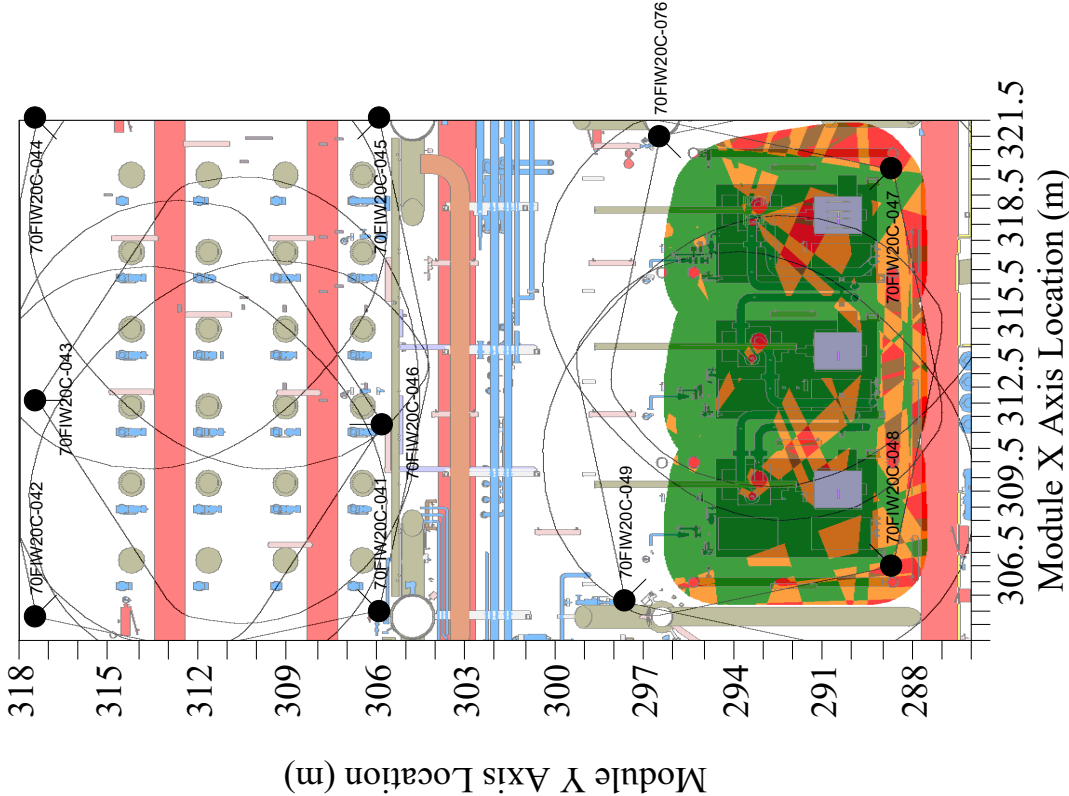
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 2.401 m ALD



COVERAGE KEY

Control Action

Alarm

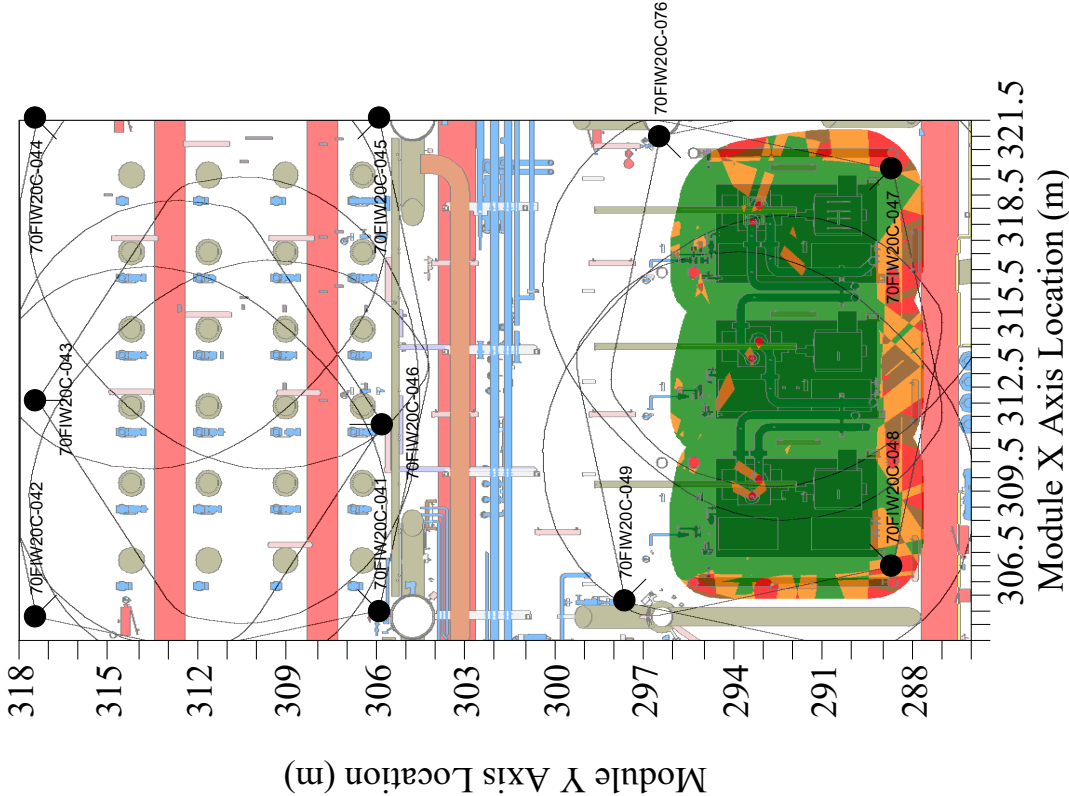
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 2.790 m ALD



COVERAGE KEY

Control Action

Alarm

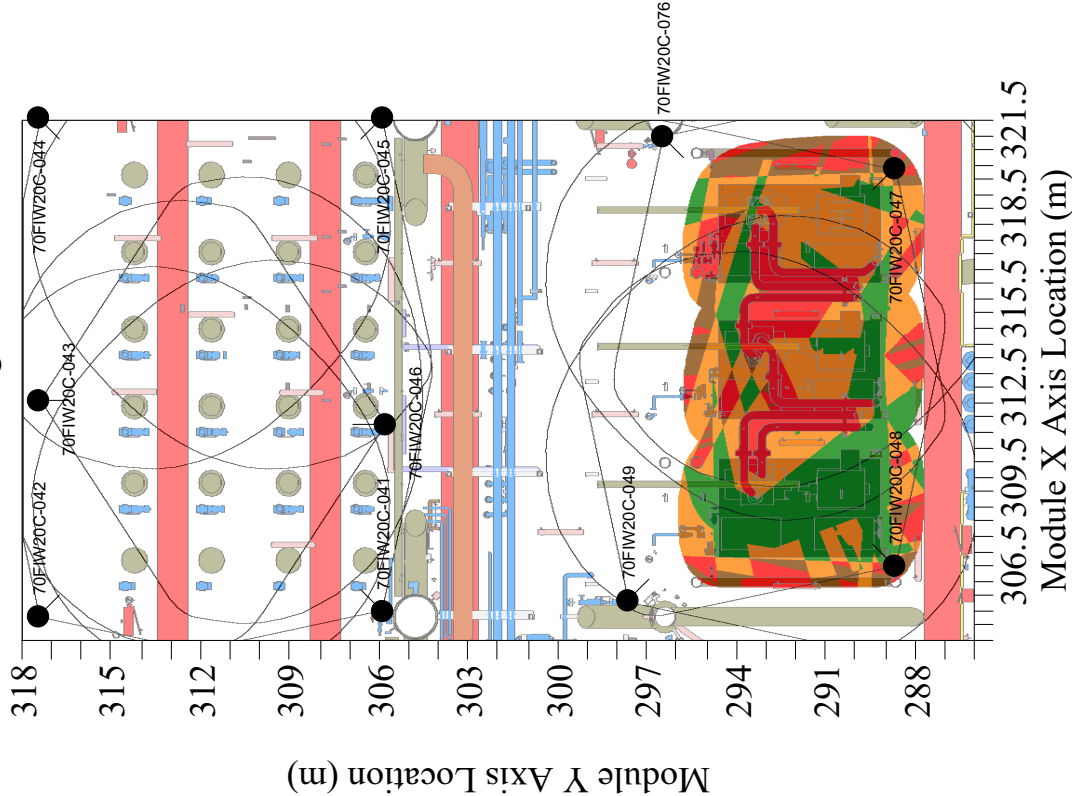
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 3.179 m ALD



COVERAGE KEY

Control Action

Alarm

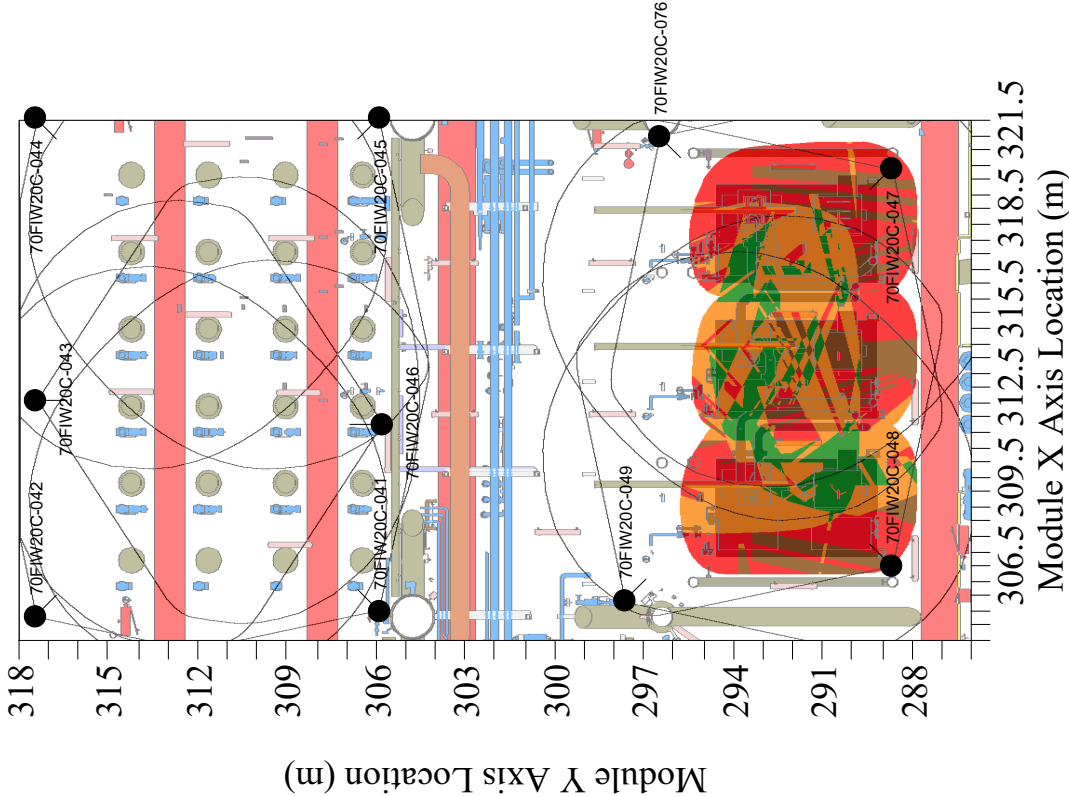
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			

Project Name-Proposed W20C

Fire Detector coverage at 3.568 m ALD



COVERAGE KEY

Control Action

Alarm

Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20C			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:50



PROJECT INFORMATION

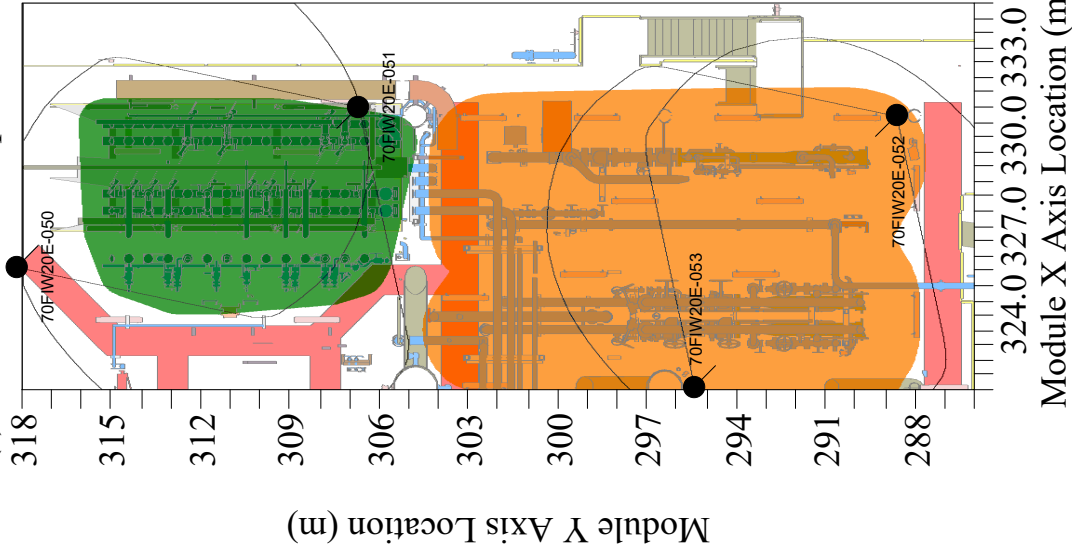
Project name: **Project Name**
Assessment title: **Fire Detection Area W20E**
Number of detectors: 4 (4 existing, 0 new, 0 relocated)
Overall coverage: 68% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

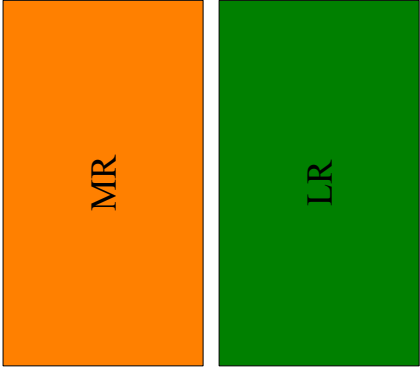
MR	21%	50%	2%	27%
LR	16%	46%	0%	38%
Totals	19%	48%	1%	31%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



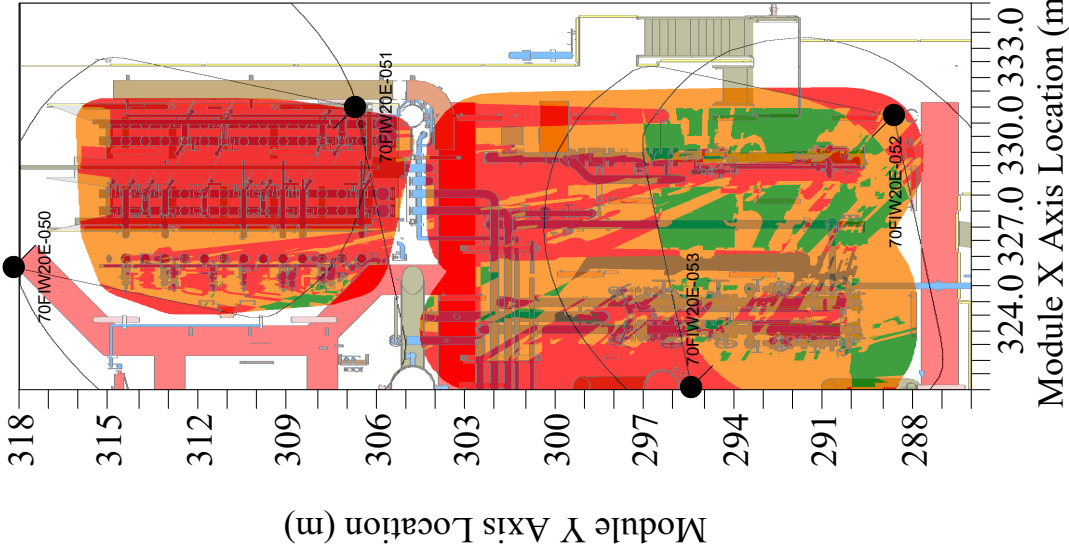
GRADE COLOURS



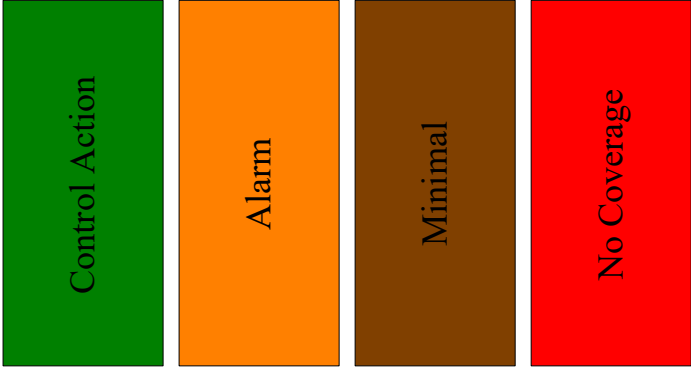
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Grademap (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 0.068 m ALD



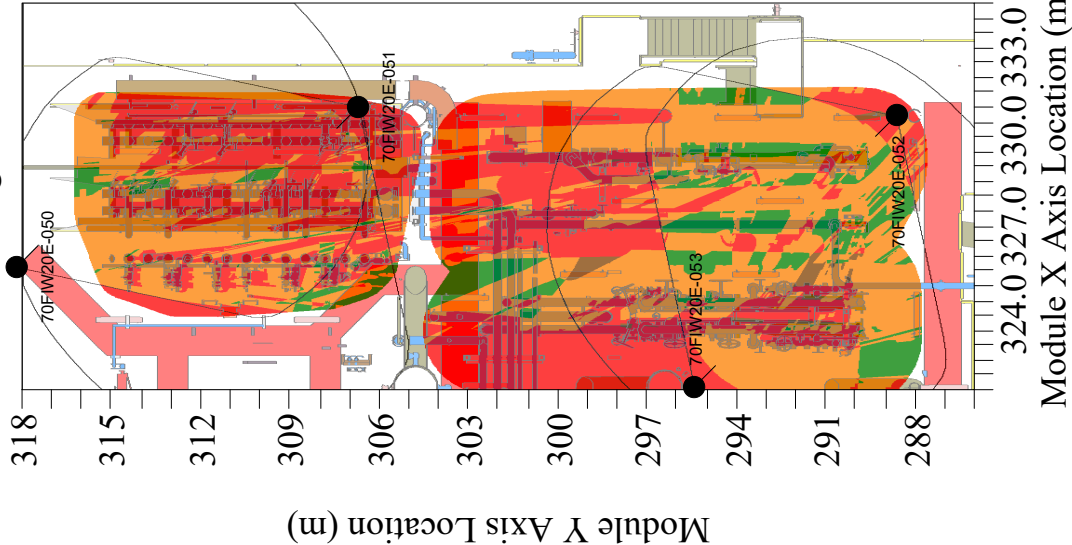
COVERAGE KEY



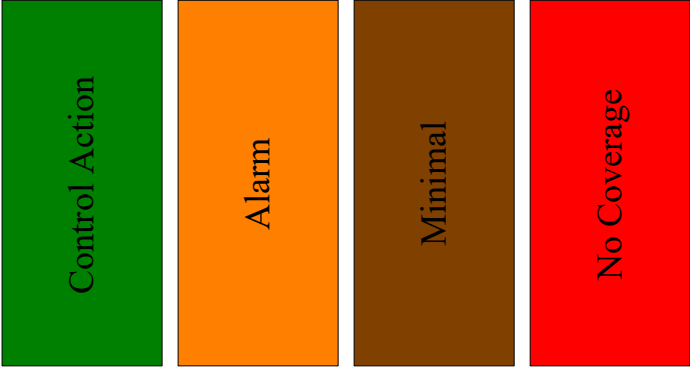
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 0.457 m ALD



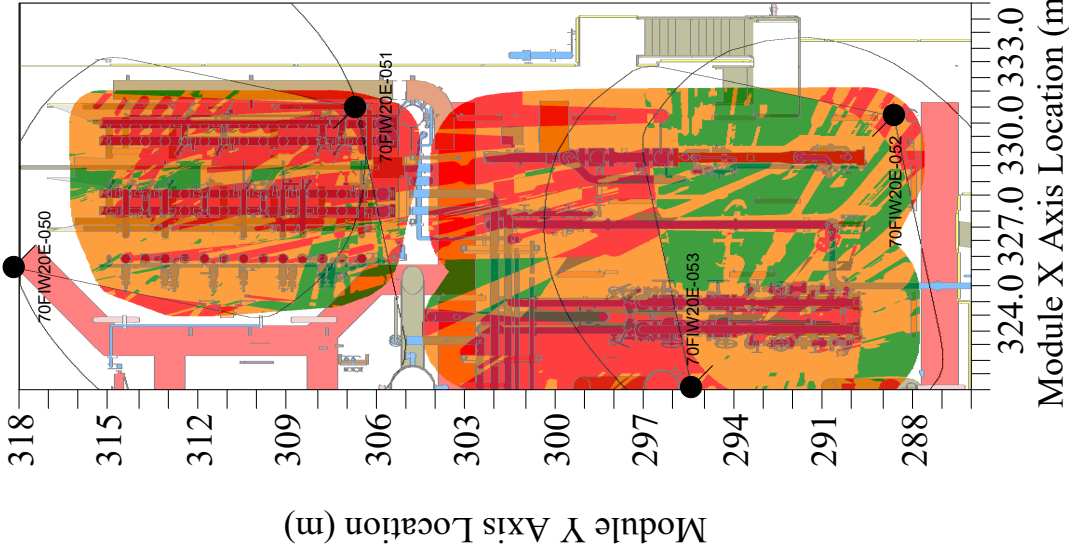
COVERAGE KEY



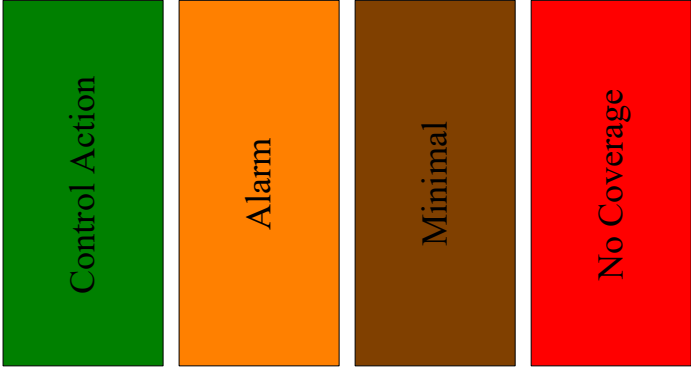
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 0.846 m ALD



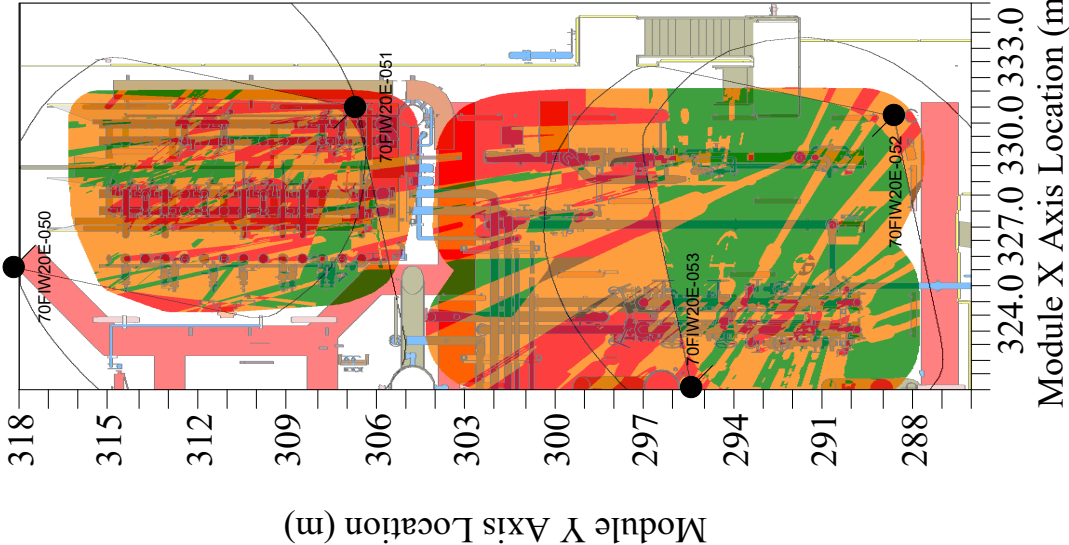
COVERAGE KEY



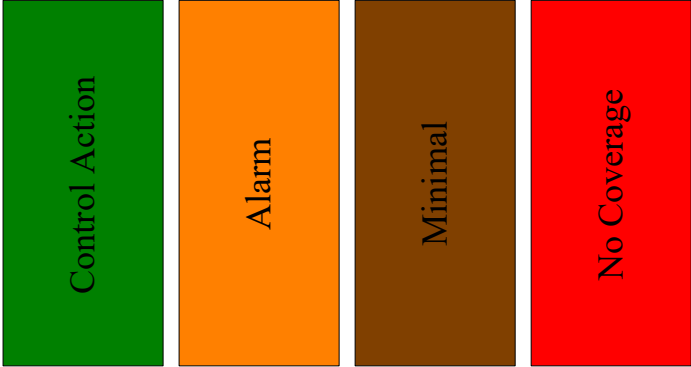
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 1.235 m ALD



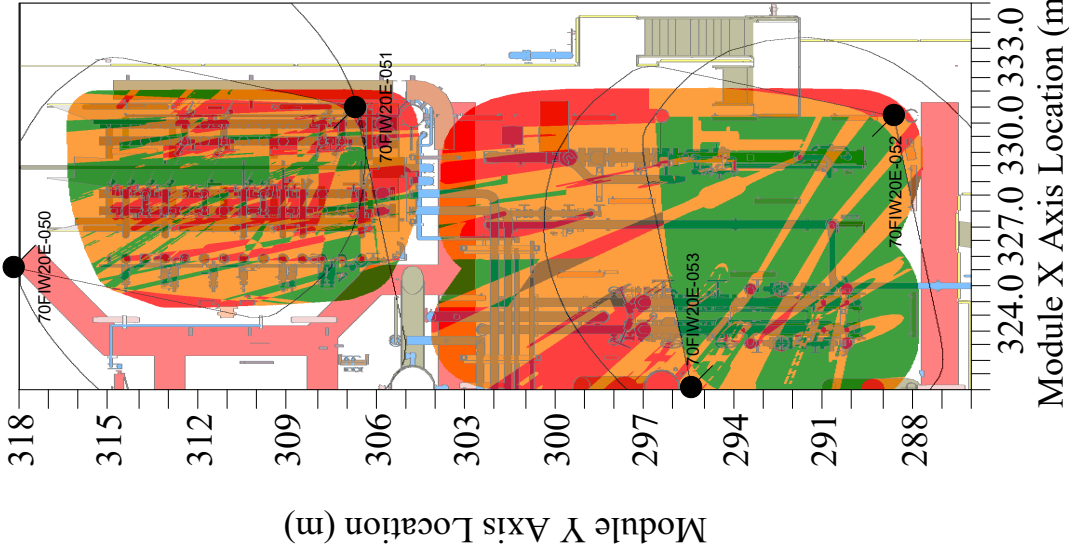
COVERAGE KEY



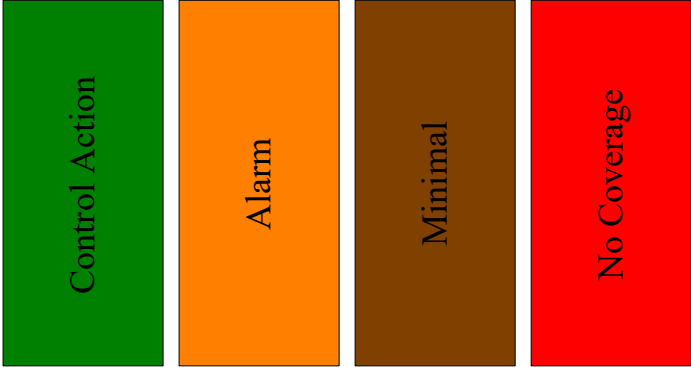
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 1.624 m ALD



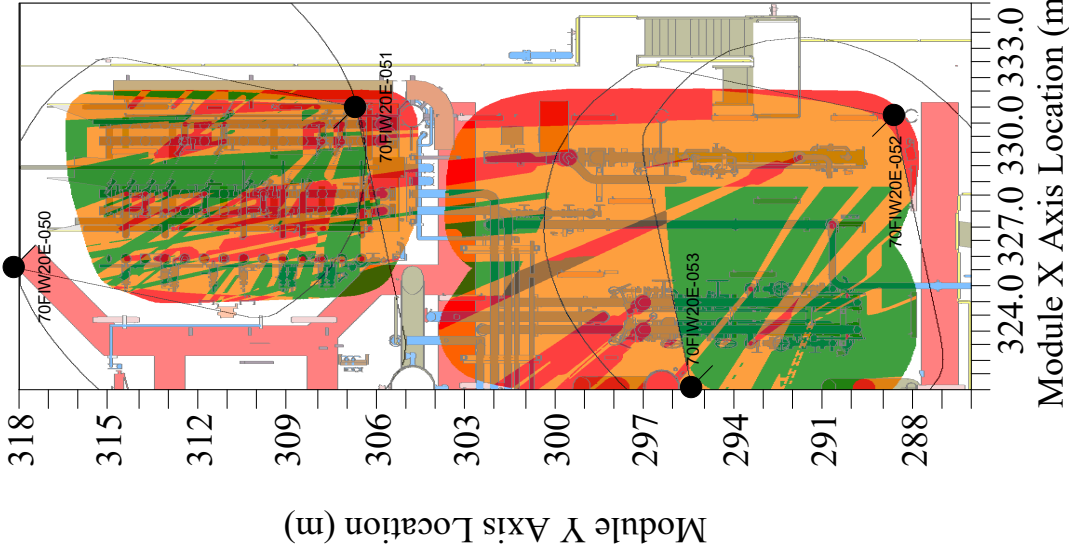
COVERAGE KEY



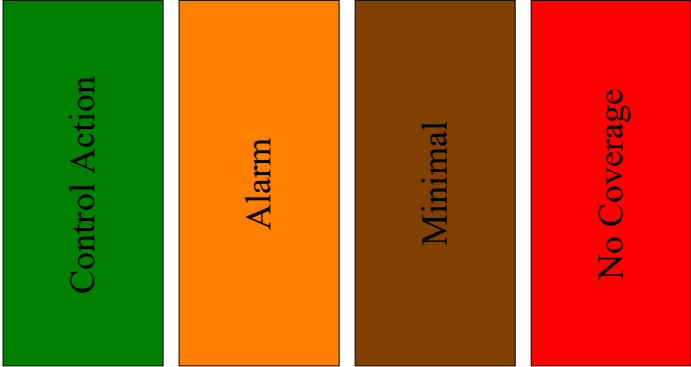
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 2.012 m ALD



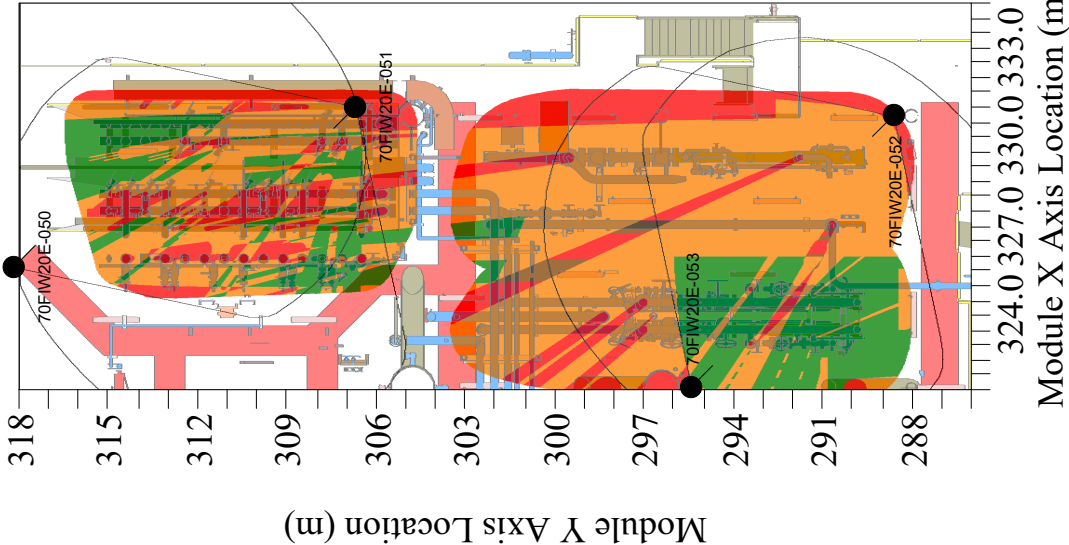
COVERAGE KEY



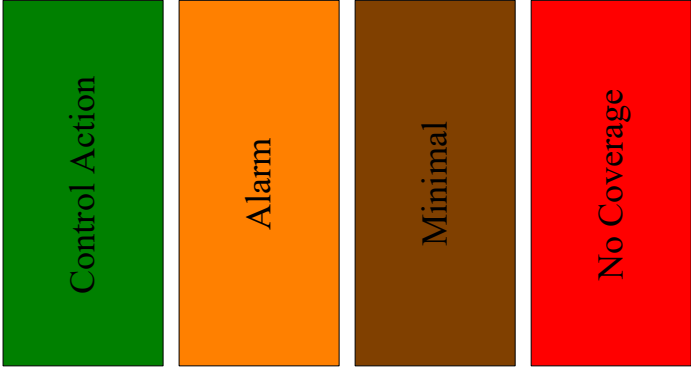
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 2.401 m ALD



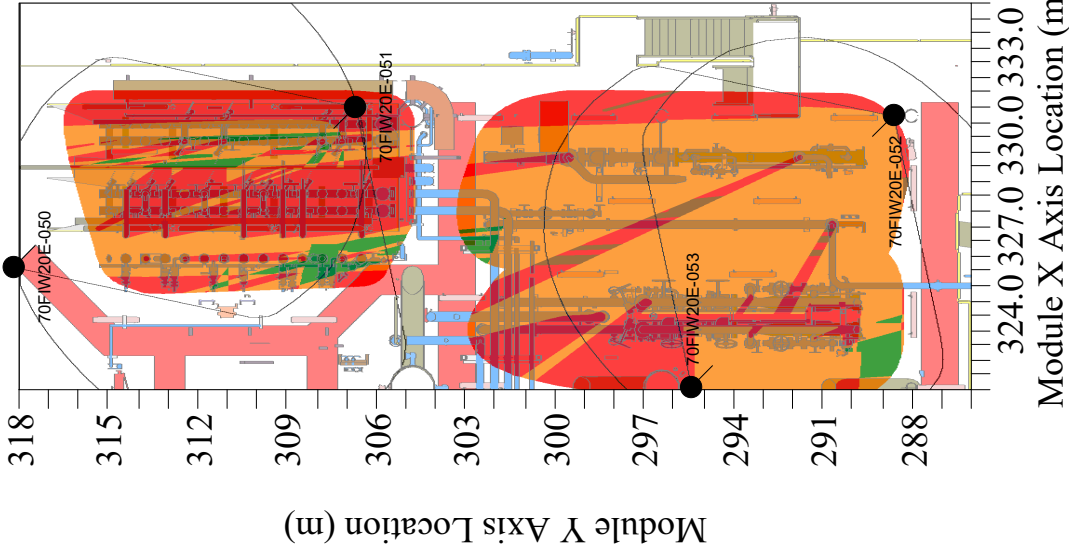
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

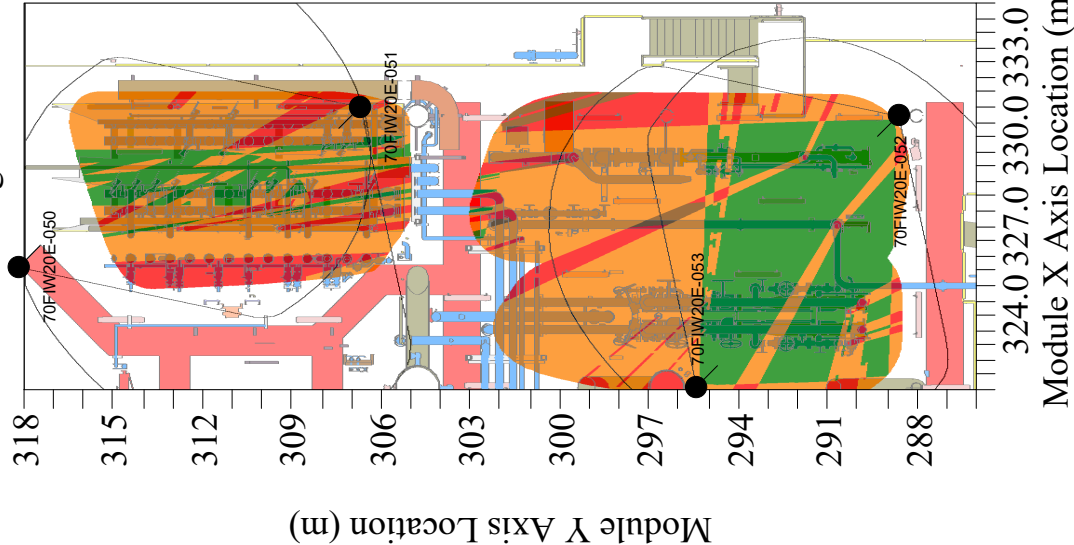
Fire Detector coverage at 2.790 m ALD



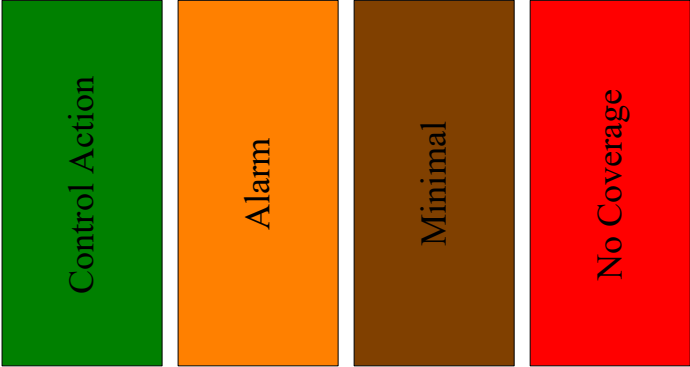
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 3.179 m ALD



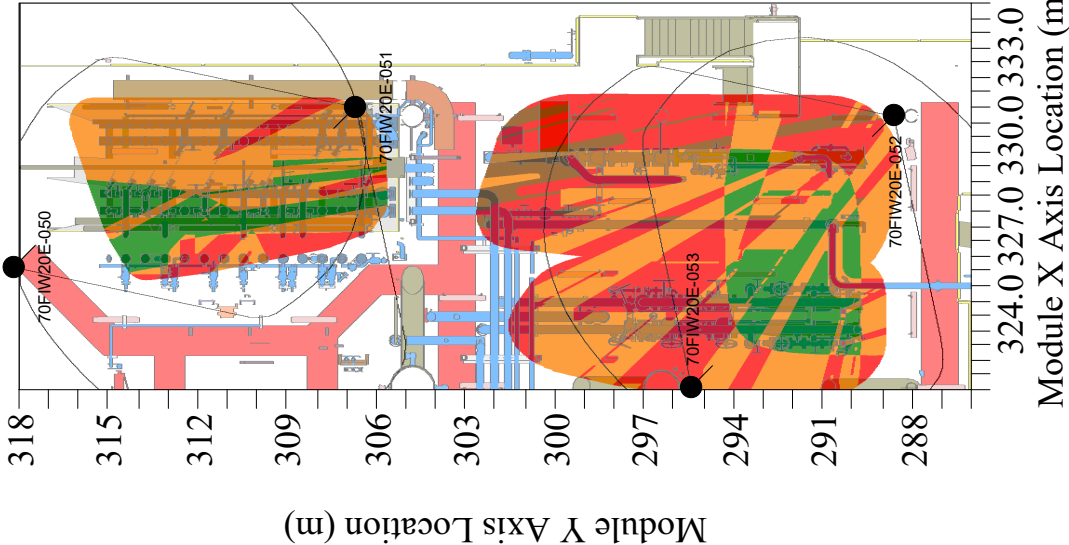
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			

Project Name-Fire Detection Area W20E

Fire Detector coverage at 3.568 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W20E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:51



PROJECT INFORMATION

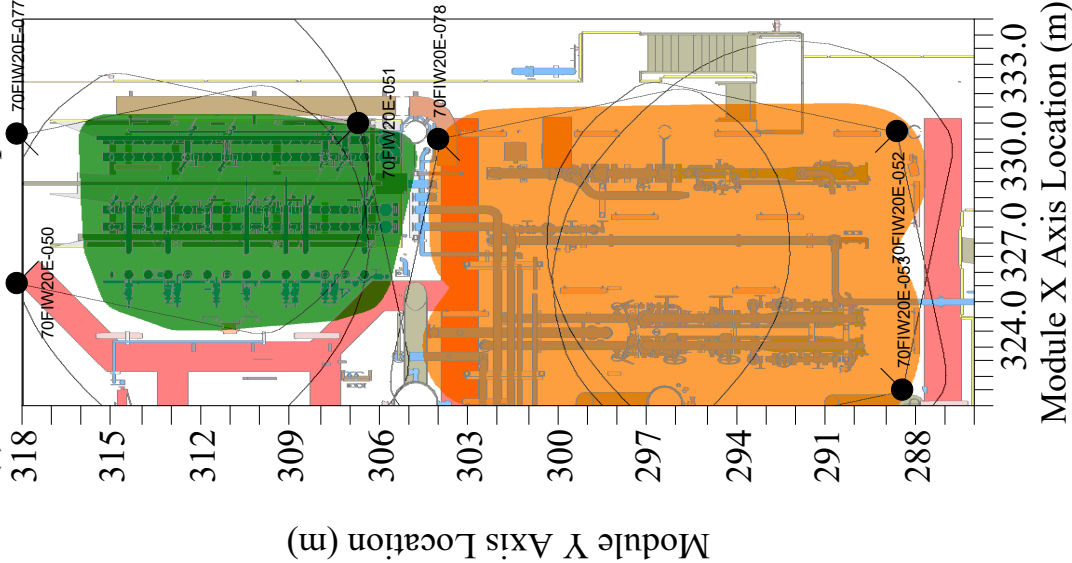
Project name: **Project Name**
Assessment title: **Proposed W20E**
Number of detectors: 6 (3 existing, 2 new, 1 relocated)
Overall coverage: 82% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

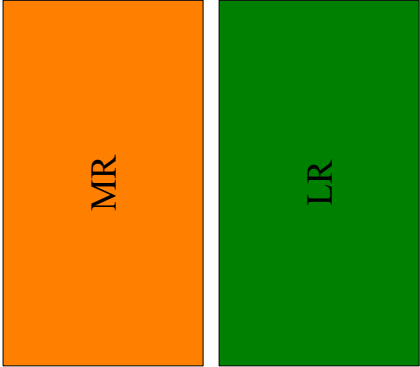
MR	61%	26%	1%	12%
LR	41%	31%	0%	29%
Totals	54%	28%	1%	17%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



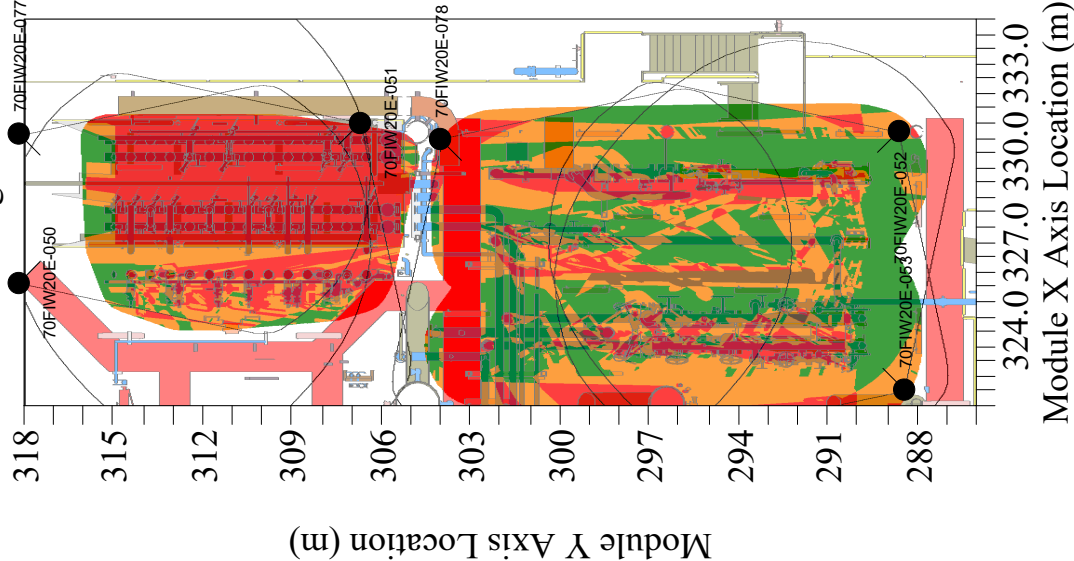
GRADE COLOURS



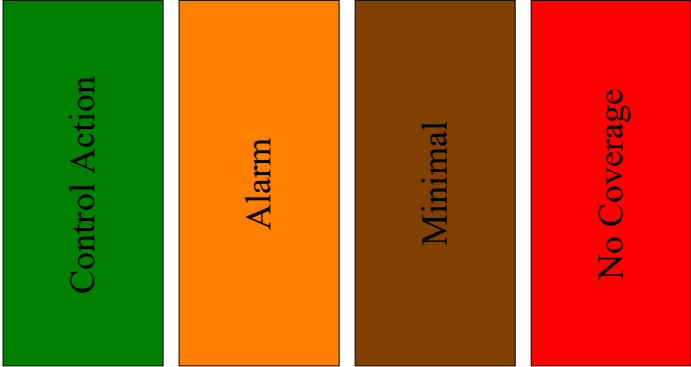
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 0.068 m ALD



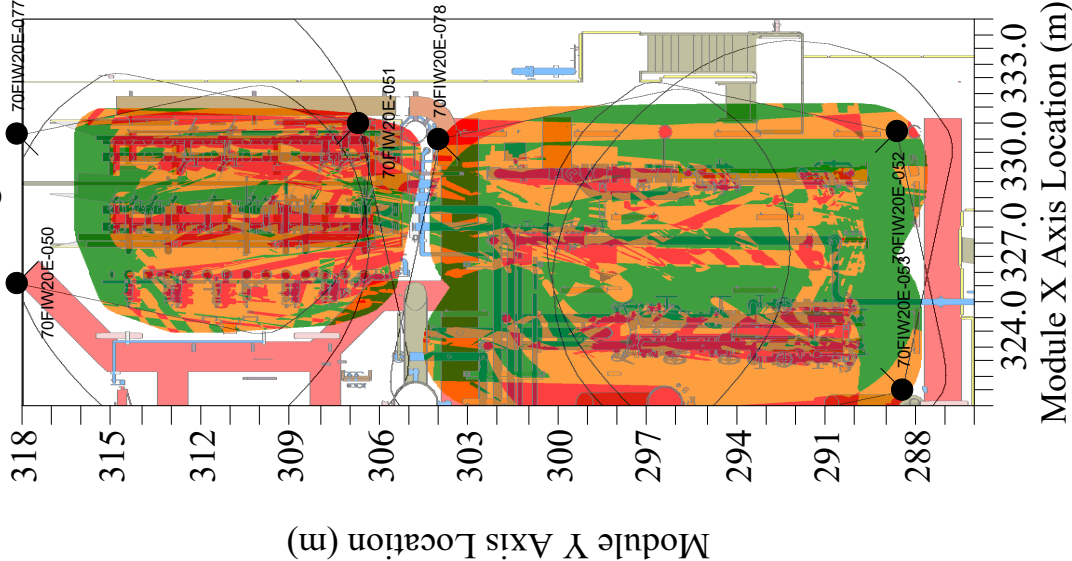
COVERAGE KEY



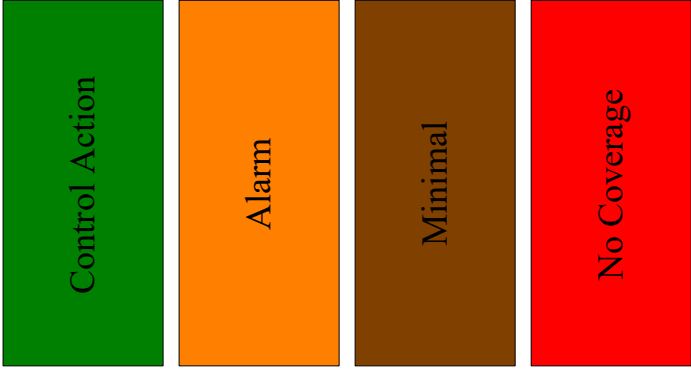
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 0.457 m ALD



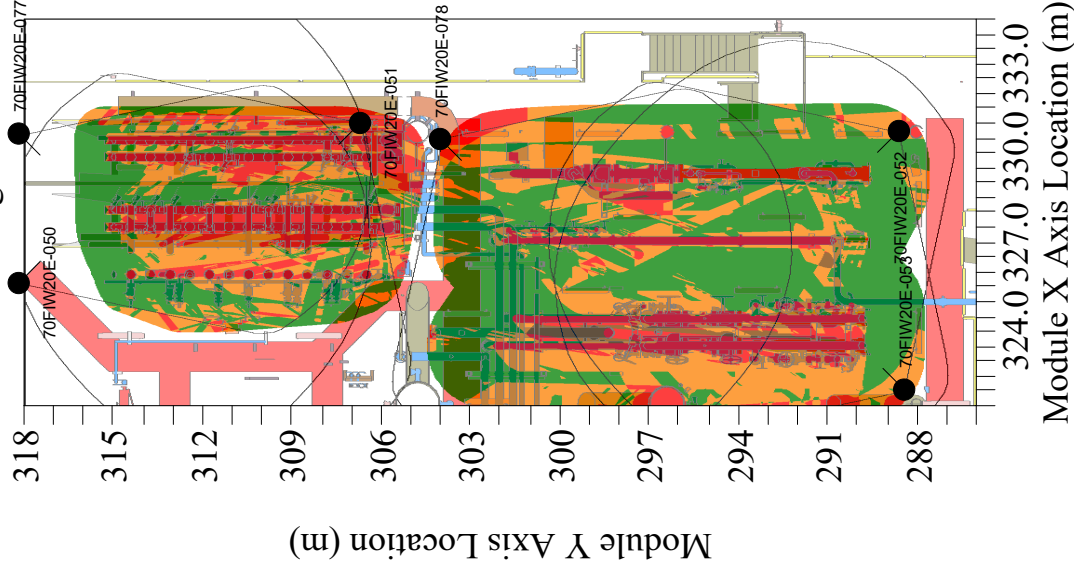
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 0.846 m ALD



COVERAGE KEY

Control Action

Alarm

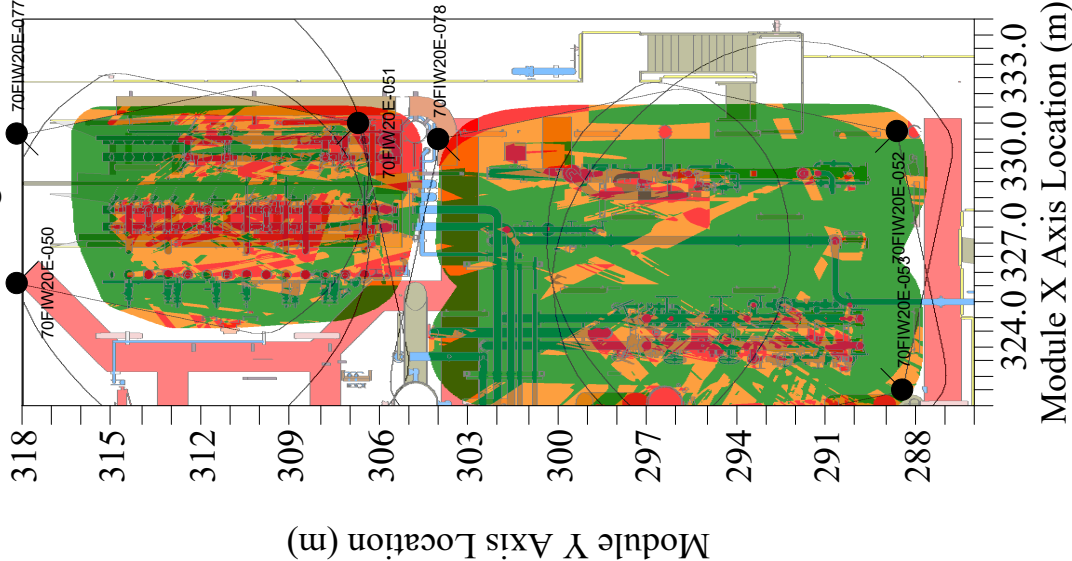
Minimal

No Coverage

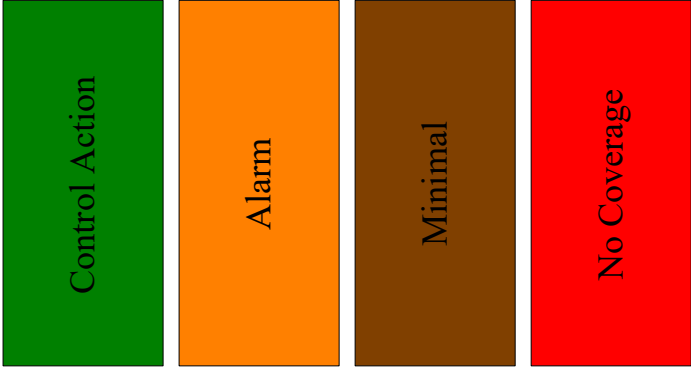
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 1.235 m ALD



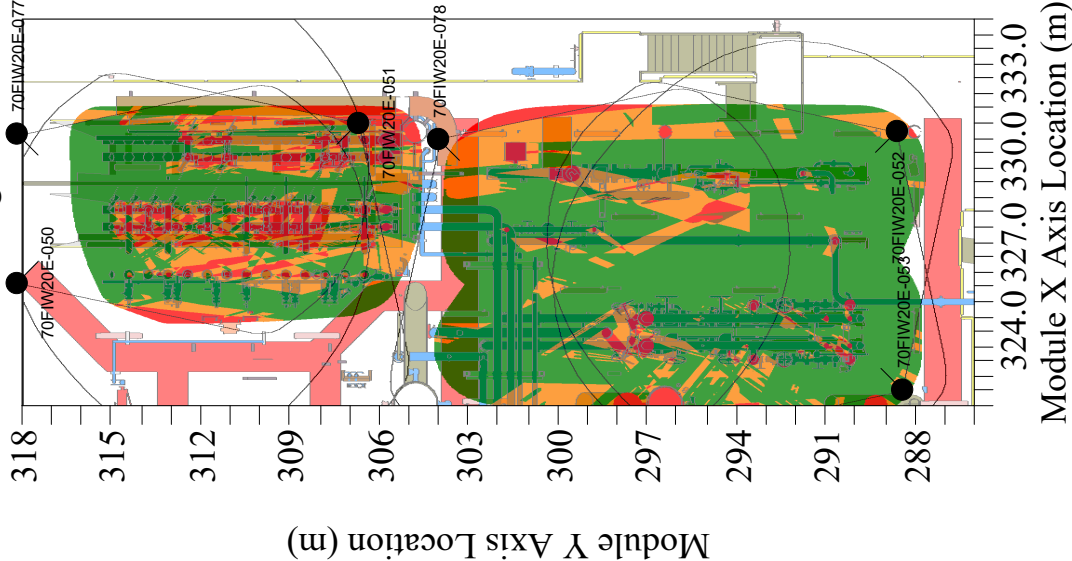
COVERAGE KEY



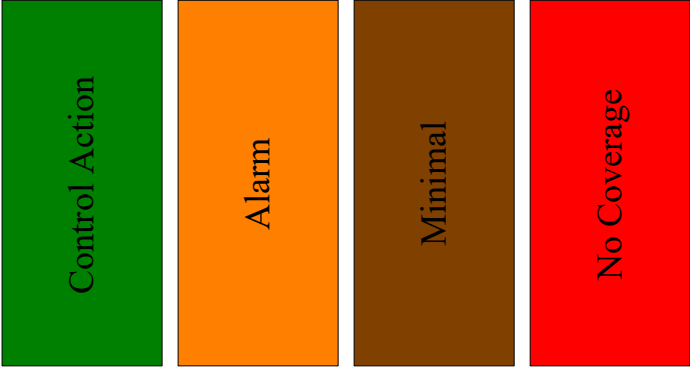
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 1.624 m ALD



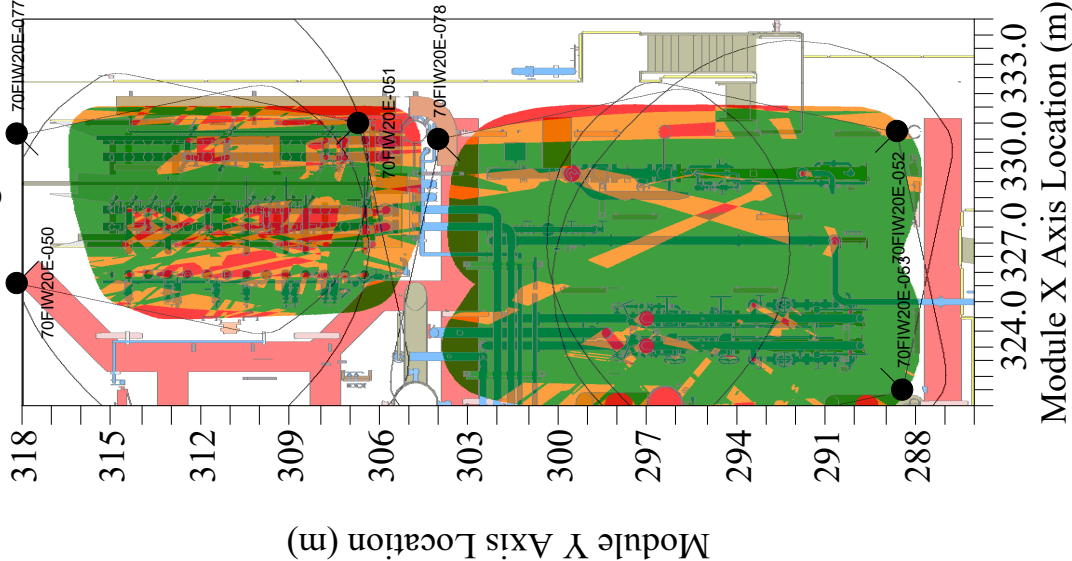
COVERAGE KEY



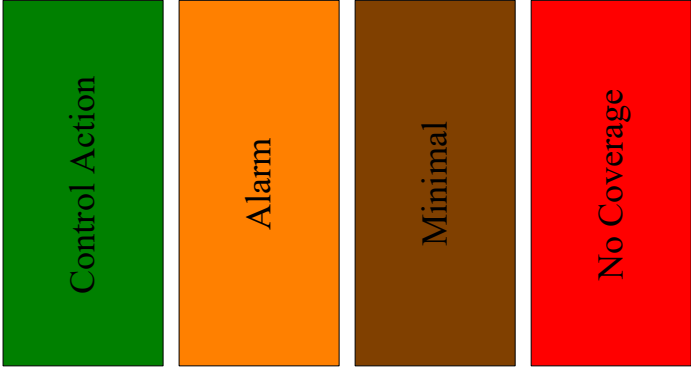
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 2.012 m ALD



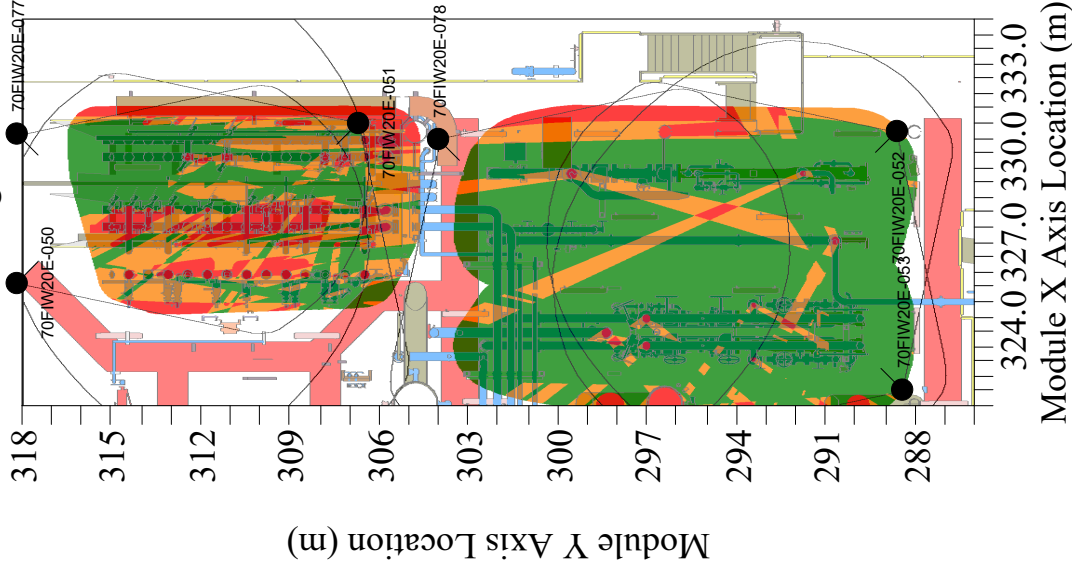
COVERAGE KEY



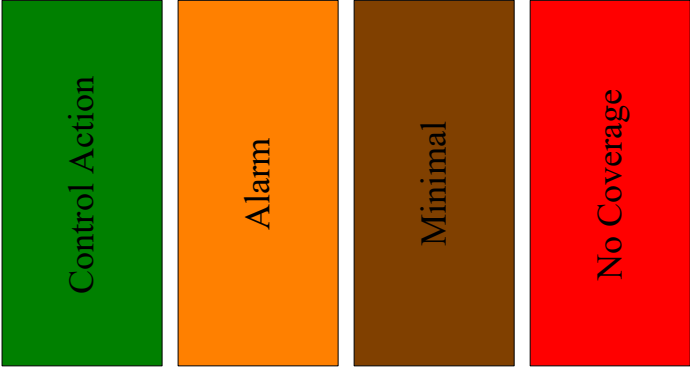
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 2.401 m ALD



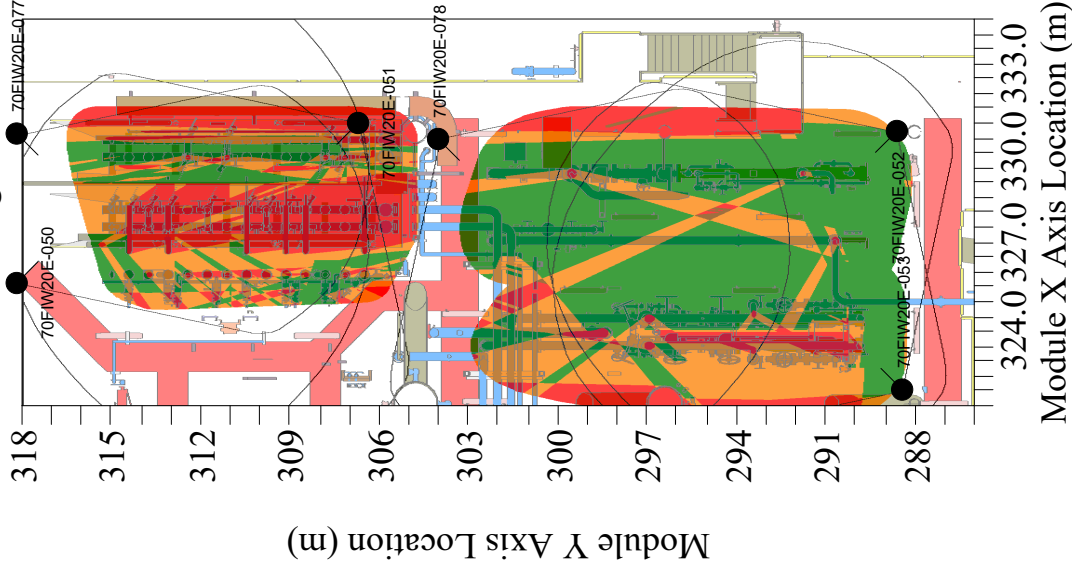
COVERAGE KEY



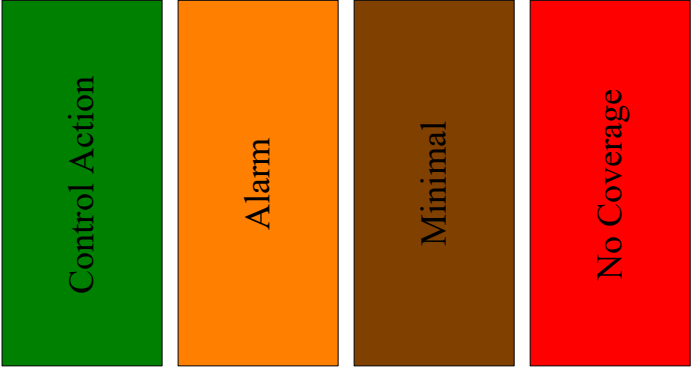
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 2.790 m ALD



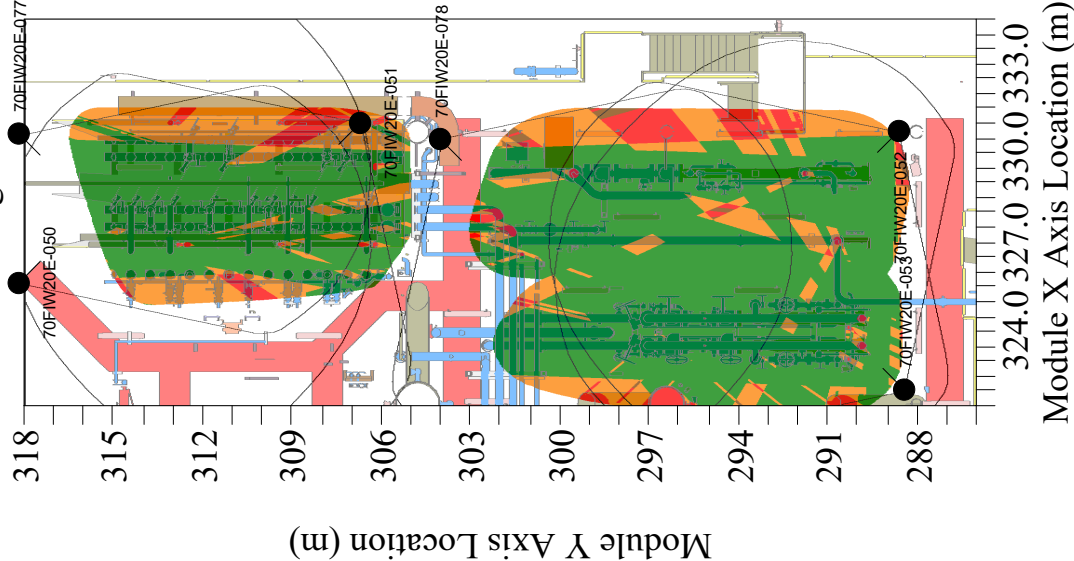
COVERAGE KEY



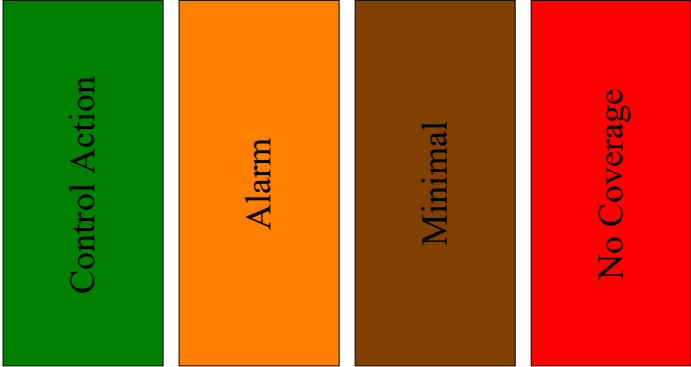
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 3.179 m ALD



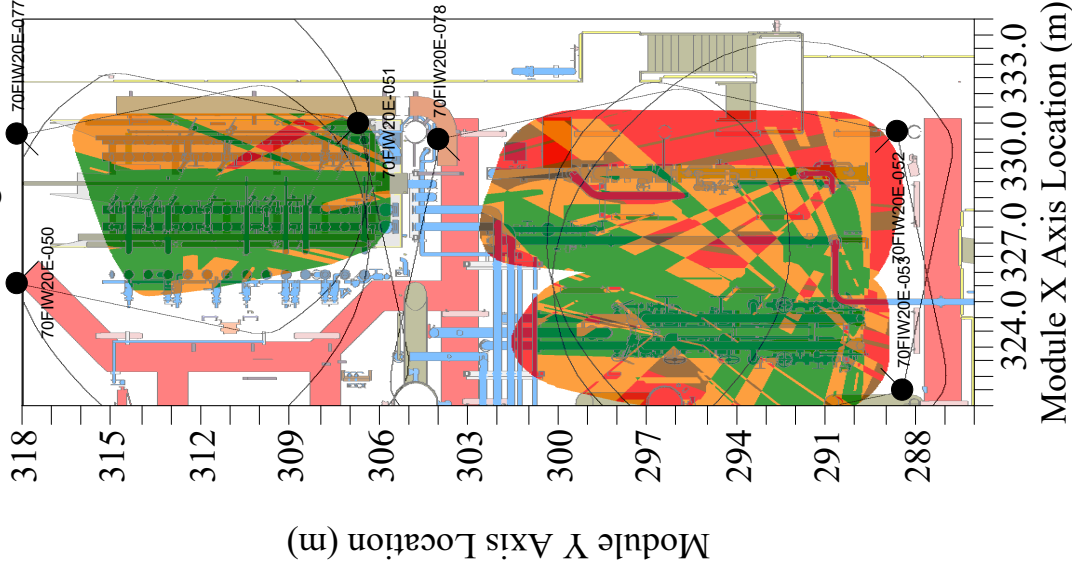
COVERAGE KEY



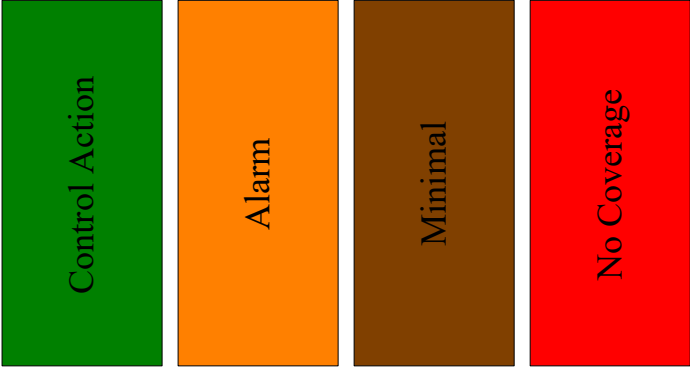
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			

Project Name-Proposed W20E

Fire Detector coverage at 3.568 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W20E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:55



PROJECT INFORMATION

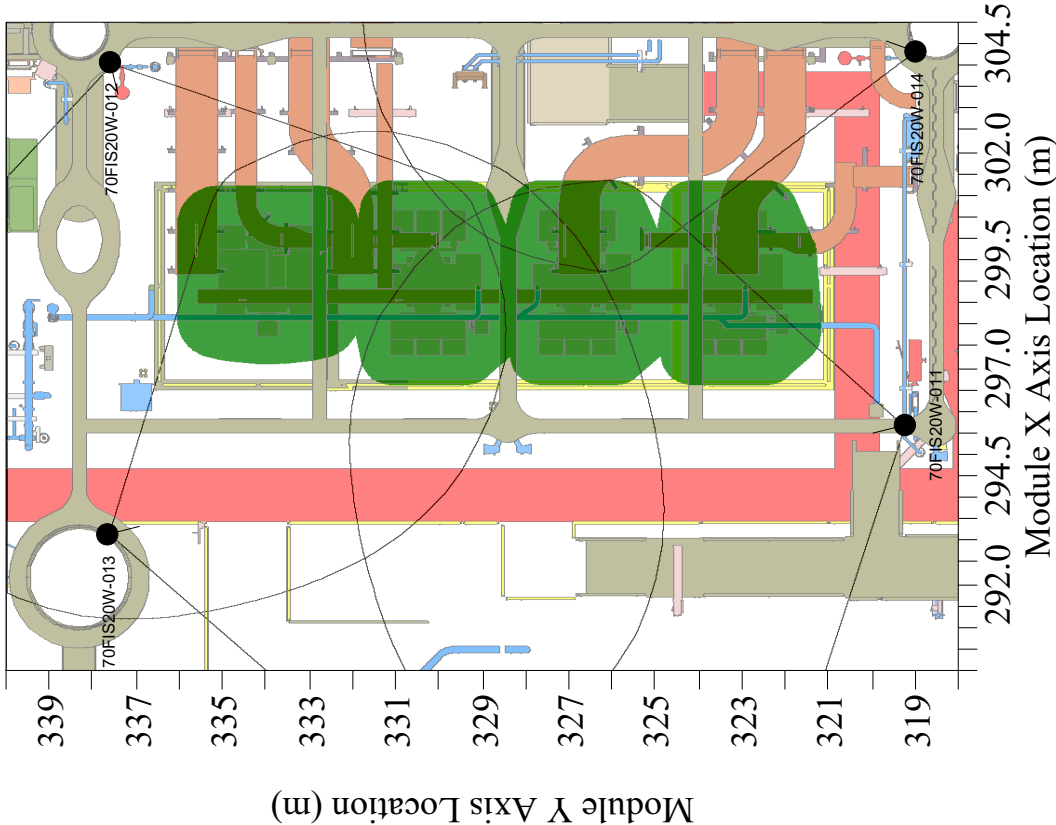
Project name: **Project Name**
Assessment title: **Ex S20W**
Number of detectors: 4 (4 existing, 0 new, 0 relocated)
Overall coverage: 63% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

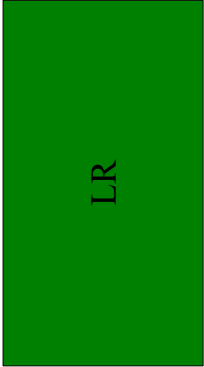
LR	33%	30%	37%
Totals	33%	30%	37%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



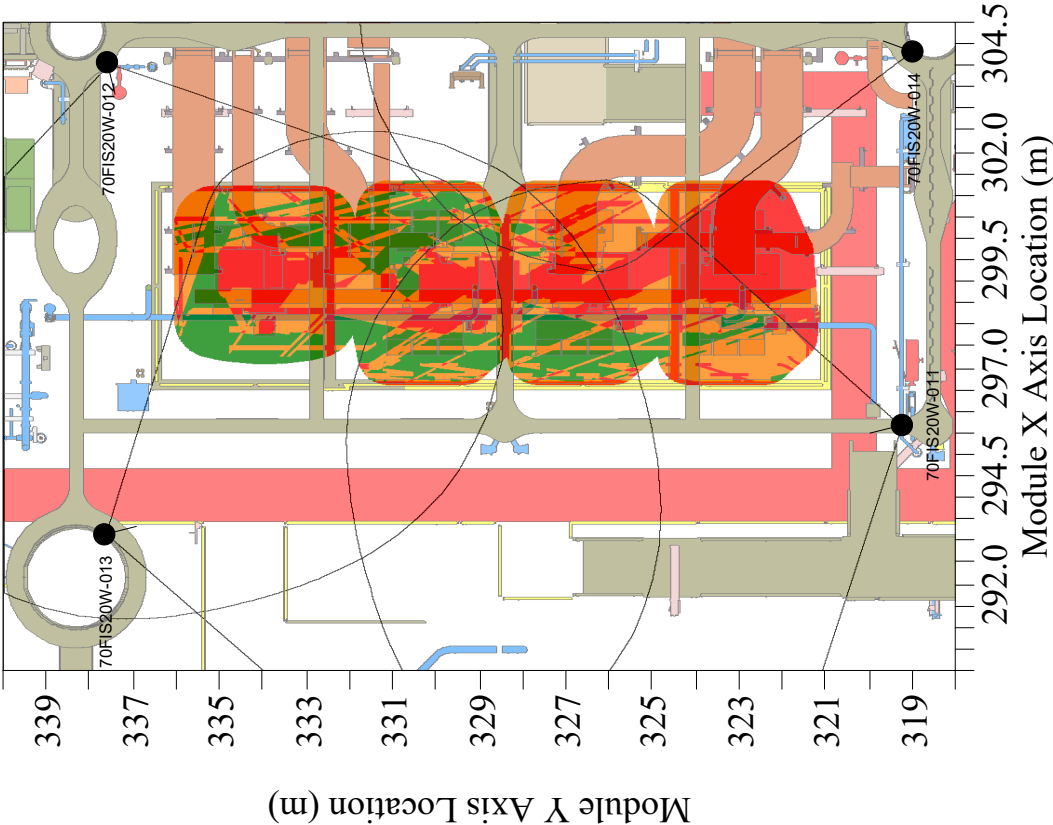
GRADE COLOURS



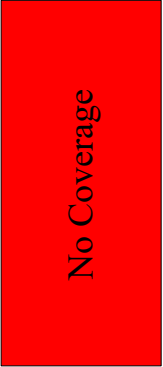
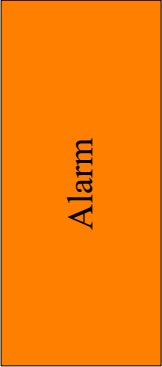
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Grademap (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 0.068 m ALD



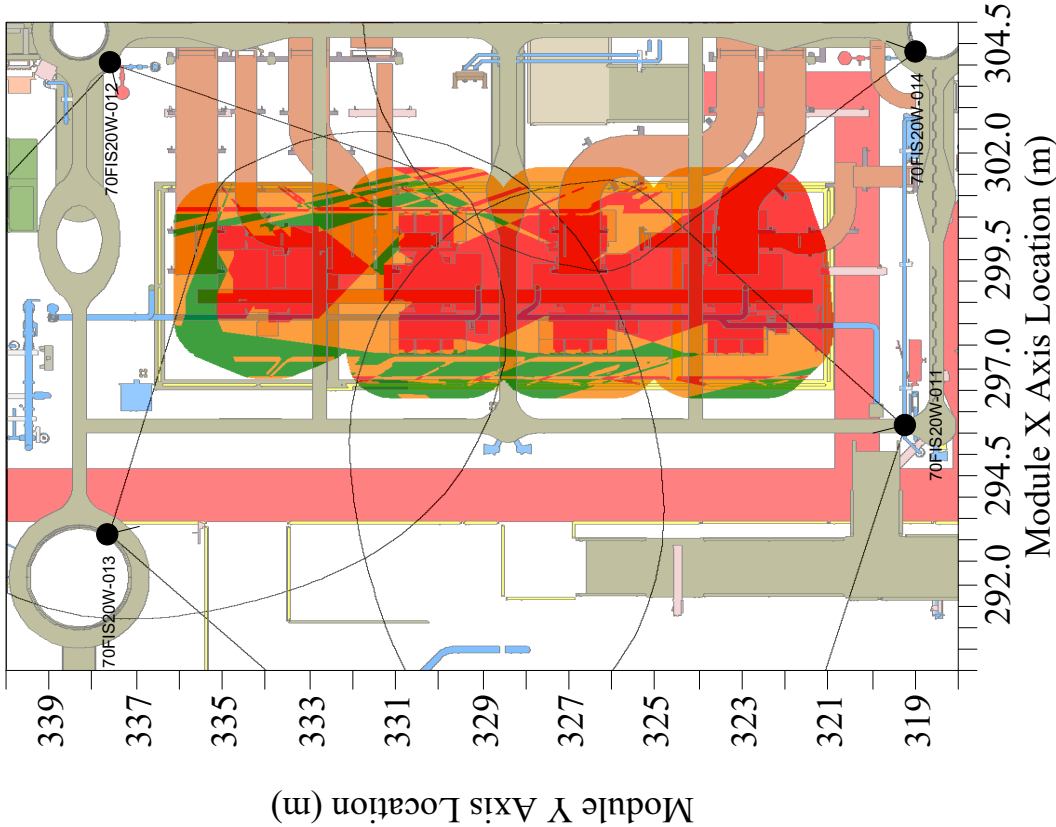
COVERAGE KEY



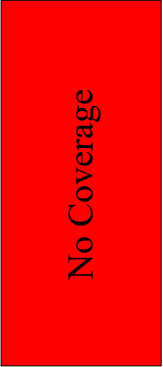
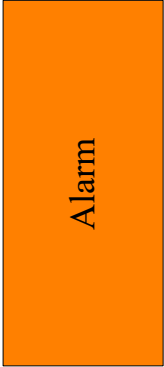
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 0.735 m ALD



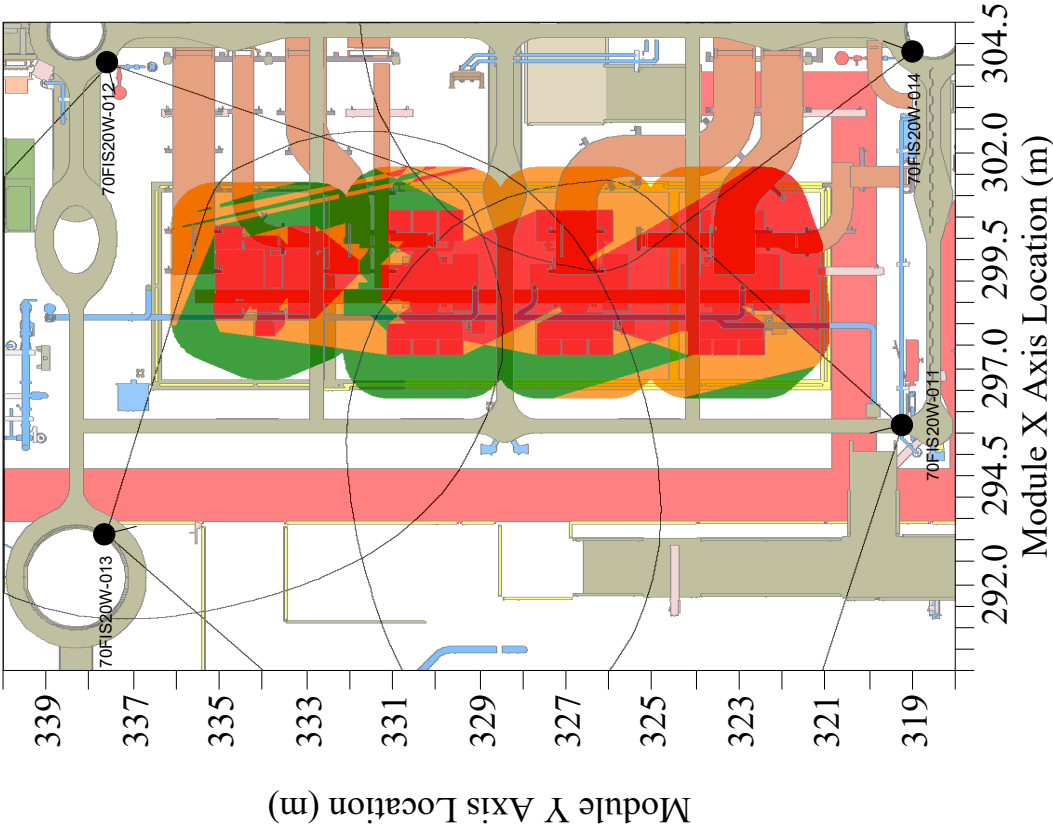
COVERAGE KEY



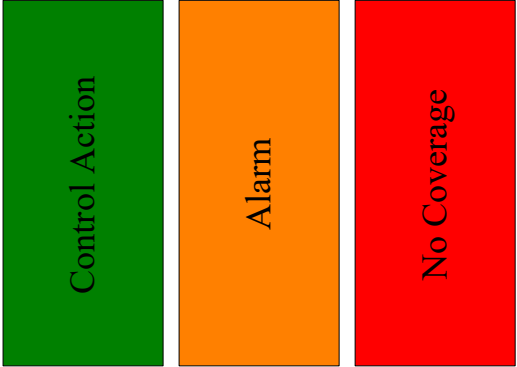
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 1.401 m ALD



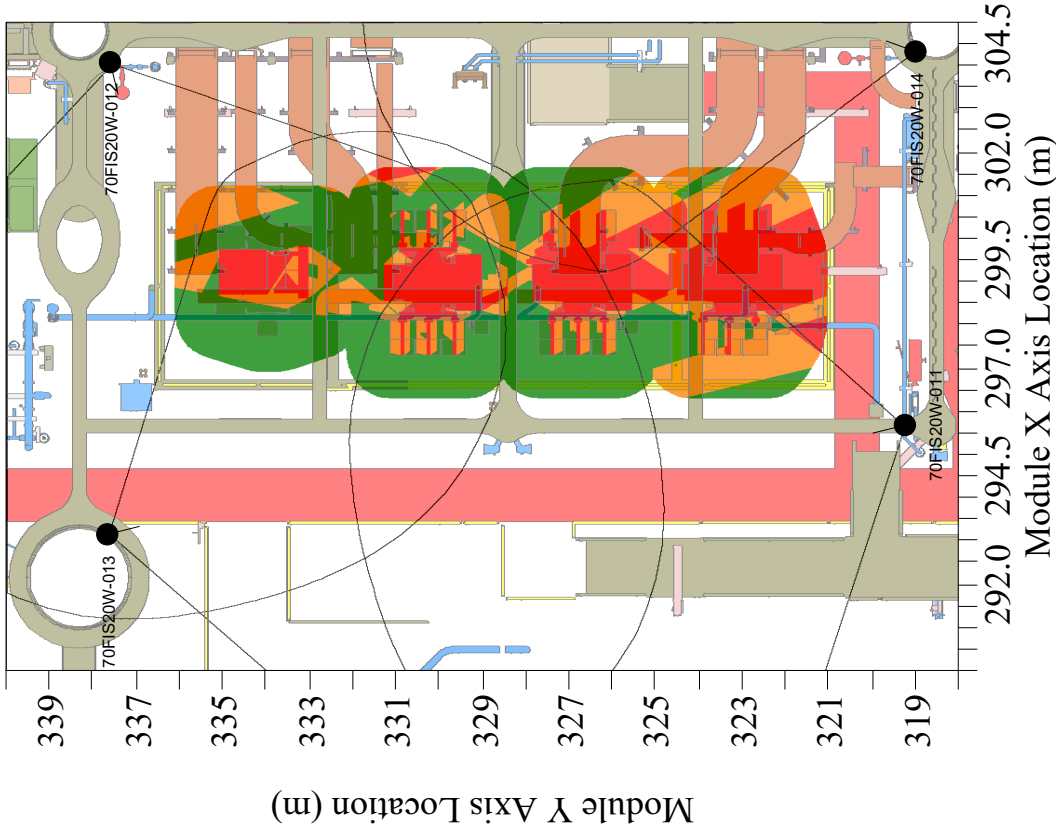
COVERAGE KEY



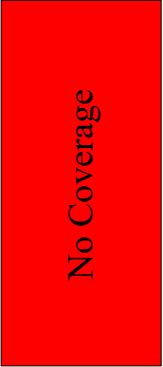
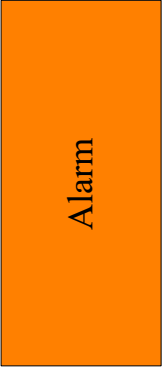
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 2.068 m ALD



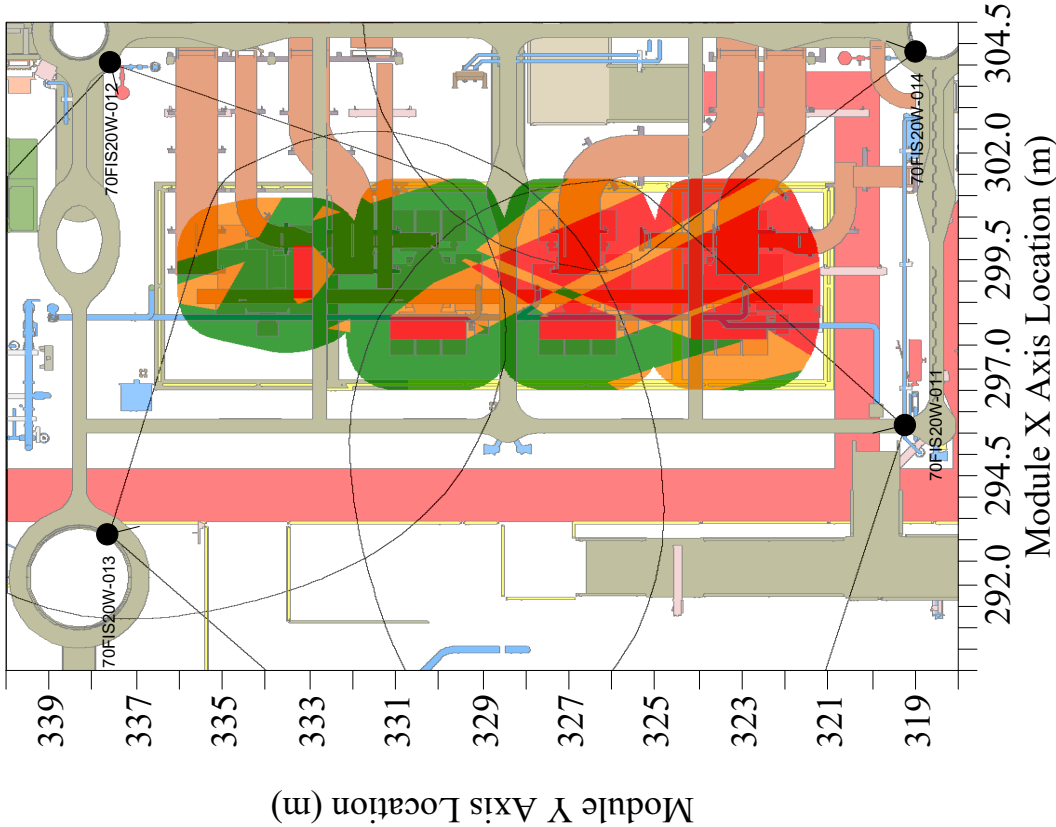
COVERAGE KEY



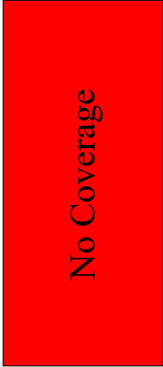
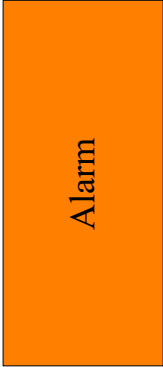
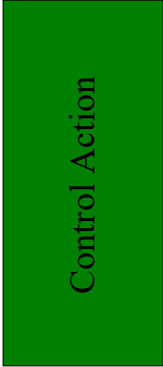
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 2.735 m ALD



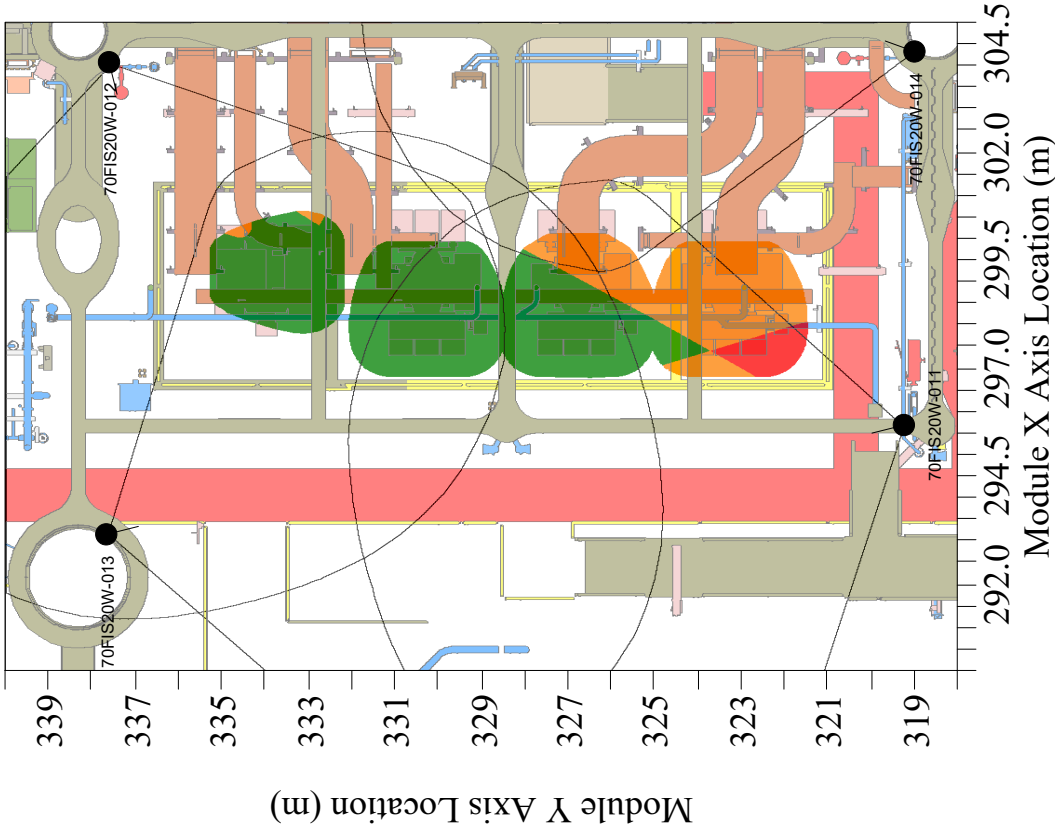
COVERAGE KEY



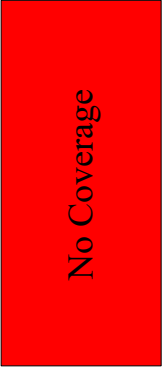
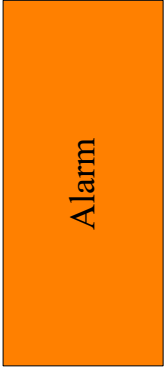
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 3.401 m ALD



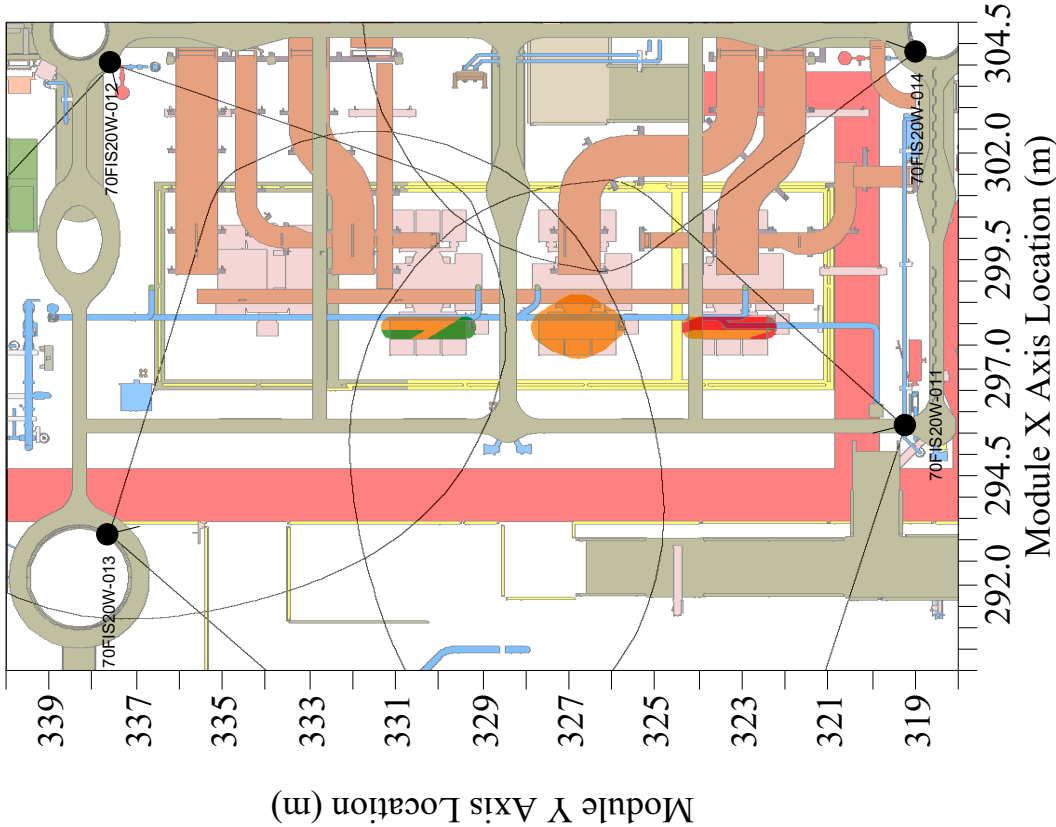
COVERAGE KEY



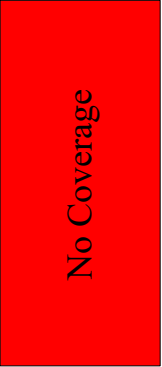
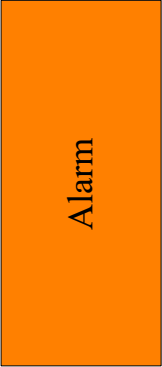
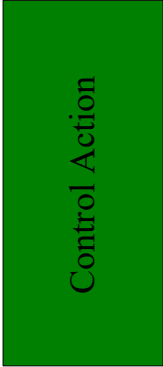
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			

Project Name-Ex S20W

Fire Detector coverage at 4.068 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:56



PROJECT INFORMATION

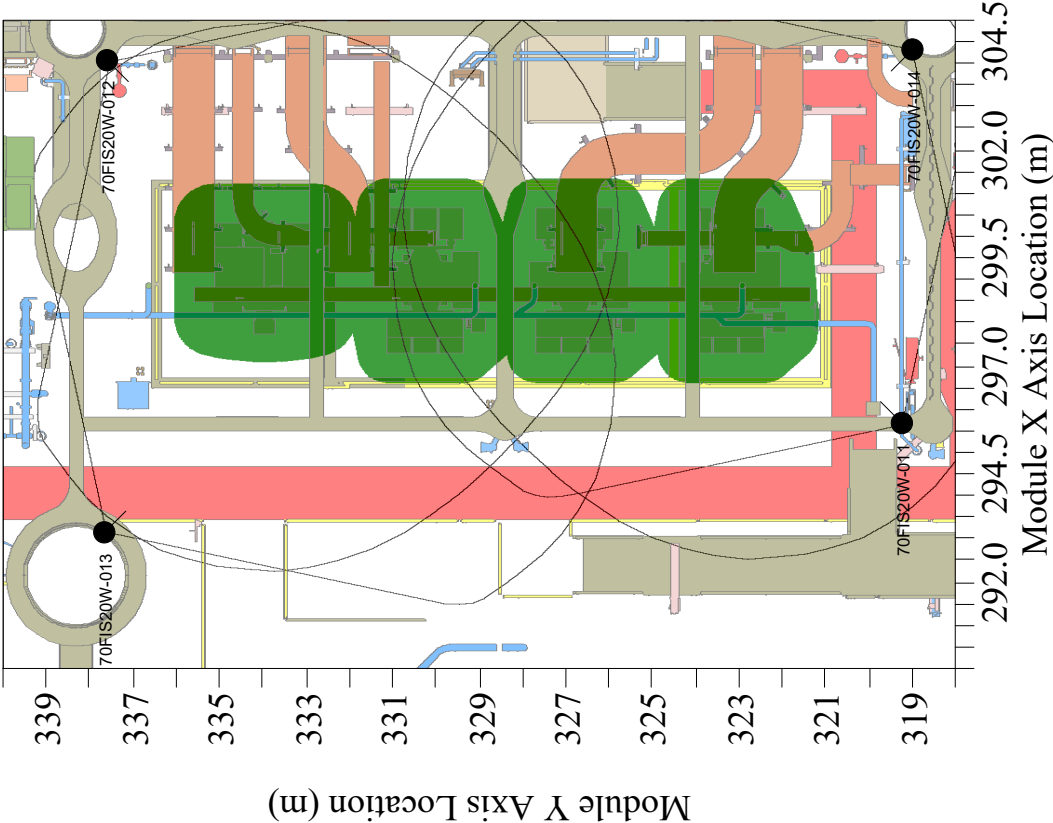
Project name: **Project Name**
Assessment title: **Proposed Area S20W**
Number of detectors: 4 (0 existing, 0 new, 4 relocated)
Overall coverage: 75% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

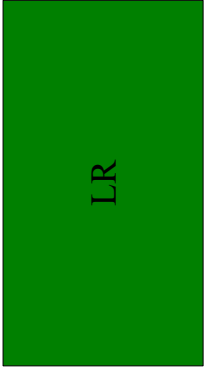
LR	58%	17%	25%
Totals	58%	17%	25%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



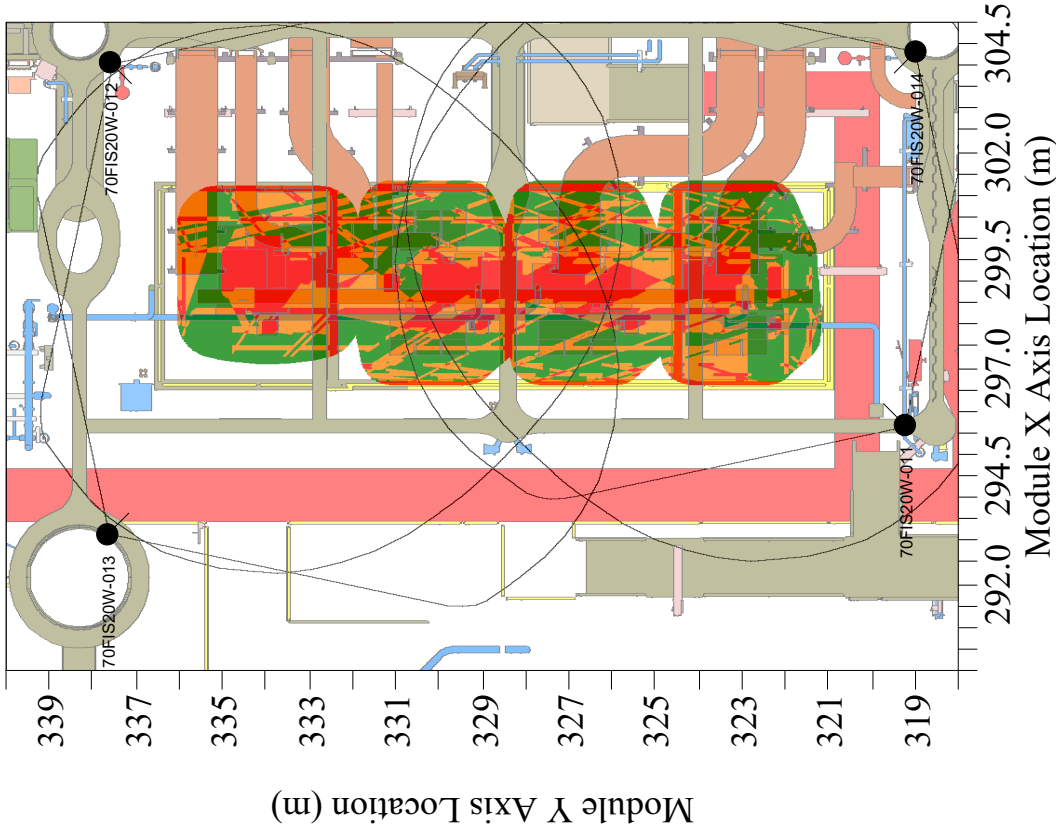
GRADE COLOURS



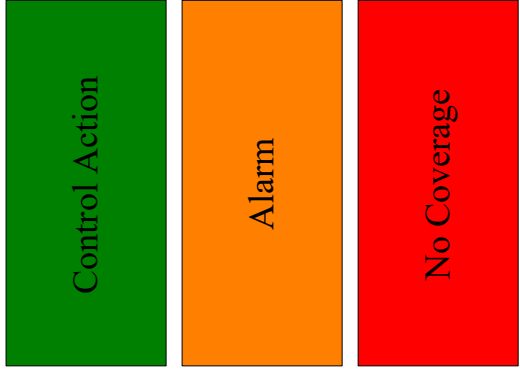
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Grademaps (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 0.068 m ALD



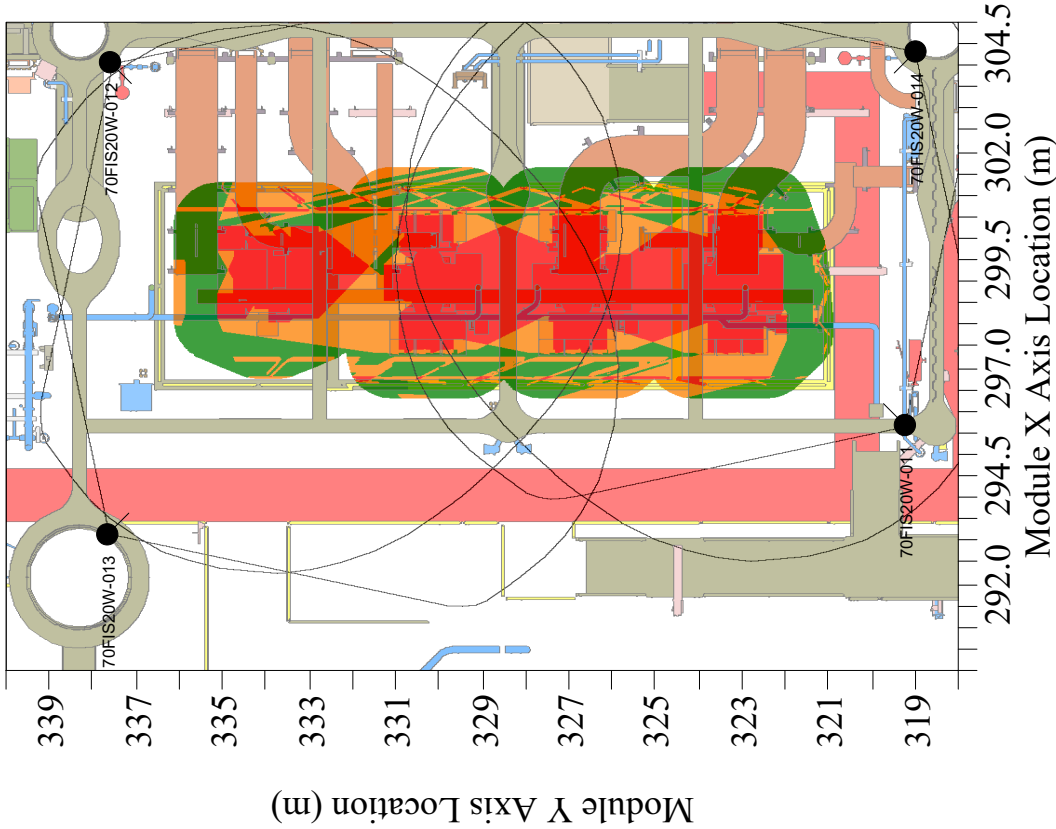
COVERAGE KEY



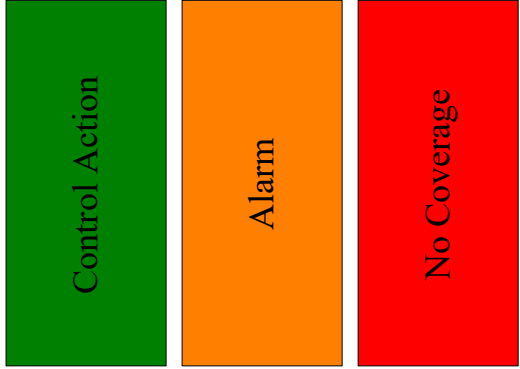
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 0.735 m ALD



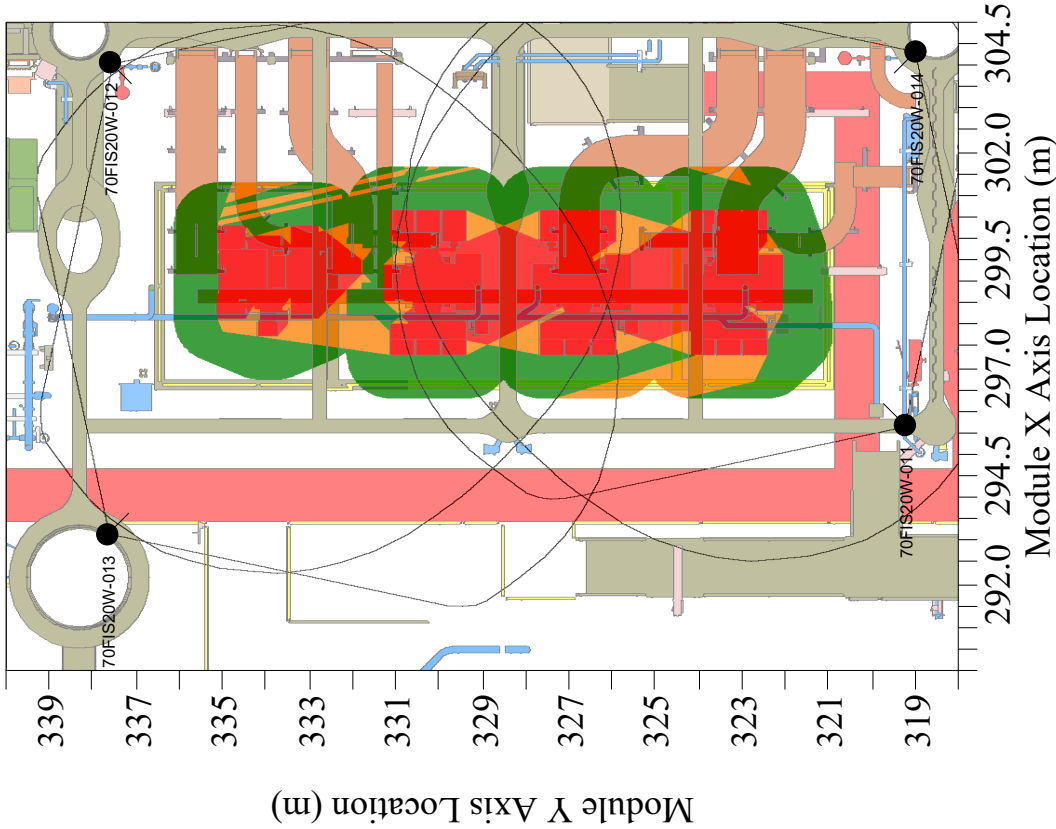
COVERAGE KEY



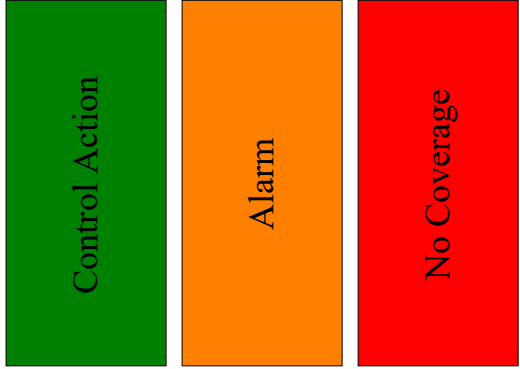
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 1.401 m ALD



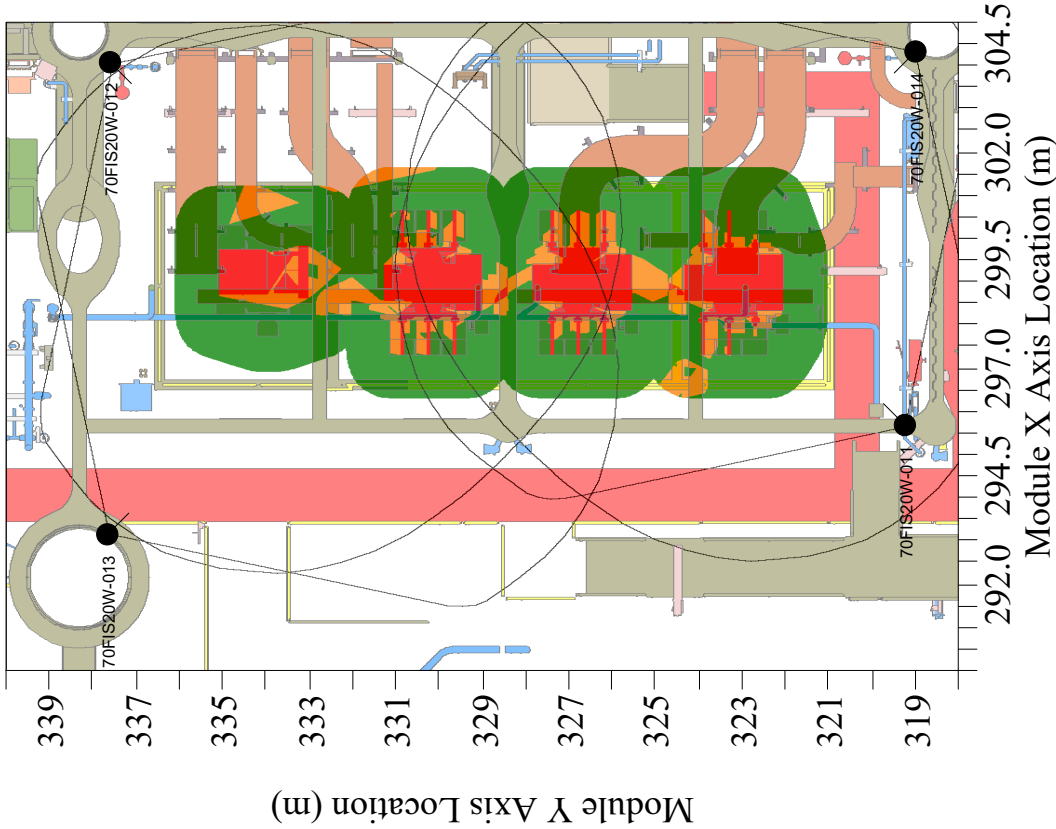
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 2.068 m ALD



COVERAGE KEY

Control Action

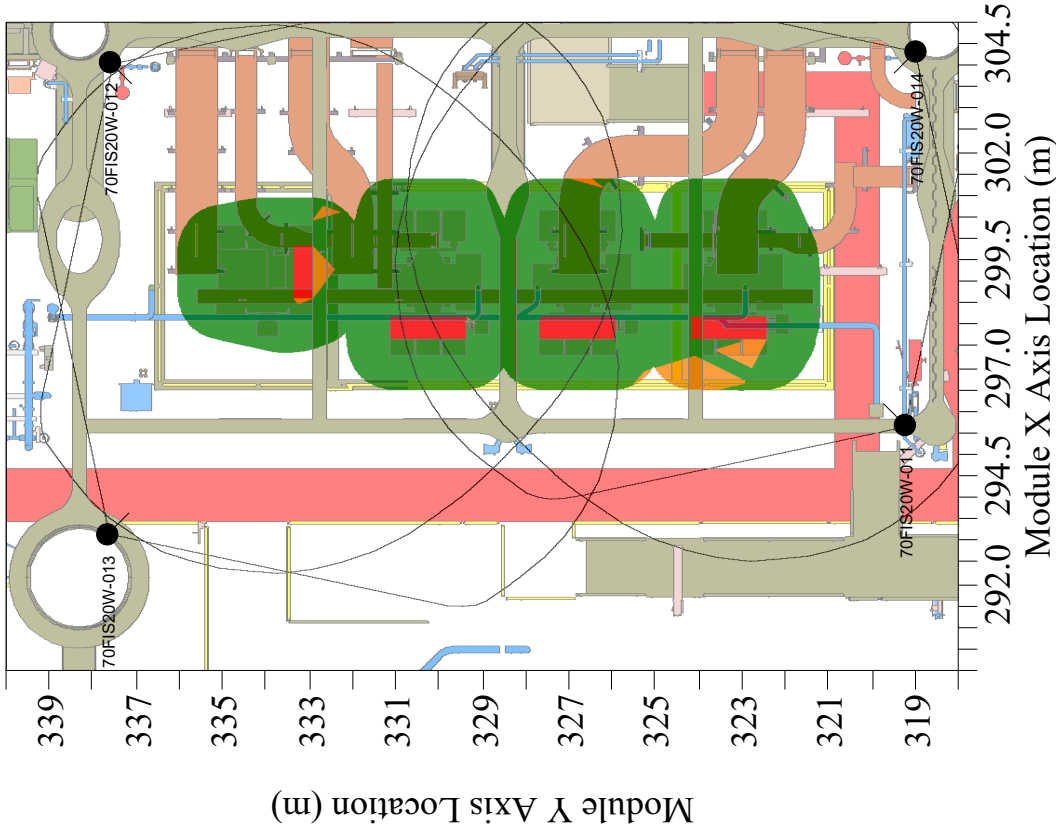
Alarm

No Coverage

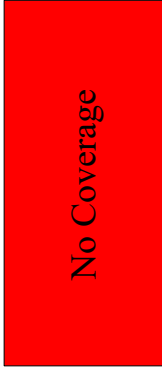
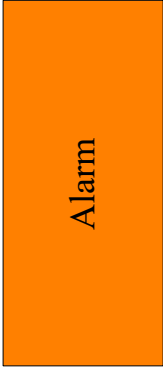
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 2.735 m ALD



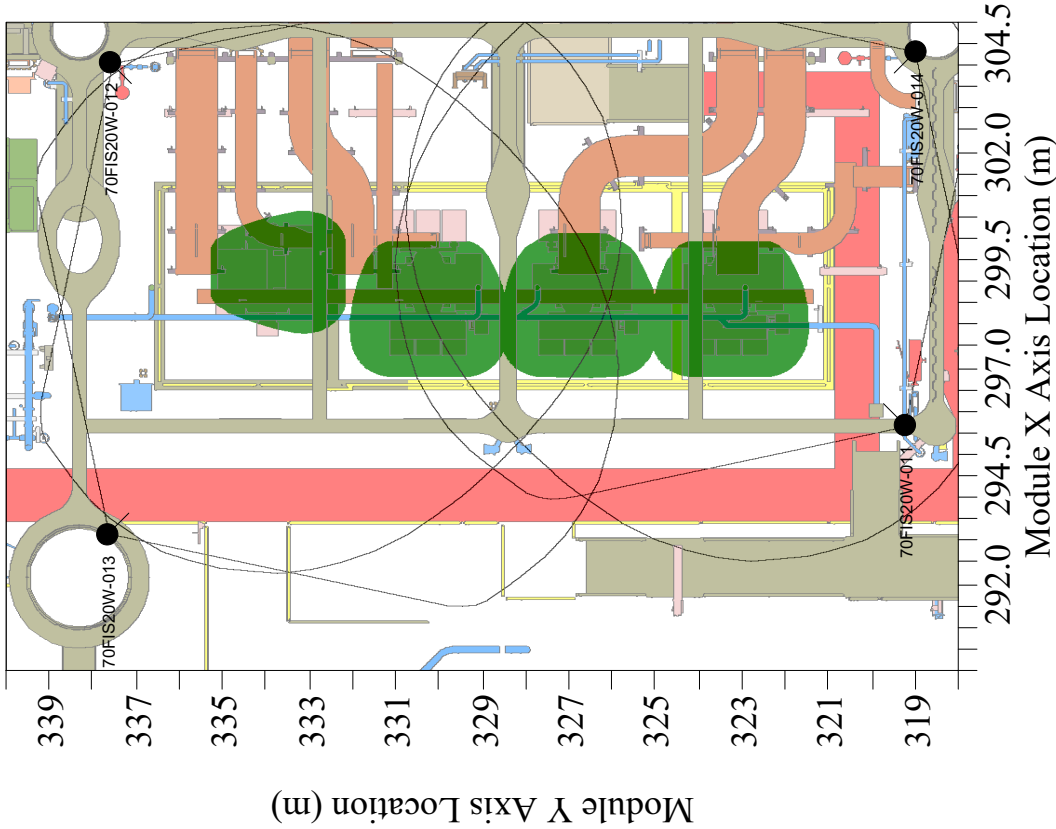
COVERAGE KEY



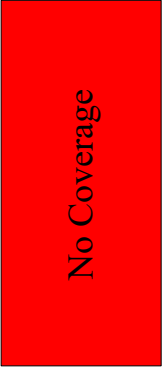
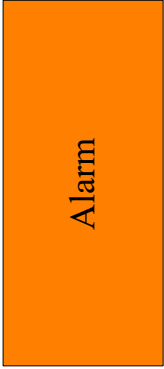
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 3.401 m ALD



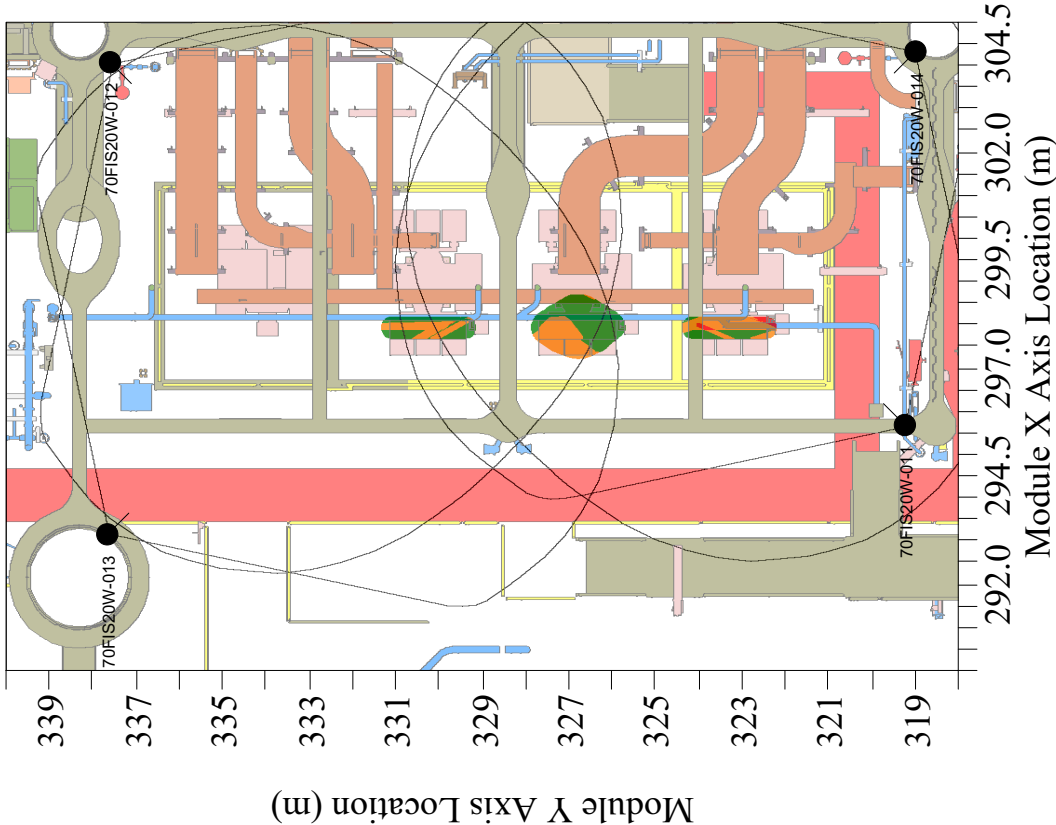
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			

Project Name-Proposed Area S20W

Fire Detector coverage at 4.068 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area S20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area S20W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:57



PROJECT INFORMATION

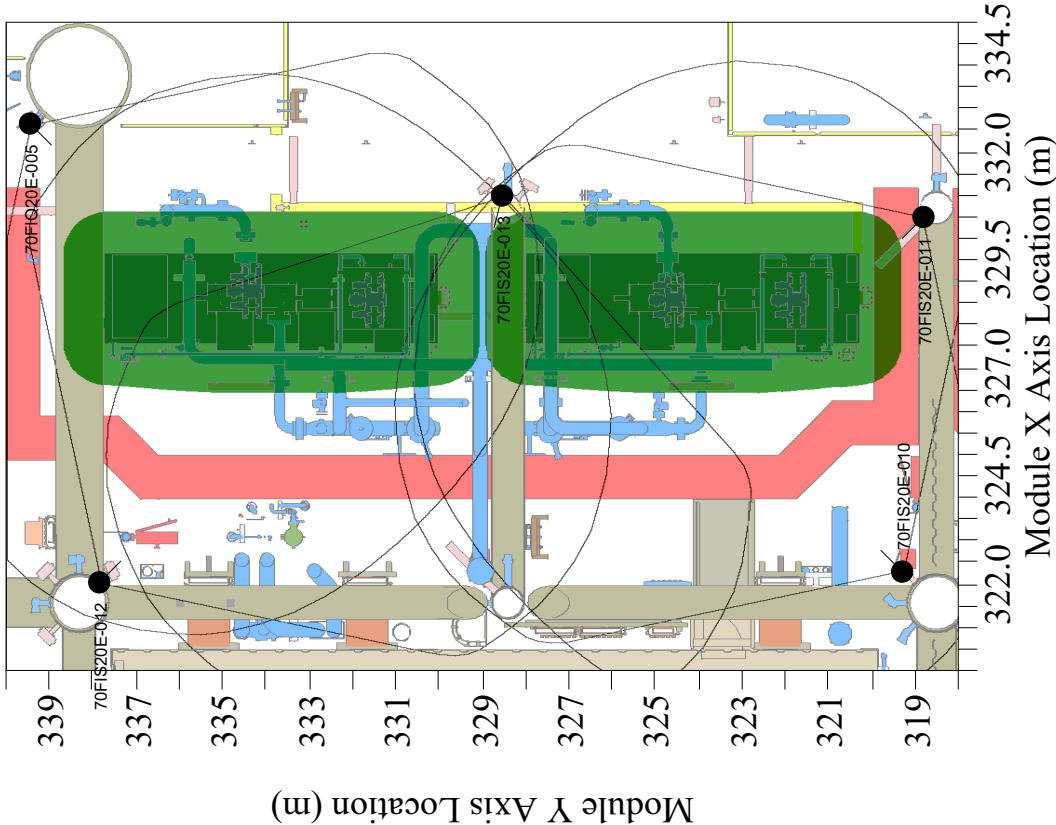
Project name: **Project Name**
Assessment title: **Ex S20E**
Number of detectors: 5 (5 existing, 0 new, 0 relocated)
Overall coverage: 76% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

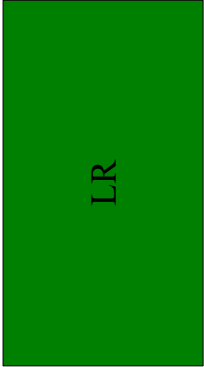
LR	49%	27%	24%
Totals	49%	27%	24%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



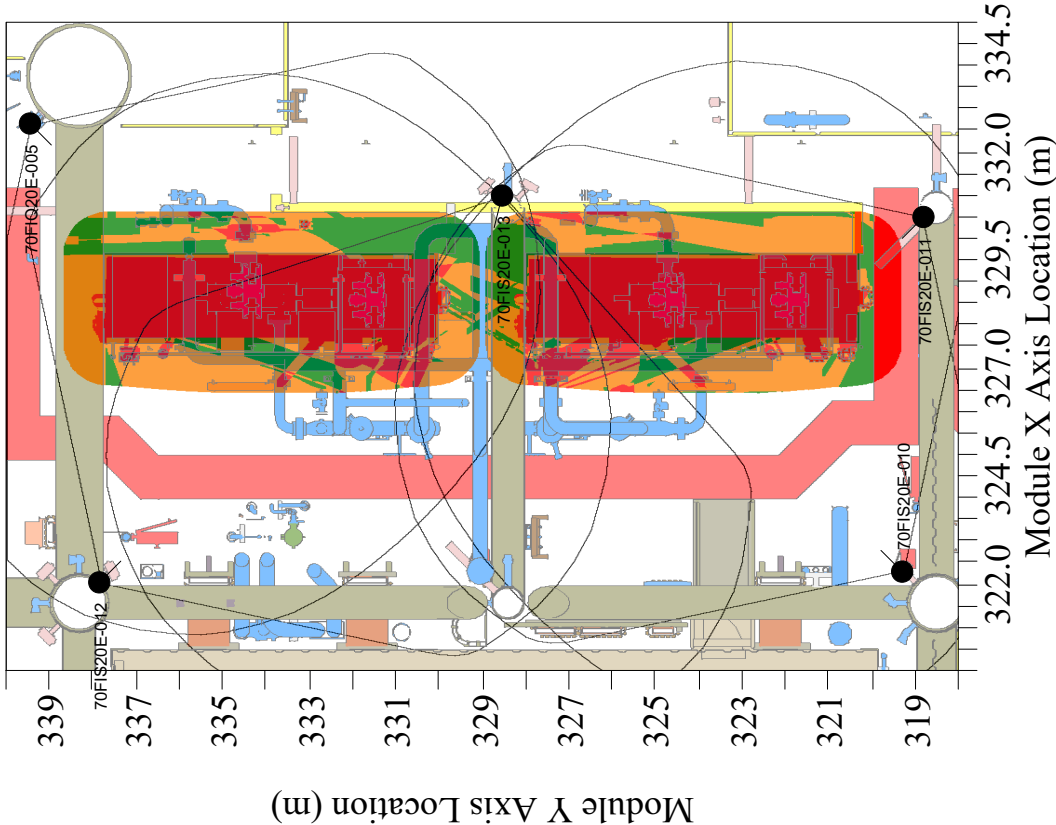
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Grademap (20-Jul-2018)
	Project Name-Ex S20E			

Project Name-Ex S20E

Fire Detector coverage at 0.068 m ALD



COVERAGE KEY

Control Action

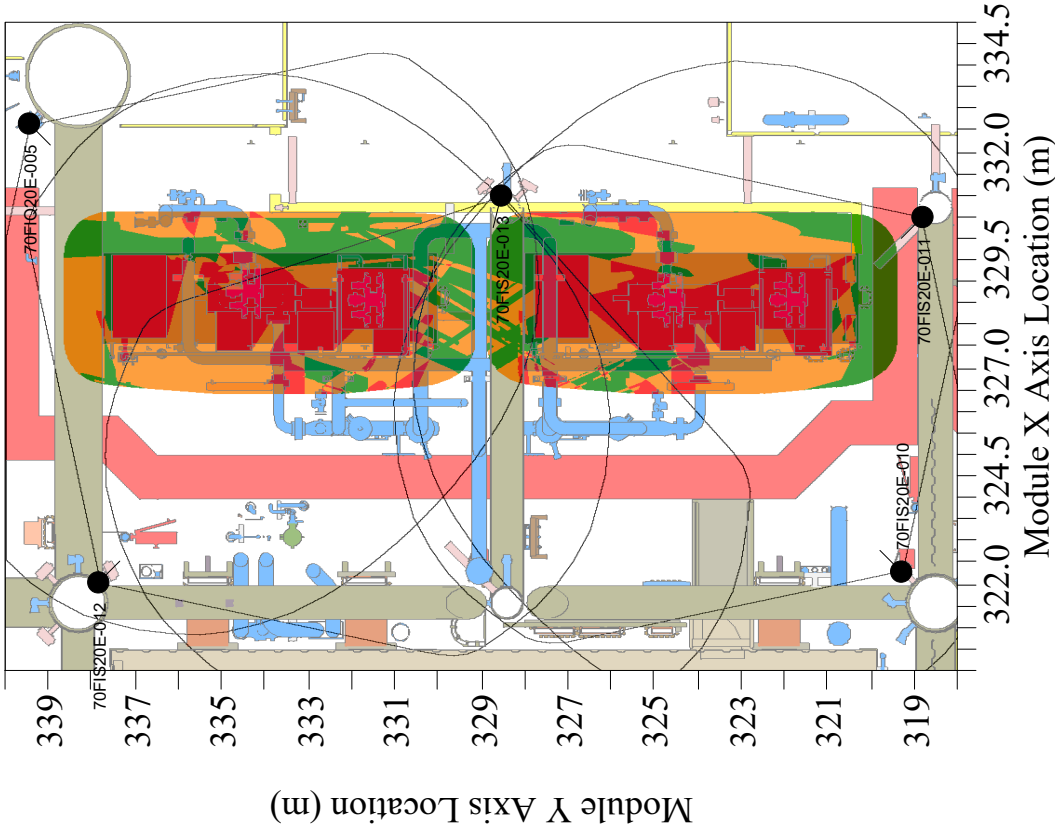
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20E			

Project Name-Ex S20E

Fire Detector coverage at 0.735 m ALD



COVERAGE KEY

Control Action

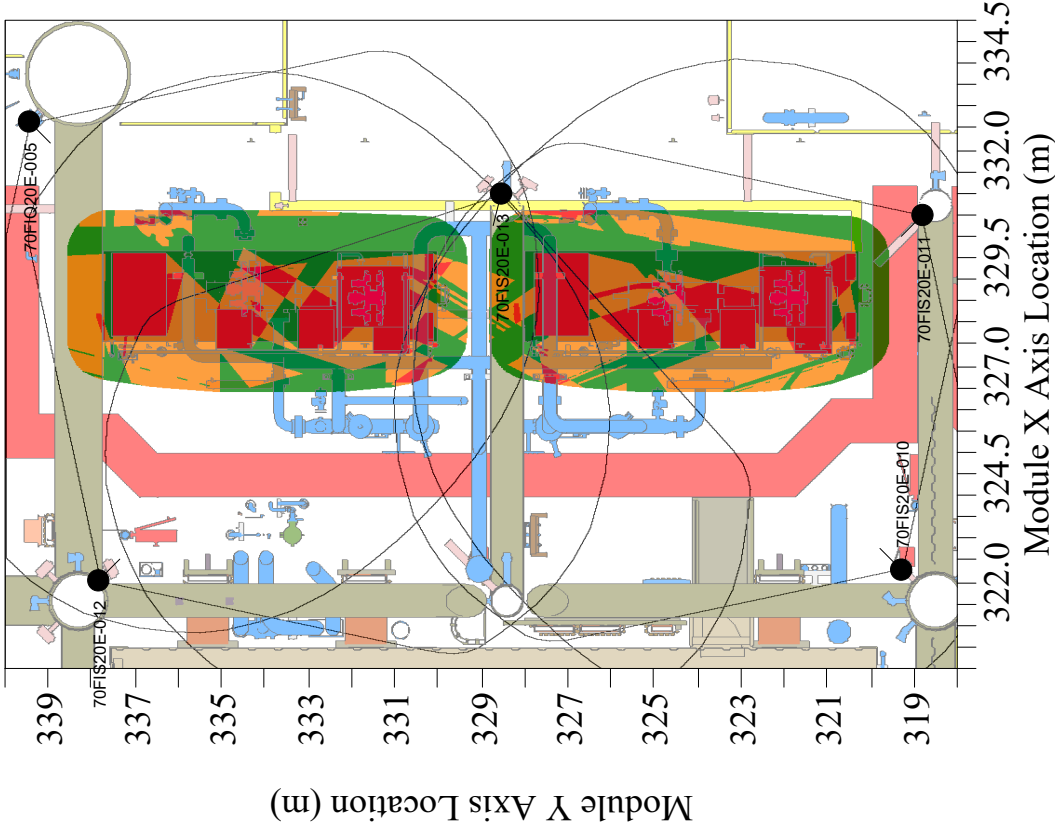
Alarm

No Coverage

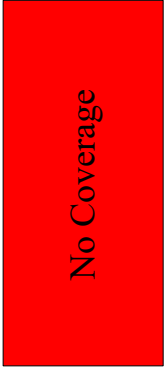
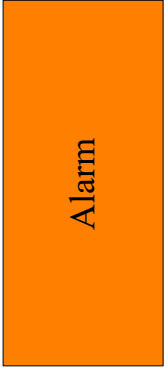
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20E			

Project Name-Ex S20E

Fire Detector coverage at 1.401 m ALD



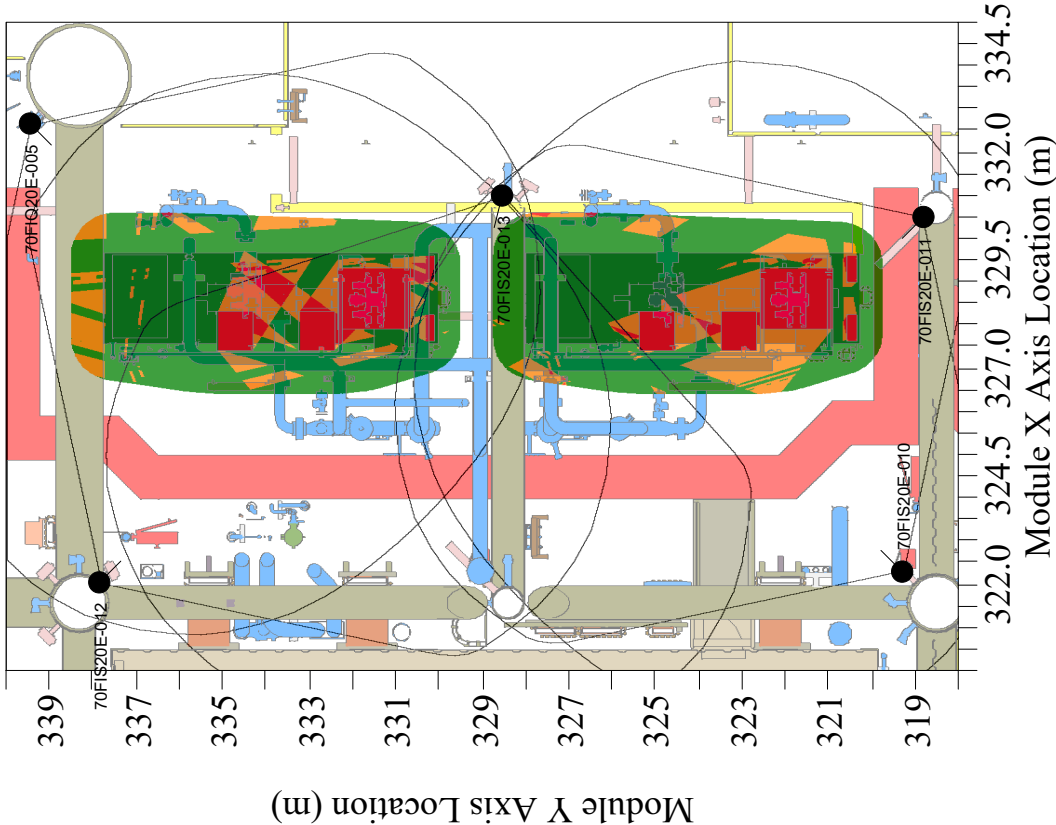
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20E			

Project Name-Ex S20E

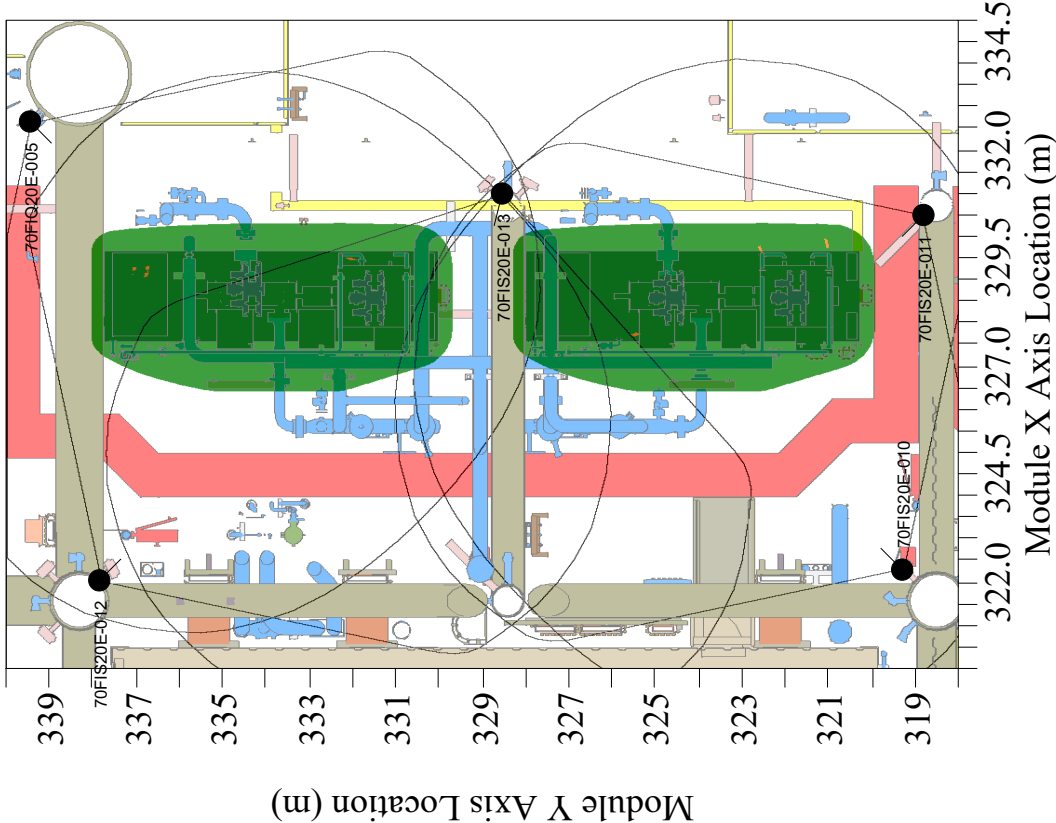
Fire Detector coverage at 2.068 m ALD



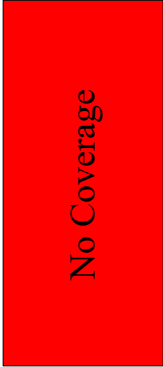
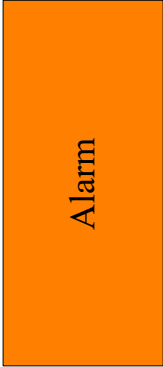
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20E			

Project Name-Ex S20E

Fire Detector coverage at 2.735 m ALD



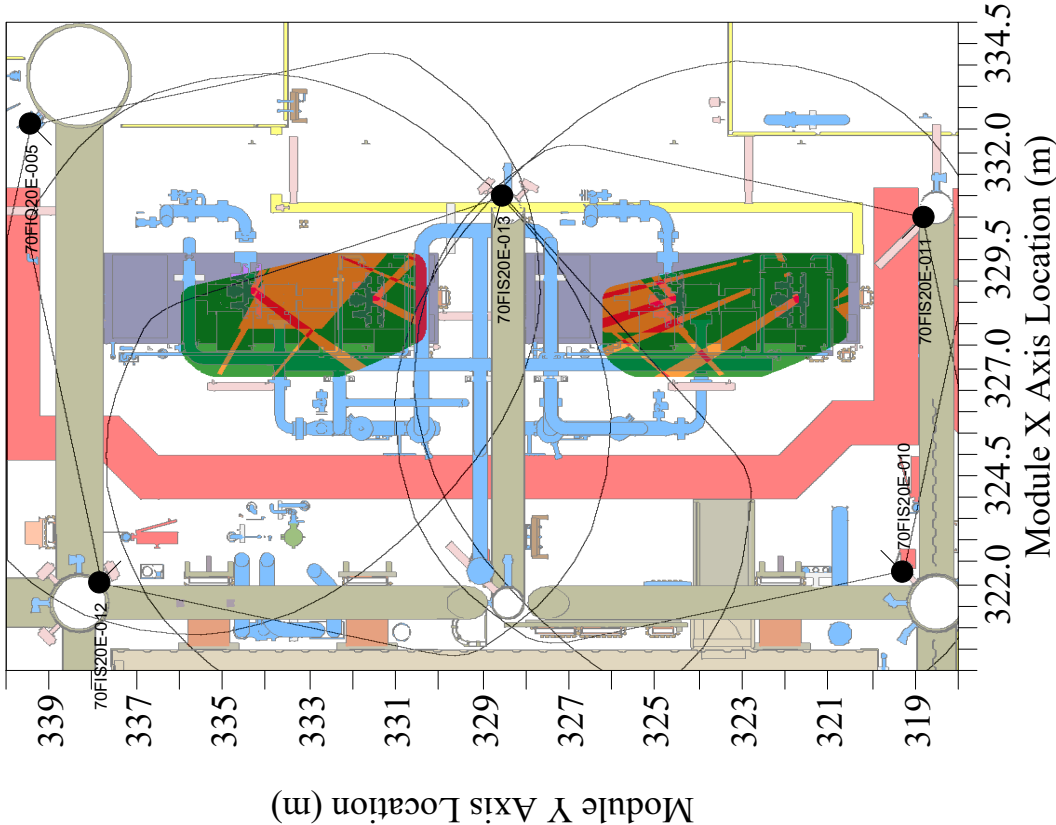
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20E			

Project Name-Ex S20E

Fire Detector coverage at 3.401 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex S20E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 09:58



PROJECT INFORMATION

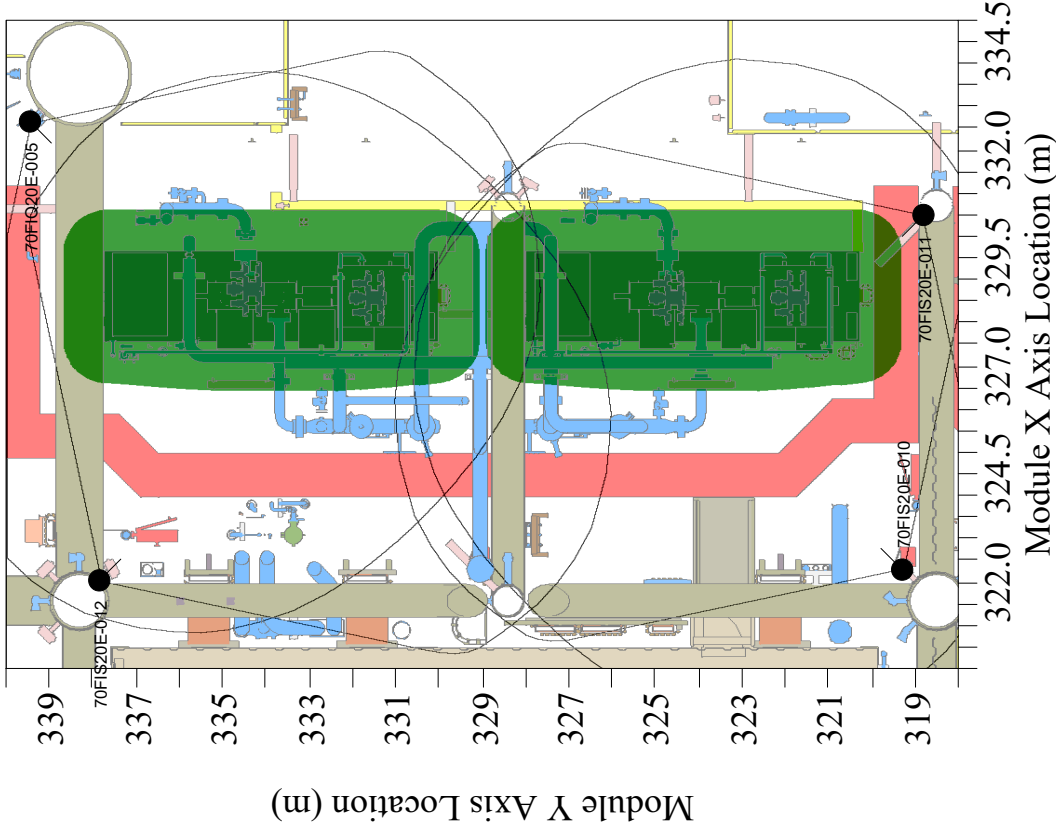
Project name: **Project Name**
Assessment title: **Proposed S20E**
Number of detectors: 4 (2 existing, 2 new, 0 relocated)
Overall coverage: 74% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

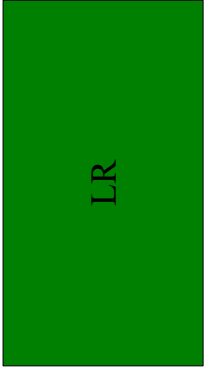
LR	46%	28%	26%
Totals	46%	28%	26%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



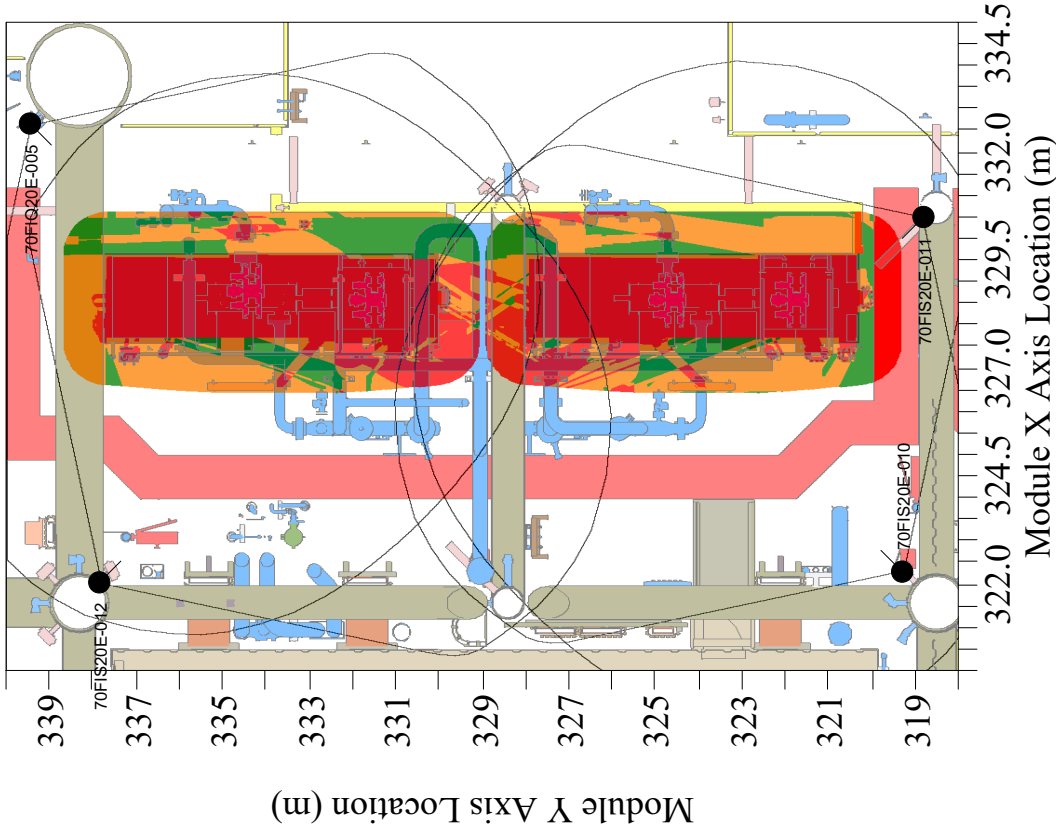
GRADE COLOURS



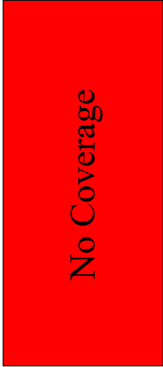
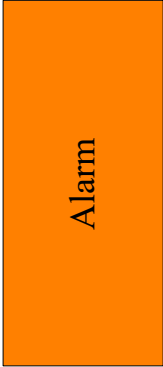
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed S20E			

Project Name-Proposed S20E

Fire Detector coverage at 0.068 m ALD



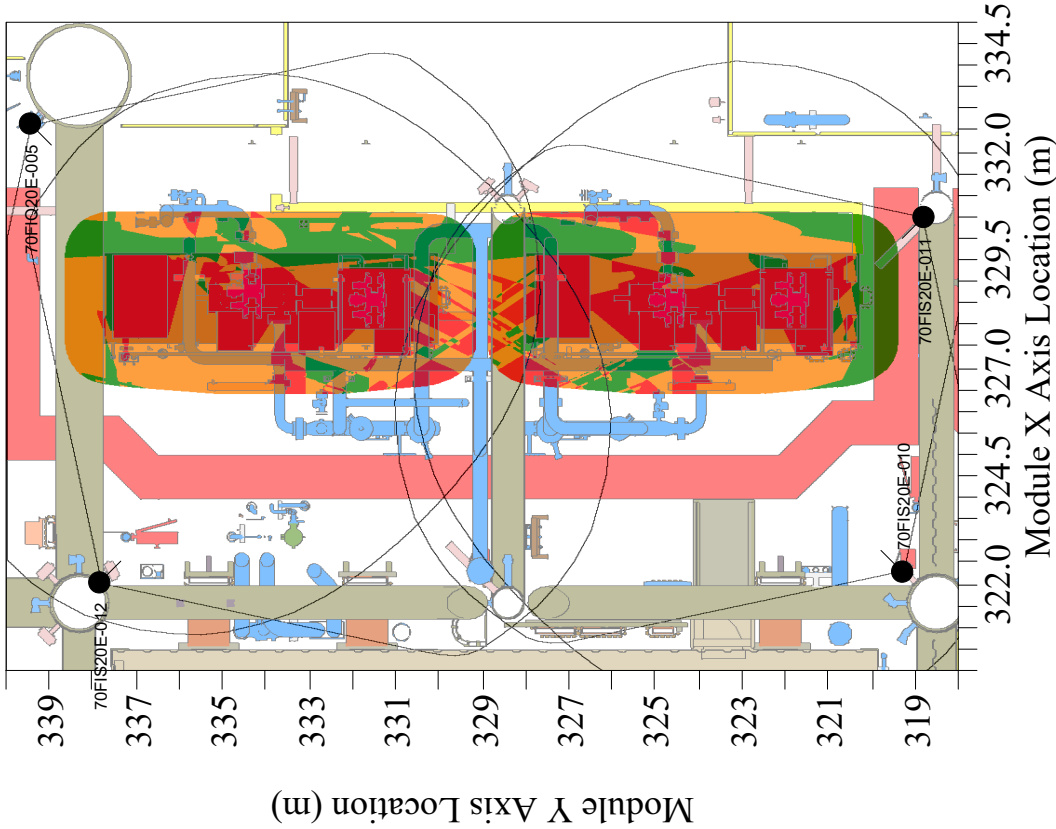
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S20E			

Project Name-Proposed S20E

Fire Detector coverage at 0.735 m ALD



COVERAGE KEY

Control Action

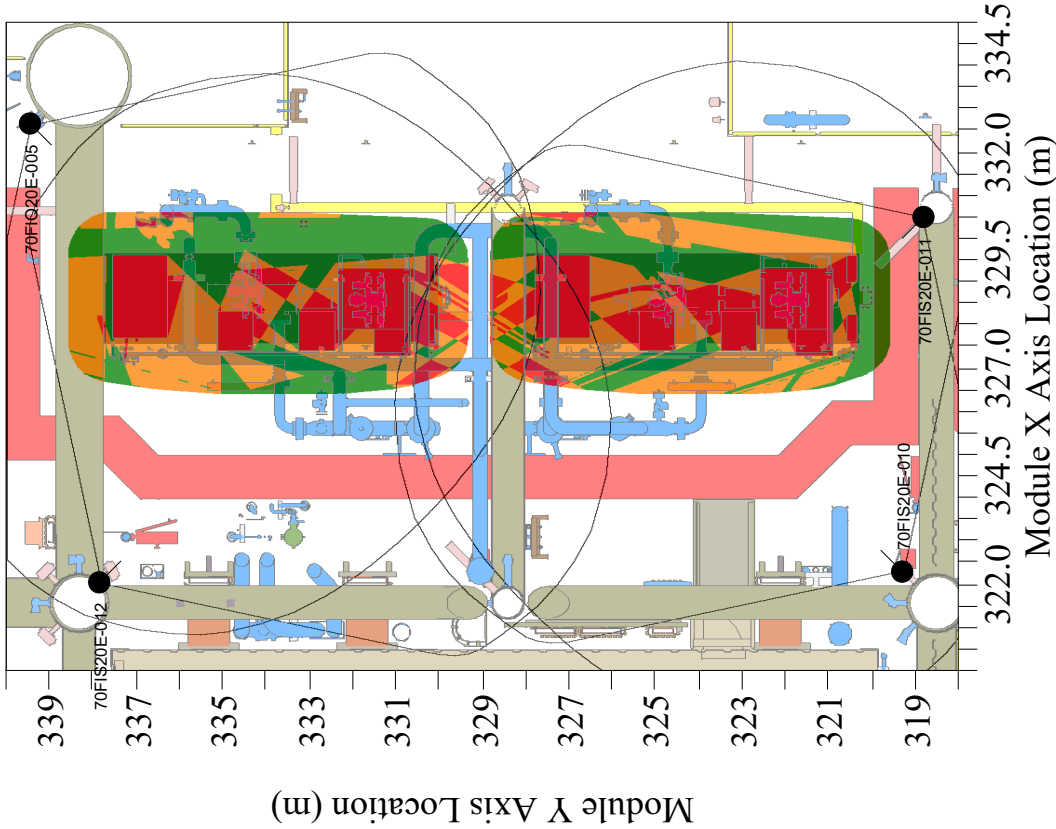
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S20E			

Project Name-Proposed S20E

Fire Detector coverage at 1.401 m ALD



COVERAGE KEY

Control Action

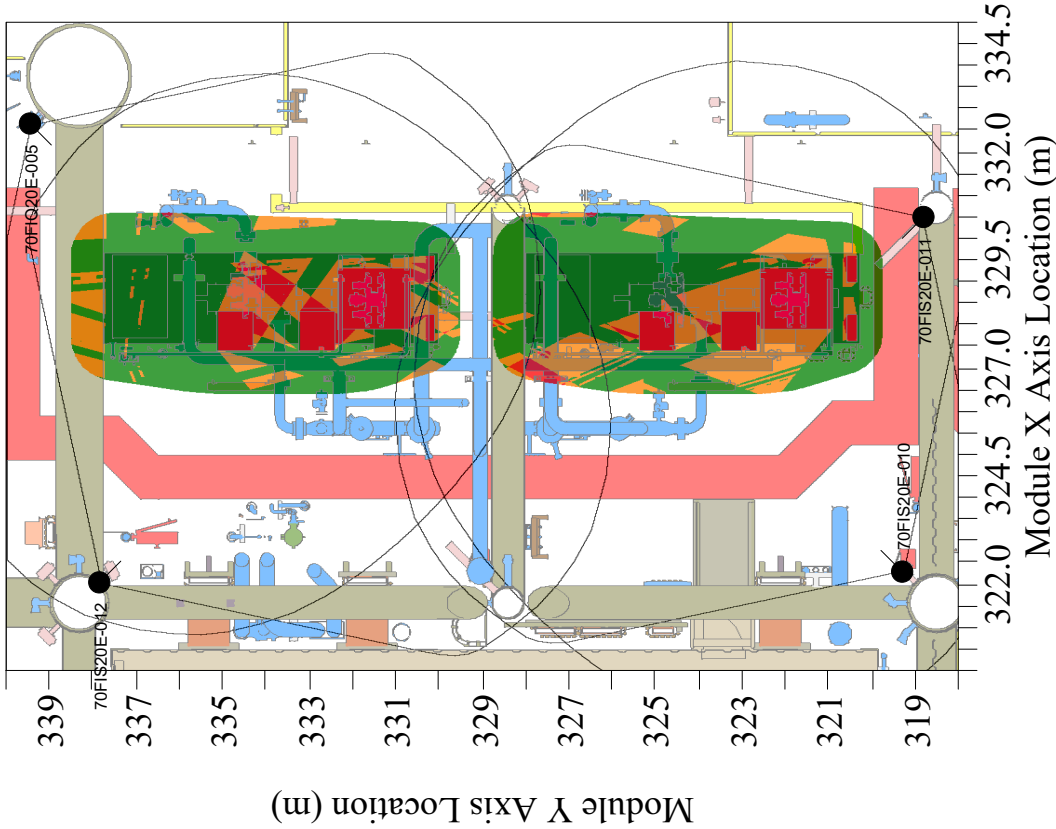
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S20E			

Project Name-Proposed S20E

Fire Detector coverage at 2.068 m ALD



COVERAGE KEY

Control Action

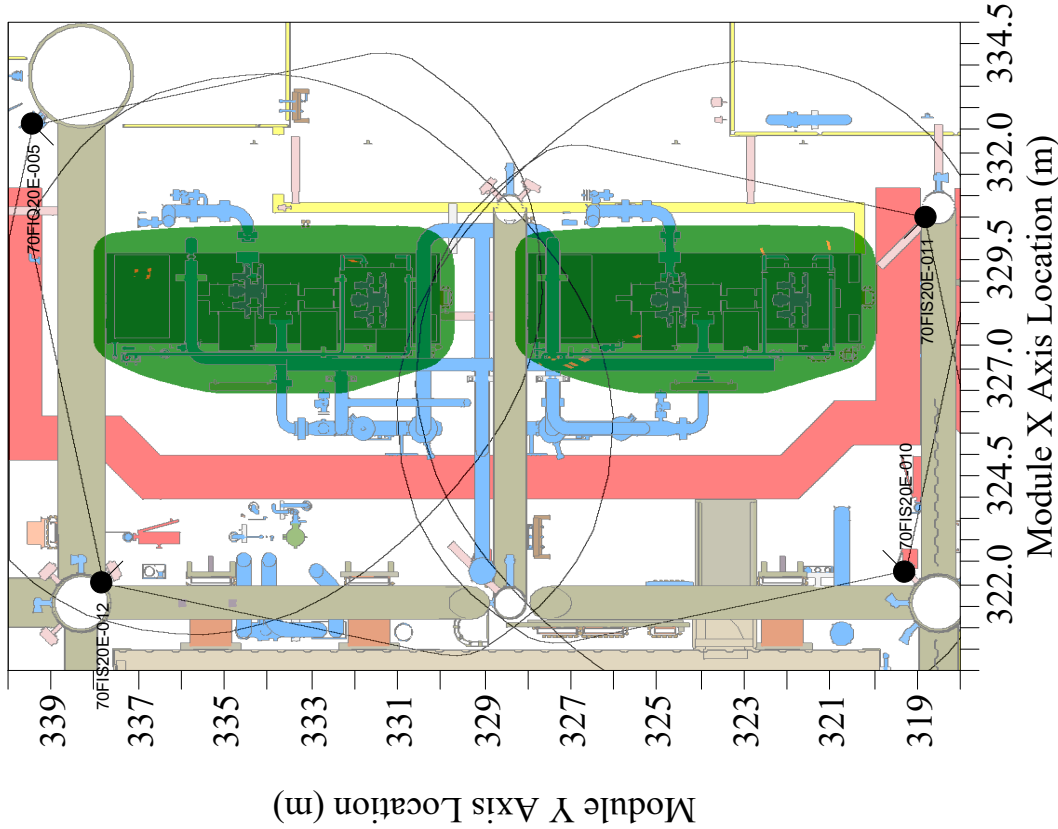
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S20E			

Project Name-Proposed S20E

Fire Detector coverage at 2.735 m ALD



COVERAGE KEY

Control Action

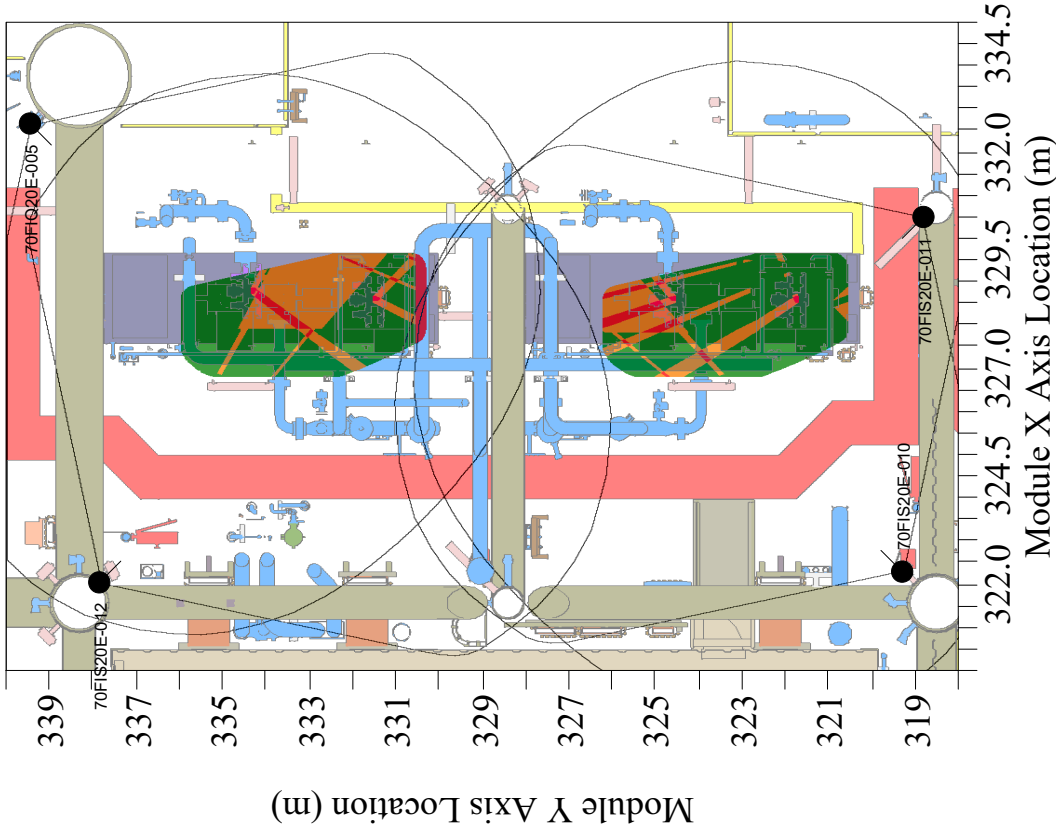
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S20E			

Project Name-Proposed S20E

Fire Detector coverage at 3.401 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S20E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:02



PROJECT INFORMATION

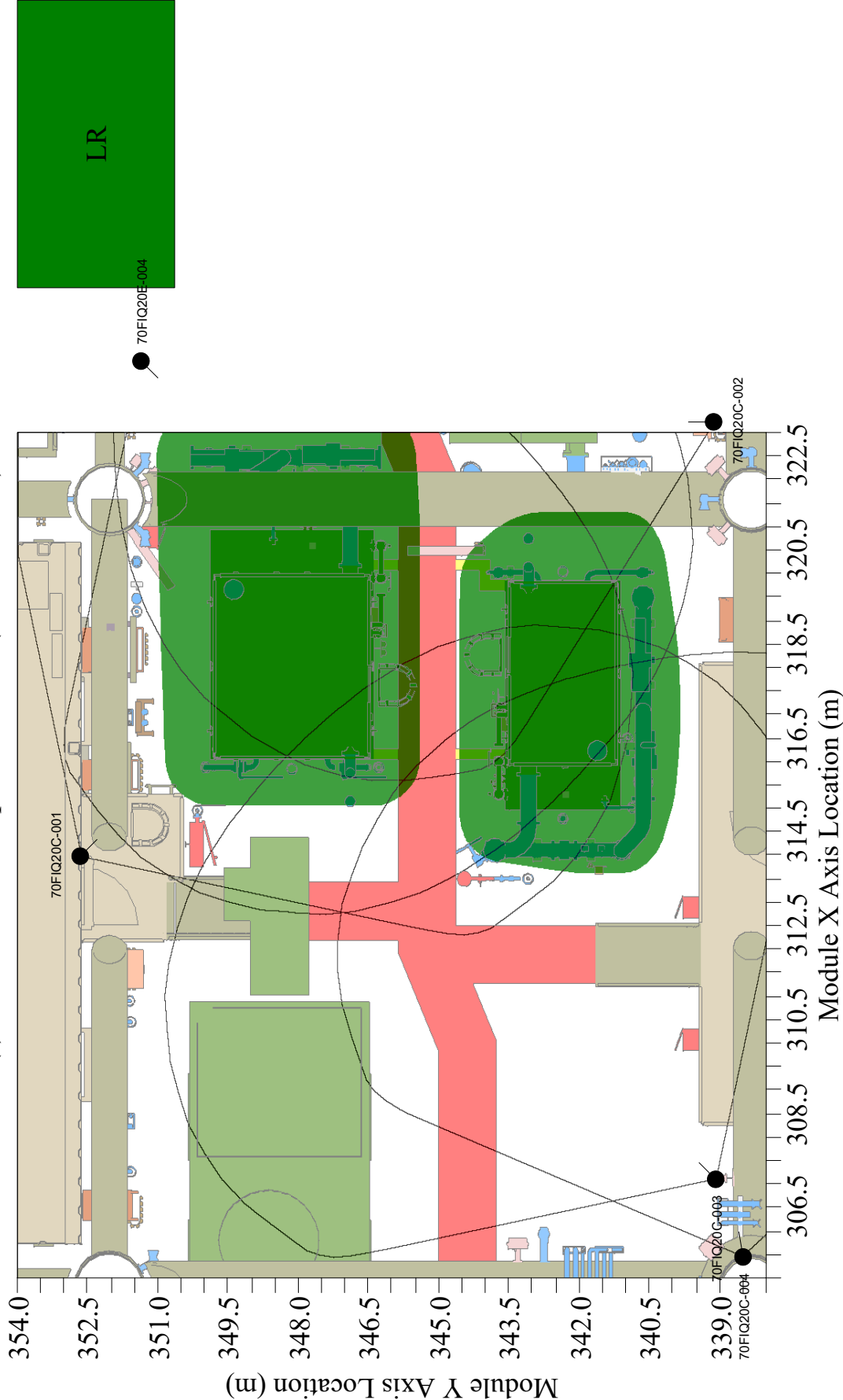
Project name: **Project Name**
Assessment title: **Ex Q20C**
Number of detectors: 5 (5 existing, 0 new, 0 relocated)
Overall coverage: 71% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	38%	33%	29%
Totals	38%	33%	29%

GRADEMAP

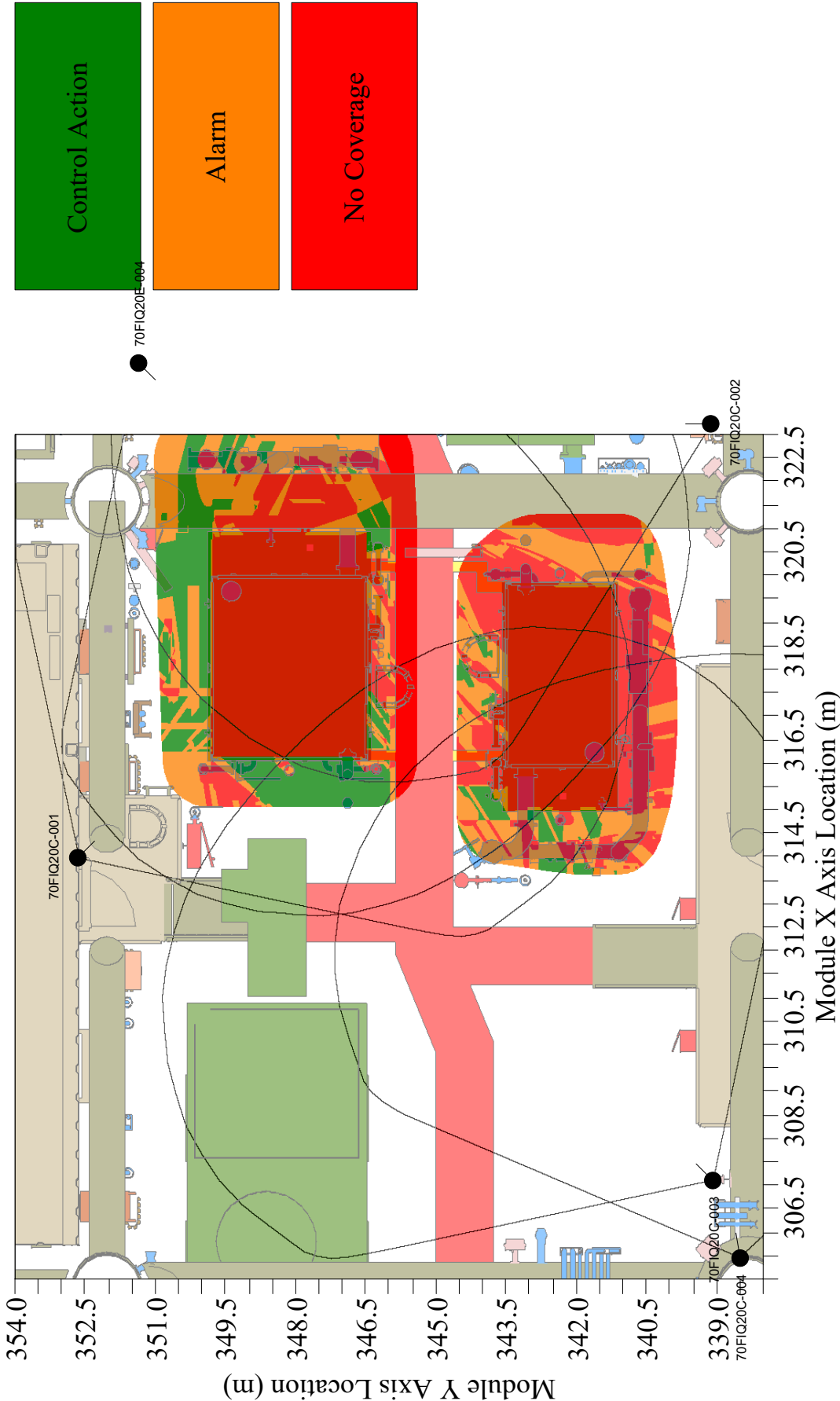
Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



Company Name	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Grademap (20-Jul-2018)
	Project Name-Ex Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Ex Q20C

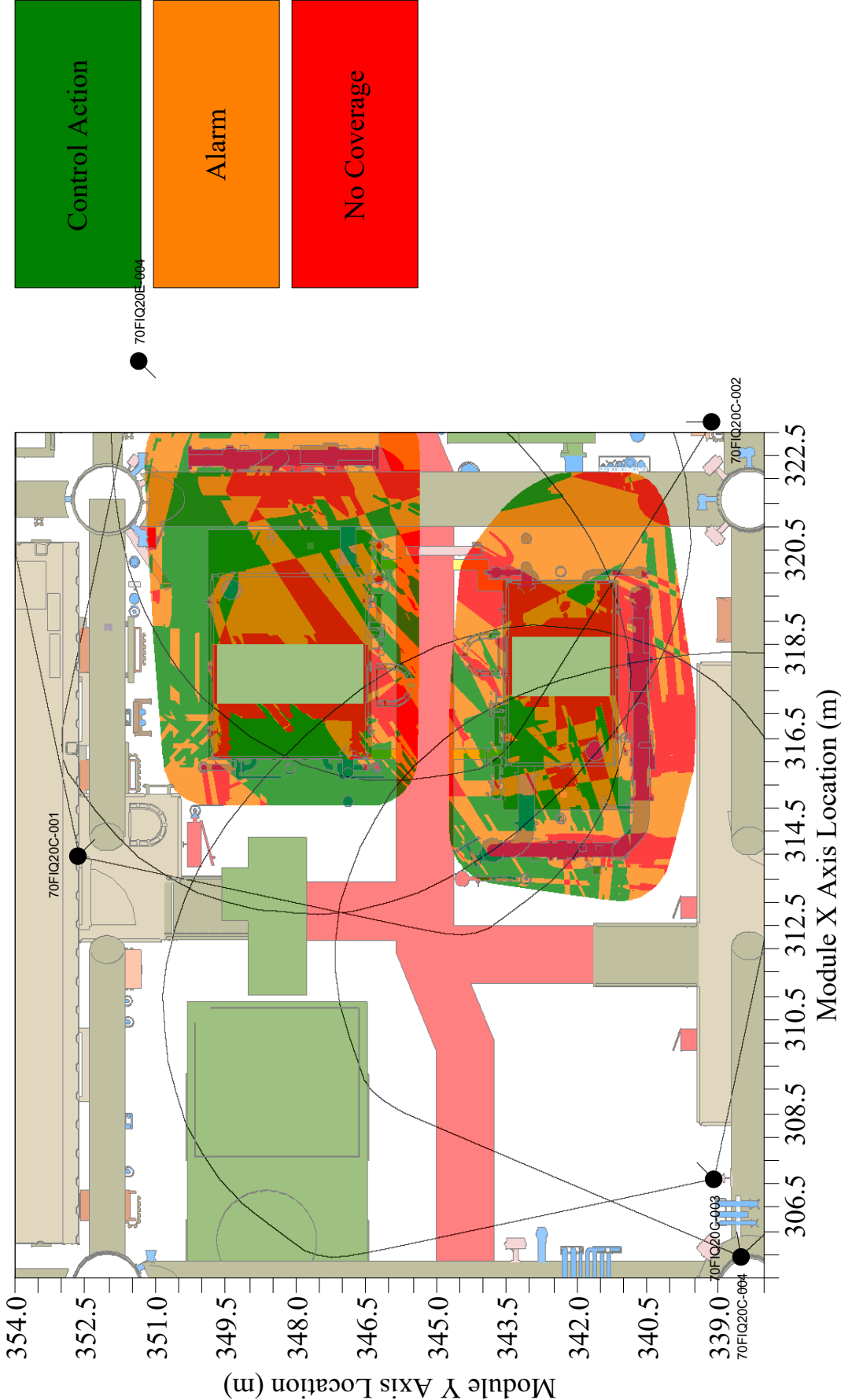
Fire Detector coverage at 0.068 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Ex Q20C

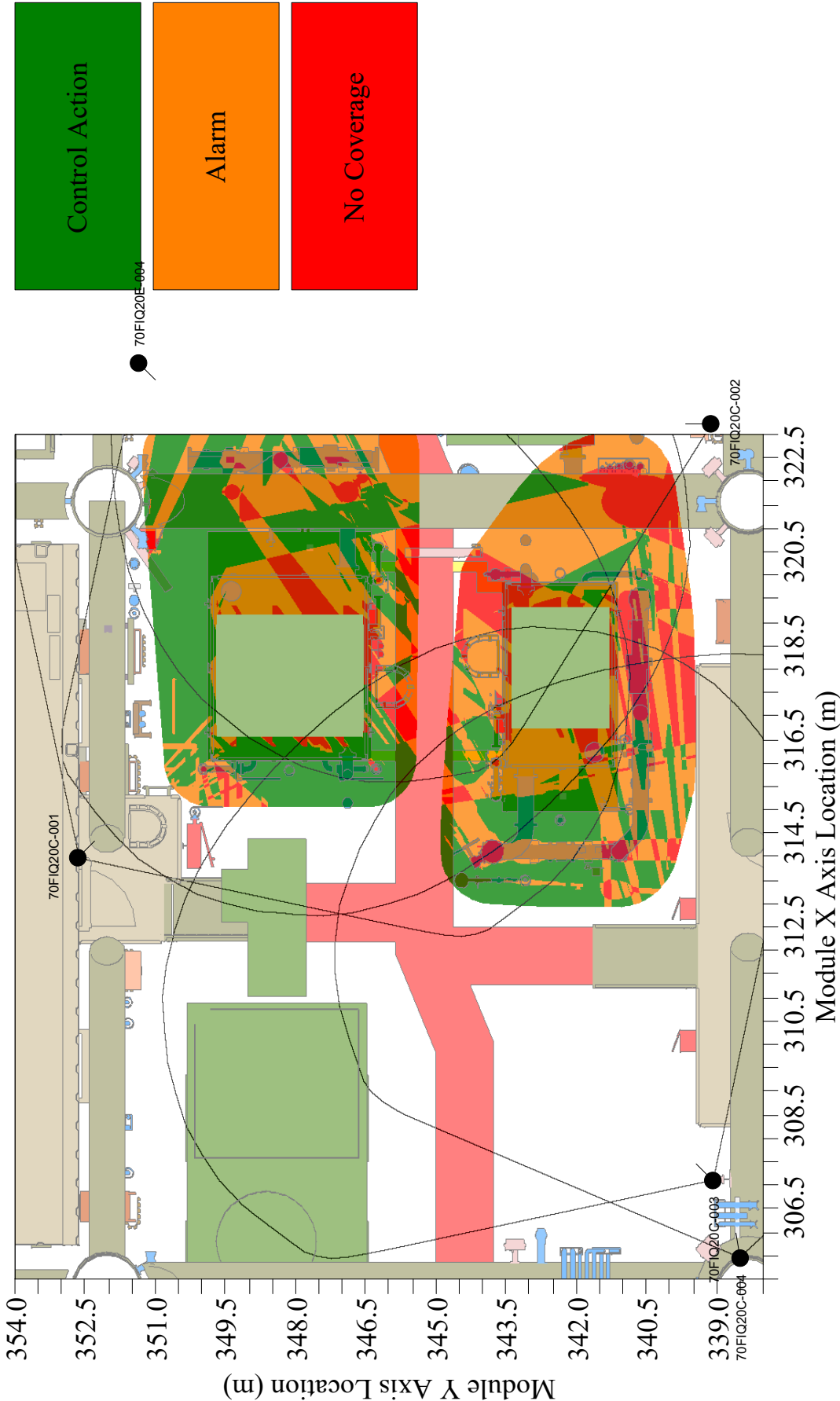
Fire Detector coverage at 0.735 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Ex Q20C

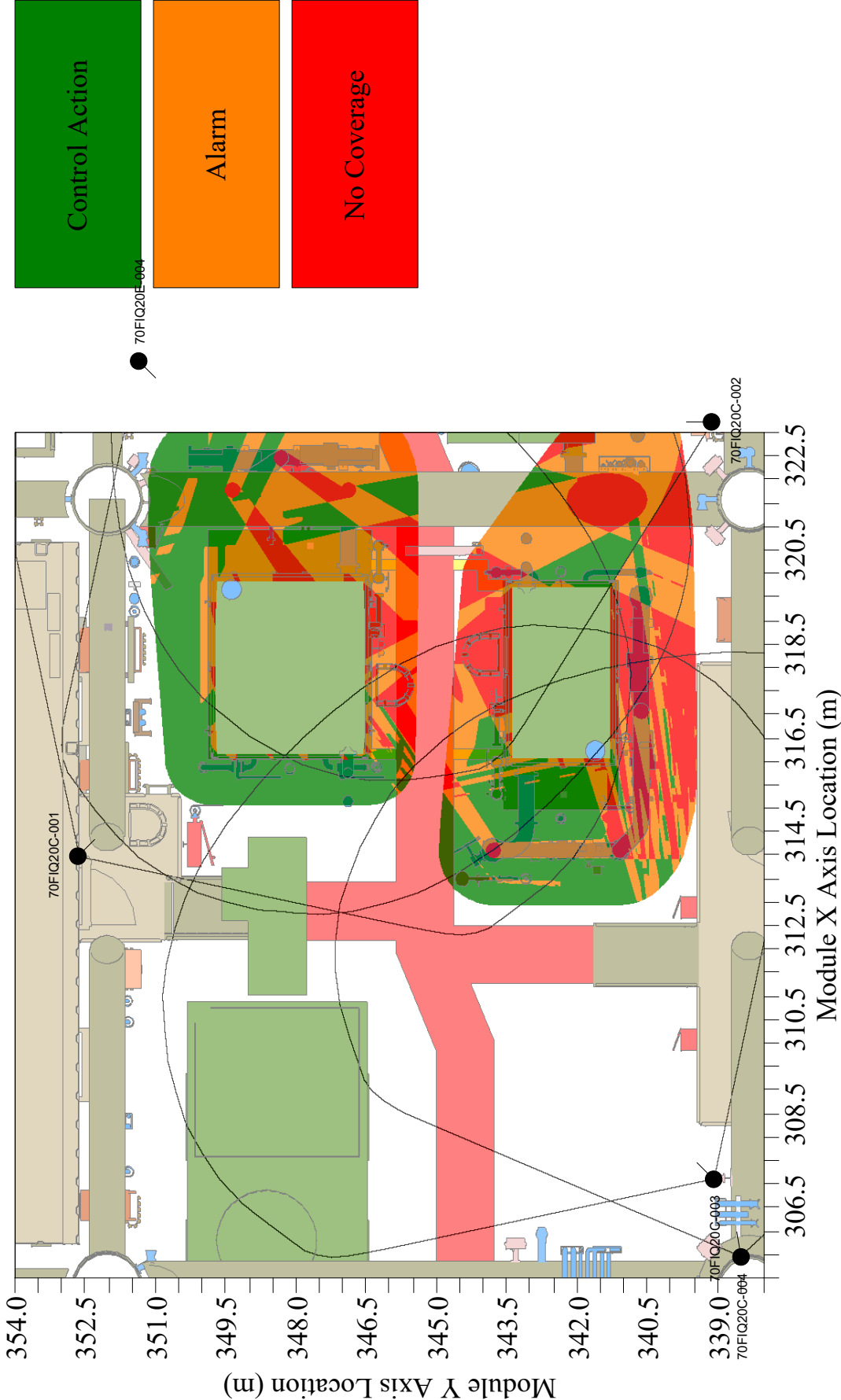
Fire Detector coverage at 1.401 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			

Project Name-Ex Q20C

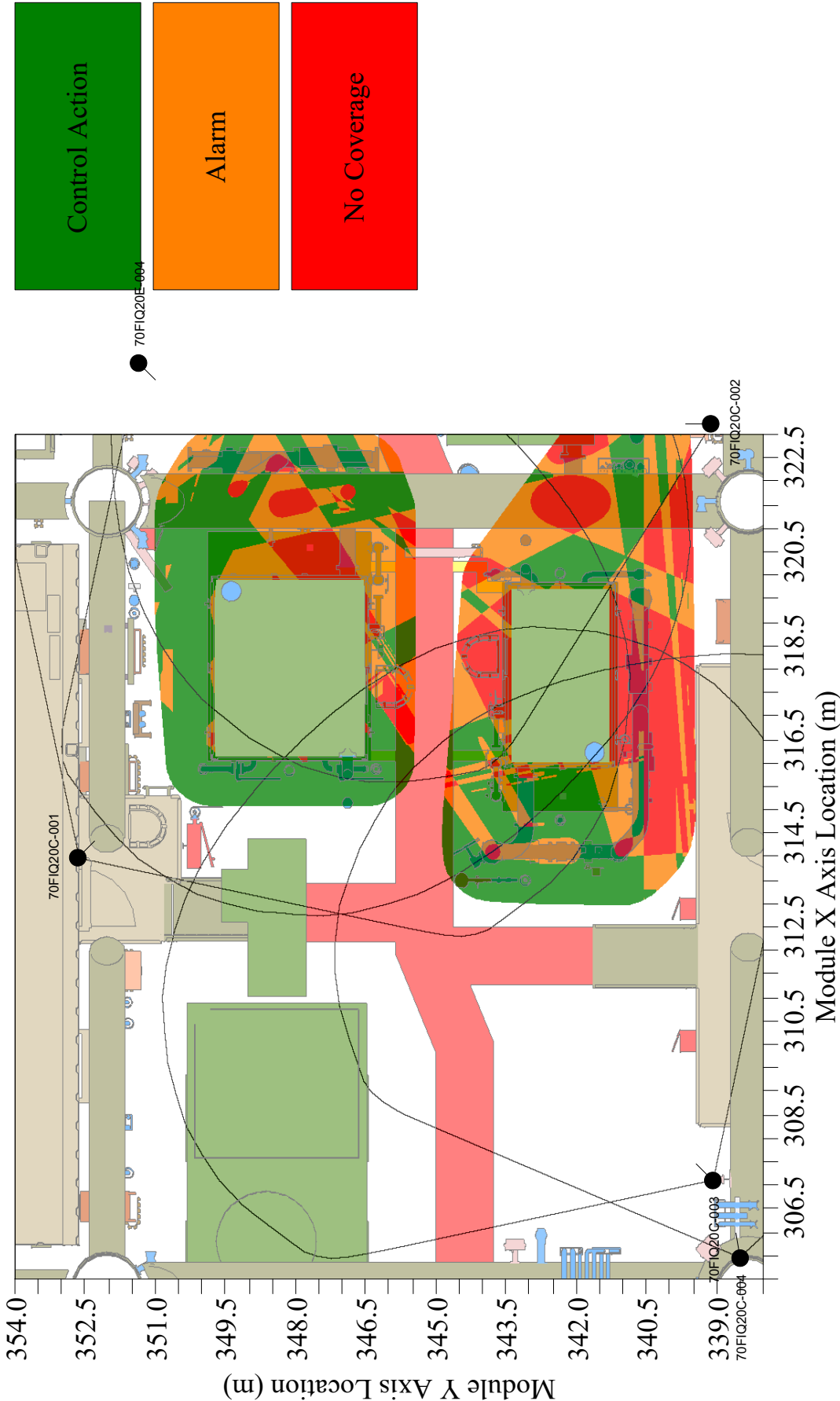
Fire Detector coverage at 2.068 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			

Project Name-Ex Q20C

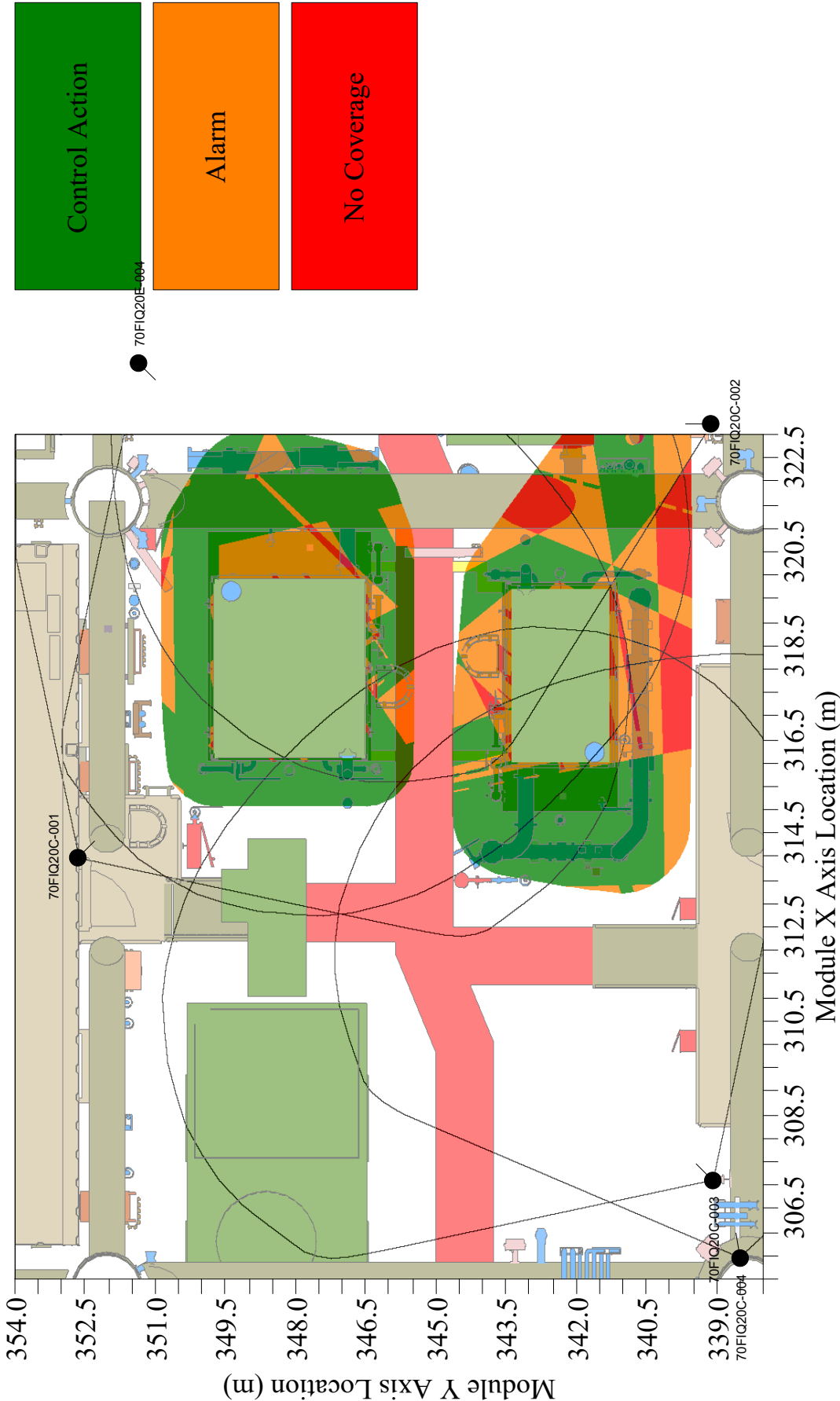
Fire Detector coverage at 2.735 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Ex Q20C

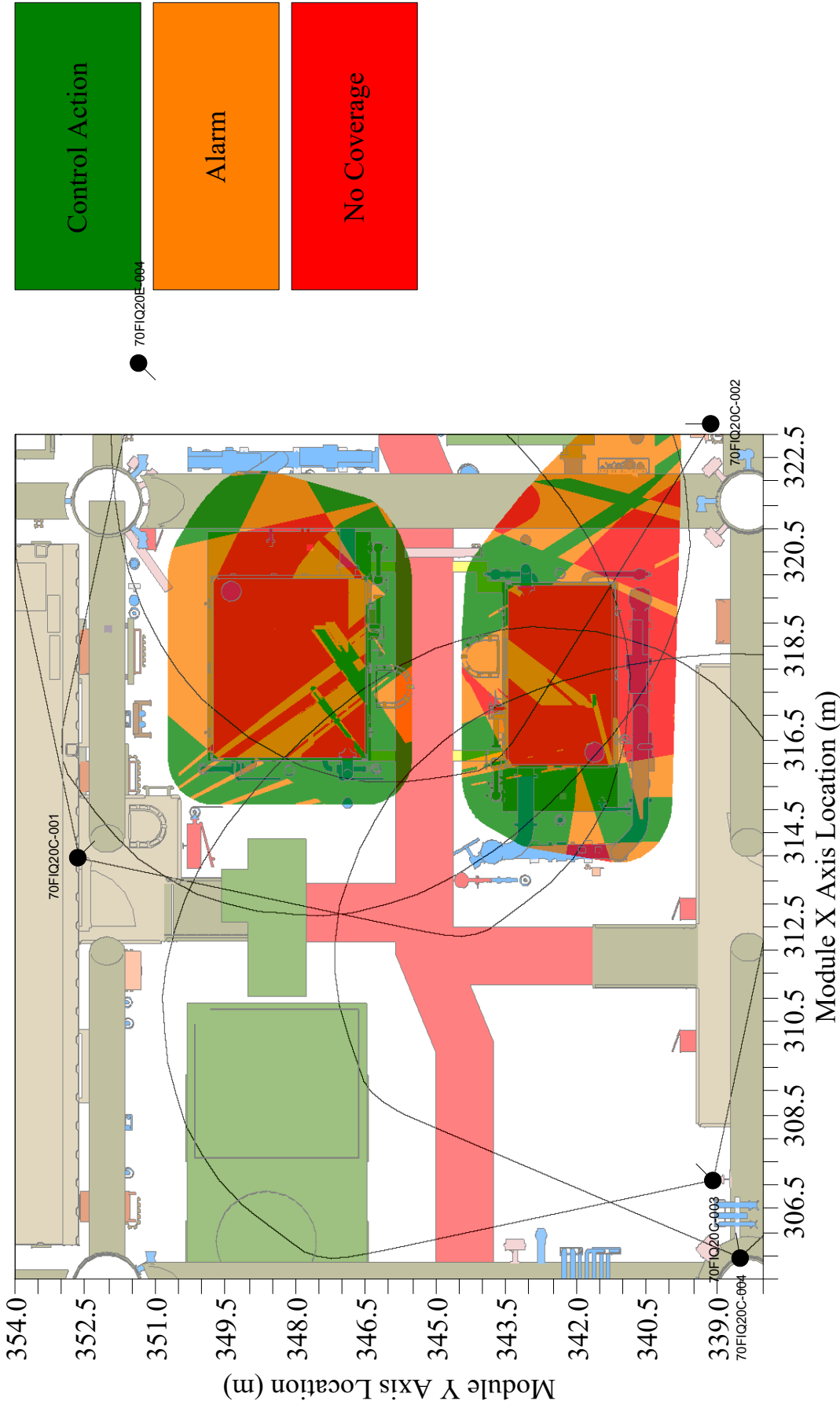
Fire Detector coverage at 3.401 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			

Project Name-Ex Q20C

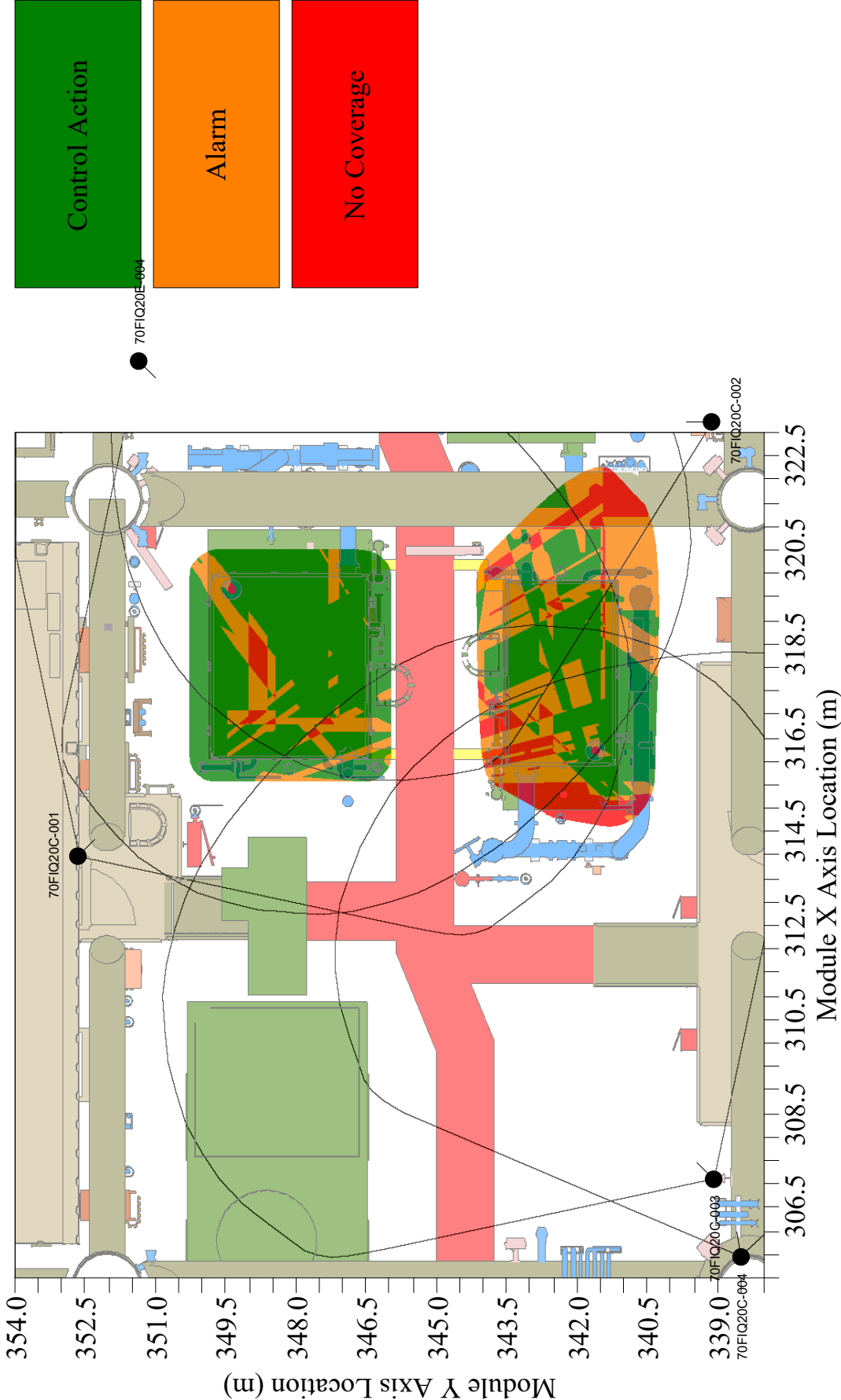
Fire Detector coverage at 4.068 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			

Project Name-Ex Q20C

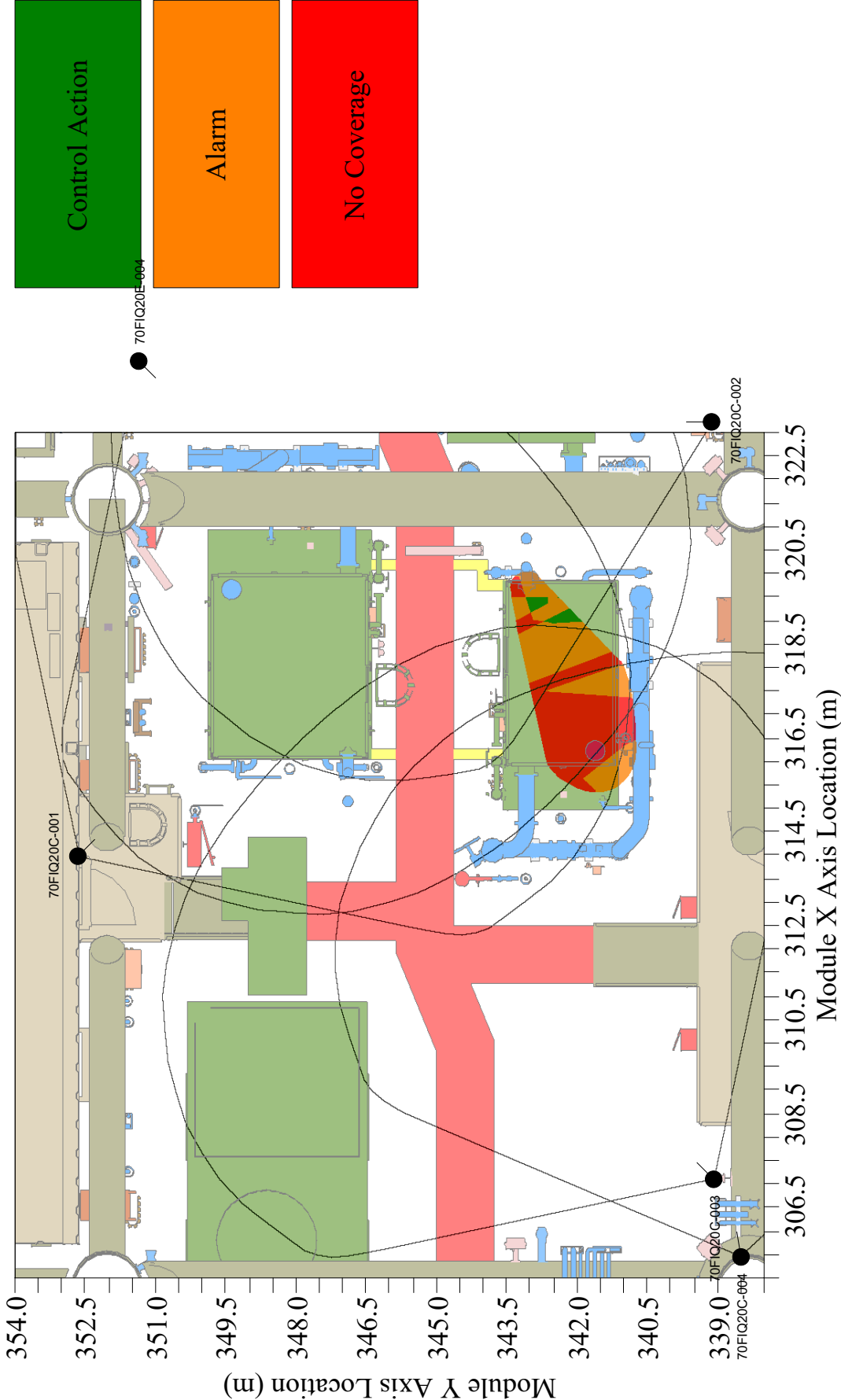
Fire Detector coverage at 4.735 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			

Project Name-Ex Q20C

Fire Detector coverage at 5.401 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Ex Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:07



PROJECT INFORMATION

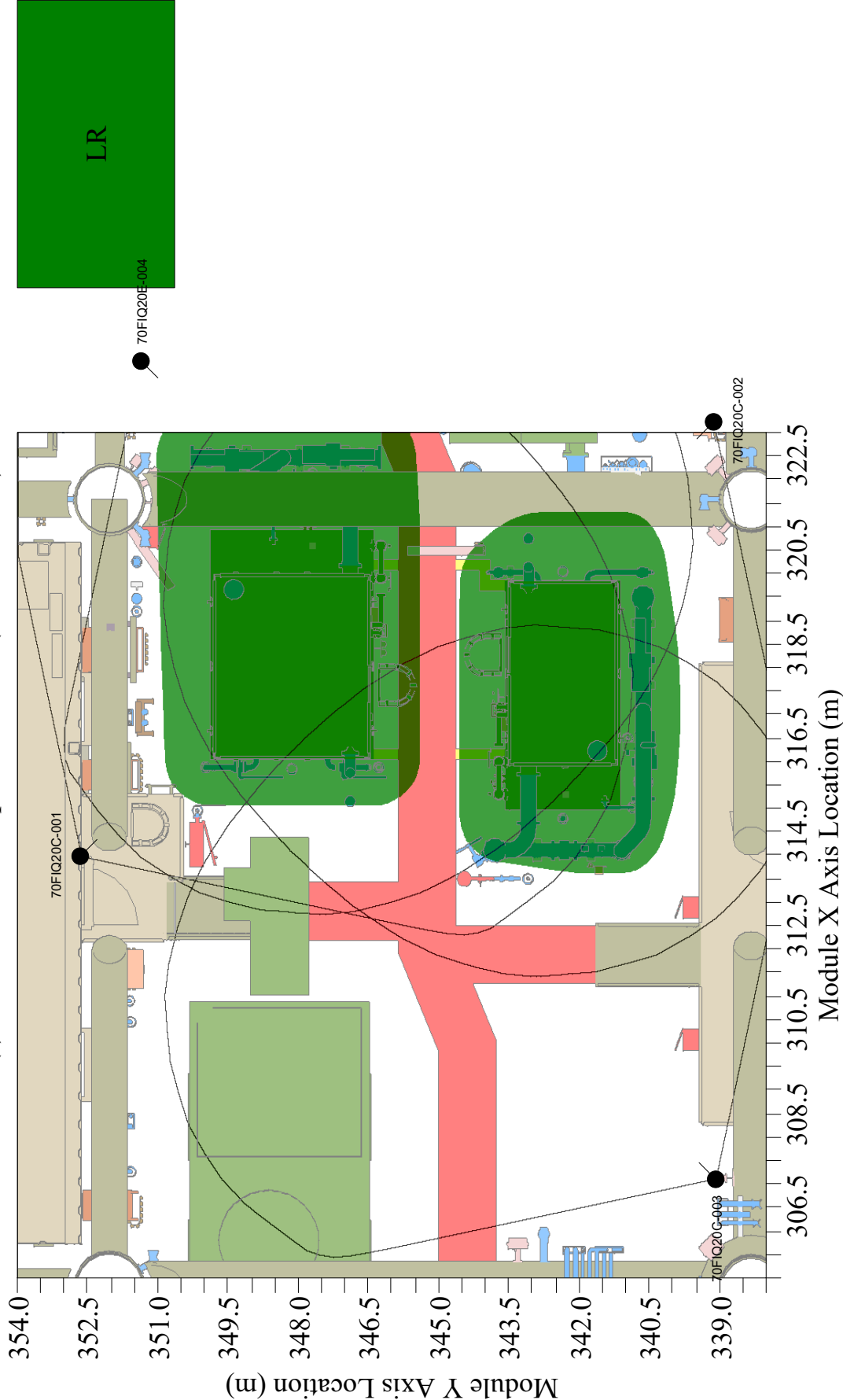
Project name: **Project Name**
Assessment title: **Proposed Q20C**
Number of detectors: 4 (3 existing, 0 new, 1 relocated)
Overall coverage: 76% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	39%	38%	24%
Totals	39%	38%	24%

GRADEMAP

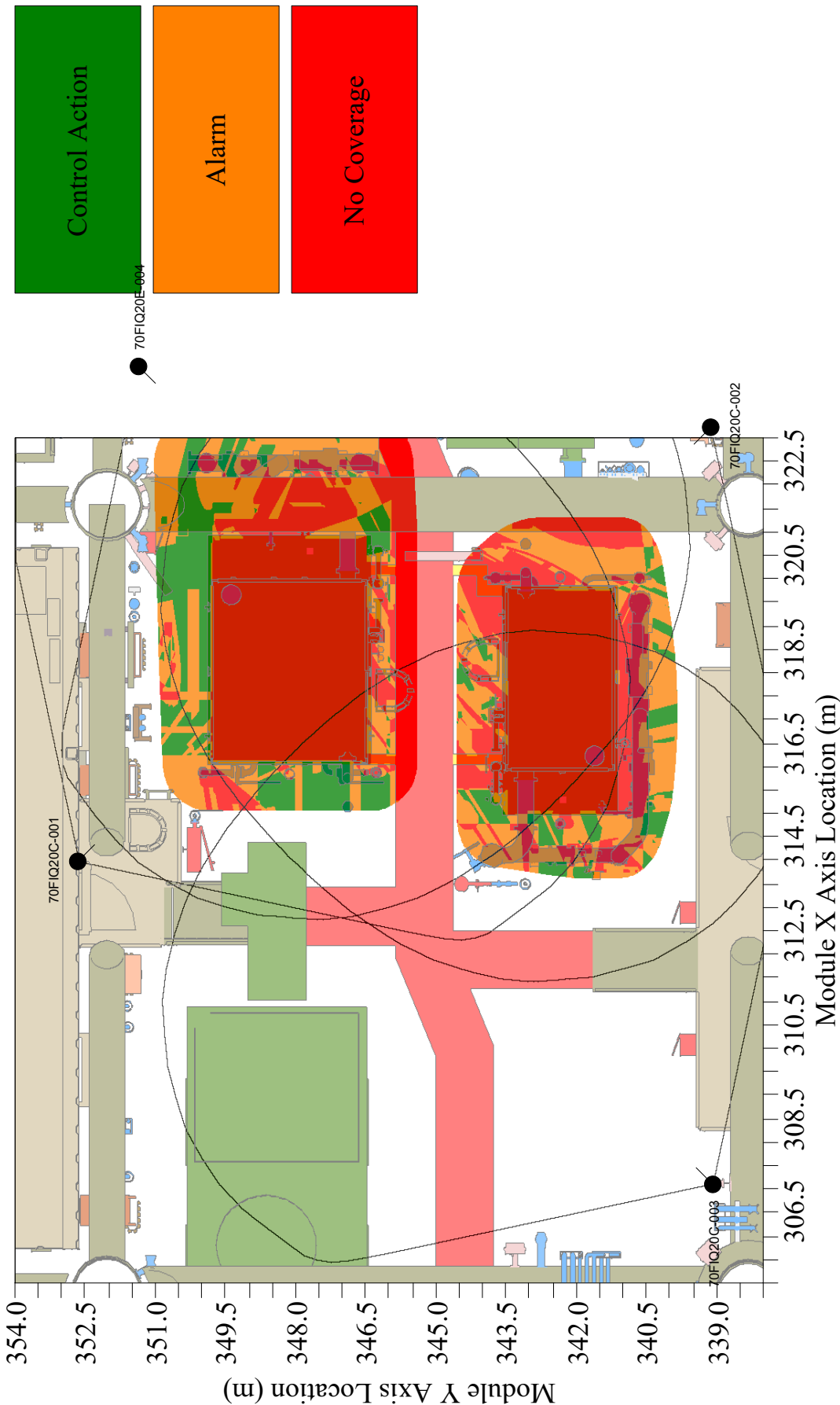
Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Dwg category	Grademap (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

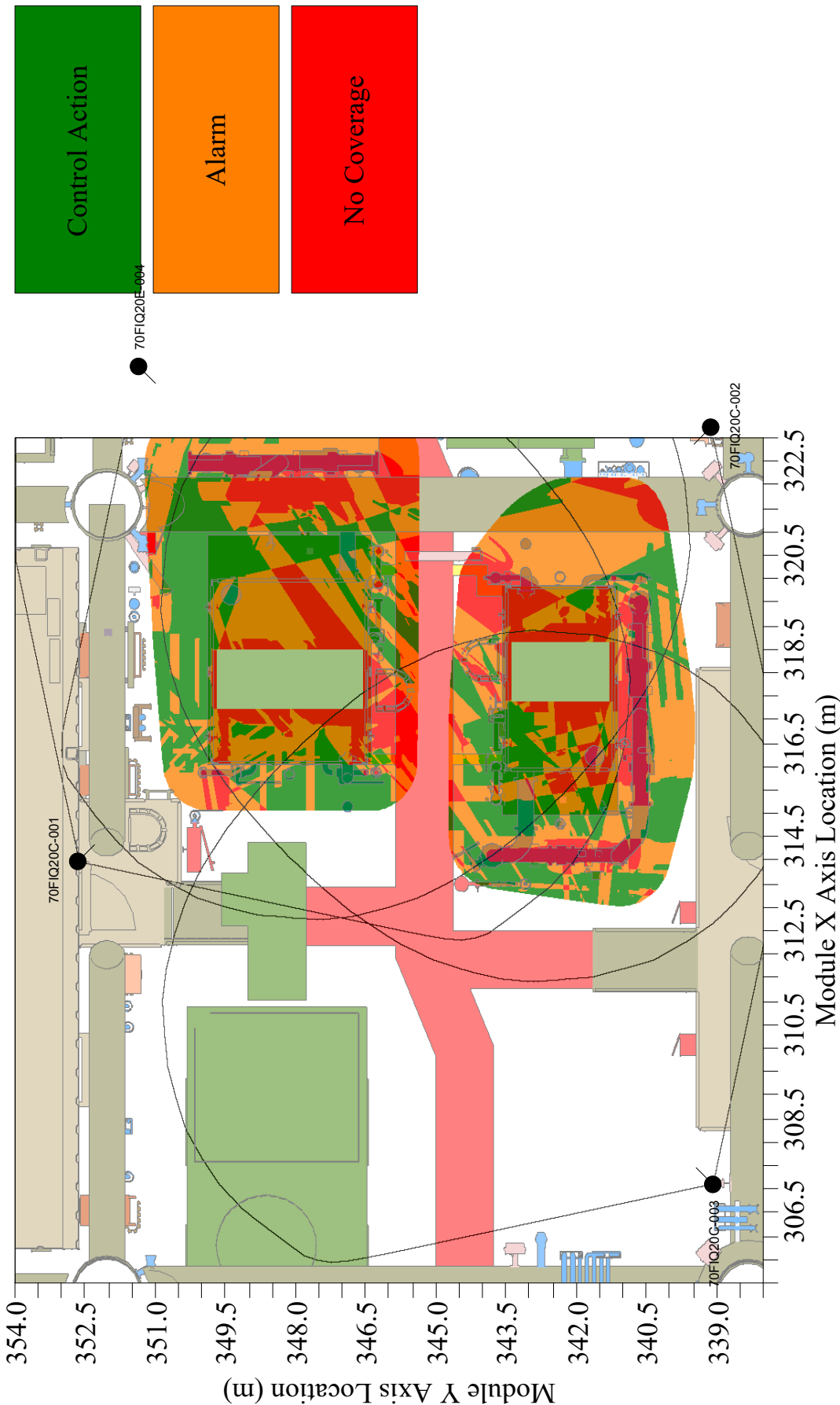
Fire Detector coverage at 0.068 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

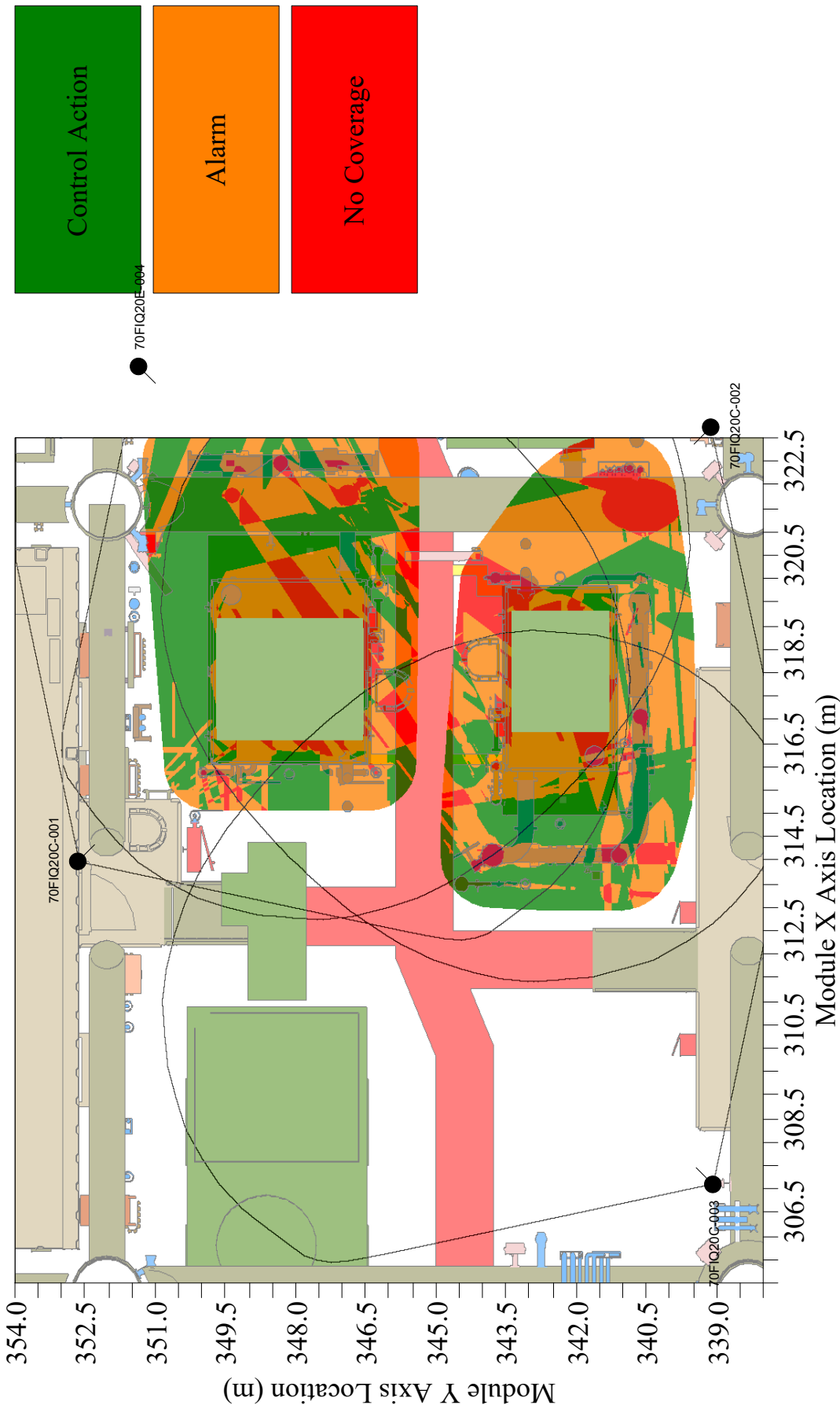
Fire Detector coverage at 0.735 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Proposed Q20C

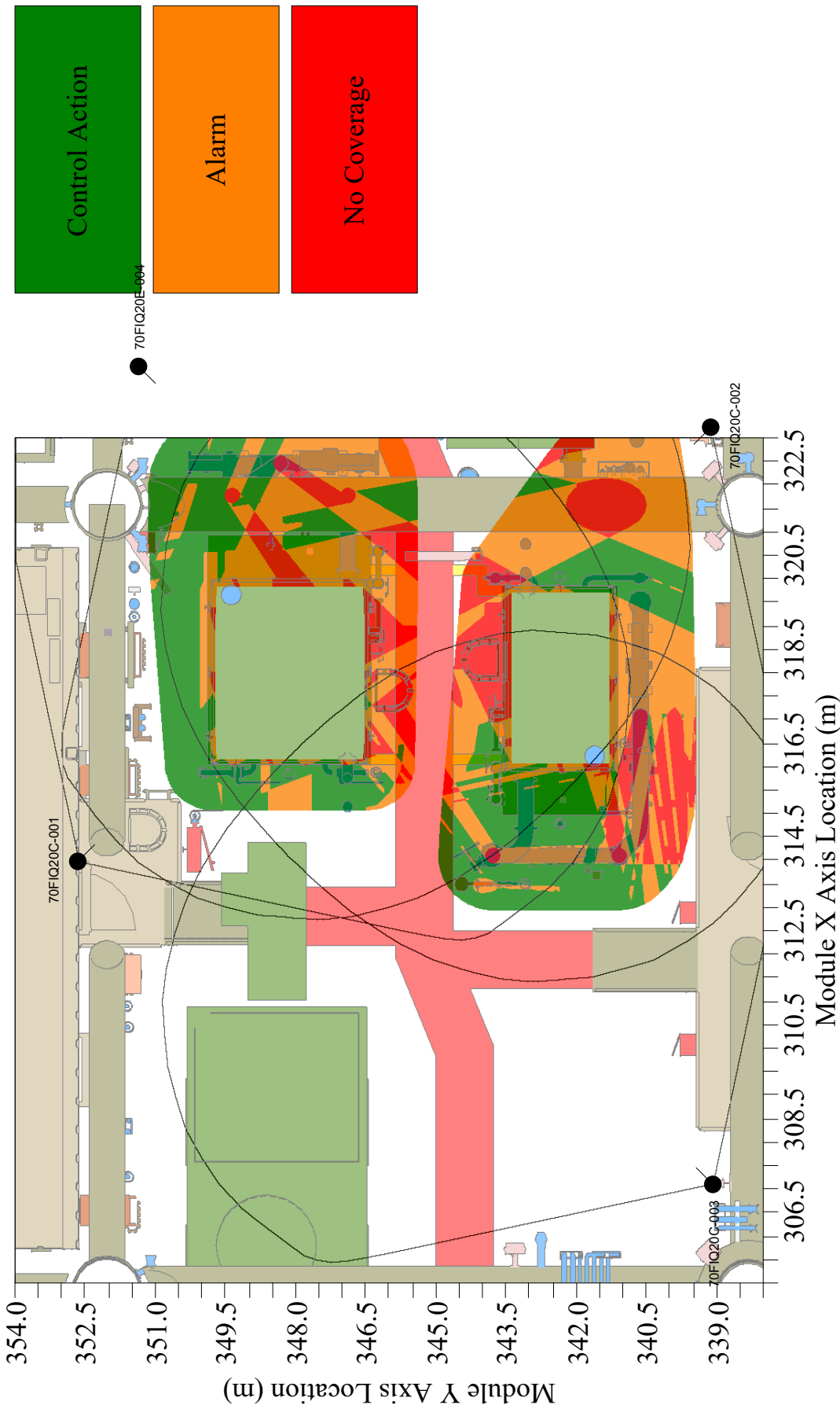
Fire Detector coverage at 1.401 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

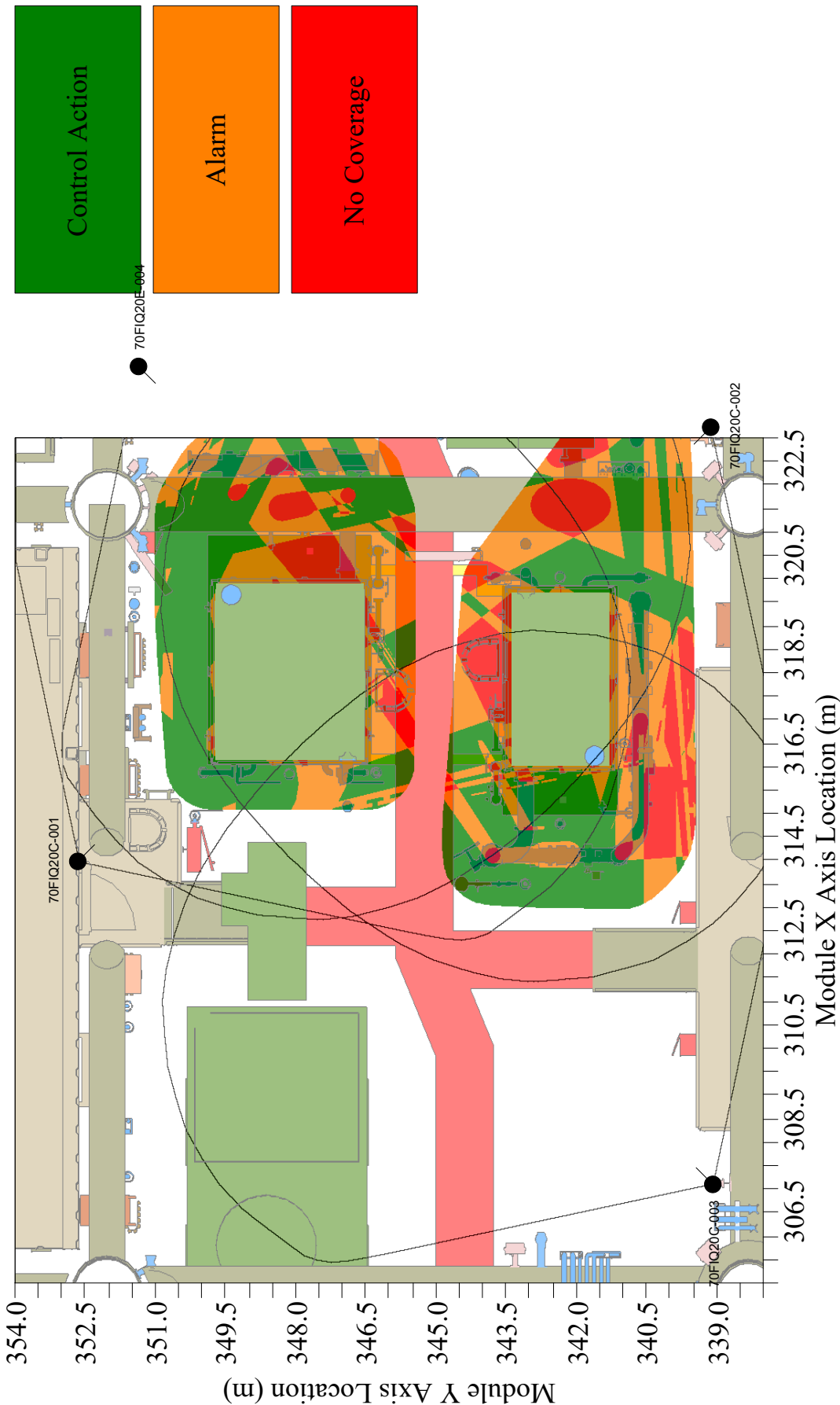
Fire Detector coverage at 2.068 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

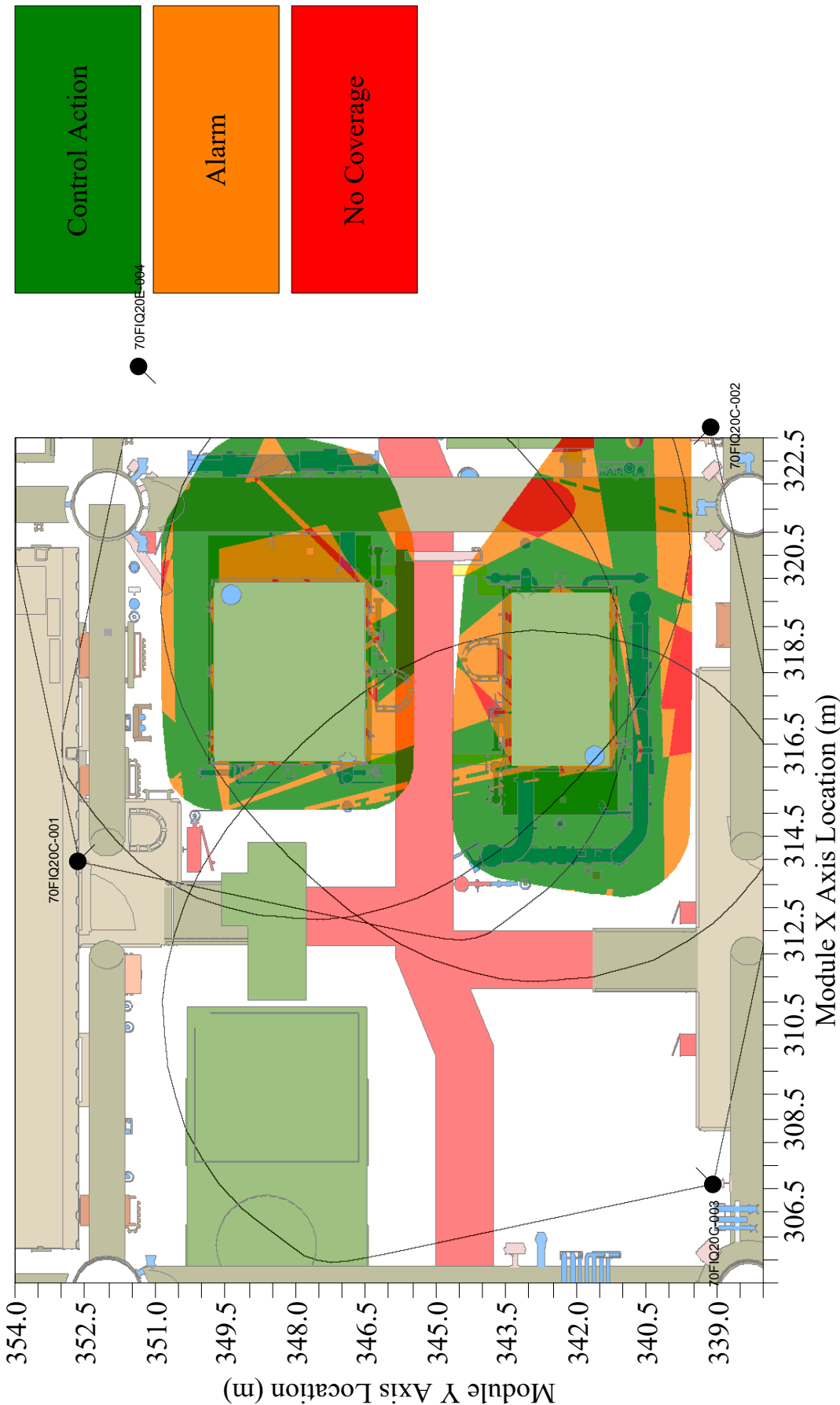
Fire Detector coverage at 2.735 m ALD



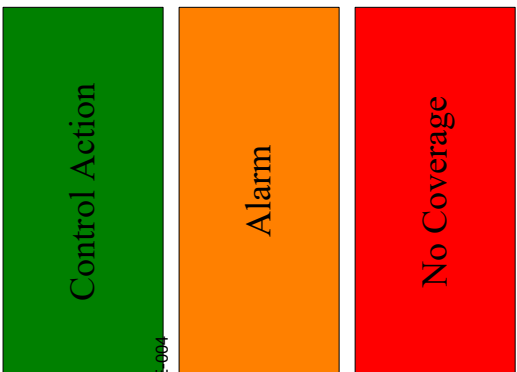
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

Fire Detector coverage at 3.401 m ALD



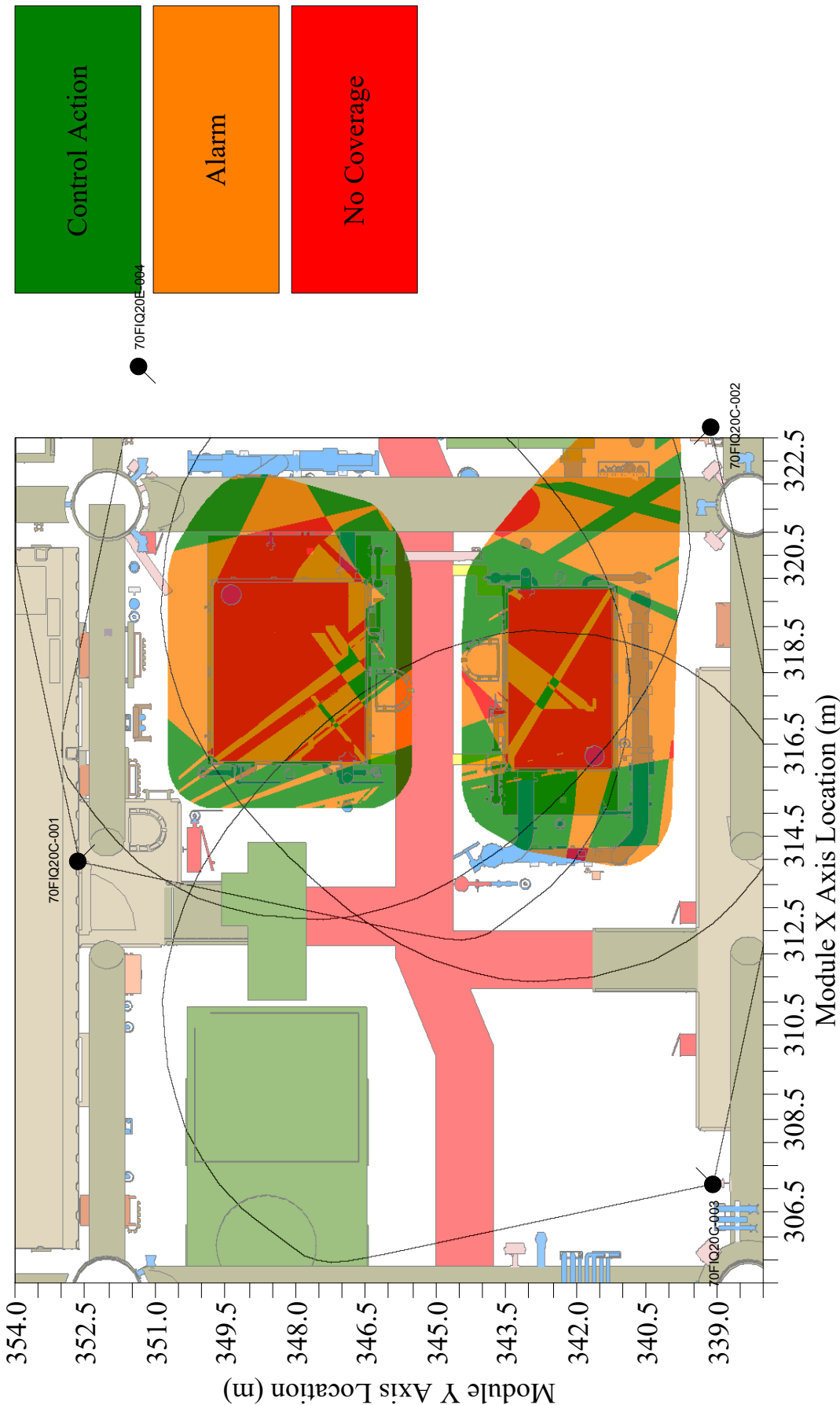
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

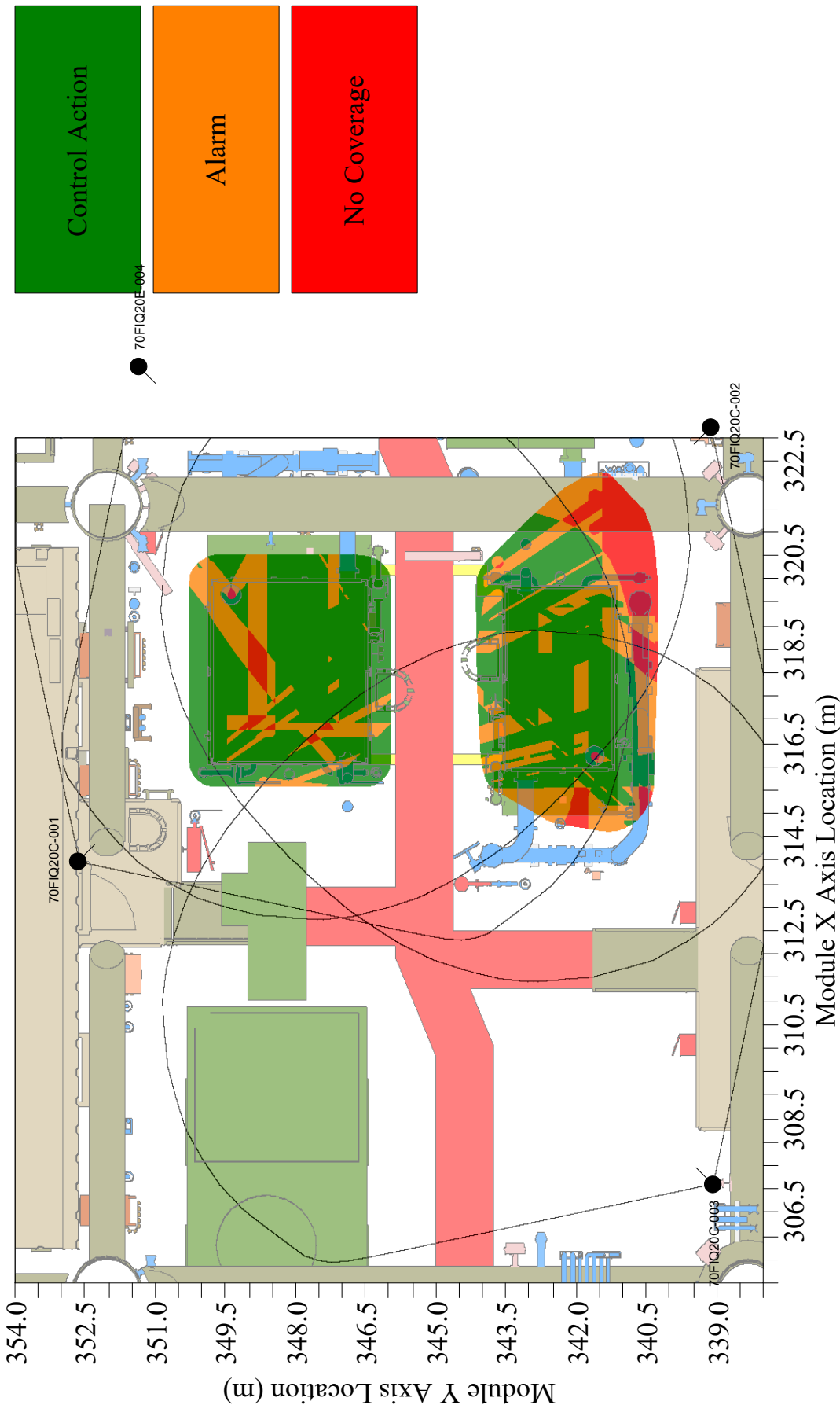
Fire Detector coverage at 4.068 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Proposed Q20C

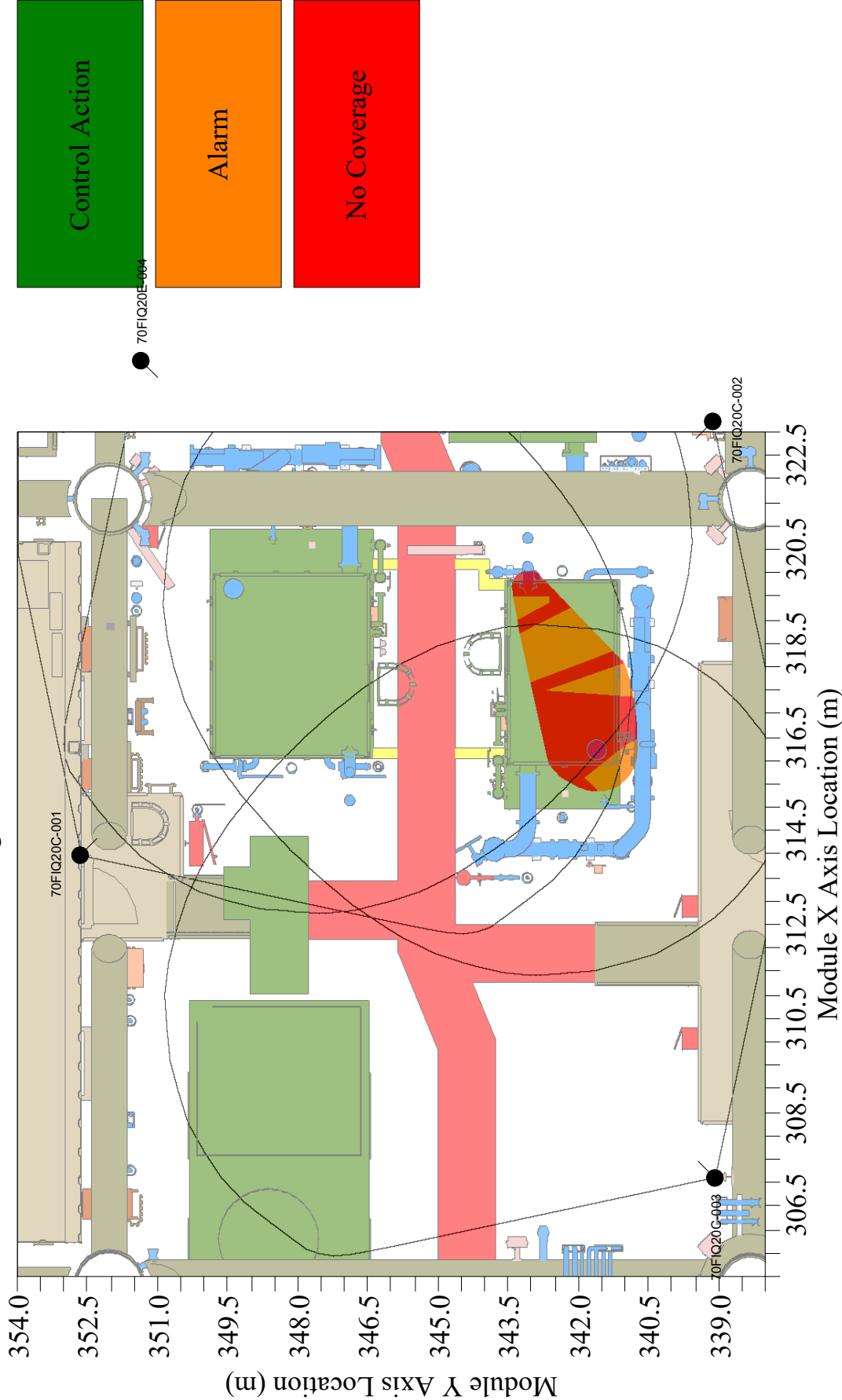
Fire Detector coverage at 4.735 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			

Project Name-Proposed Q20C

Fire Detector coverage at 5.401 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Q20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Q20C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:12



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W20W**
Number of detectors: 5
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 3.50 m Length: 22.00 m Width: 10.00 m Deck Z: 27.43 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

Assessment performed using 15 slices from 27.50 m to 31.00 m
Increment between 3D assessment slices: 0.25 m

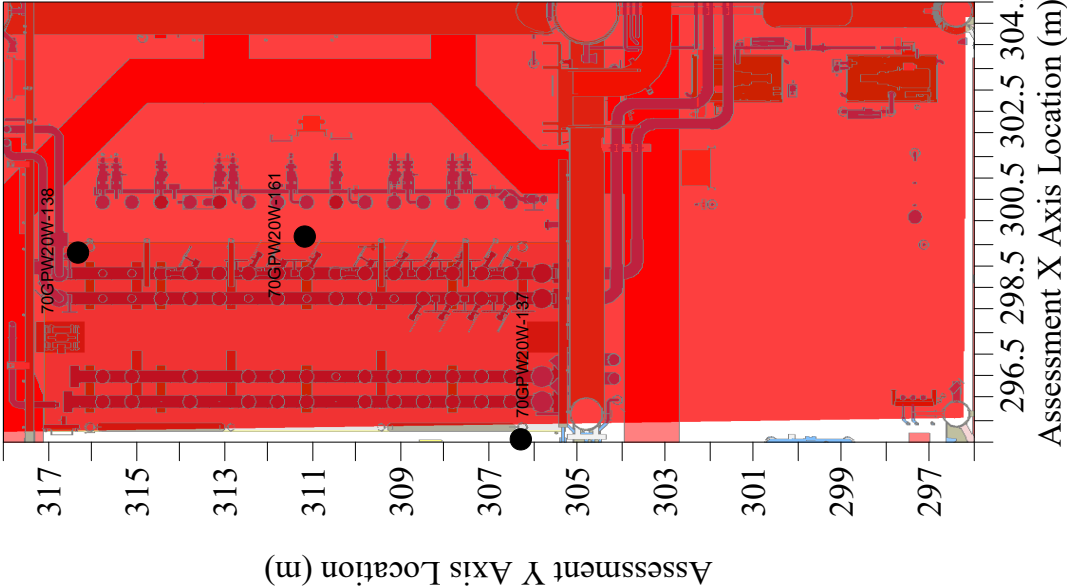
ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	19%	19%
Some coverage	56%	56%
No coverage	25%	25%

Project Name-Area W20W

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)

GRADE COLOURS

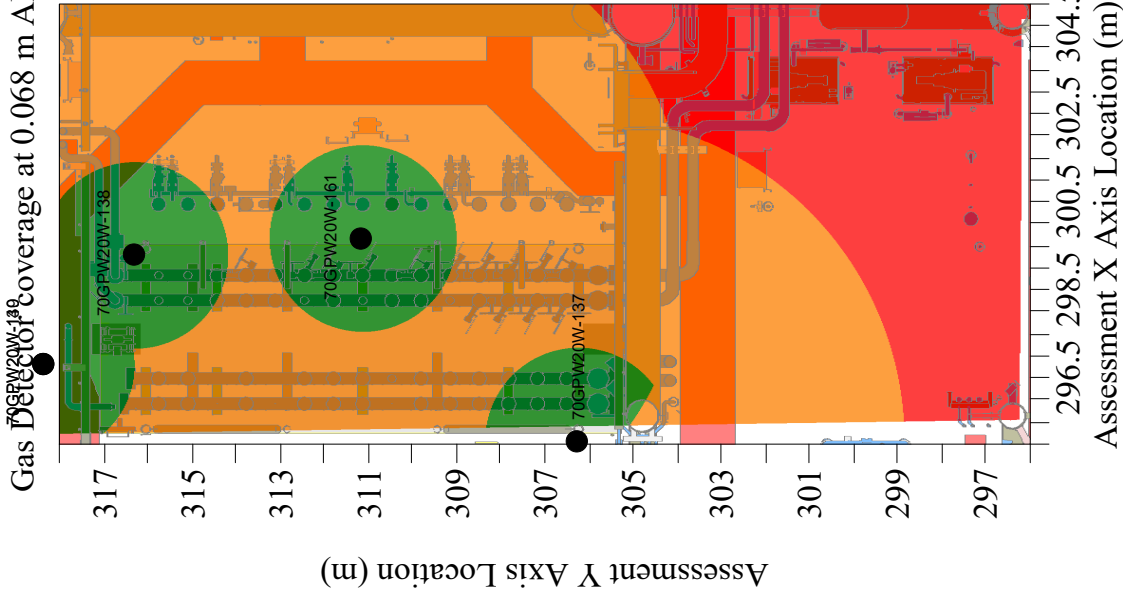


Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description Area W20W Project Name-Area W20W		Platform/site Drg category	Project Name Grademap (20-Jul-2018)

Project Name-Area W20W

Gas Detector Coverage at 0.068 m ALD



COVERAGE KEY

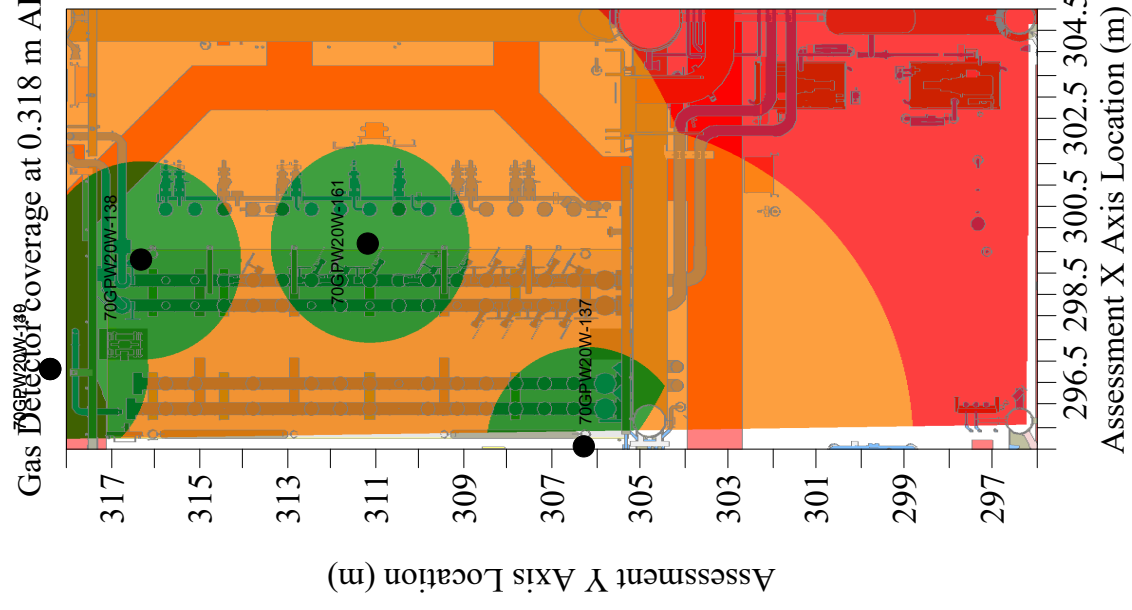
Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

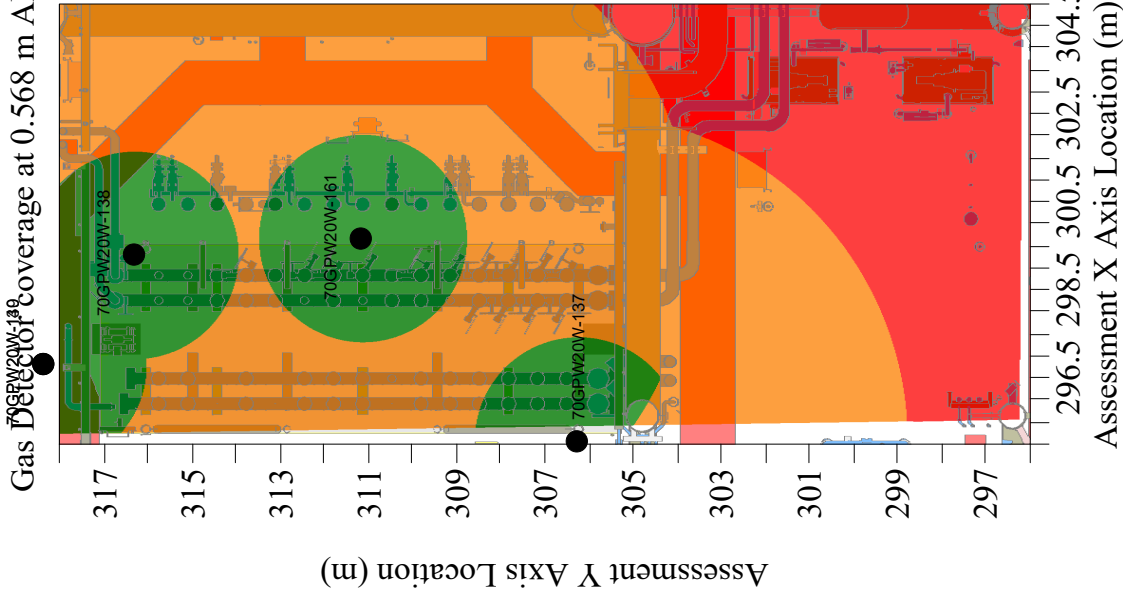
Project Name-Area W20W

Gas Detector coverage at 0.318 m ALD ⁷⁰GPW20W-139

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description	Platform/site	Project Name
	Area W20W	Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W		

Project Name-Area W20W

Gas Detector Coverage at 0.568 m ALD



COVERAGE KEY

Control Action

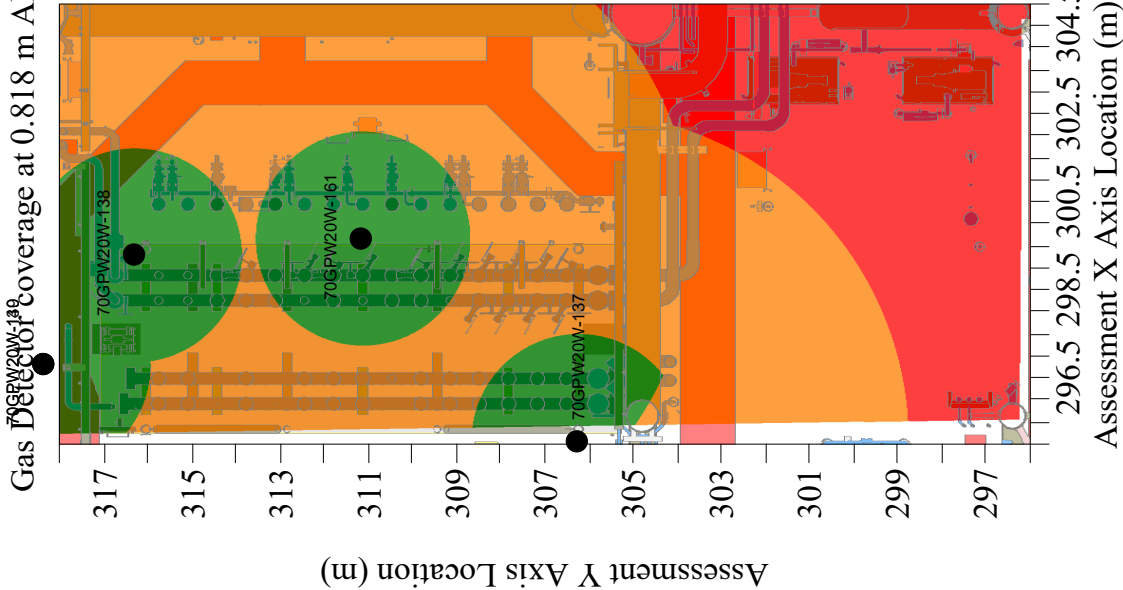
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 0.818 m ALD



COVERAGE KEY

Control Action

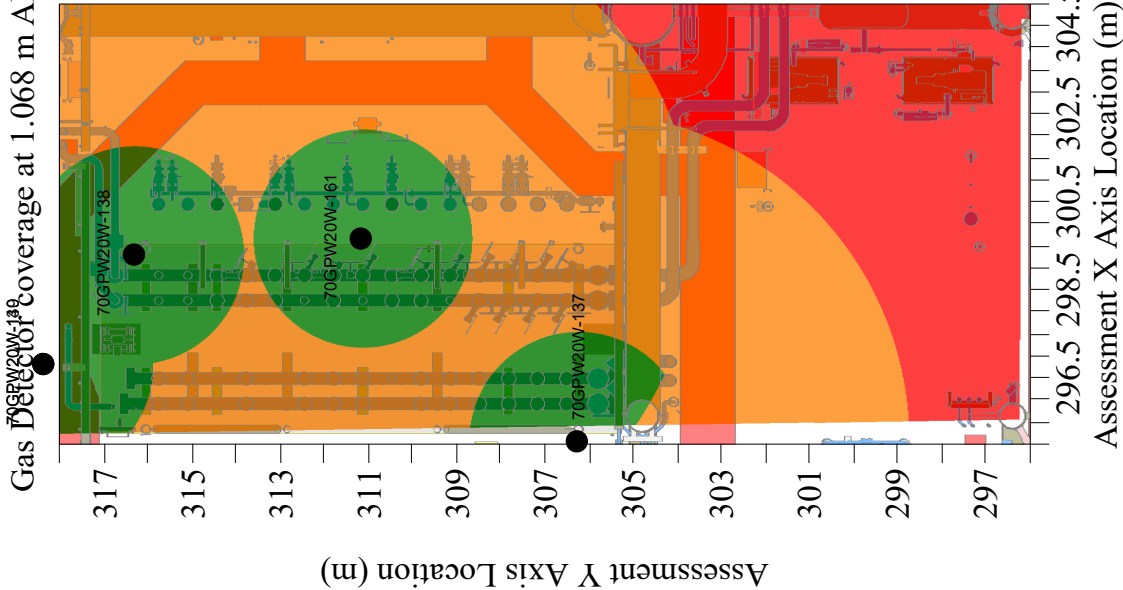
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 1.068 m ALD



COVERAGE KEY

Control Action

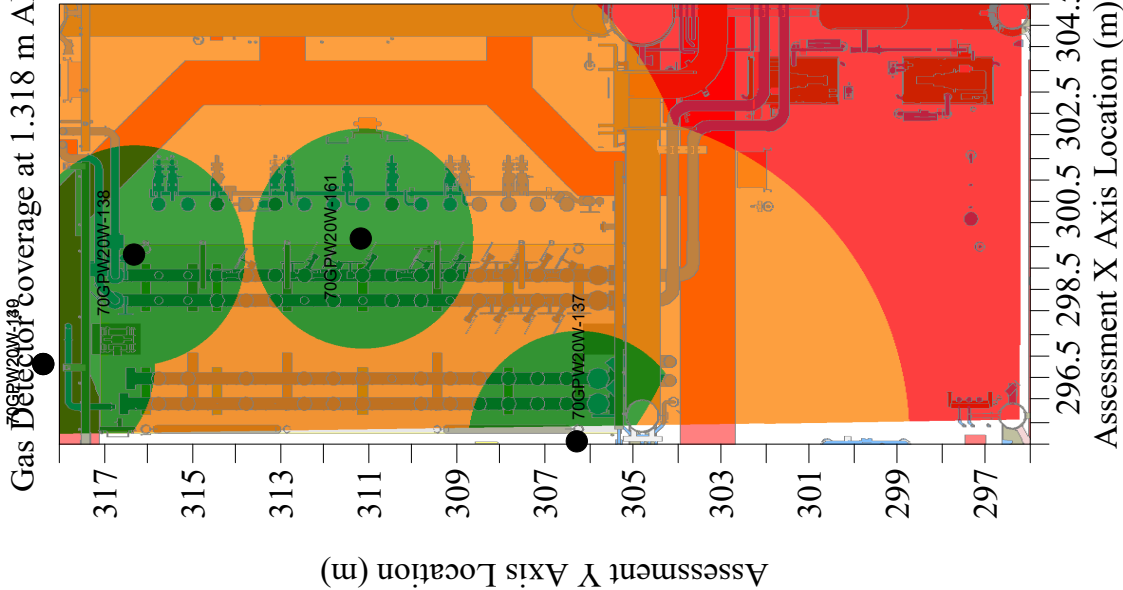
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 1.318 m ALD



COVERAGE KEY

Control Action

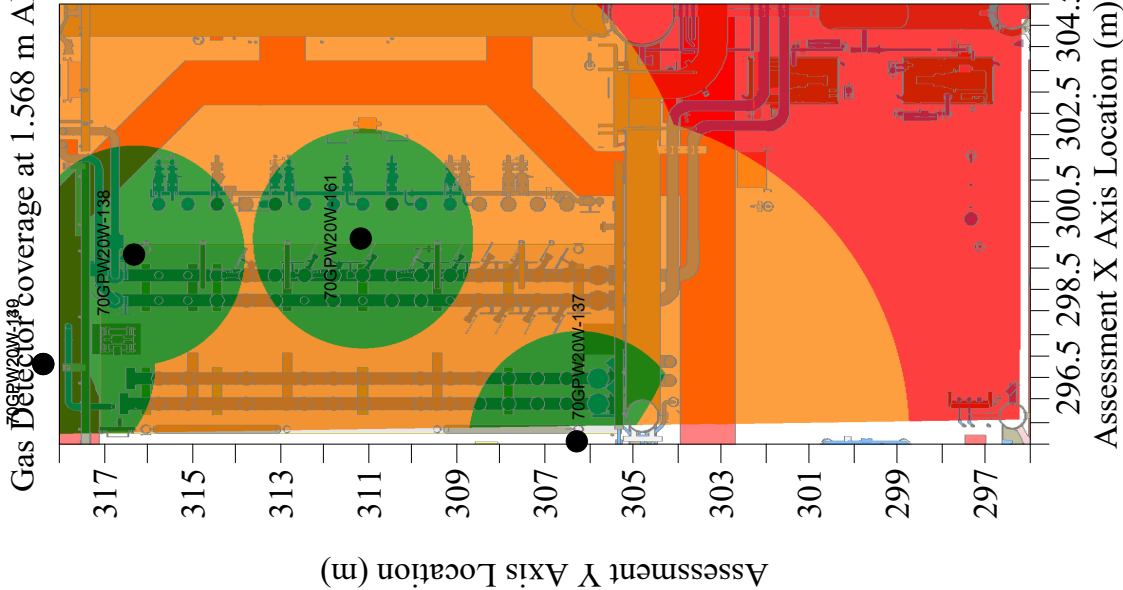
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 1.568 m ALD



COVERAGE KEY

Control Action

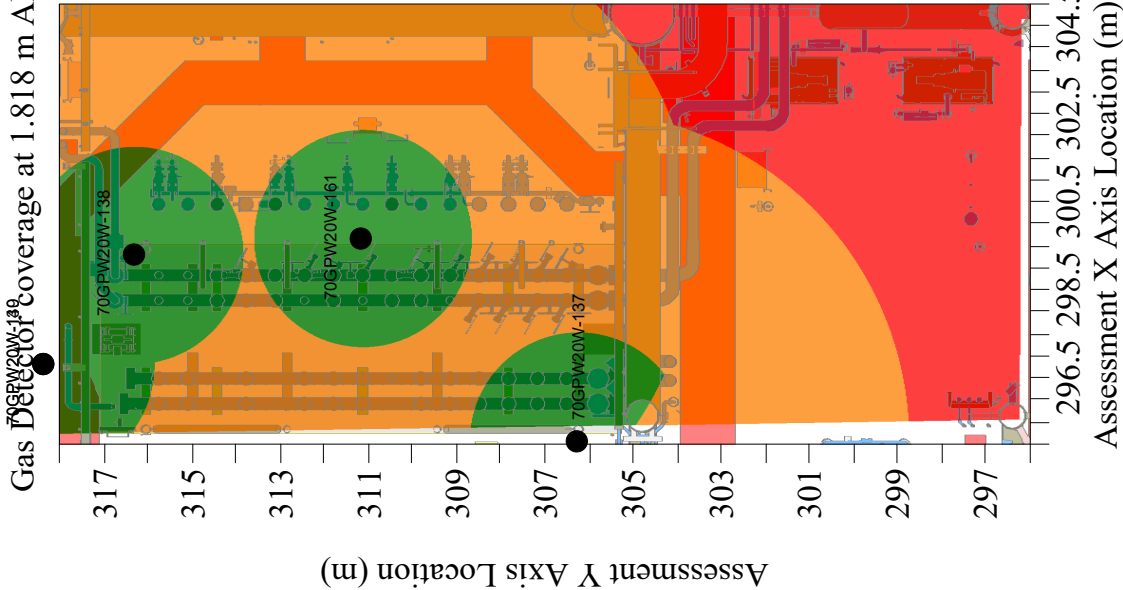
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 1.818 m ALD



COVERAGE KEY

Control Action

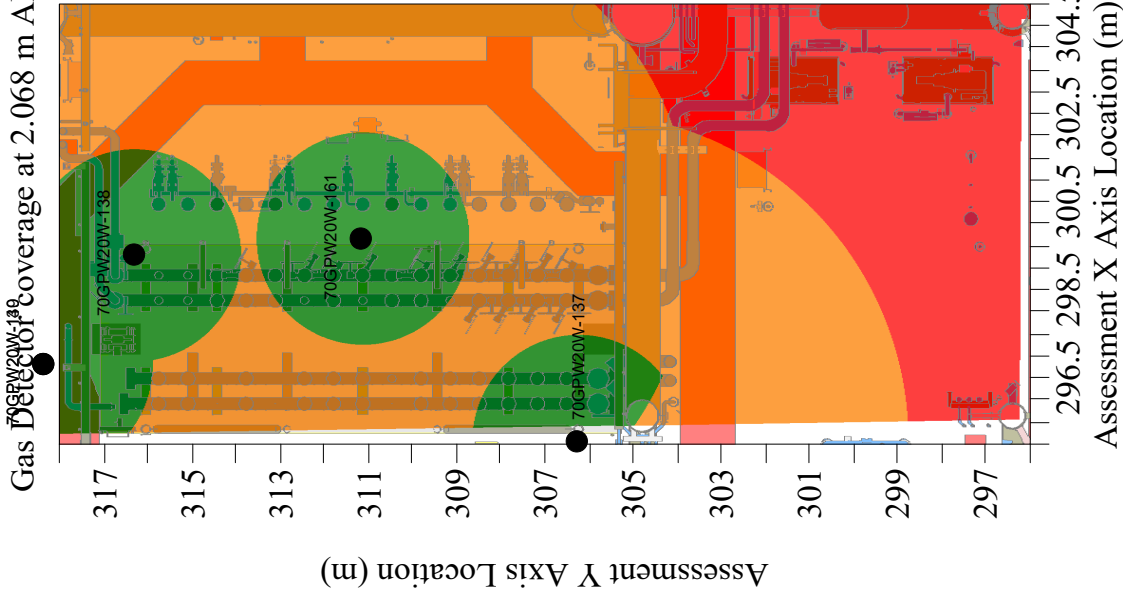
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 2.068 m ALD



COVERAGE KEY

Control Action

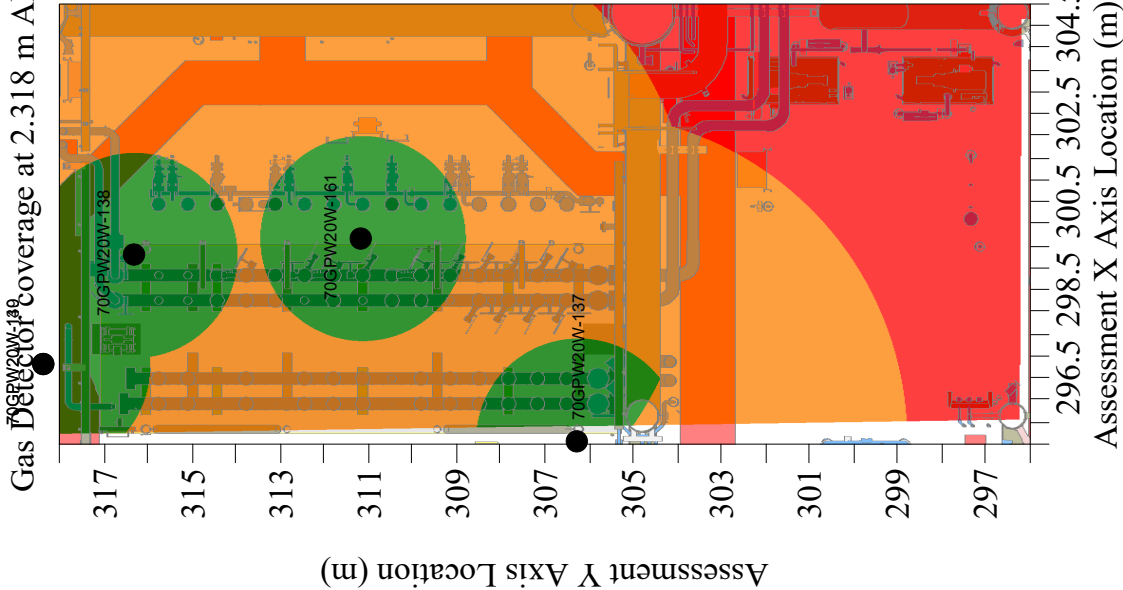
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 2.318 m ALD



COVERAGE KEY

Control Action

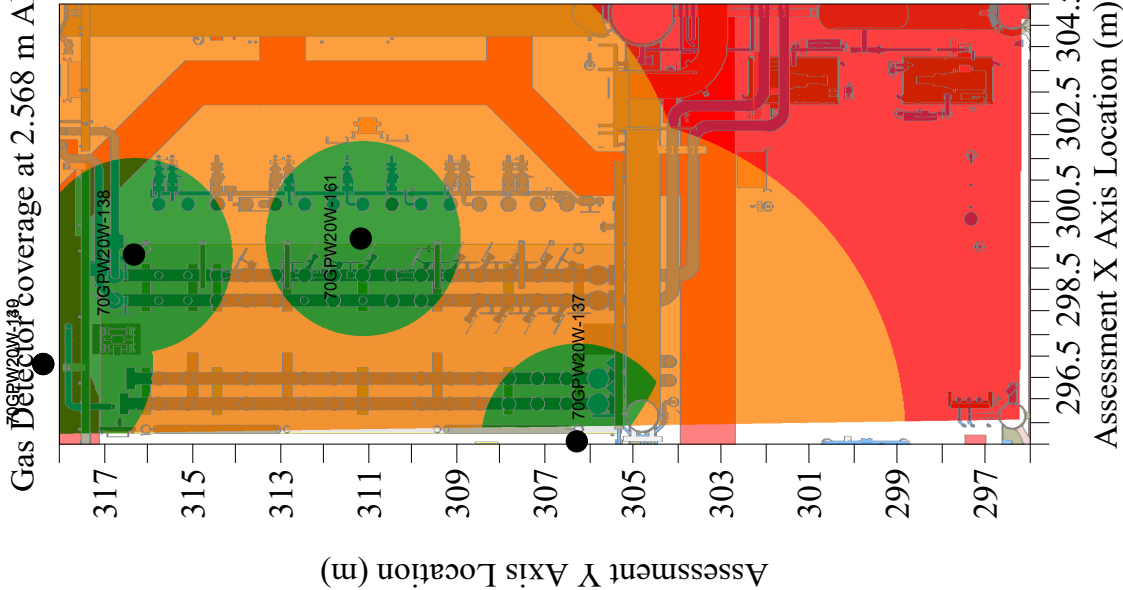
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 2.568 m ALD



COVERAGE KEY

Control Action

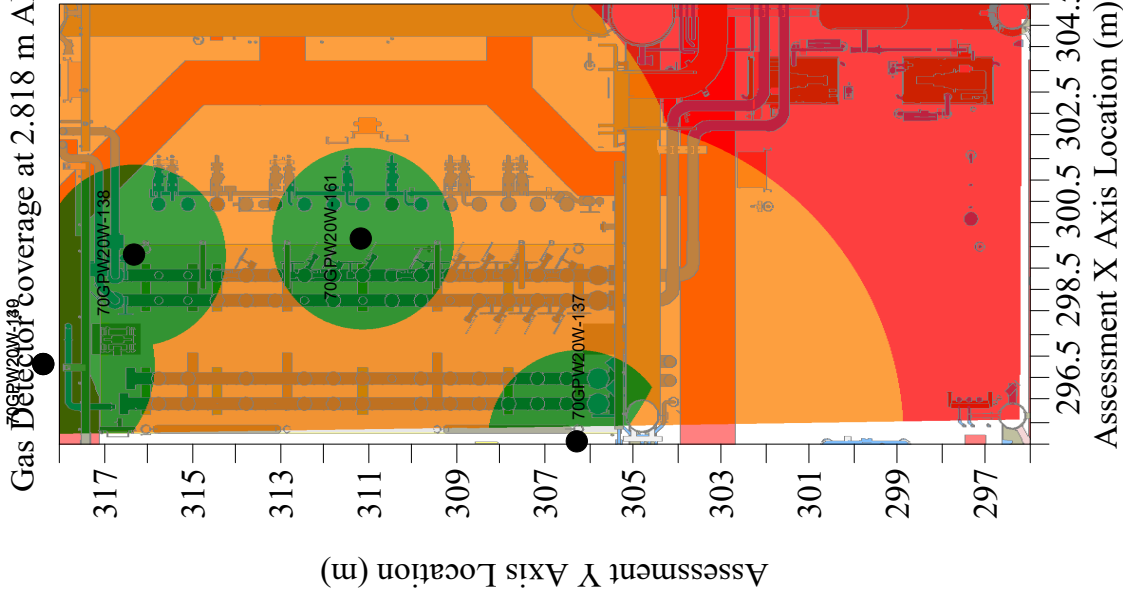
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 2.818 m ALD

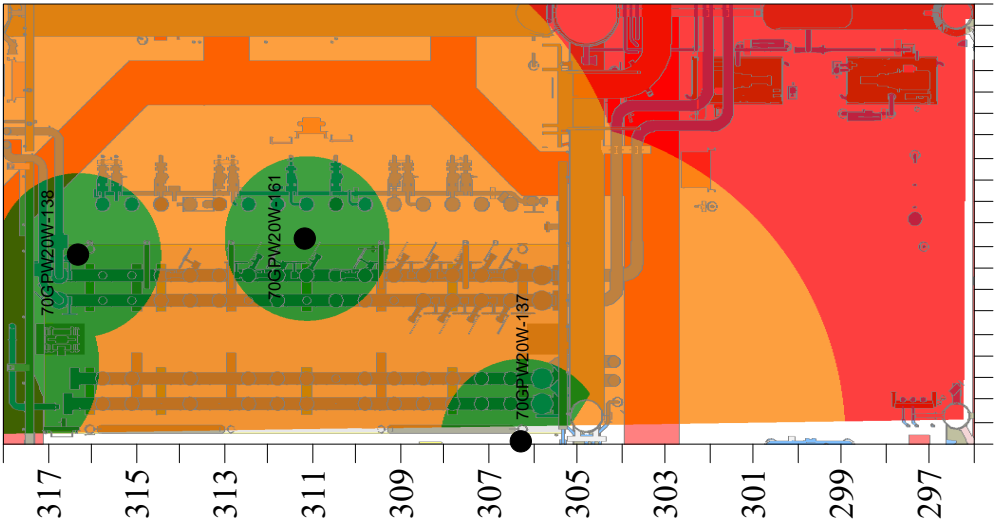


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

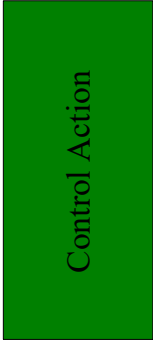
Project Name-Area W20W

Gas Detector Coverage at 3.068 m ALD

70GFW20W-138



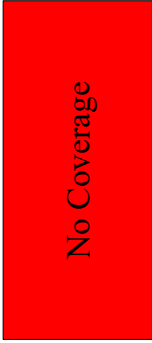
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Area W20W

Project Name-Area W20W

Platform/site

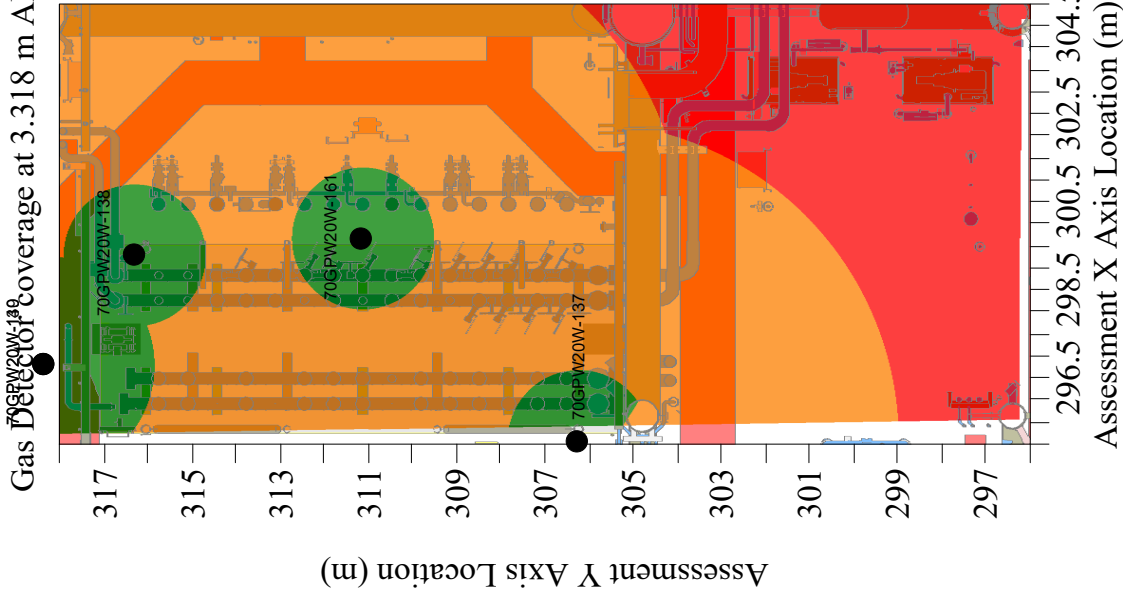
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Area W20W

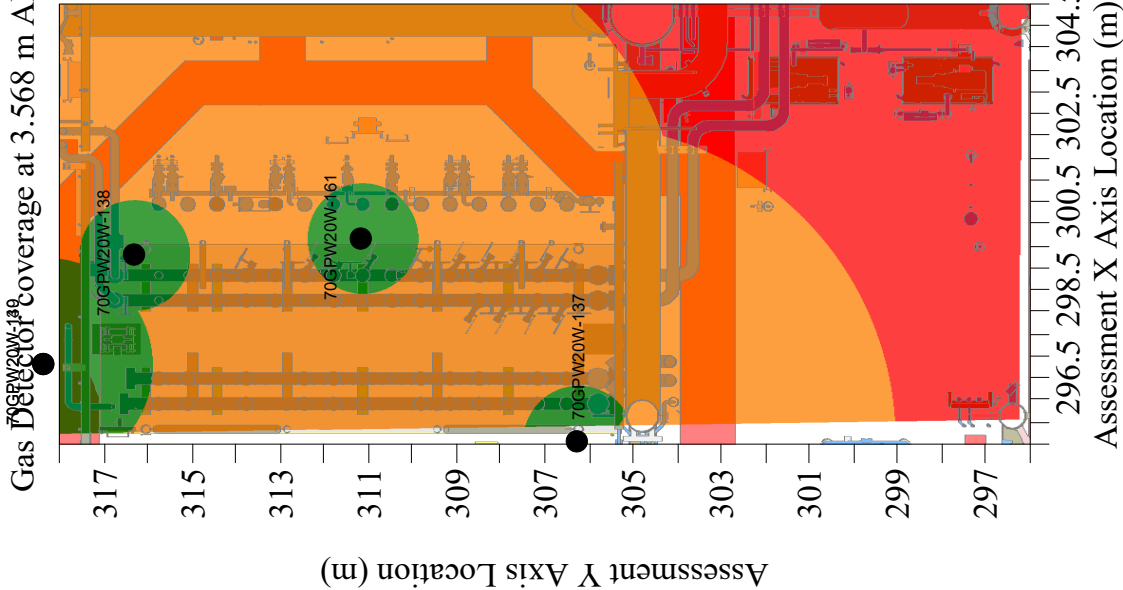
Gas Detector Coverage at 3.318 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			

Project Name-Area W20W

Gas Detector Coverage at 3.568 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20W			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:13



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed Area W20W**
Number of detectors: 7
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 3.50 m Length: 22.00 m Width: 10.00 m Deck Z: 27.43 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

Assessment performed using 15 slices from 27.50 m to 31.00 m
Increment between 3D assessment slices: 0.25 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	61%	61%
Some coverage	39%	39%
No coverage	<1%	<1%

Project Name-Proposed Area W20W

Graded Volume(s) 70GPW20W-138 70GPW20W-137 70GPW20W-161 70GPW20W-139 at Representative Z (0.068 m ALD)

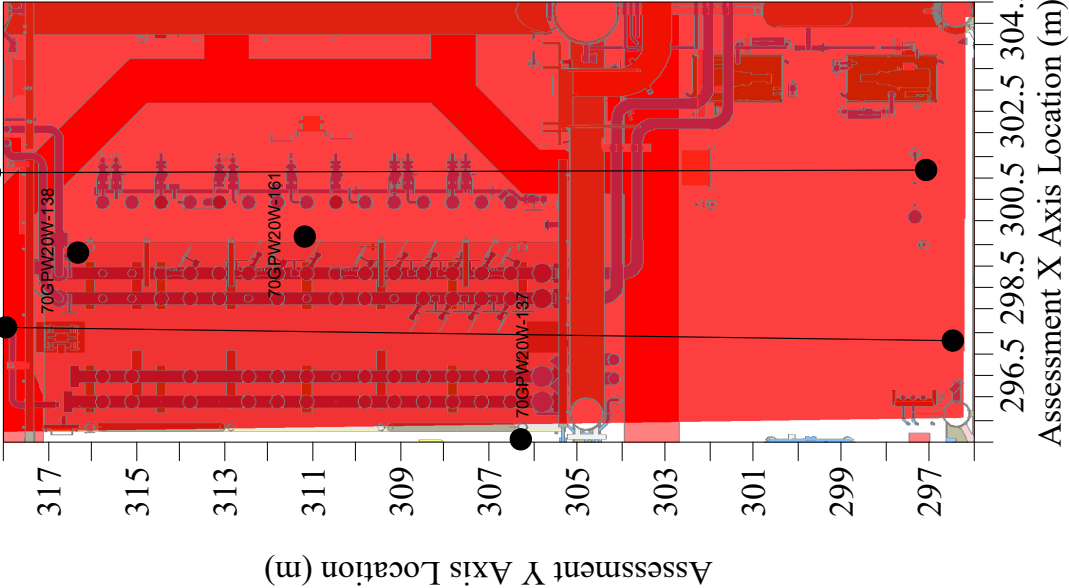
GRADE COLOURS

Grade C/SG

HiGas Diam 5.00m

LoGas Diam 15.00m

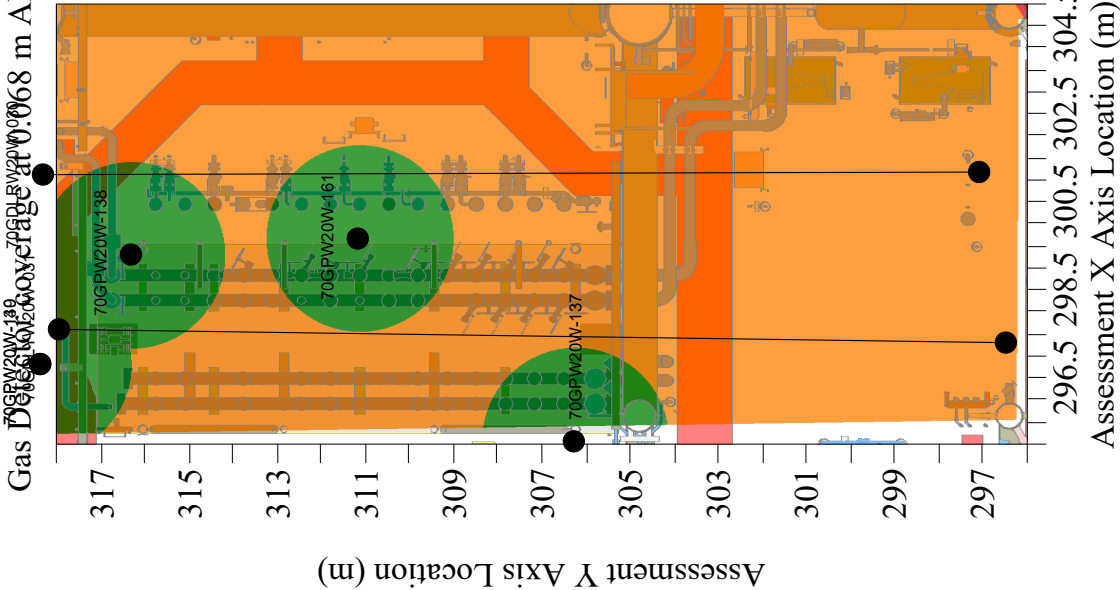
H+L



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 0.668 m ALD



COVERAGE KEY

Control Action

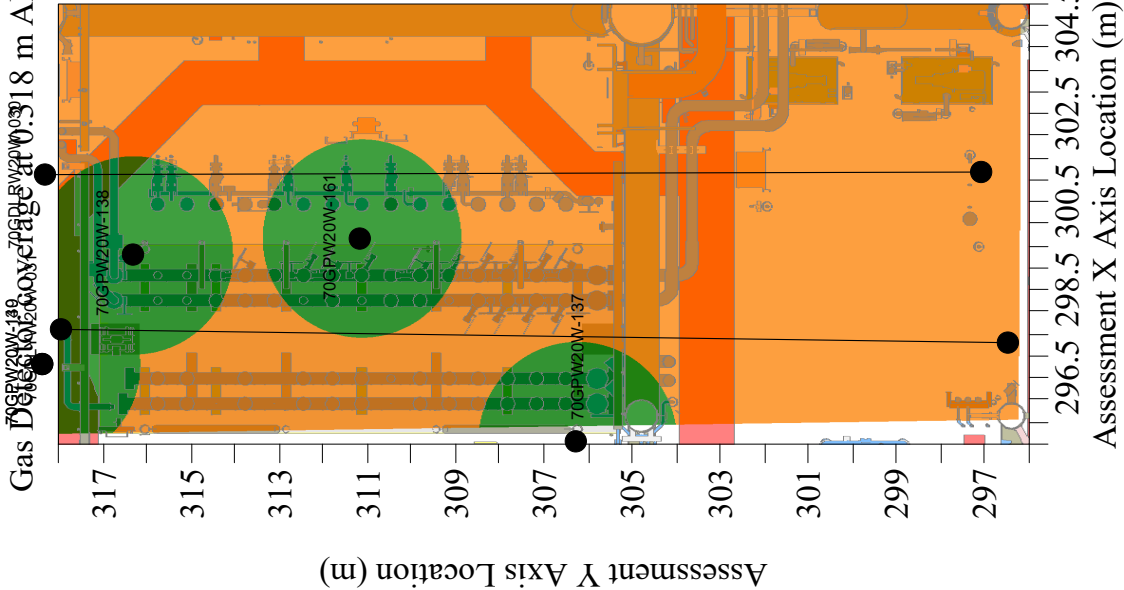
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 0.318 m ALD



COVERAGE KEY

Control Action

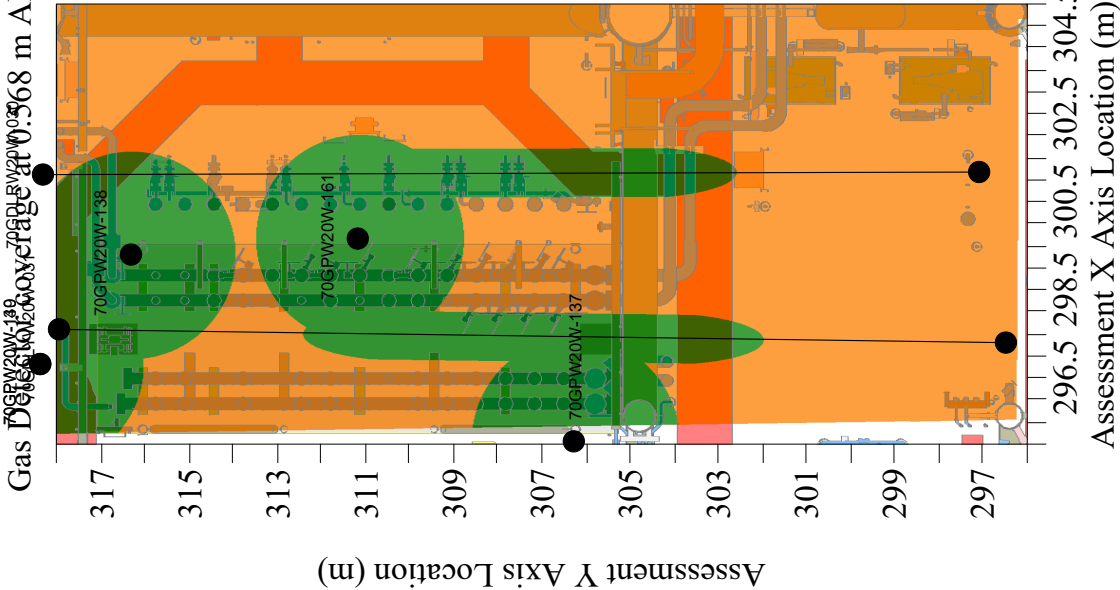
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 0.568 m ALD



COVERAGE KEY

Control Action

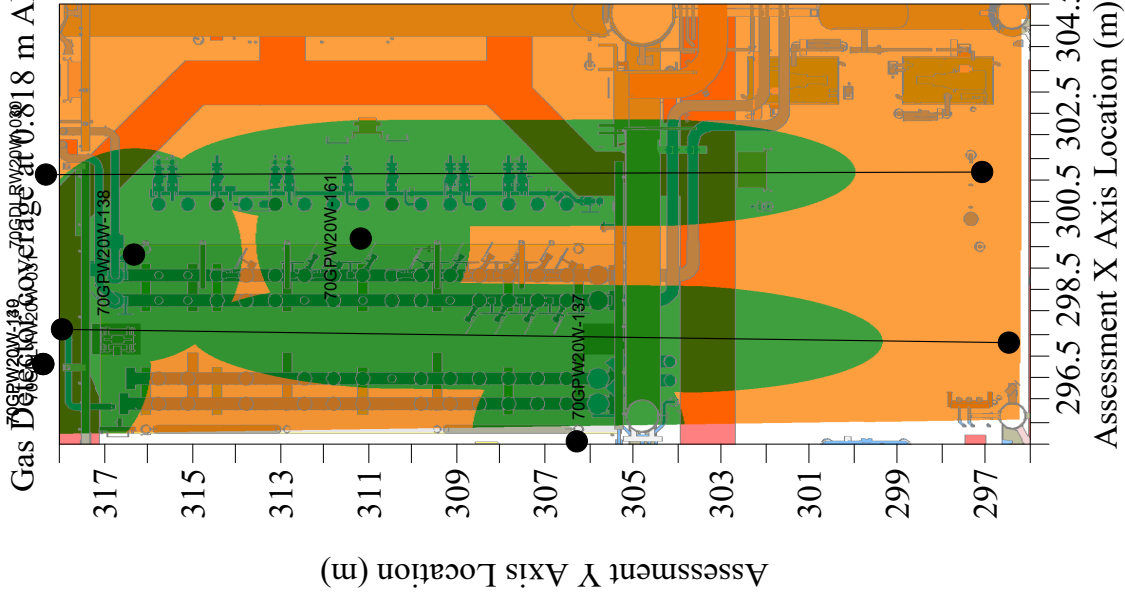
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 0.818 m ALD



COVERAGE KEY

Control Action

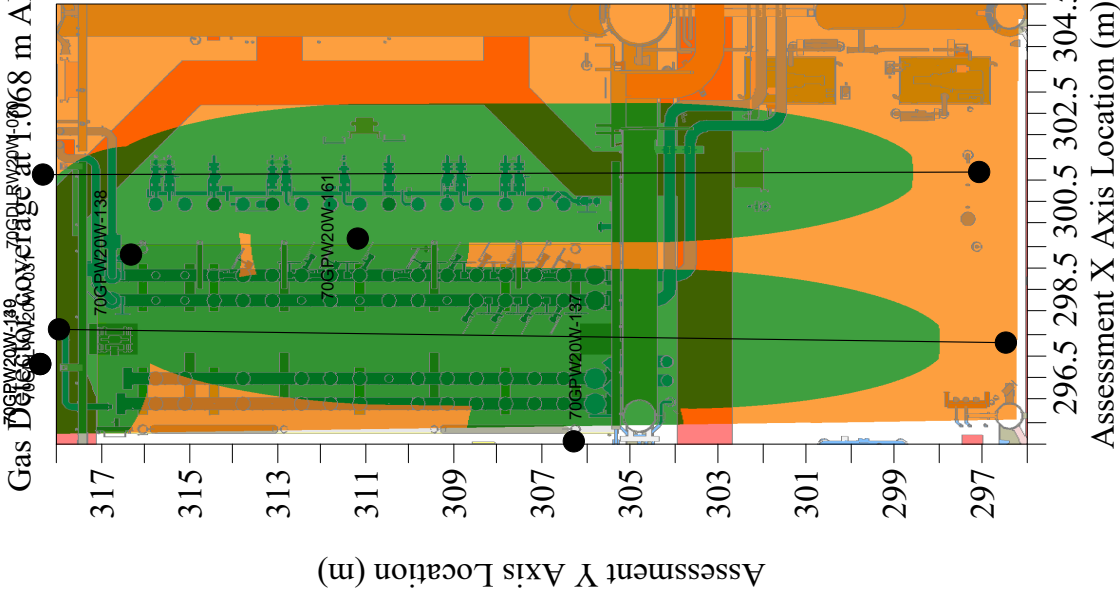
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 1.068 m ALD



COVERAGE KEY

Control Action

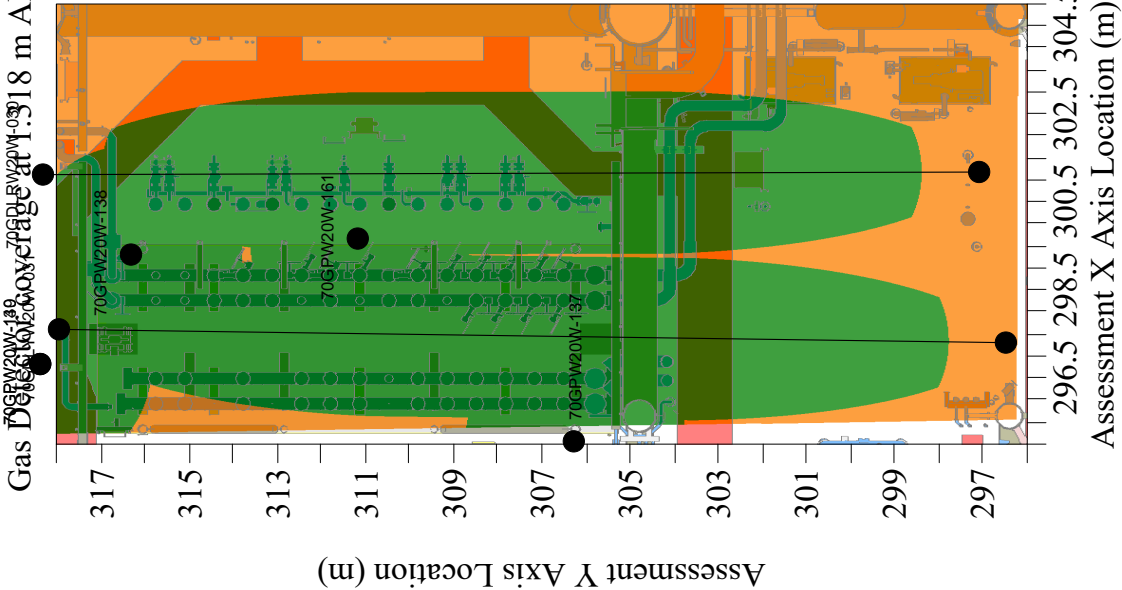
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

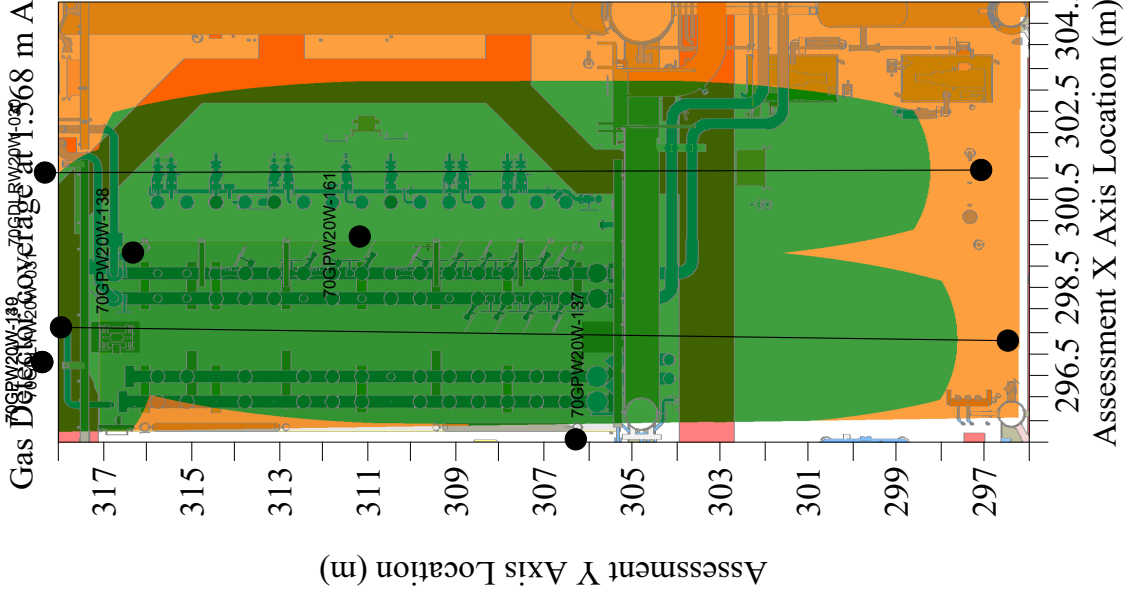
Gas Detection Coverage at 1:318 m ALD



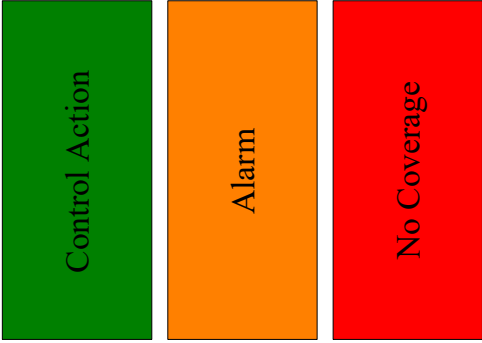
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 1.368 m ALD



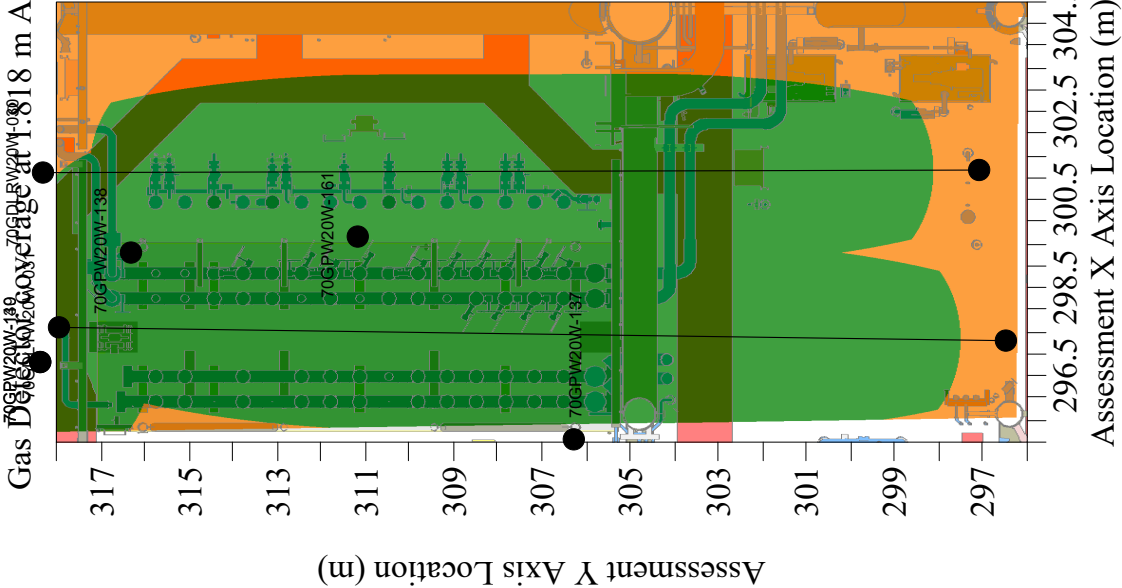
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 1.818 m ALD



COVERAGE KEY

Control Action

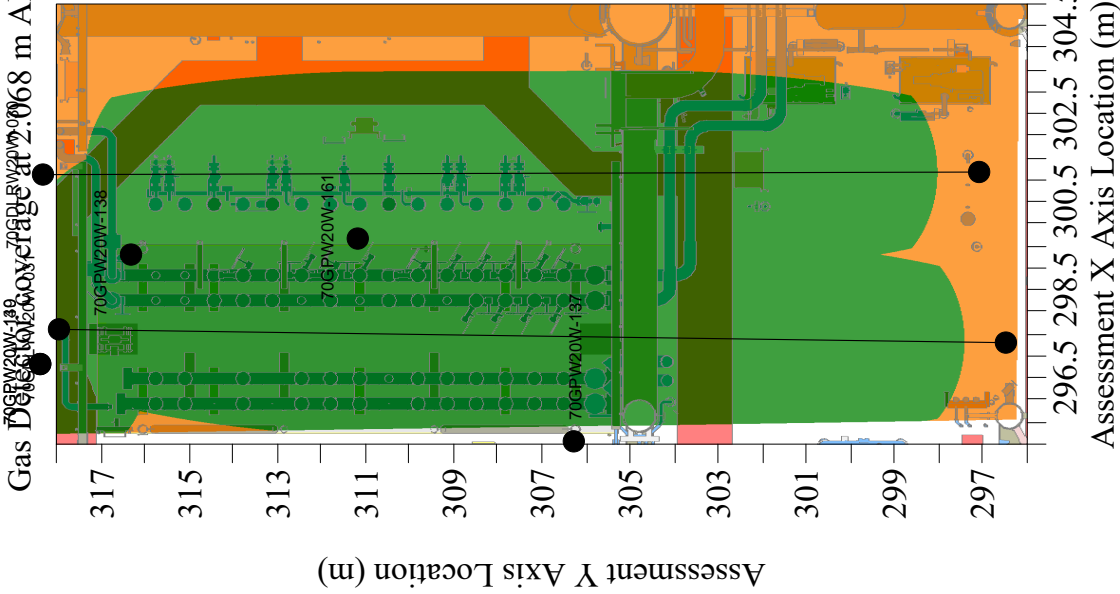
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 2.068 m ALD



COVERAGE KEY

Control Action

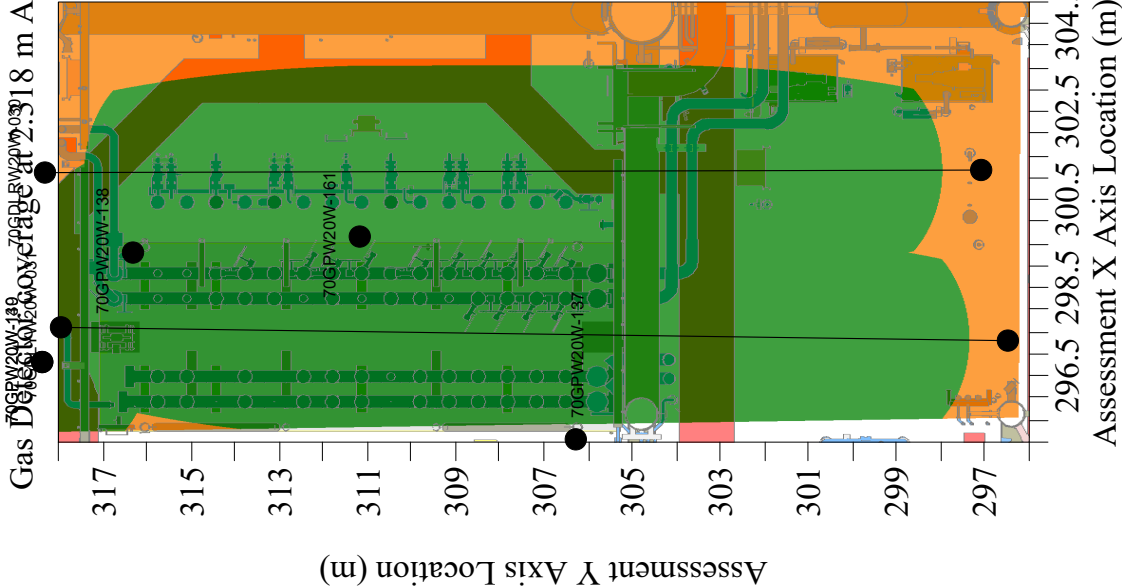
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 2.318 m ALD



COVERAGE KEY

Control Action

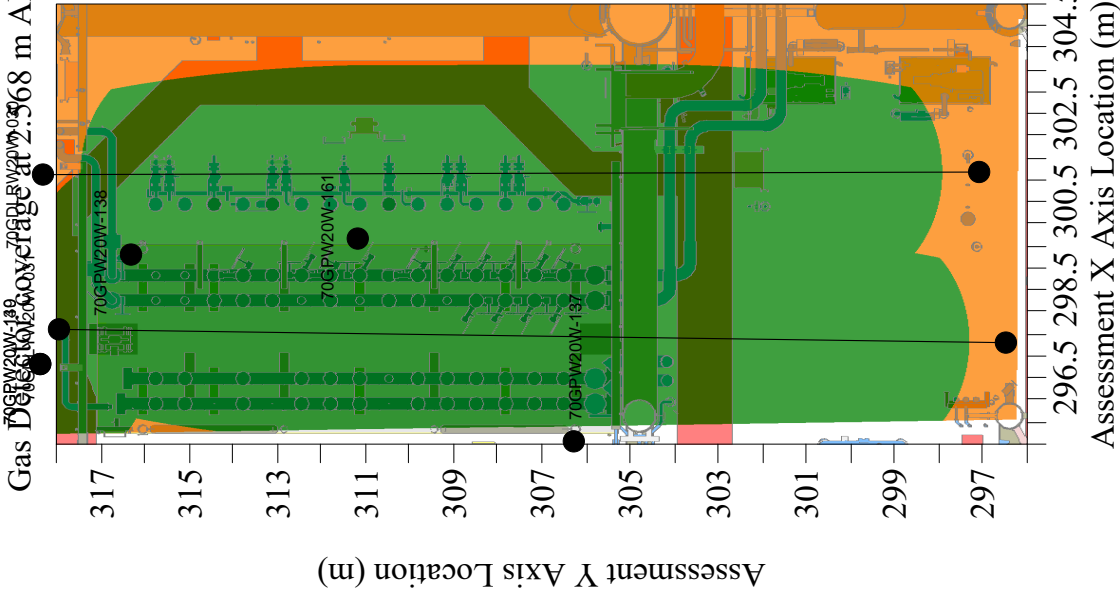
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 2.368 m ALD



COVERAGE KEY

Control Action

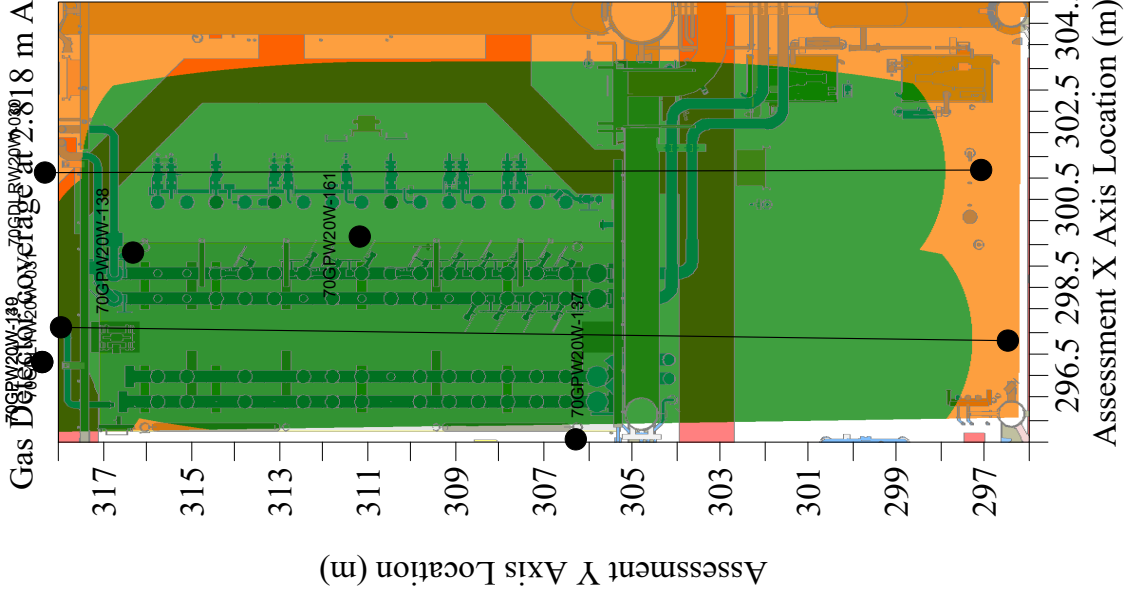
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 2.818 m ALD



COVERAGE KEY

Control Action

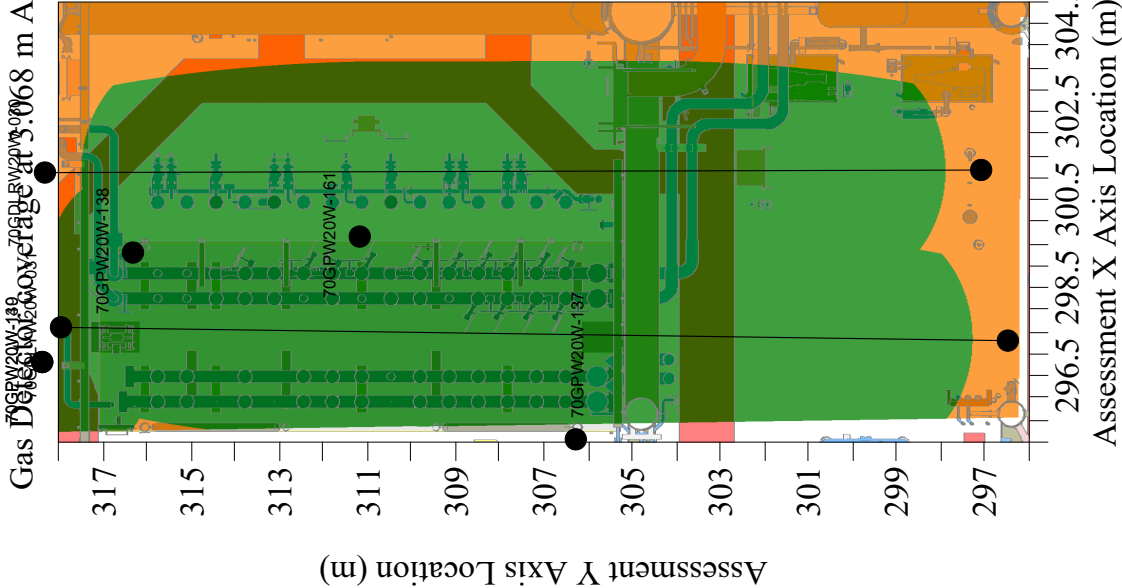
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 3.068 m ALD



COVERAGE KEY

Control Action

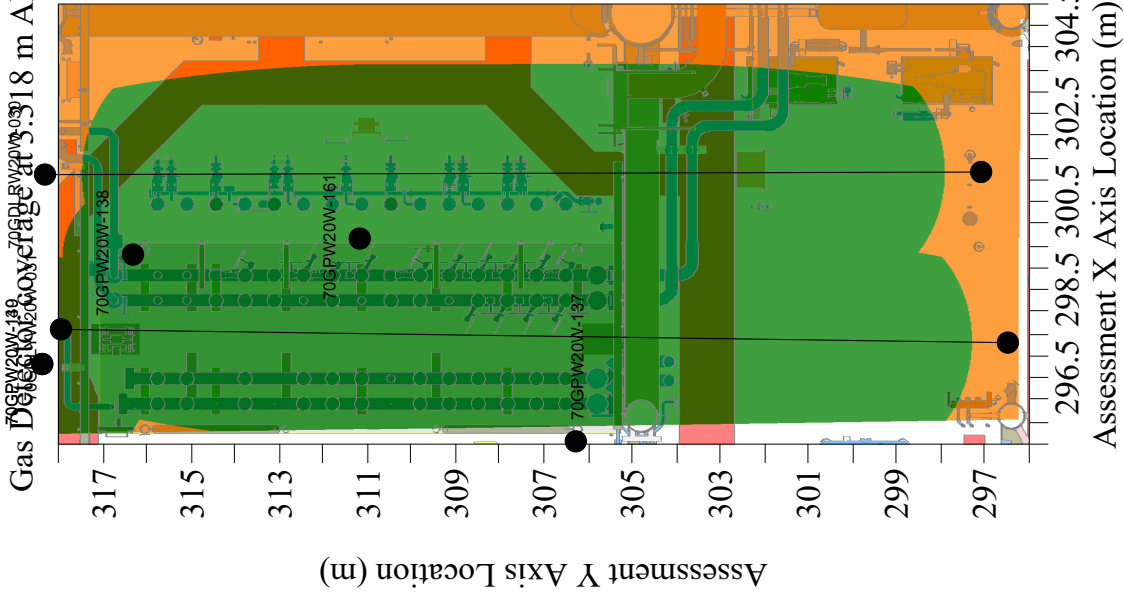
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 3:18 m ALD



COVERAGE KEY

Control Action

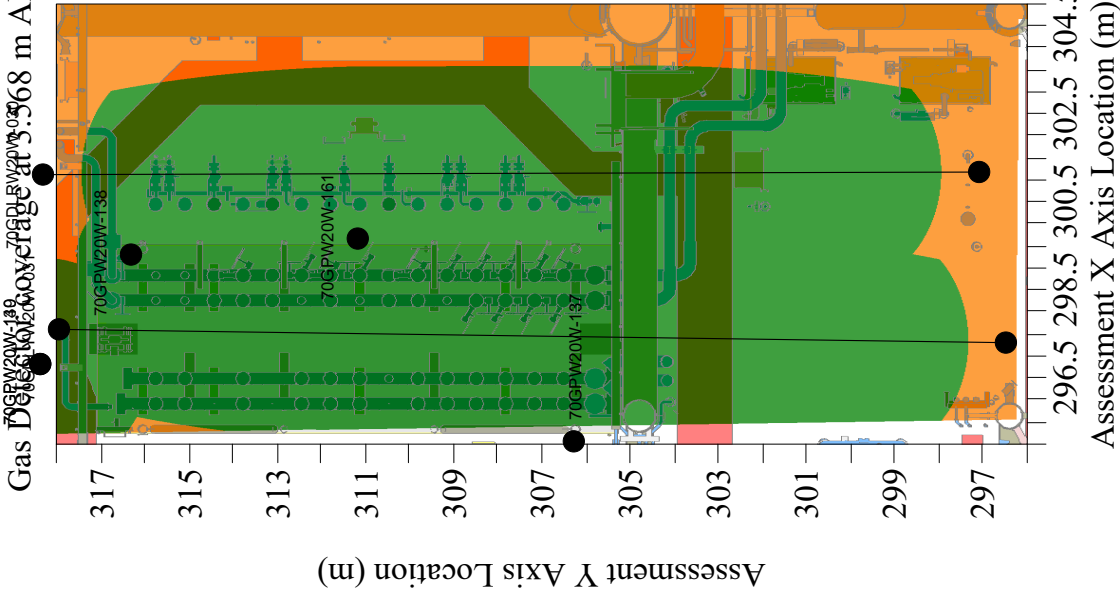
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			

Project Name-Proposed Area W20W

Gas Detection Coverage at 3.568 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20W			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:14



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W20C**
Number of detectors: 8
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 3.50 m Length: 30.00 m Width: 16.00 m Deck Z: 27.43 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

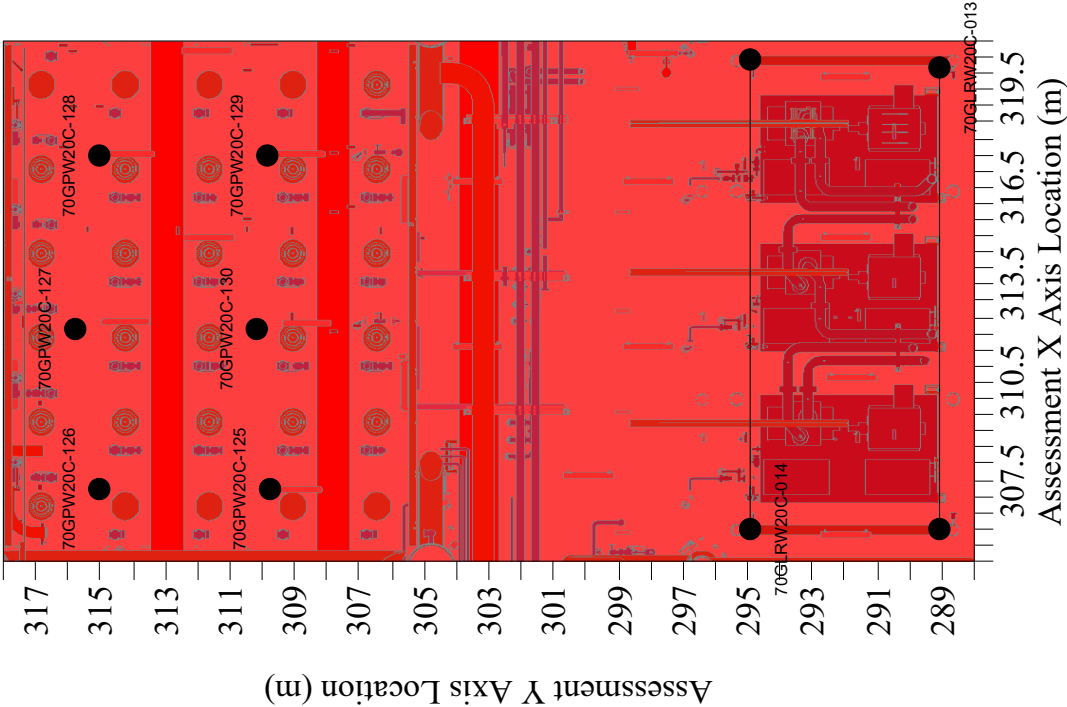
Assessment performed using 15 slices from 27.50 m to 31.00 m
Increment between 3D assessment slices: 0.25 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	23%	23%
Some coverage	72%	72%
No coverage	5%	5%

Project Name-Area W20C

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



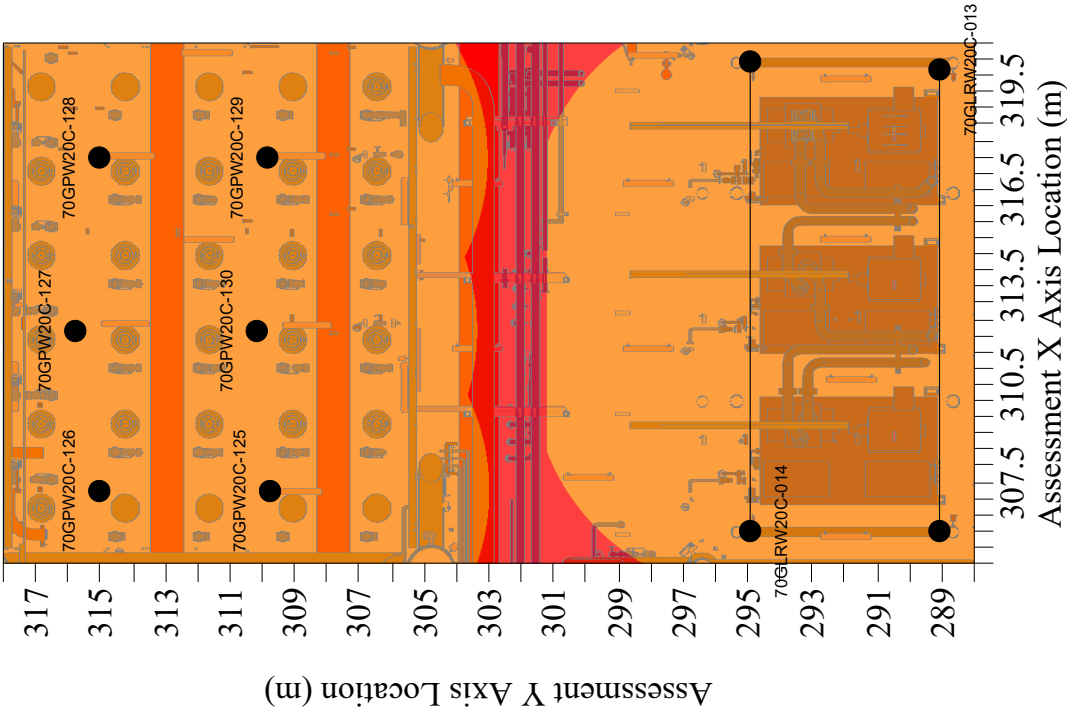
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 0.068 m ALD



COVERAGE KEY

Control Action

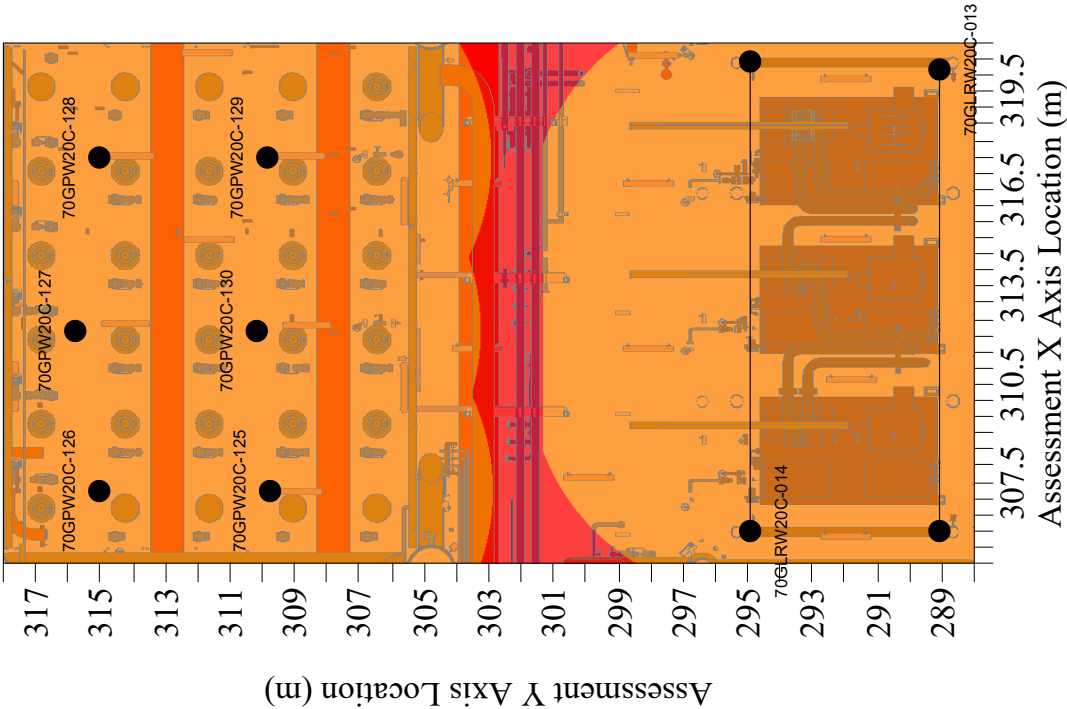
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 0.318 m ALD



COVERAGE KEY

Control Action

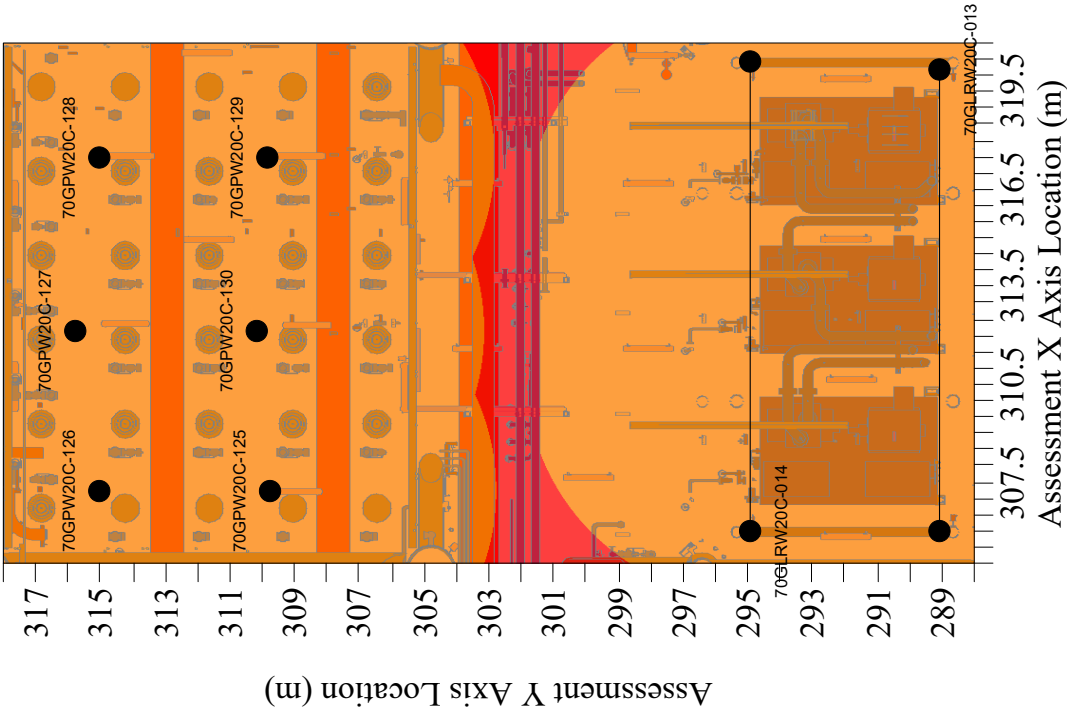
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 0.568 m ALD



COVERAGE KEY

Control Action

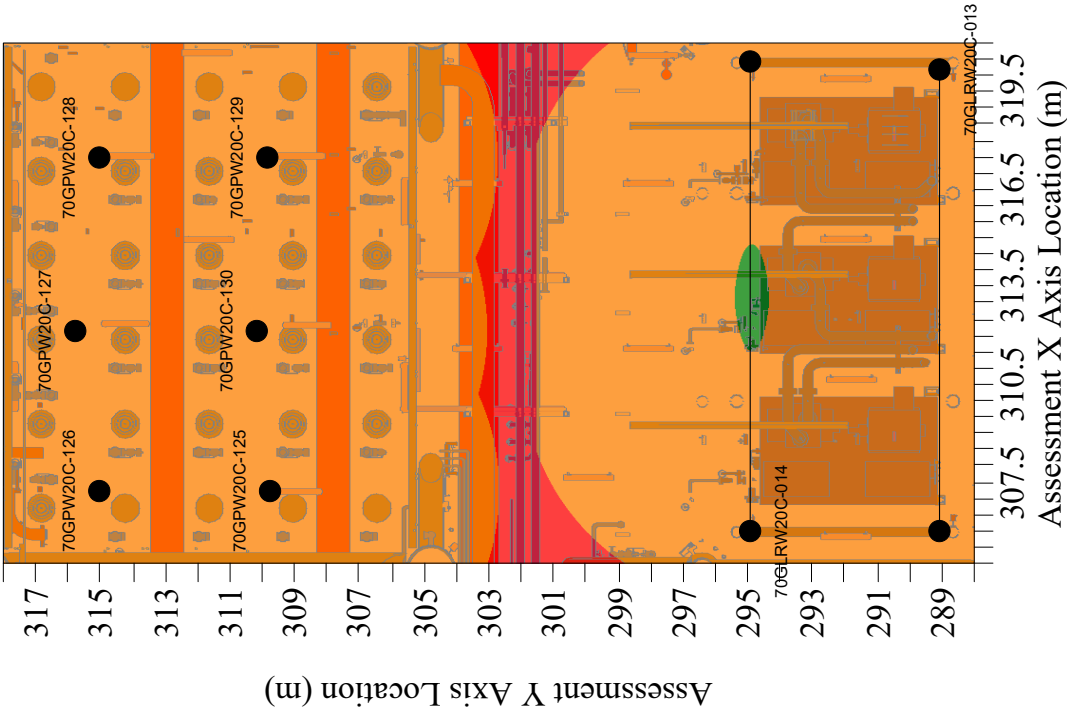
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 0.818 m ALD



COVERAGE KEY

Control Action

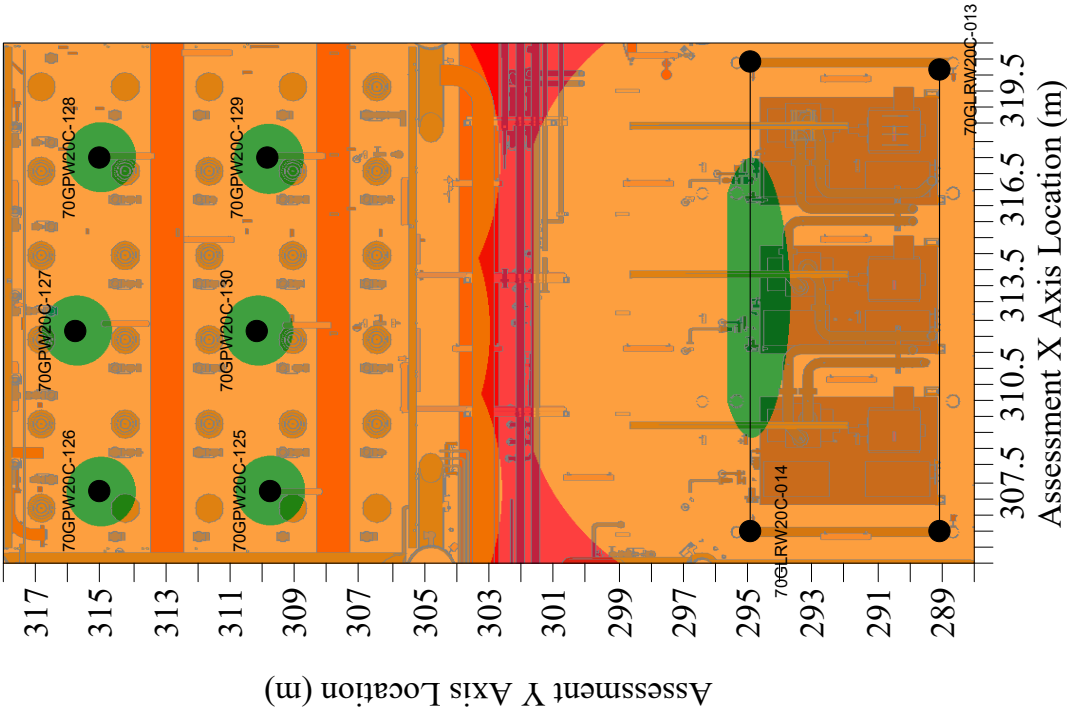
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 1.068 m ALD



COVERAGE KEY

Control Action

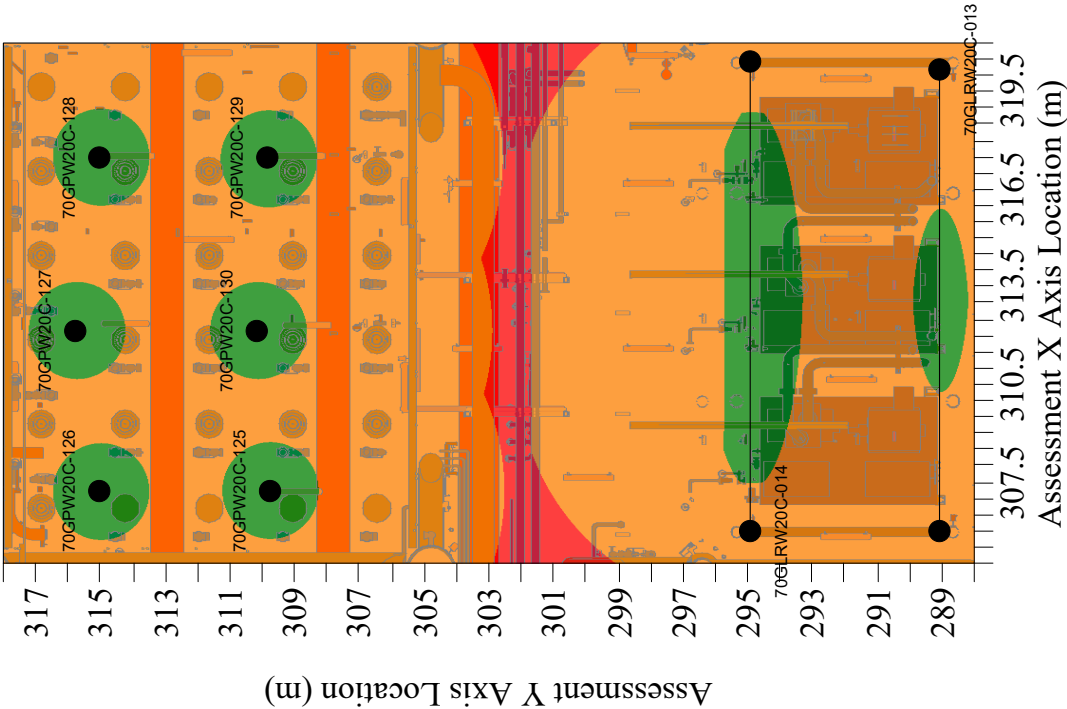
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 1.318 m ALD



COVERAGE KEY

Control Action

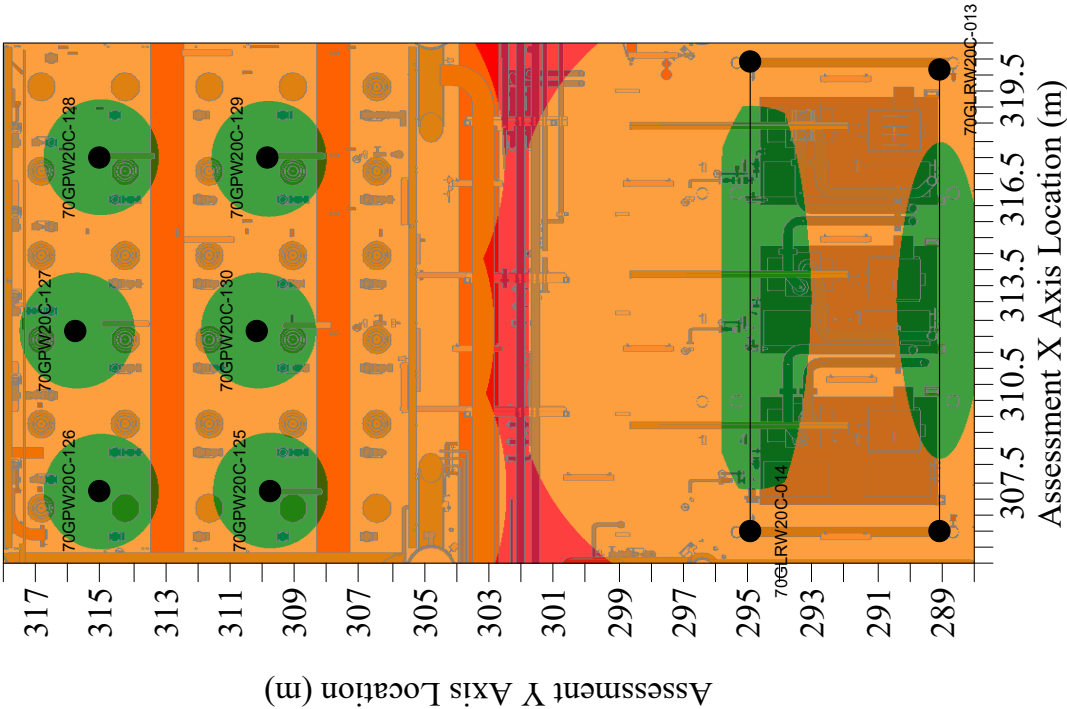
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 1.568 m ALD



COVERAGE KEY

Control Action

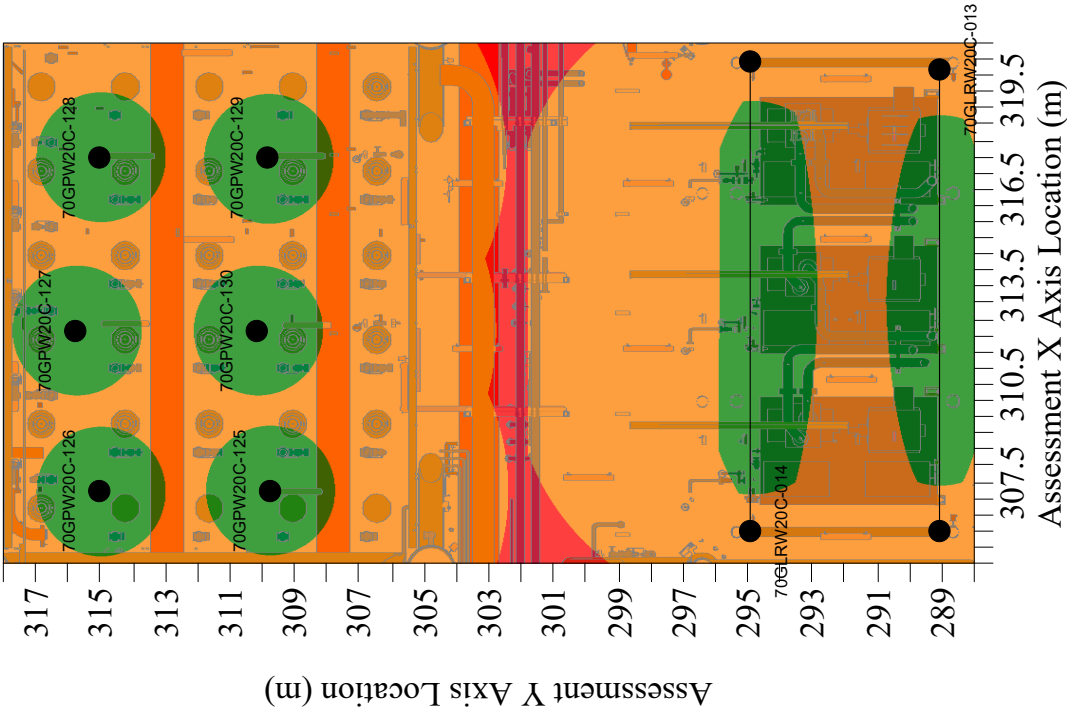
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 1.818 m ALD



COVERAGE KEY

Control Action

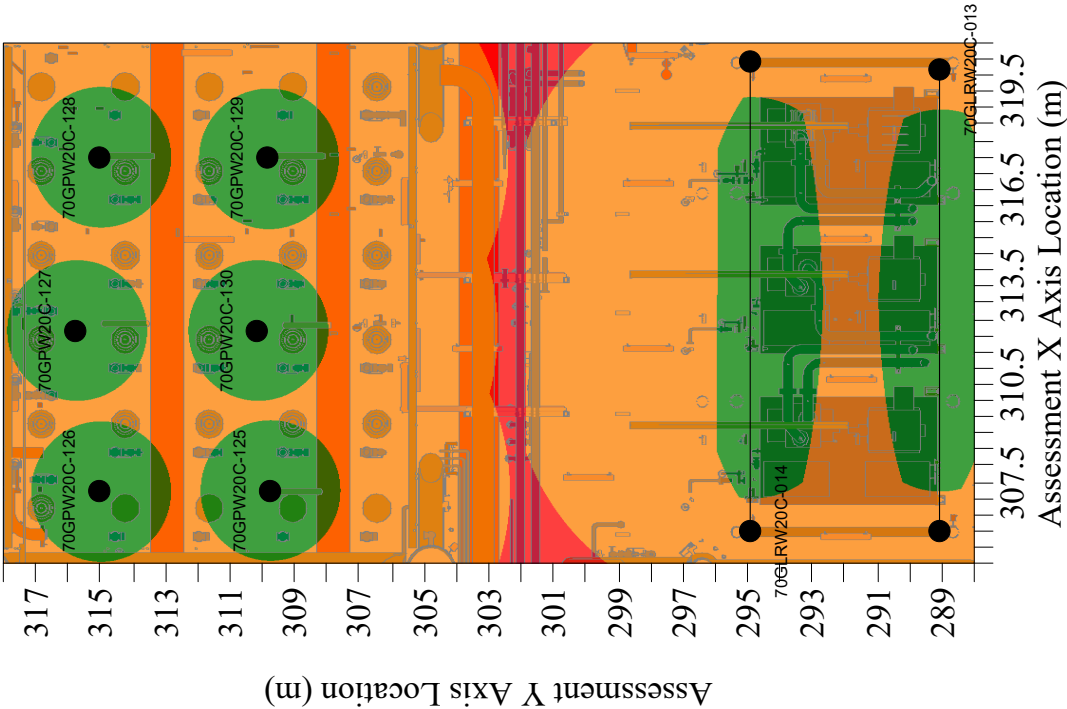
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 2.068 m ALD



COVERAGE KEY

Control Action

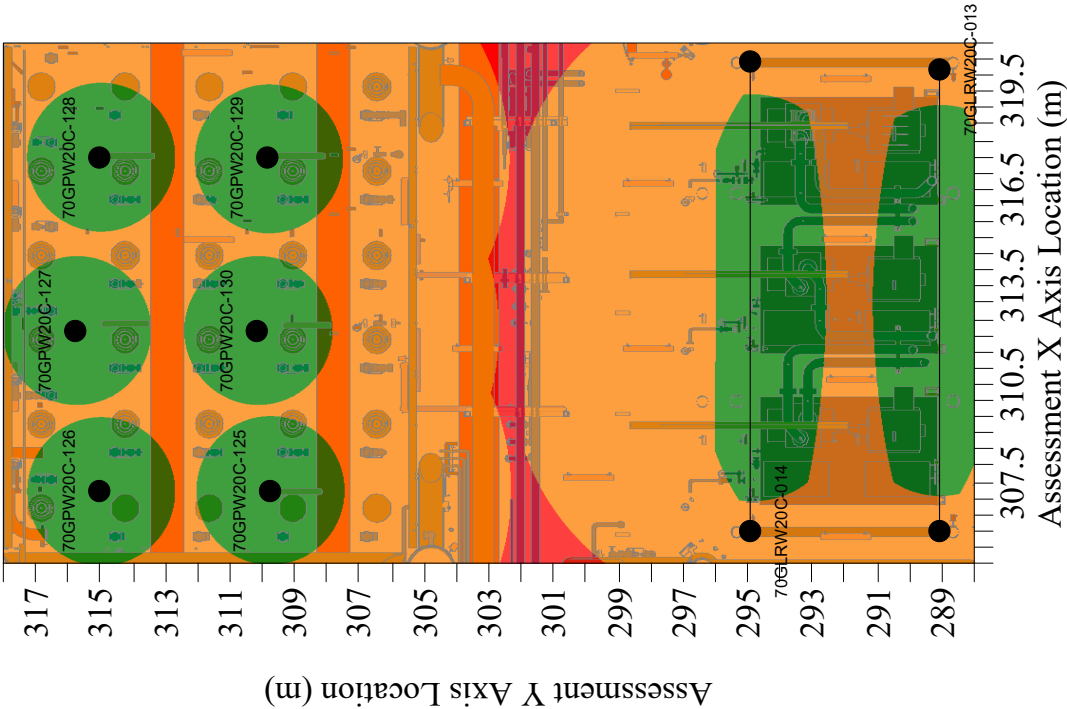
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

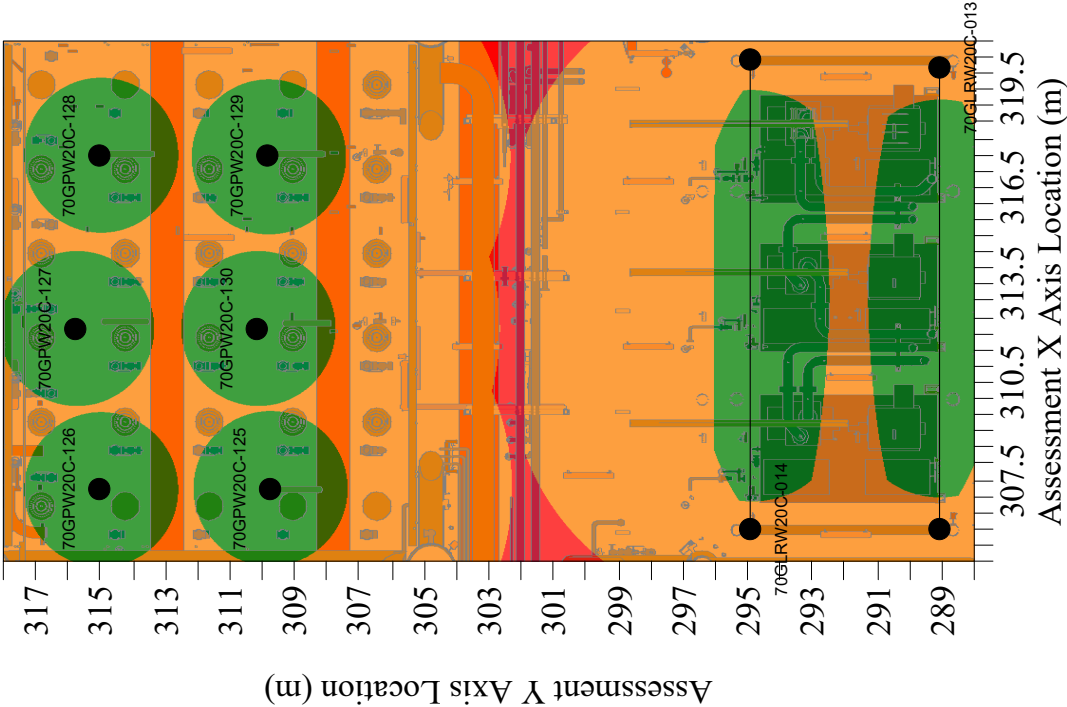
Gas Detector coverage at 2.318 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 2.568 m ALD



COVERAGE KEY

Control Action

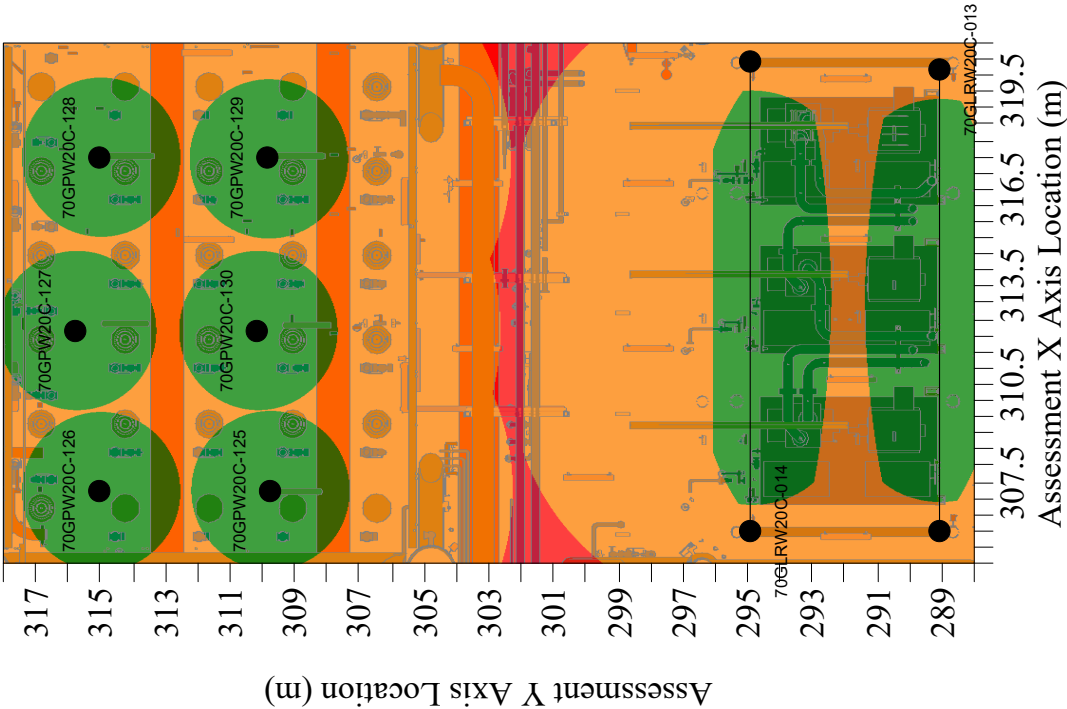
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 2.818 m ALD



COVERAGE KEY

Control Action

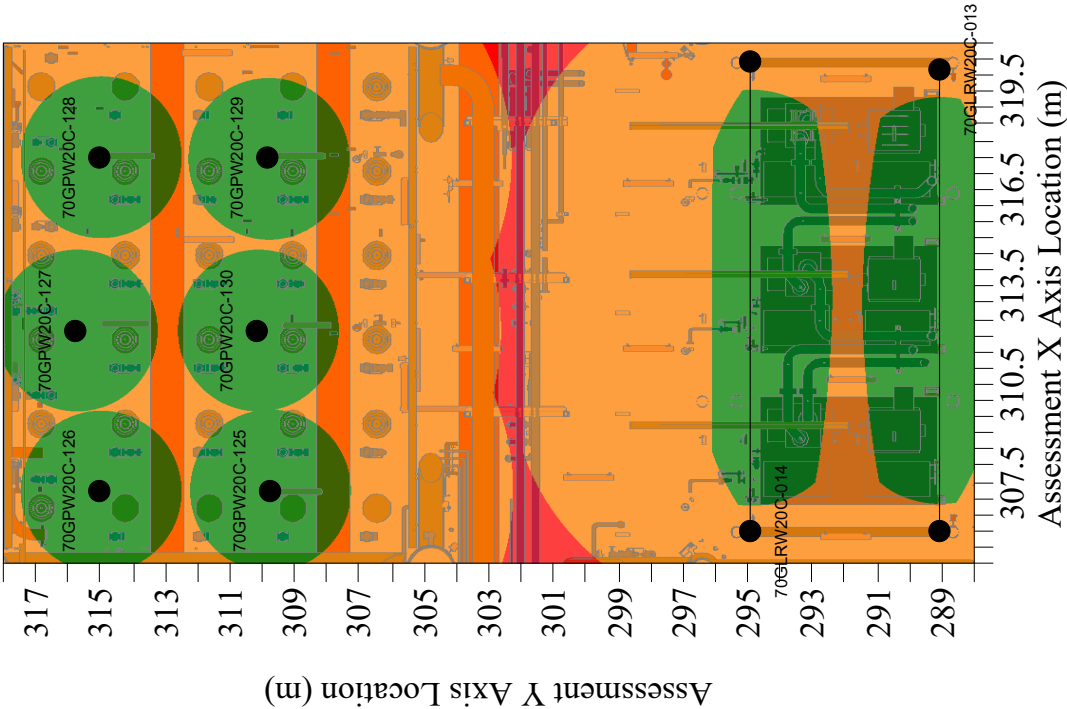
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 3.068 m ALD



COVERAGE KEY

Control Action

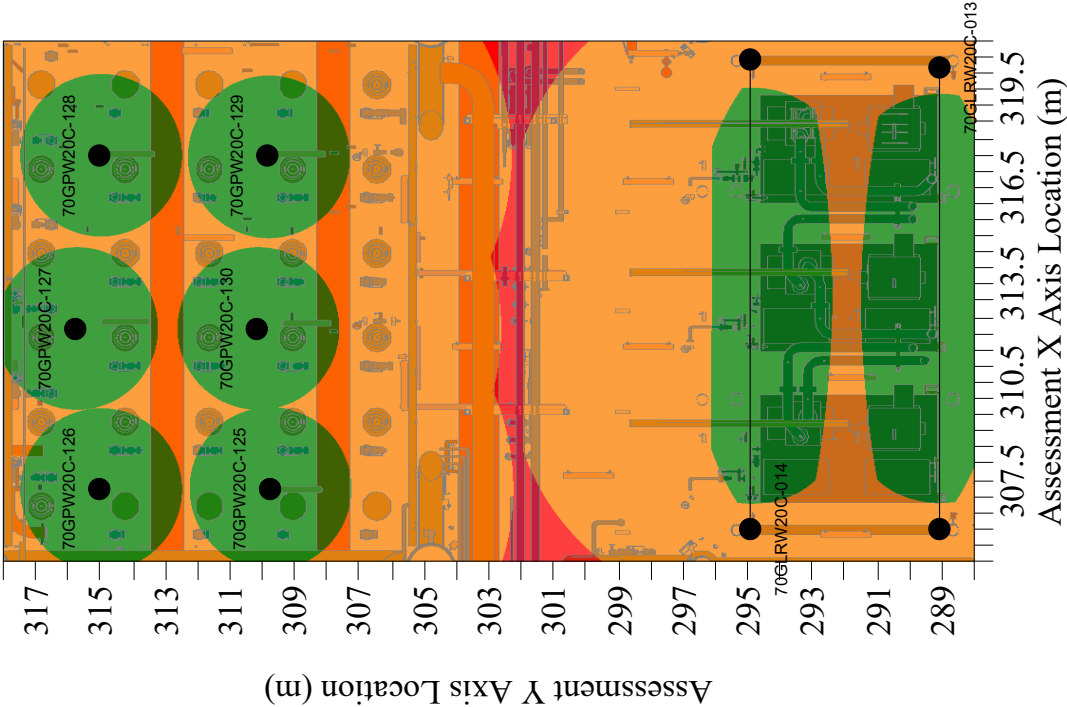
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 3.318 m ALD



COVERAGE KEY

Control Action

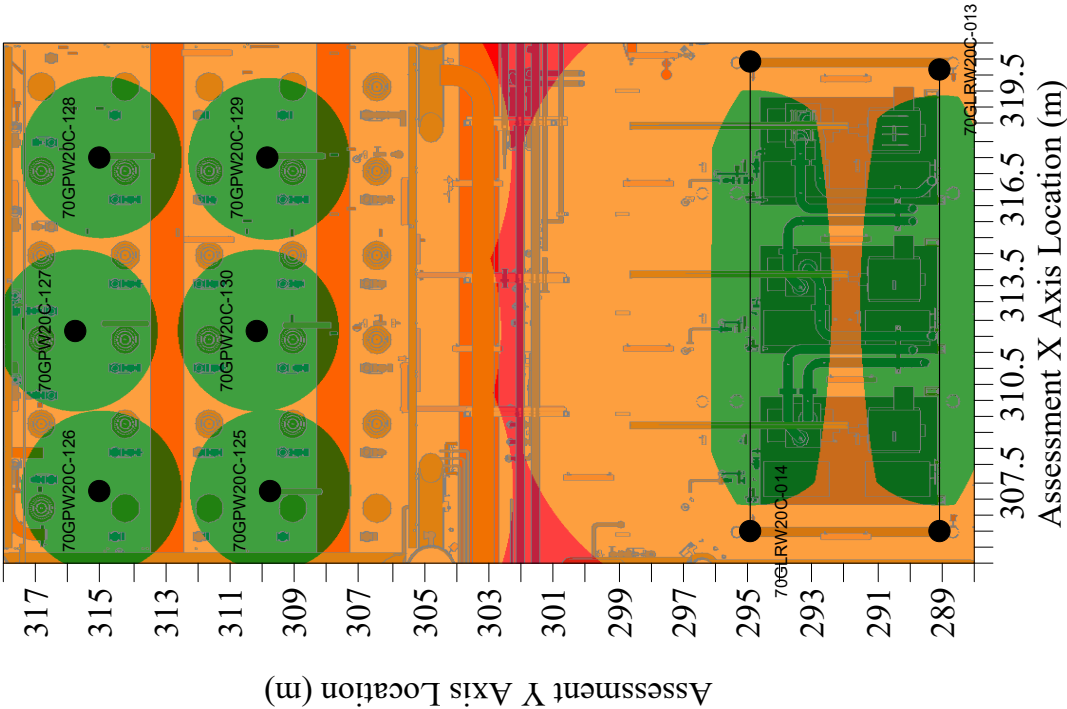
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			

Project Name-Area W20C

Gas Detector coverage at 3.568 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:15



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed Area W20C**
Number of detectors: 10
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 3.50 m Length: 30.00 m Width: 16.00 m Deck Z: 27.43 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

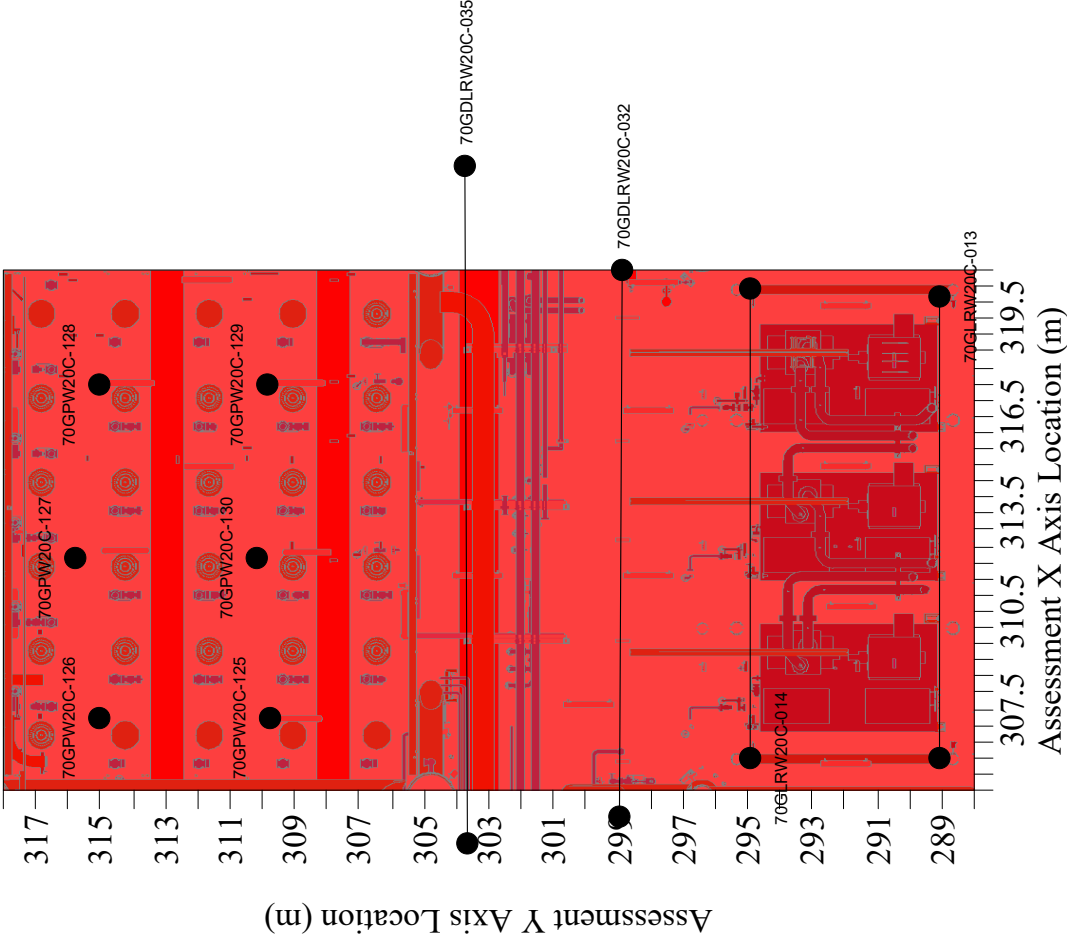
Assessment performed using 15 slices from 27.50 m to 31.00 m
Increment between 3D assessment slices: 0.25 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	46%	46%
Some coverage	54%	54%

Project Name-Proposed Area W20C

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



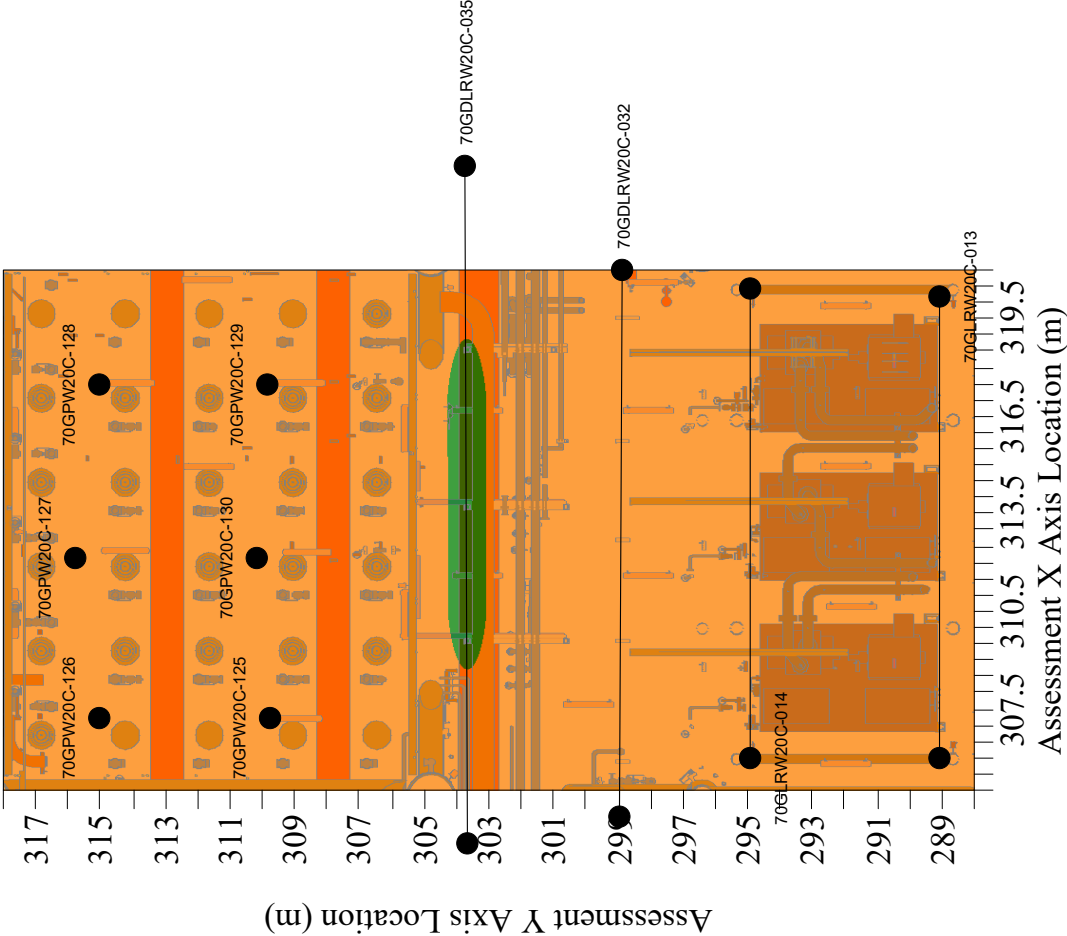
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

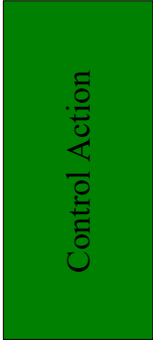
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 0.068 m ALD



COVERAGE KEY



Control Action

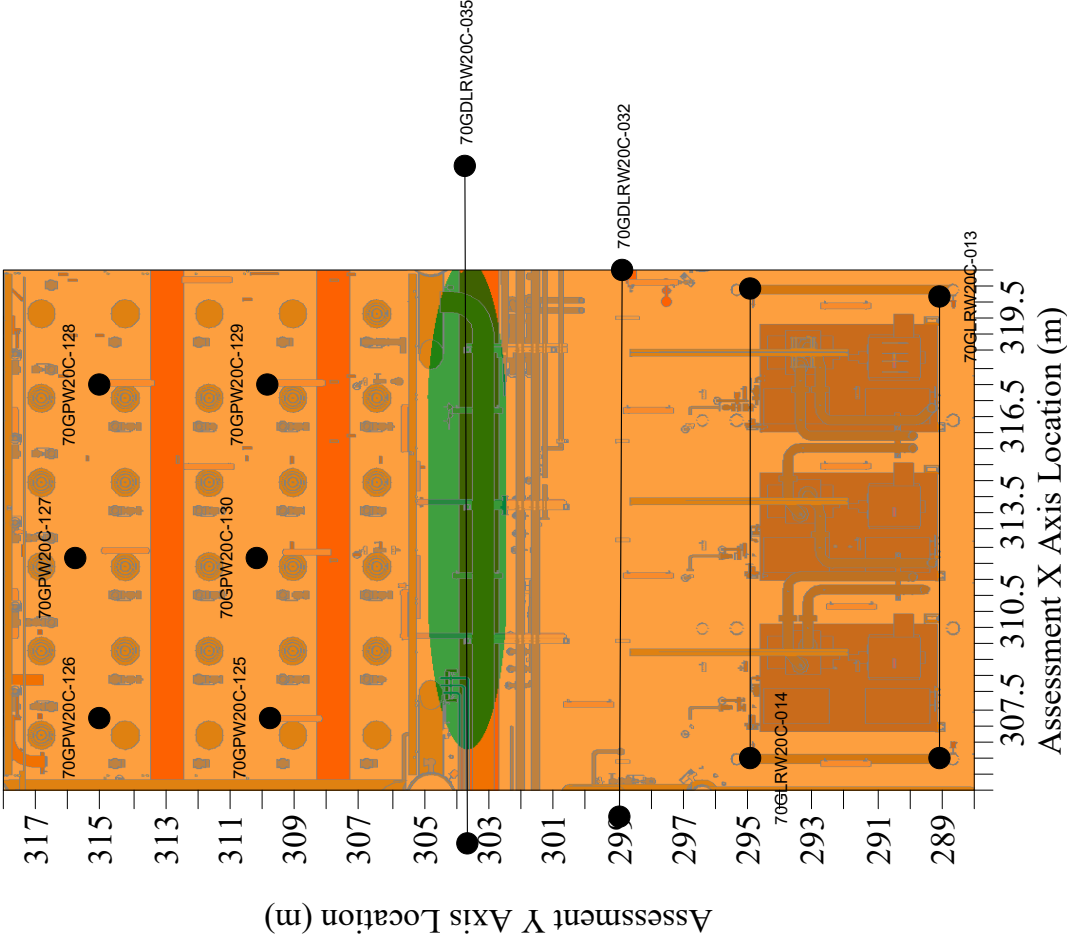


Alarm

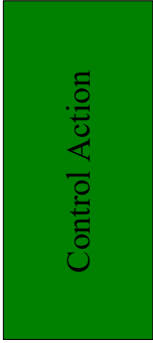
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 0.318 m ALD



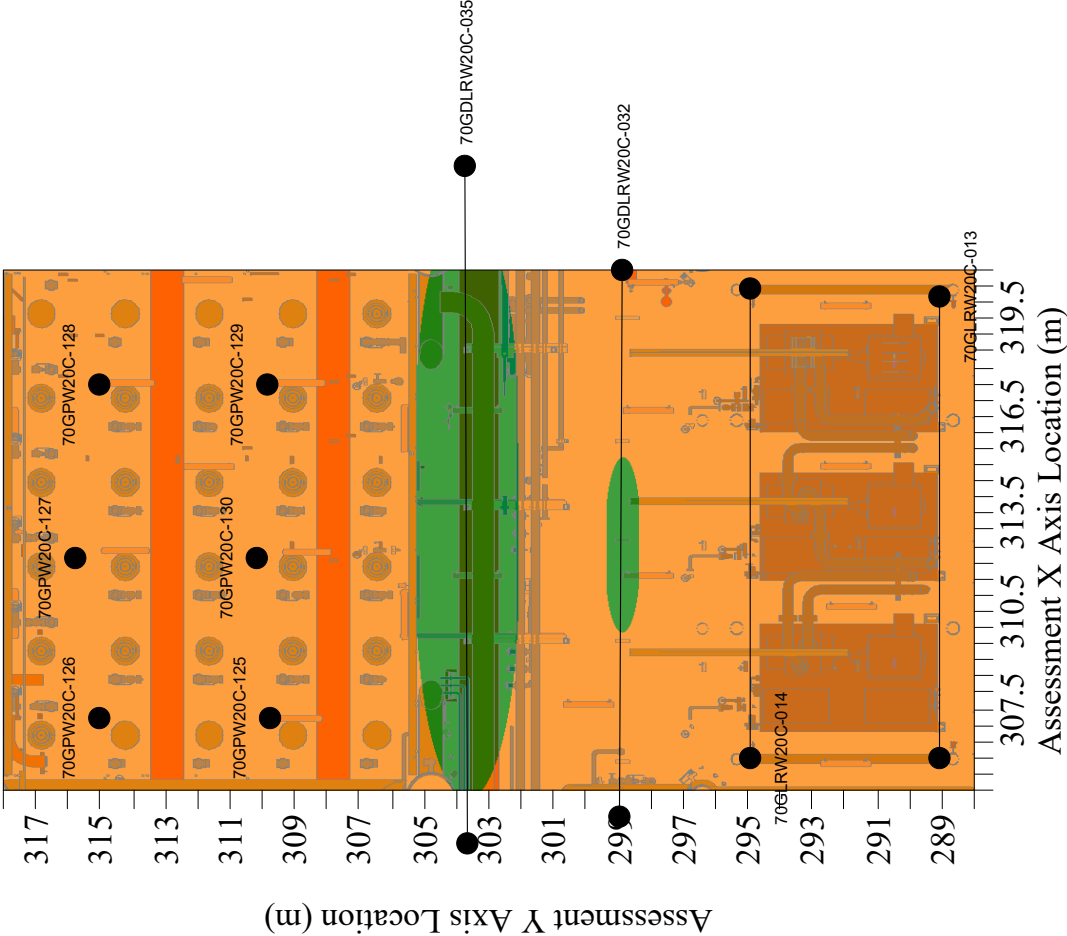
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 0.568 m ALD



COVERAGE KEY

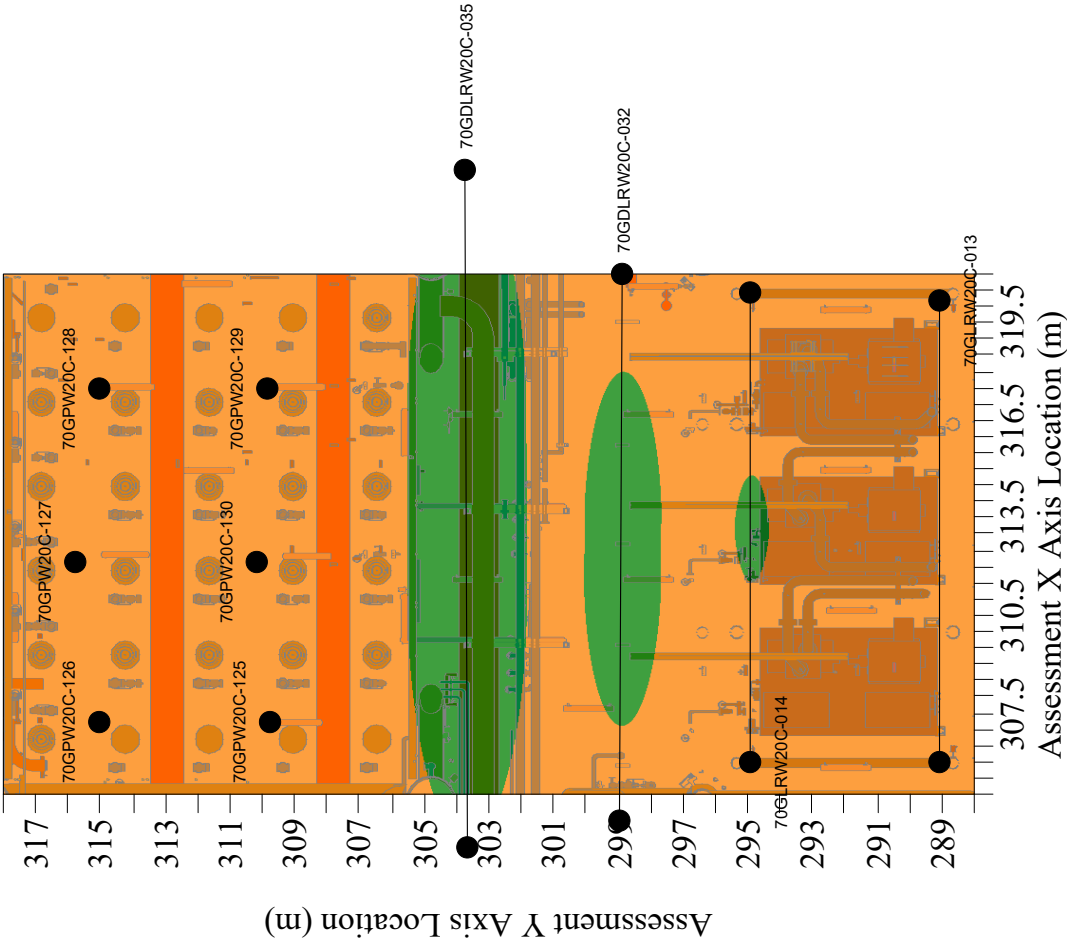
Control Action

Alarm

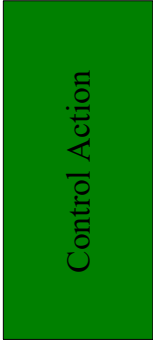
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 0.818 m ALD



COVERAGE KEY



Control Action

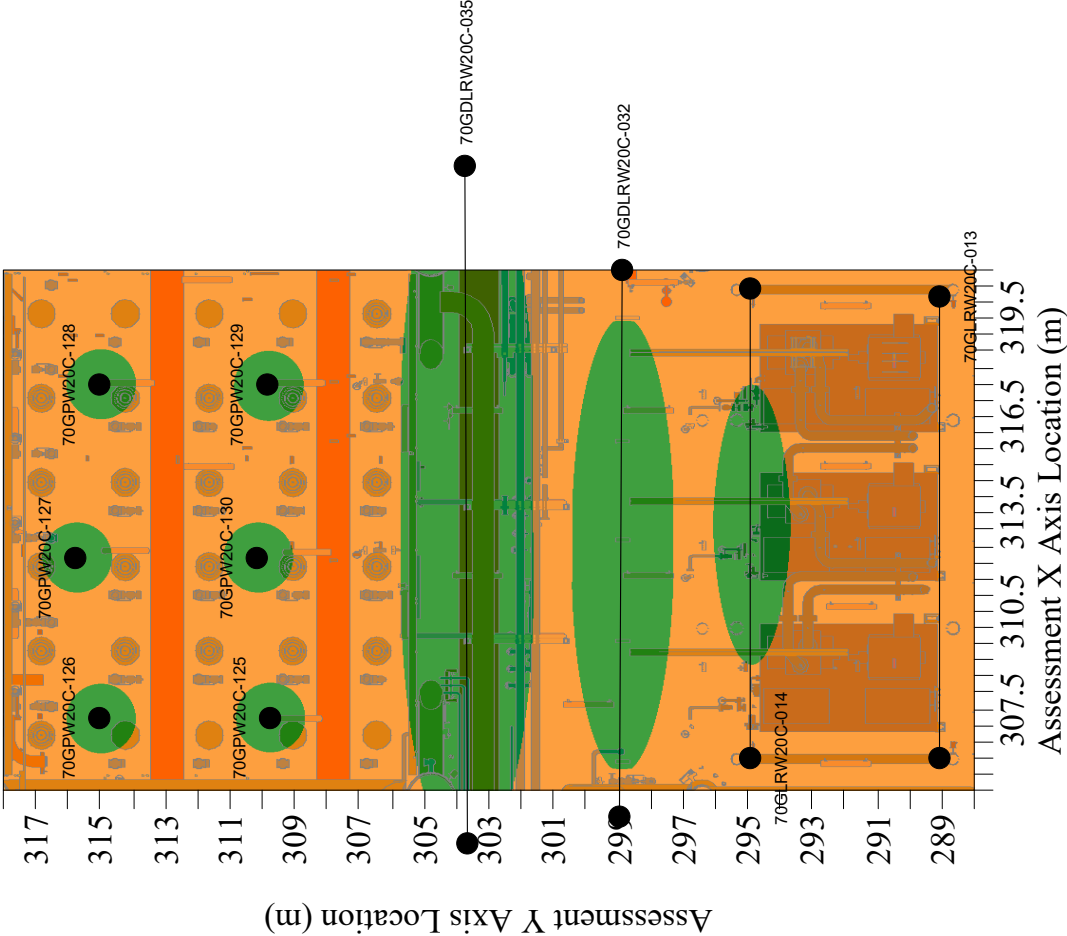


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 1.068 m ALD



COVERAGE KEY

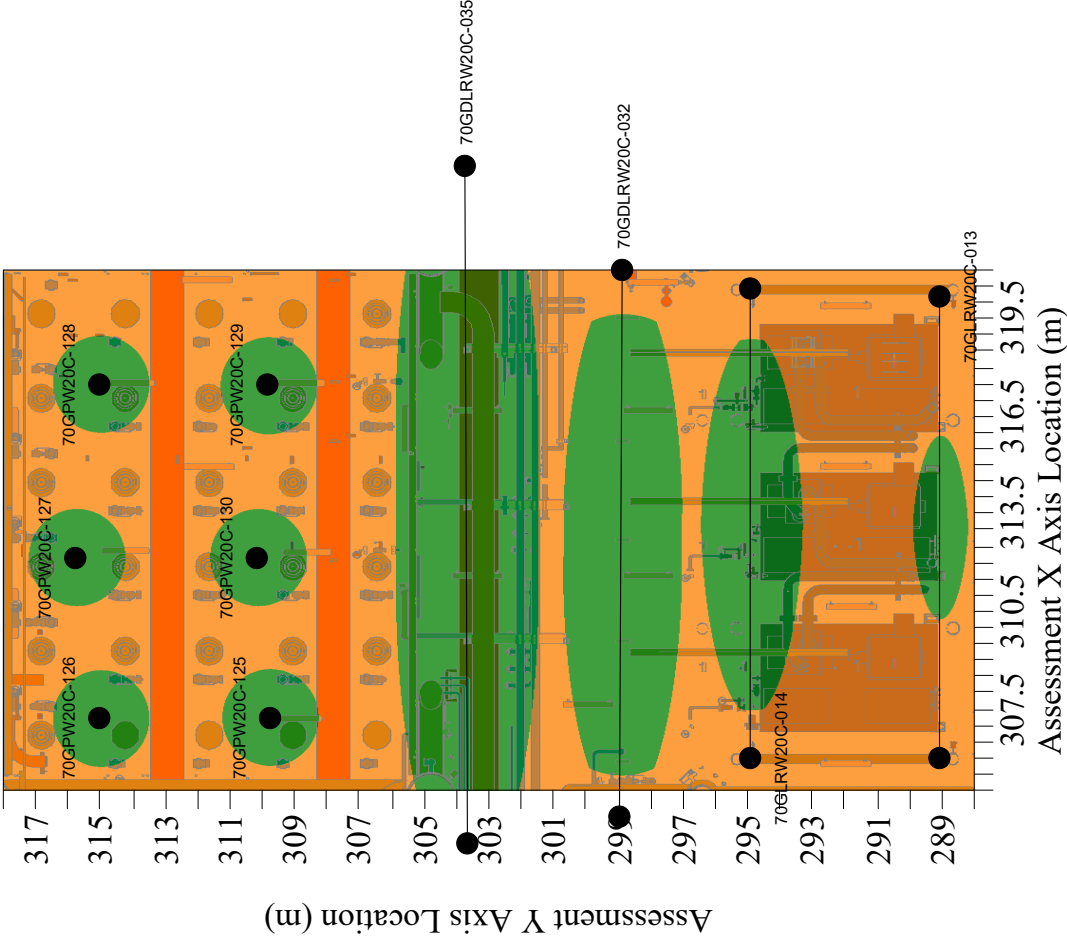
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 1.318 m ALD



COVERAGE KEY

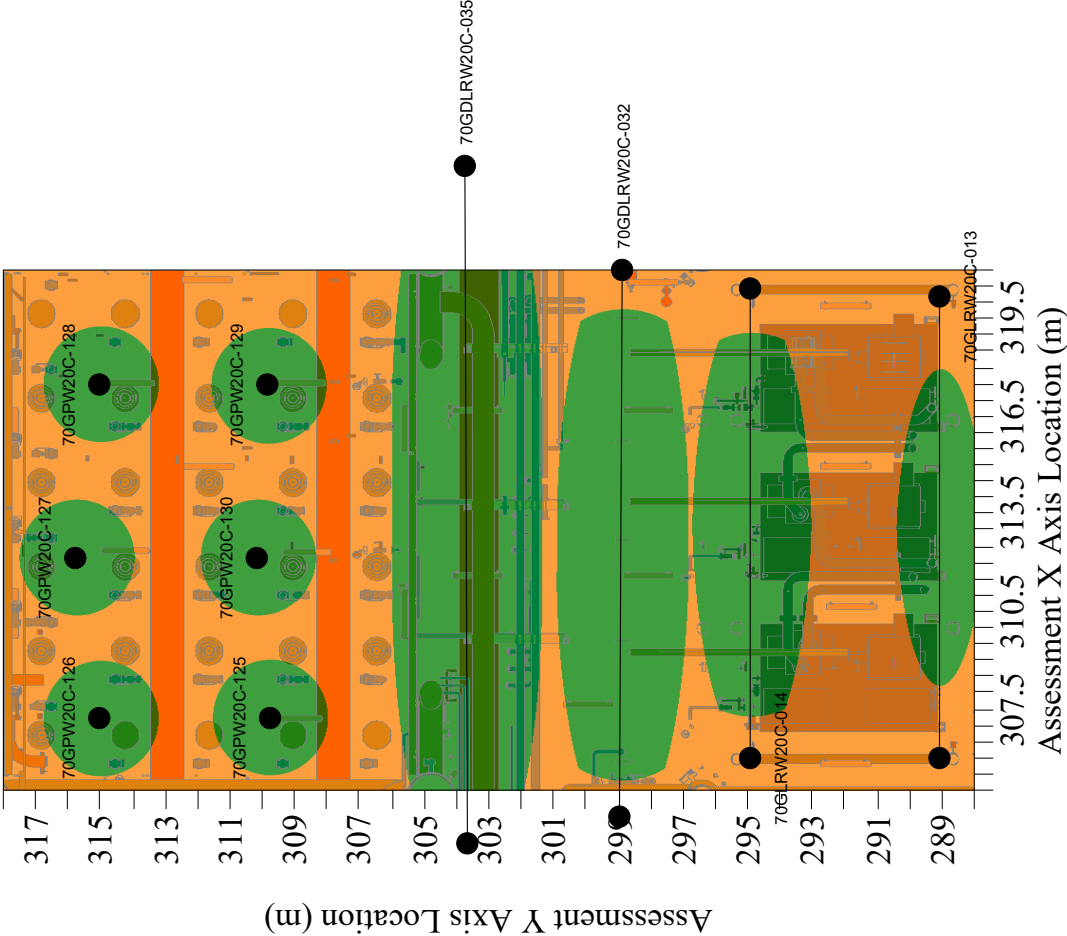
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 1.568 m ALD



COVERAGE KEY

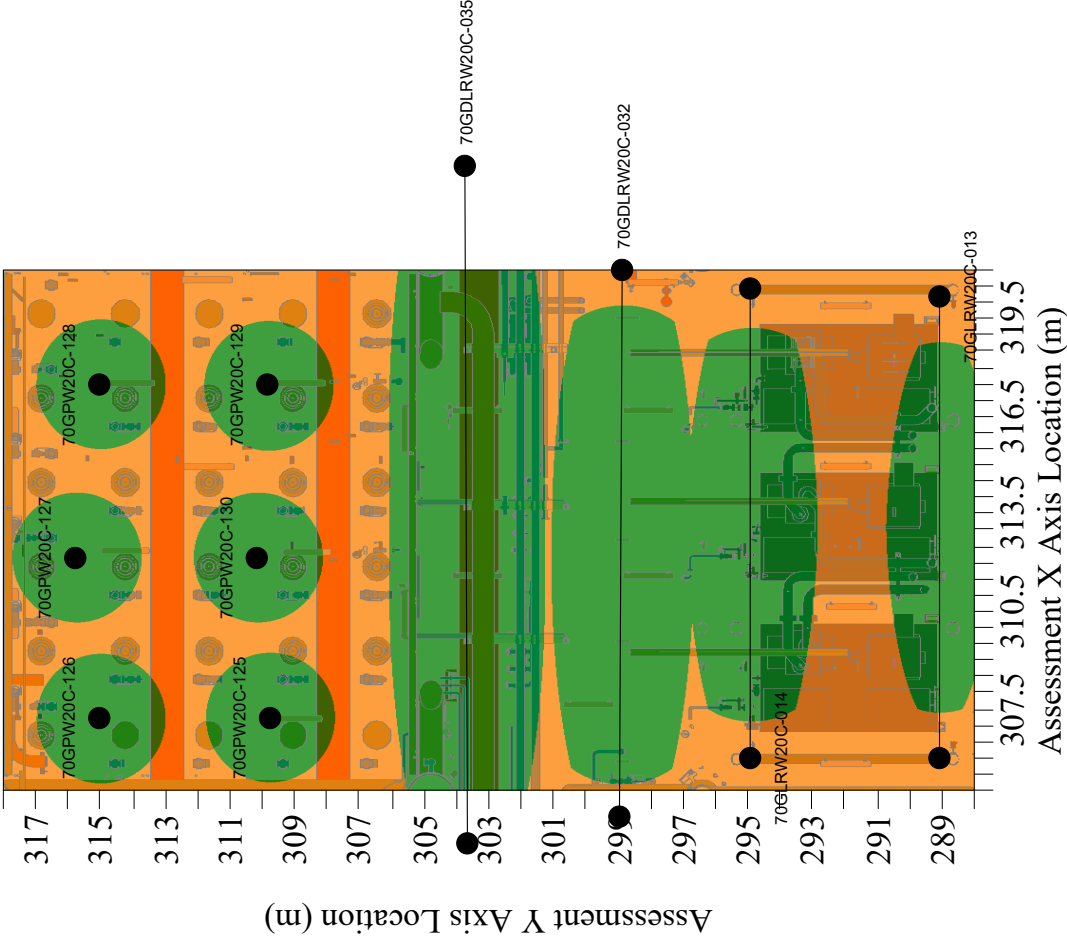
Control Action

Alarm

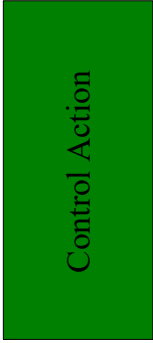
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 1.818 m ALD



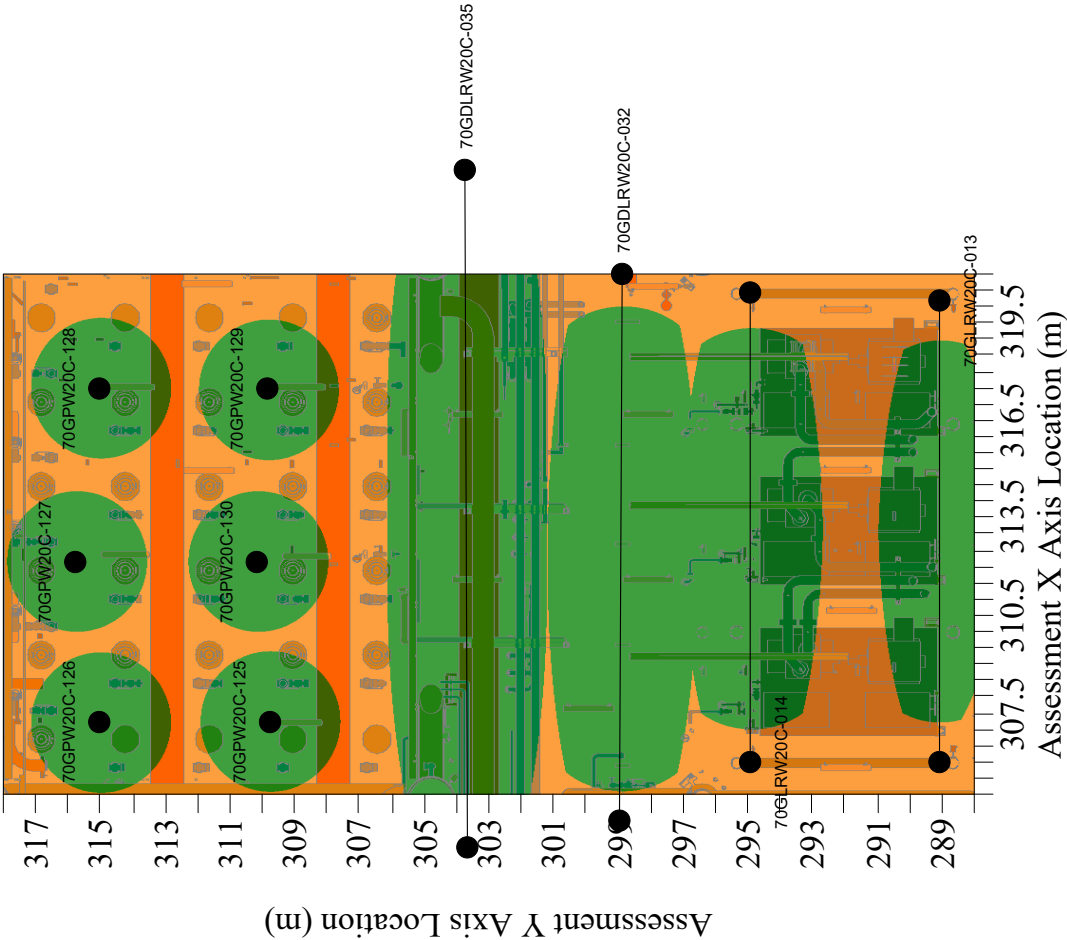
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 2.068 m ALD



COVERAGE KEY

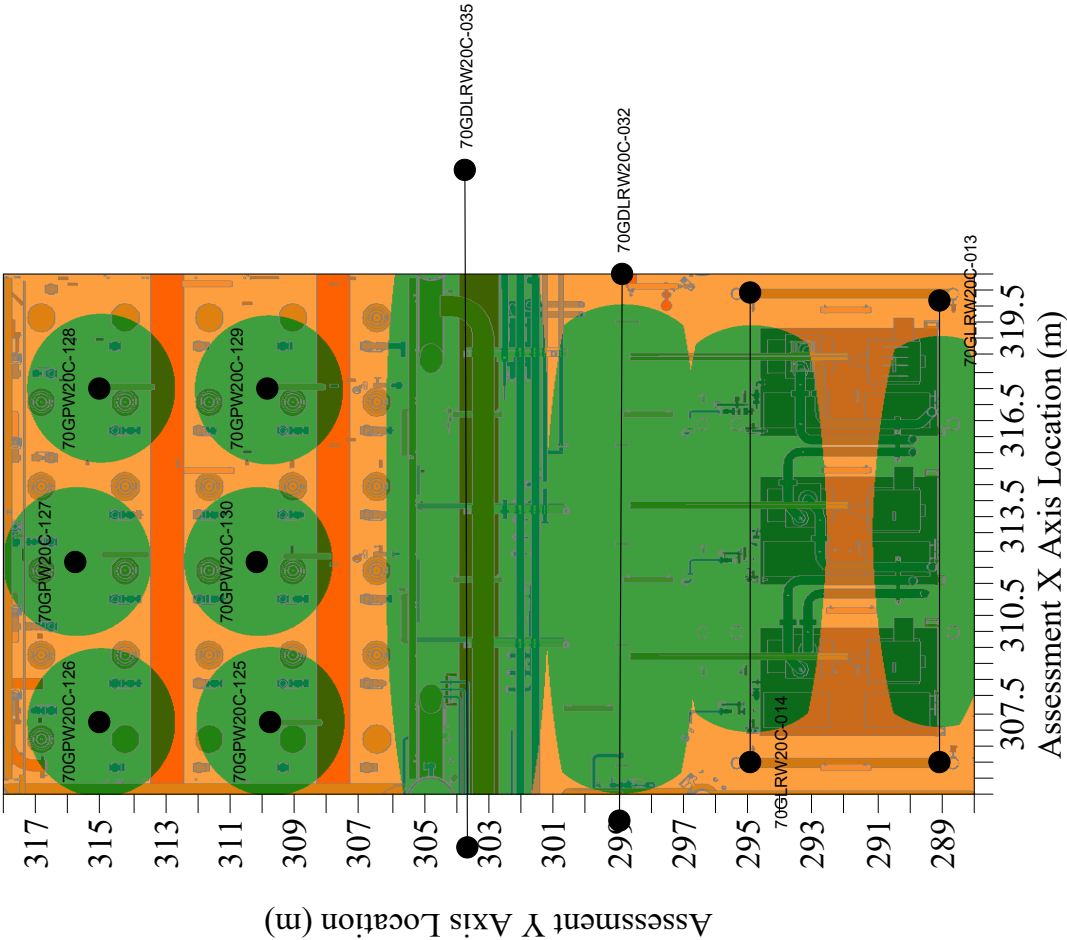
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 2.318 m ALD



COVERAGE KEY

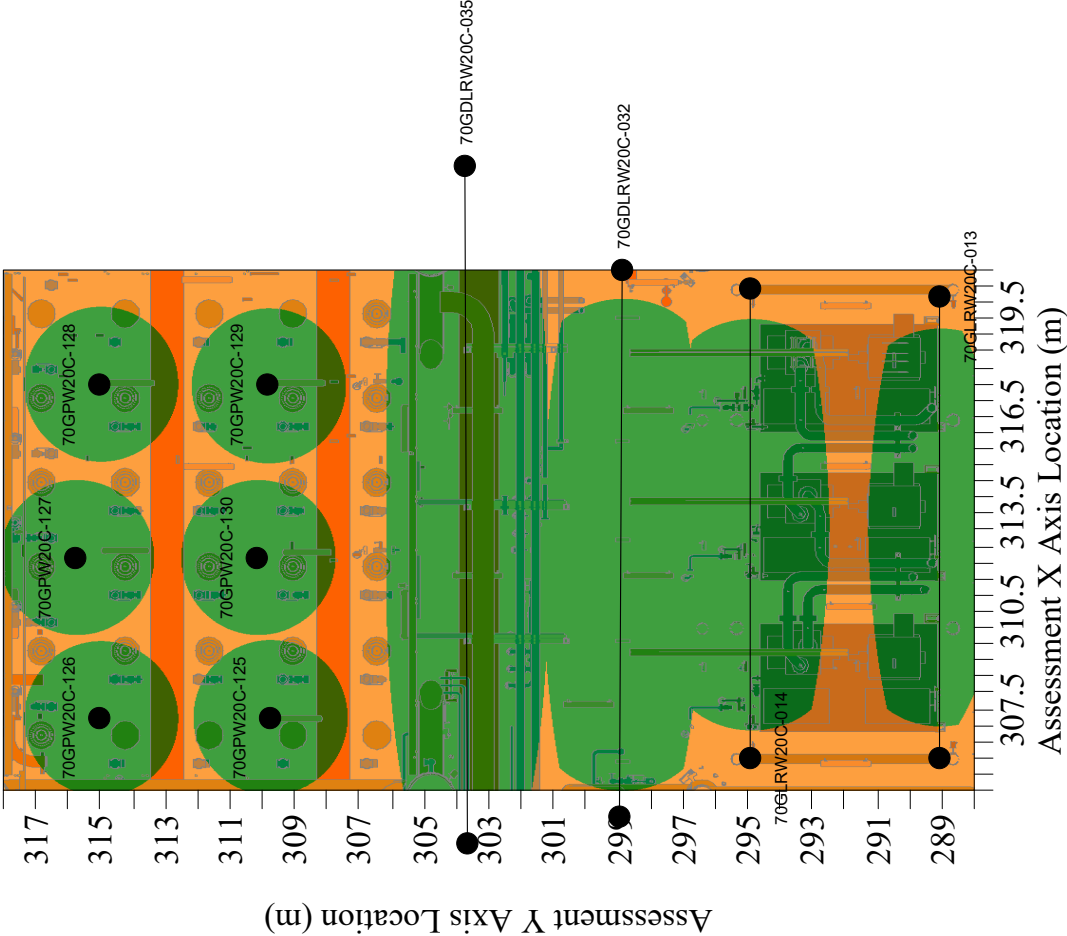
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 2.568 m ALD



COVERAGE KEY

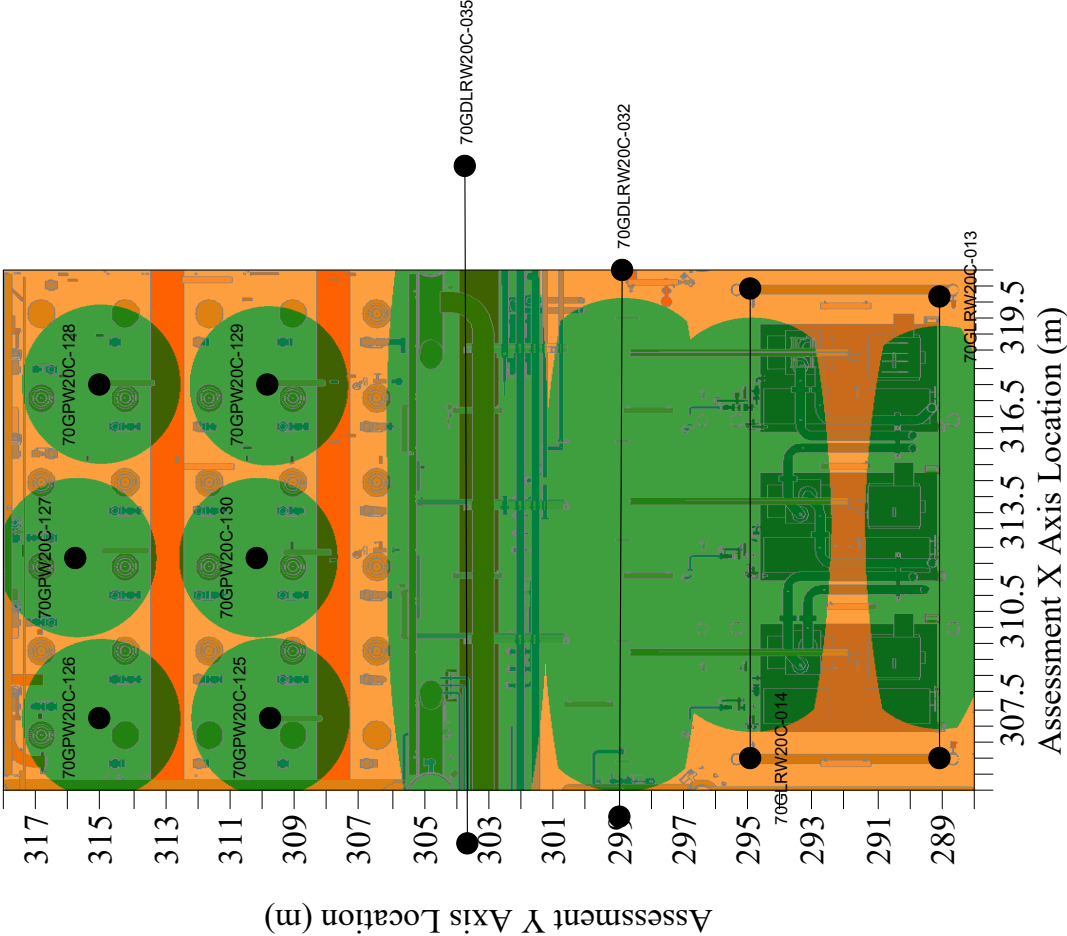
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

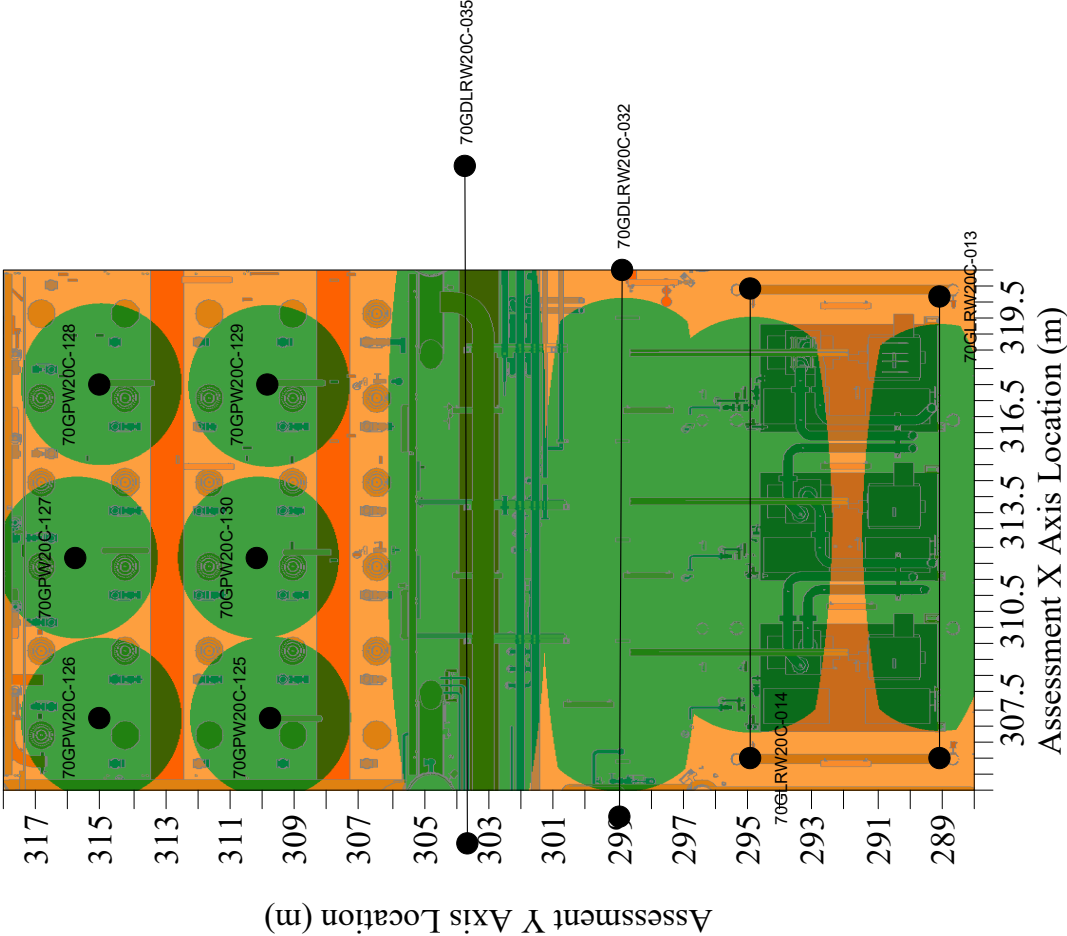
Gas Detector coverage at 2.818 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 3.068 m ALD



COVERAGE KEY

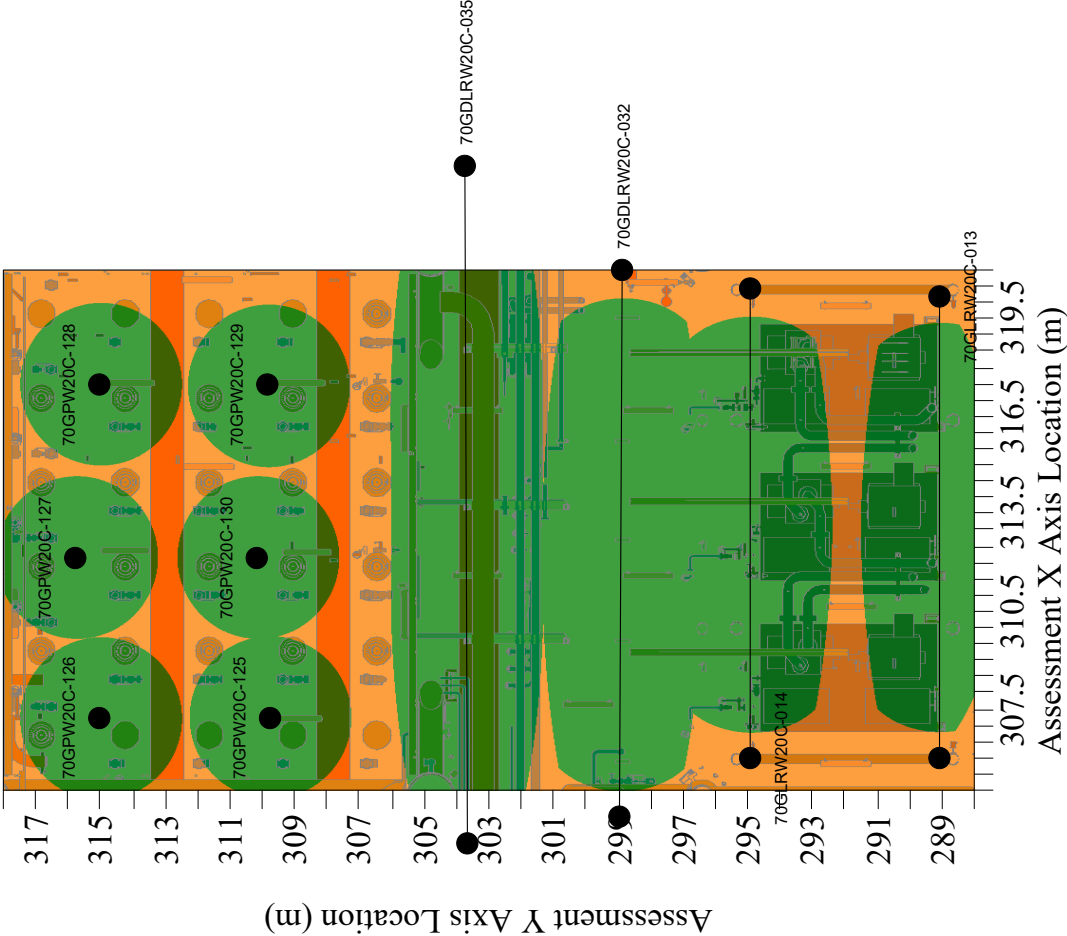
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

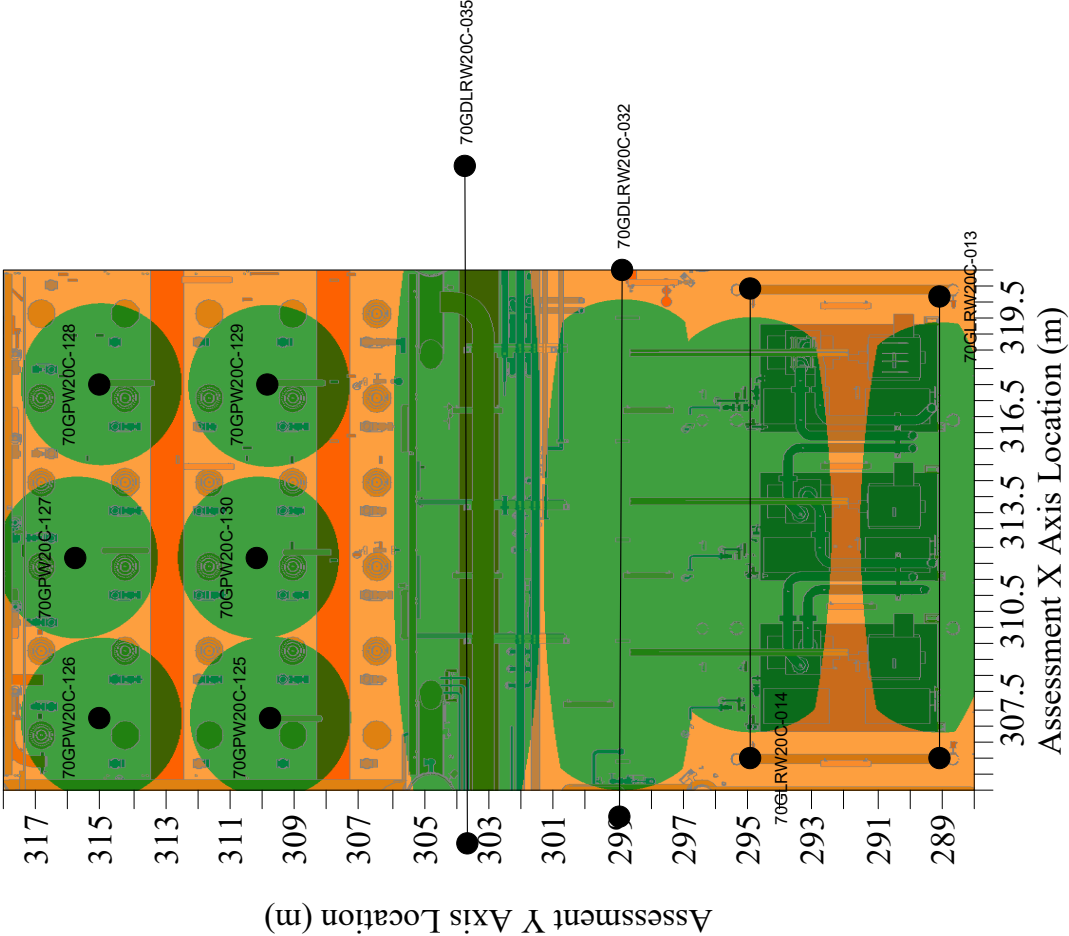
Gas Detector coverage at 3.318 m ALD



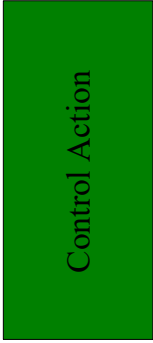
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			

Project Name-Proposed Area W20C

Gas Detector coverage at 3.568 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:17



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W20E**
Number of detectors: 7
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 3.50 m Length: 30.00 m Width: 10.00 m Deck Z: 27.43 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

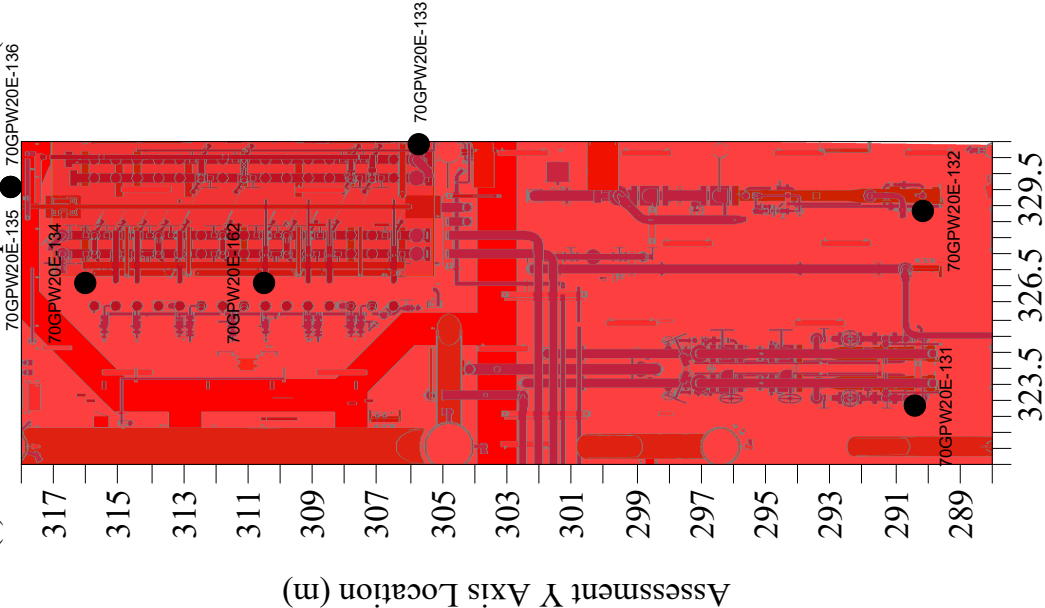
Assessment performed using 15 slices from 27.50 m to 31.00 m
Increment between 3D assessment slices: 0.25 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	22%	22%
Some coverage	66%	66%
No coverage	12%	12%

Project Name-Area W20E

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)



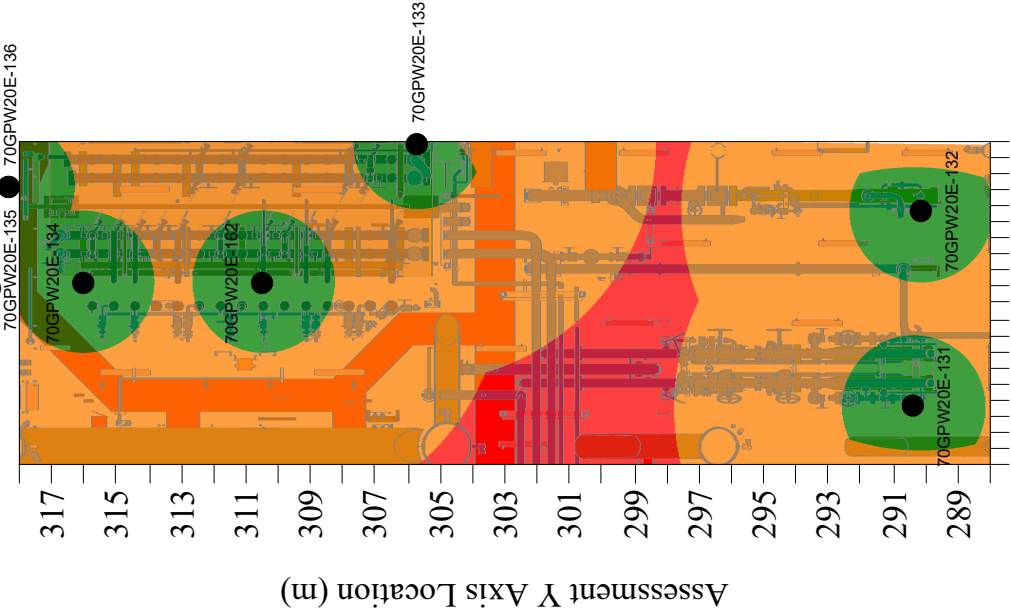
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 0.068 m ALD



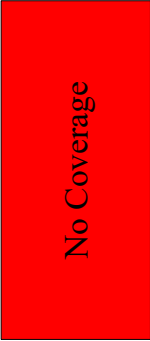
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Area W20E

Project Name-Area W20E

Platform/site

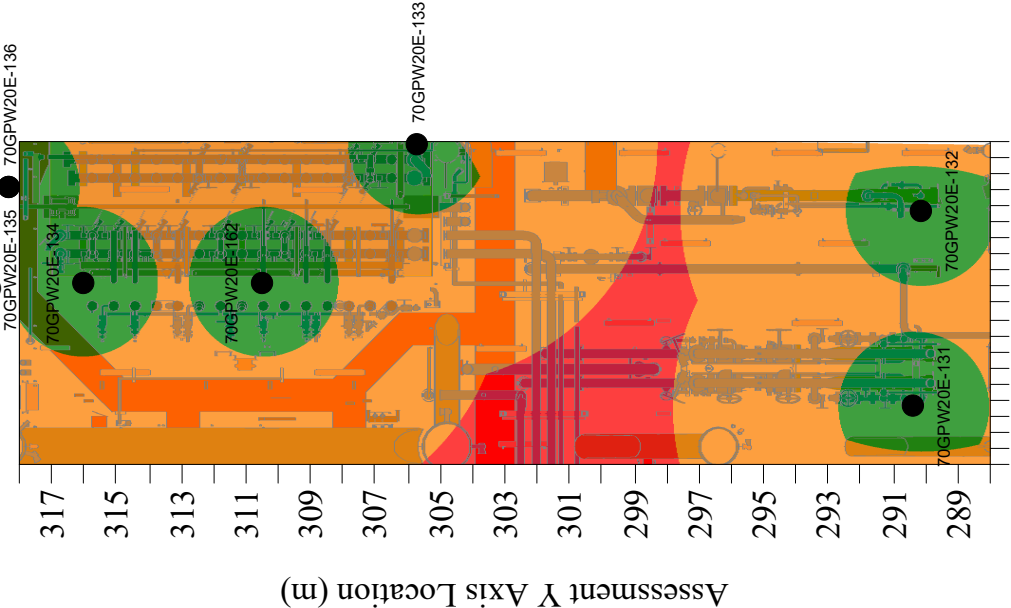
Drg category

Project Name

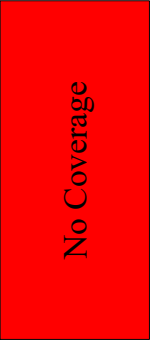
Assessment result (20-Jul-2018)

Project Name-Area W20E

Gas Detector coverage at 0.318 m ALD



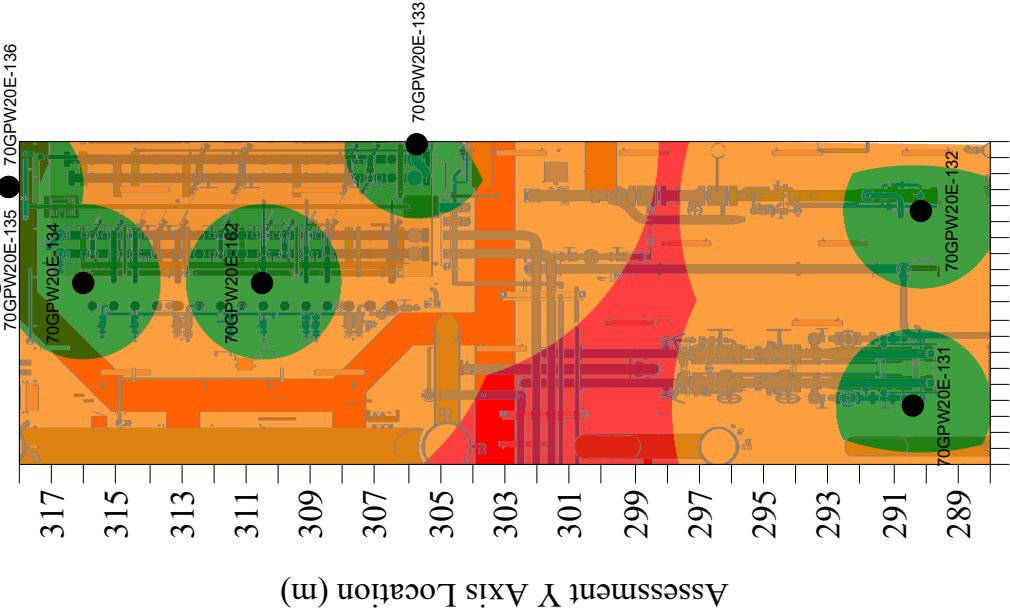
COVERAGE KEY



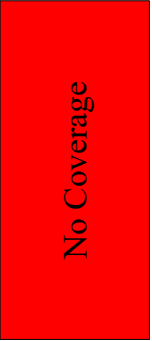
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 0.568 m ALD



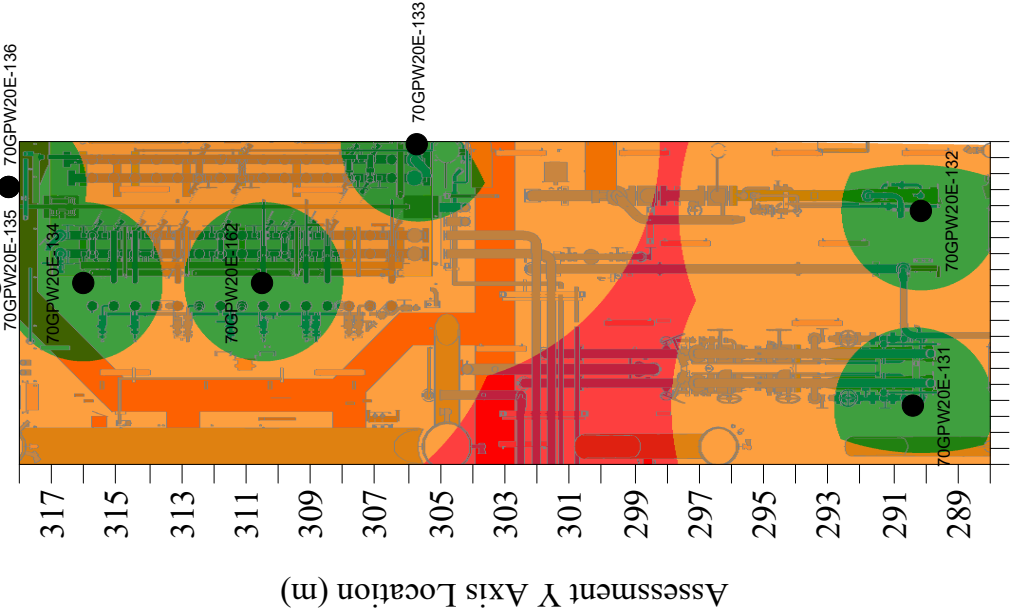
COVERAGE KEY



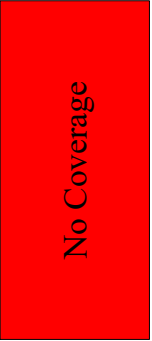
Drawing Description Area W20E Project Name-Area W20E	Platform/site	Project Name
	Drg category	Assessment result (20-Jul-2018)

Project Name-Area W20E

Gas Detector coverage at 0.818 m ALD



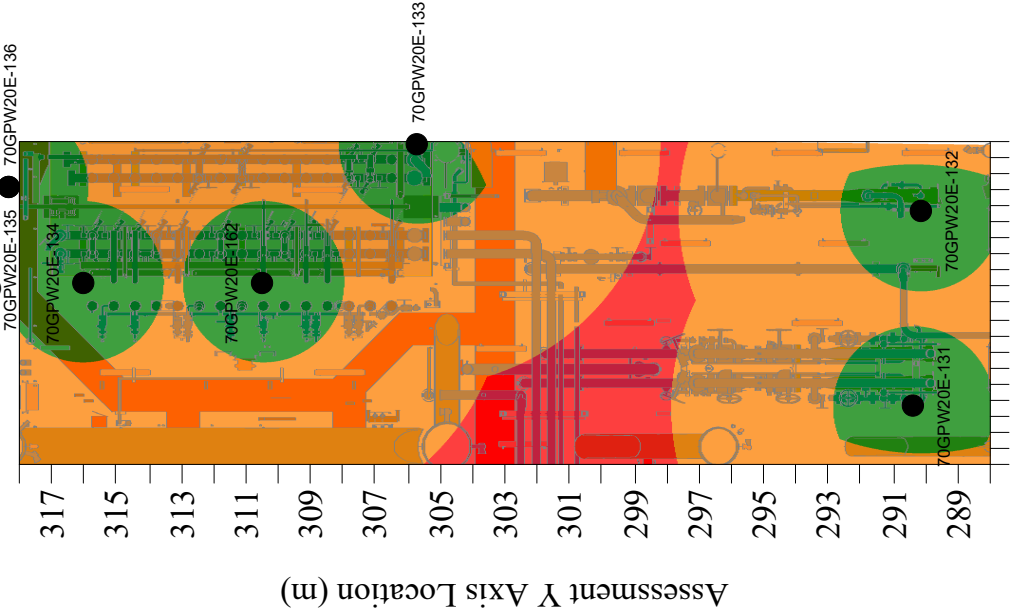
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 1.068 m ALD



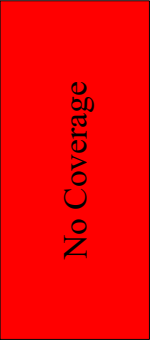
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Area W20E

Project Name-Area W20E

Platform/site

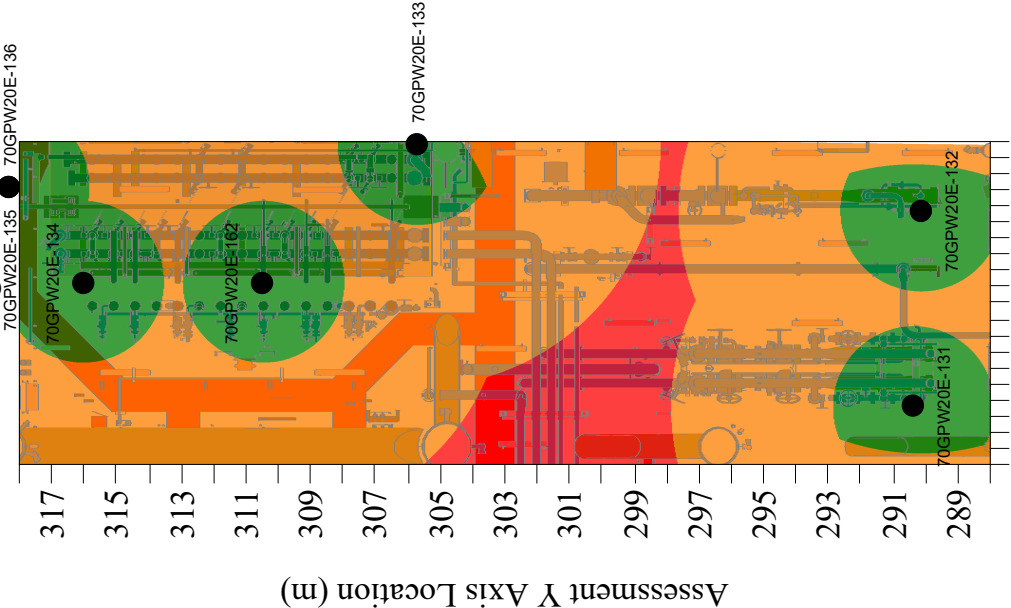
Drg category

Project Name

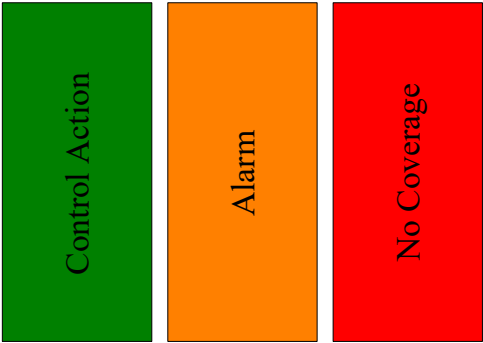
Assessment result (20-Jul-2018)

Project Name-Area W20E

Gas Detector coverage at 1.318 m ALD



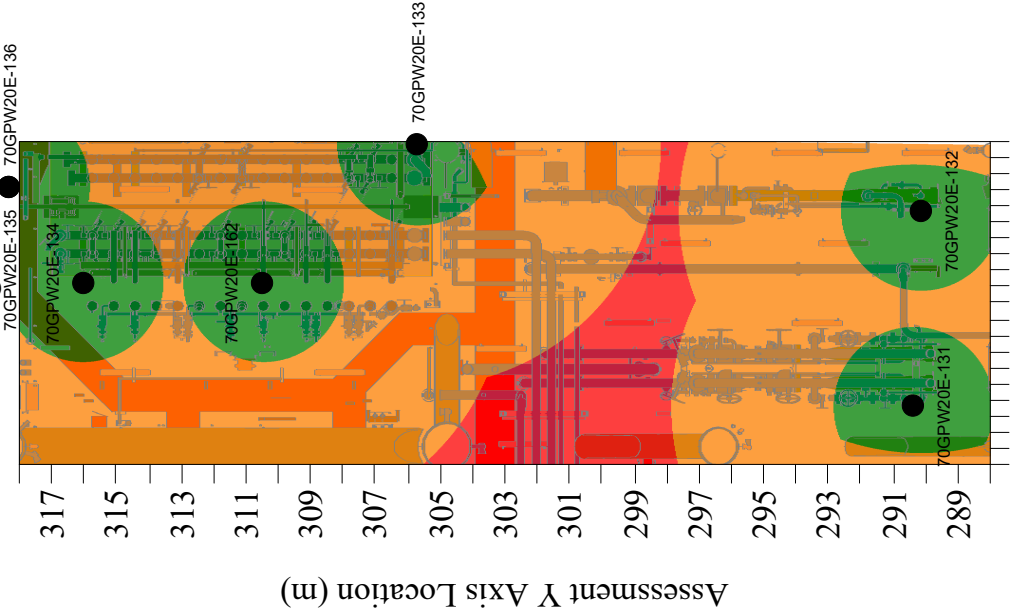
COVERAGE KEY



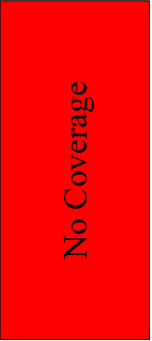
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 1.568 m ALD



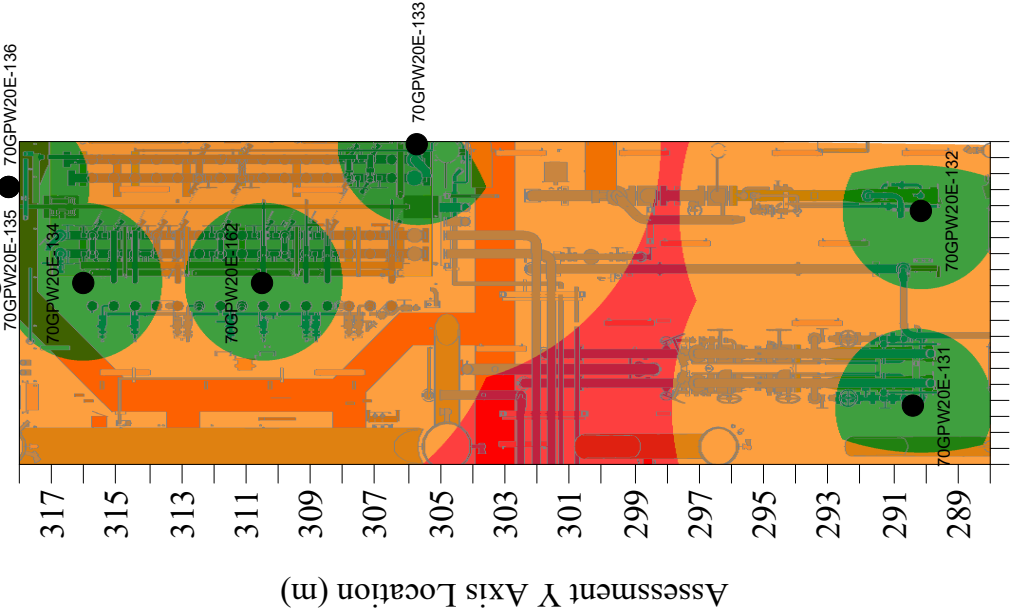
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 1.818 m ALD



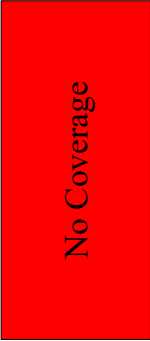
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Area W20E

Project Name-Area W20E

Platform/site

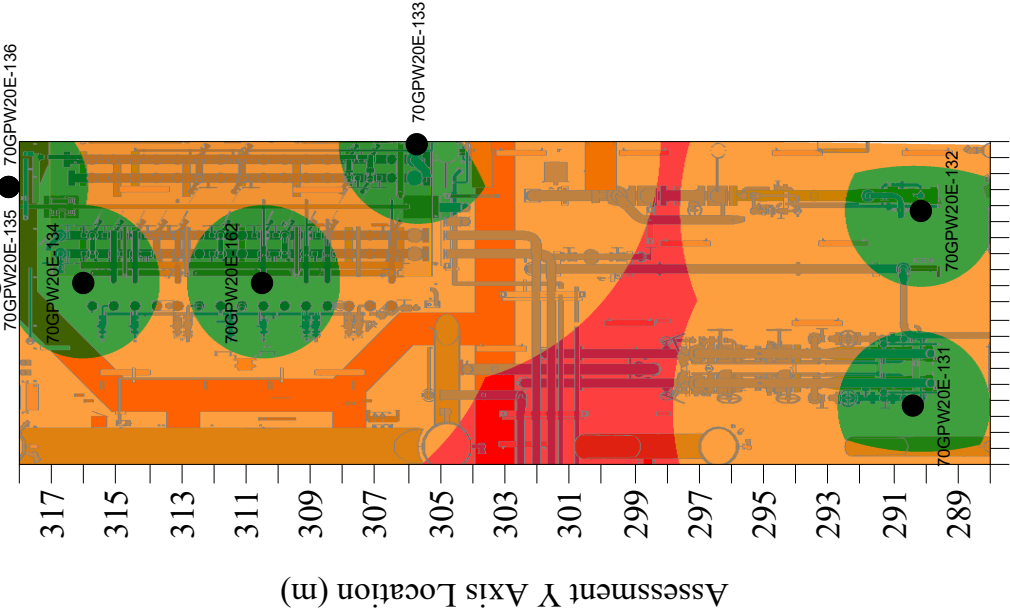
Drg category

Project Name

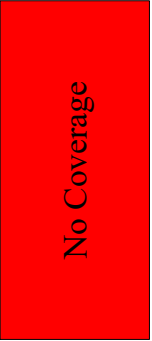
Assessment result (20-Jul-2018)

Project Name-Area W20E

Gas Detector coverage at 2.068 m ALD



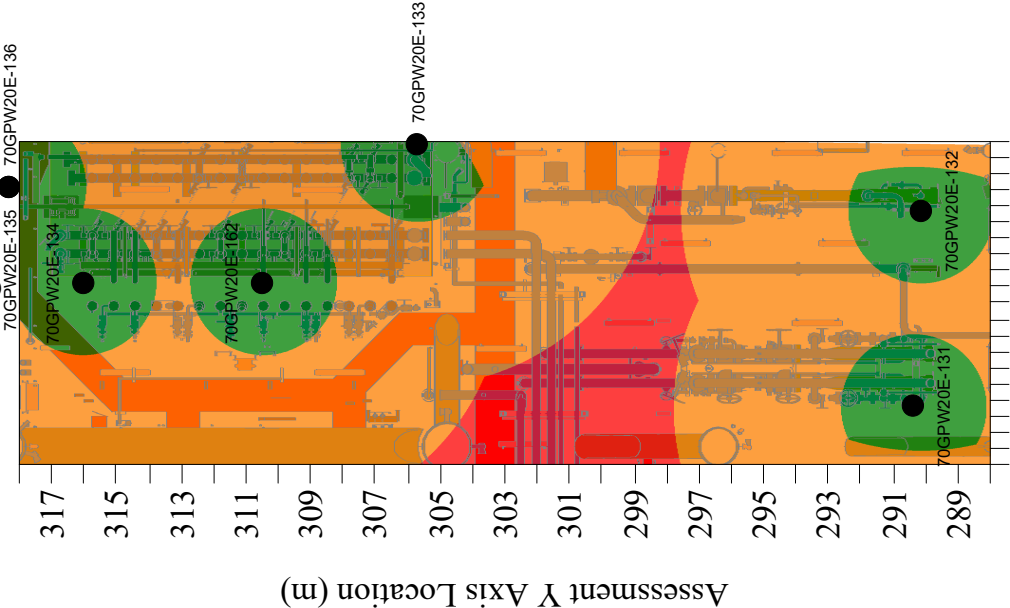
COVERAGE KEY



Drawing Description Area W20E Project Name-Area W20E	Platform/site	Project Name
	Drg category	Assessment result (20-Jul-2018)

Project Name-Area W20E

Gas Detector coverage at 2.318 m ALD



COVERAGE KEY

Control Action

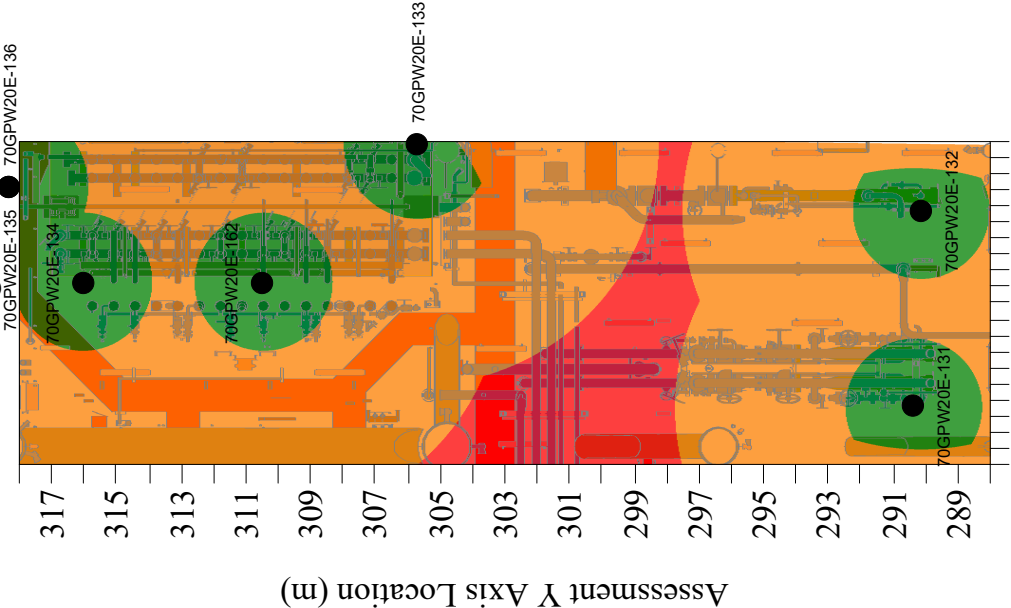
Alarm

No Coverage

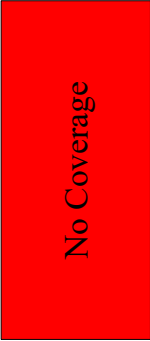
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 2.568 m ALD



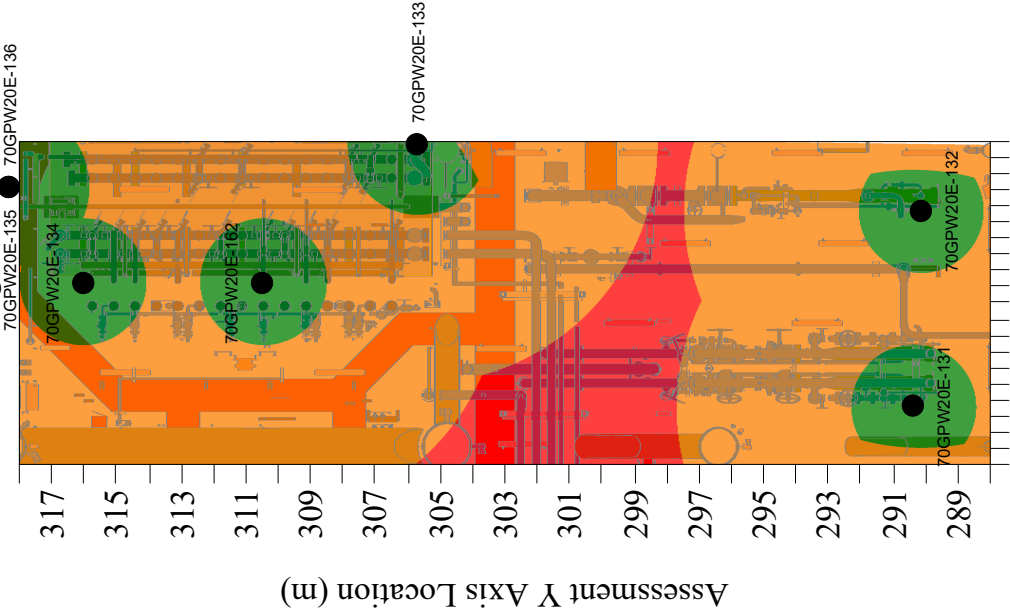
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 2.818 m ALD



COVERAGE KEY

Control Action

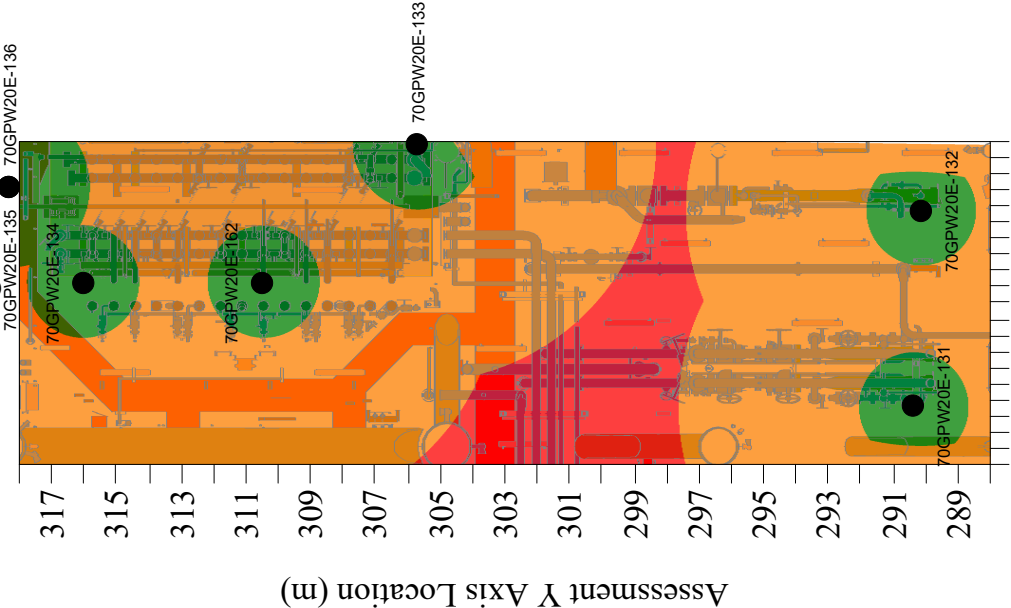
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 3.068 m ALD



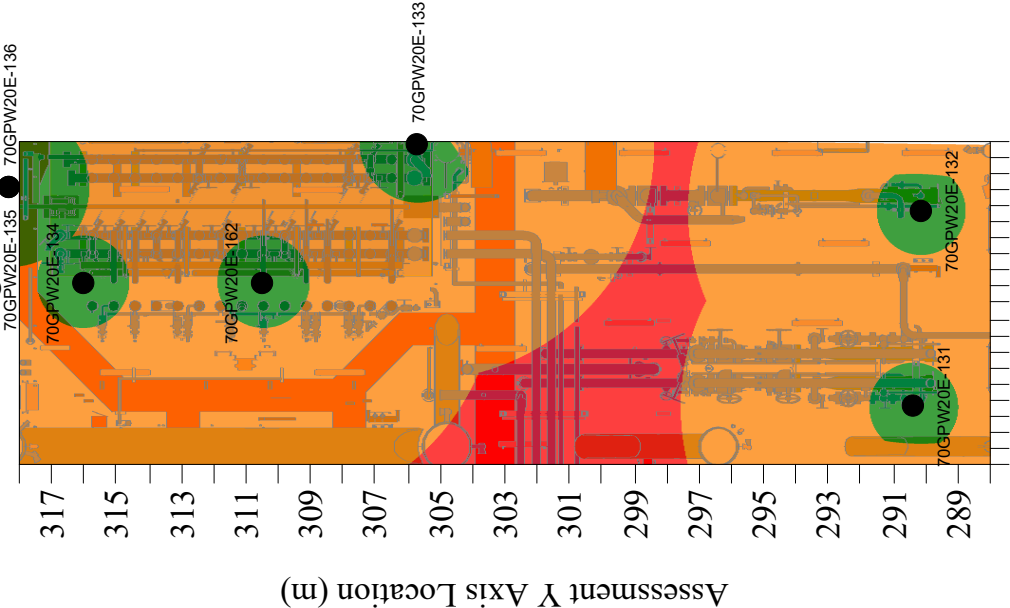
COVERAGE KEY

Control Action
Alarm
No Coverage

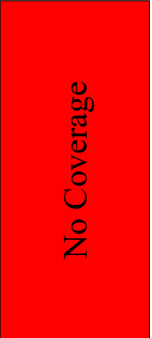
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 3.318 m ALD



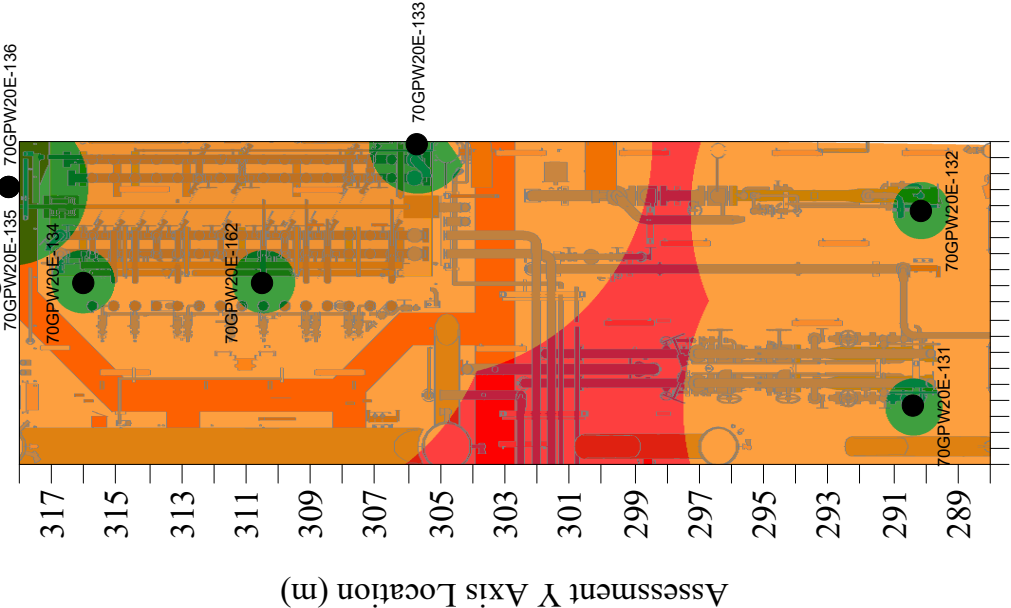
COVERAGE KEY



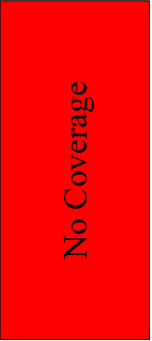
Drawing Description		Platform/site	Project Name
Area W20E		Drg category	Assessment result (20-Jul-2018)
Project Name-Area W20E			

Project Name-Area W20E

Gas Detector coverage at 3.568 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W20E			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:17



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed Area W20E**
Number of detectors: 9
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 3.50 m Length: 30.00 m Width: 10.00 m Deck Z: 27.43 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

Assessment performed using 15 slices from 27.50 m to 31.00 m
Increment between 3D assessment slices: 0.25 m

ASSESSMENT SUMMARY

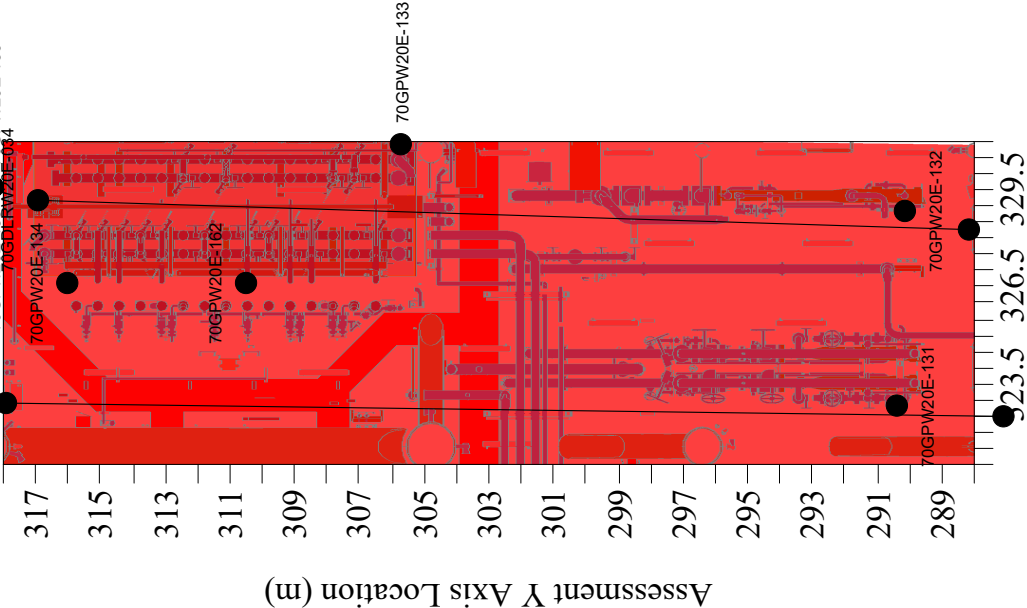
Assessment	Grade C/SG	Overall
Full control action	78%	78%
Some coverage	22%	22%

Project Name-Proposed Area W20E

Graded Volume(s) Cross Section at representative Z (0.068 m ALD)

GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

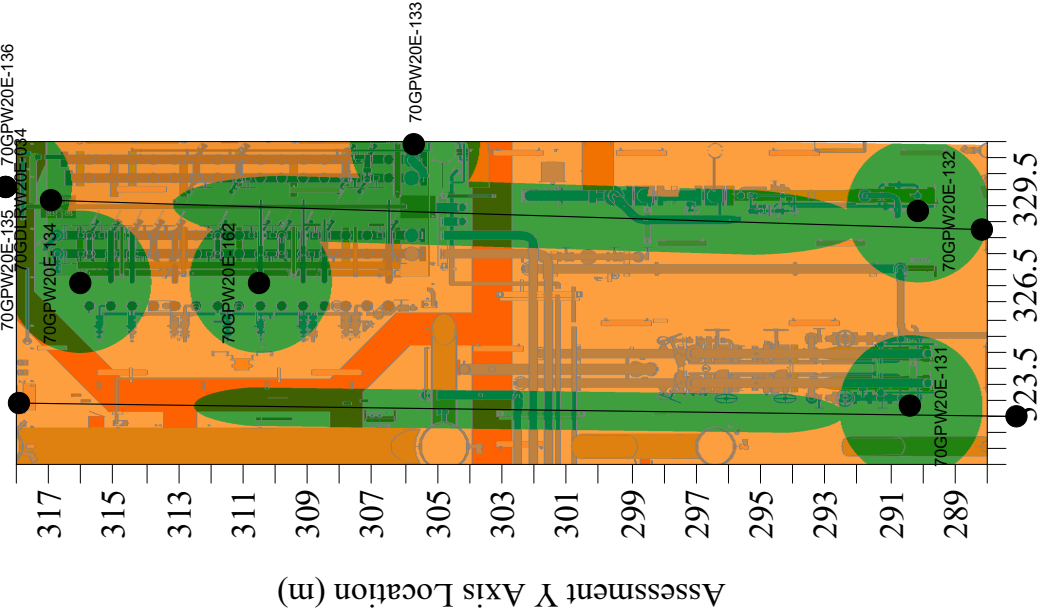


Assessment X Axis Location (m)

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 0.068 m ALD



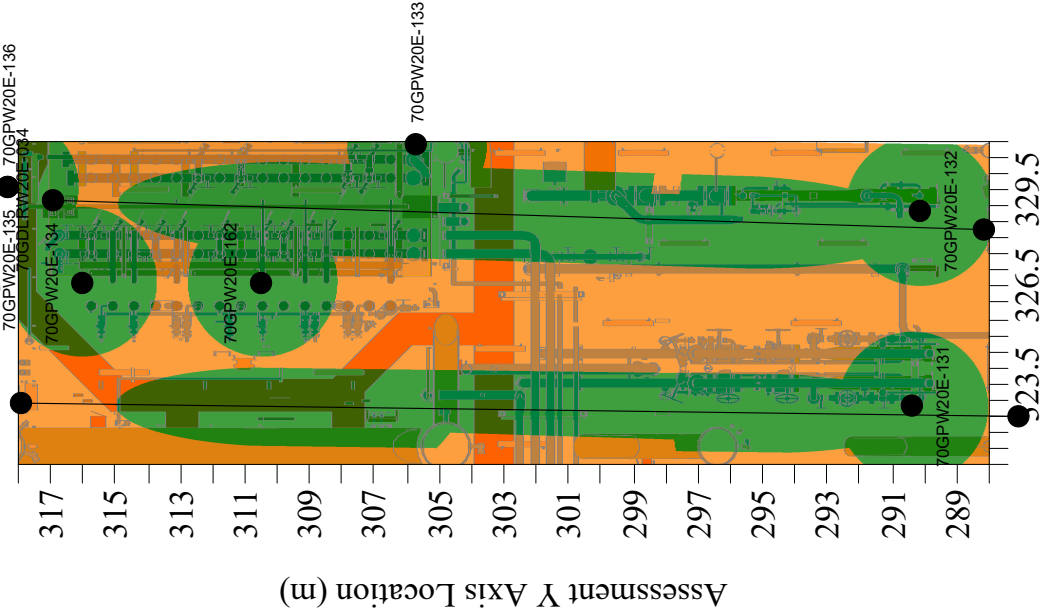
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 0.318 m ALD



COVERAGE KEY



Control Action



Alarm

Company Name

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www.micropack.co.uk

Drawing Description

Proposed Area W20E

Project Name-Proposed Area W20E

Platform/site

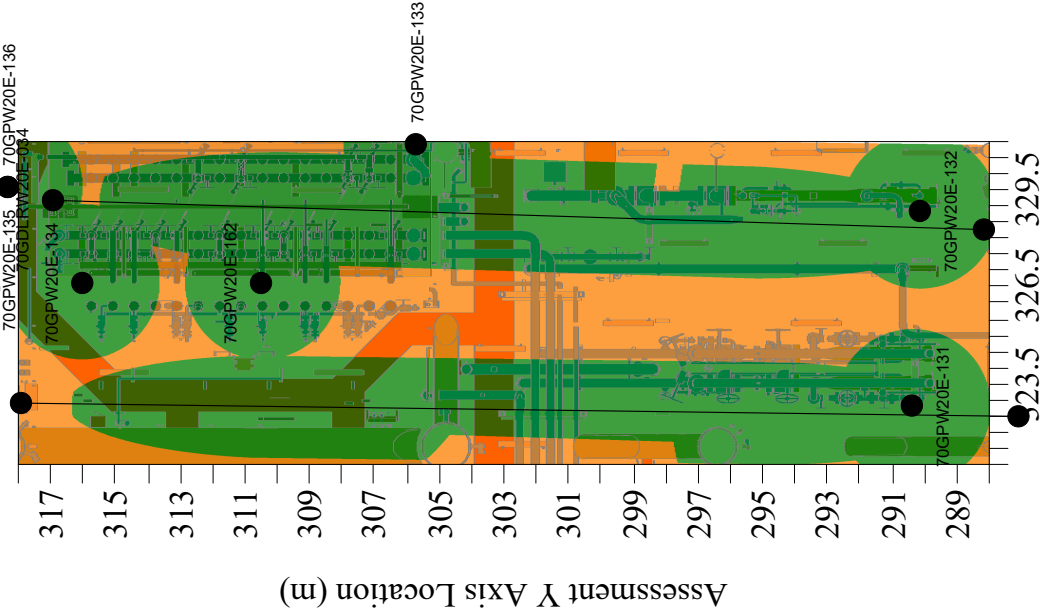
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W20E

Gas Detector coverage at 0.568 m ALD



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W20E

Project Name-Proposed Area W20E

Platform/site

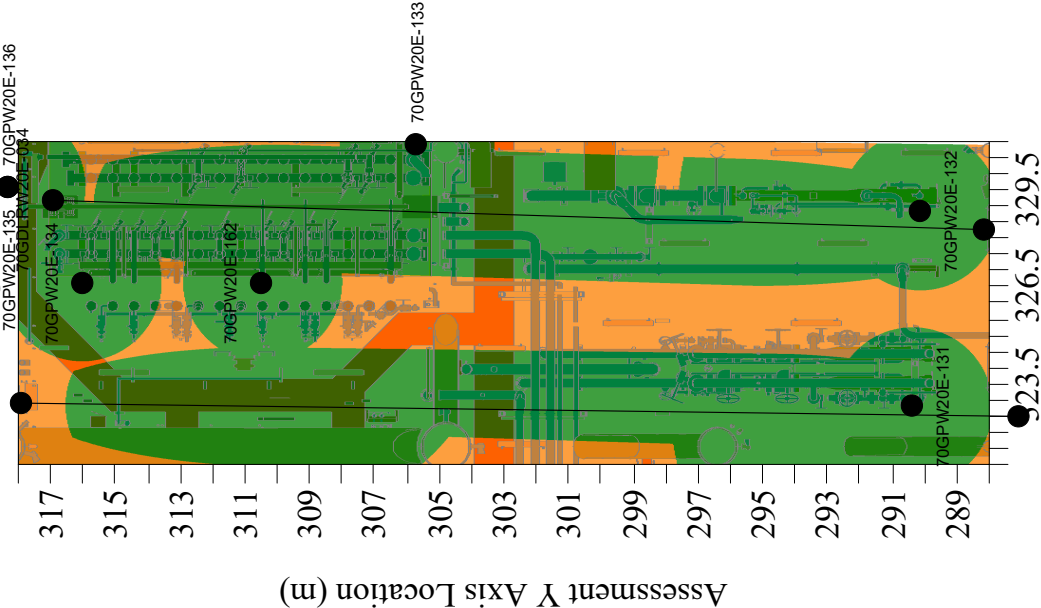
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W20E

Gas Detector coverage at 0.818 m ALD



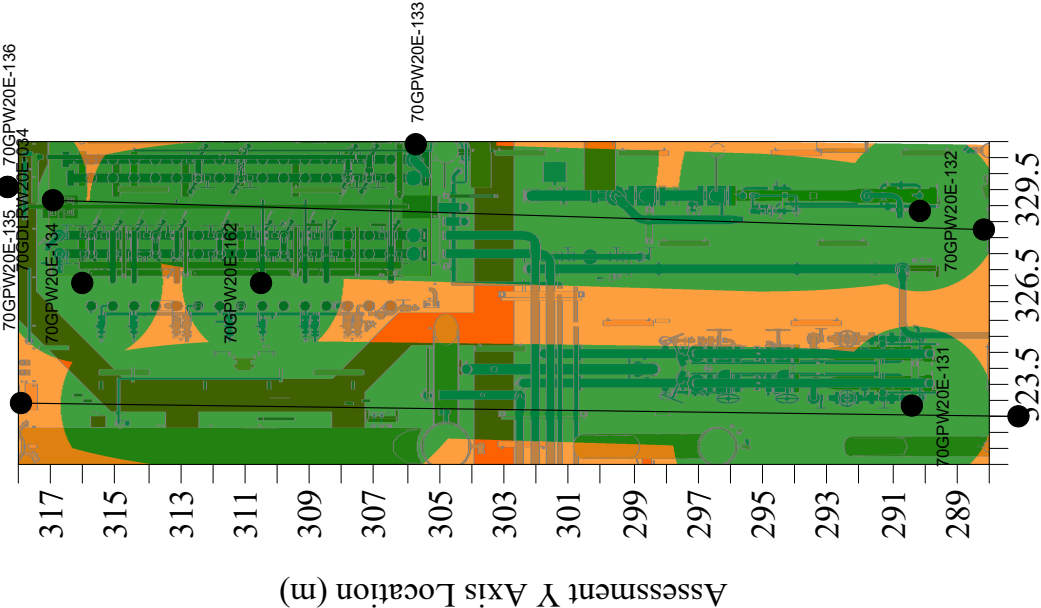
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 1.068 m ALD



COVERAGE KEY



Control Action

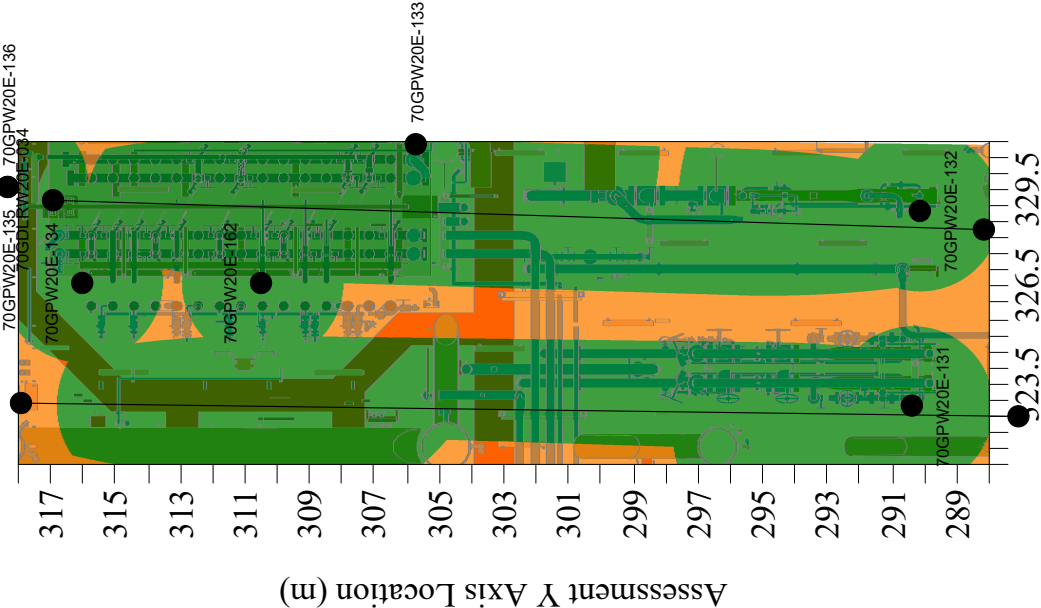


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 1.318 m ALD



COVERAGE KEY



Control Action

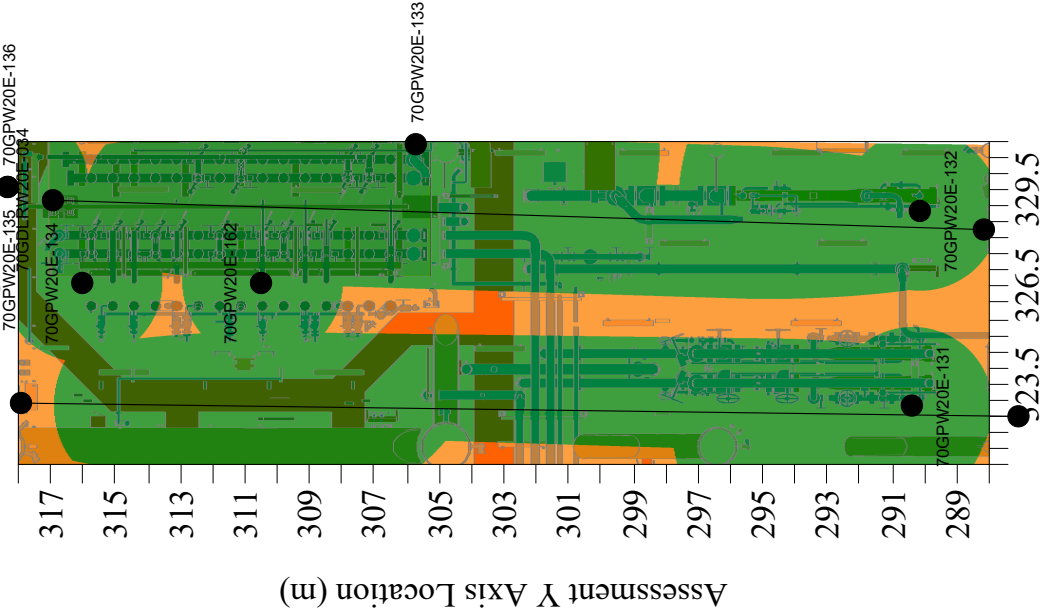


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 1.568 m ALD



COVERAGE KEY



Control Action

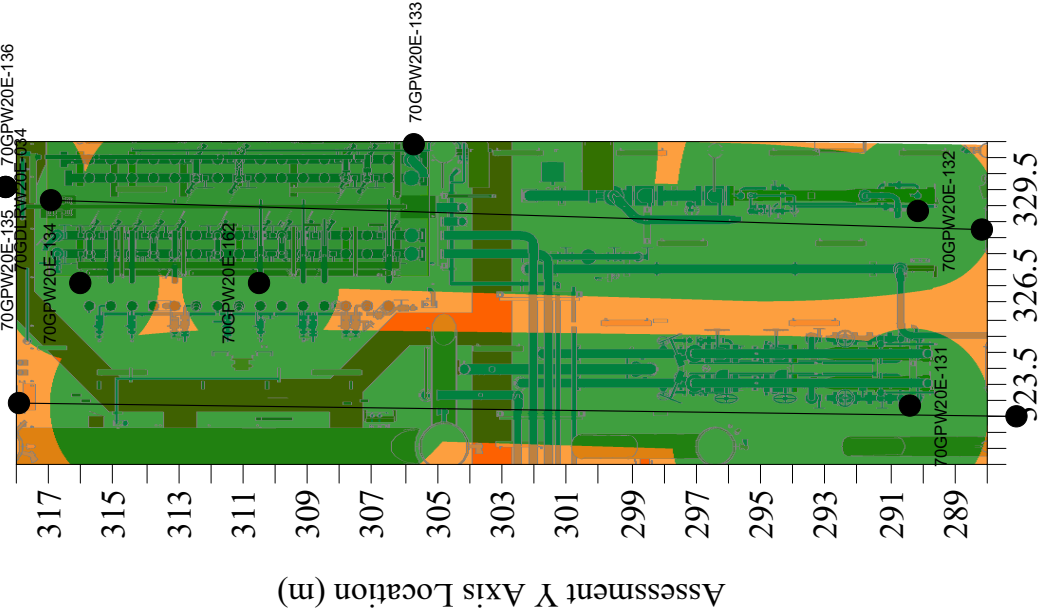


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 1.818 m ALD



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W20E

Project Name-Proposed Area W20E

Platform/site

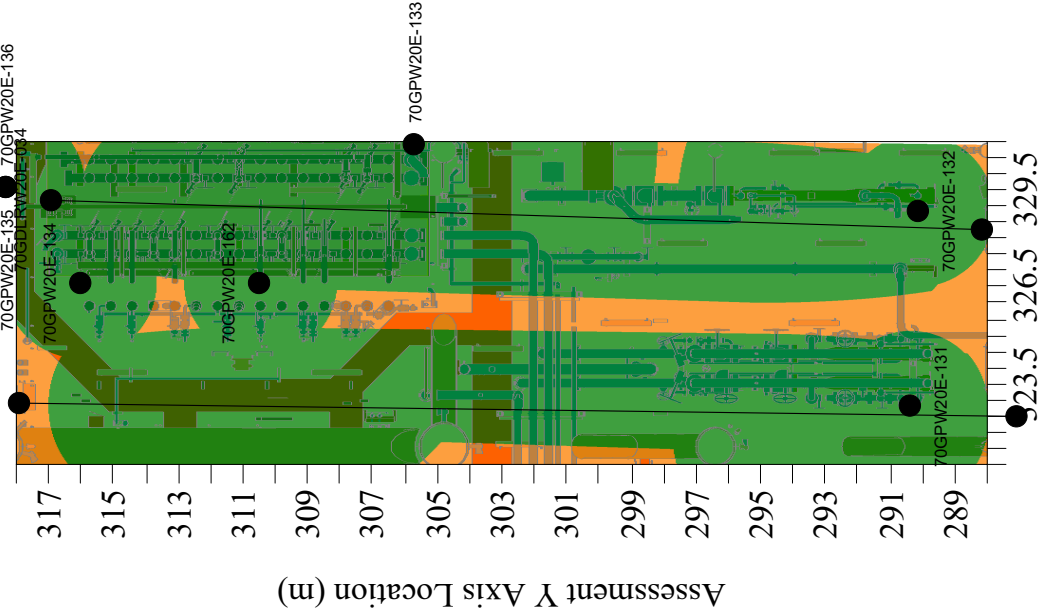
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W20E

Gas Detector coverage at 2.068 m ALD



COVERAGE KEY



Control Action

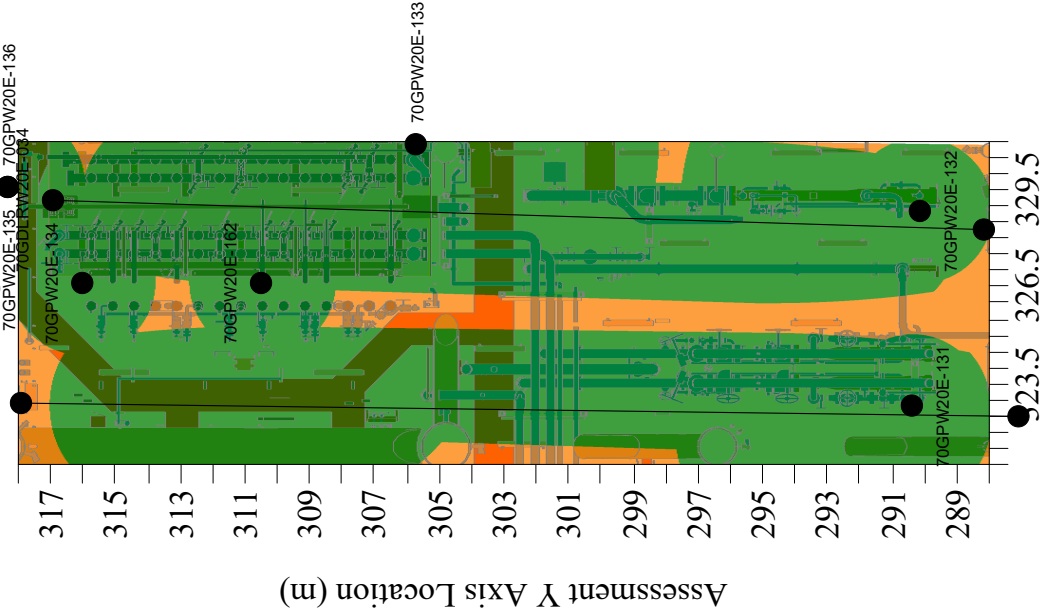


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 2.318 m ALD



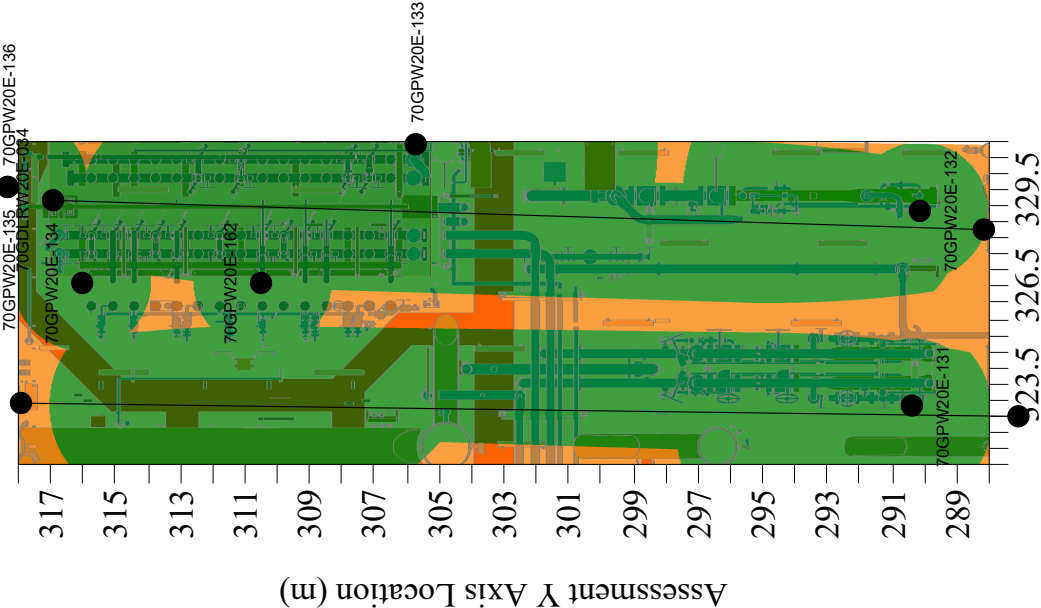
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 2.568 m ALD



COVERAGE KEY



Control Action

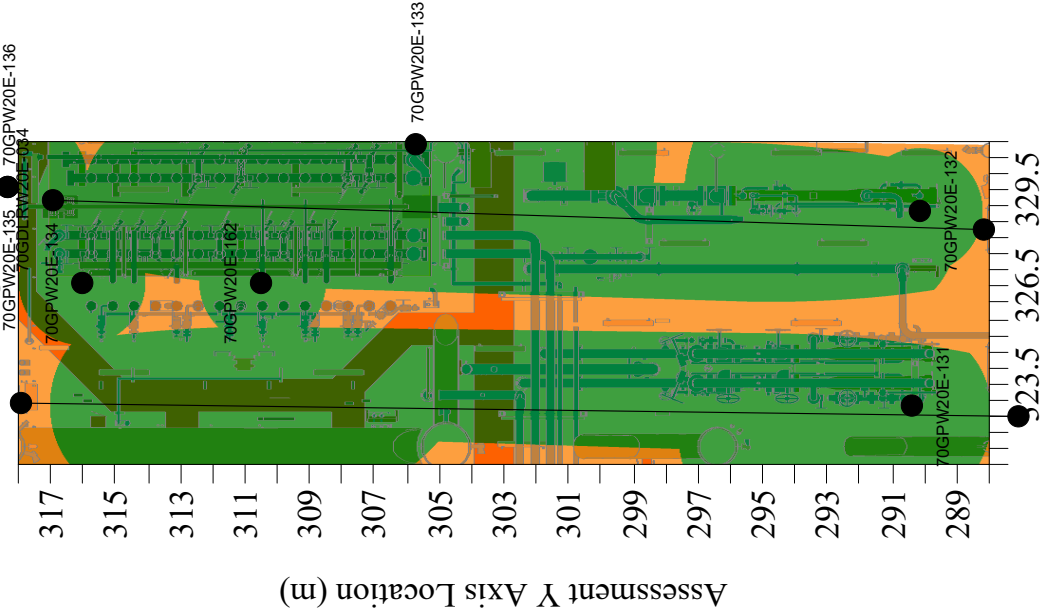


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 2.818 m ALD

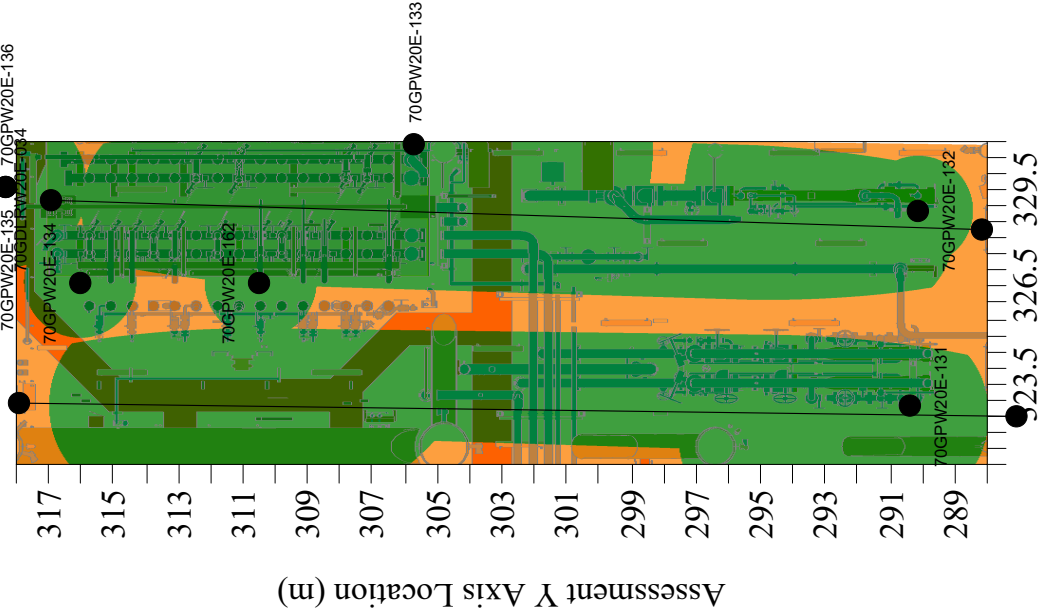


Assessment X Axis Location (m)

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 3.068 m ALD



COVERAGE KEY

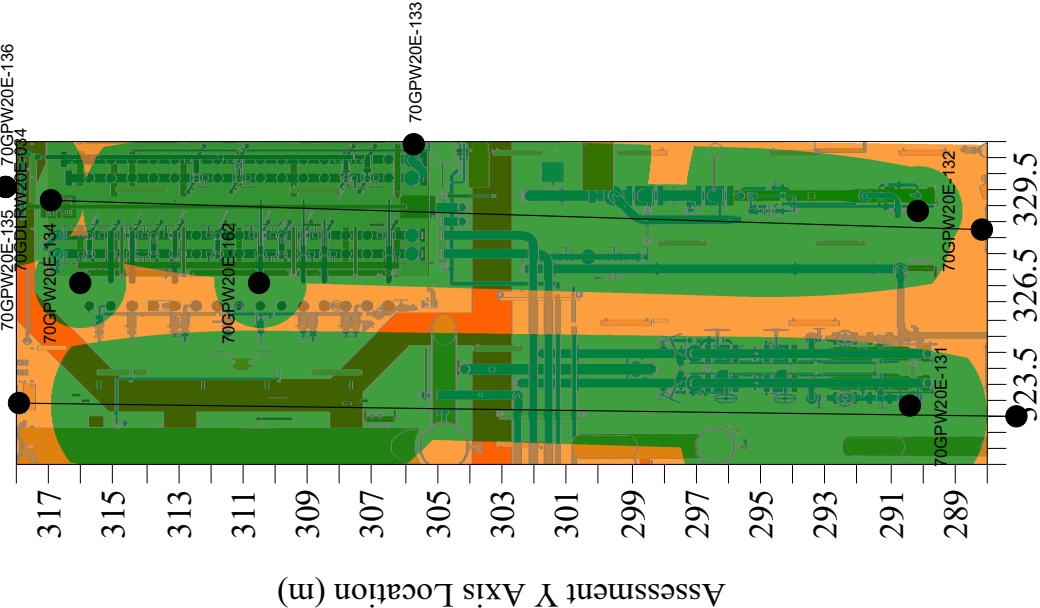
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 3.318 m ALD



COVERAGE KEY



Control Action

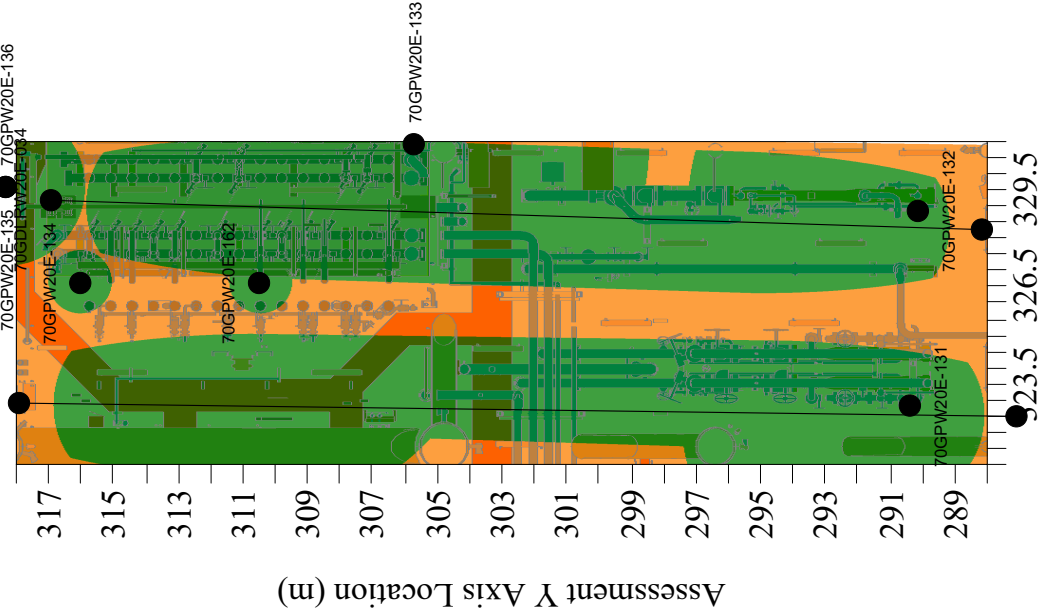


Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			

Project Name-Proposed Area W20E

Gas Detector coverage at 3.568 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W20E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W20E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:25



PROJECT INFORMATION

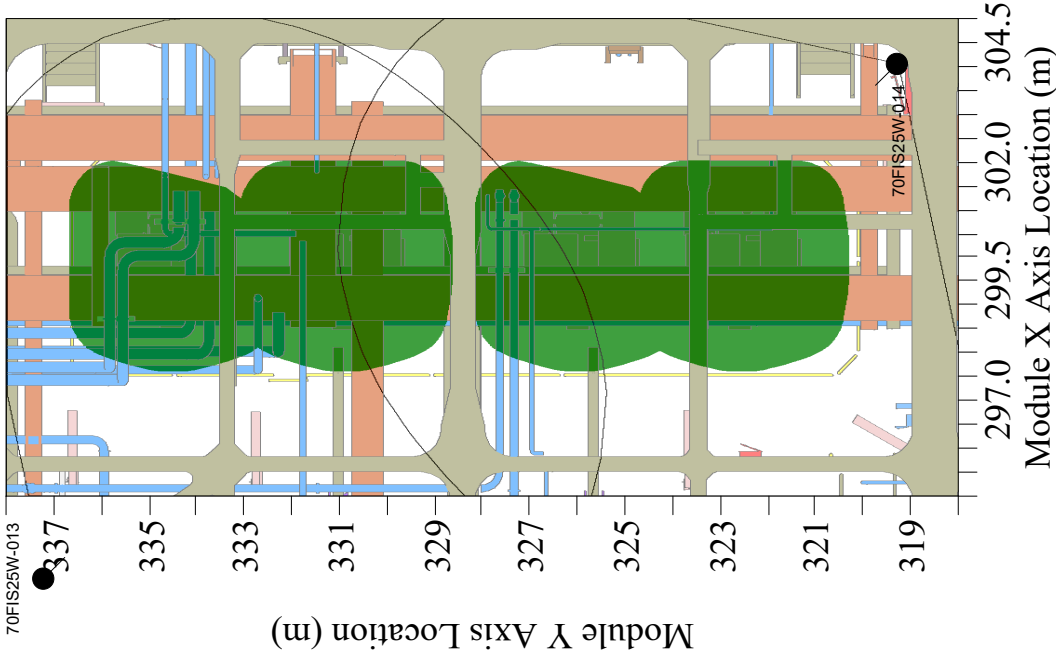
Project name: **Project Name**
Assessment title: **Fire Detection Area S25W**
Number of detectors: 2 (2 existing, 0 new, 0 relocated)
Overall coverage: 71% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

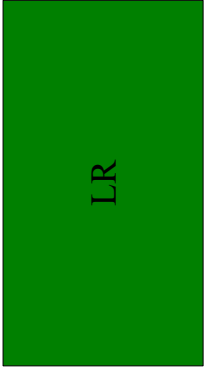
LR	18%	52%	29%
Totals	18%	52%	29%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.082 m ALD)



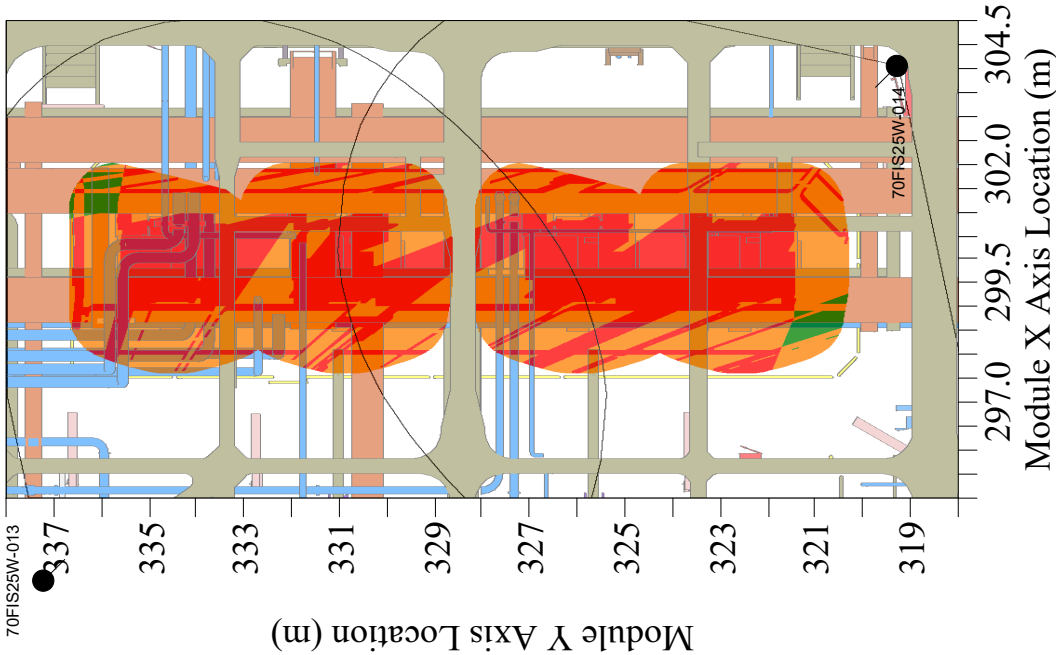
GRADE COLOURS



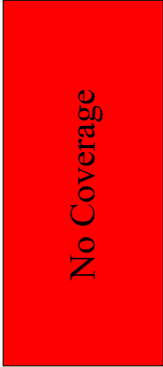
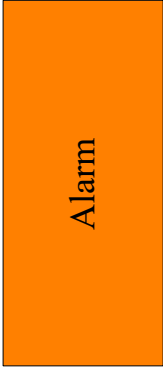
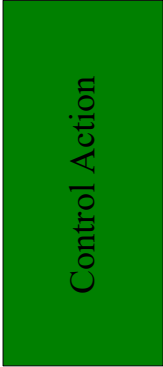
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S25W		Drg category	Grademap (20-Jul-2018)
	Project Name-Fire Detection Area S25W			

Project Name-Fire Detection Area S25W

Fire Detector coverage at 0.082 m ALD



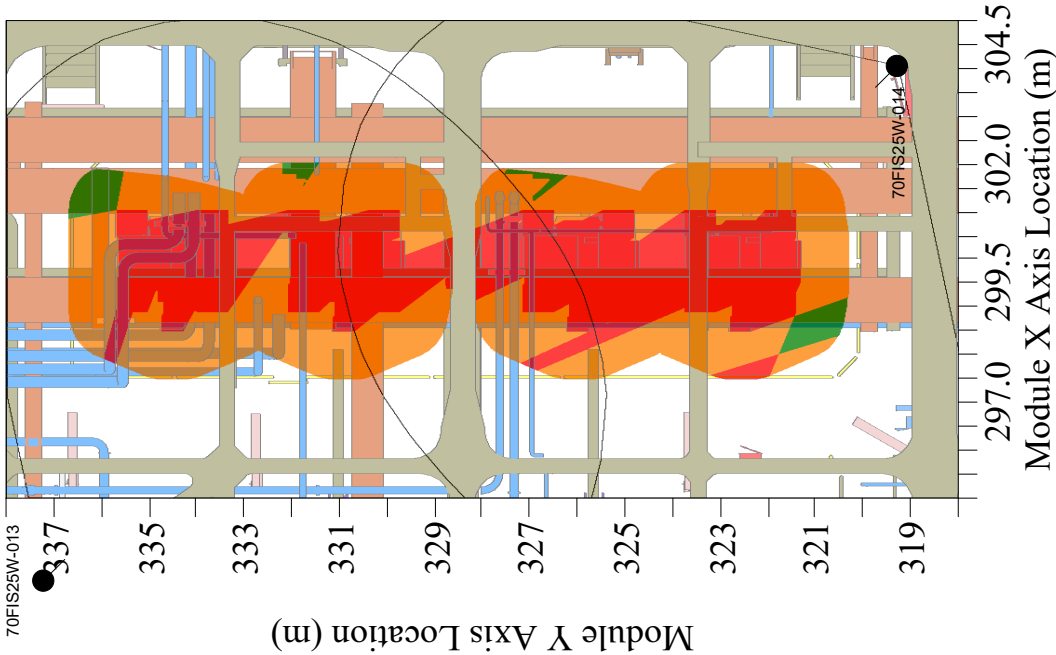
COVERAGE KEY



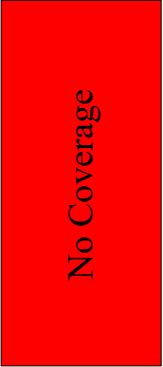
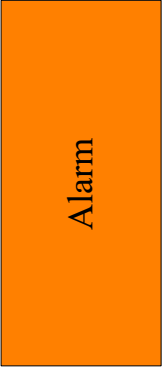
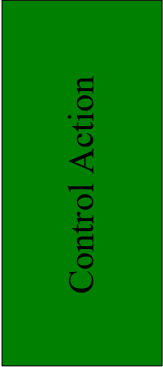
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area S25W			

Project Name-Fire Detection Area S25W

Fire Detector coverage at 0.860 m ALD



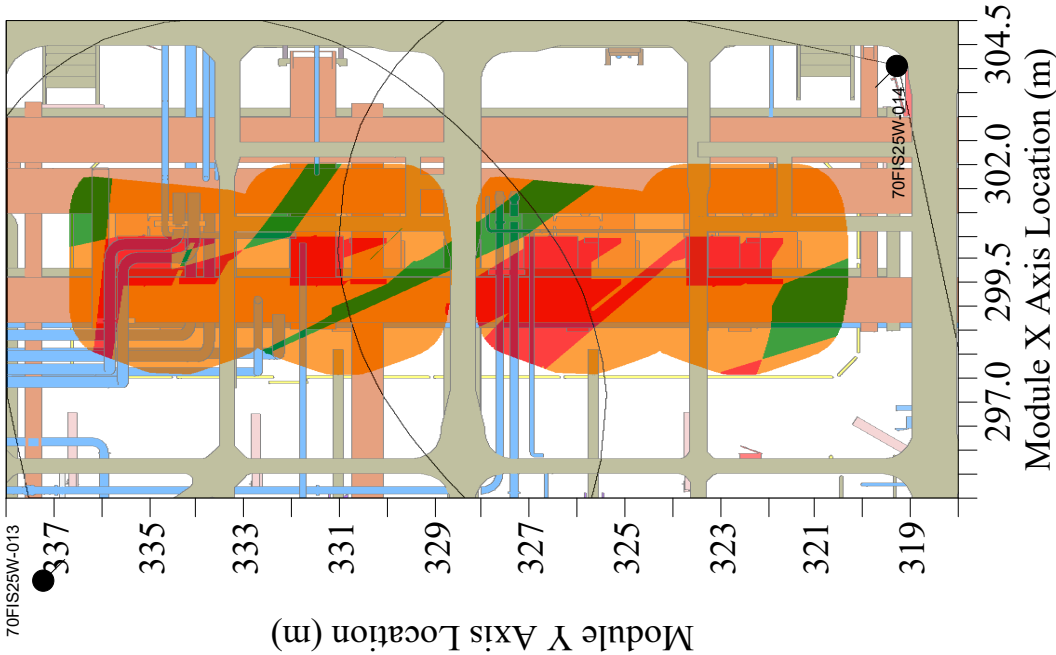
COVERAGE KEY



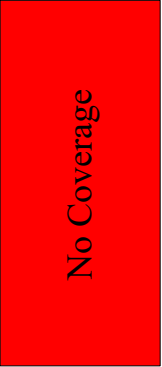
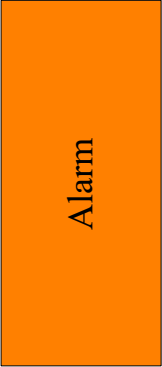
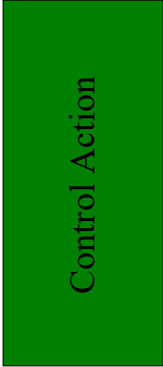
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area S25W			

Project Name-Fire Detection Area S25W

Fire Detector coverage at 1.638 m ALD



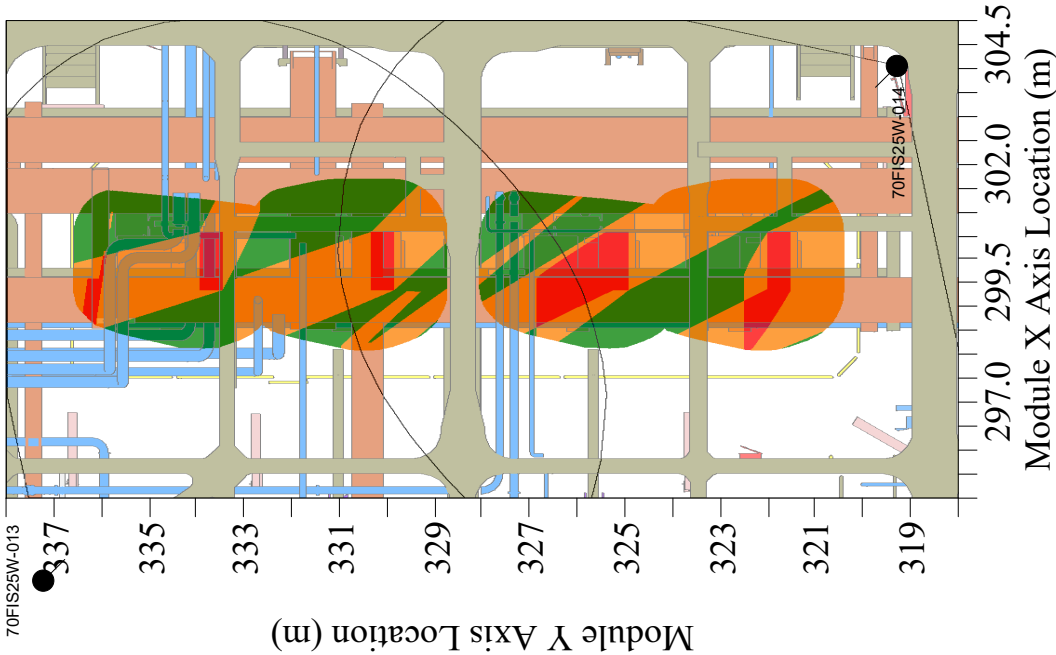
COVERAGE KEY



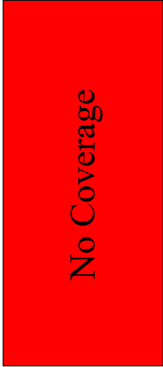
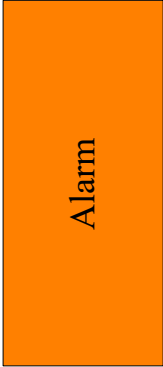
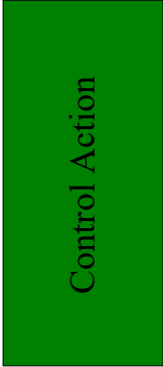
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area S25W			

Project Name-Fire Detection Area S25W

Fire Detector coverage at 2.415 m ALD



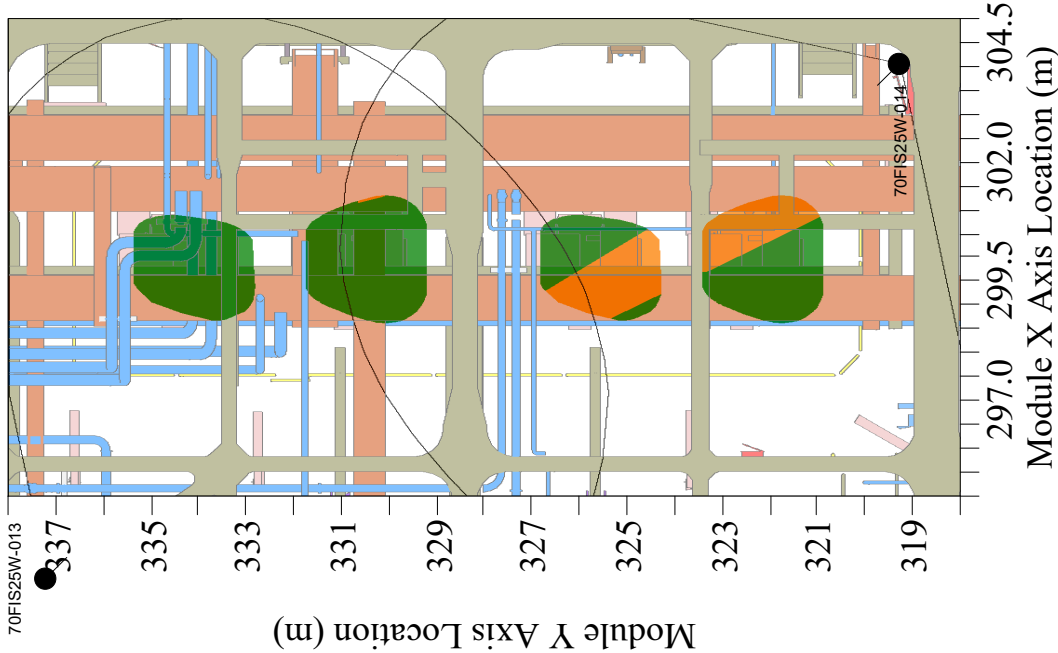
COVERAGE KEY



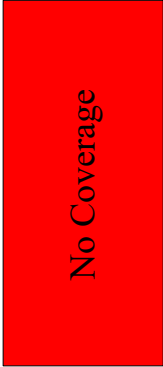
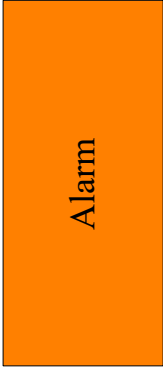
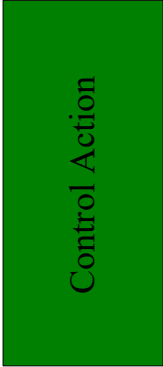
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area S25W			

Project Name-Fire Detection Area S25W

Fire Detector coverage at 3.193 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area S25W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:26



PROJECT INFORMATION

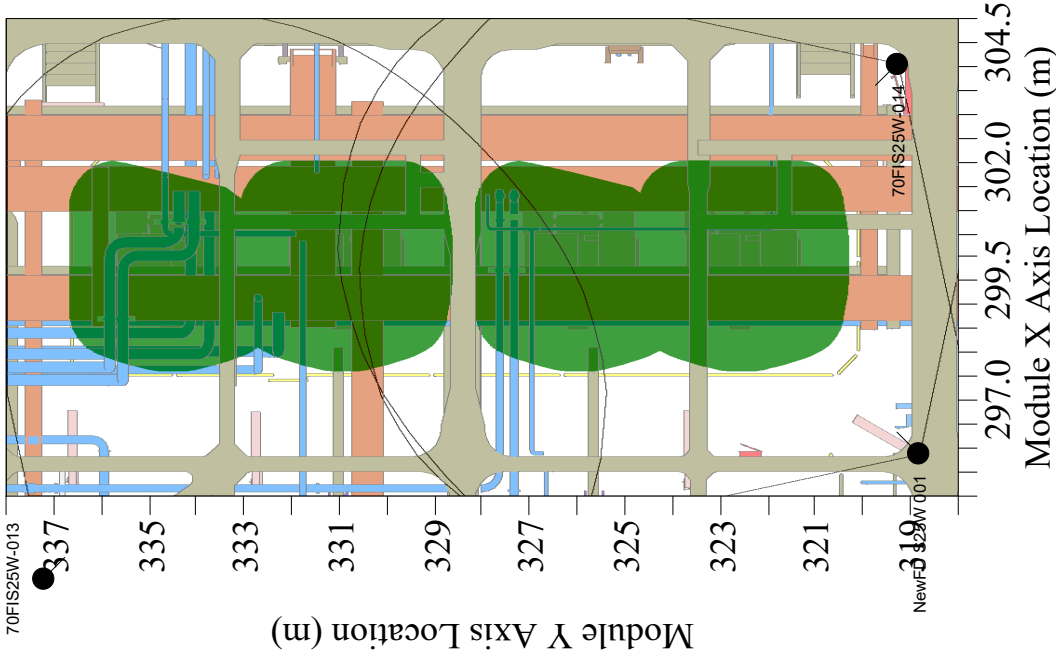
Project name: **Project Name**
Assessment title: **Proposed S25W**
Number of detectors: 3 (2 existing, 1 new, 0 relocated)
Overall coverage: 77% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

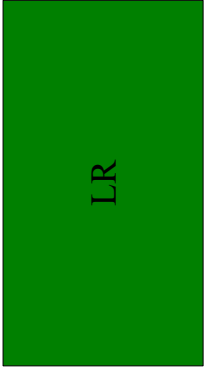
LR	44%	33%	23%
Totals	44%	33%	23%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.082 m ALD)



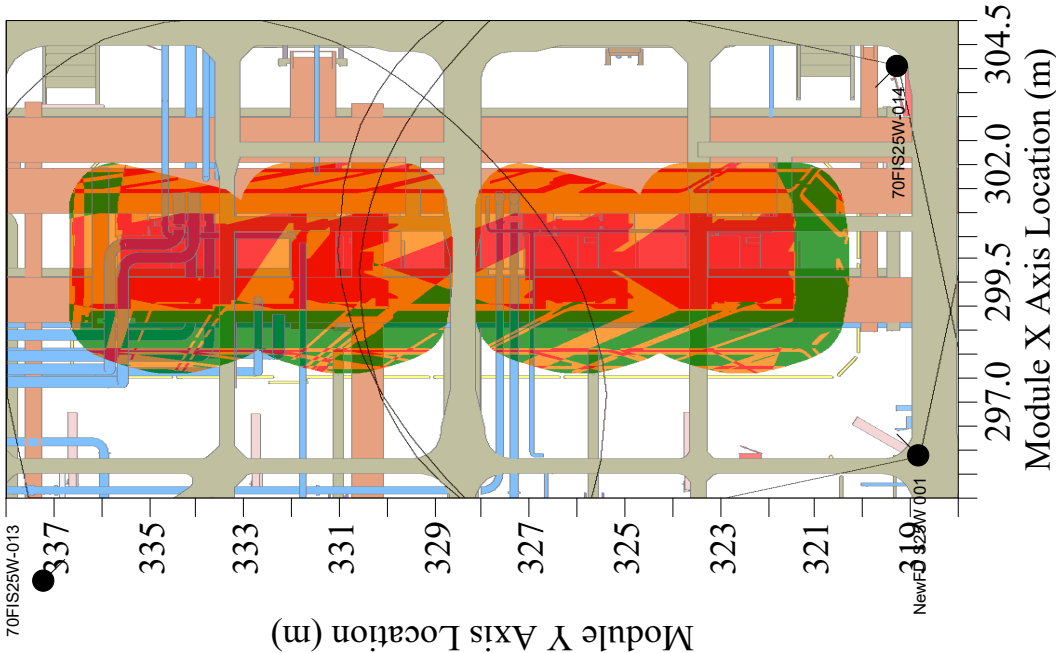
GRADE COLOURS



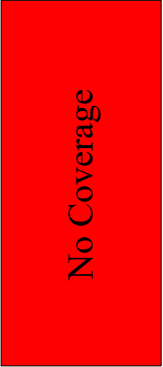
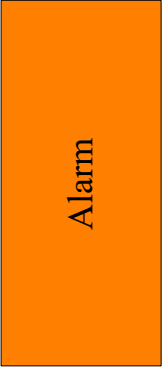
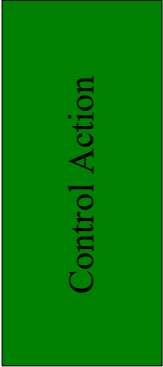
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S25W		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed S25W			

Project Name-Proposed S25W

Fire Detector coverage at 0.082 m ALD



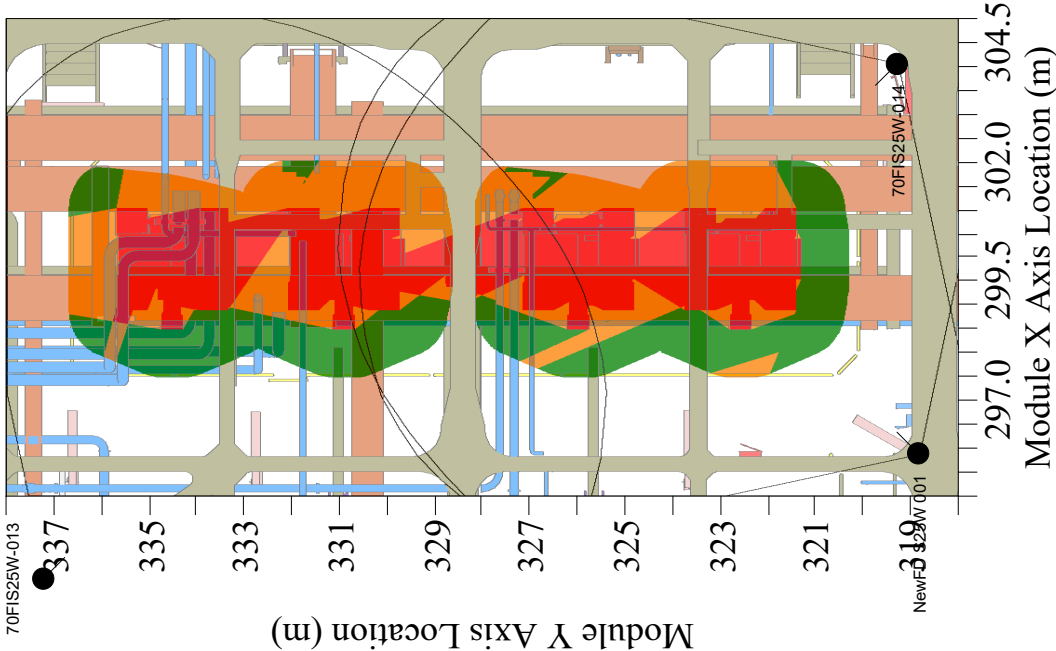
COVERAGE KEY



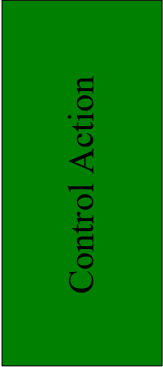
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S25W			

Project Name-Proposed S25W

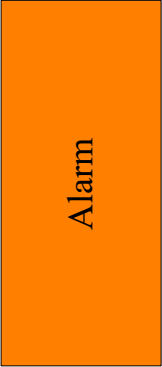
Fire Detector coverage at 0.860 m ALD



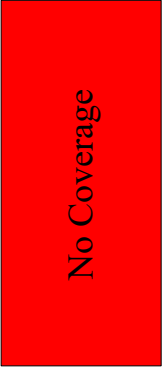
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed S25W

Project Name-Proposed S25W

Platform/site

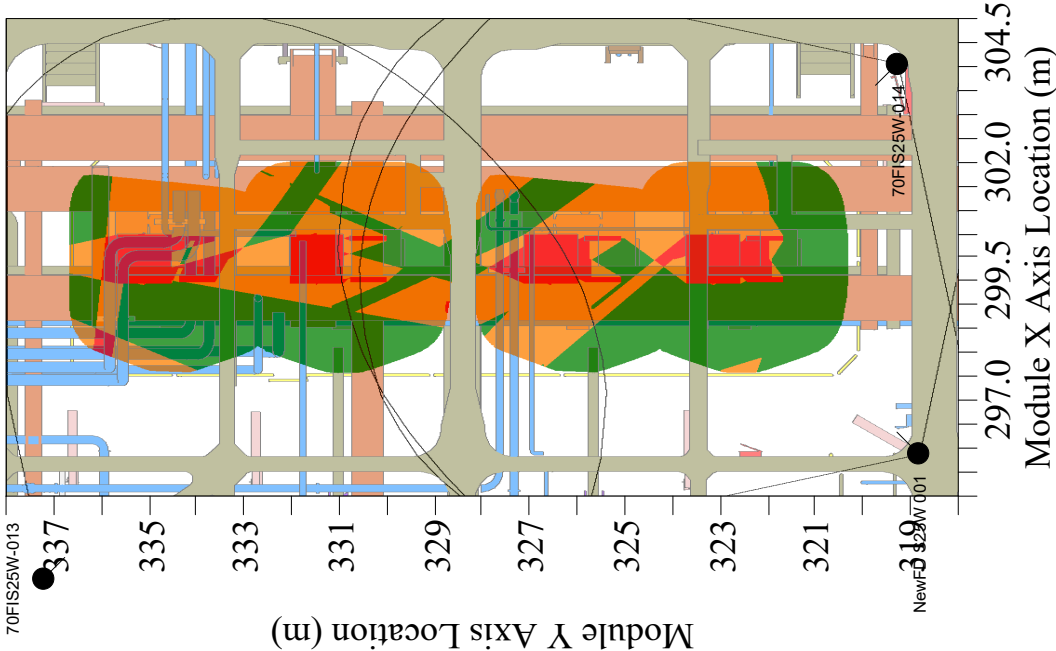
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed S25W

Fire Detector coverage at 1.638 m ALD



COVERAGE KEY

Control Action

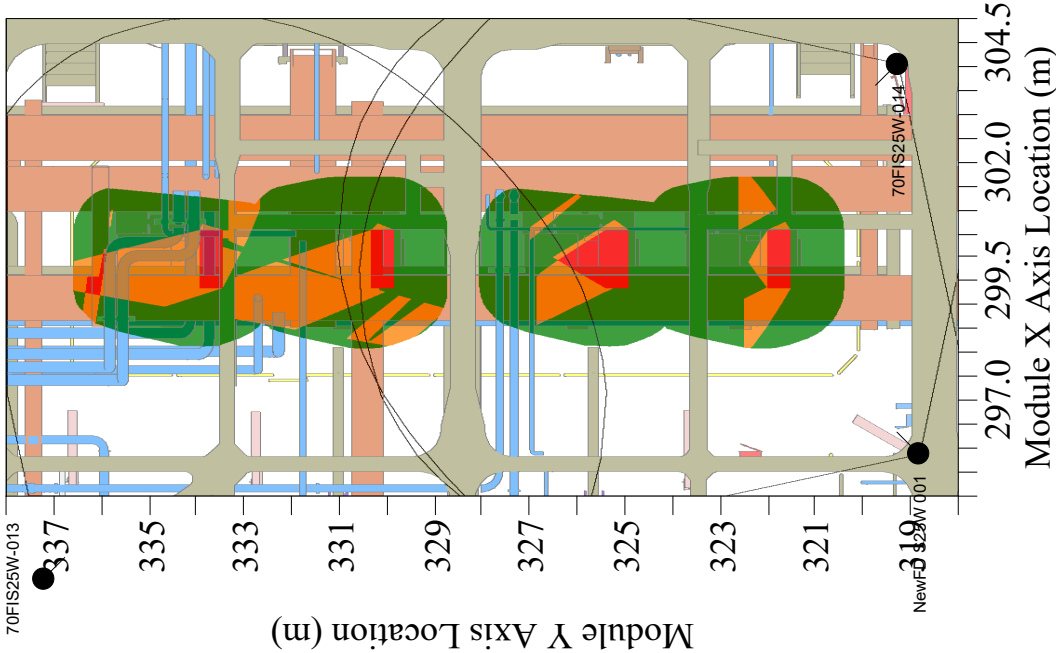
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S25W			

Project Name-Proposed S25W

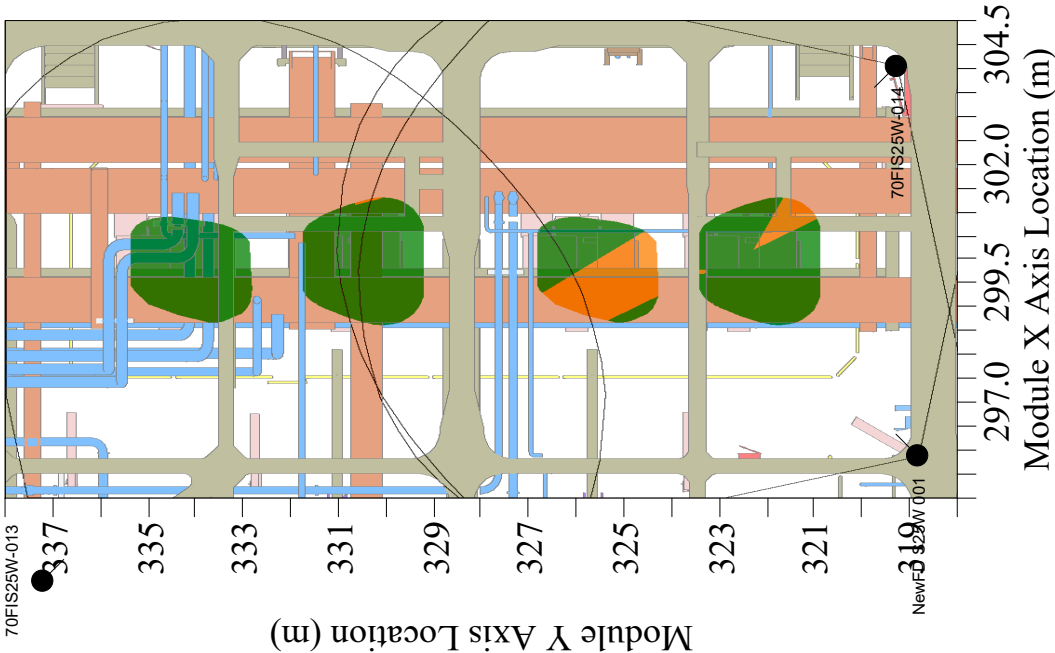
Fire Detector coverage at 2.415 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S25W			

Project Name-Proposed S25W

Fire Detector coverage at 3.193 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed S25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed S25W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:32



PROJECT INFORMATION

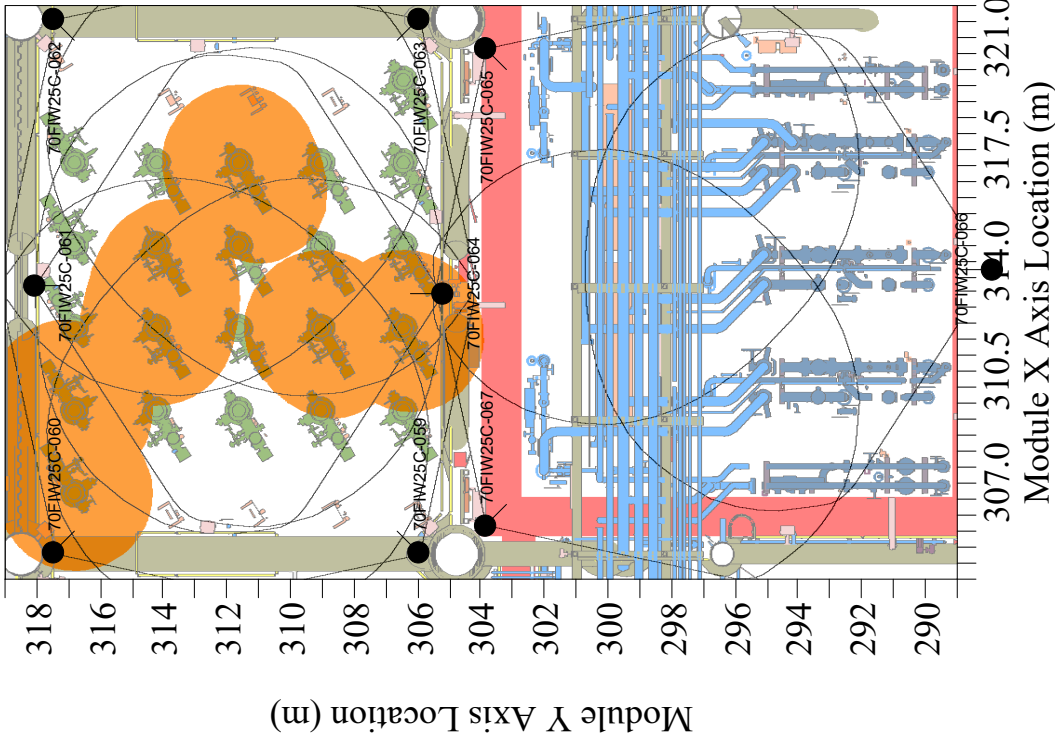
Project name: **Project Name**
Assessment title: **Fire Detection Area W25C**
Number of detectors: 9 (9 existing, 0 new, 0 relocated)
Overall coverage: 67% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

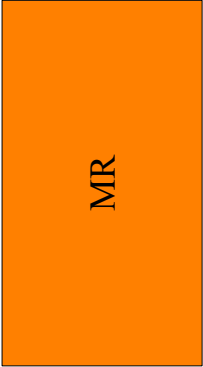
MR	32%	35%	5%	28%
Totals	32%	35%	5%	28%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (~1.718 m ALD)



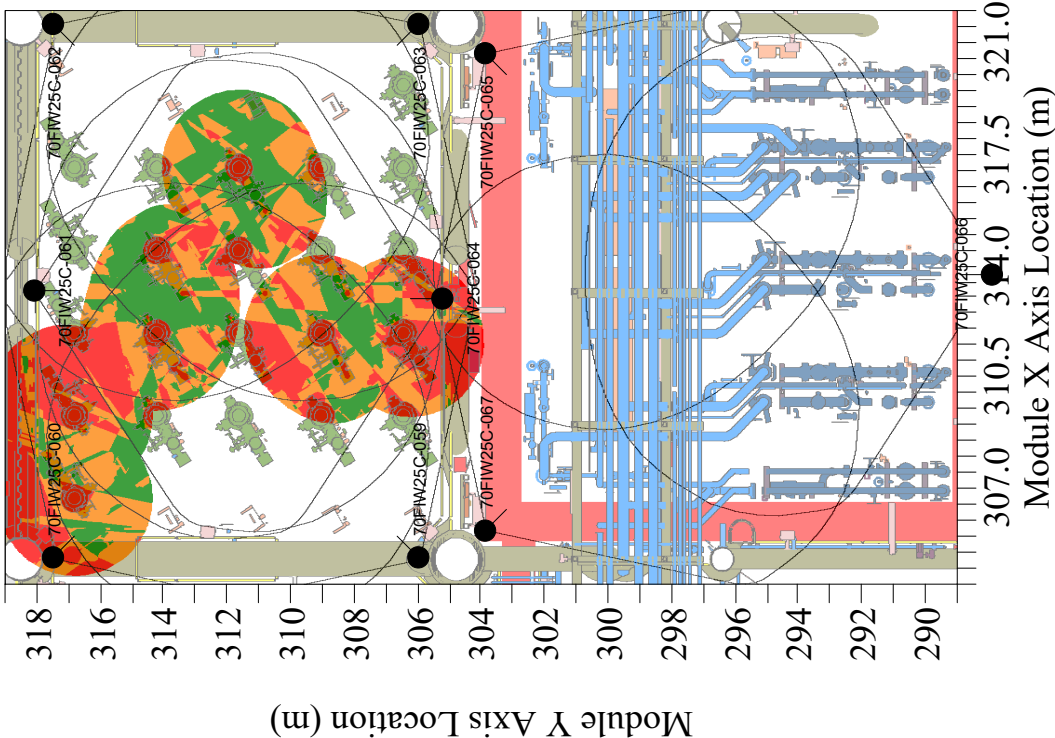
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Grademap (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at -1.718 m ALD



COVERAGE KEY

Control Action

Alarm

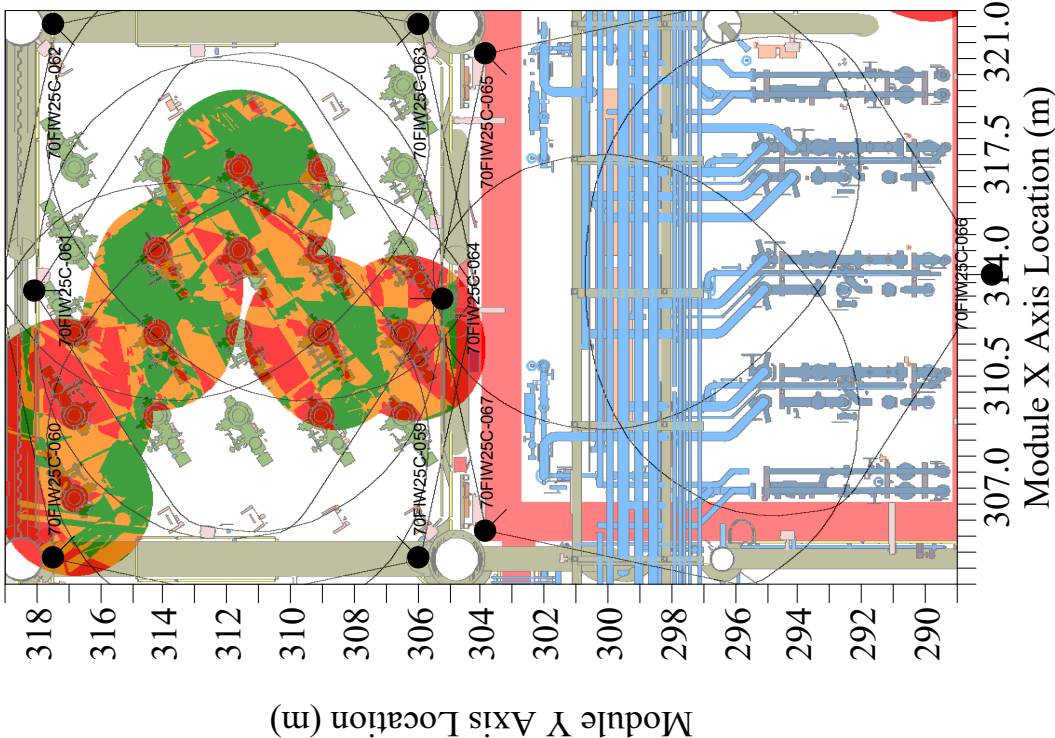
Minimal

No Coverage

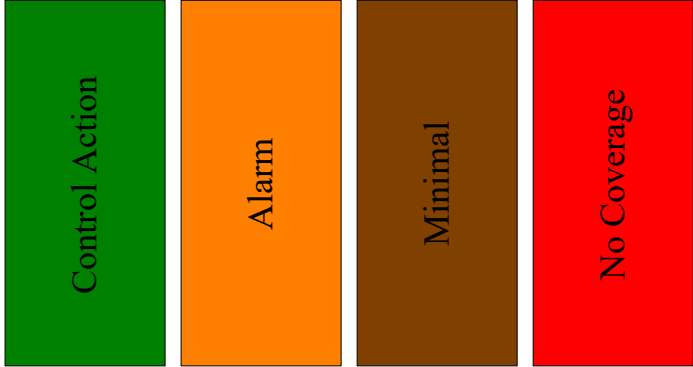
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at -1.162 m ALD



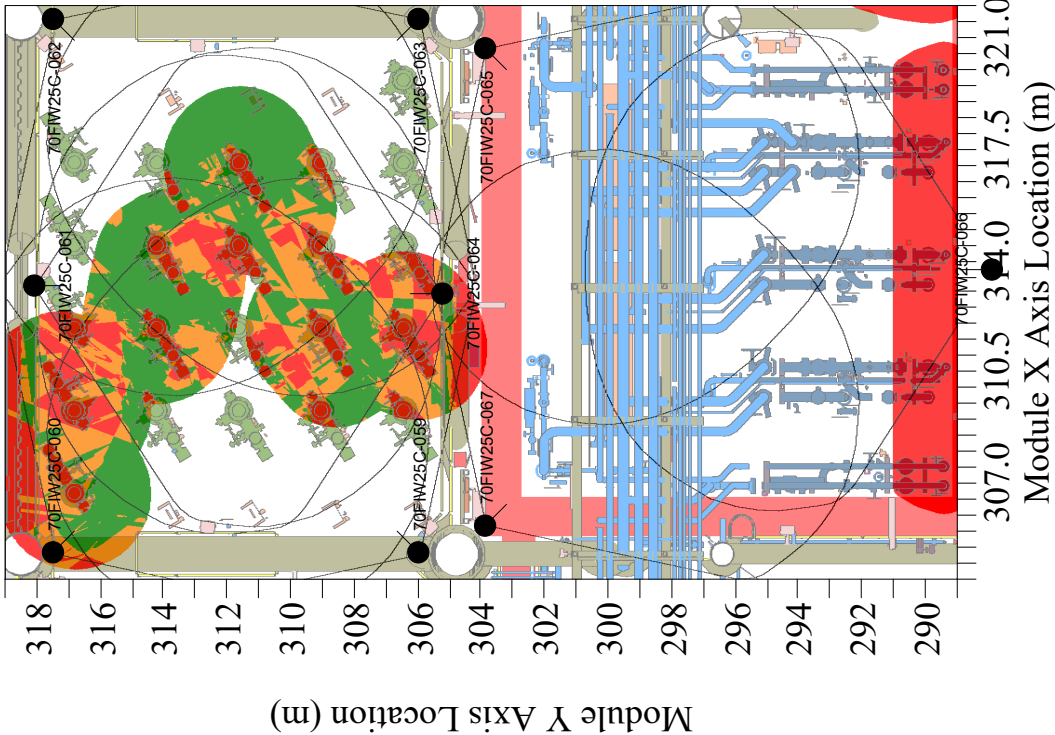
COVERAGE KEY



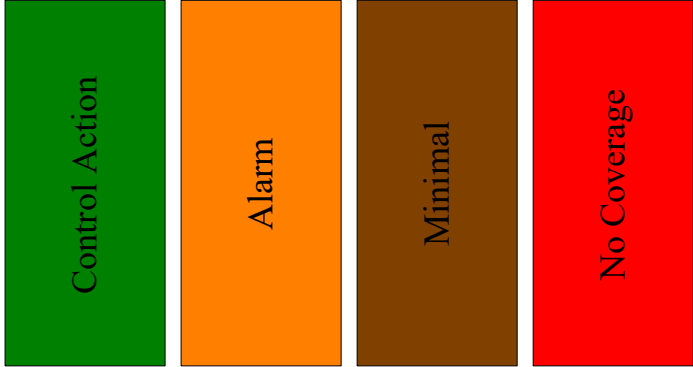
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at -0.607 m ALD



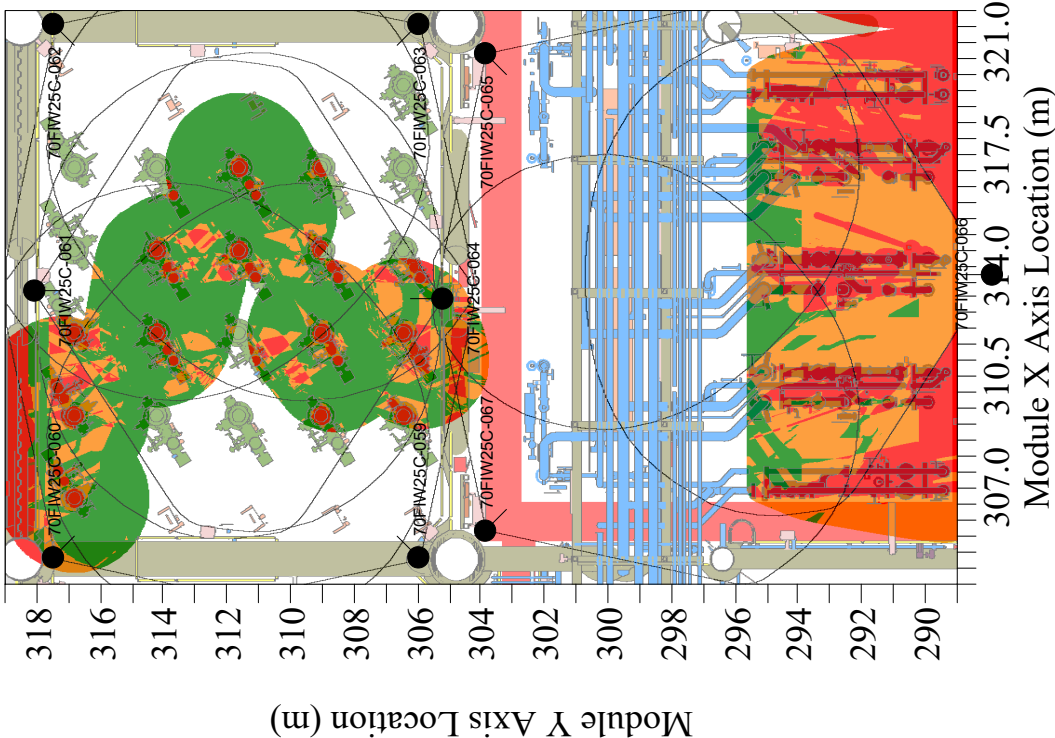
COVERAGE KEY



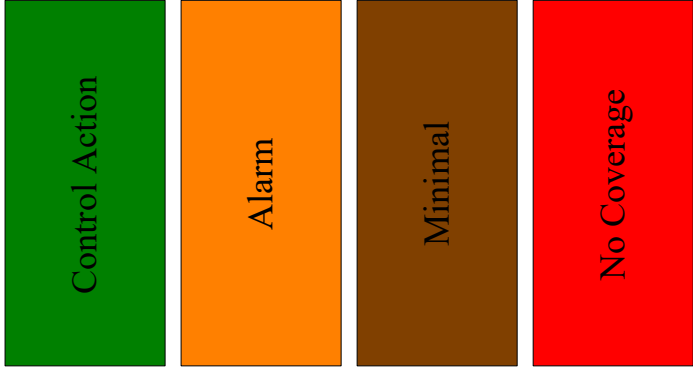
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at -0.051 m ALD



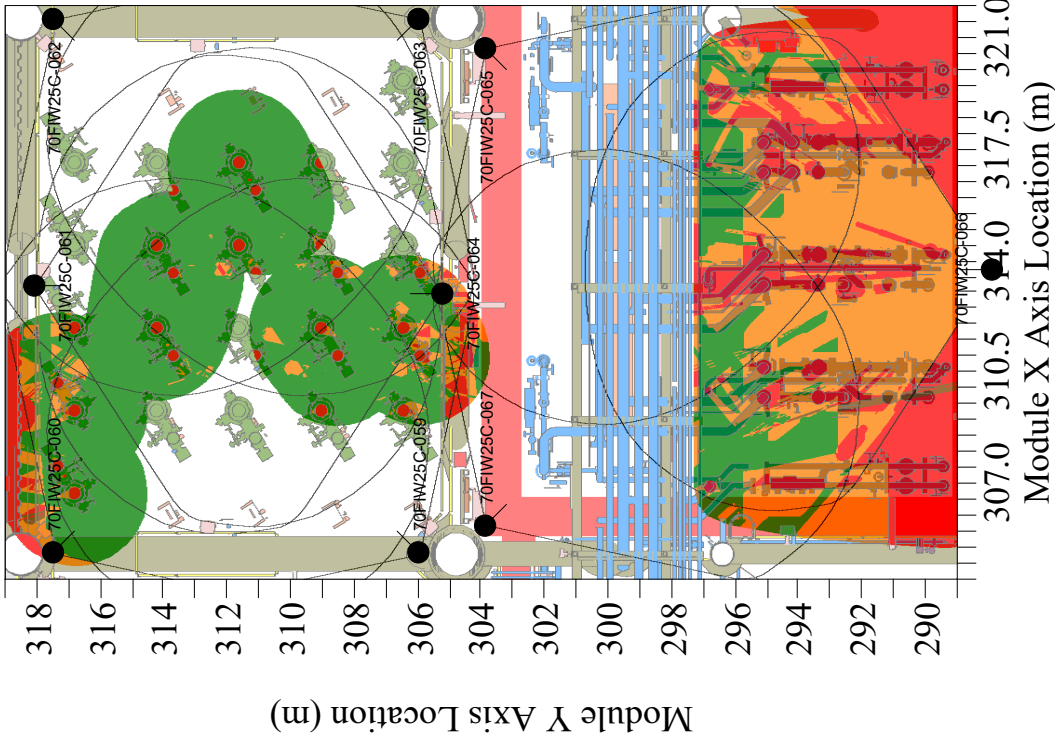
COVERAGE KEY



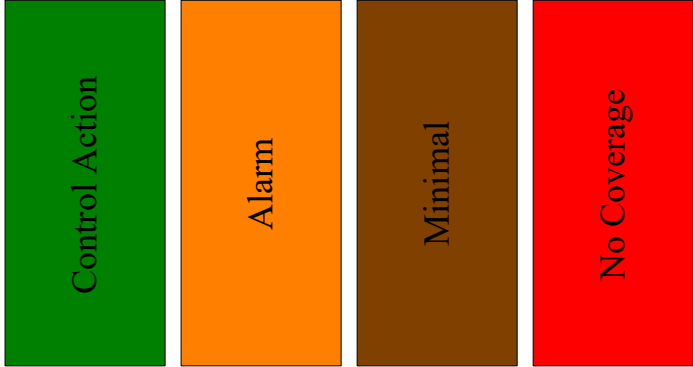
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at 0.504 m ALD



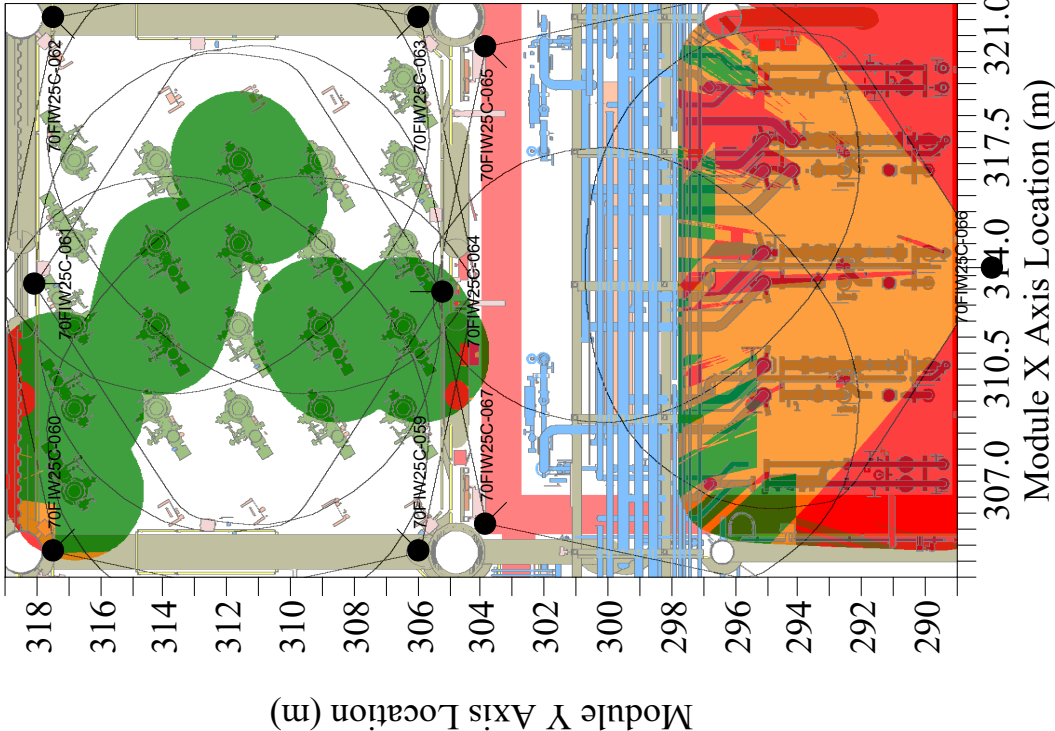
COVERAGE KEY



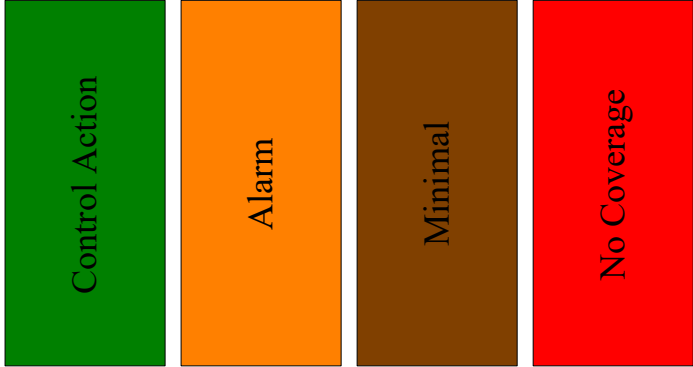
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at 1.060 m ALD



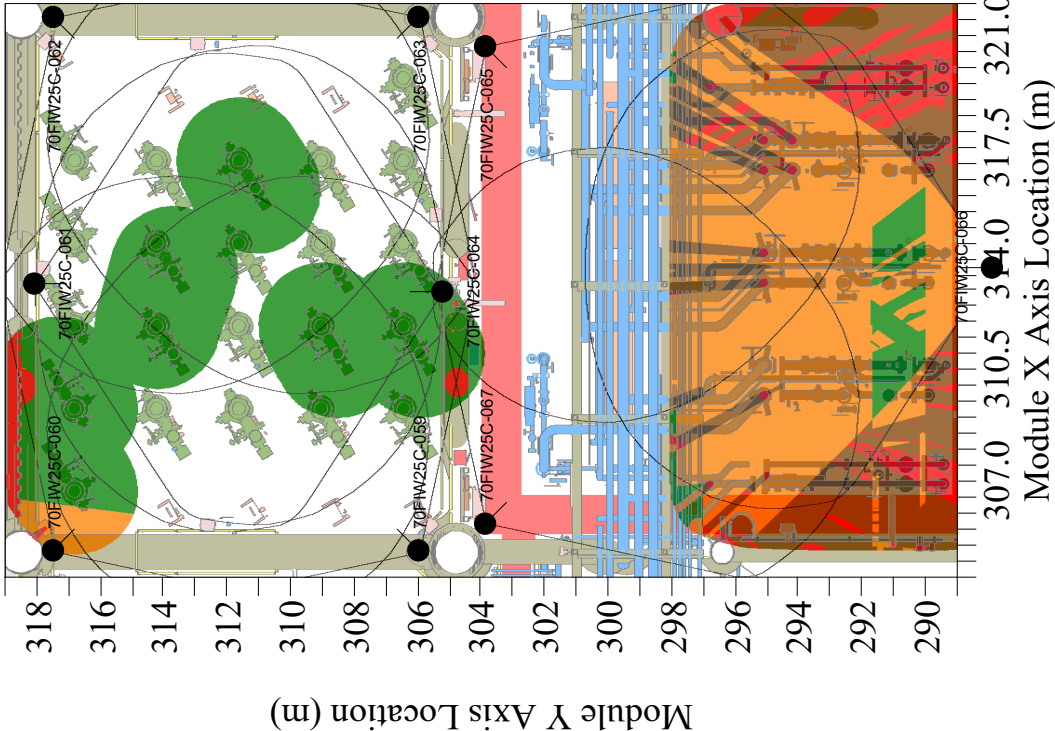
COVERAGE KEY



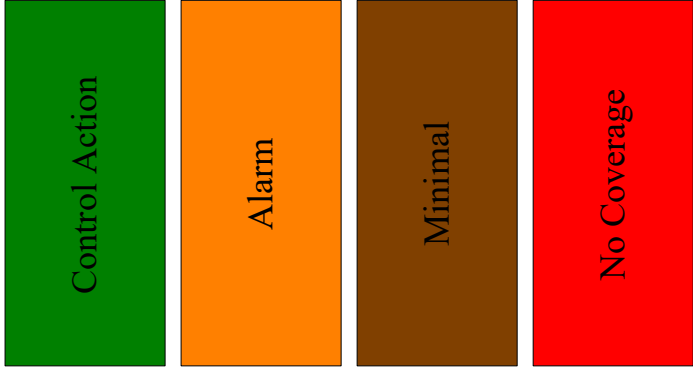
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at 1.615 m ALD



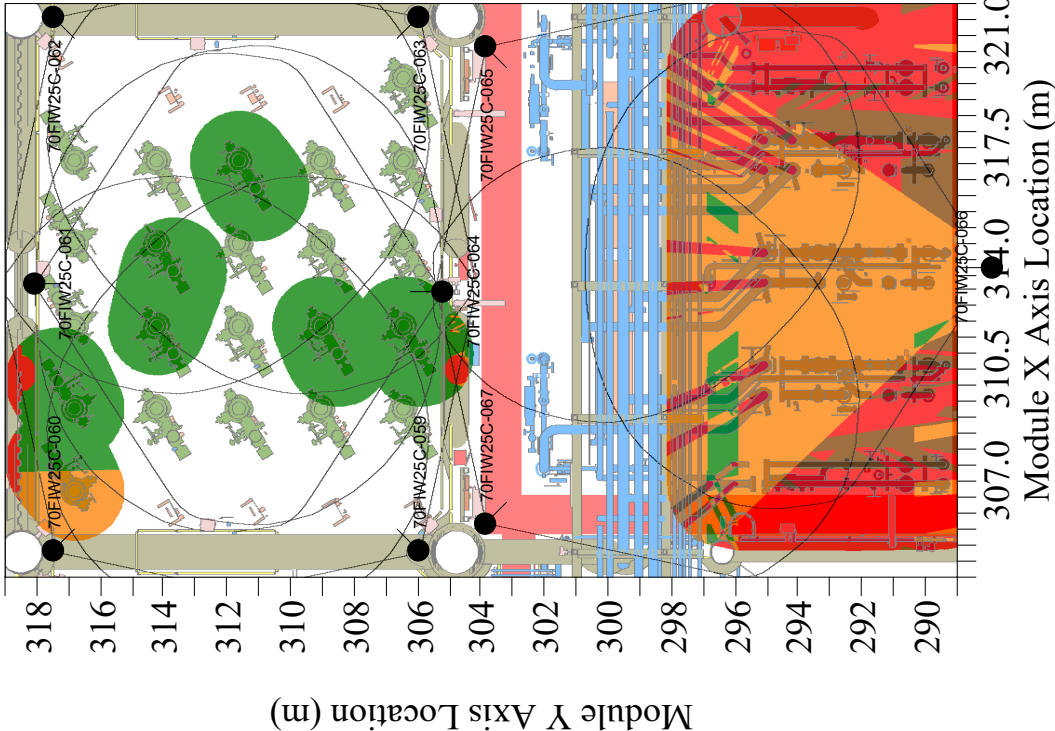
COVERAGE KEY



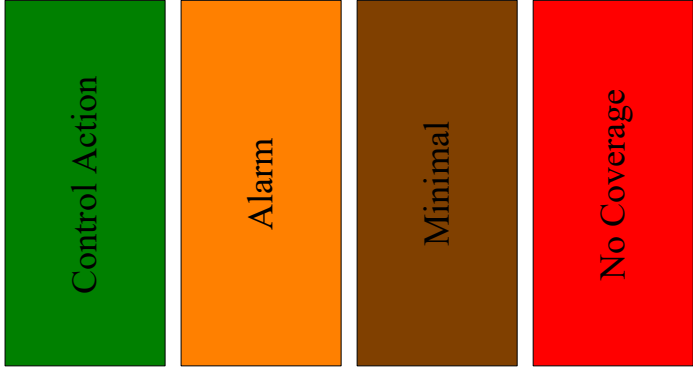
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at 2.171 m ALD



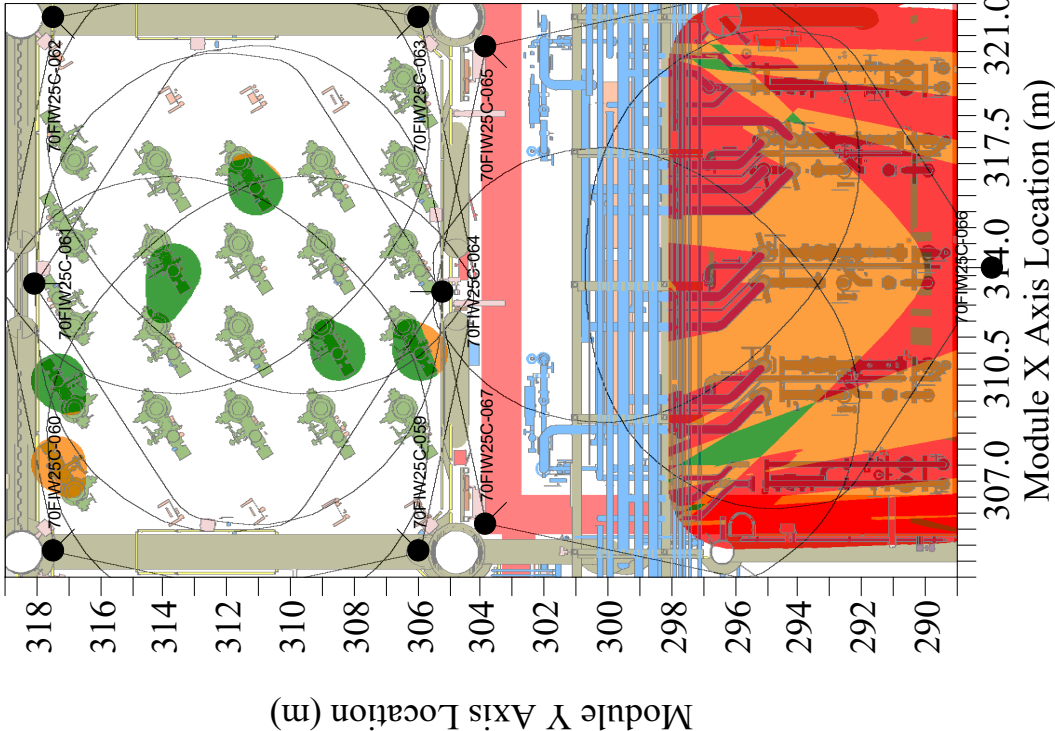
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at 2.726 m ALD



COVERAGE KEY

Control Action

Alarm

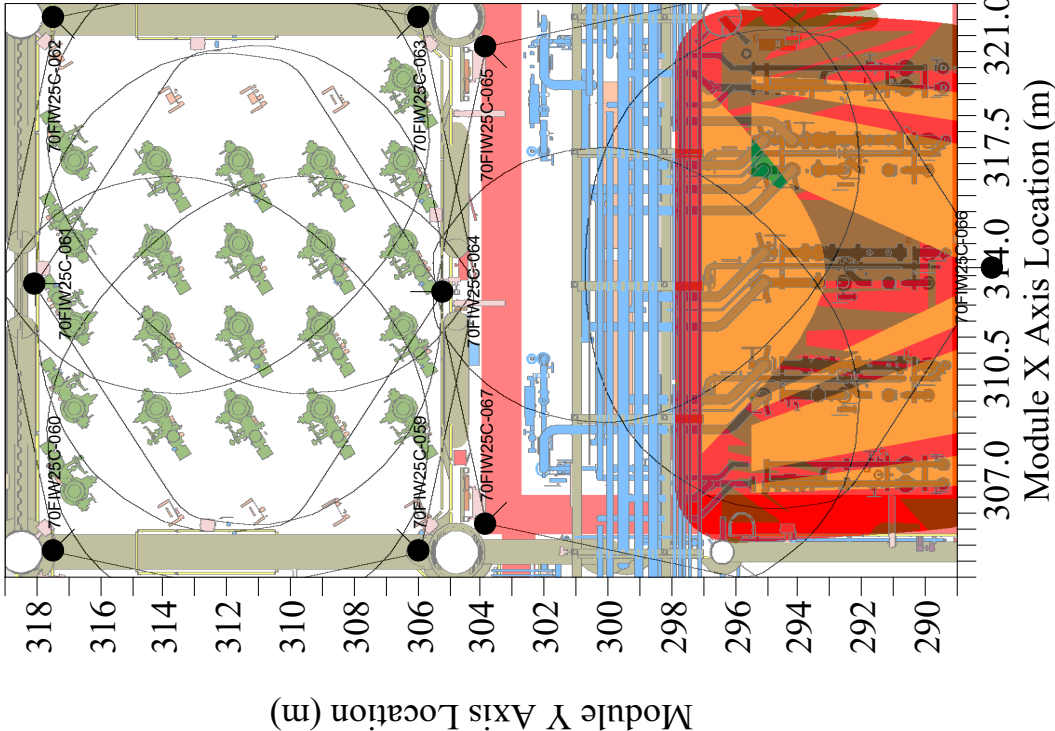
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			

Project Name-Fire Detection Area W25C

Fire Detector coverage at 3.282 m ALD



COVERAGE KEY

Control Action

Alarm

Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25C			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:34



PROJECT INFORMATION

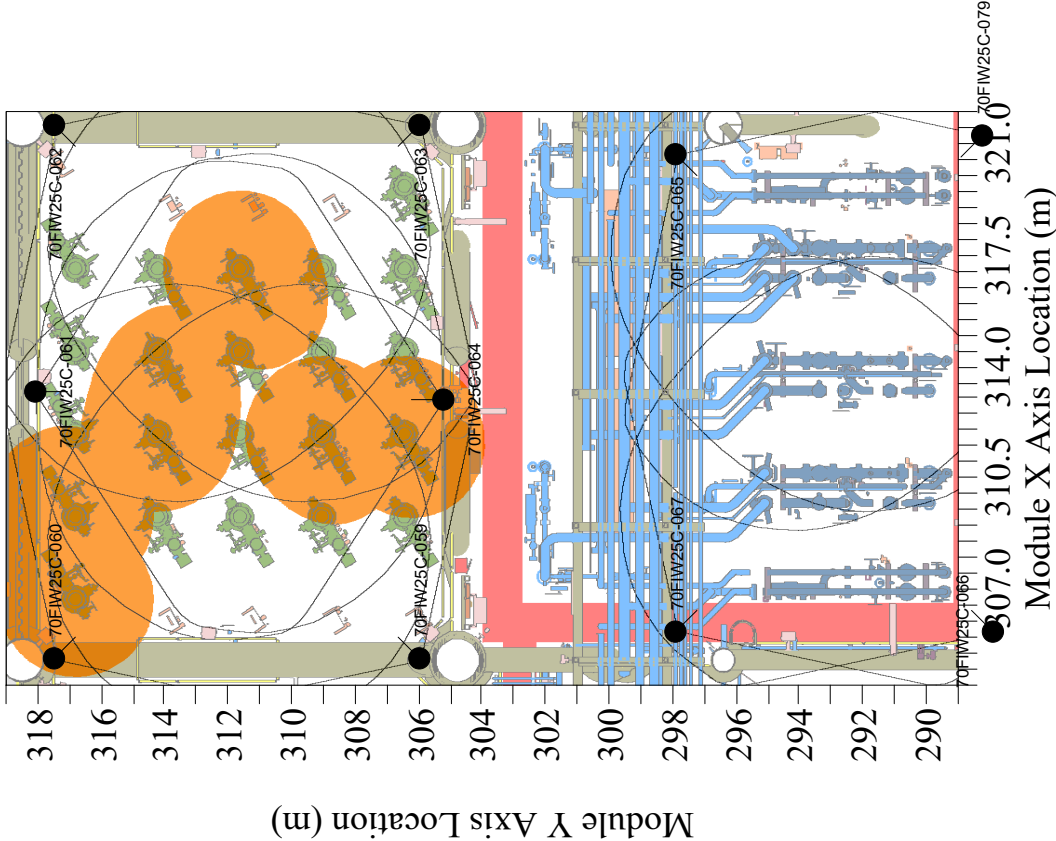
Project name: **Project Name**
Assessment title: **Proposed W25C**
Number of detectors: 10 (6 existing, 1 new, 3 relocated)
Overall coverage: 79% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

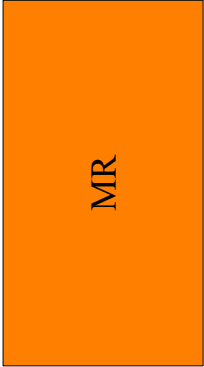
MR	51%	28%	2%	18%
Totals	51%	28%	2%	18%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (-1.718 m ALD)



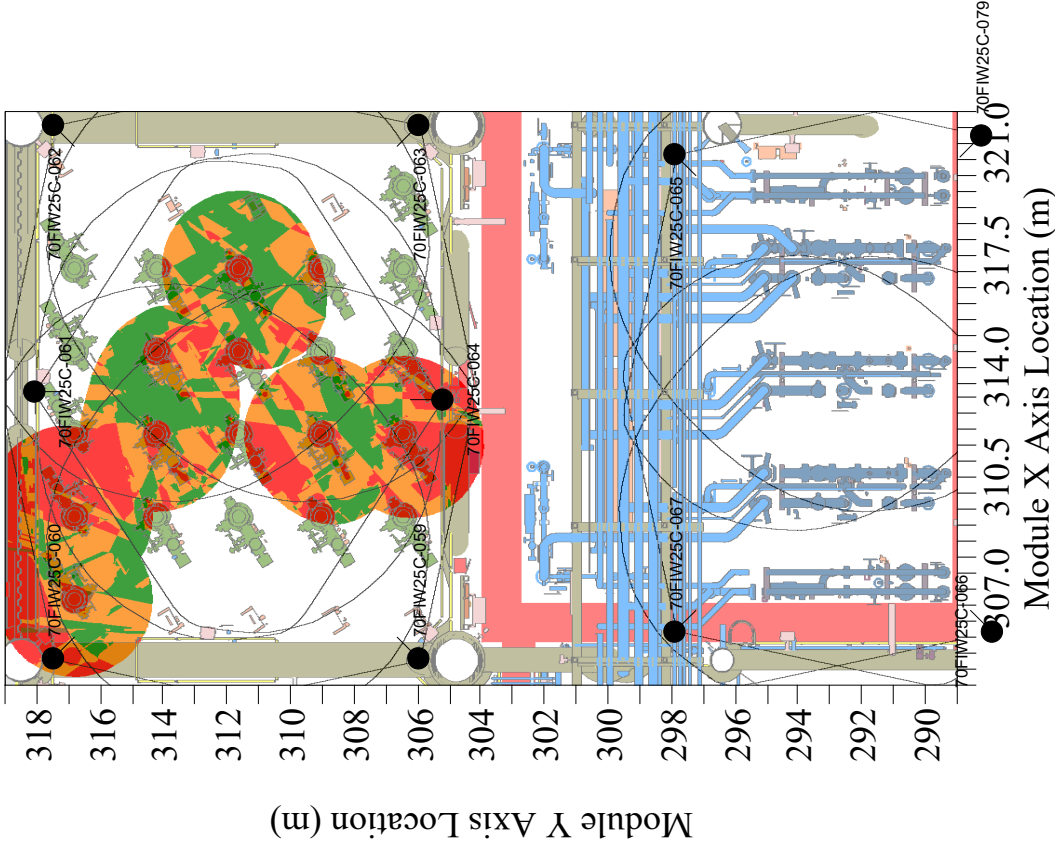
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

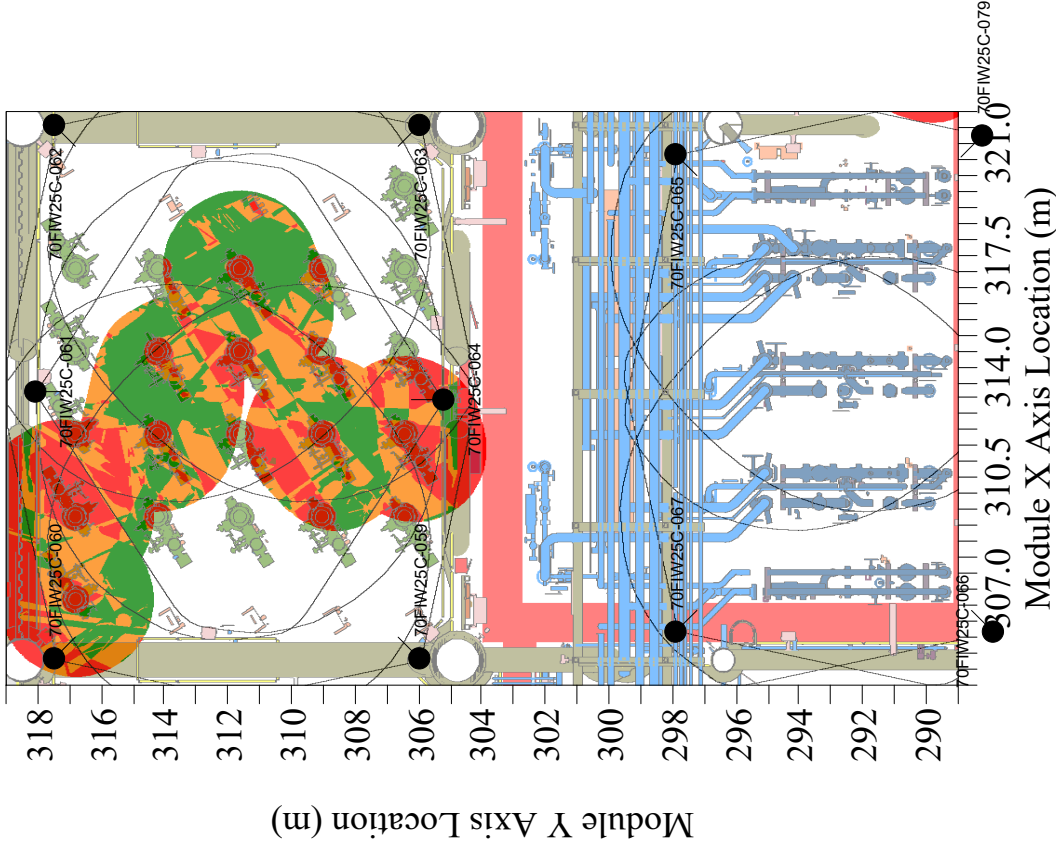
Fire Detector coverage at -1.718 m ALD



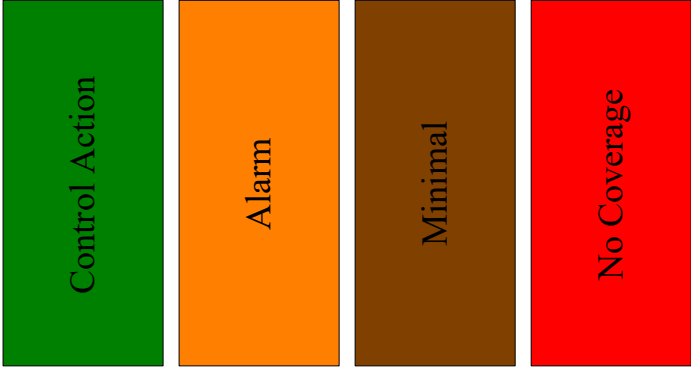
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at -1.162 m ALD



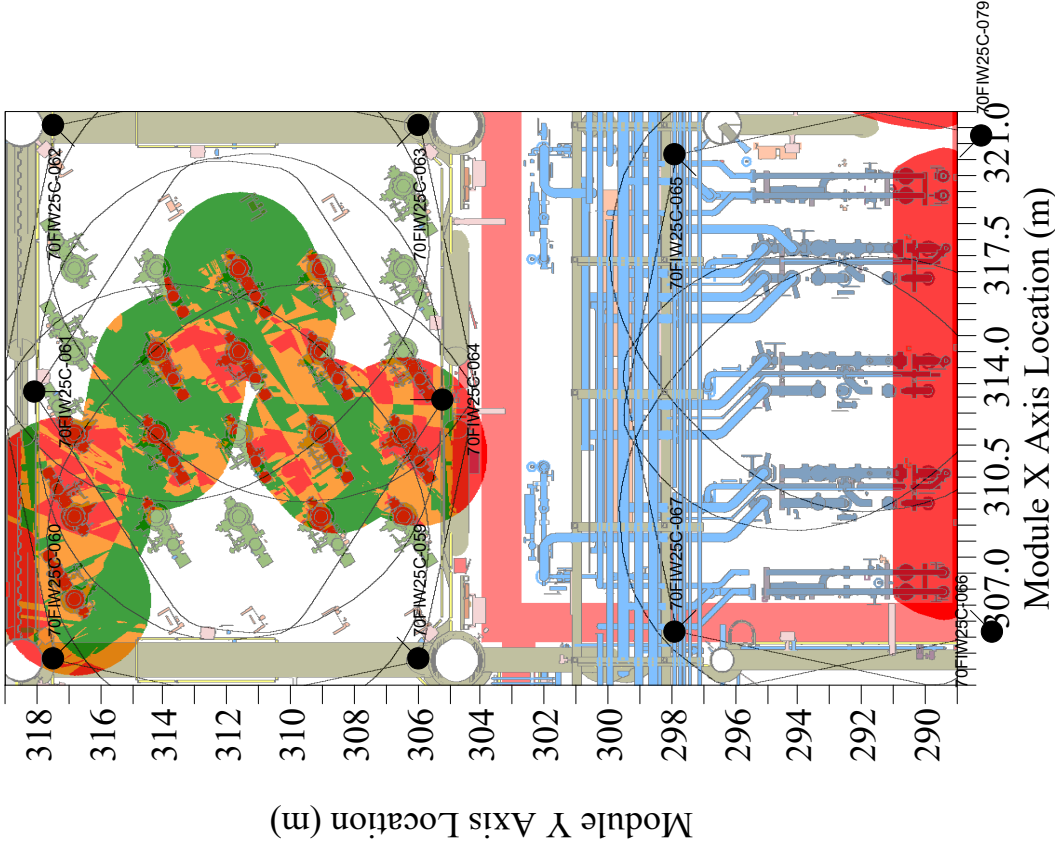
COVERAGE KEY



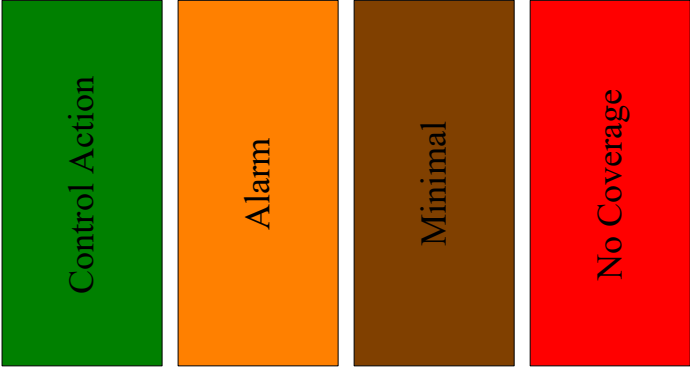
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at -0.607 m ALD



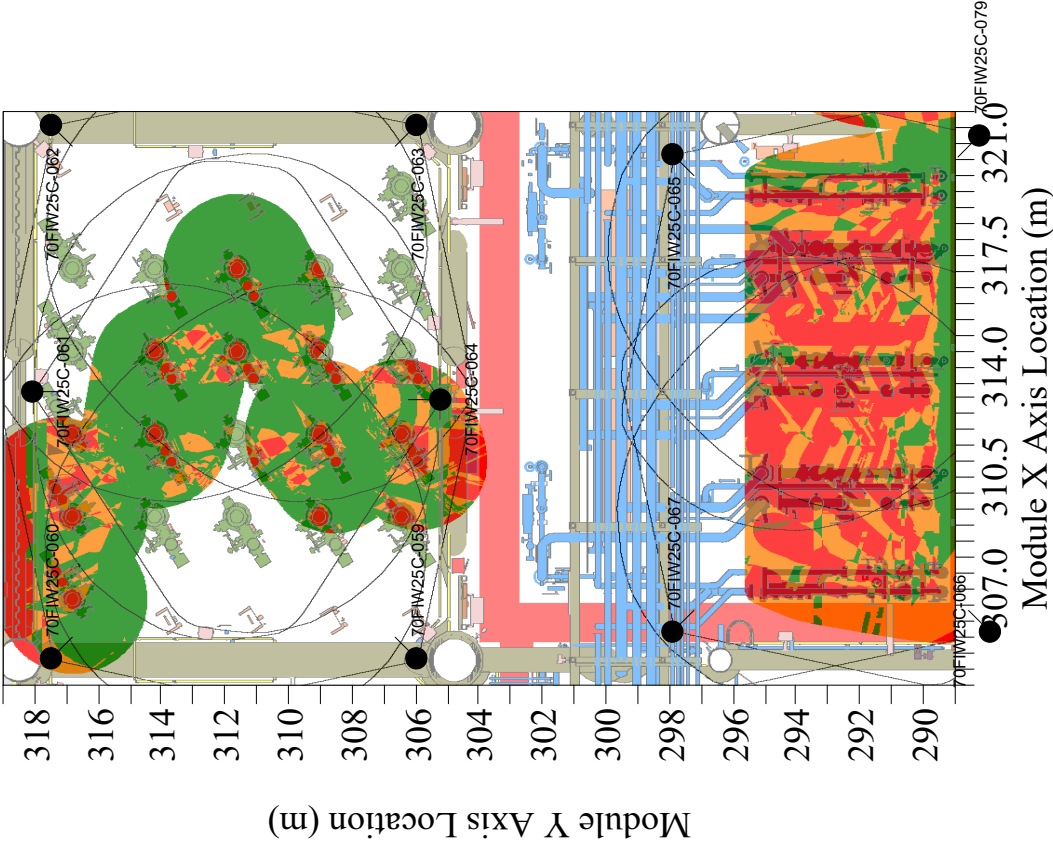
COVERAGE KEY



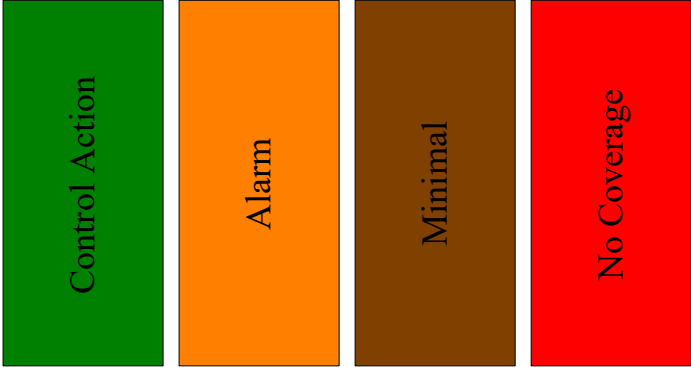
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at -0.051 m ALD



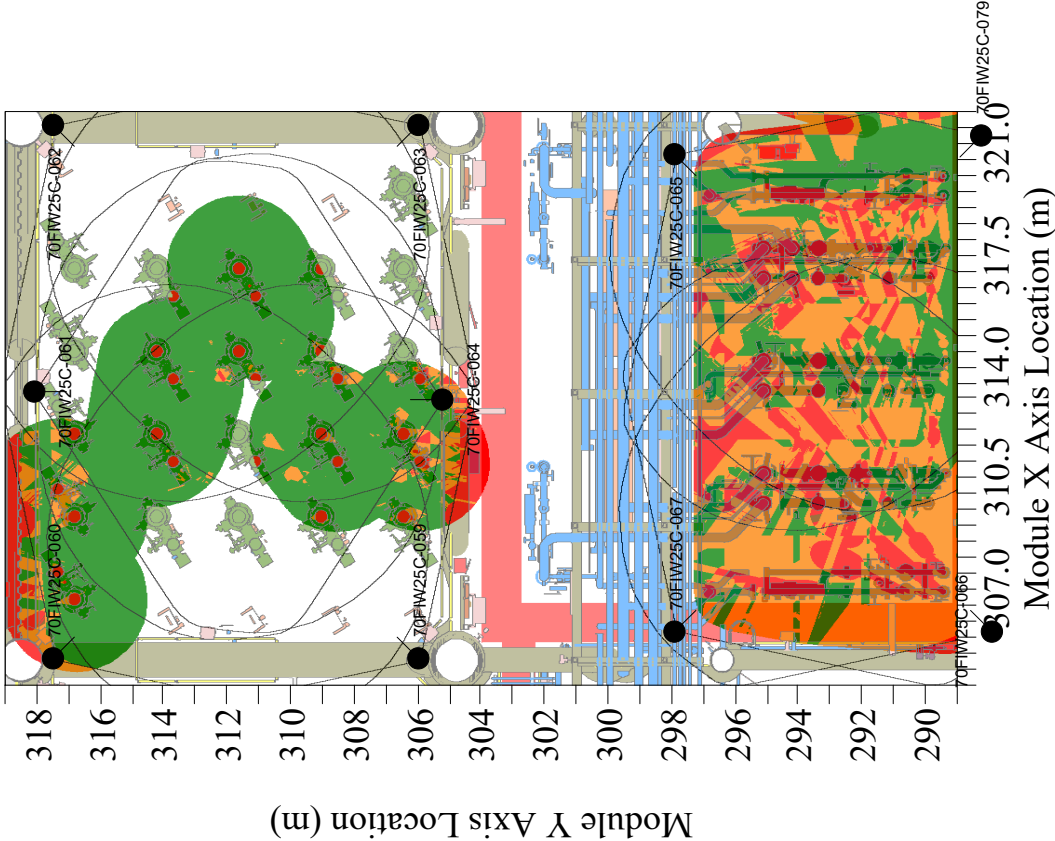
COVERAGE KEY



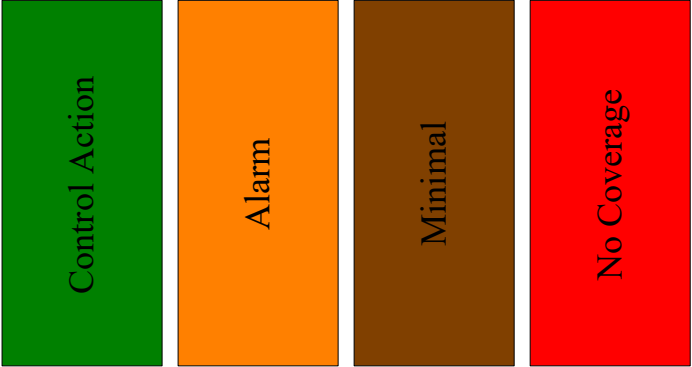
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at 0.504 m ALD



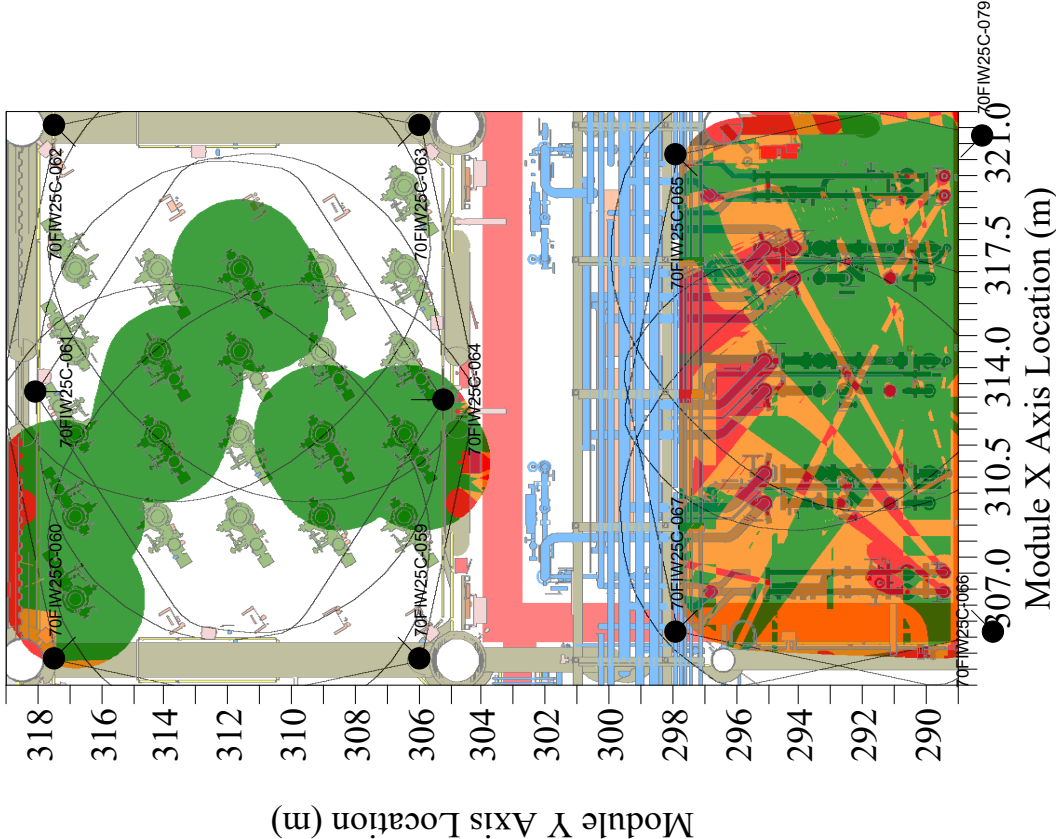
COVERAGE KEY



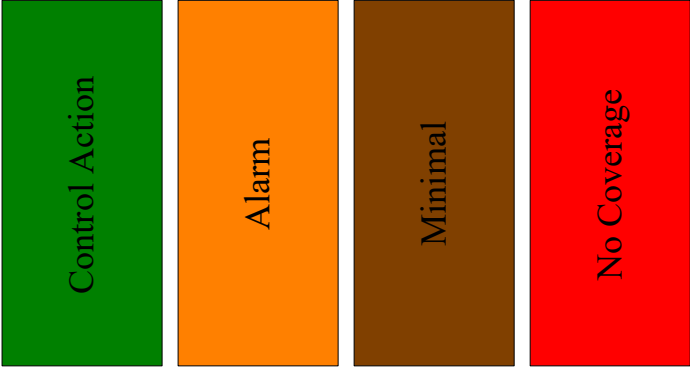
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at 1.060 m ALD



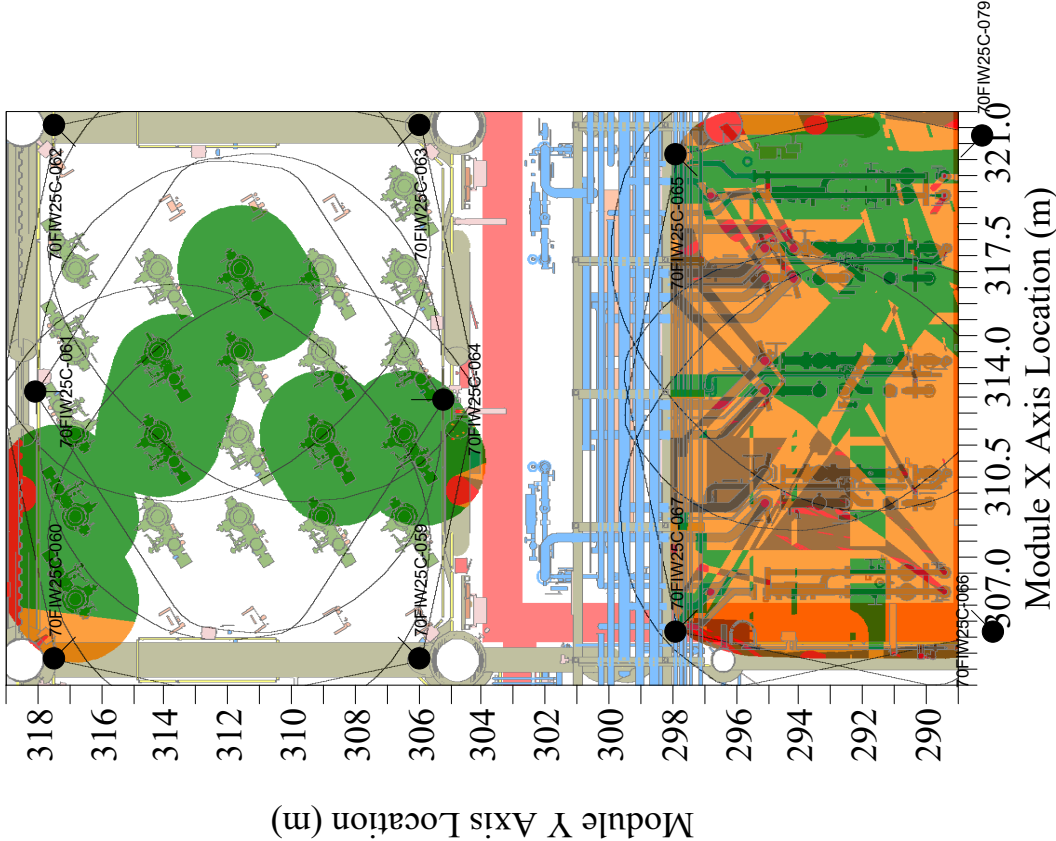
COVERAGE KEY



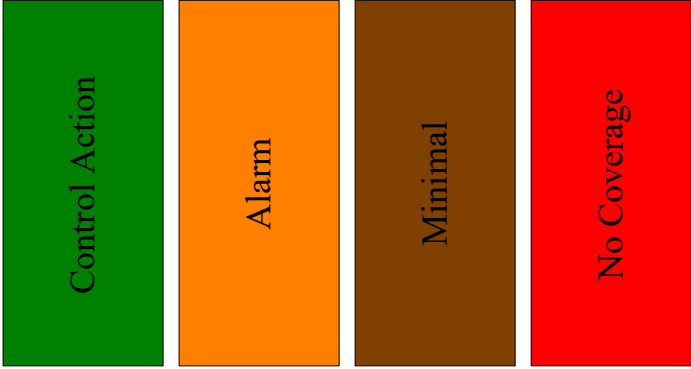
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at 1.615 m ALD



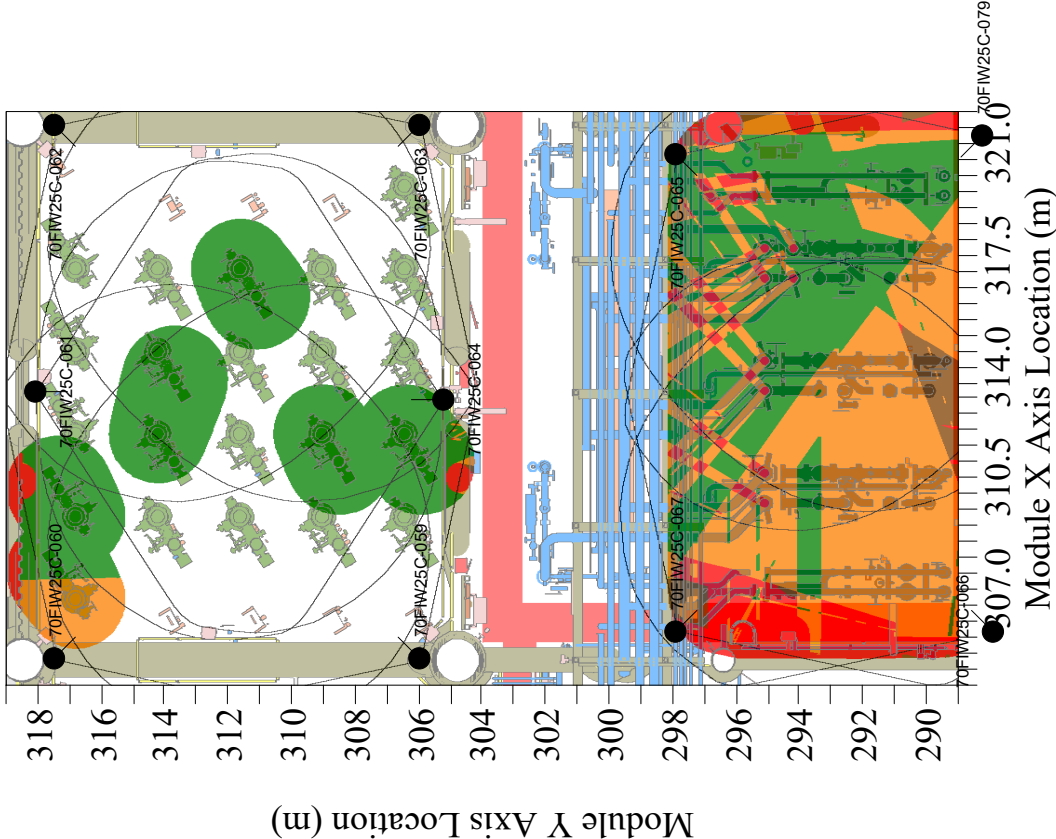
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at 2.171 m ALD



COVERAGE KEY

Control Action

Alarm

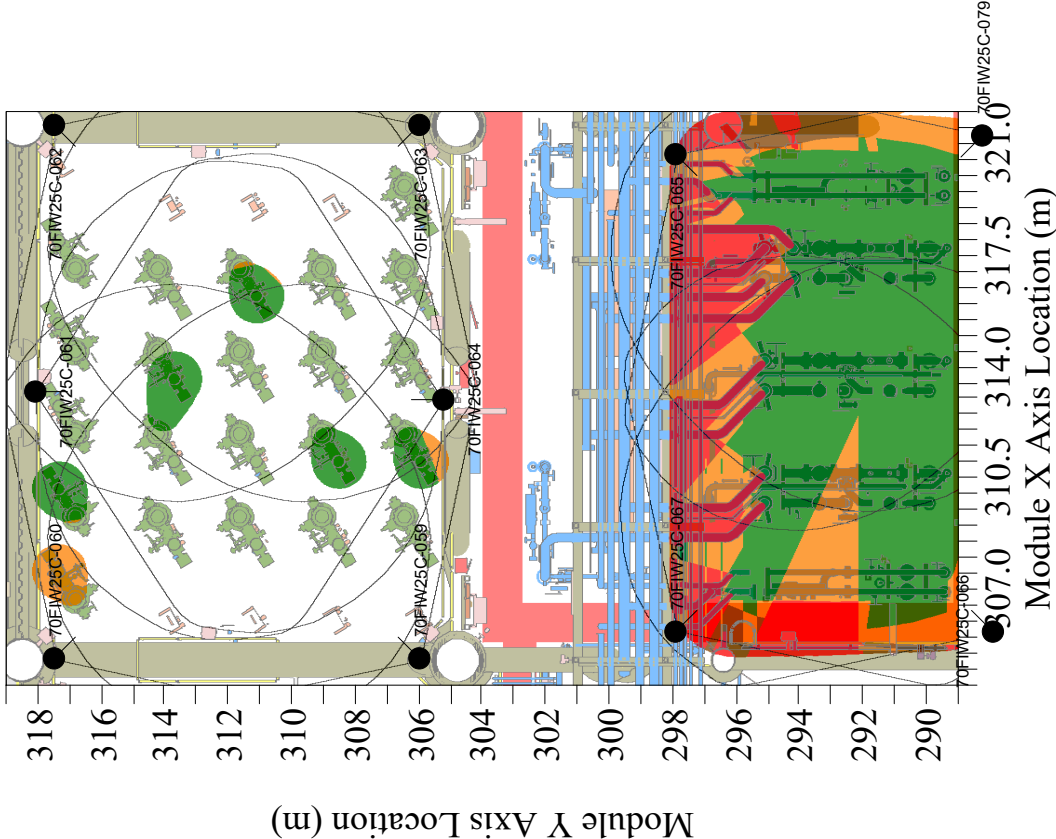
Minimal

No Coverage

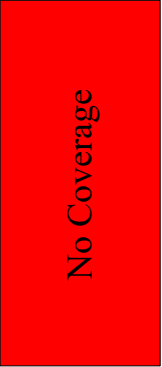
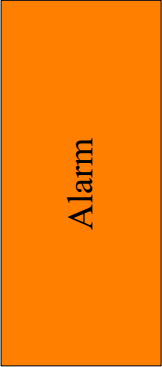
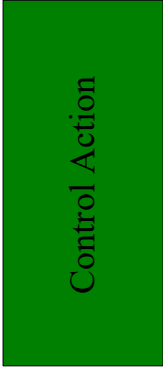
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at 2.726 m ALD



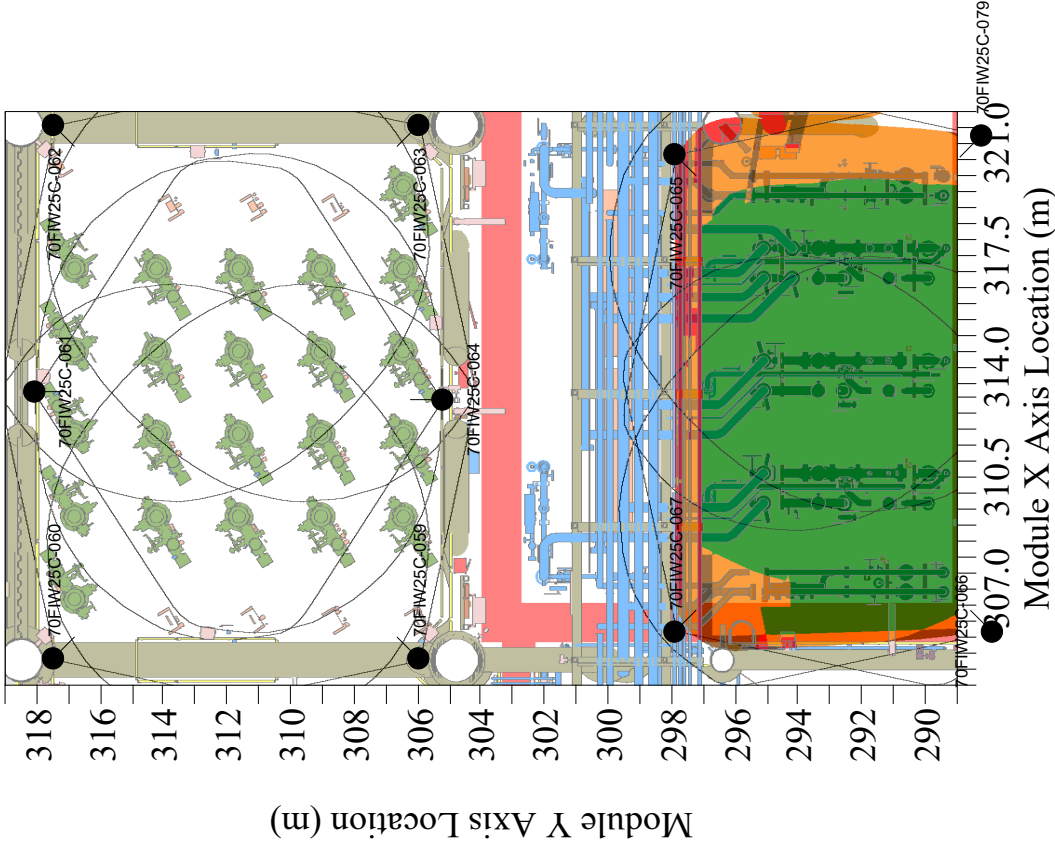
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			

Project Name-Proposed W25C

Fire Detector coverage at 3.282 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25C			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:38



PROJECT INFORMATION

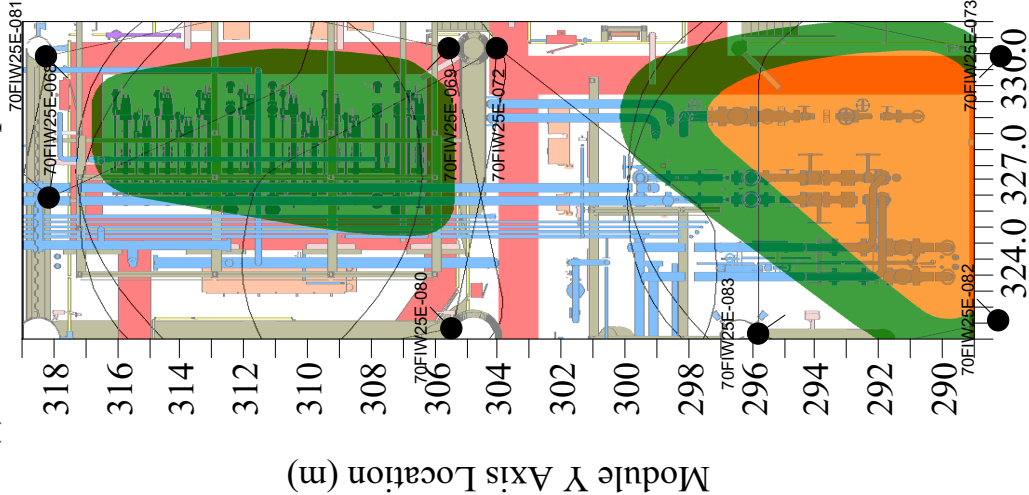
Project name: **Project Name**
Assessment title: **Ex W25E**
Number of detectors: 8 (8 existing, 0 new, 0 relocated)
Overall coverage: 66% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

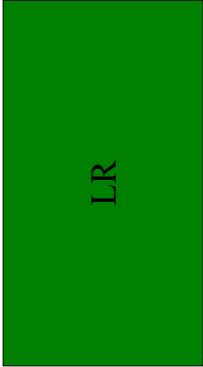
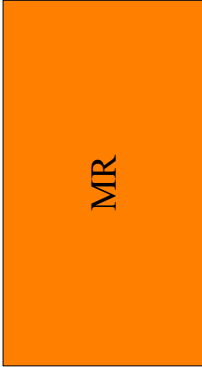
MR	38%	26%	1%	35%
LR	45%	23%	0%	32%
Totals	42%	24%	1%	33%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (-1.818 m ALD)



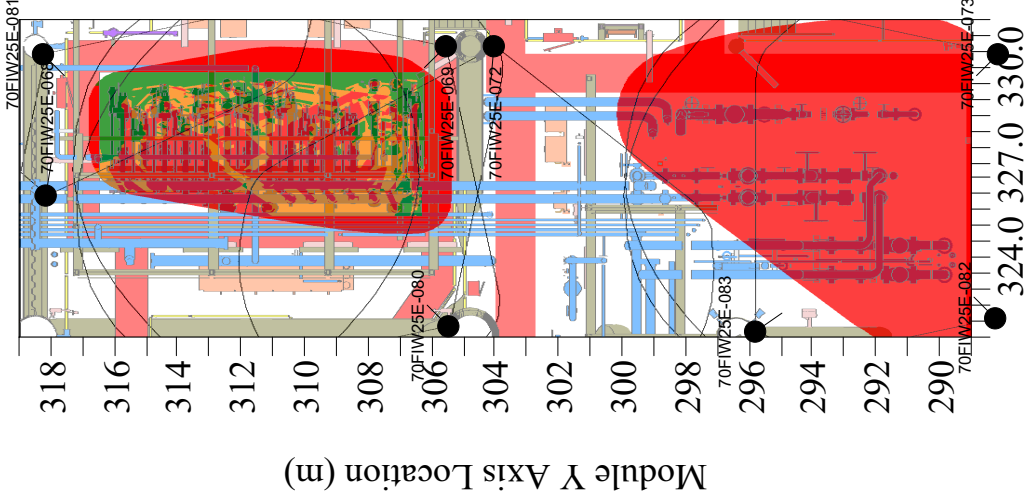
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Grademap (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at -1.818 m ALD



COVERAGE KEY

Control Action

Alarm

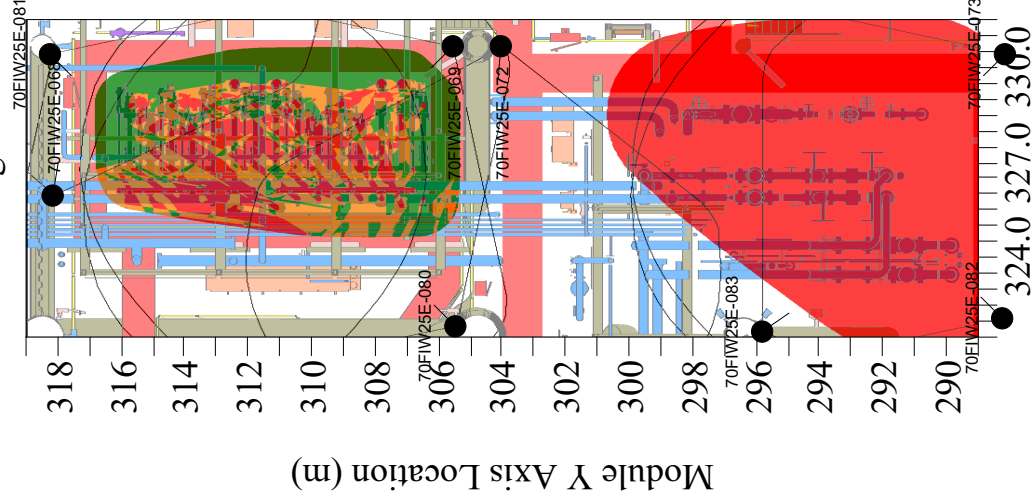
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at -1.262 m ALD



Module X Axis Location (m)

COVERAGE KEY

Control Action

Alarm

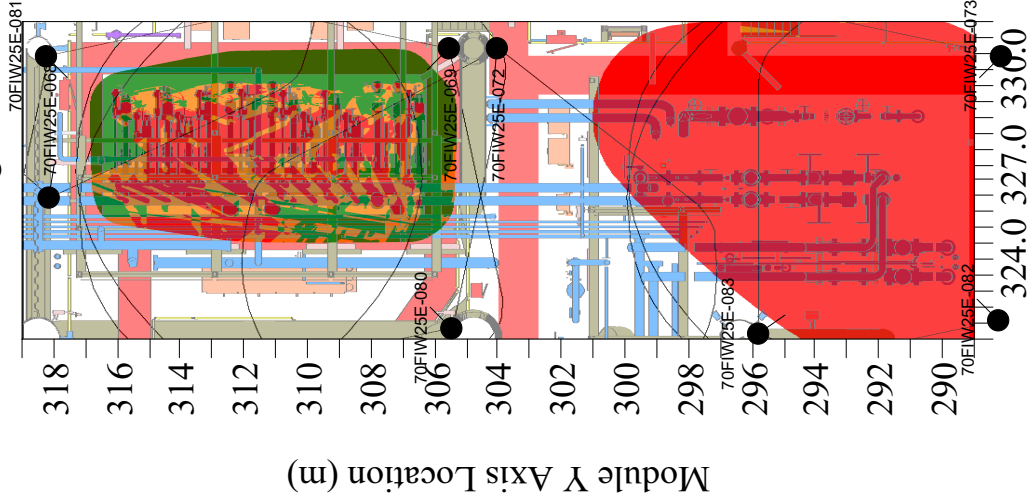
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

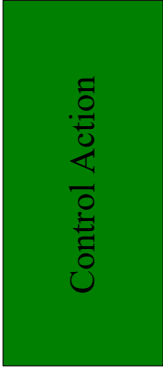
Project Name-Ex W25E

Fire Detector coverage at -0.707 m ALD

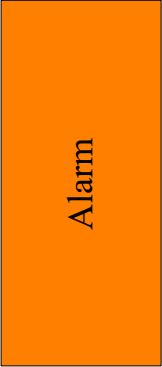


Module X Axis Location (m)

COVERAGE KEY



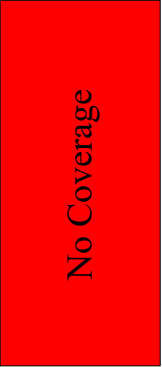
Control Action



Alarm



Minimal



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Ex W25E

Project Name-Ex W25E

Platform/site

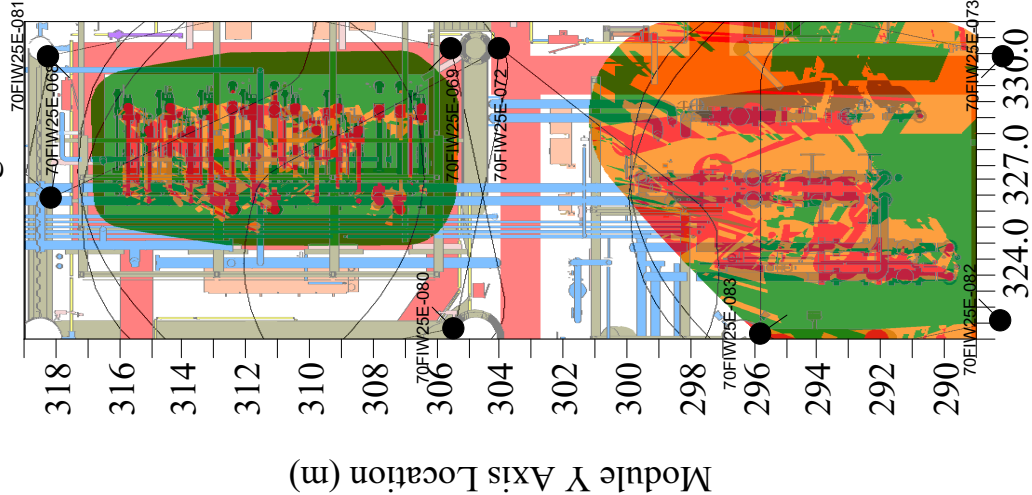
Drg category

Project Name

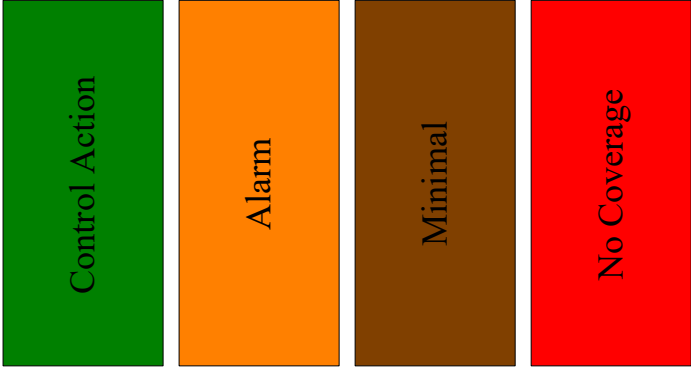
Assessment result (20-Jul-2018)

Project Name-Ex W25E

Fire Detector coverage at -0.151 m ALD



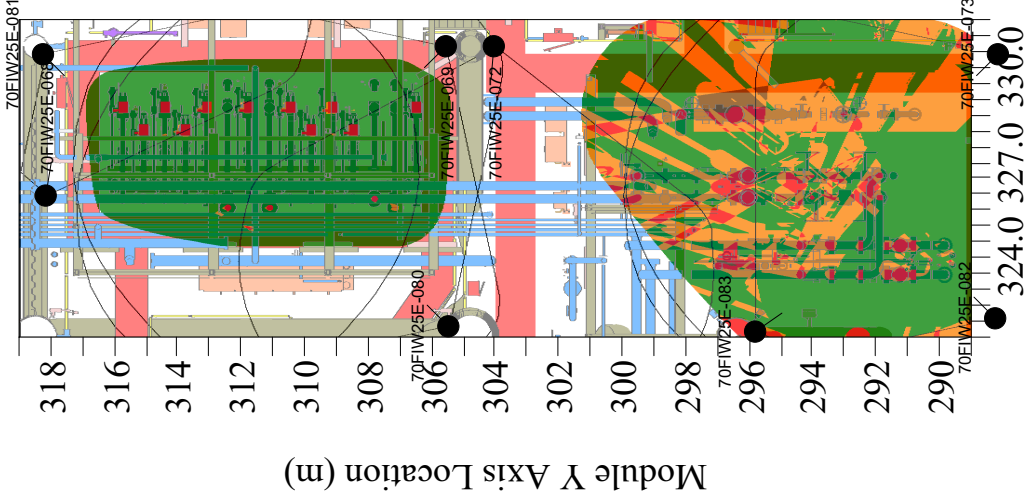
COVERAGE KEY



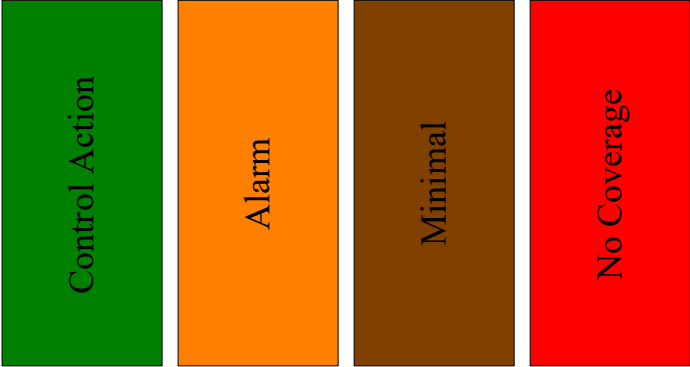
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at 0.404 m ALD



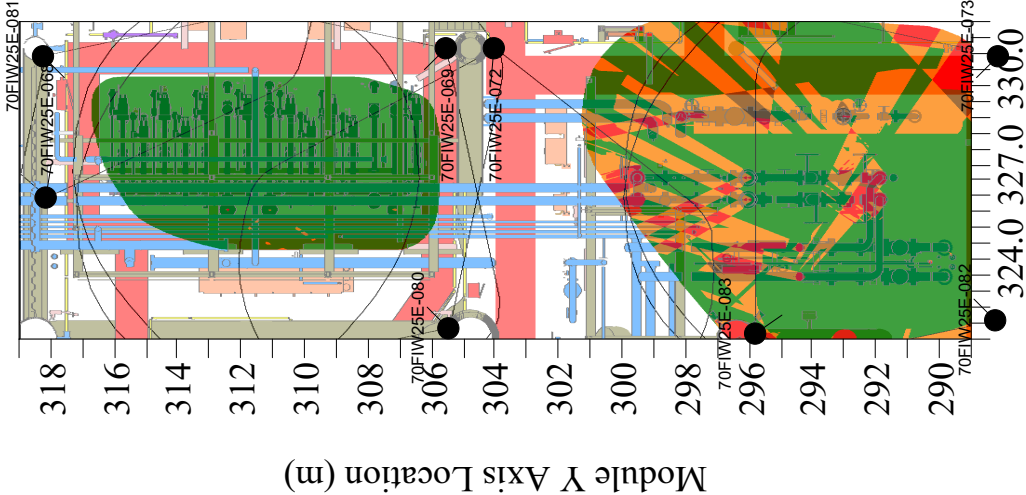
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at 0.960 m ALD



Module X Axis Location (m)

COVERAGE KEY

Control Action

Alarm

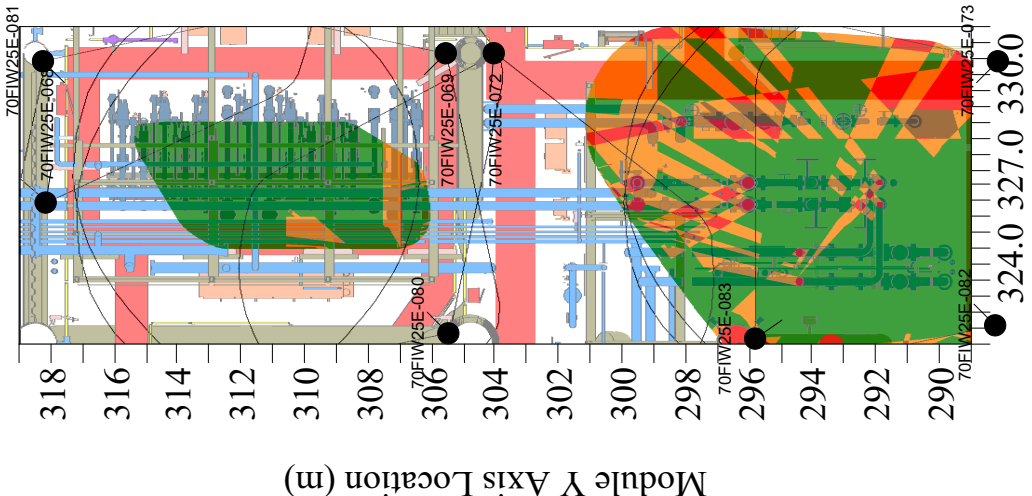
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at 1.515 m ALD



COVERAGE KEY

Control Action

Alarm

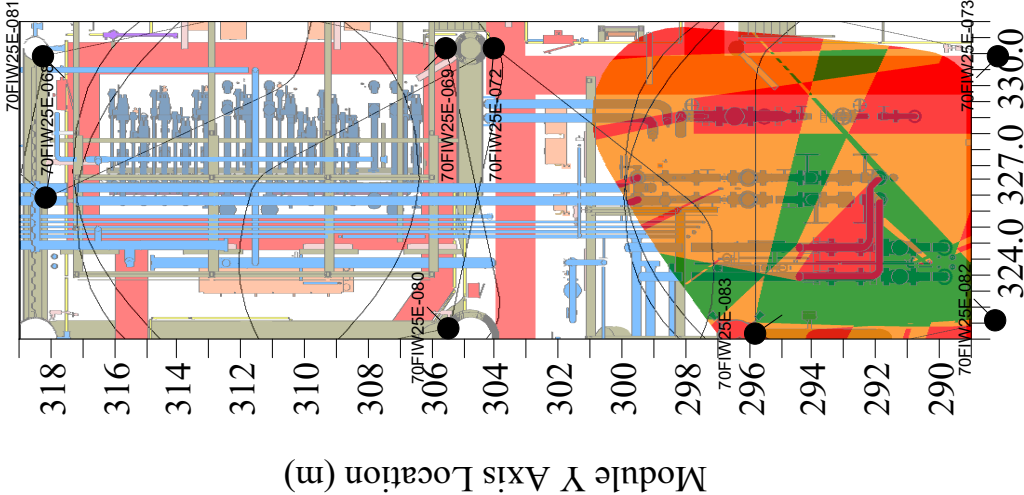
Minimal

No Coverage

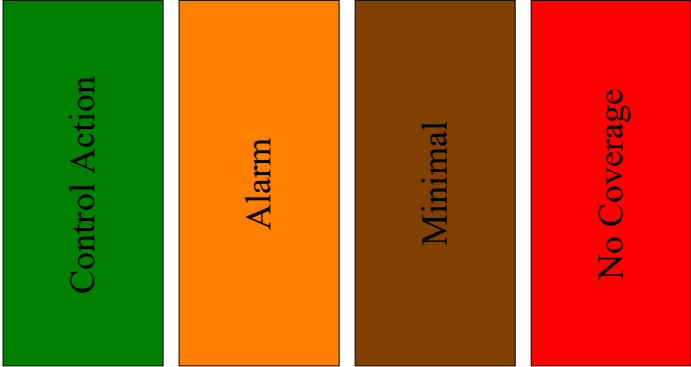
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at 2.071 m ALD



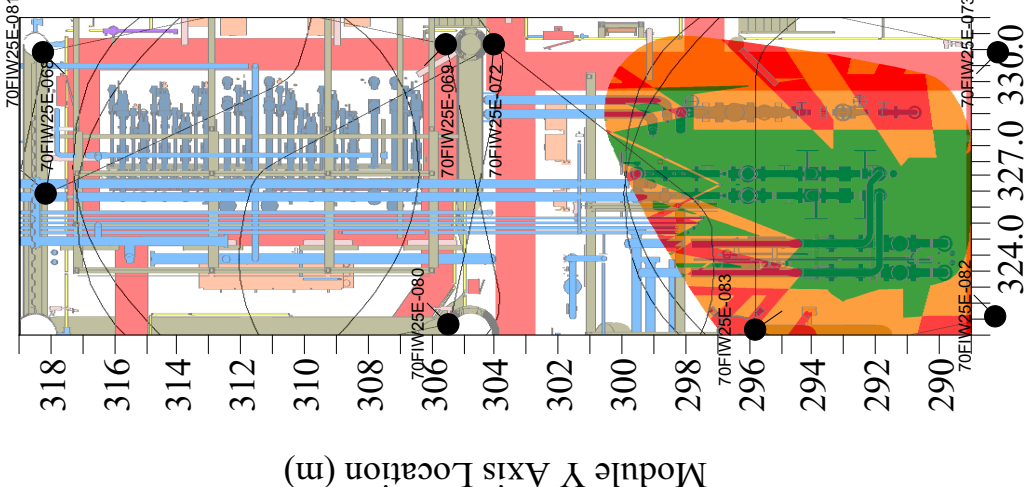
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at 2.626 m ALD



COVERAGE KEY

Control Action

Alarm

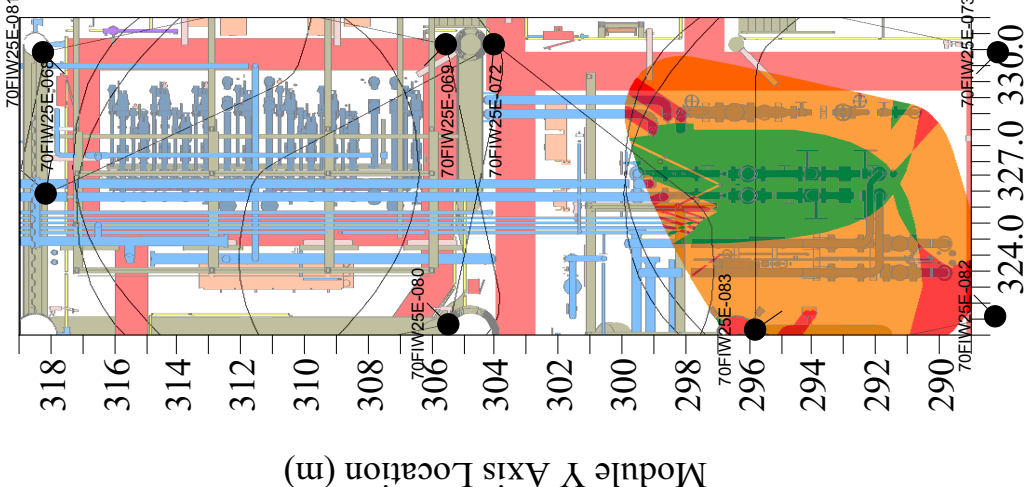
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			

Project Name-Ex W25E

Fire Detector coverage at 3.182 m ALD



COVERAGE KEY

Control Action

Alarm

Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Ex W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Ex W25E			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:39



PROJECT INFORMATION

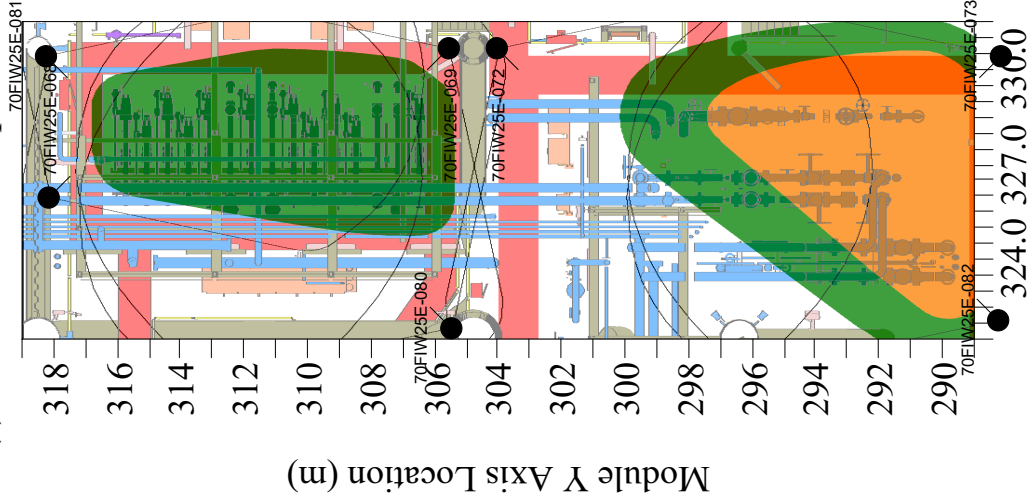
Project name: **Project Name**
Assessment title: **Proposed W25E**
Number of detectors: 7 (5 existing, 0 new, 2 relocated)
Overall coverage: 69% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

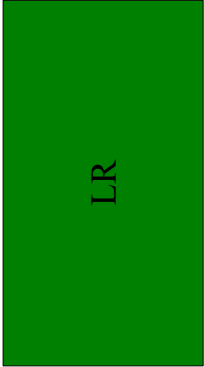
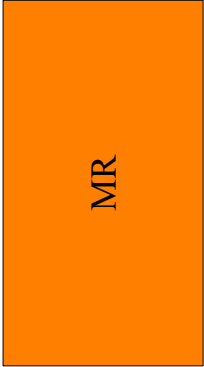
MR	49%	18%	0%	32%
LR	50%	22%	0%	29%
Totals	50%	20%	0%	30%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (-1.818 m ALD)



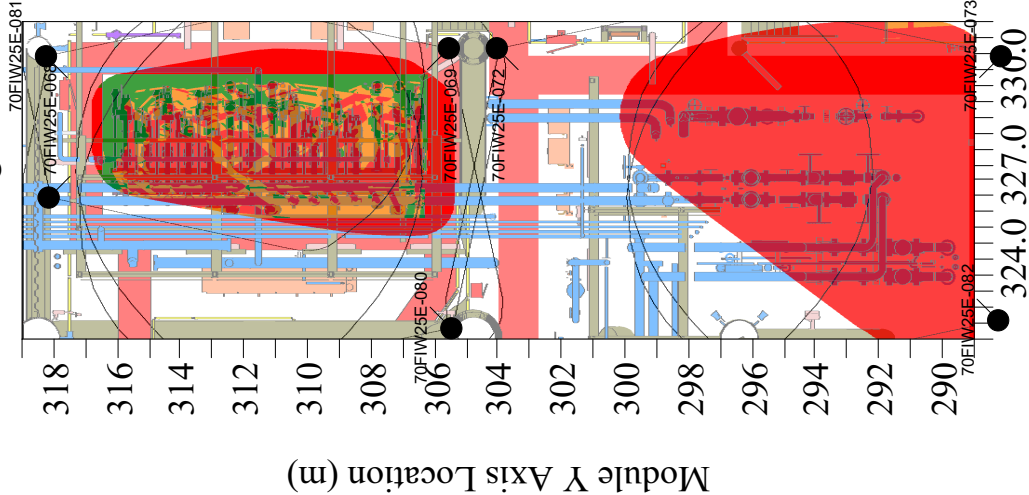
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W25E			

Project Name-Proposed W25E

Fire Detector coverage at -1.818 m ALD



COVERAGE KEY

Control Action

Alarm

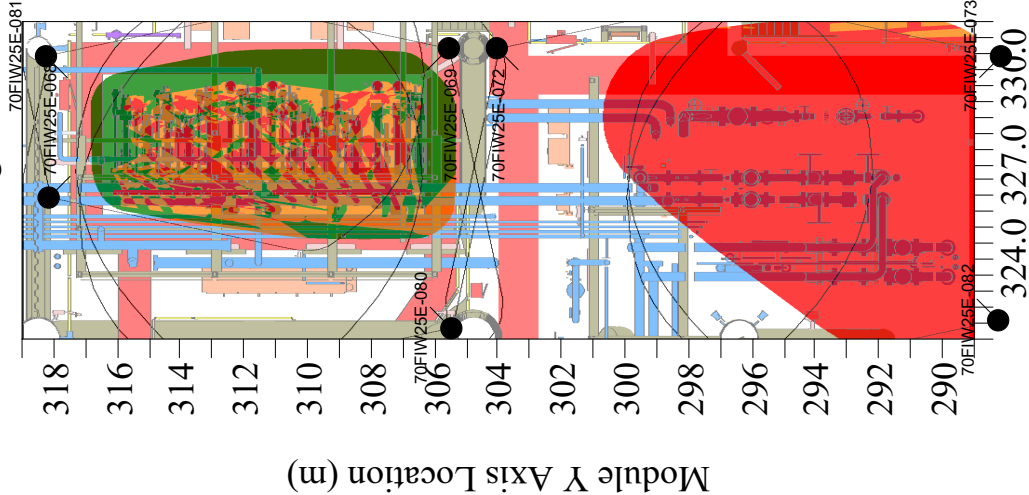
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name	
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)	
	Project Name-Proposed W25E				

Project Name-Proposed W25E

Fire Detector coverage at -1.262 m ALD



COVERAGE KEY

Control Action

Alarm

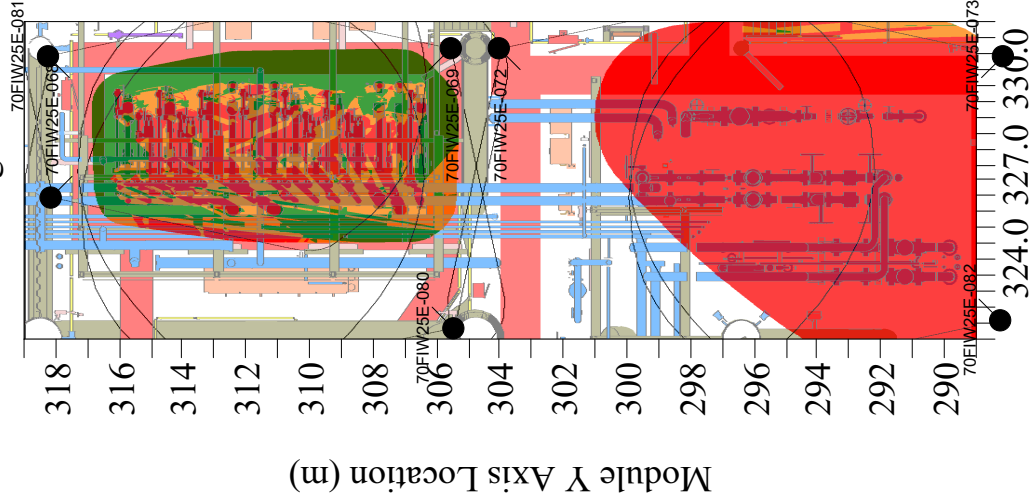
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25E			

Project Name-Proposed W25E

Fire Detector coverage at -0.707 m ALD



COVERAGE KEY

Control Action

Alarm

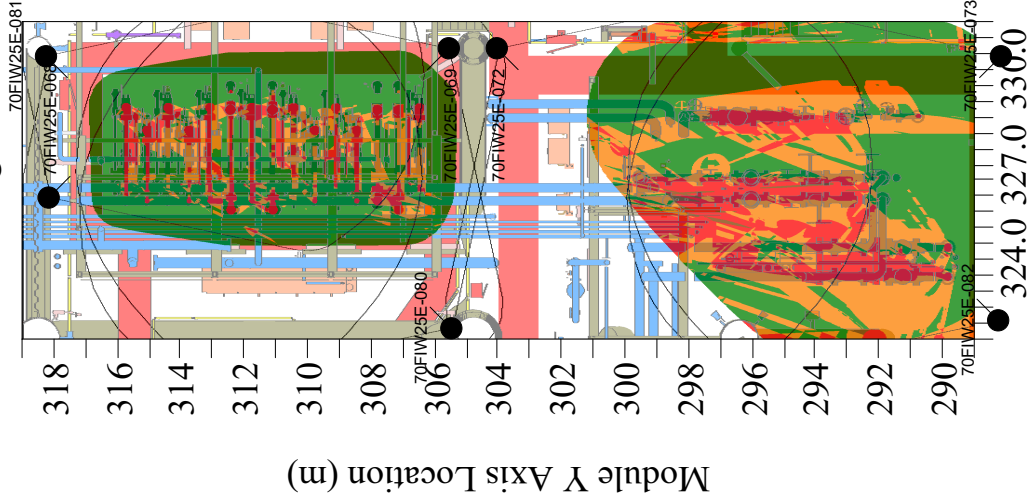
Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25E			

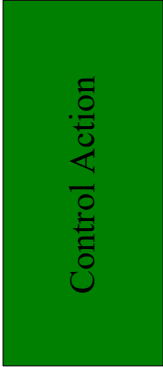
Project Name-Proposed W25E

Fire Detector coverage at -0.151 m ALD

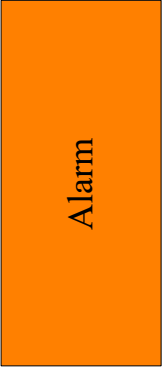


Module X Axis Location (m)

COVERAGE KEY



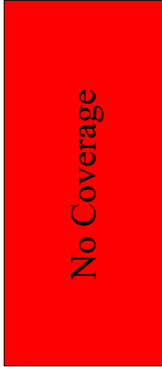
Control Action



Alarm



Minimal



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W25E

Project Name-Proposed W25E

Platform/site

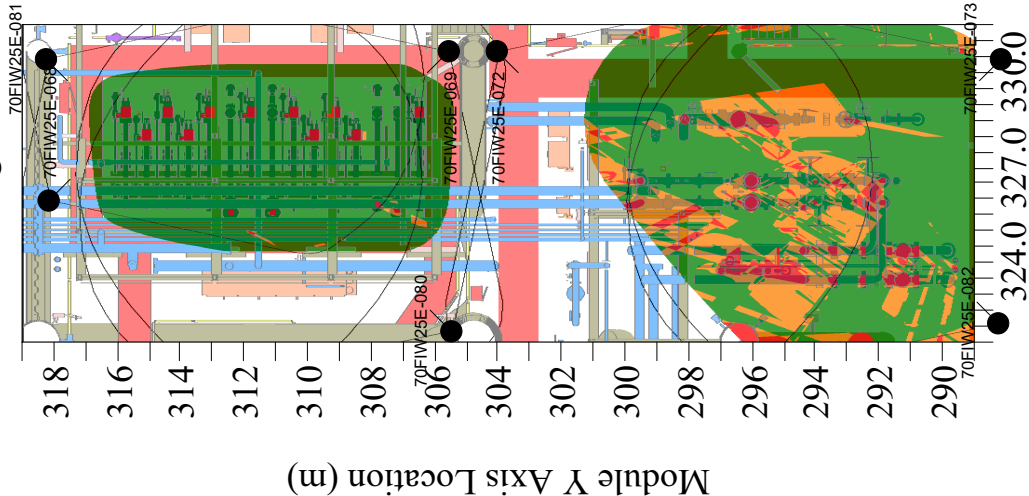
Drg category

Project Name

Assessment result (20-Jul-2018)

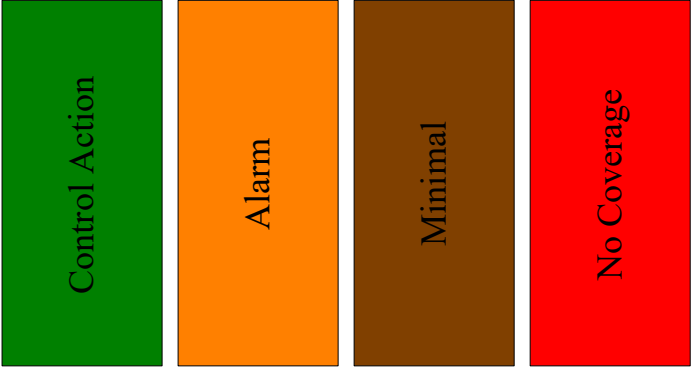
Project Name-Proposed W25E

Fire Detector coverage at 0.404 m ALD



Module X Axis Location (m)

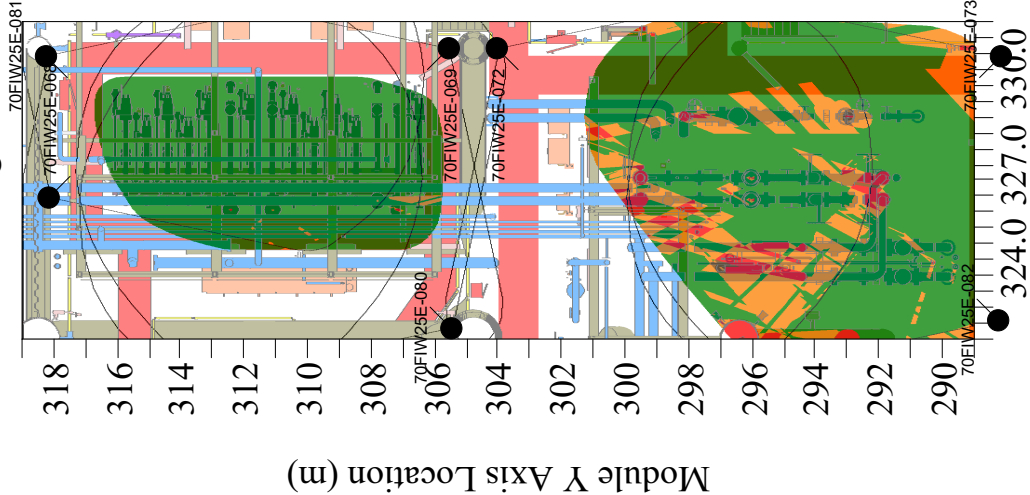
COVERAGE KEY



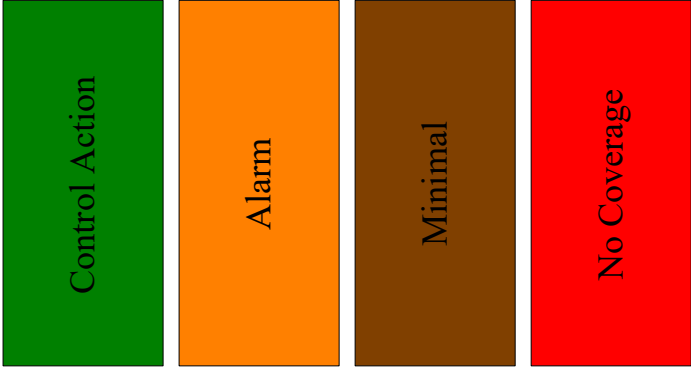
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25E			

Project Name-Proposed W25E

Fire Detector coverage at 0.960 m ALD



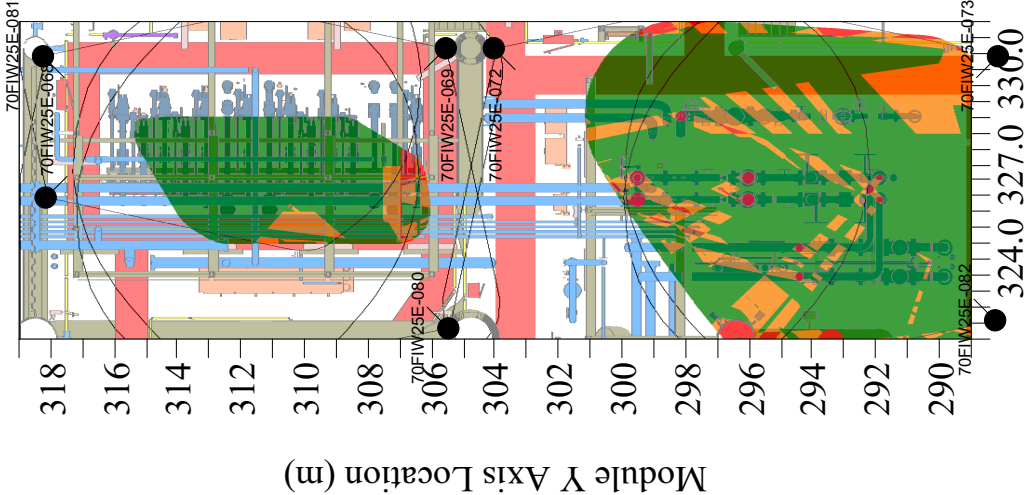
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25E			

Project Name-Proposed W25E

Fire Detector coverage at 1.515 m ALD



COVERAGE KEY

Control Action

Alarm

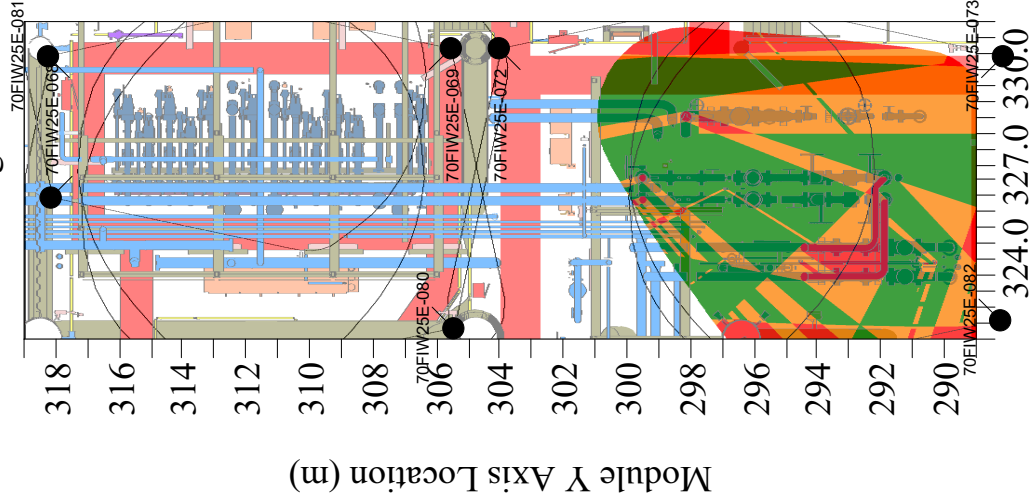
Minimal

No Coverage

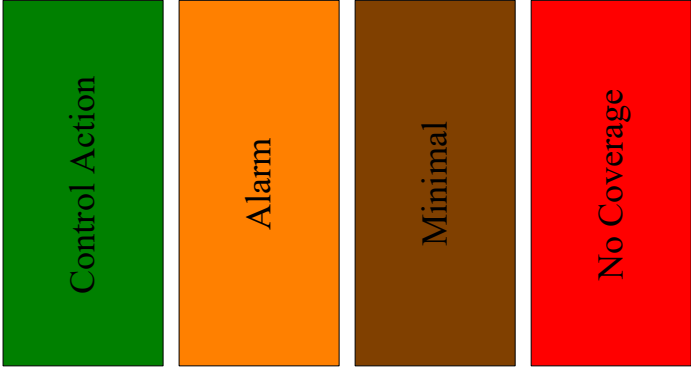
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name	
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)	
	Project Name-Proposed W25E				

Project Name-Proposed W25E

Fire Detector coverage at 2.071 m ALD



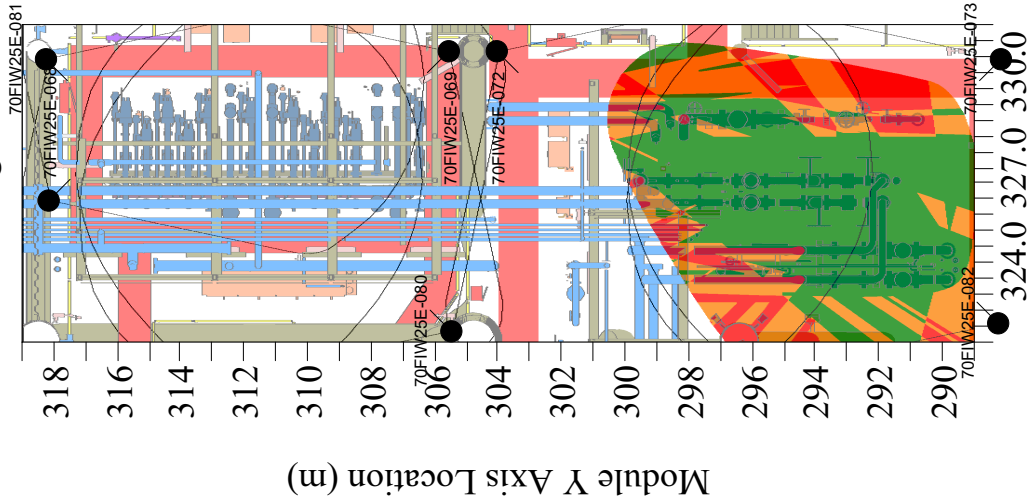
COVERAGE KEY



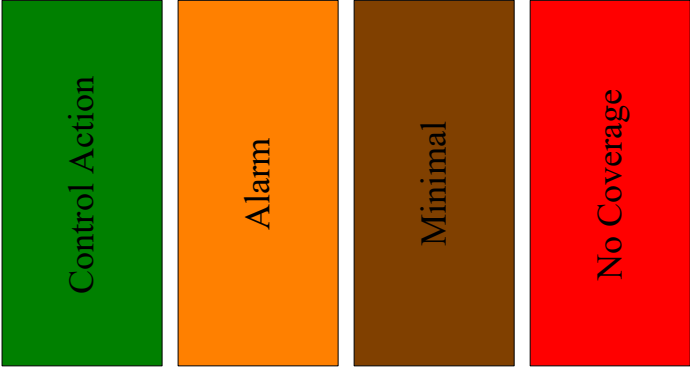
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25E			

Project Name-Proposed W25E

Fire Detector coverage at 2.626 m ALD



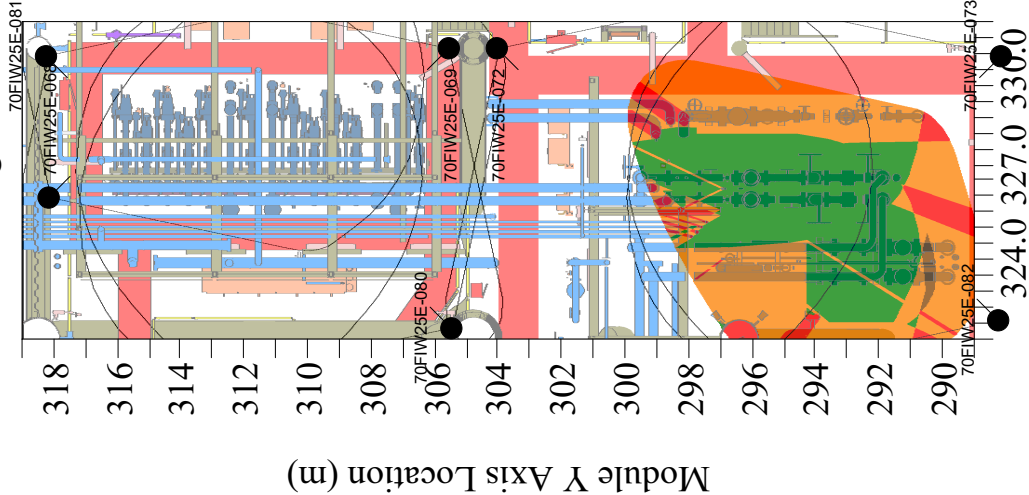
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25E			

Project Name-Proposed W25E

Fire Detector coverage at 3.182 m ALD



COVERAGE KEY

Control Action

Alarm

Minimal

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name	
	Proposed W25E		Drg category	Assessment result (20-Jul-2018)	
	Project Name-Proposed W25E				



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:41



PROJECT INFORMATION

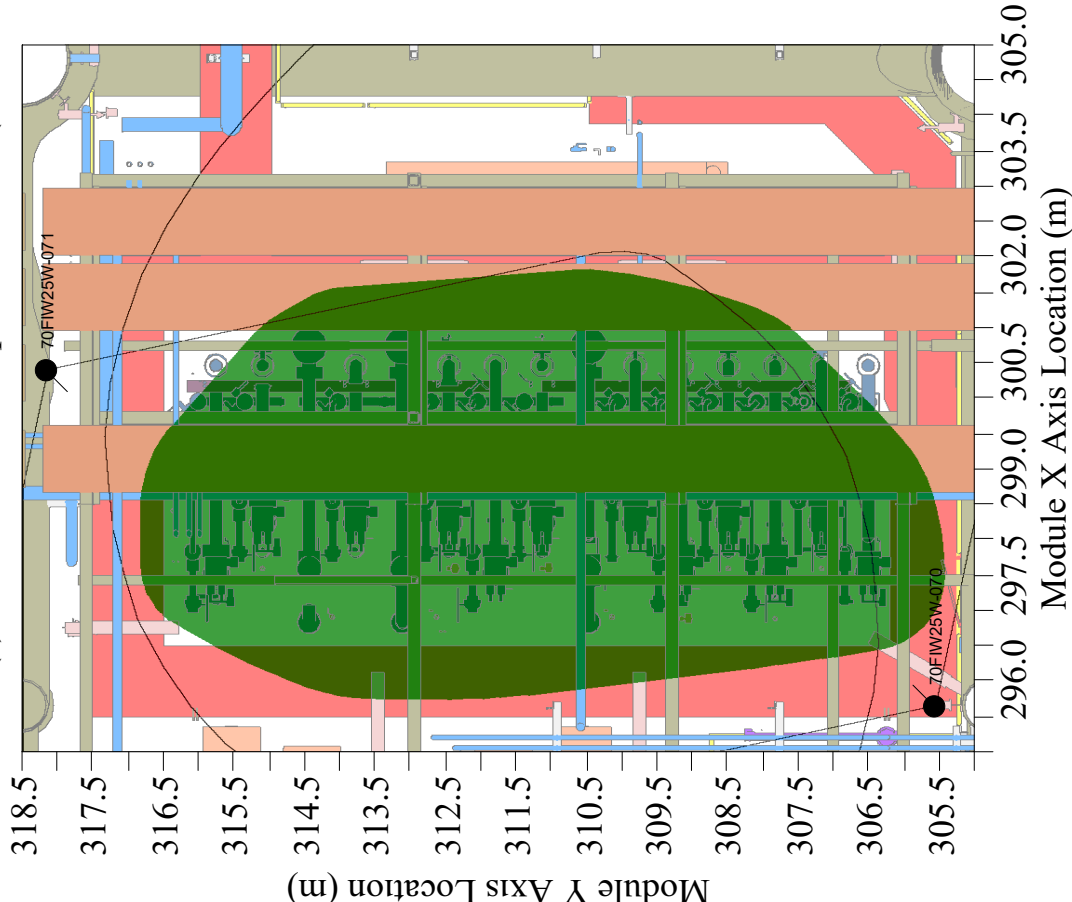
Project name: **Project Name**
Assessment title: **Fire Detection Area W25W**
Number of detectors: 2 (2 existing, 0 new, 0 relocated)
Overall coverage: 67% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

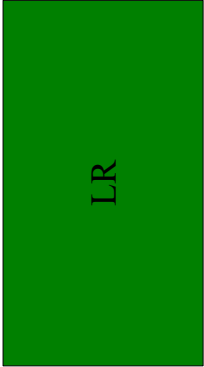
LR	31%	36%	33%
Totals	31%	36%	33%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (-1.818 m ALD)



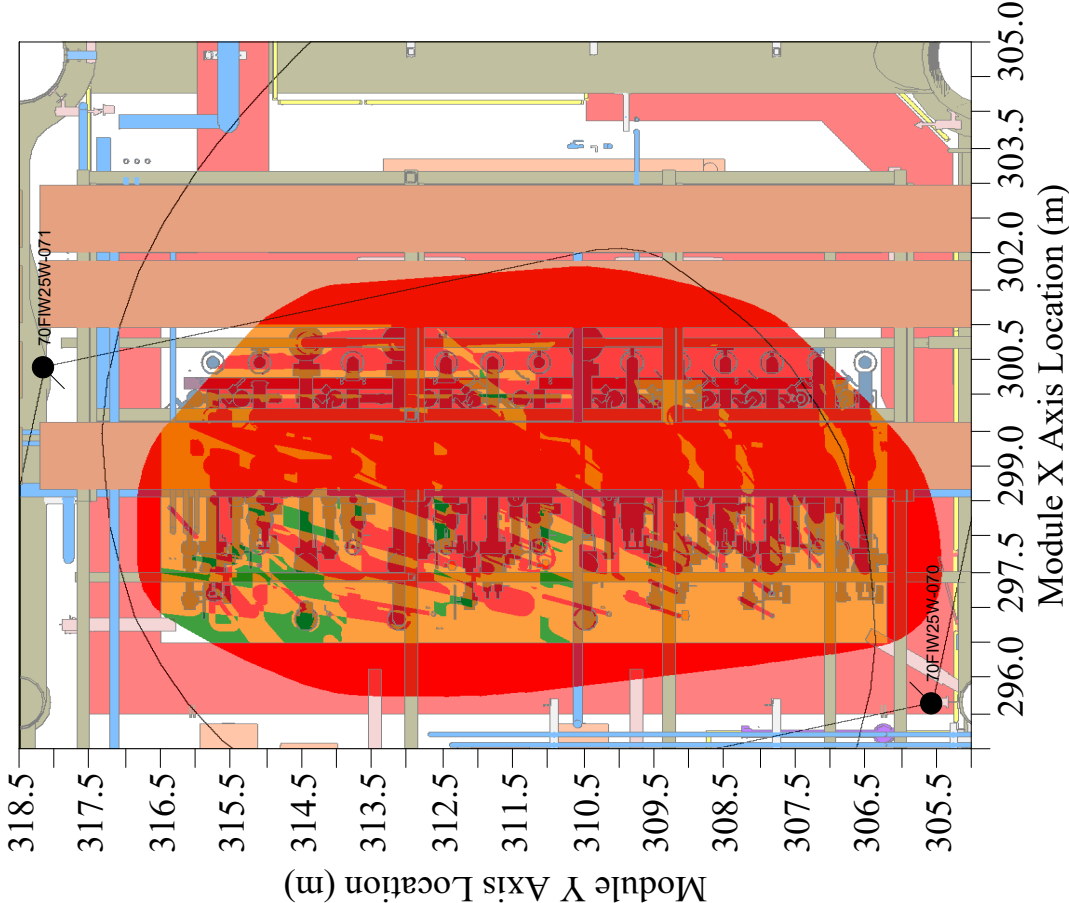
GRADE COLOURS



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25W		Drg category	Grademap (20-Jul-2018)
	Project Name-Fire Detection Area W25W			

Project Name-Fire Detection Area W25W

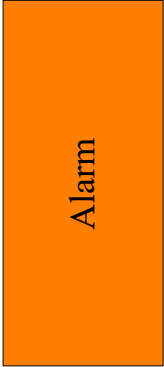
Fire Detector coverage at -1.818 m ALD



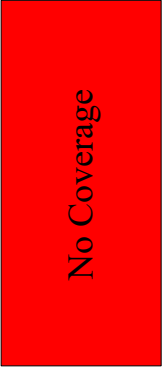
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area W25W

Project Name-Fire Detection Area W25W

Platform/site

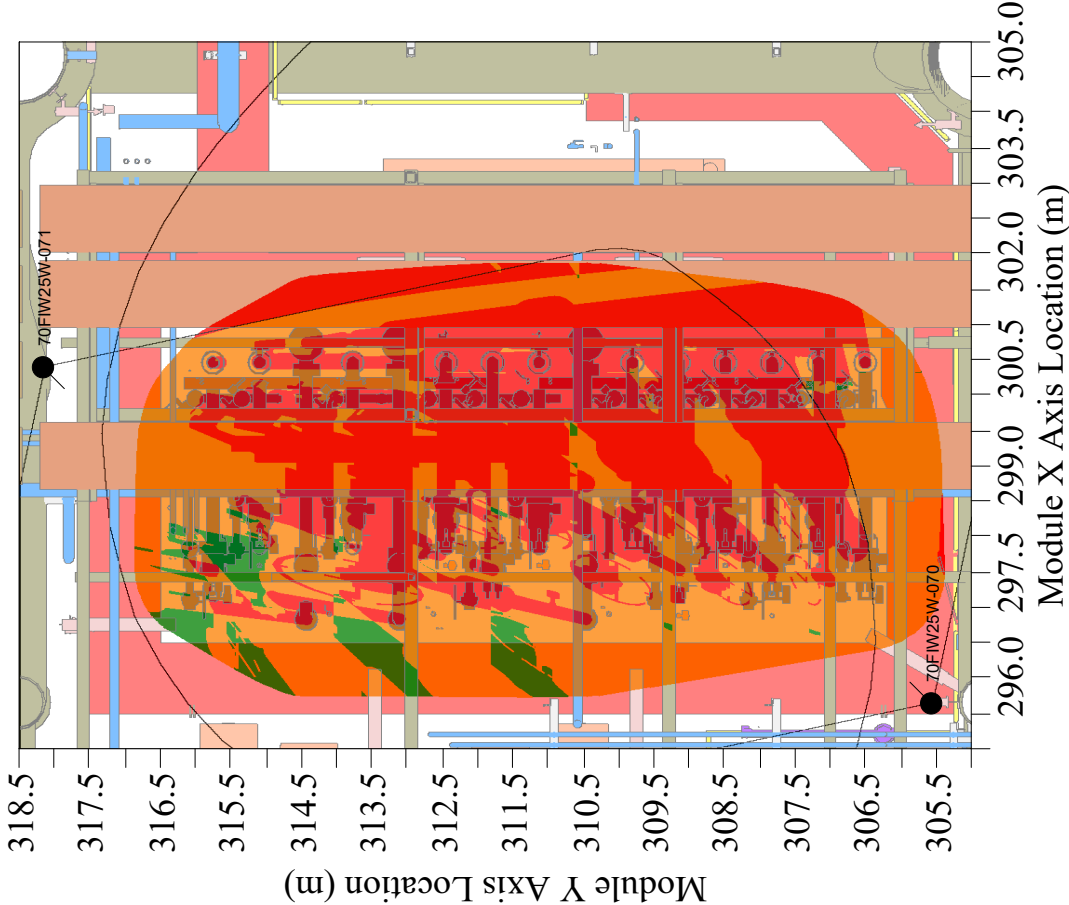
Drg category

Project Name

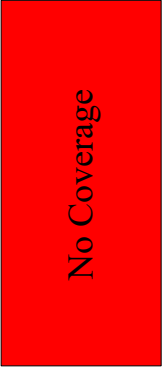
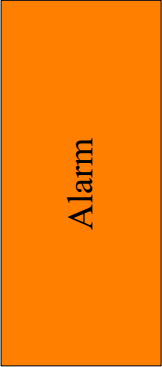
Assessment result (20-Jul-2018)

Project Name-Fire Detection Area W25W

Fire Detector coverage at -1.040 m ALD



COVERAGE KEY



Control Action

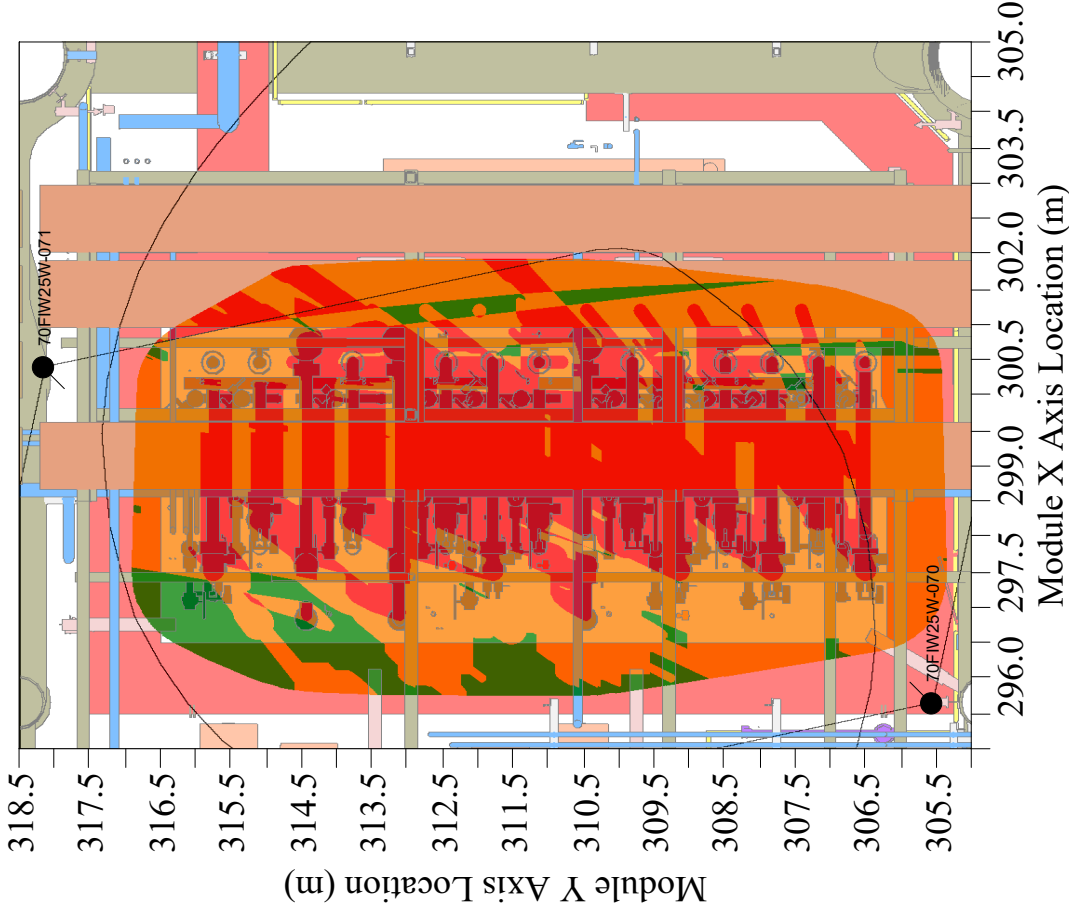
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25W			

Project Name-Fire Detection Area W25W

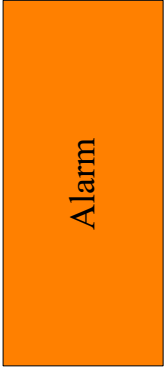
Fire Detector coverage at -0.262 m ALD



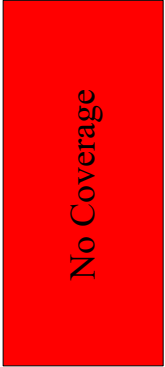
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area W25W

Project Name-Fire Detection Area W25W

Platform/site

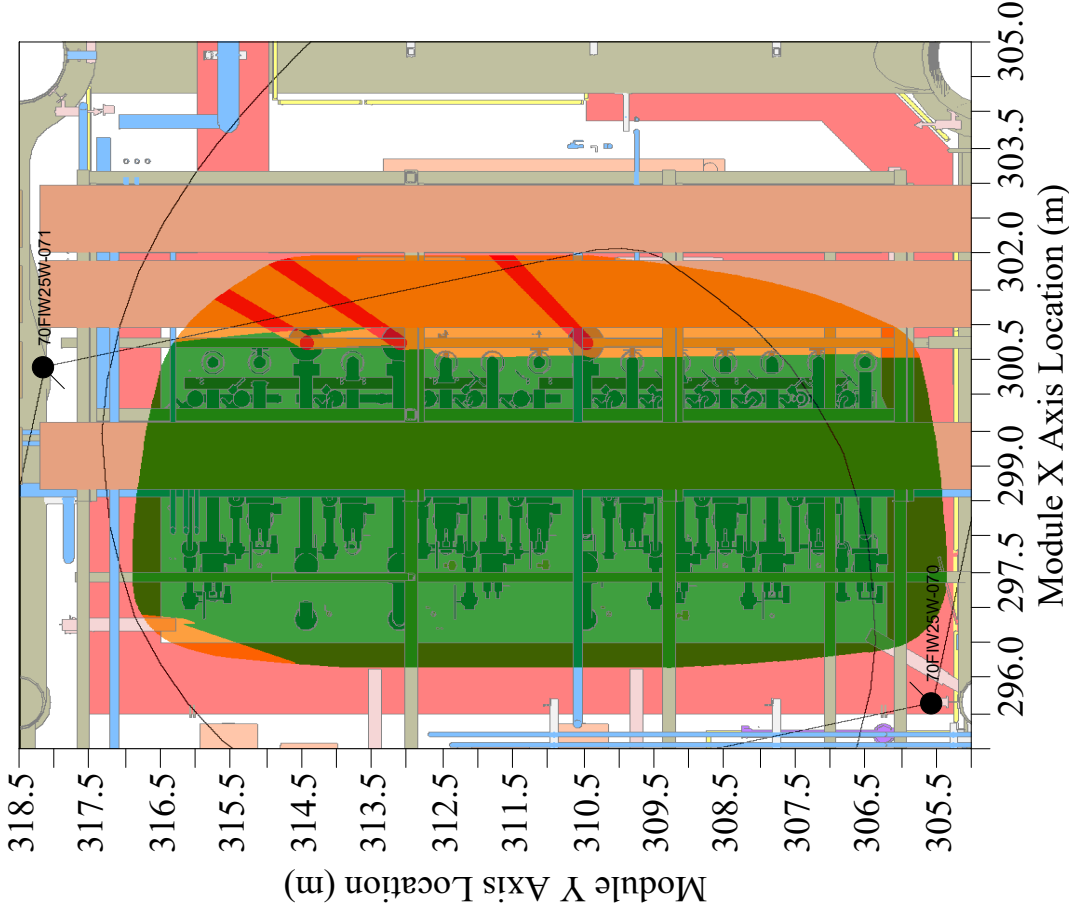
Drg category

Project Name

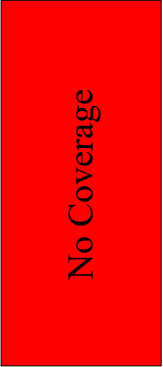
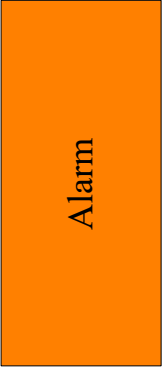
Assessment result (20-Jul-2018)

Project Name-Fire Detection Area W25W

Fire Detector coverage at 0.515 m ALD



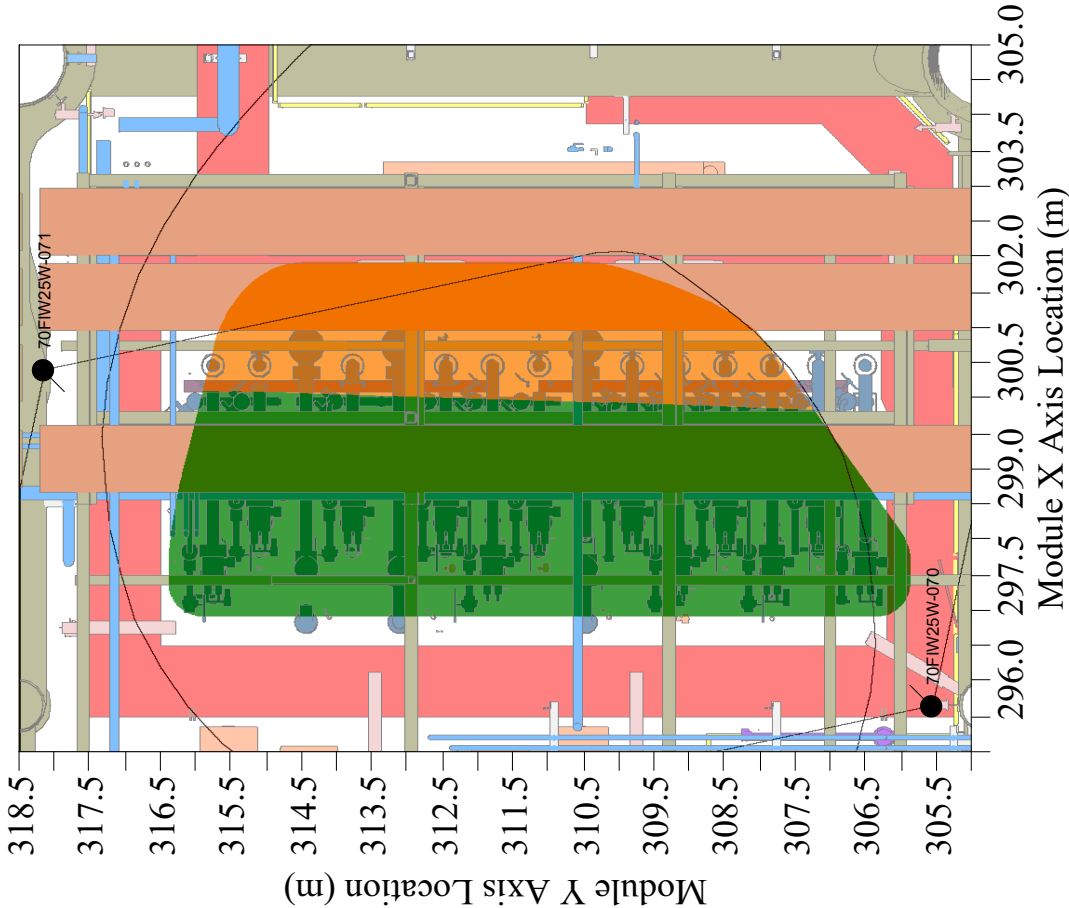
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W25W			

Project Name-Fire Detection Area W25W

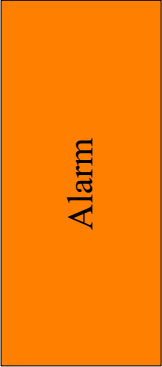
Fire Detector coverage at 1.293 m ALD



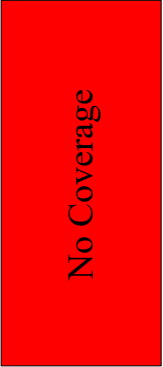
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Fire Detection Area W25W

Project Name-Fire Detection Area W25W

Platform/site

Drg category

Project Name

Assessment result (20-Jul-2018)



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:42



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed W25W**
Number of detectors: 3 (2 existing, 1 new, 0 relocated)
Overall coverage: 70% (% graded samples achieving alarm action or better)

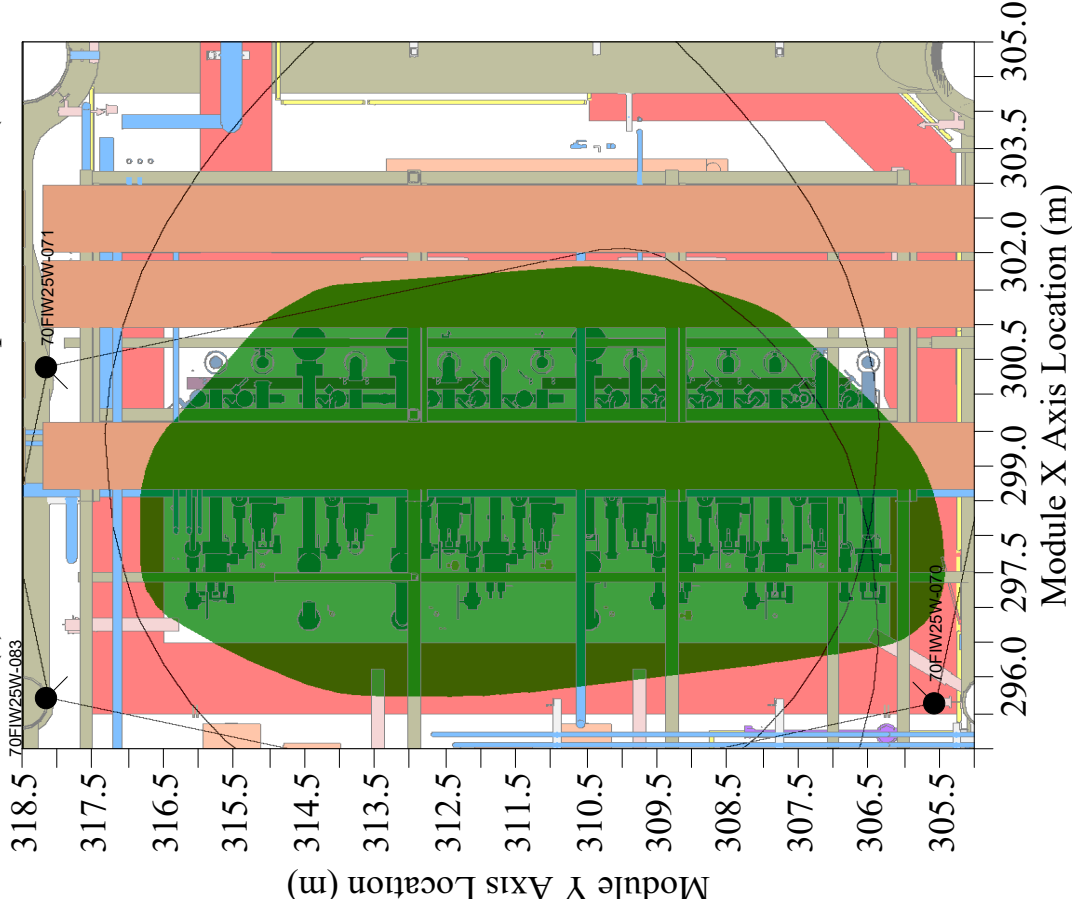
COVERAGE SUMMARY

LR	53%	18%	30%
Totals	53%	18%	30%

FIRE DETECTOR DETAILS (Page 1 of 1)										Detector Contributions			
										Voted			
Tag	Type	Tech	Status	Det X,Y,ALD (m)			Pan/Tilt (deg)	Individual	100N	200N	>200N		
70FIW25W-070	DF TV7-STD	3IR	Exists	295.654	305.558	2.990	+45 +20	58.9	60.6	32.2	0.0		
70FIW25W-071	DF TV7-STD	3IR	Exists	300.406	318.155	2.990	-45 +20	39.4	65.8	46.4	0.0		
70FIW25W-083	DF TV7-STD	3IR	New	295.728	318.149	2.990	-135 +20	53.3	67.1	31.2	0.0		
ALL DETECTORS									70.4	52.6	28.6		

GRADEMAP

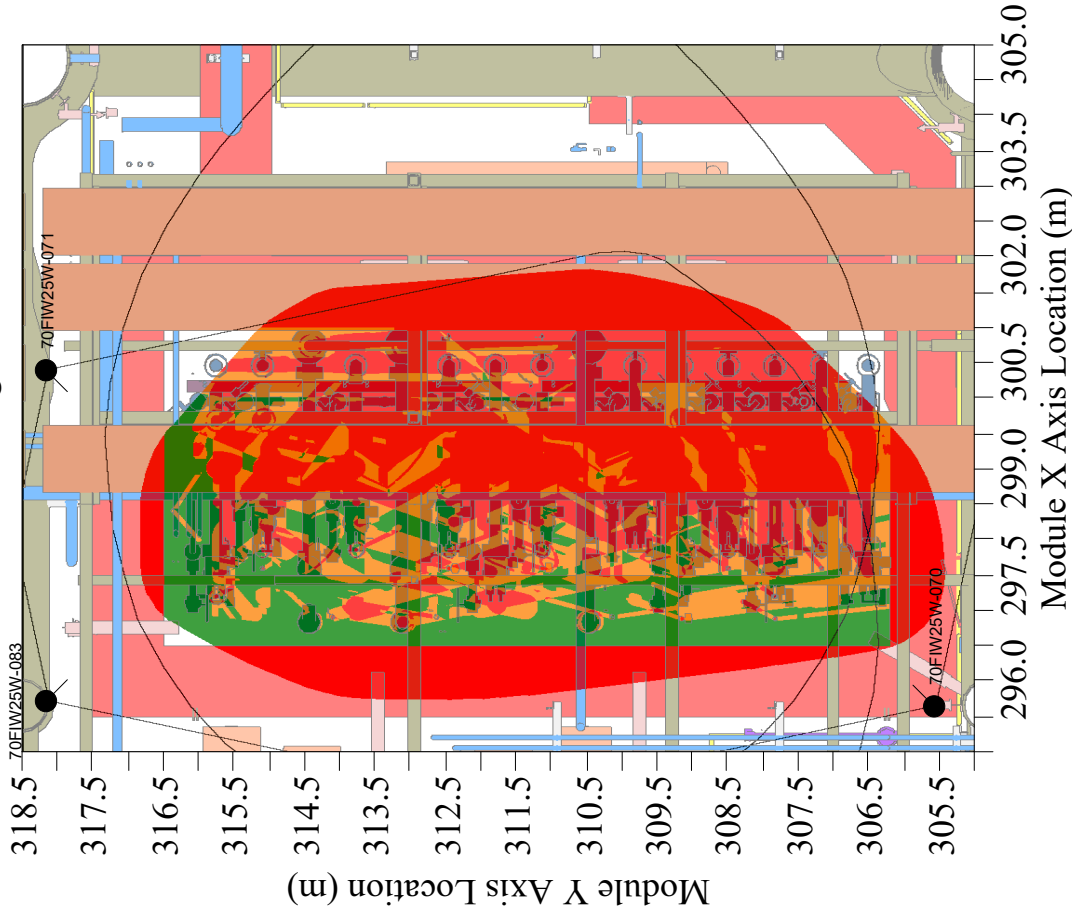
Graded Volume(s) Cross Section at representative Z (-1.818 m ALD)



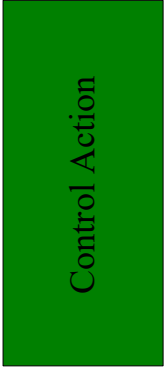
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25W		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed W25W			

Project Name-Proposed W25W

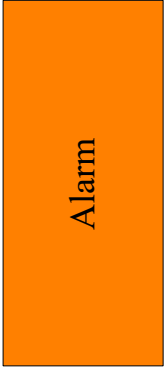
Fire Detector coverage at -1.818 m ALD



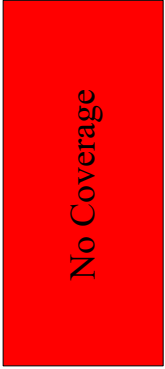
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W25W

Project Name-Proposed W25W

Platform/site

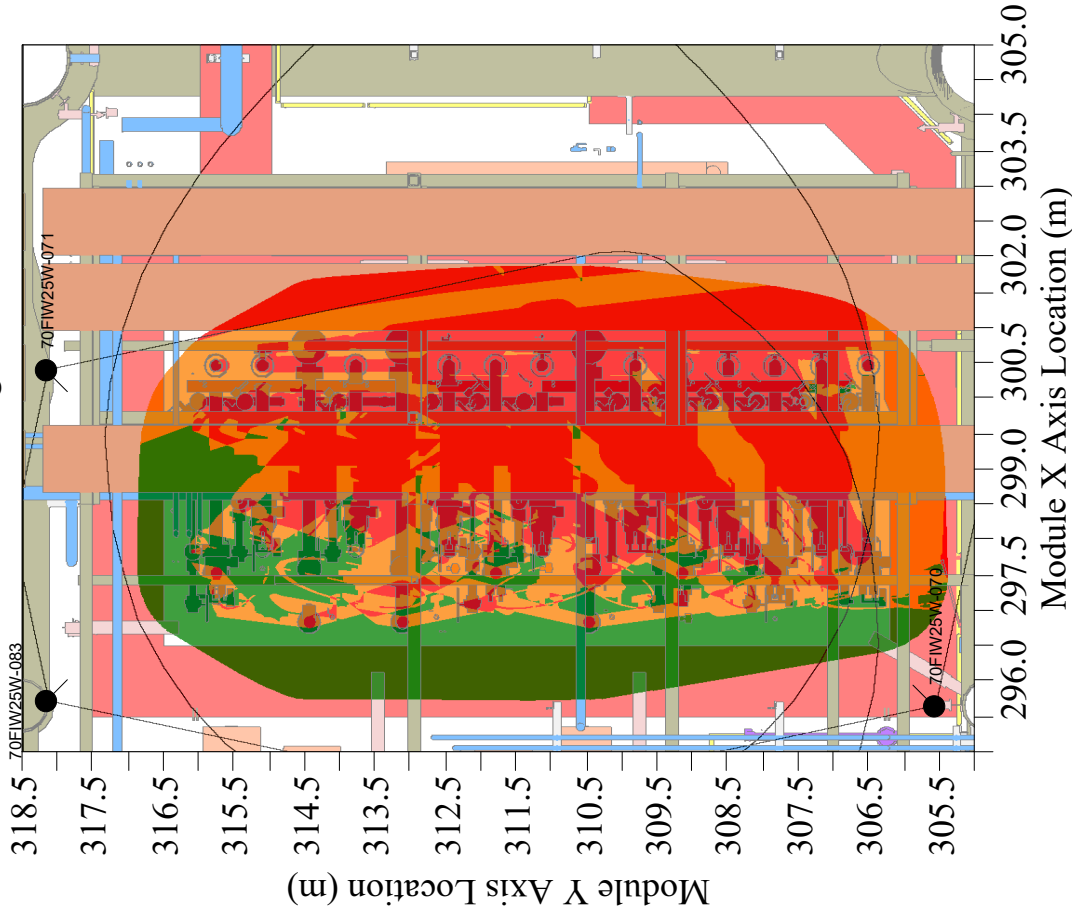
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed W25W

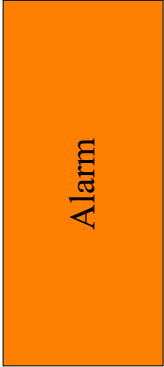
Fire Detector coverage at -1.040 m ALD



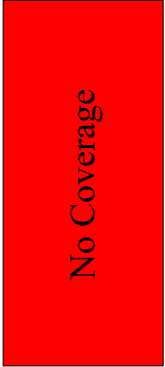
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W25W

Project Name-Proposed W25W

Platform/site

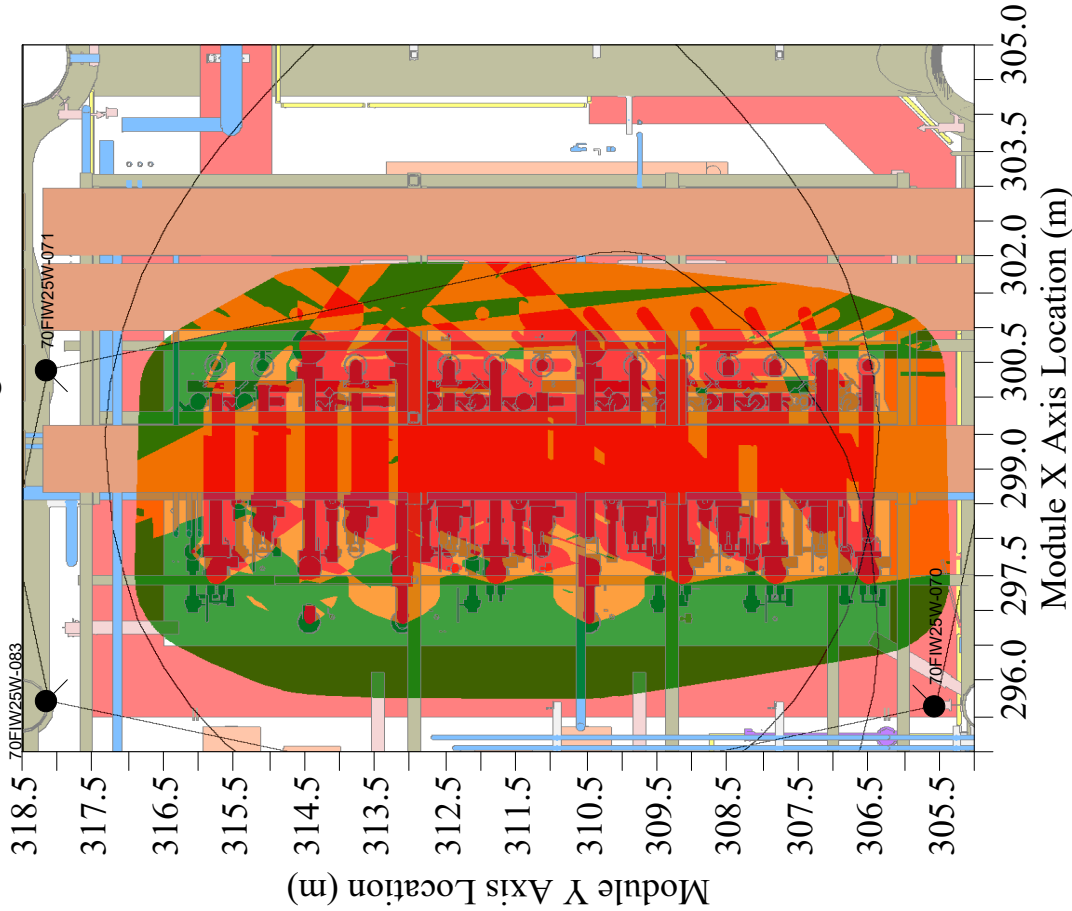
Drg category

Project Name

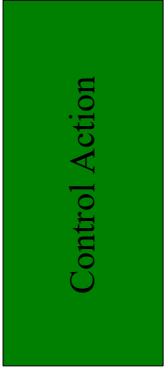
Assessment result (20-Jul-2018)

Project Name-Proposed W25W

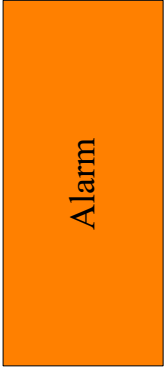
Fire Detector coverage at -0.262 m ALD



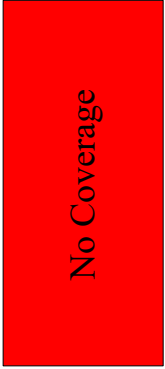
COVERAGE KEY



Control Action



Alarm



No Coverage

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed W25W

Project Name-Proposed W25W

Platform/site

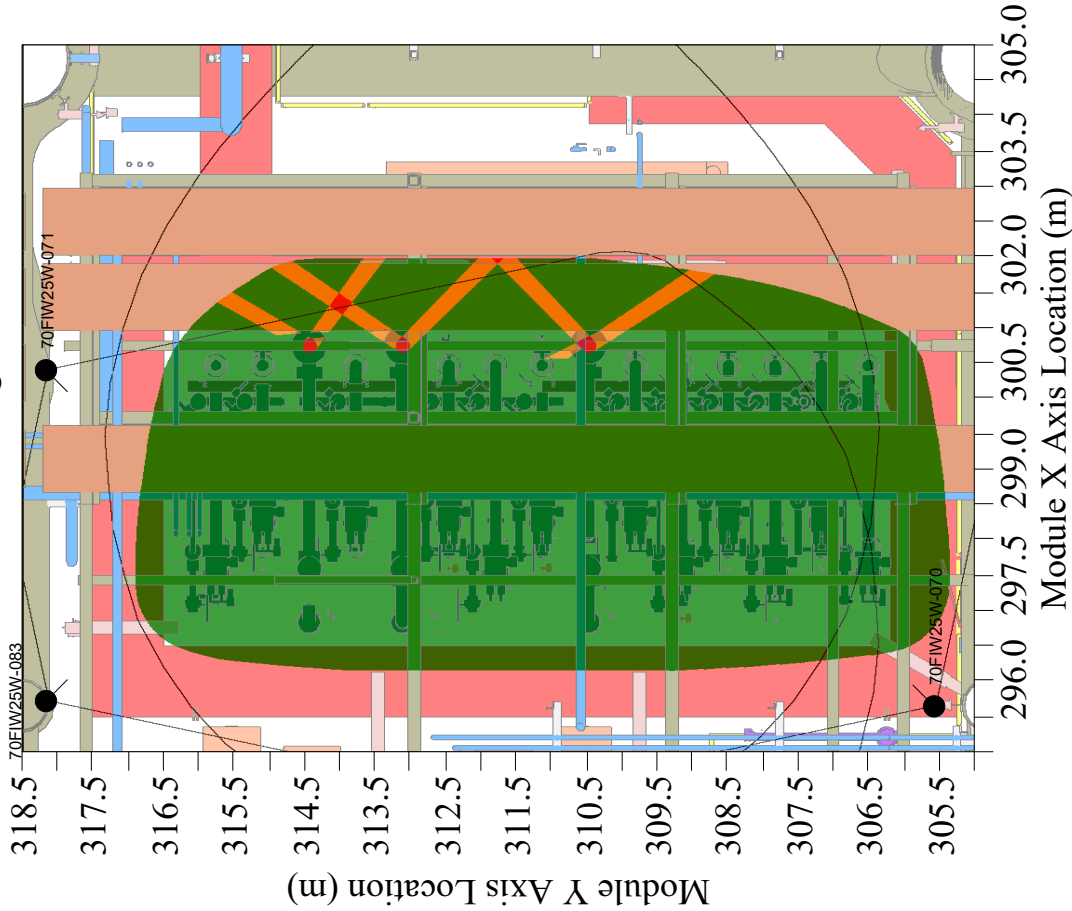
Drg category

Project Name

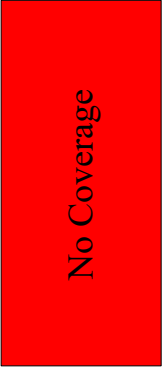
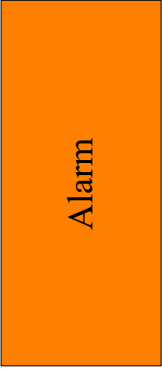
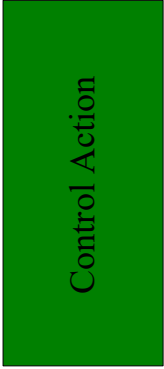
Assessment result (20-Jul-2018)

Project Name-Proposed W25W

Fire Detector coverage at 0.515 m ALD



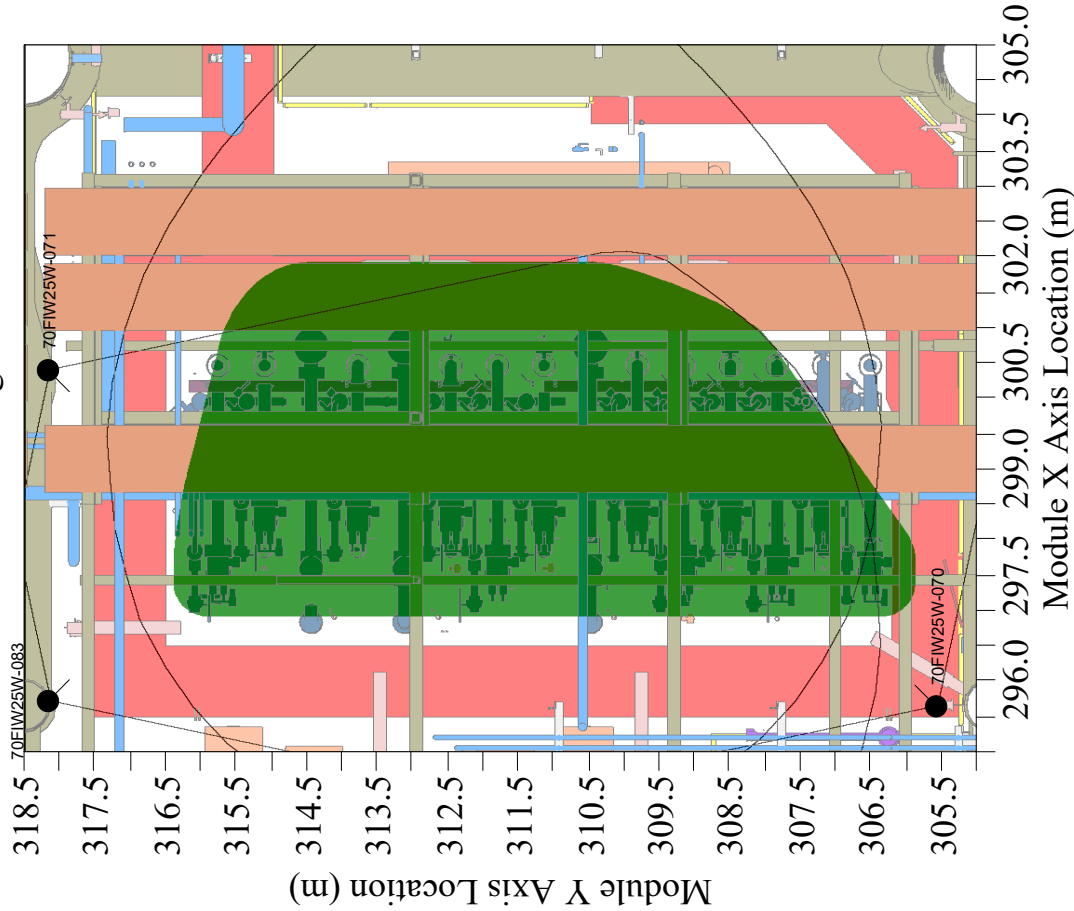
COVERAGE KEY



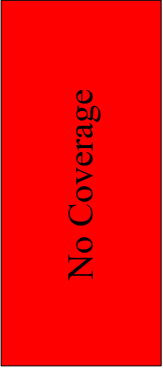
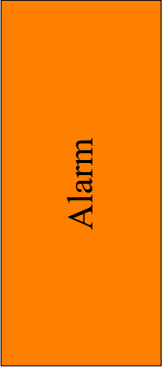
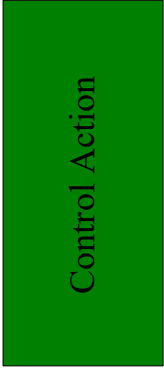
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25W			

Project Name-Proposed W25W

Fire Detector coverage at 1.293 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed W25W			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:47



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W25C**
Number of detectors: 5
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 5.00 m Length: 30.00 m Width: 16.00 m Deck Z: 30.96 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

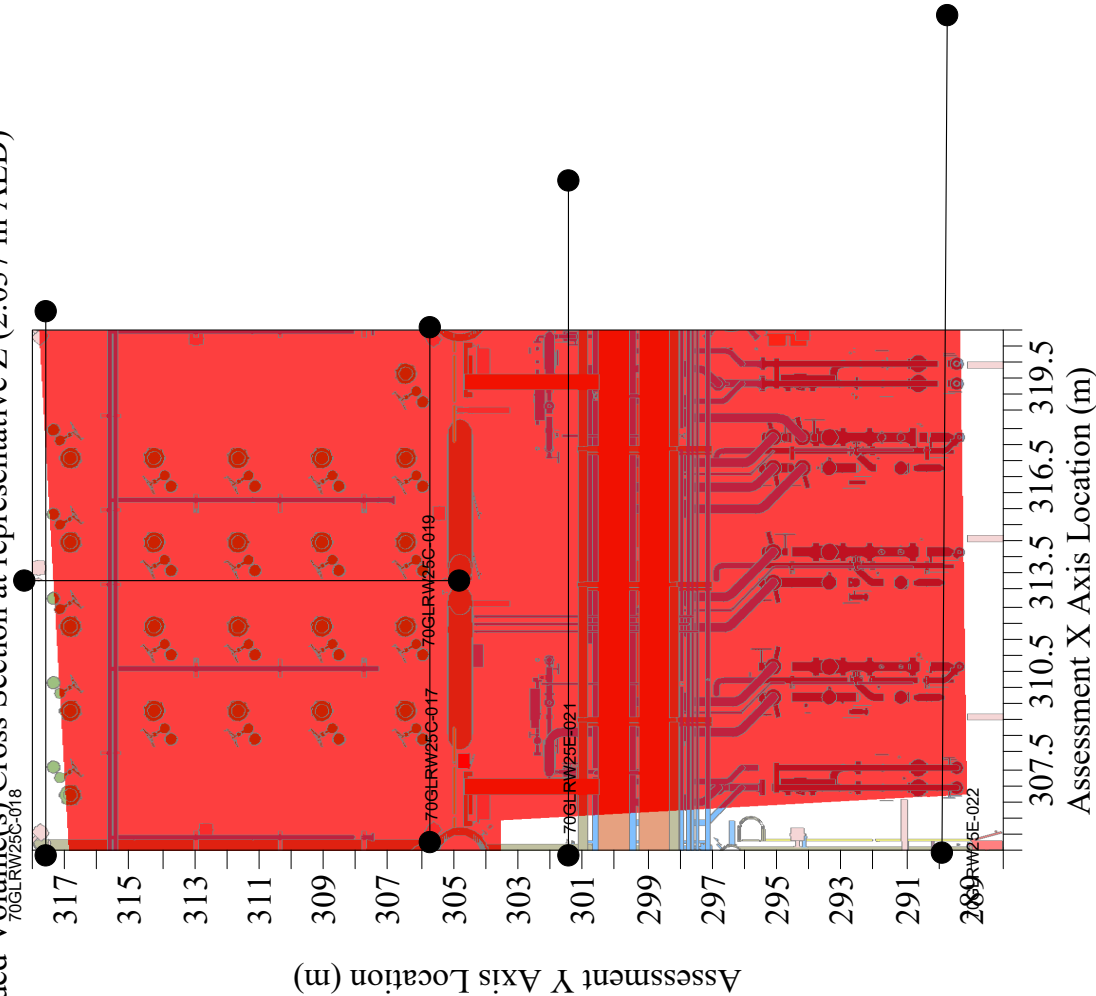
Assessment performed using 15 slices from 33.00 m to 38.00 m
Increment between 3D assessment slices: 0.36 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	28%	28%
Some coverage	72%	72%
No coverage	<1%	<1%

Project Name-Area W25C

Graded Volume(s) Cross Section at representative Z (2.037 m ALD)



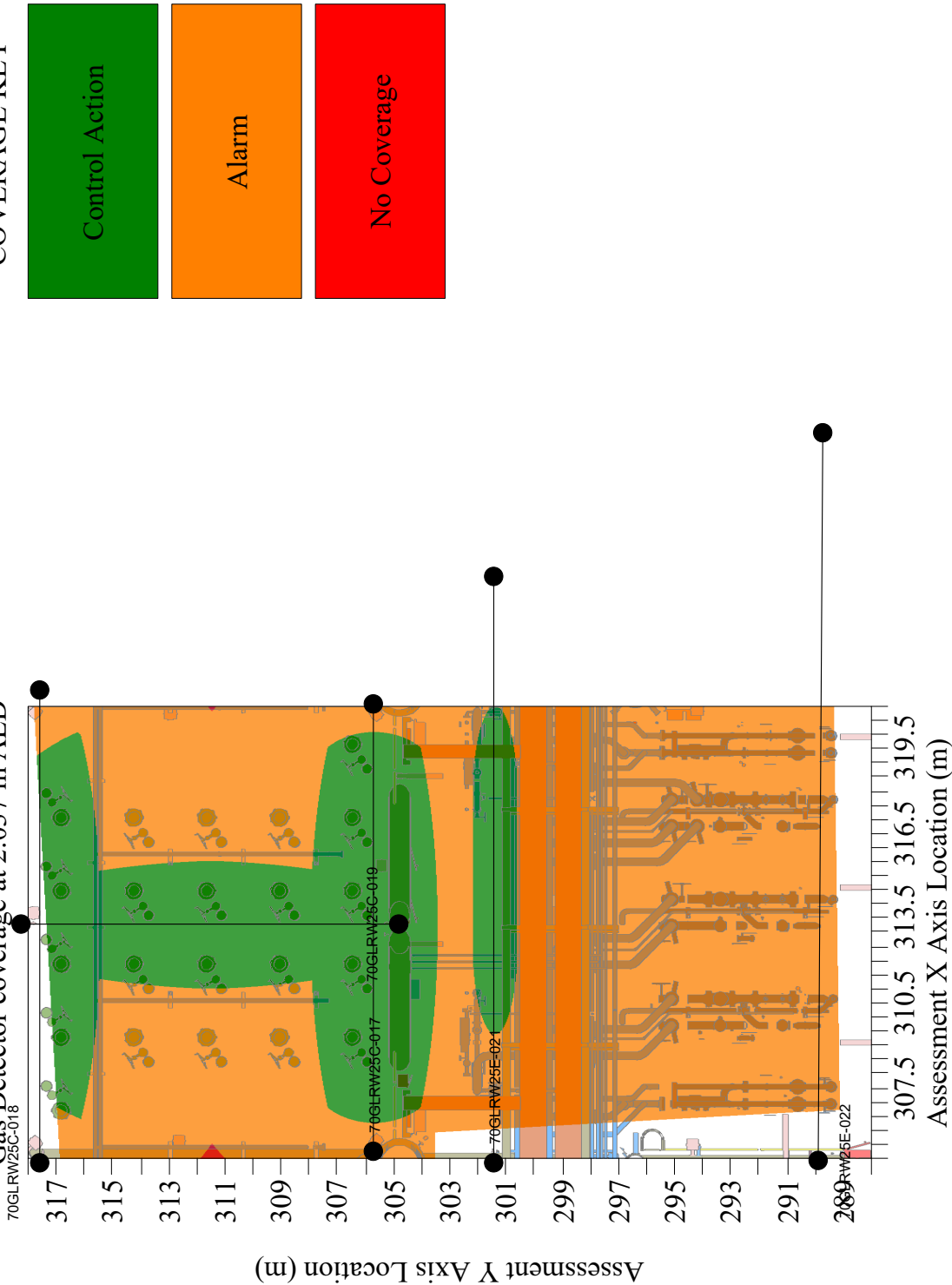
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

Gas Detector coverage at 2.037 m ALD



COVERAGE KEY

Control Action

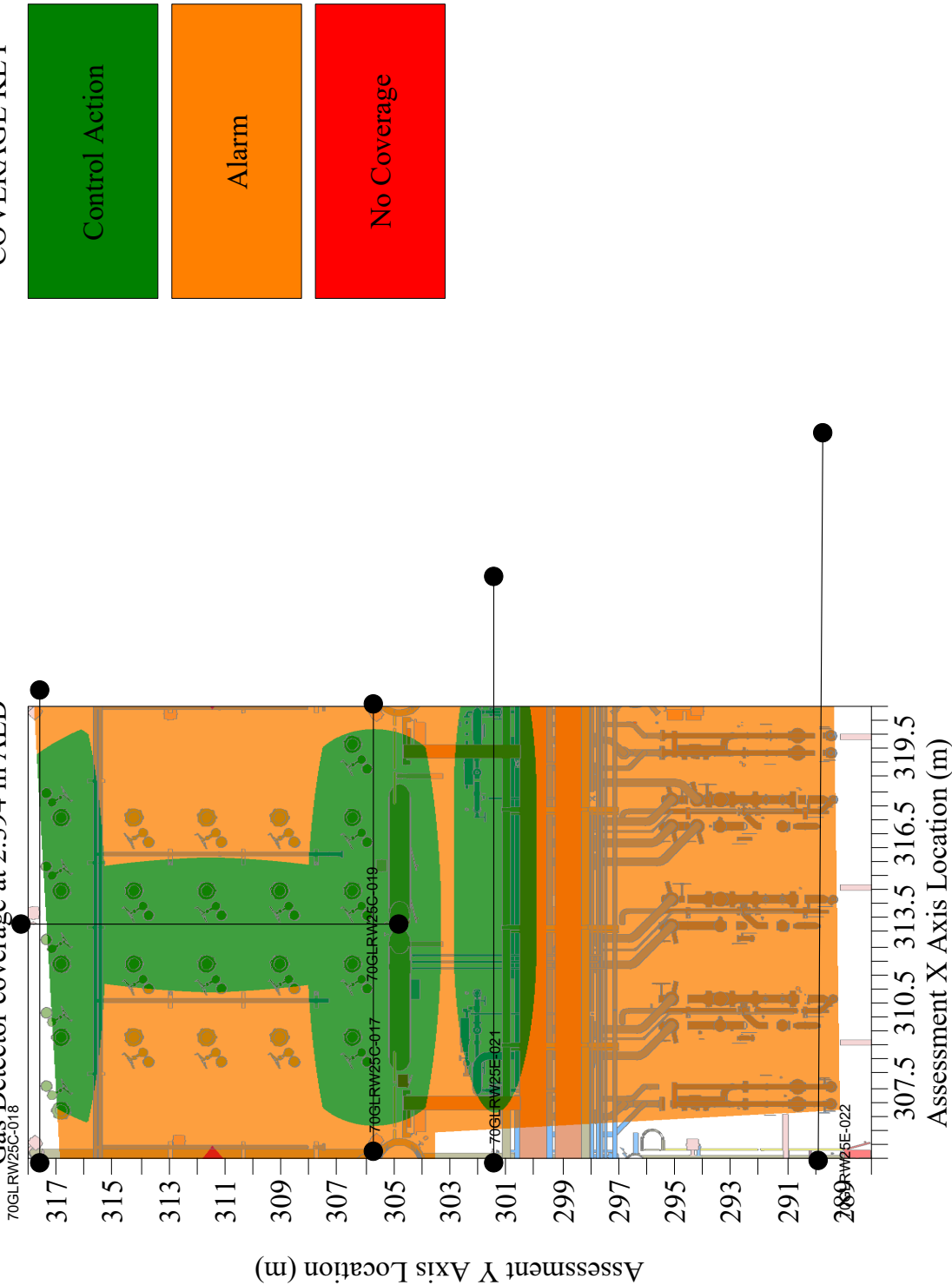
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

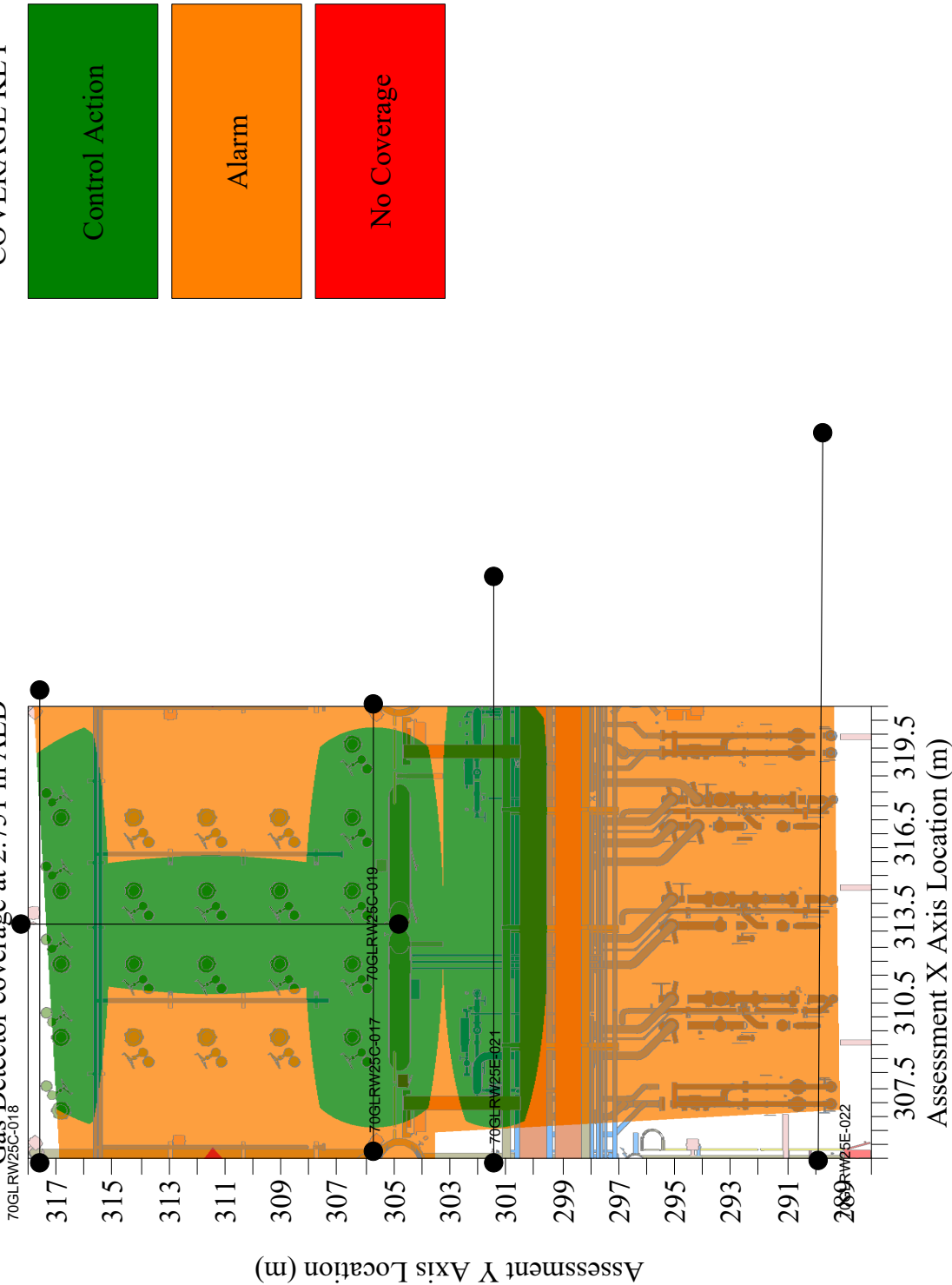
Gas Detector coverage at 2.394 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

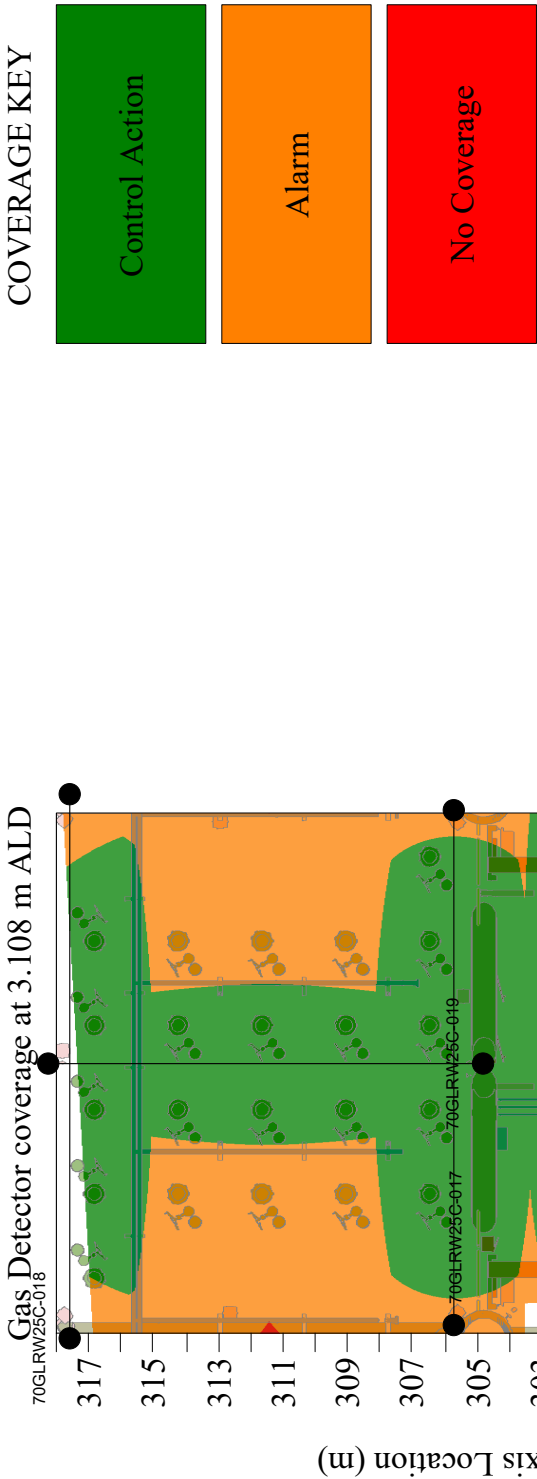
Gas Detector coverage at 2.751 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

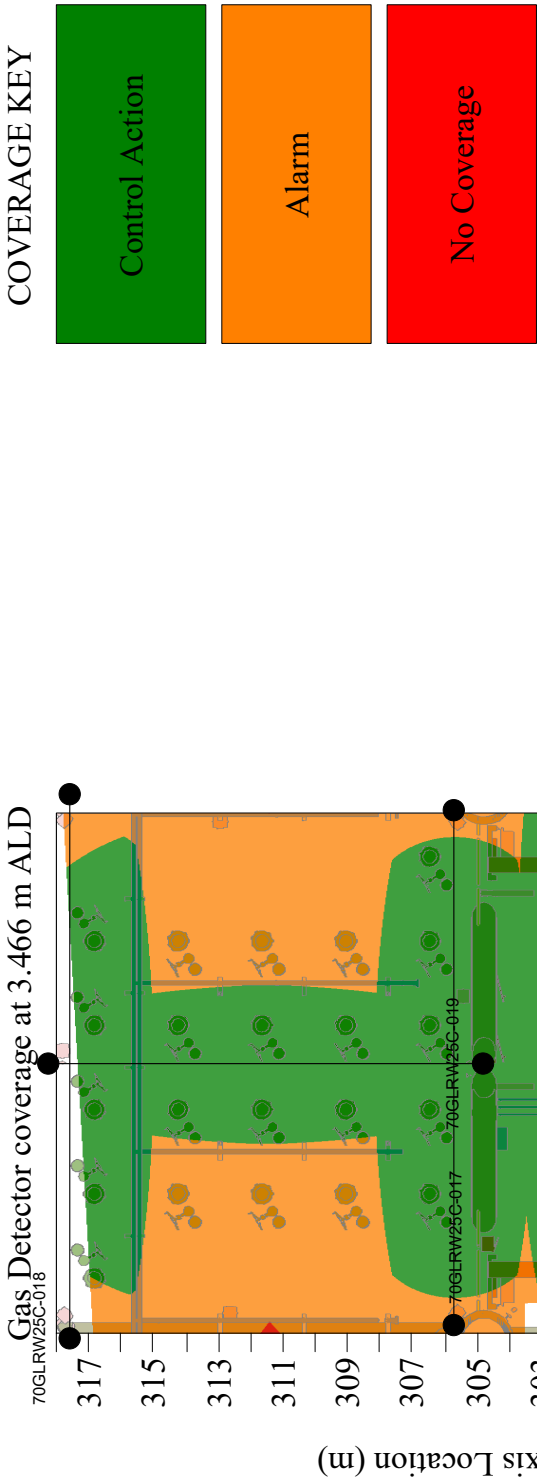
Gas Detector coverage at 3.108 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

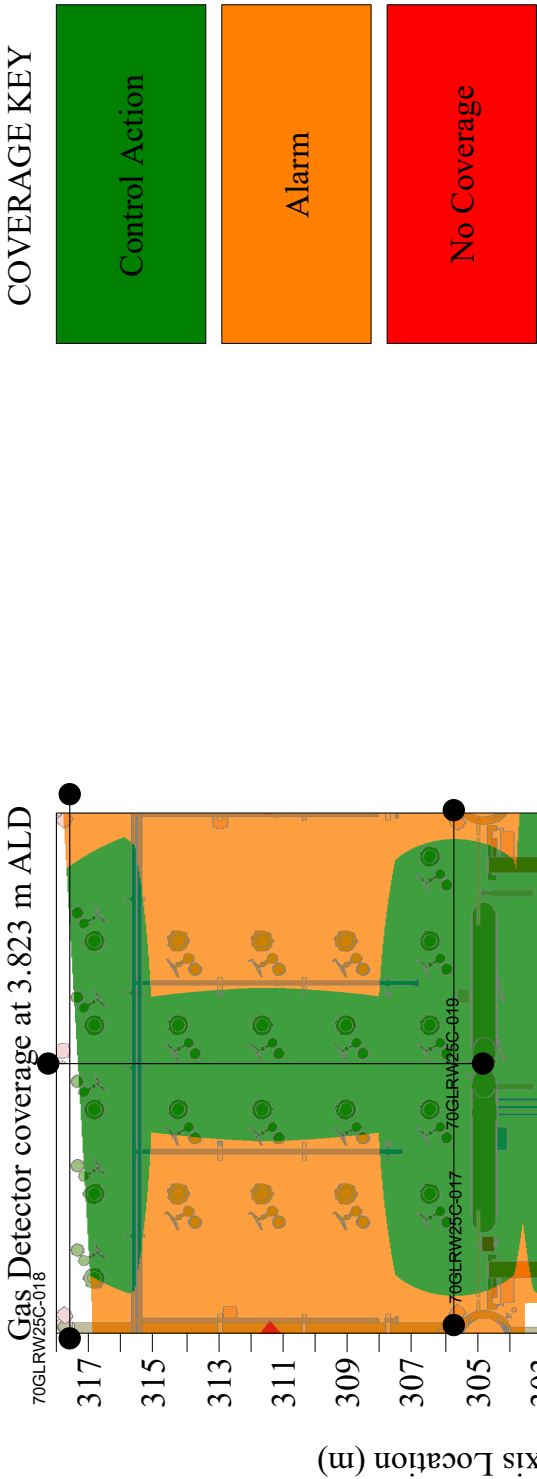
Gas Detector coverage at 3.466 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

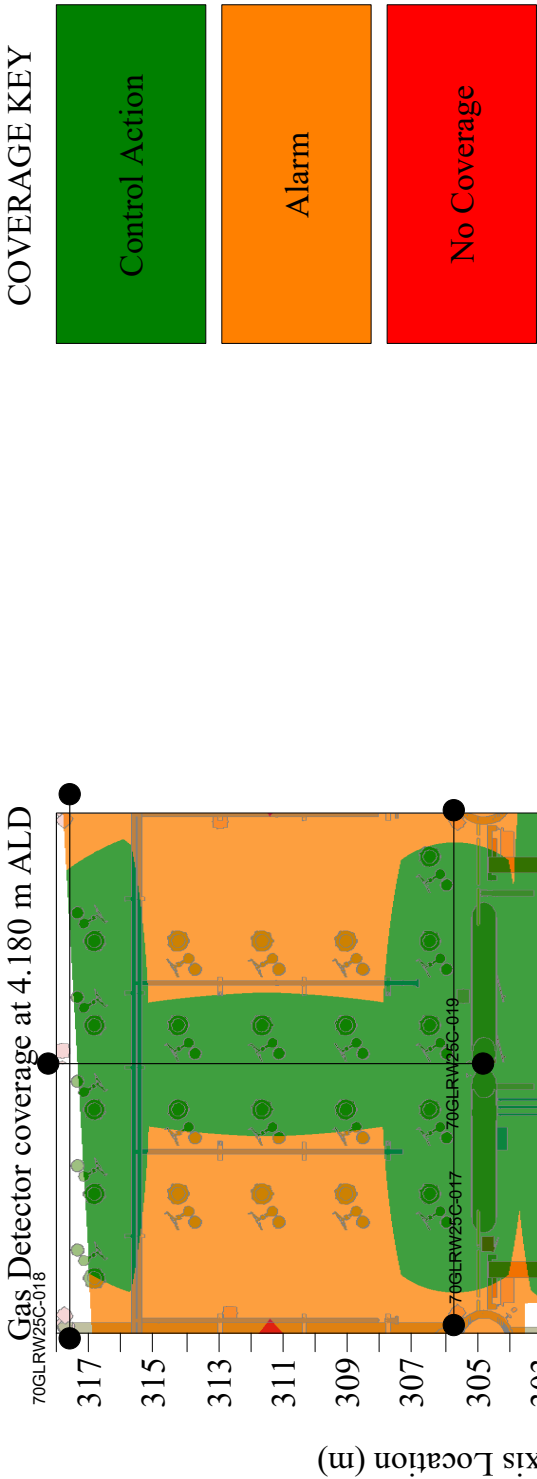
Gas Detector coverage at 3.823 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

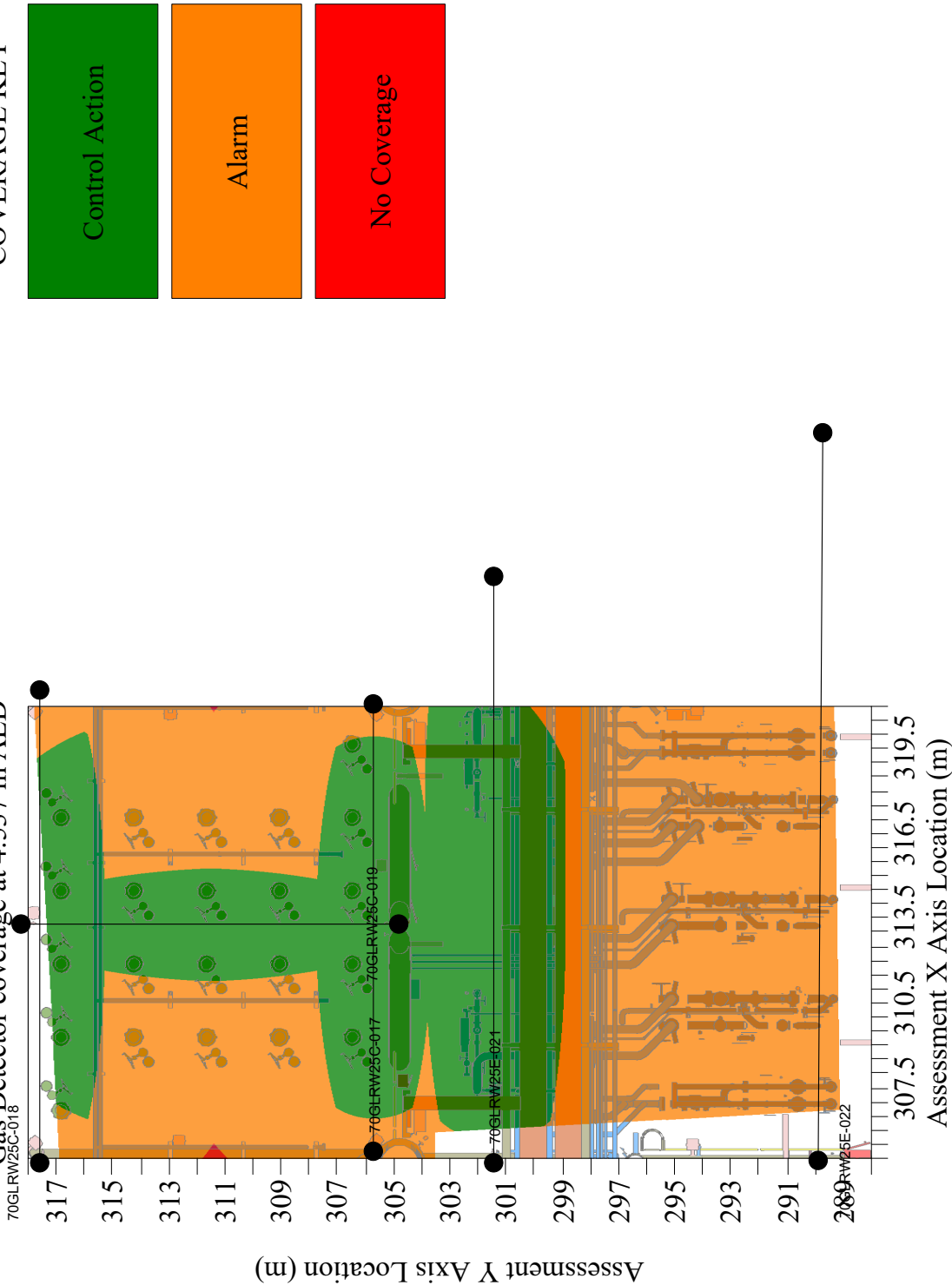
Gas Detector coverage at 4.180 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

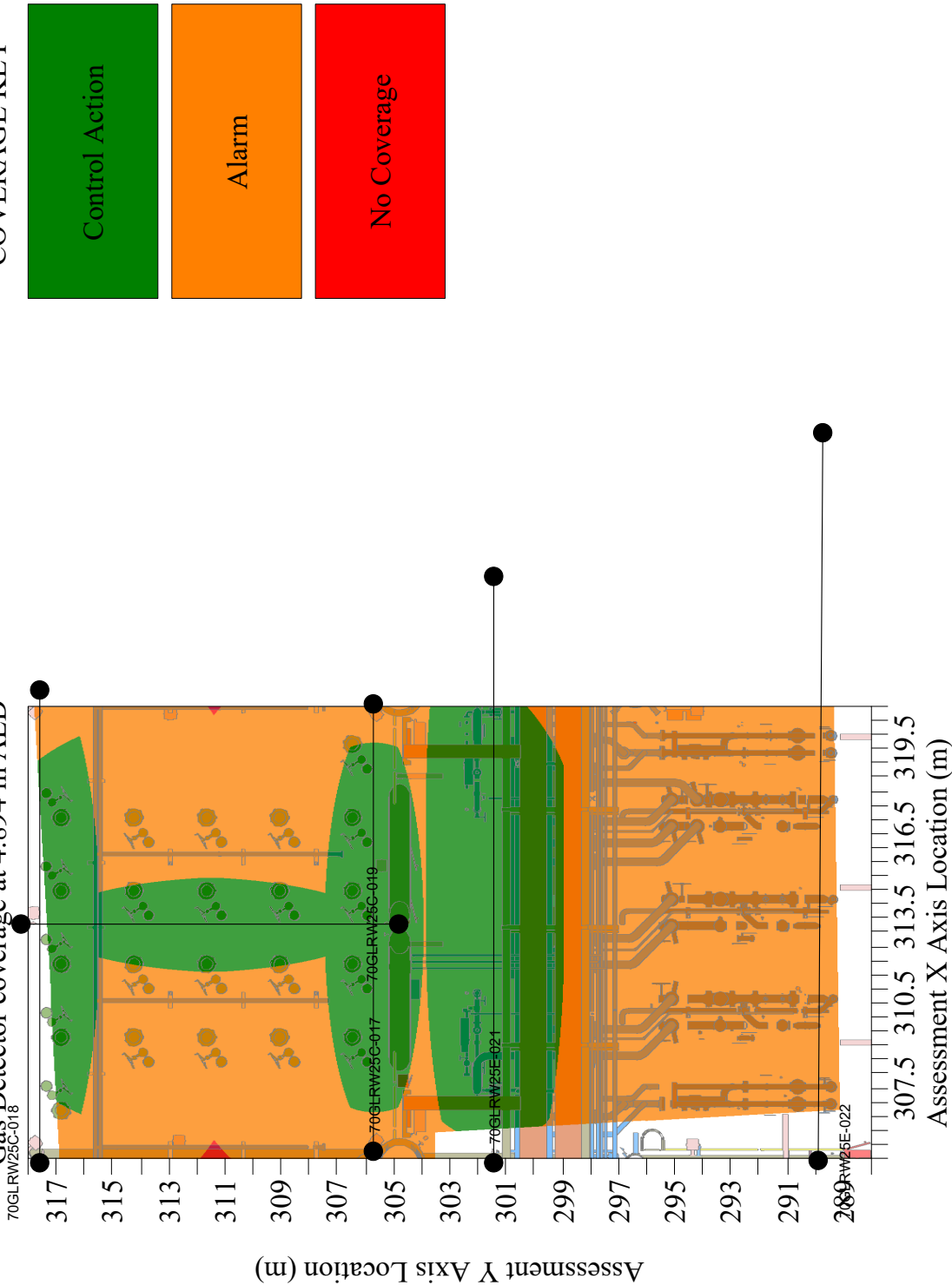
Gas Detector coverage at 4.537 m ALD



Company Name	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			
	Powered by Hazmap3D			
www.micropack.co.uk				

Project Name-Area W25C

Gas Detector coverage at 4.894 m ALD



COVERAGE KEY

Control Action

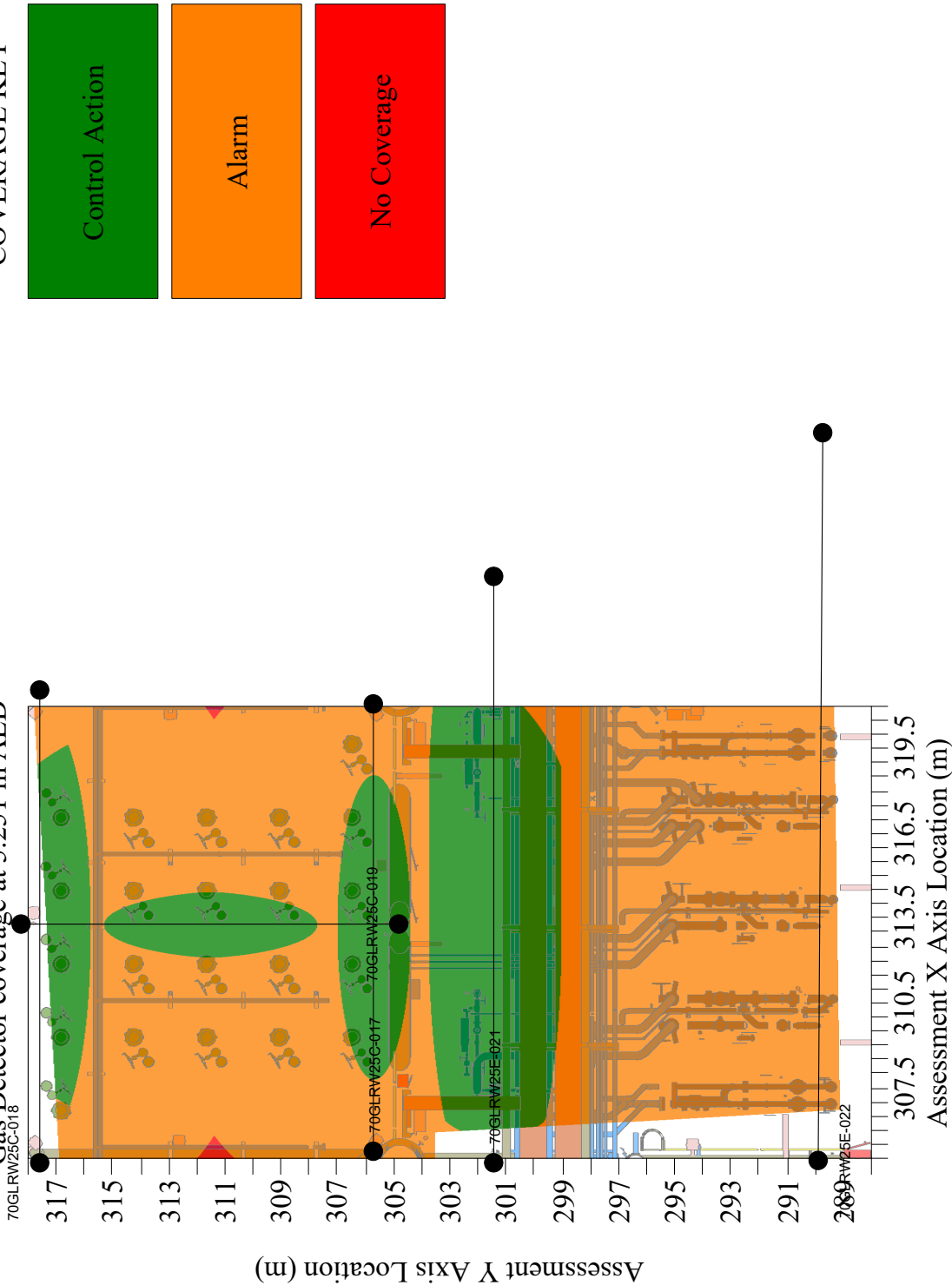
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

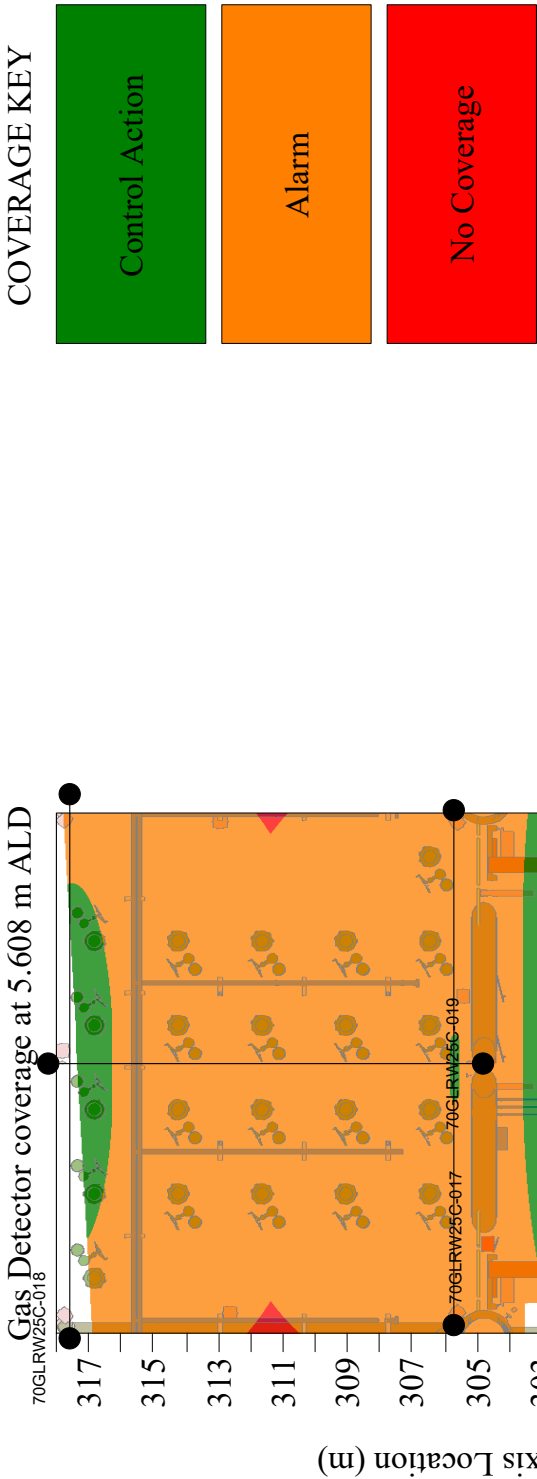
Gas Detector coverage at 5.251 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

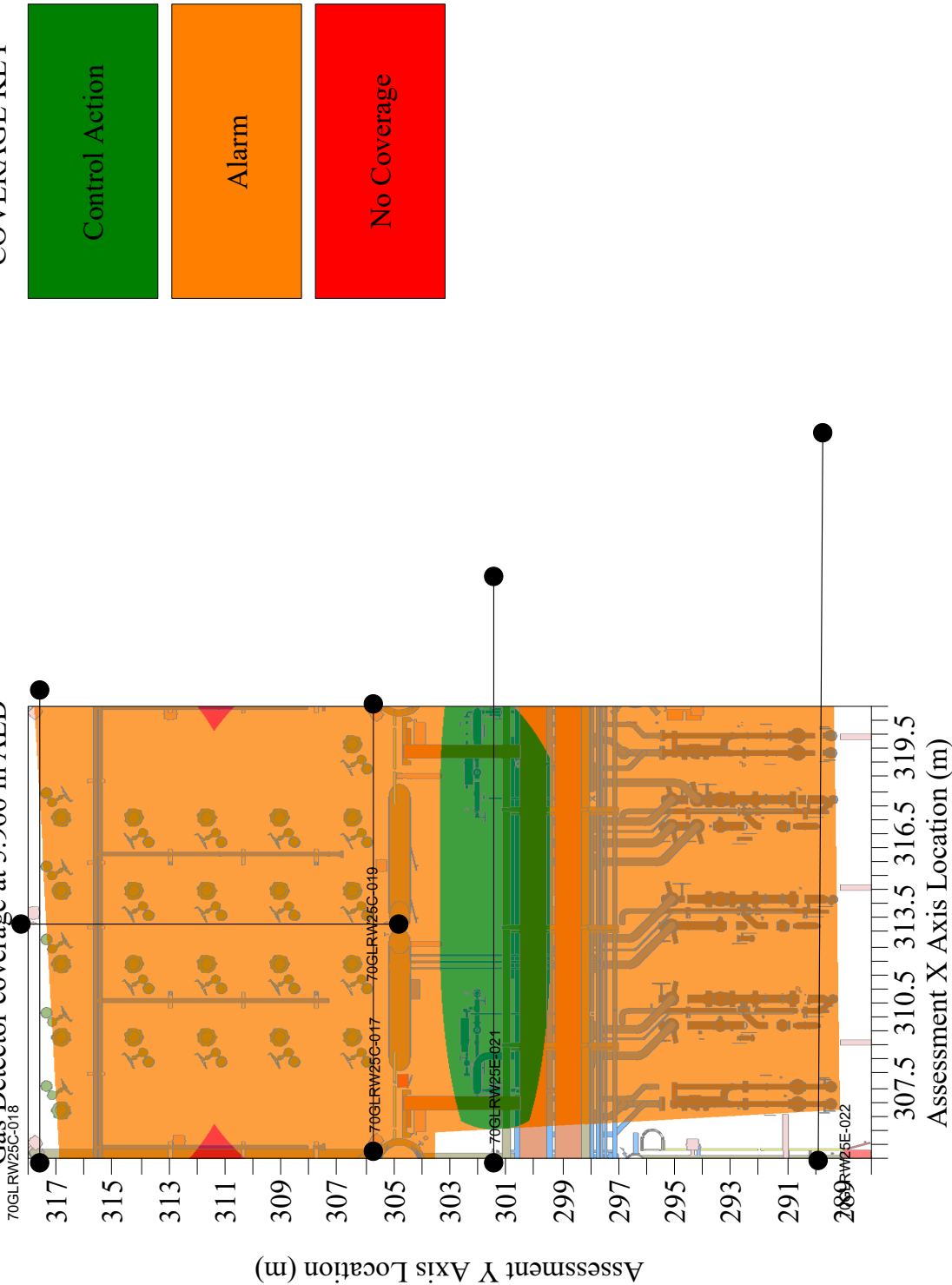
Gas Detector coverage at 5.608 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

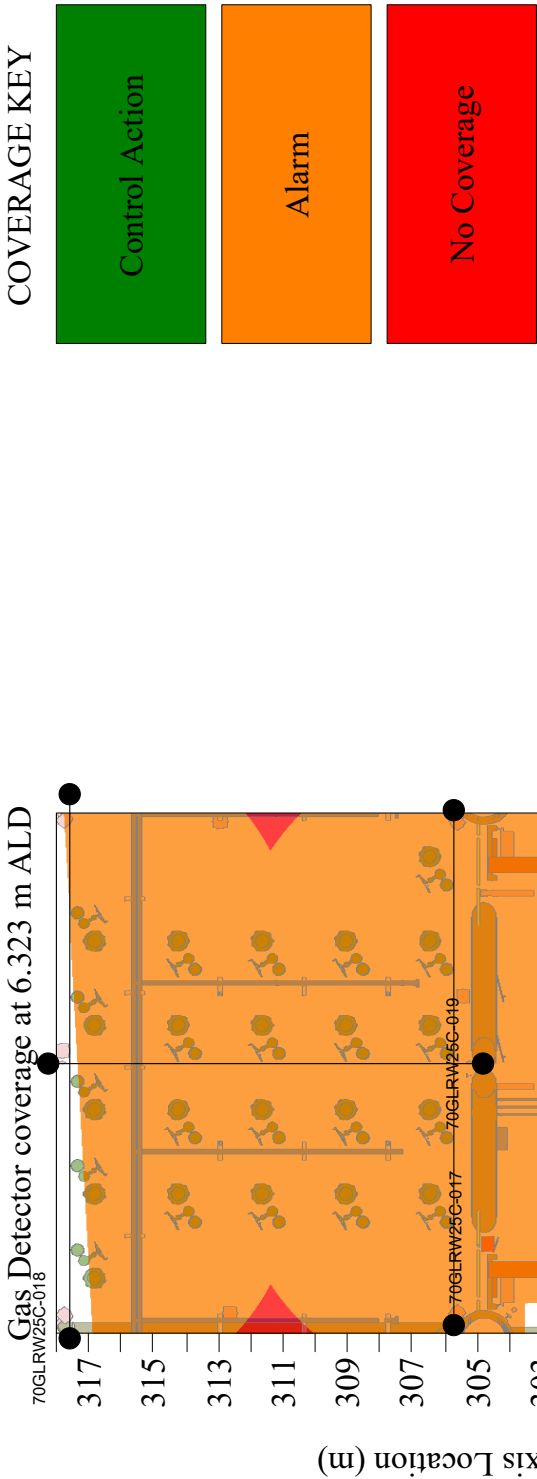
Gas Detector coverage at 5.966 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

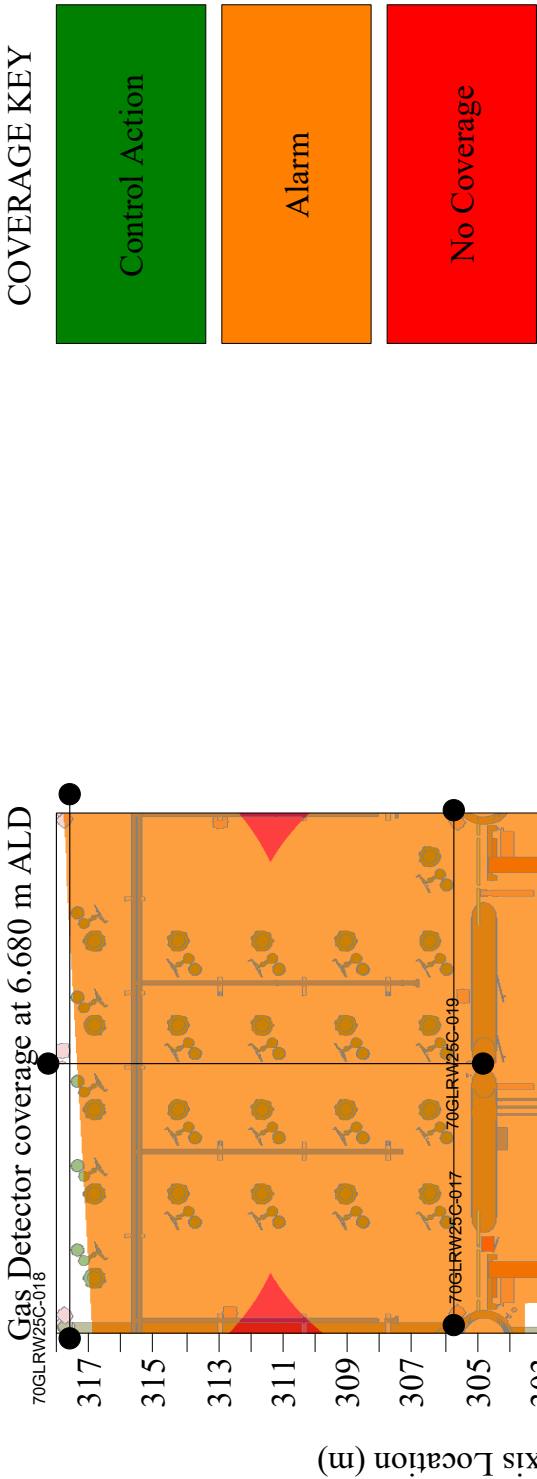
Gas Detector coverage at 6.323 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

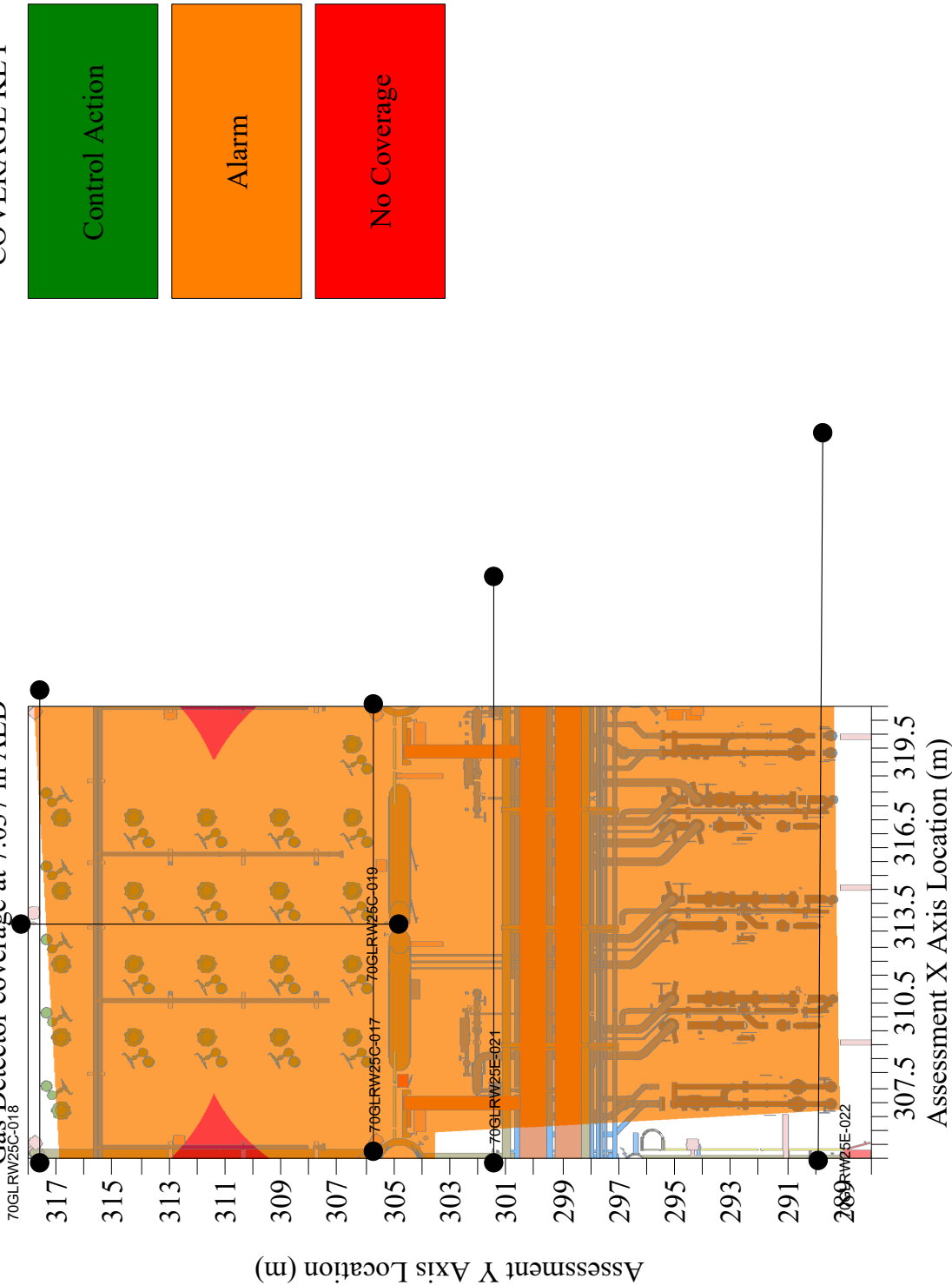
Gas Detector coverage at 6.680 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Dig category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			

Project Name-Area W25C

Gas Detector coverage at 7.037 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:48



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed Area W25C**
Number of detectors: 8
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 5.00 m Length: 30.00 m Width: 16.00 m Deck Z: 30.96 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

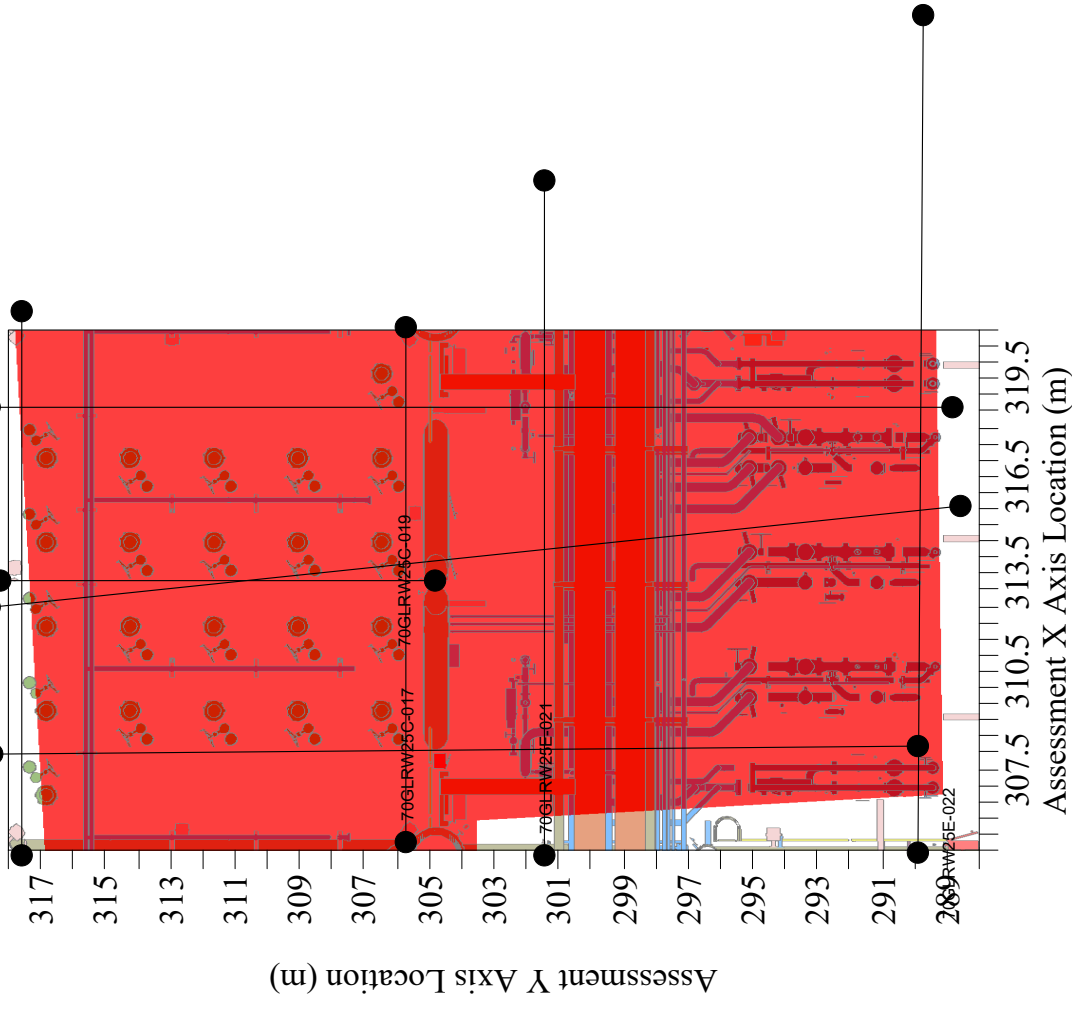
Assessment performed using 15 slices from 33.00 m to 38.00 m
Increment between 3D assessment slices: 0.36 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	76%	76%
Some coverage	24%	24%

Graded Volumes⁽¹⁾ Cross Section at representative Z (2.037 m ALD)

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description	Platform/site	Project Name
	Proposed Area W25C	Dig category	Glademap (20-Jul-2018)
	Project Name-Proposed Area W25C		

Project Name-Proposed Area W25C

Gas Detector coverage at 2.037 m AED

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment Y Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Assessment X Axis Location (m)

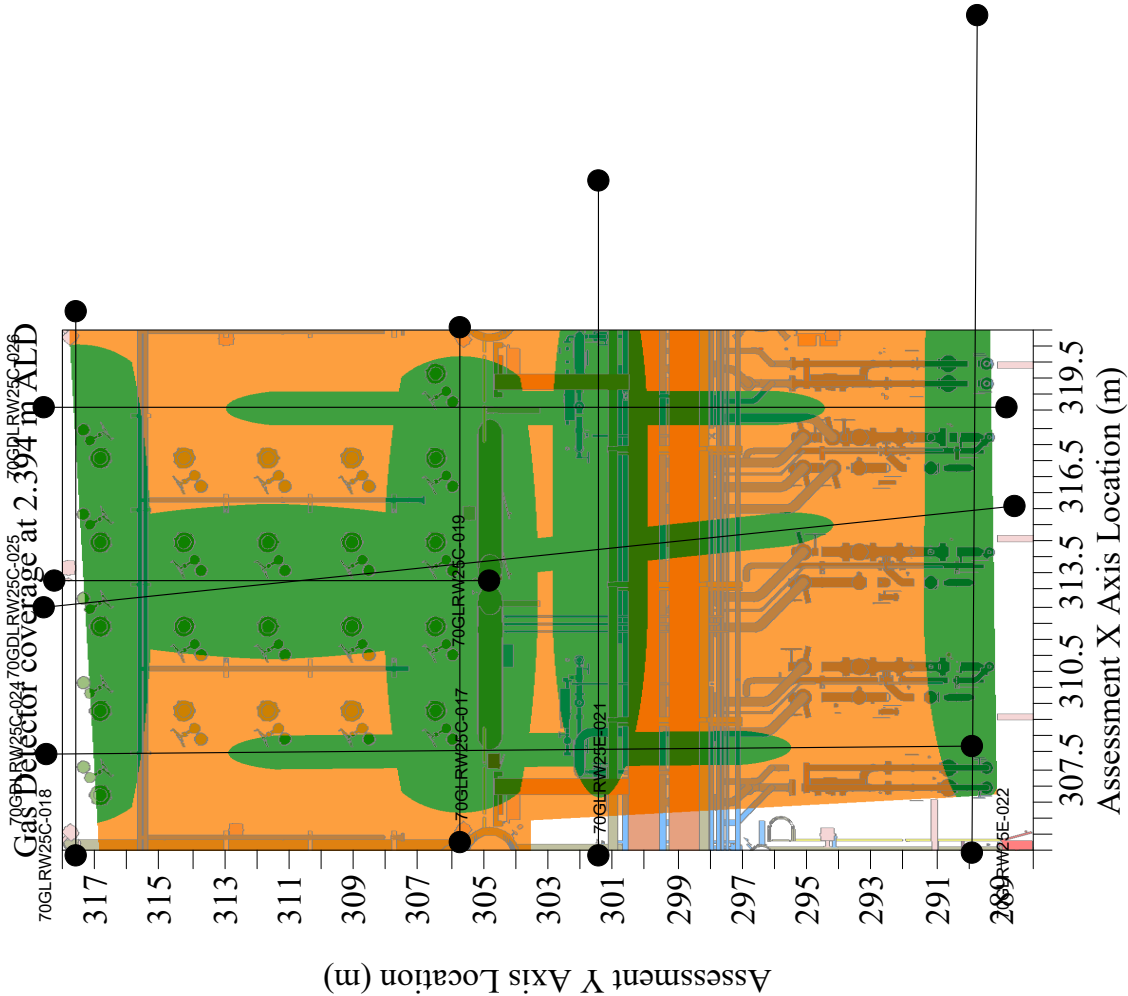
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 2.394 m AFD



COVERAGE KEY

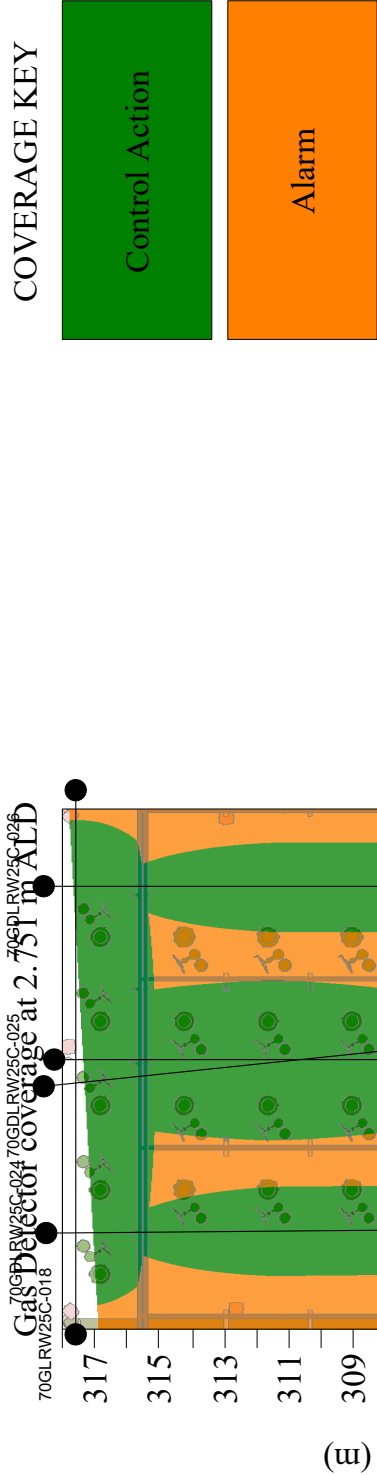
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

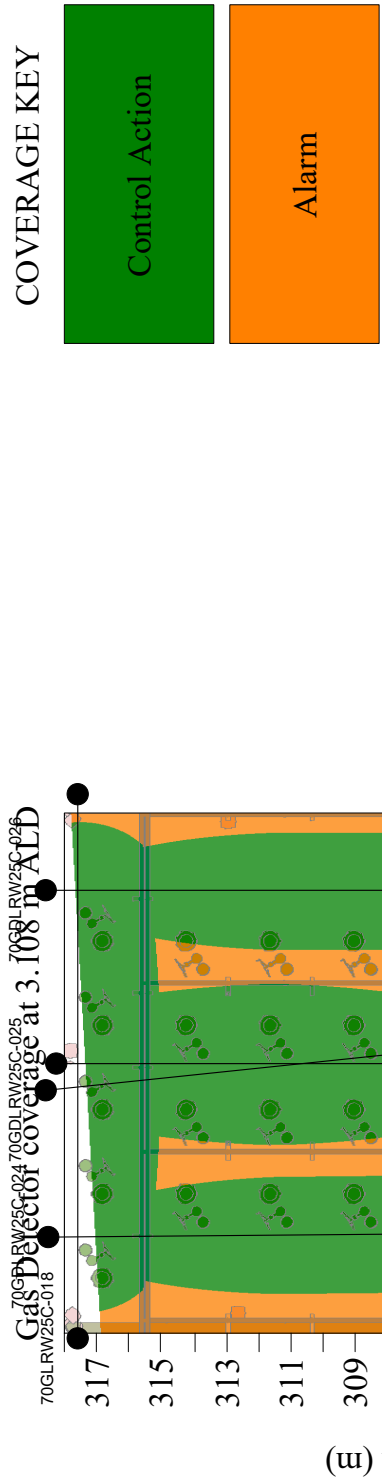
Gas Detector coverage at 2.751 m AED
70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

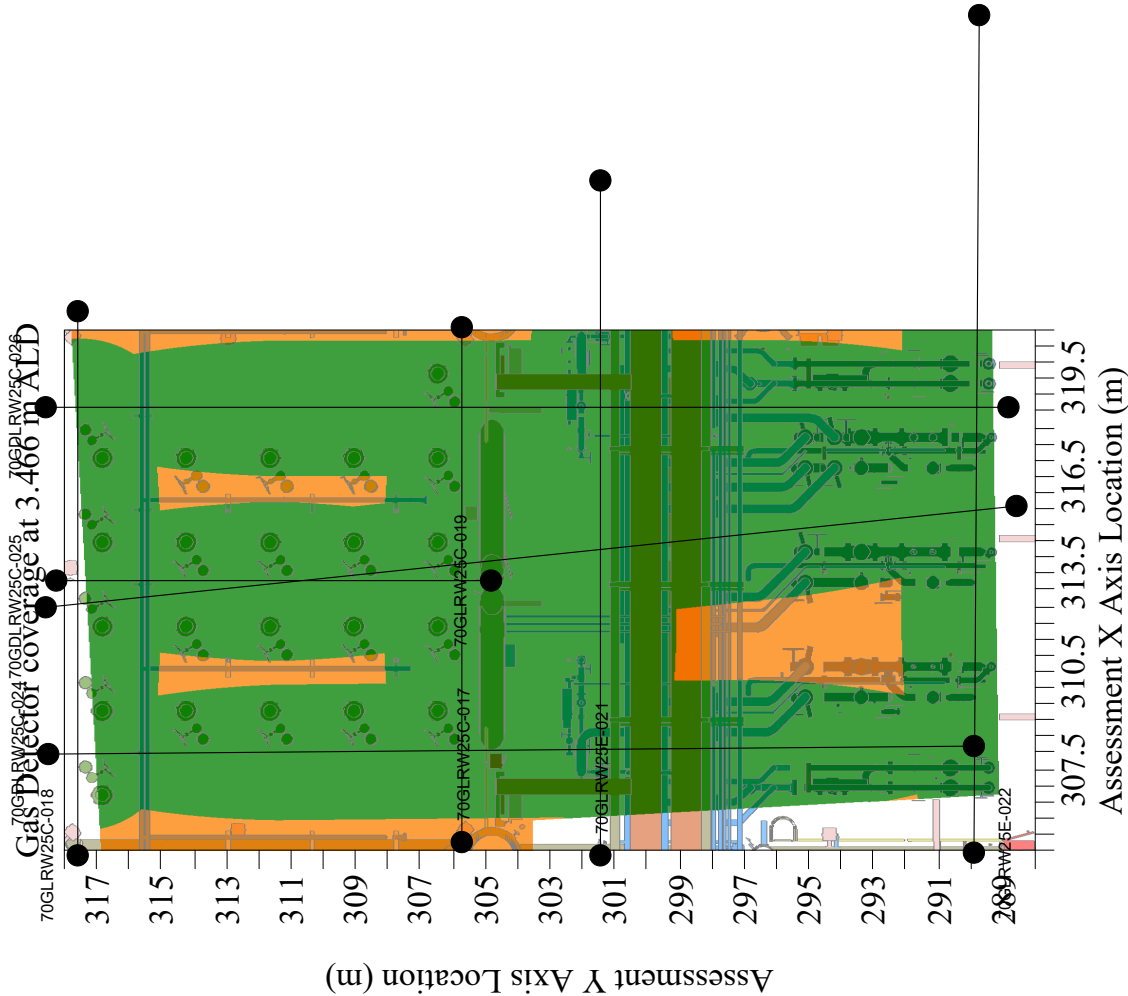
Gas Detector coverage at 3.108 m AFD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 3.466 m AFD



COVERAGE KEY

Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 3.823 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment Y Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Assessment X Axis Location (m)

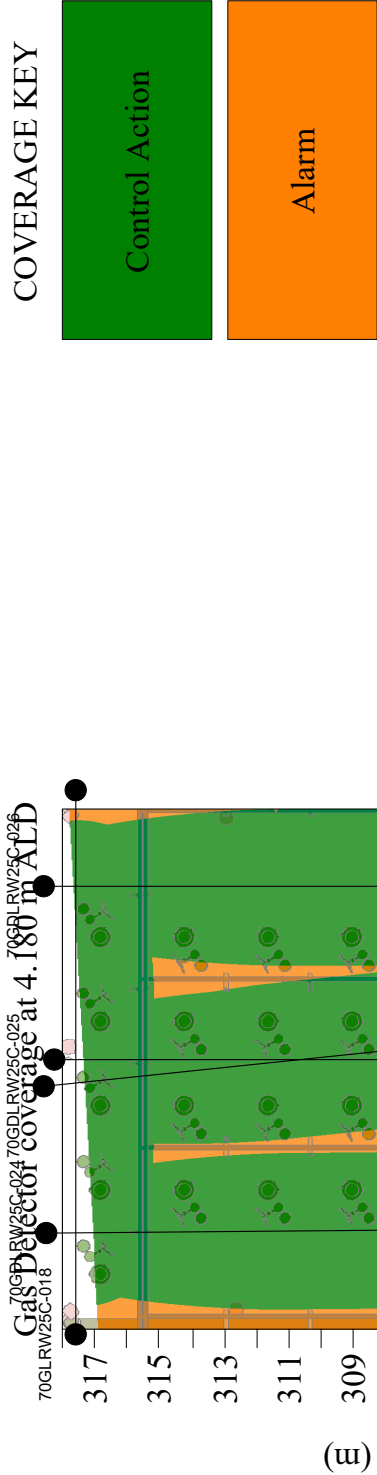
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 4.180 m AED



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 4.537 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

Assessment Y Axis Location (m)

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment X Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 4.894 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

Assessment Y Axis Location (m)

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment X Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 5.251 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

Assessment Y Axis Location (m)

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment X Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 5.608 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

Assessment Y Axis Location (m)

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment X Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 5.966 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

Assessment Y Axis Location (m)

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment X Axis Location (m)

307.5 310.5 313.5 316.5 319.5

Control Action

Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25C

Project Name-Proposed Area W25C

Platform/site

Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W25C

Gas Detector coverage at 6.323 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026

70GLRW25C-017 70GLRW25C-019 70GLRW25E-021 70GLRW25E-022

Assessment Y Axis Location (m)

317 315 313 311 309 307 305 303 301 299 297 295 293 291 289

Assessment X Axis Location (m)

307.5 310.5 313.5 316.5 319.5

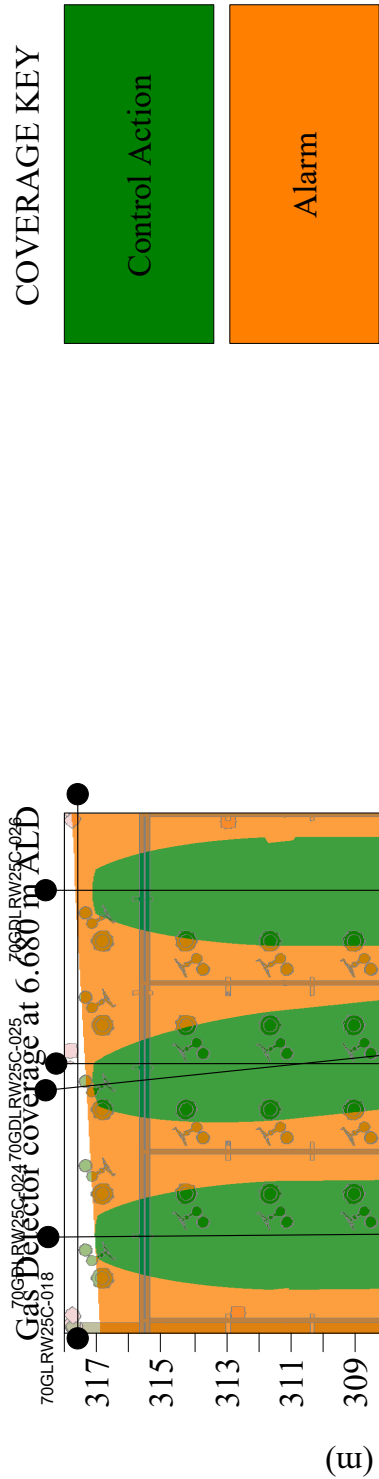
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

Project Name-Proposed Area W25C

Gas Detector coverage at 6.680 m AFD

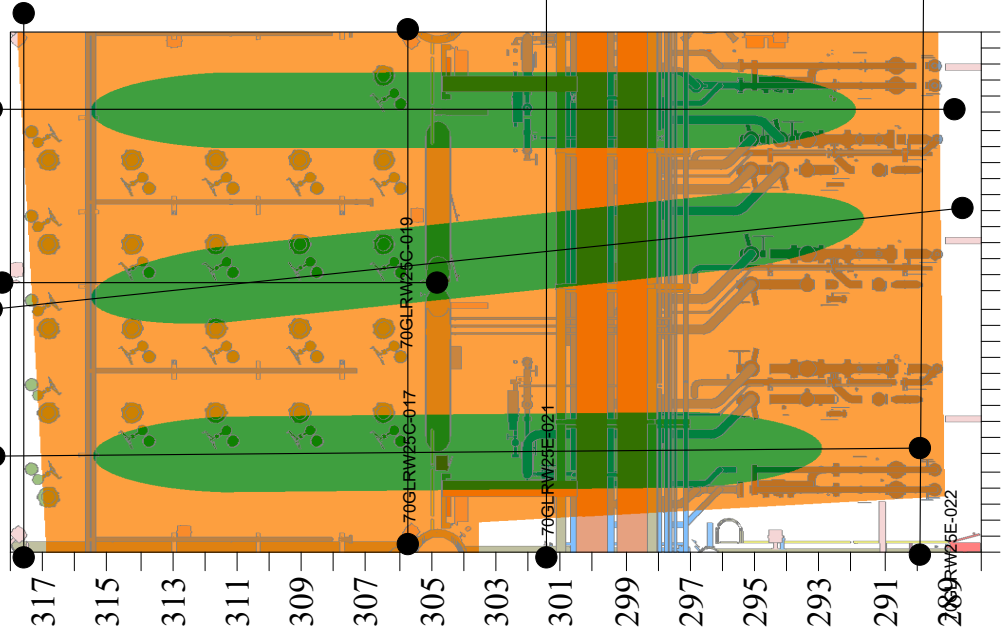


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			

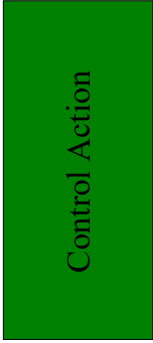
Project Name-Proposed Area W25C

Gas Detector coverage at 7.037 m AFD

70GLRW25C-018 70GLRW25C-024 70GLRW25C-025 70GLRW25C-026



COVERAGE KEY



Control Action



Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25C		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25C			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:50



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W25E**
Number of detectors: 6
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 5.00 m Length: 30.00 m Width: 10.00 m Deck Z: 30.96 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

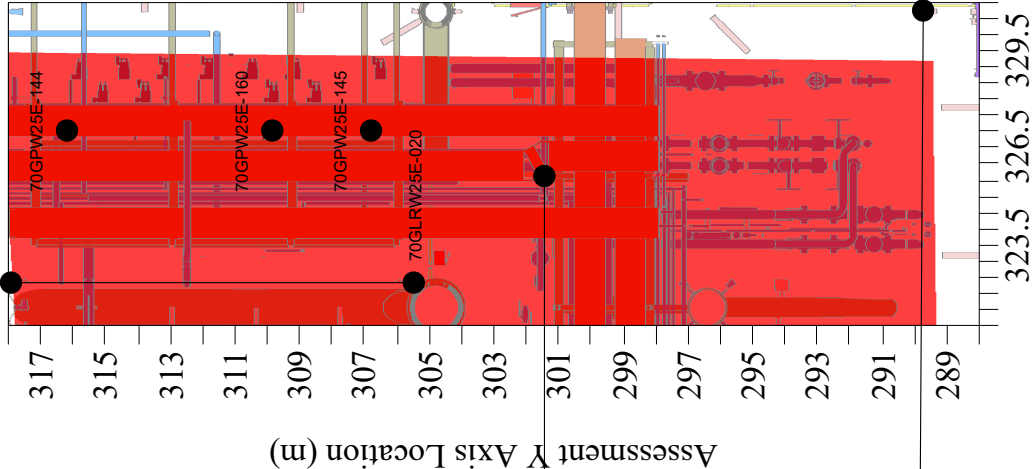
Assessment performed using 15 slices from 33.00 m to 38.00 m
Increment between 3D assessment slices: 0.36 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	15%	15%
Some coverage	81%	81%
No coverage	3%	3%

Project Name-Area W25E

Graded Volume(s) Cross Section at representative Z (2.037 m ALD)



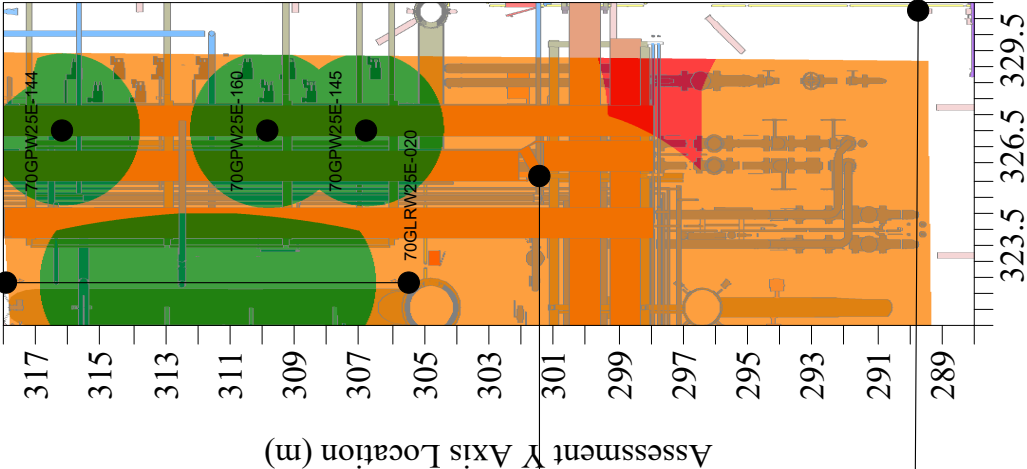
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 2.037 m ALD



COVERAGE KEY

Control Action

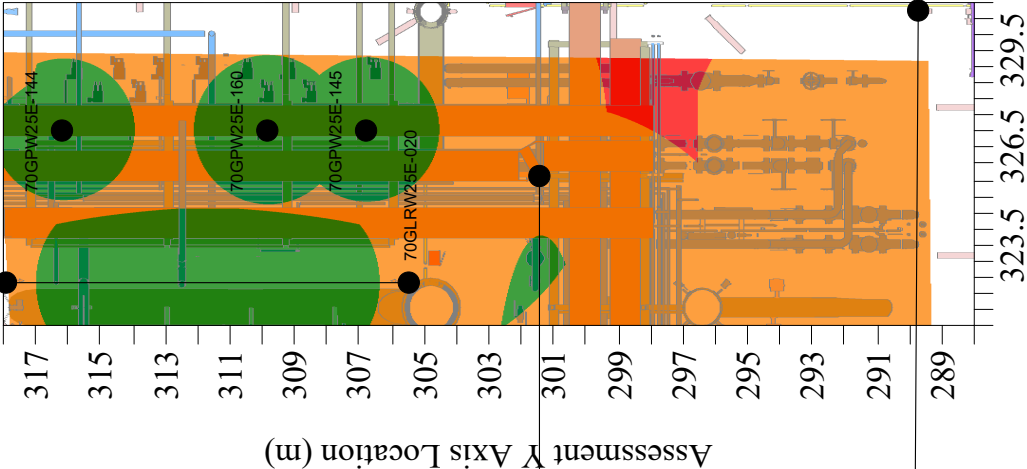
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 2.394 m ALD



COVERAGE KEY

Control Action

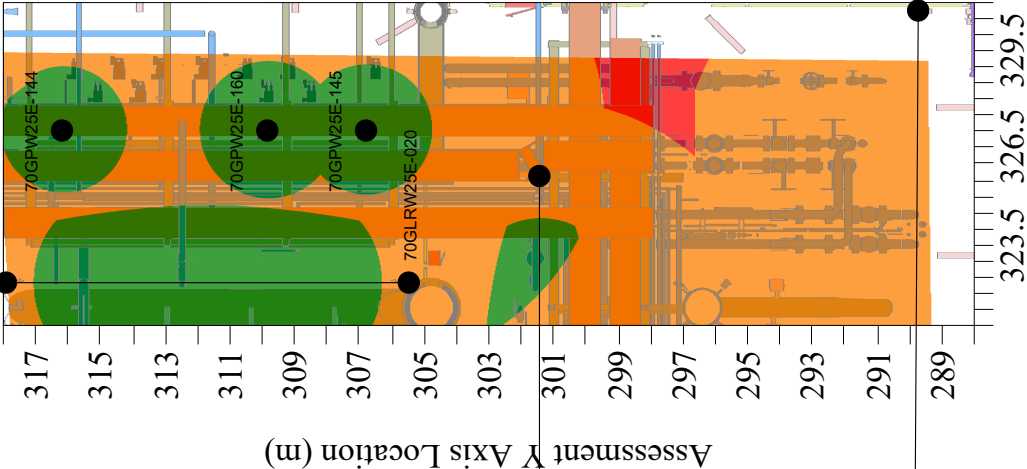
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 2.751 m ALD



COVERAGE KEY

Control Action

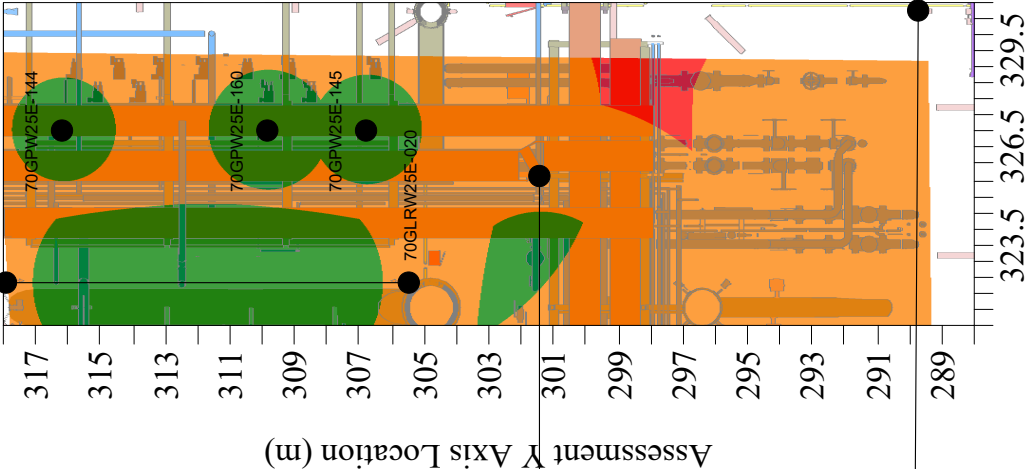
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 3.108 m ALD



COVERAGE KEY

Control Action

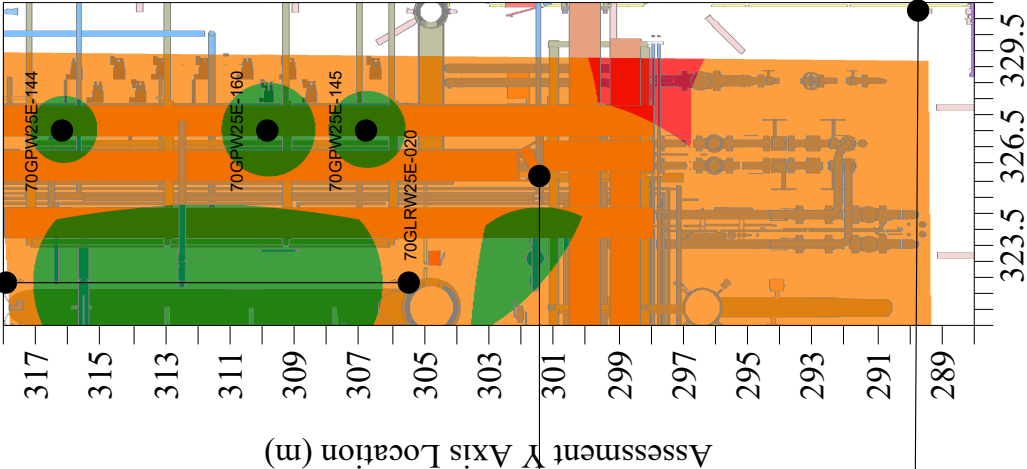
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 3.466 m ALD



COVERAGE KEY

Control Action

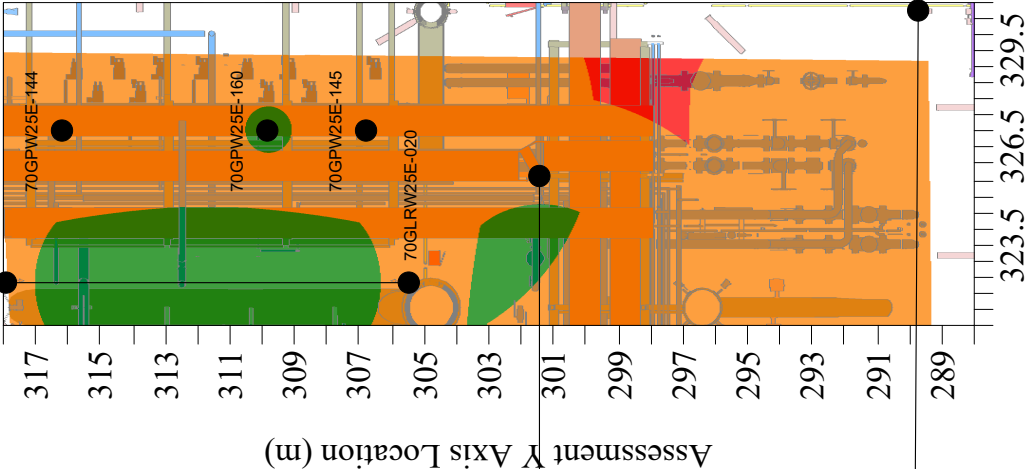
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 3.823 m ALD



COVERAGE KEY

Control Action

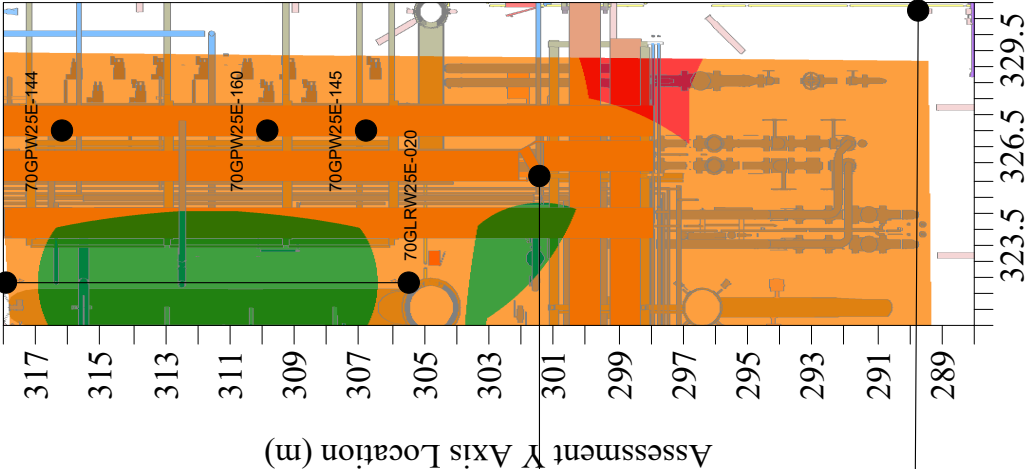
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 4.180 m ALD



COVERAGE KEY

Control Action

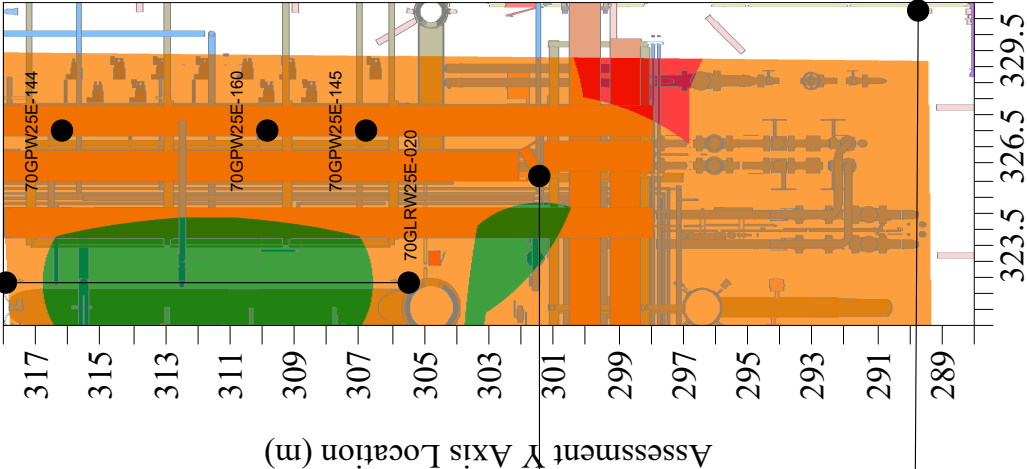
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 4.537 m ALD



COVERAGE KEY

Control Action

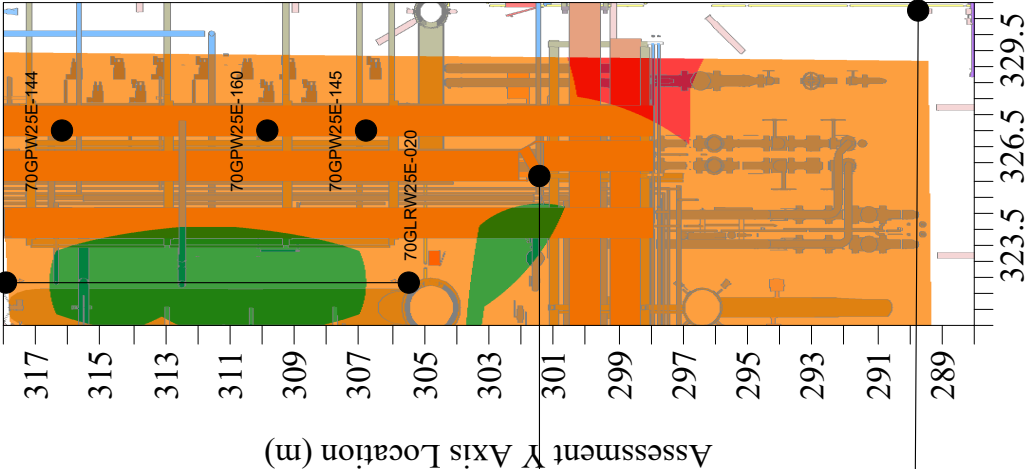
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 4.894 m ALD



COVERAGE KEY

Control Action

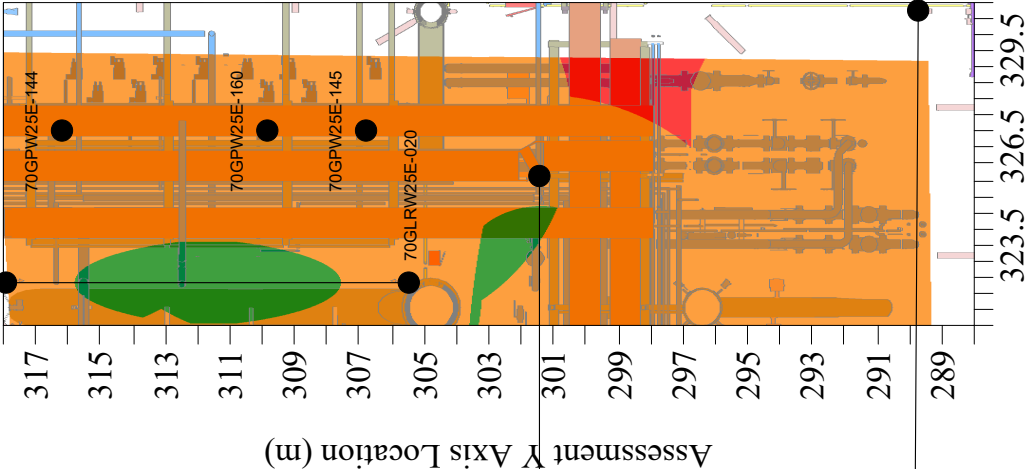
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 5.251 m ALD



COVERAGE KEY

Control Action

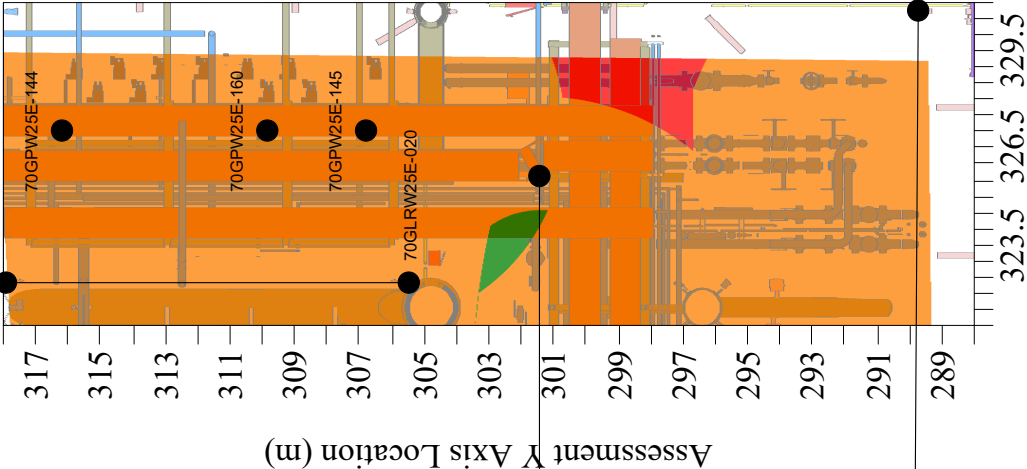
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 5.608 m ALD



COVERAGE KEY

Control Action

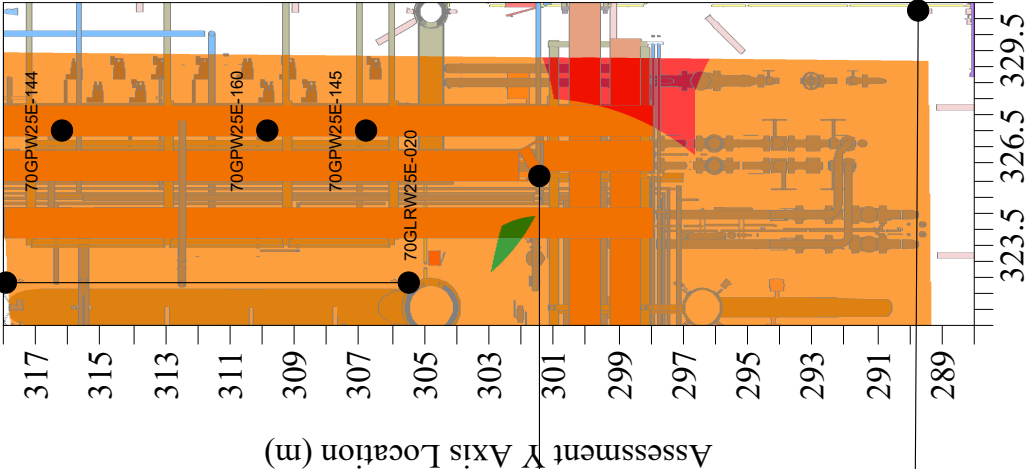
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 5.966 m ALD



COVERAGE KEY

Control Action

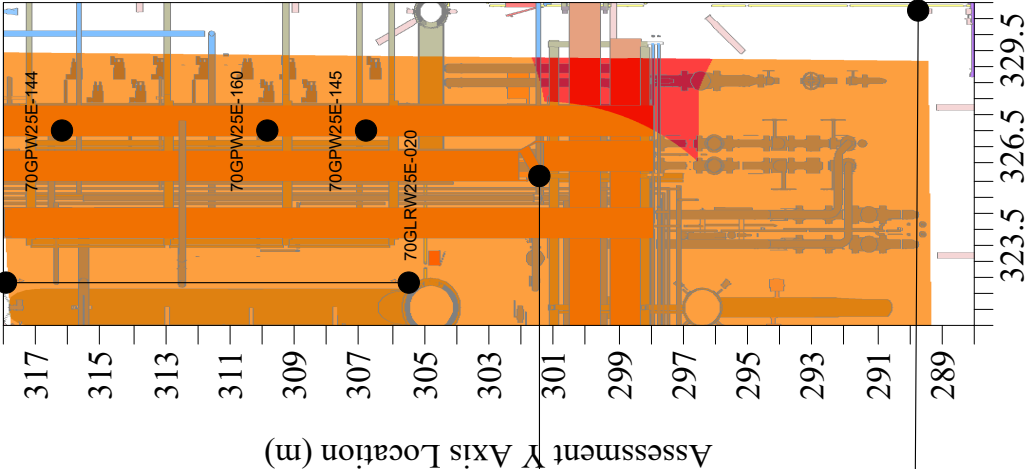
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 6.323 m ALD



COVERAGE KEY

Control Action

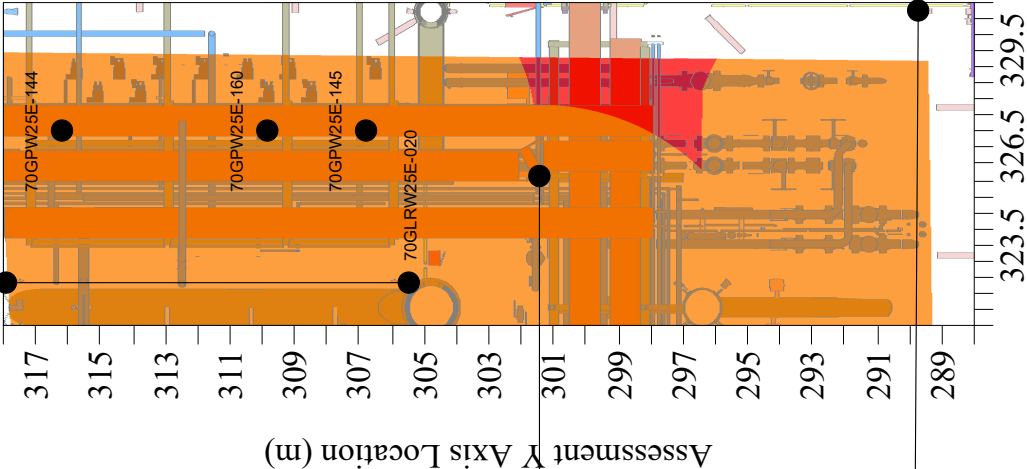
Alarm

No Coverage

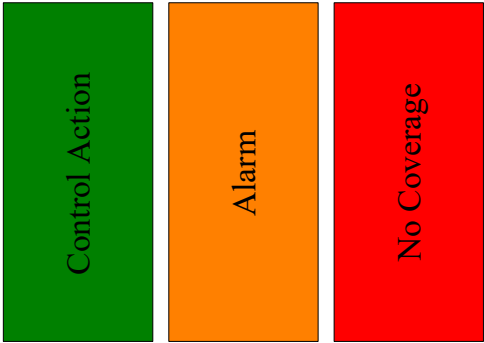
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 6.680 m ALD



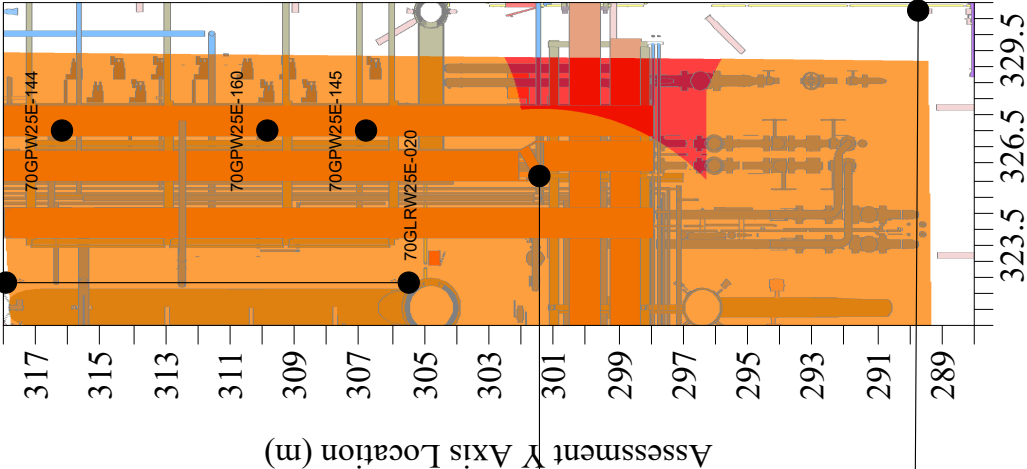
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			

Project Name-Area W25E

Gas Detector coverage at 7.037 m ALD



COVERAGE KEY

Control Action

Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25E			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:50



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed Area W25E**
Number of detectors: 8
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 5.00 m Length: 30.00 m Width: 10.00 m Deck Z: 30.96 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

Assessment performed using 15 slices from 33.00 m to 38.00 m
Increment between 3D assessment slices: 0.36 m

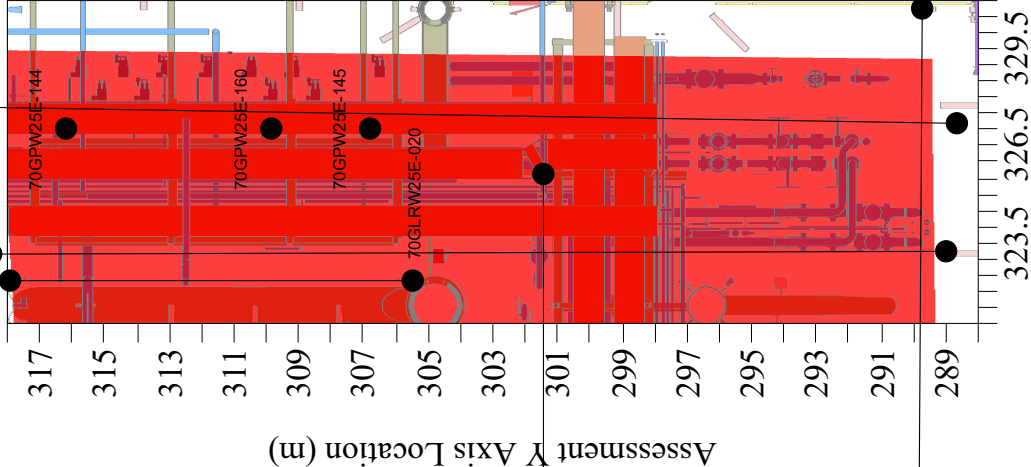
ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	82%	82%
Some coverage	18%	18%

Project Name-Proposed Area W25E

Graded Volume(s) Cross Section at representative Z (2.037 m ALD)

70GDLRW25E-027 70GDLRW25E-028



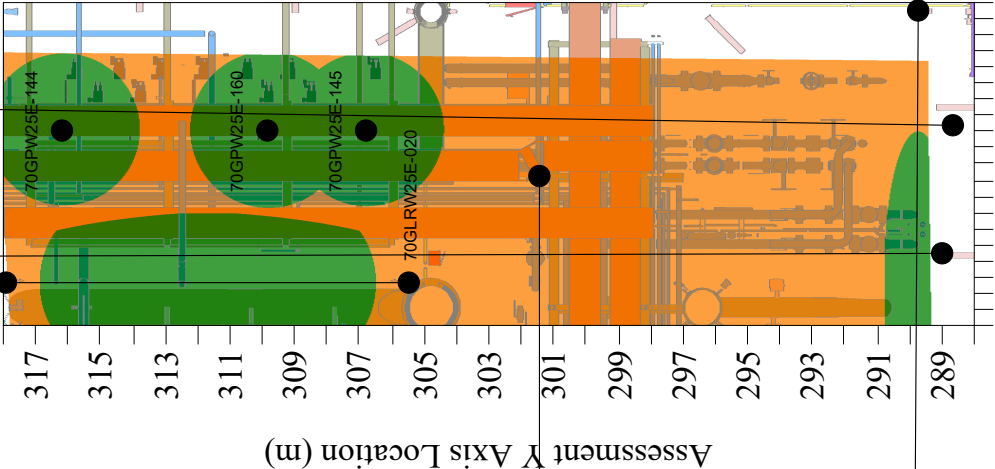
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 2.037 m ALD



COVERAGE KEY

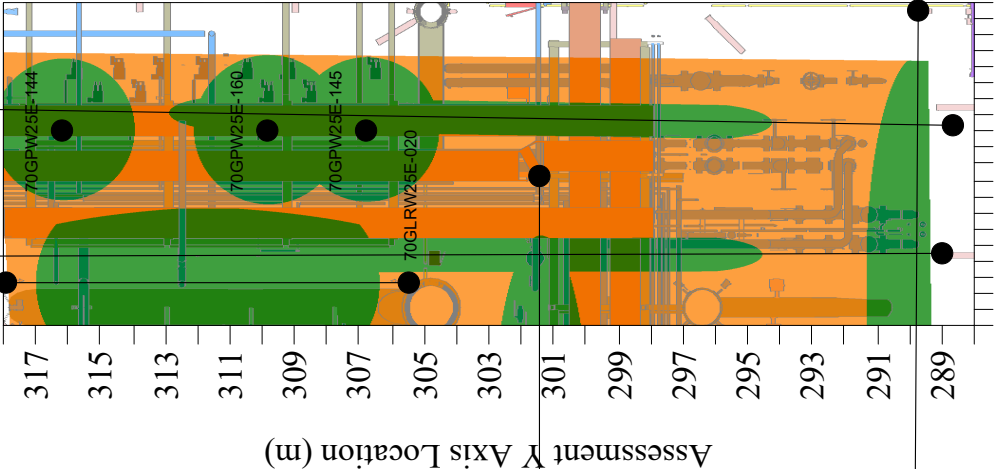
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 2.394 m ALD



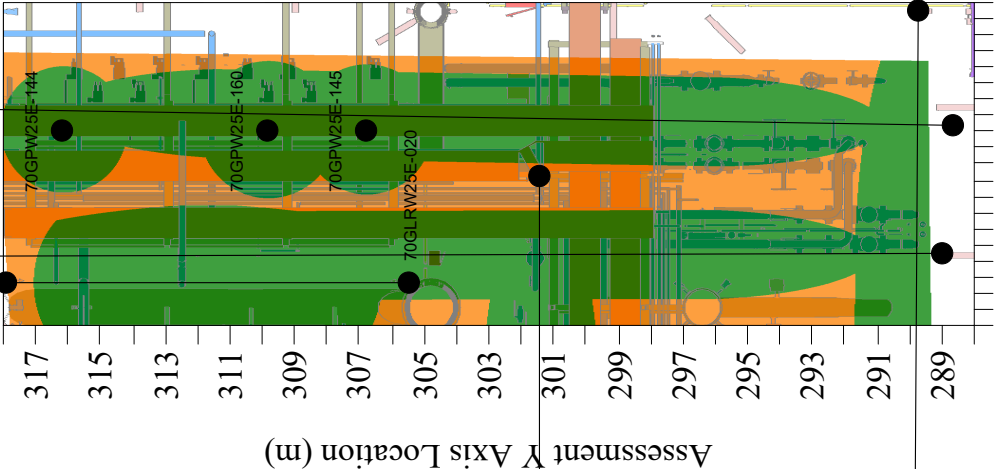
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detected coverage at 2.751 m ALD



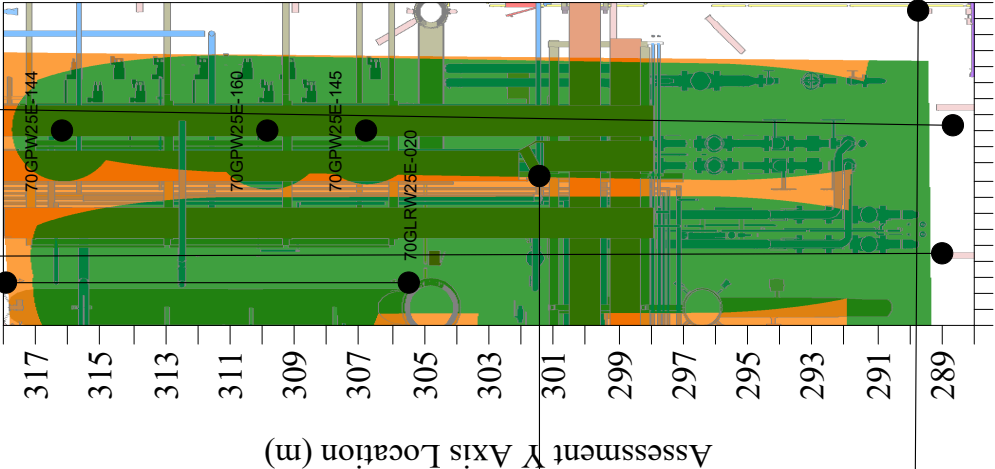
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 3.108 m ALD



COVERAGE KEY

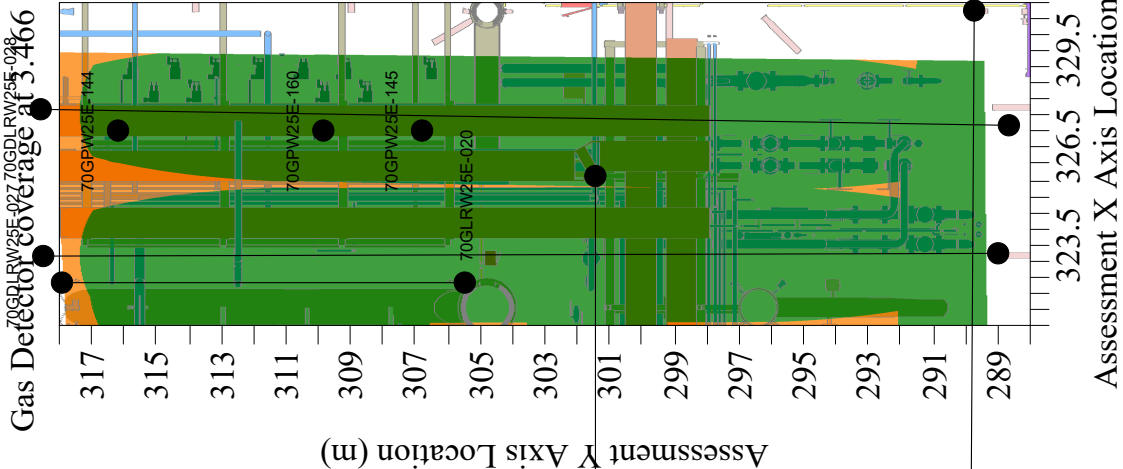
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 3.466 m ALD



COVERAGE KEY

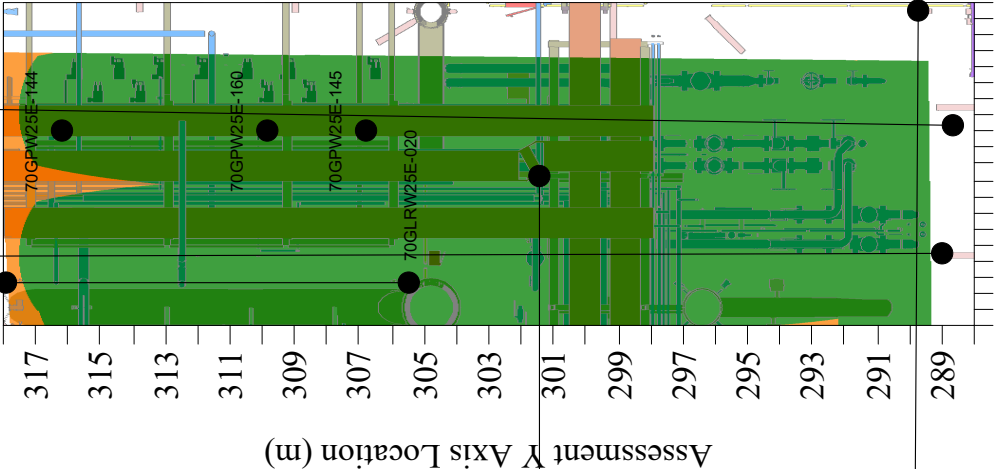
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detected coverage at 3.823 m ALD



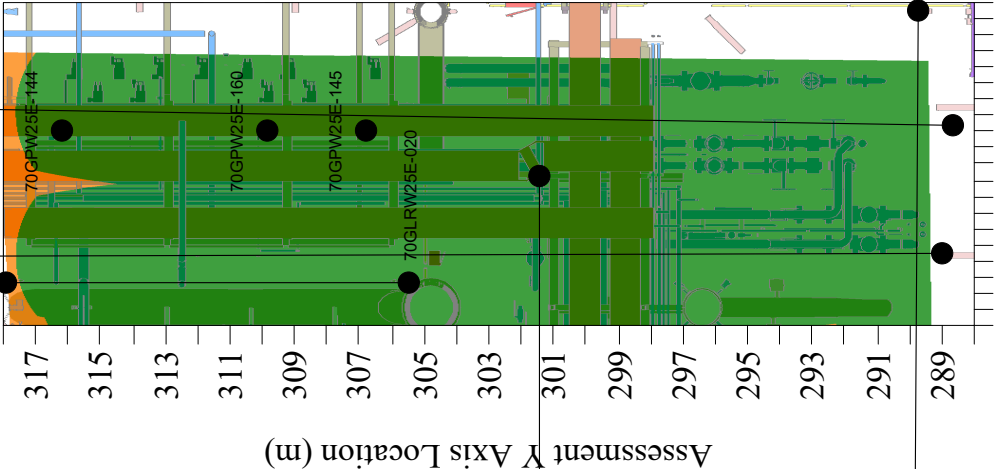
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 4.180 m ALD



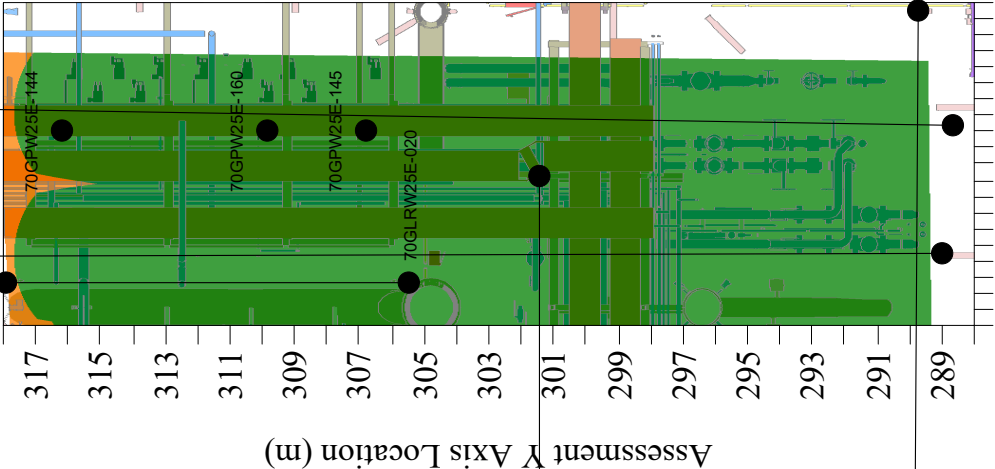
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detected coverage at 4.537 m ALD



COVERAGE KEY

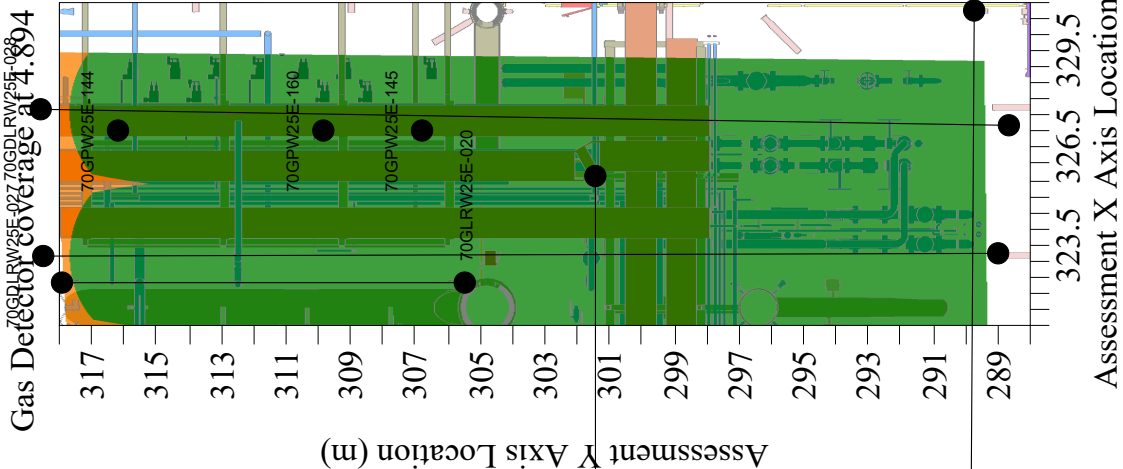
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detected coverage at 4.894 m ALD



COVERAGE KEY

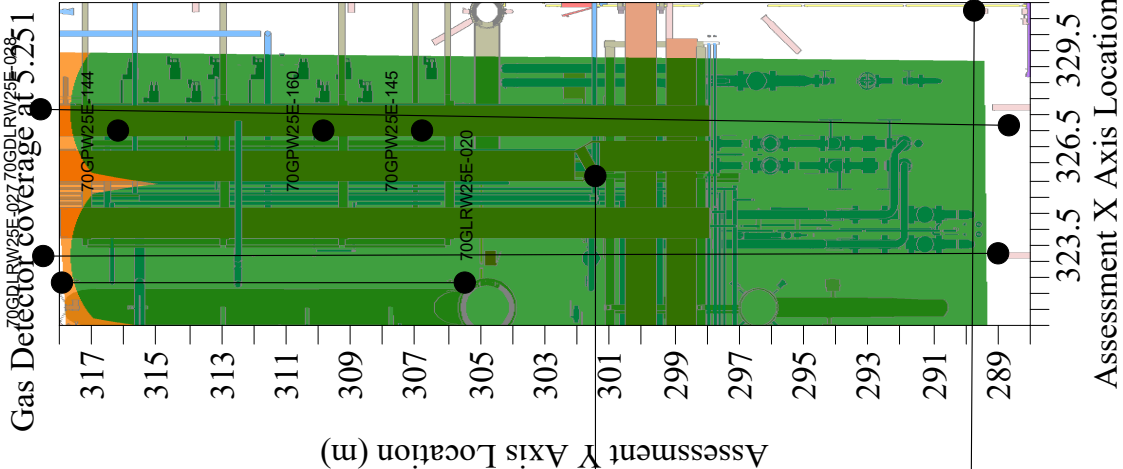
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 5.251 m ALD



COVERAGE KEY

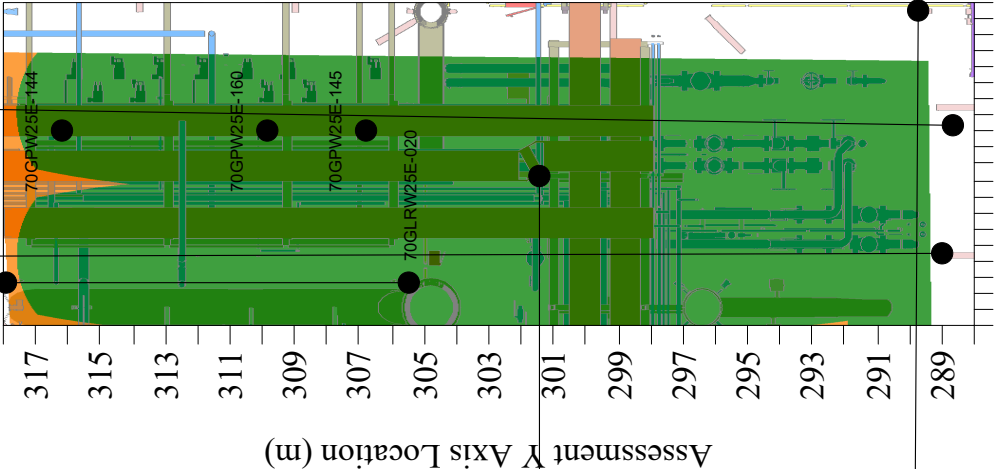
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detected coverage at 5.608 m ALD



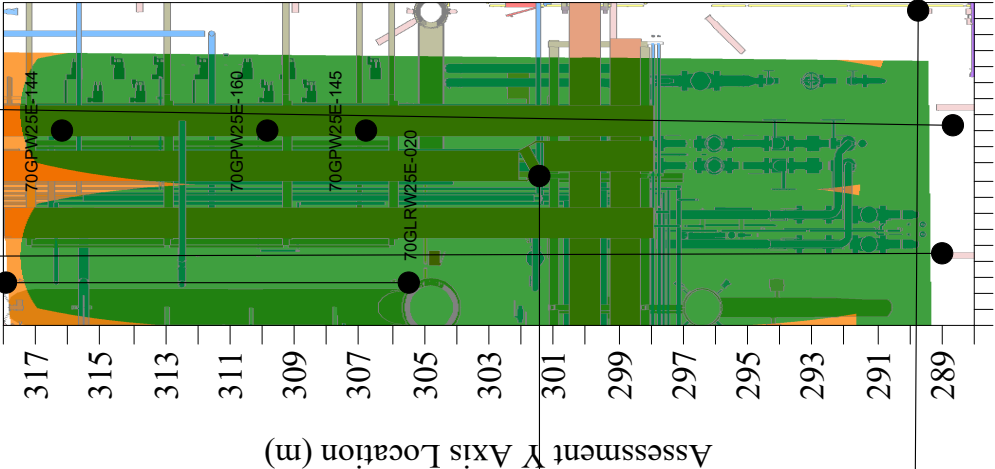
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 5.966 m ALD



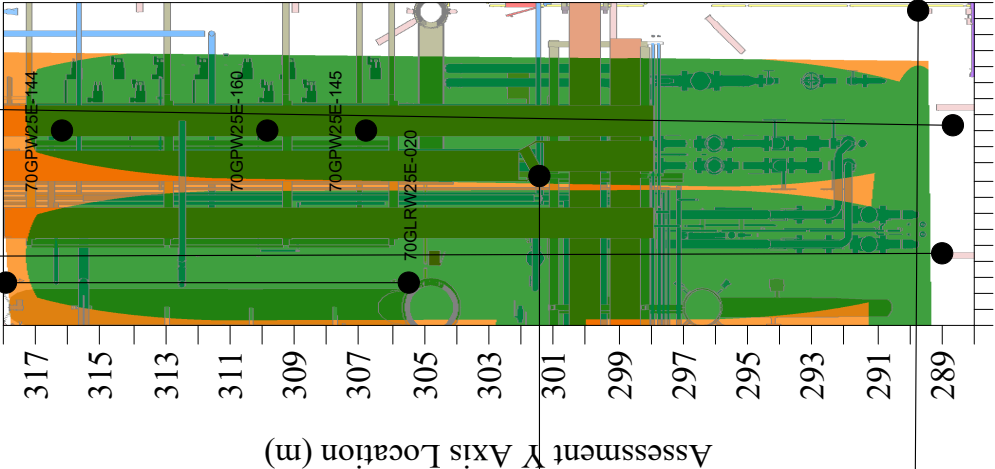
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 6.323 m ALD



COVERAGE KEY

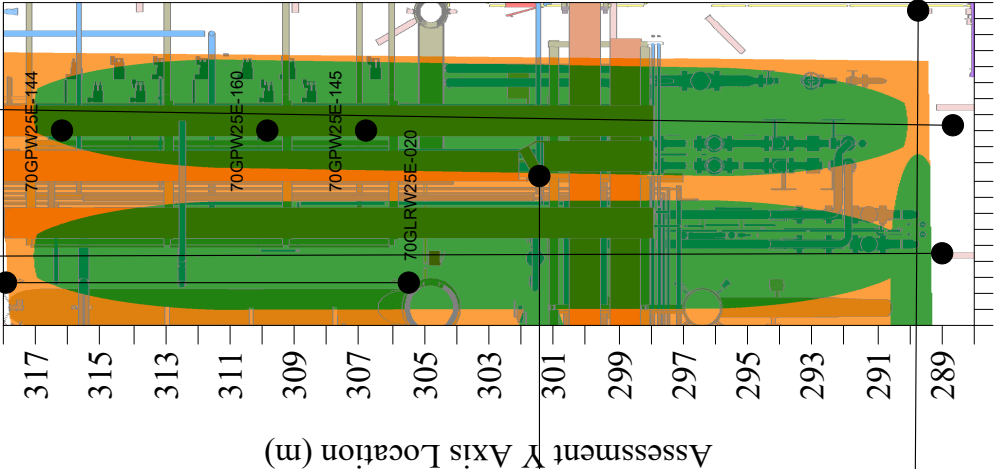
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 6.680 m ALD



COVERAGE KEY

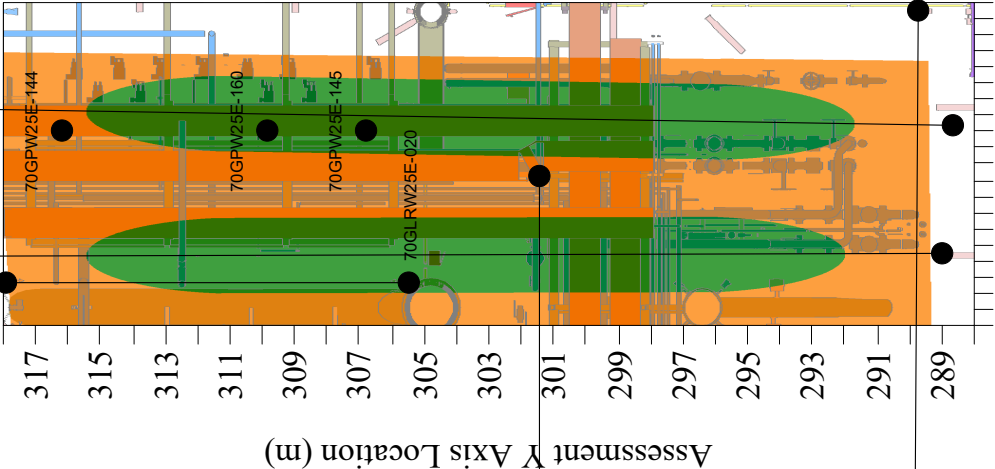
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			

Project Name-Proposed Area W25E

Gas Detection Coverage at 7.037 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25E		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25E			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:51



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Area W25W**
Number of detectors: 4
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 6.50 m Length: 12.00 m Width: 10.00 m Deck Z: 30.96 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

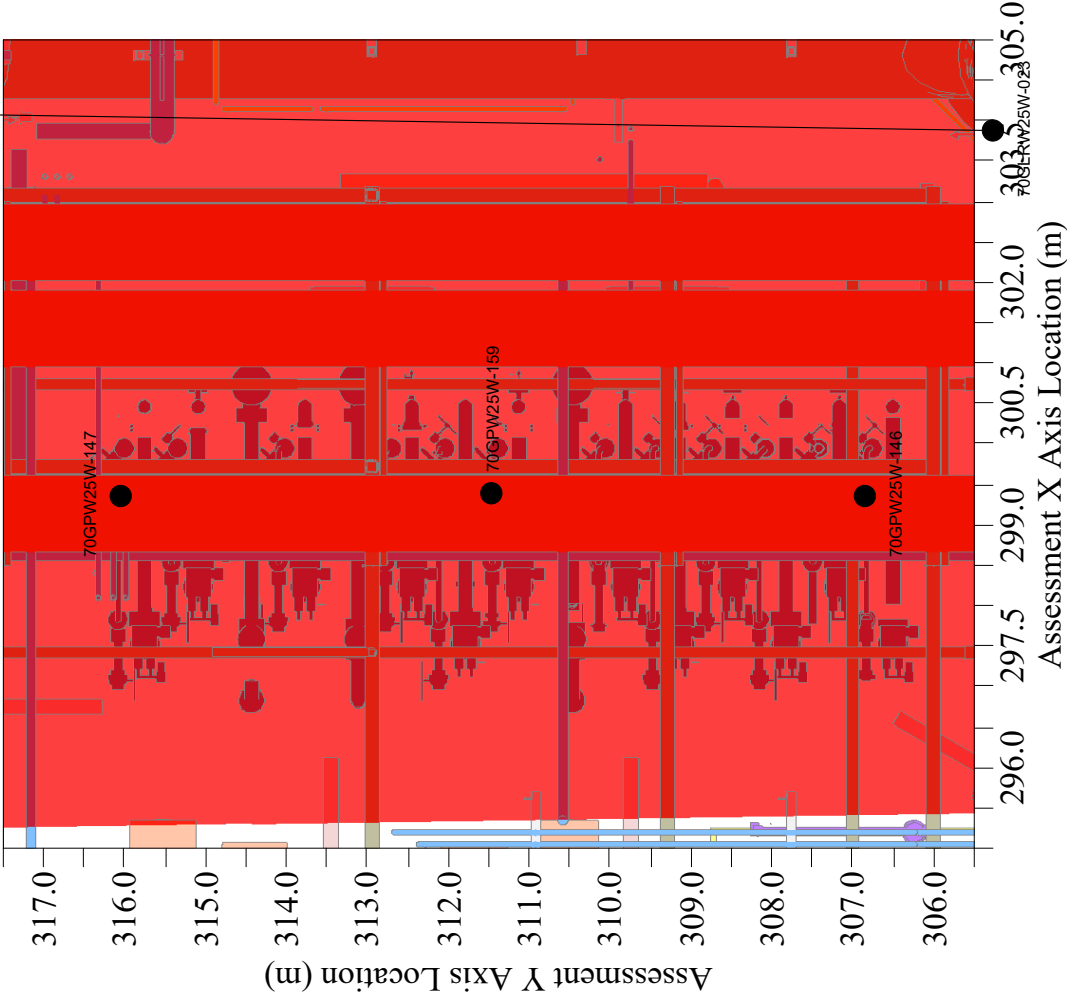
Assessment performed using 15 slices from 31.50 m to 38.00 m
Increment between 3D assessment slices: 0.46 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	34%	34%
Some coverage	66%	66%
No coverage	<1%	<1%

Project Name-Area W25W

Graded Volume(s) Cross Section at representative Z (0.535 m ALD)



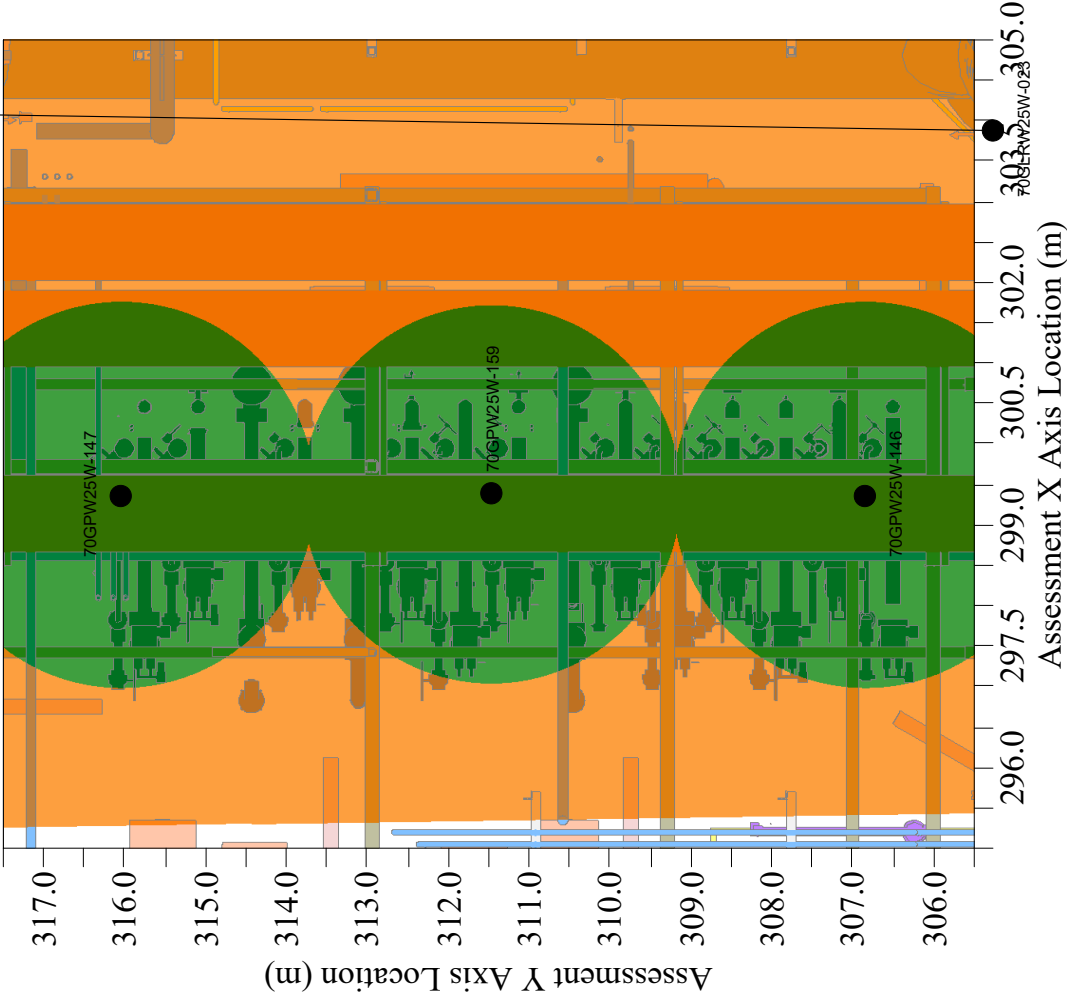
GRADE COLOURS

Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Grademap (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 0.537 m ALD



COVERAGE KEY

Control Action

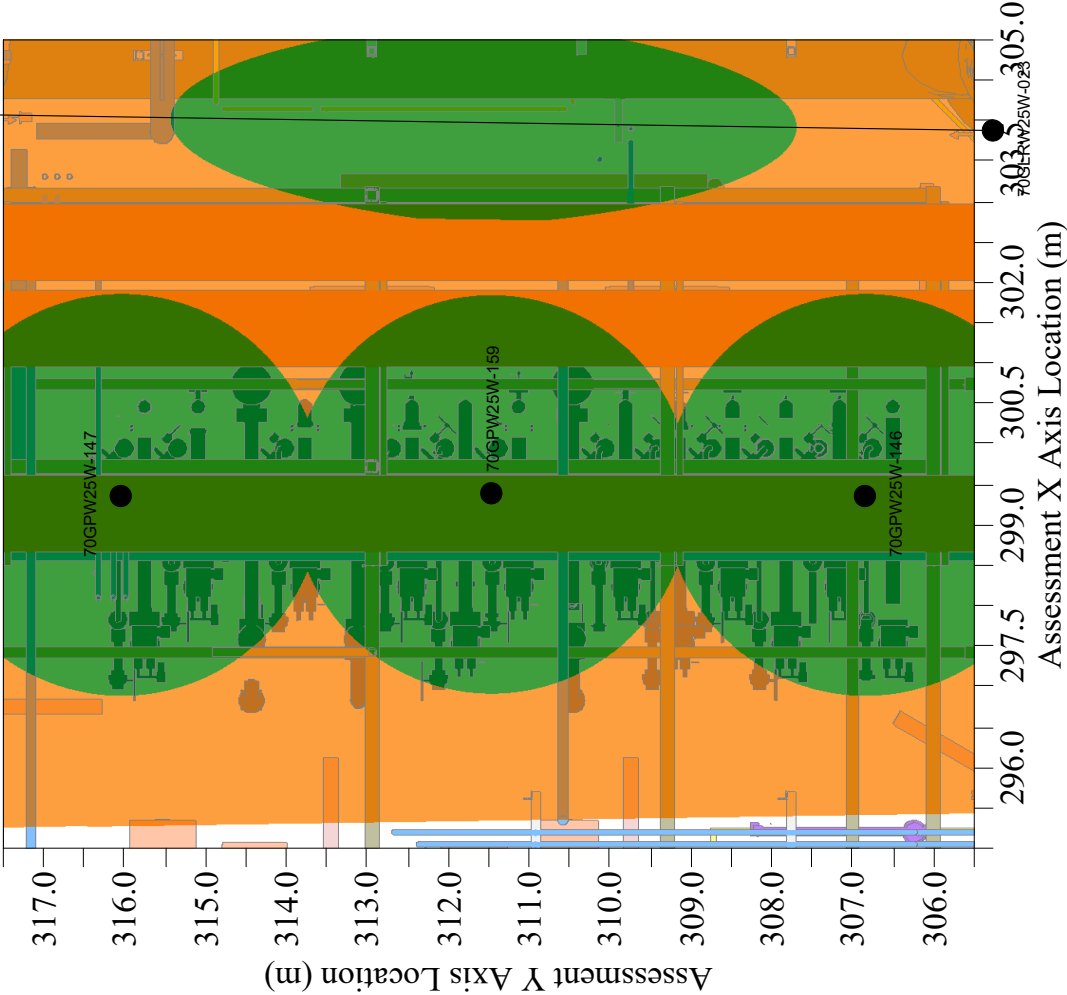
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 1.001 m ALD



COVERAGE KEY

Control Action

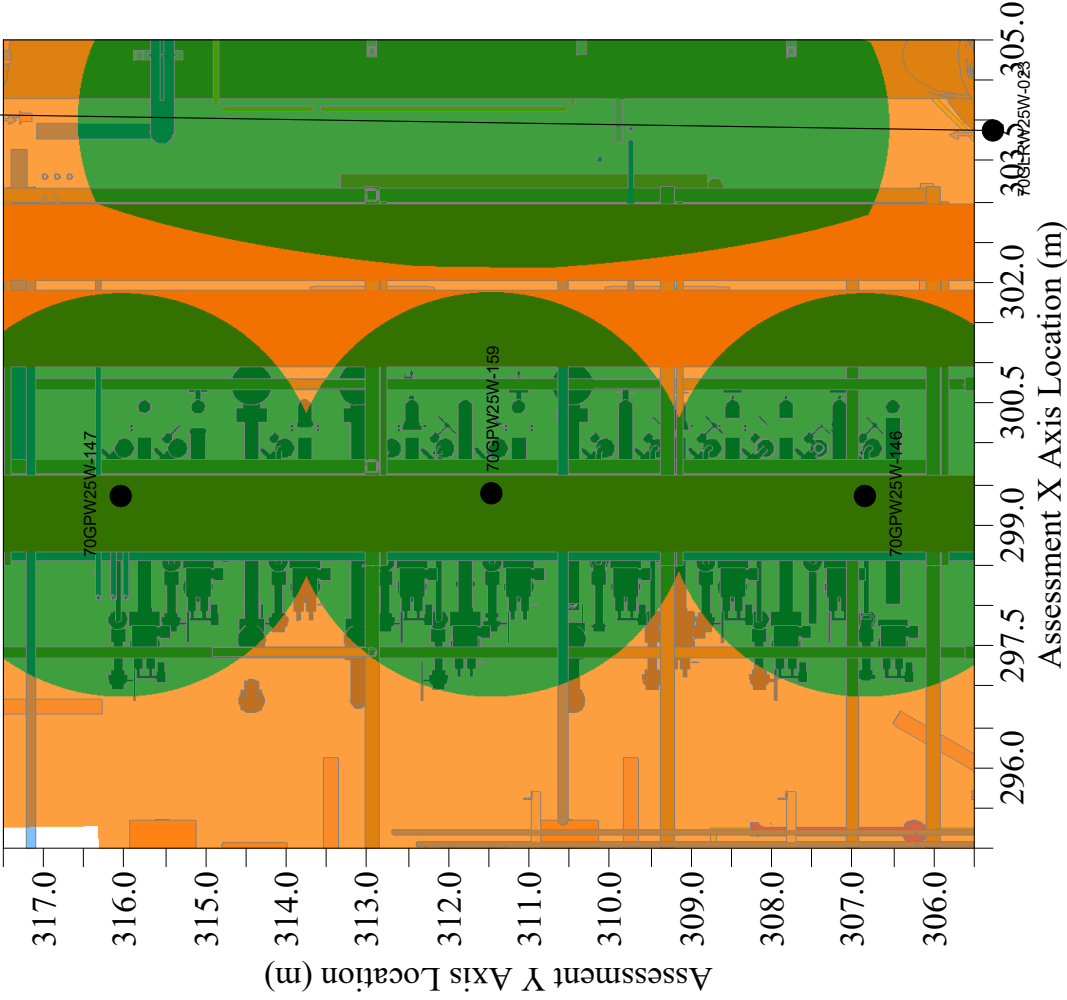
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 1.466 m ALD



COVERAGE KEY

Control Action

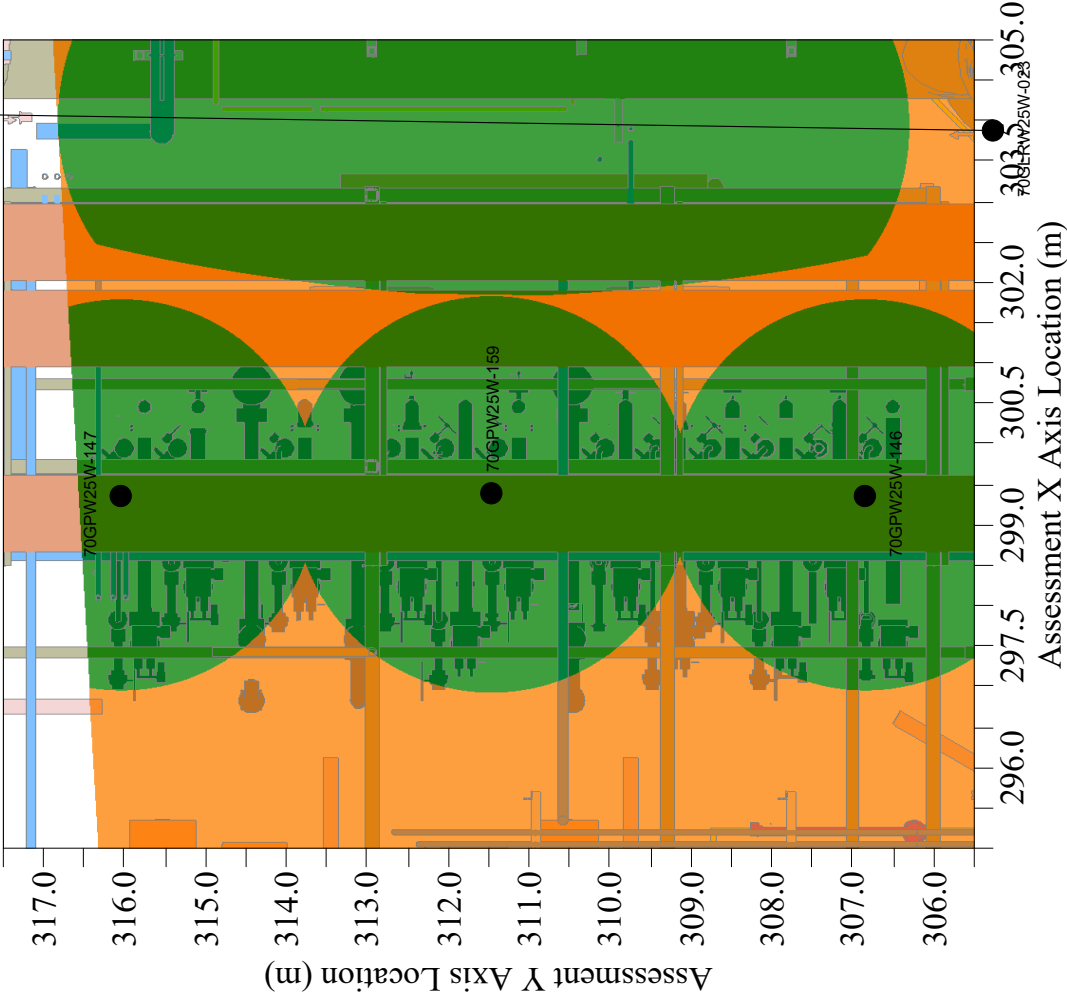
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 1.930 m ALD



COVERAGE KEY

Control Action

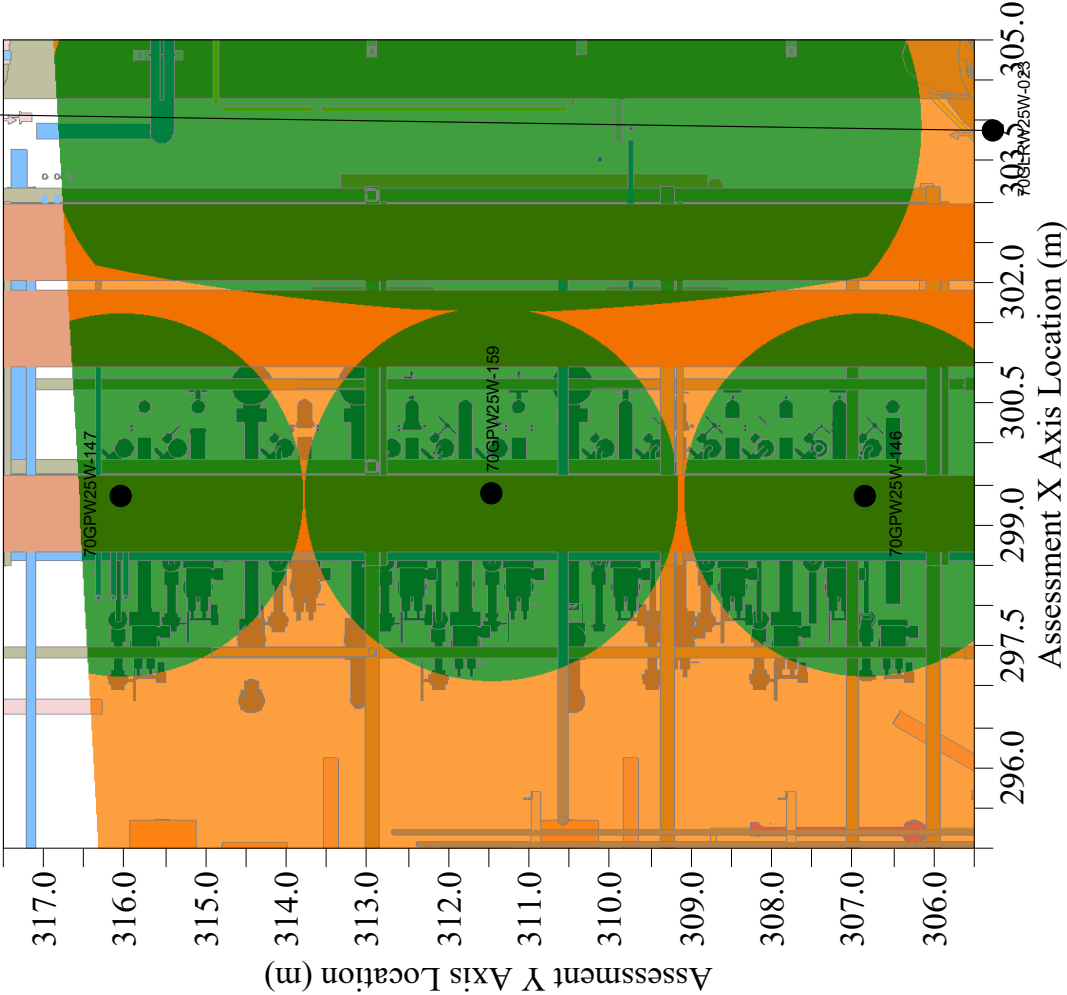
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 2.394 m ALD



COVERAGE KEY

Control Action

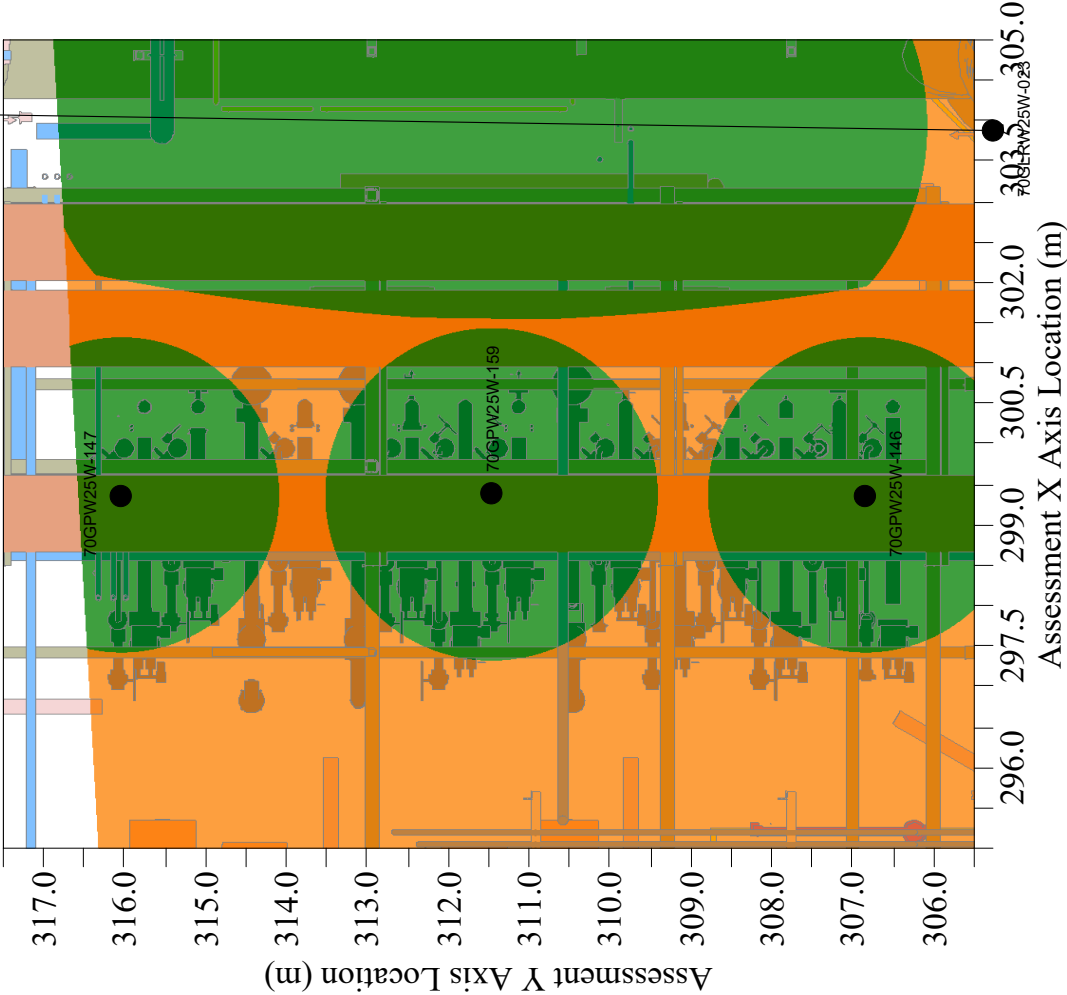
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 2.858 m ALD



COVERAGE KEY

Control Action

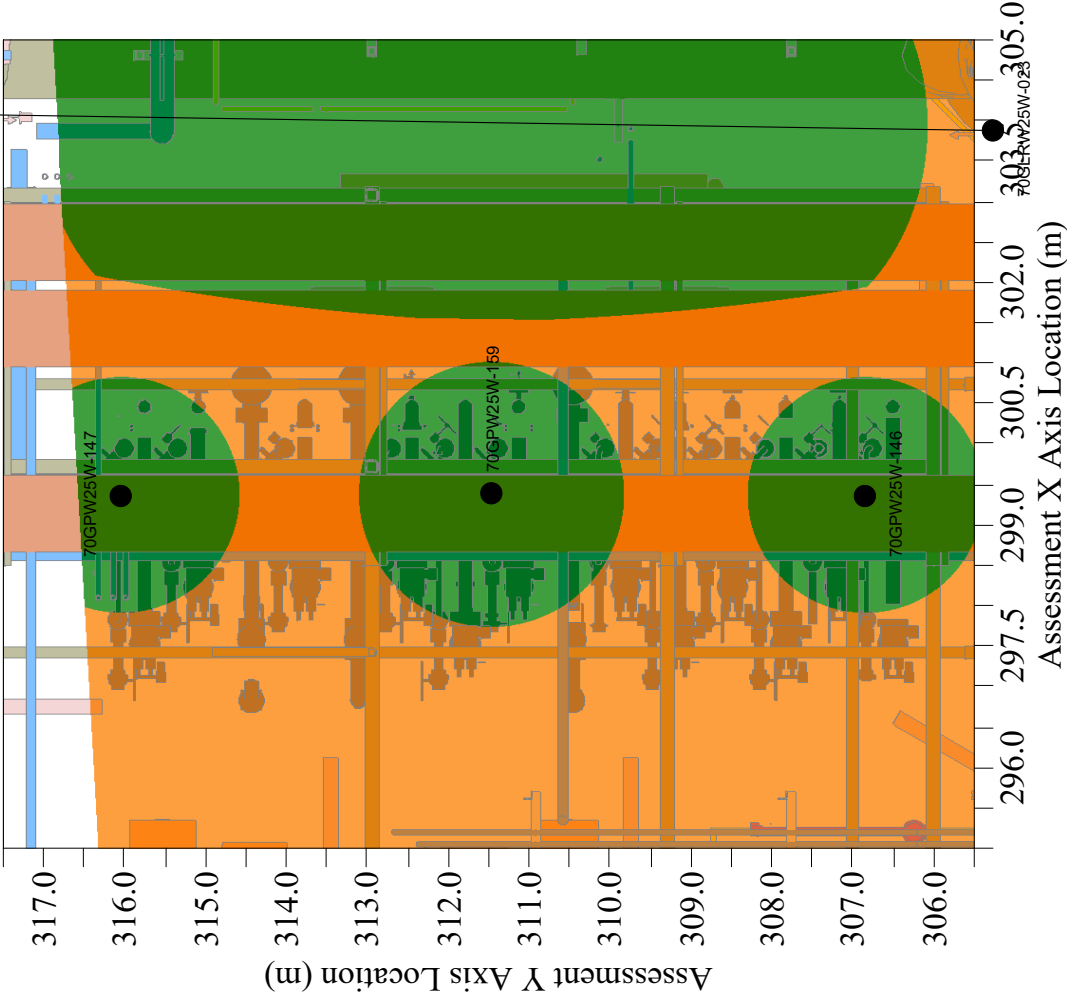
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 3.323 m ALD



COVERAGE KEY

Control Action

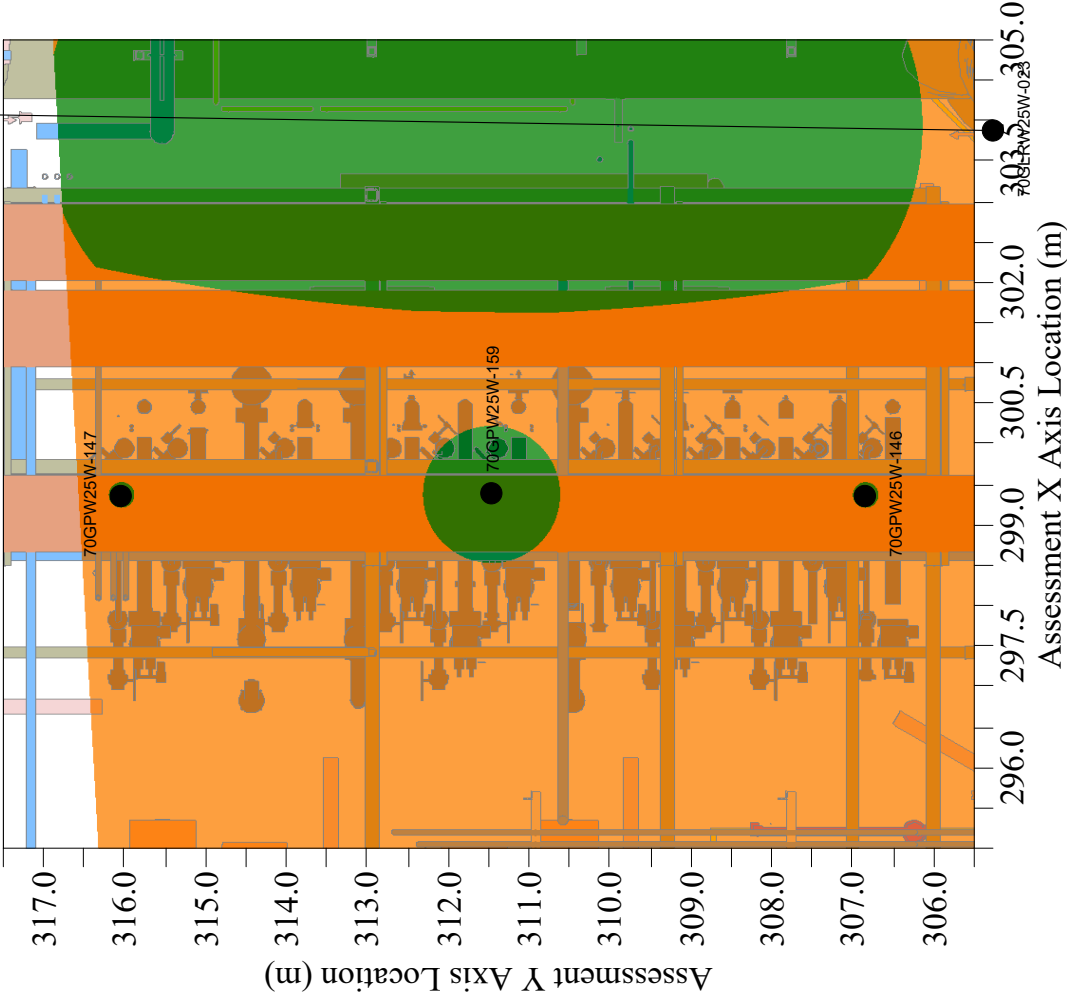
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 3.787 m ALD



COVERAGE KEY

Control Action

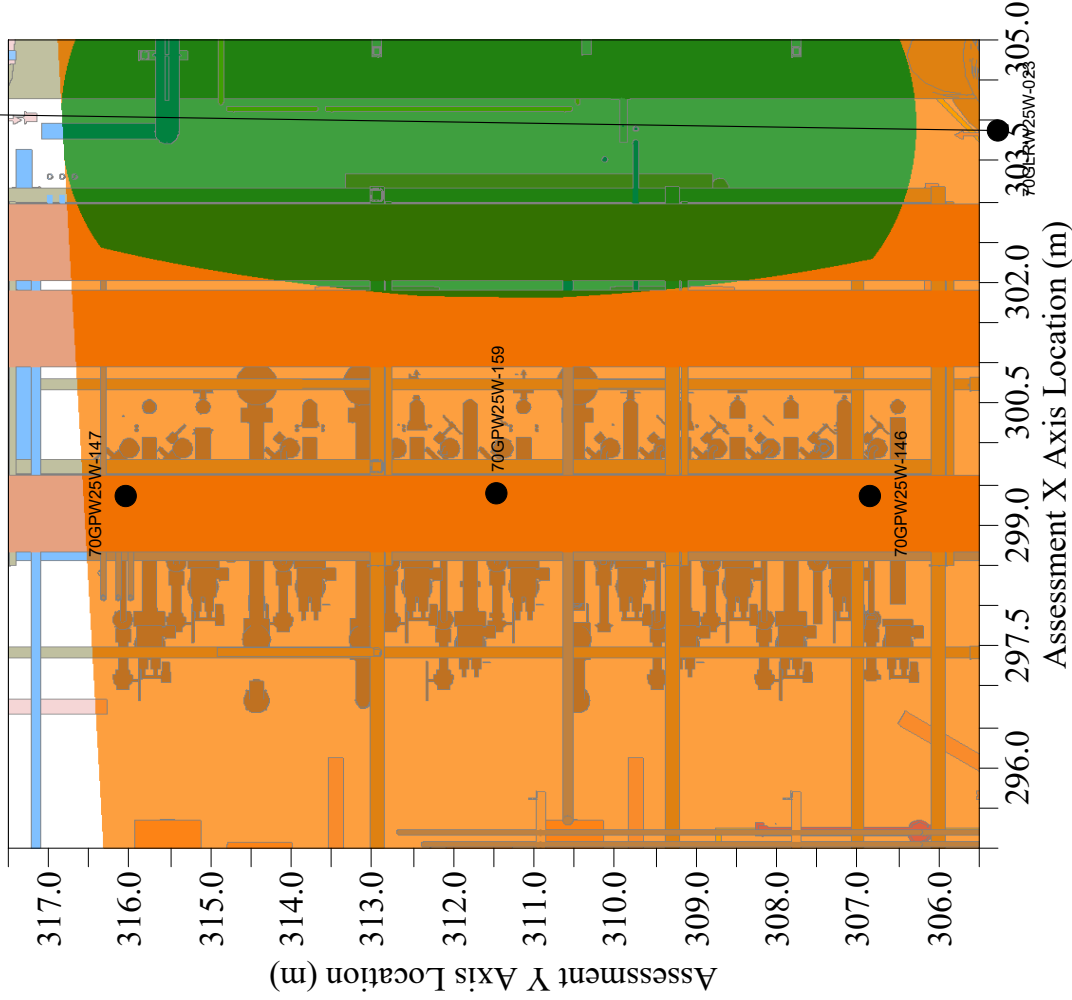
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 4.251 m ALD



COVERAGE KEY

Control Action

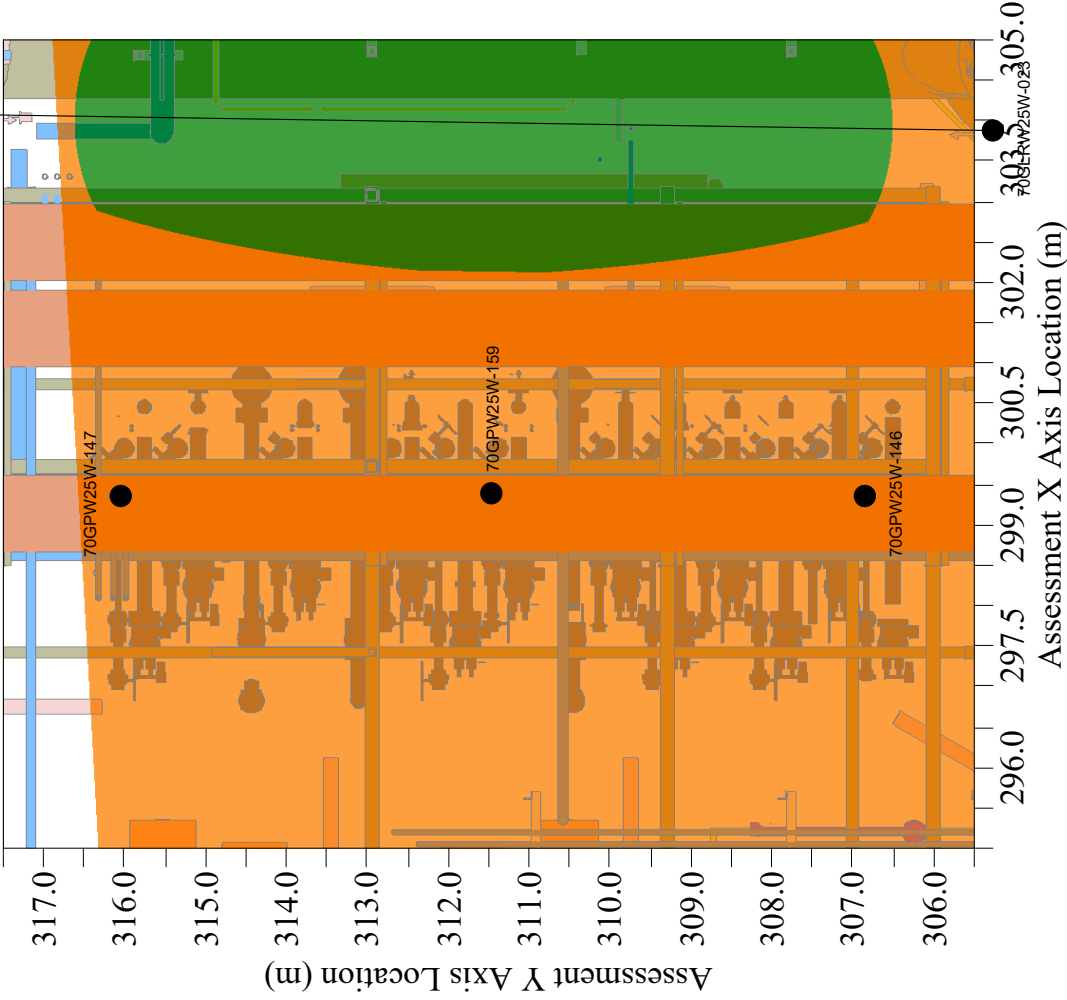
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 4.716 m ALD



COVERAGE KEY

Control Action

Alarm

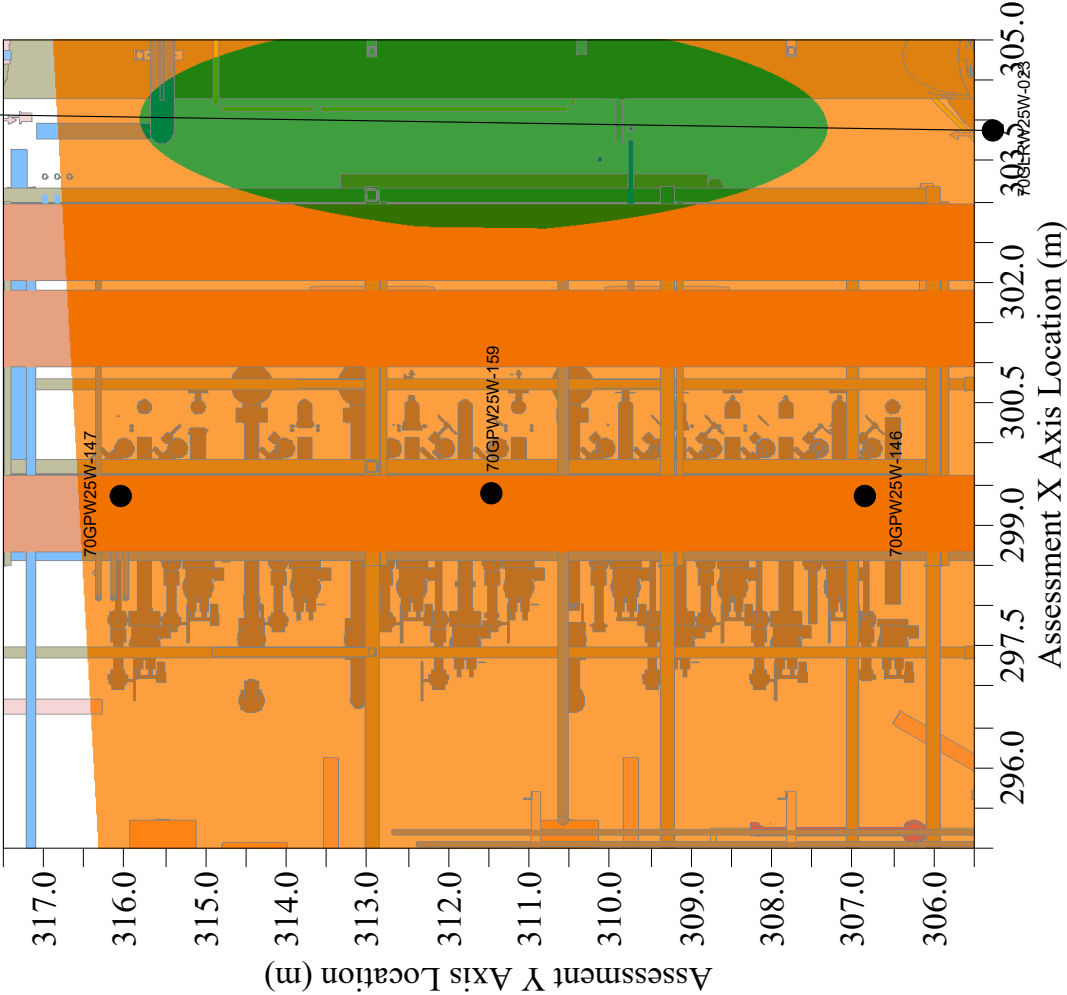
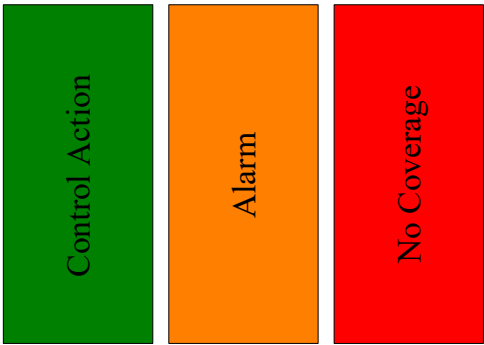
No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 5.180 m ALD

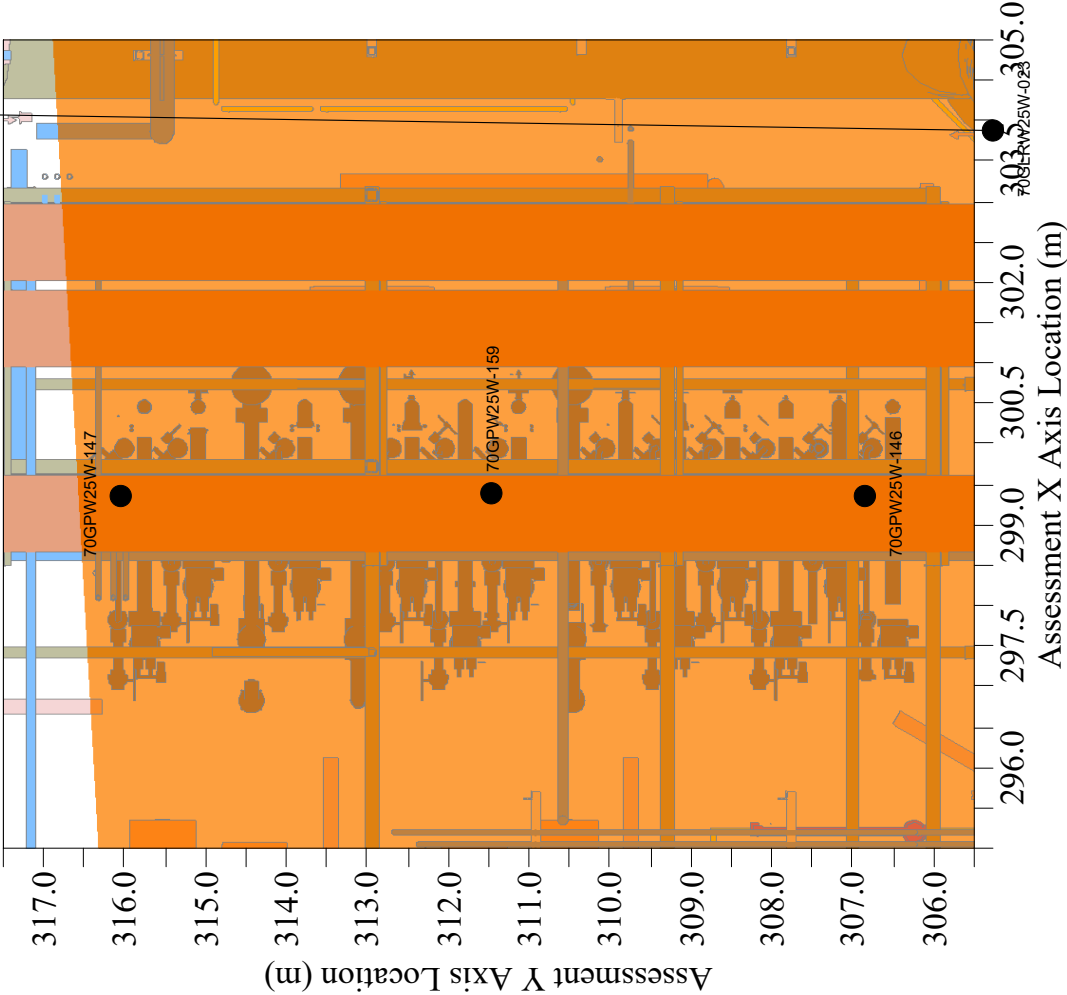
COVERAGE KEY



Company Name	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			
	Powered by Hazmap3D www.micropack.co.uk			

Project Name-Area W25W

Gas Detector coverage at 5.644 m ALD



COVERAGE KEY

Control Action

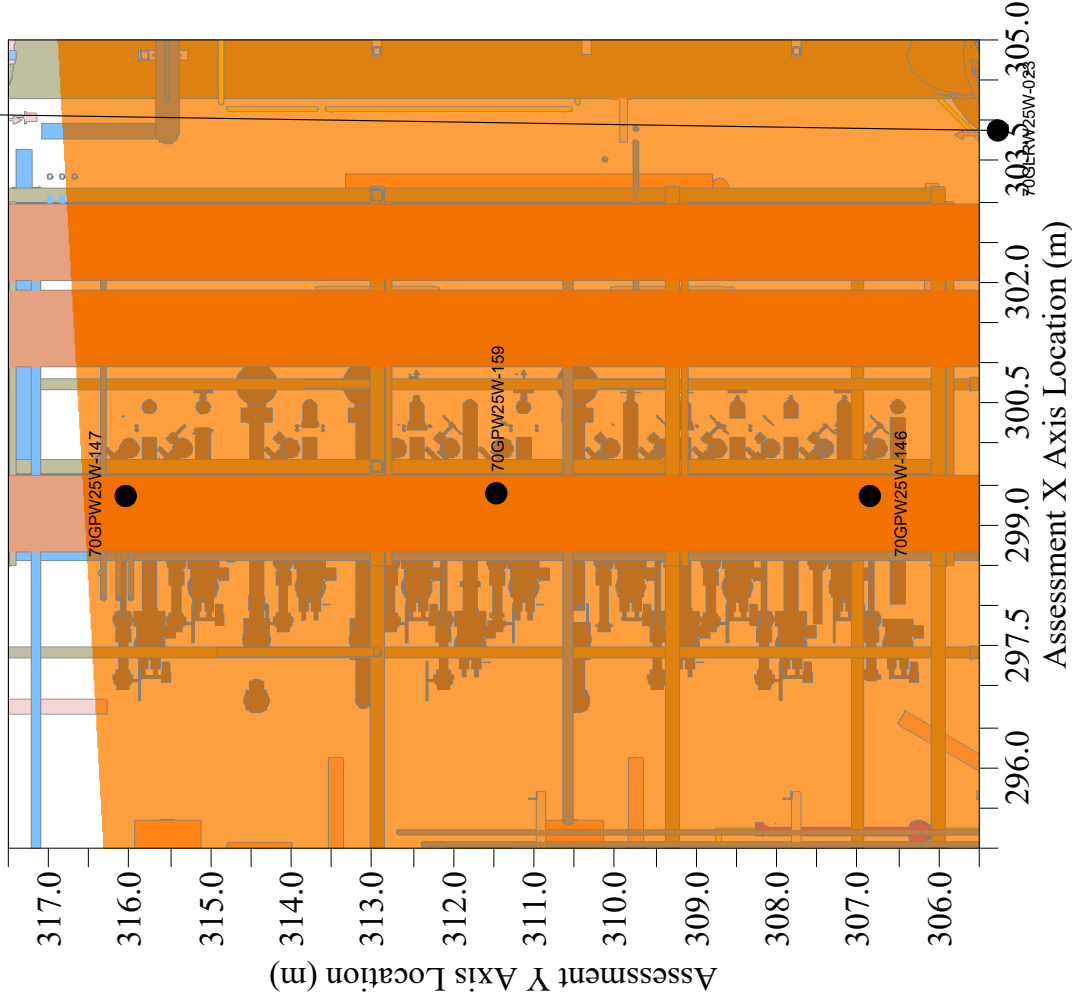
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 6.108 m ALD



COVERAGE KEY

Control Action

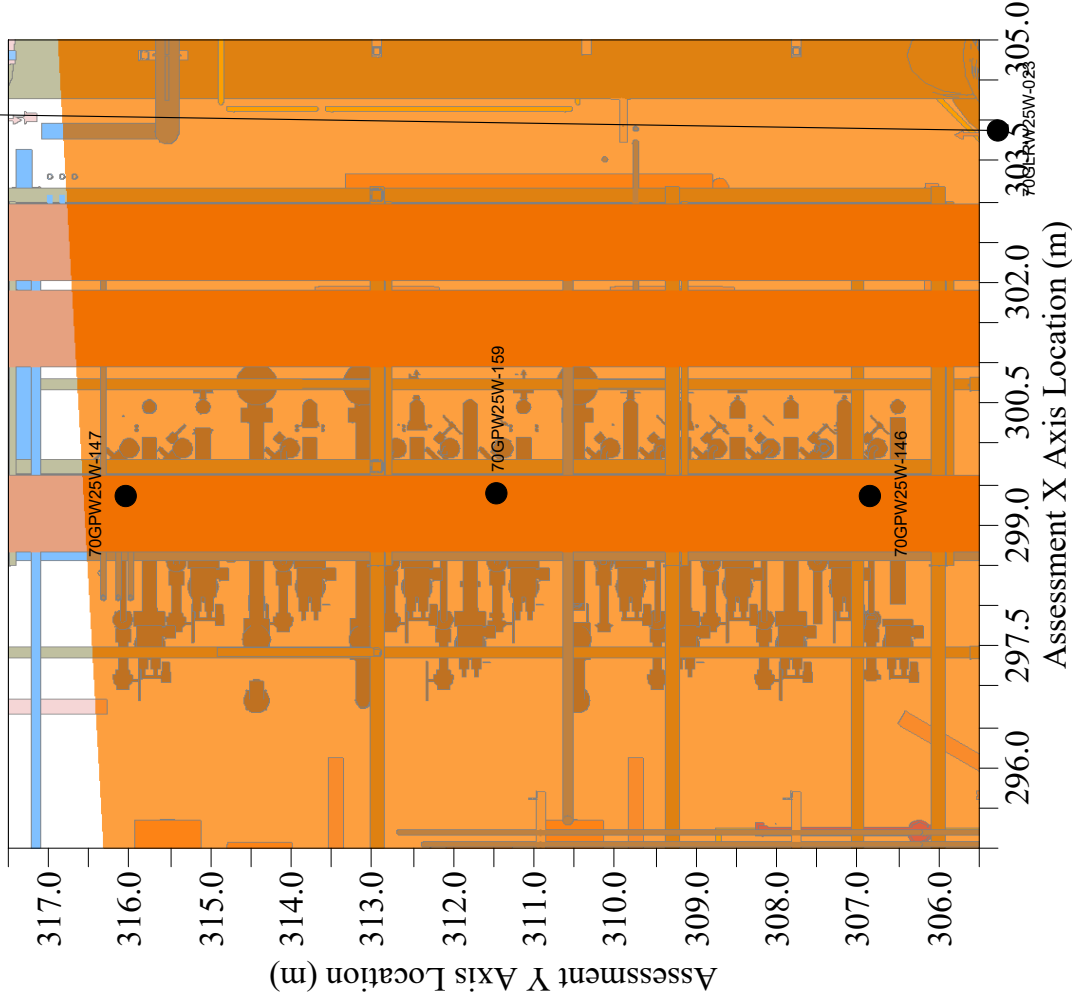
Alarm

No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 6.573 m ALD



COVERAGE KEY

Control Action

Alarm

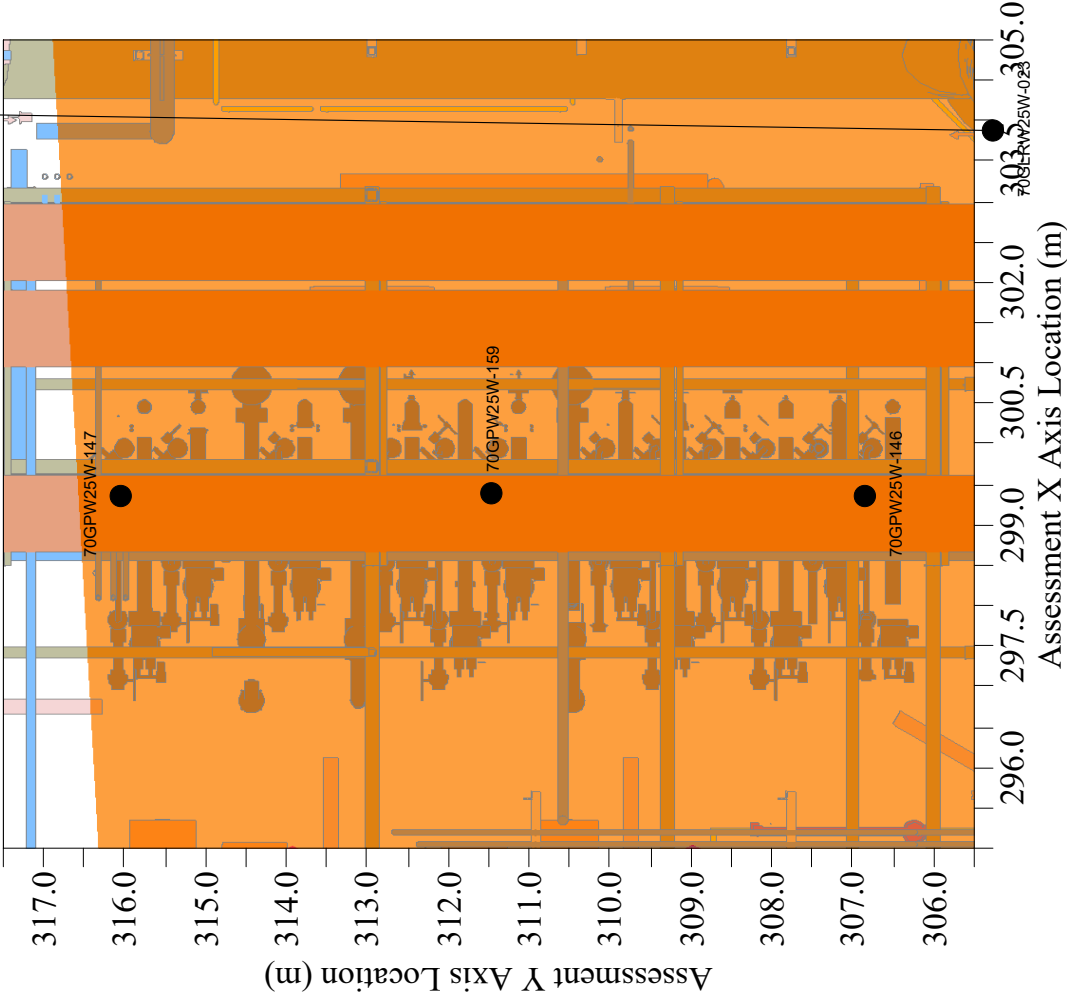
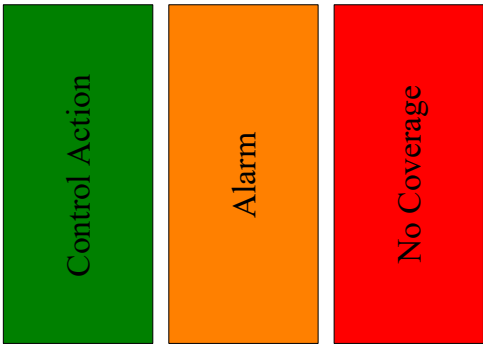
No Coverage

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			

Project Name-Area W25W

Gas Detector coverage at 7.037 m ALD

COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Area W25W			



GAS DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:52



PROJECT INFORMATION

Project name: **Project Name**
Assessment title: **Proposed Area W25W**
Number of detectors: 5
Calculation model: Simple

ASSESSMENT VOLUME DIMENSIONS

Height: 6.50 m Length: 12.00 m Width: 10.00 m Deck Z: 30.96 m

ASSESSMENT PARAMETERS

Grading Rules (only grades used in assessment are shown)

Grade	Hi Gas Diameter	Lo Gas Diameter	Voting
C/SG	5.00m	15.00m	H+L

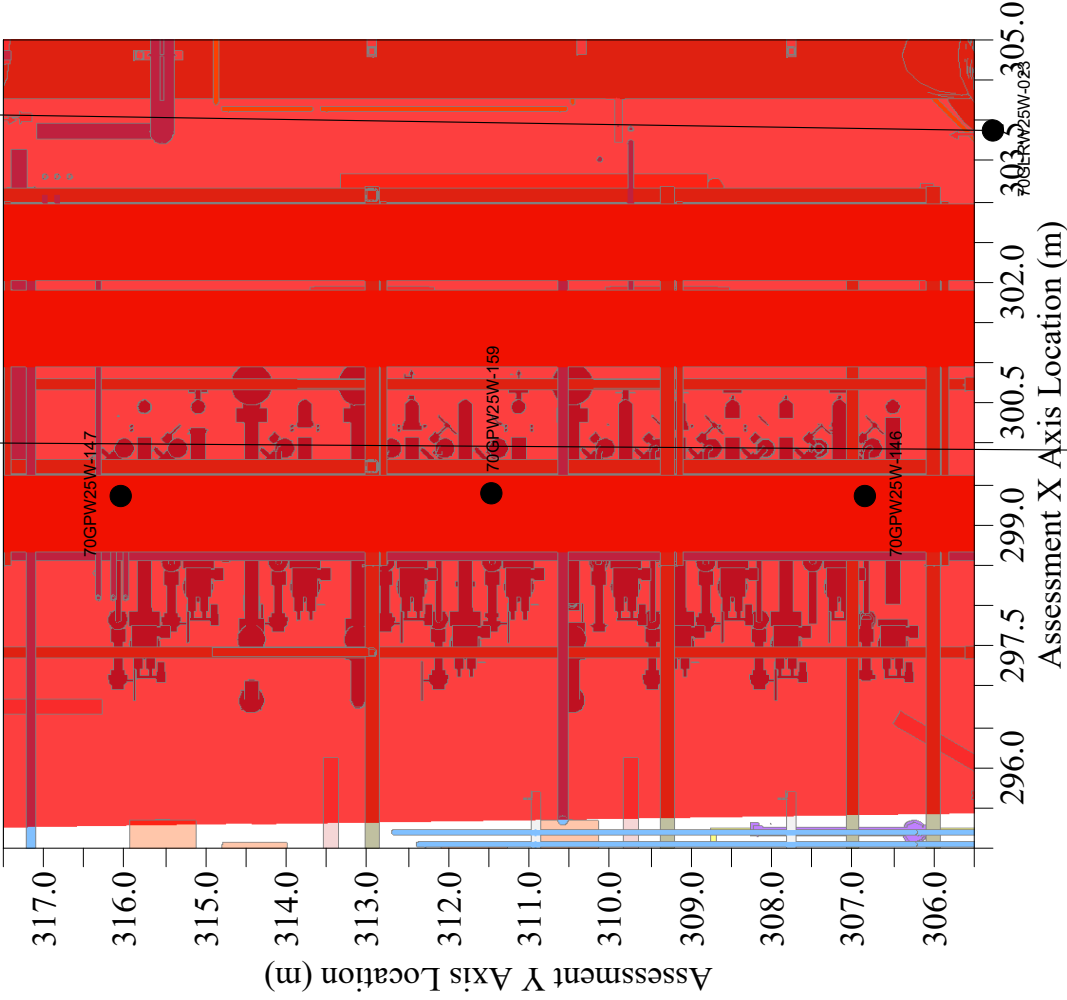
Assessment performed using 15 slices from 31.50 m to 38.00 m
Increment between 3D assessment slices: 0.46 m

ASSESSMENT SUMMARY

Assessment	Grade C/SG	Overall
Full control action	54%	54%
Some coverage	46%	46%

Project Name-Proposed Area W25W
70GDLRW25W-029

Graded Volume(s) Cross Section at representative Z (0.535 m ALD)



GRADE COLOURS

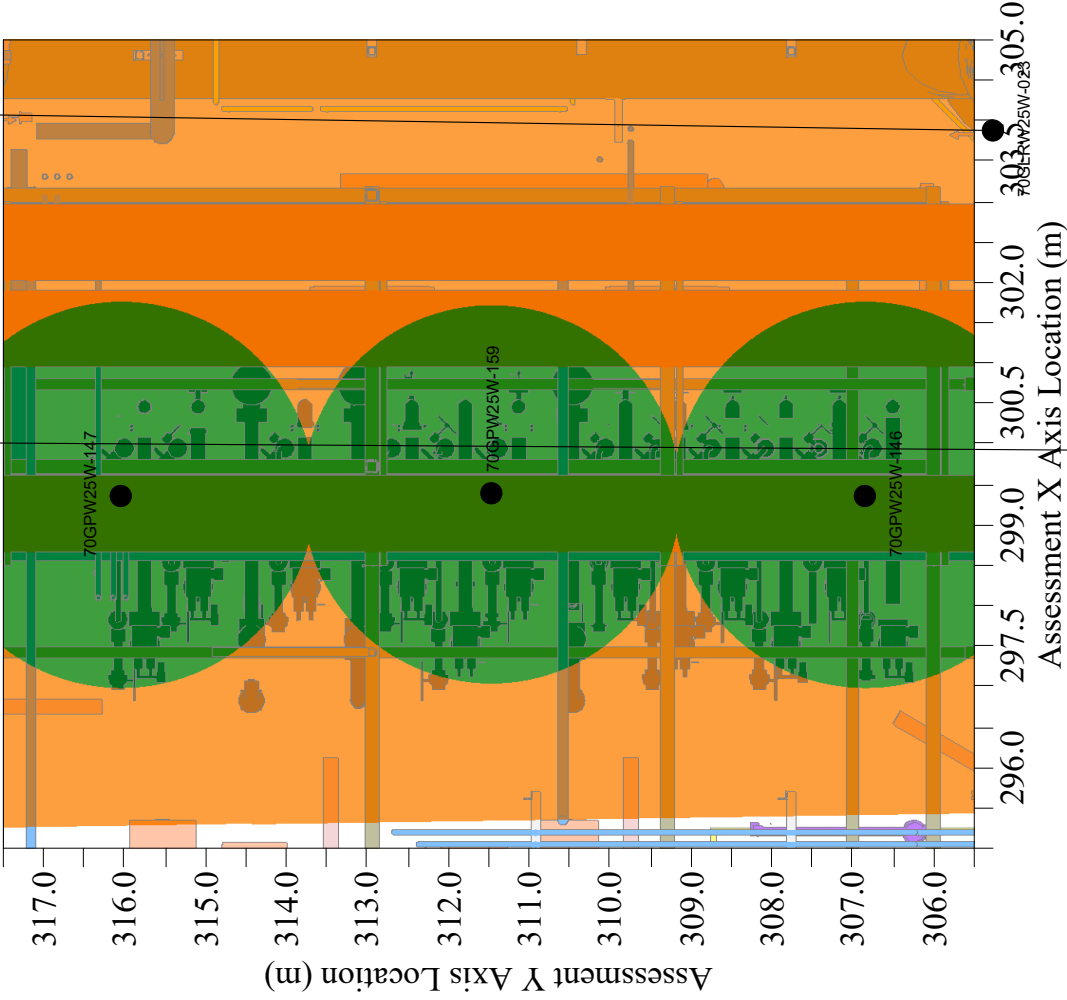
Grade C/SG
HiGas Diam 5.00m
LoGas Diam 15.00m
H+L

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W

70GBLRW25W-029

Gas Detector coverage at 0.537 m ALD



COVERAGE KEY

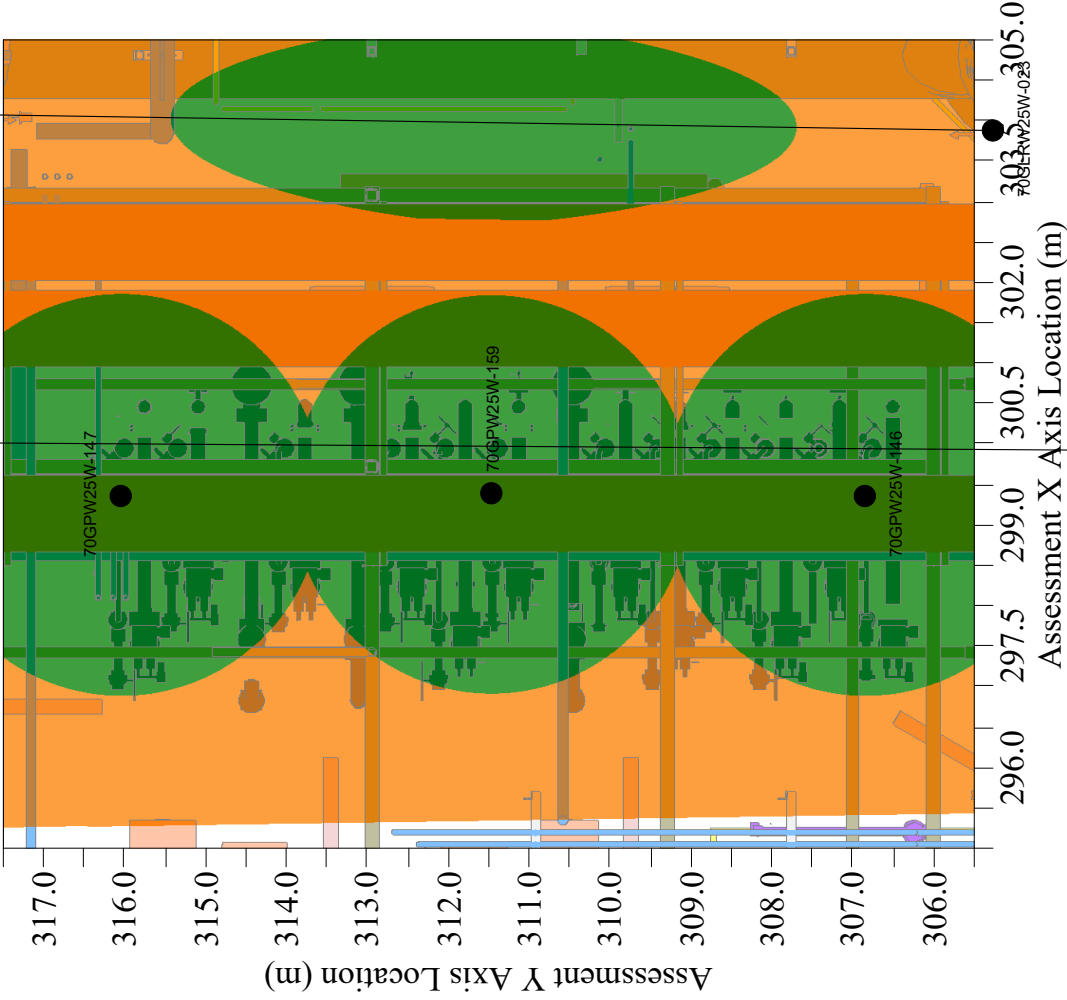
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 1.001 m ALD



COVERAGE KEY

Control Action

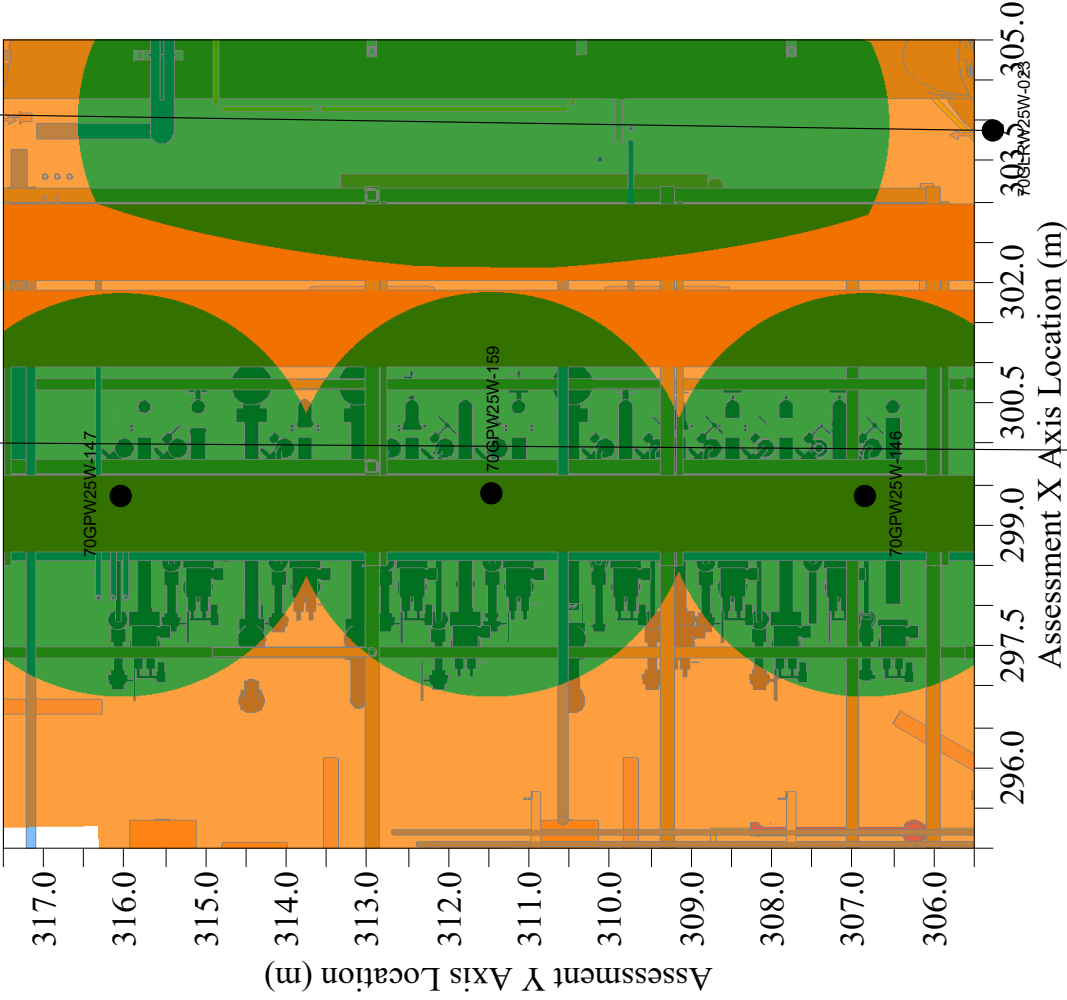
Alarm

Drawing Description		Platform/site	Project Name
Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W

70GDLRW25W-029

Gas Detector coverage at 1.466 m ALD



COVERAGE KEY

Control Action

Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25W

Project Name-Proposed Area W25W

Platform/site

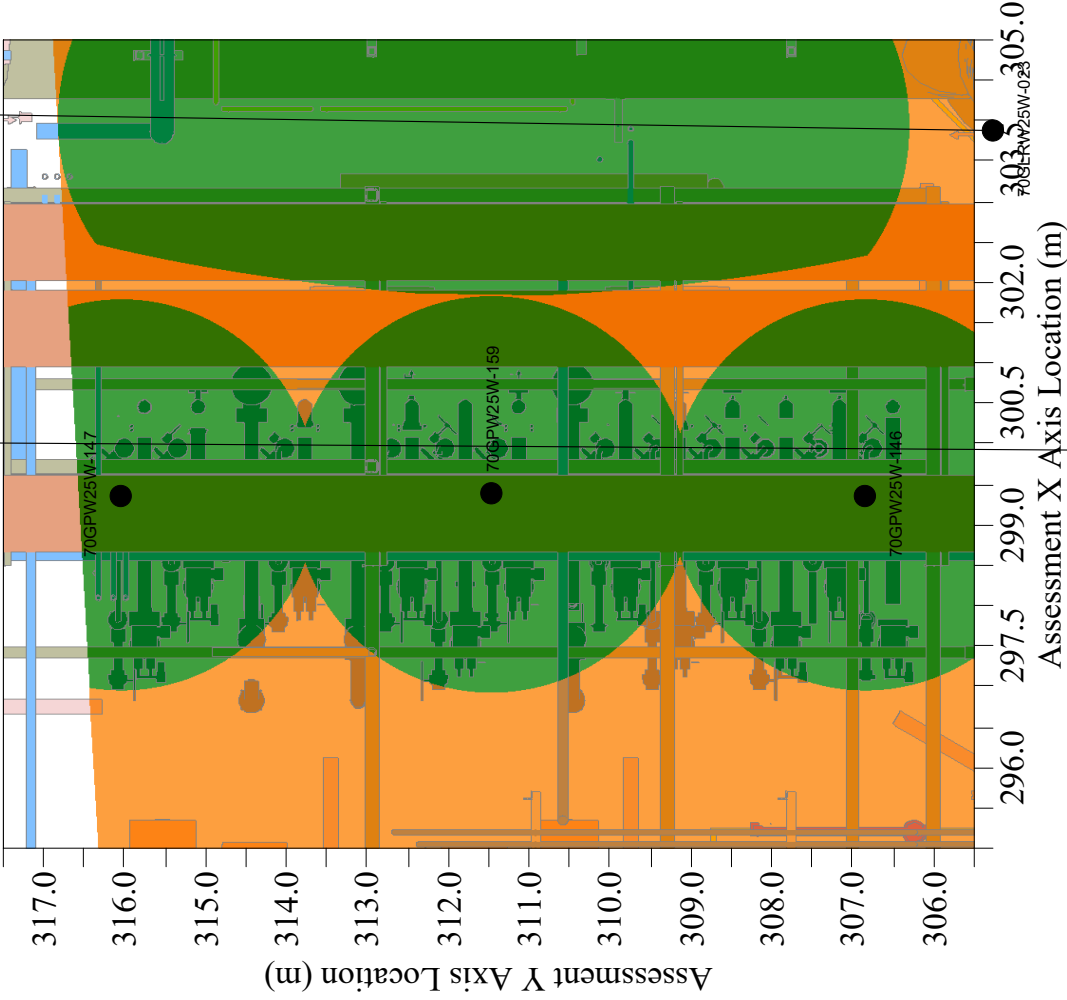
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 1.930 m ALD



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25W

Project Name-Proposed Area W25W

Platform/site

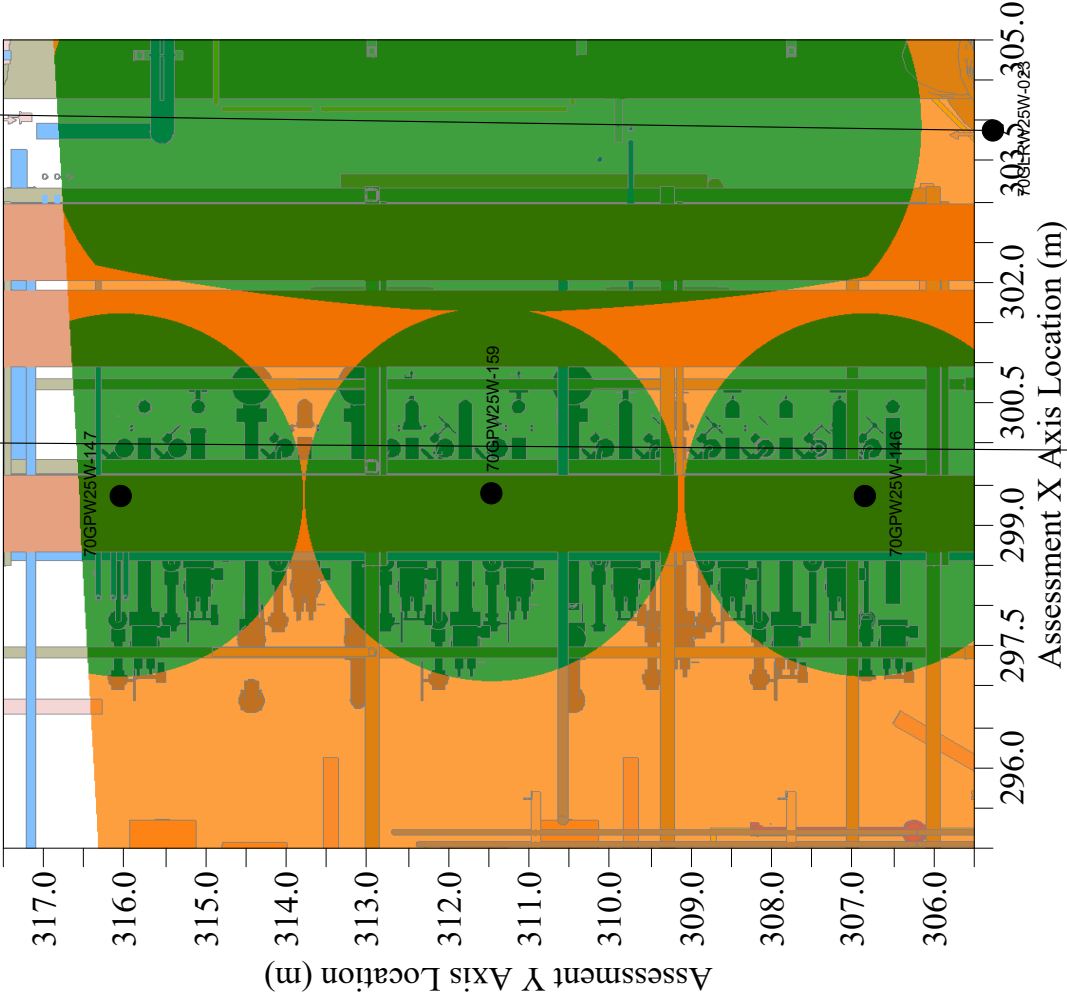
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 2.394 m ALD



COVERAGE KEY

Control Action

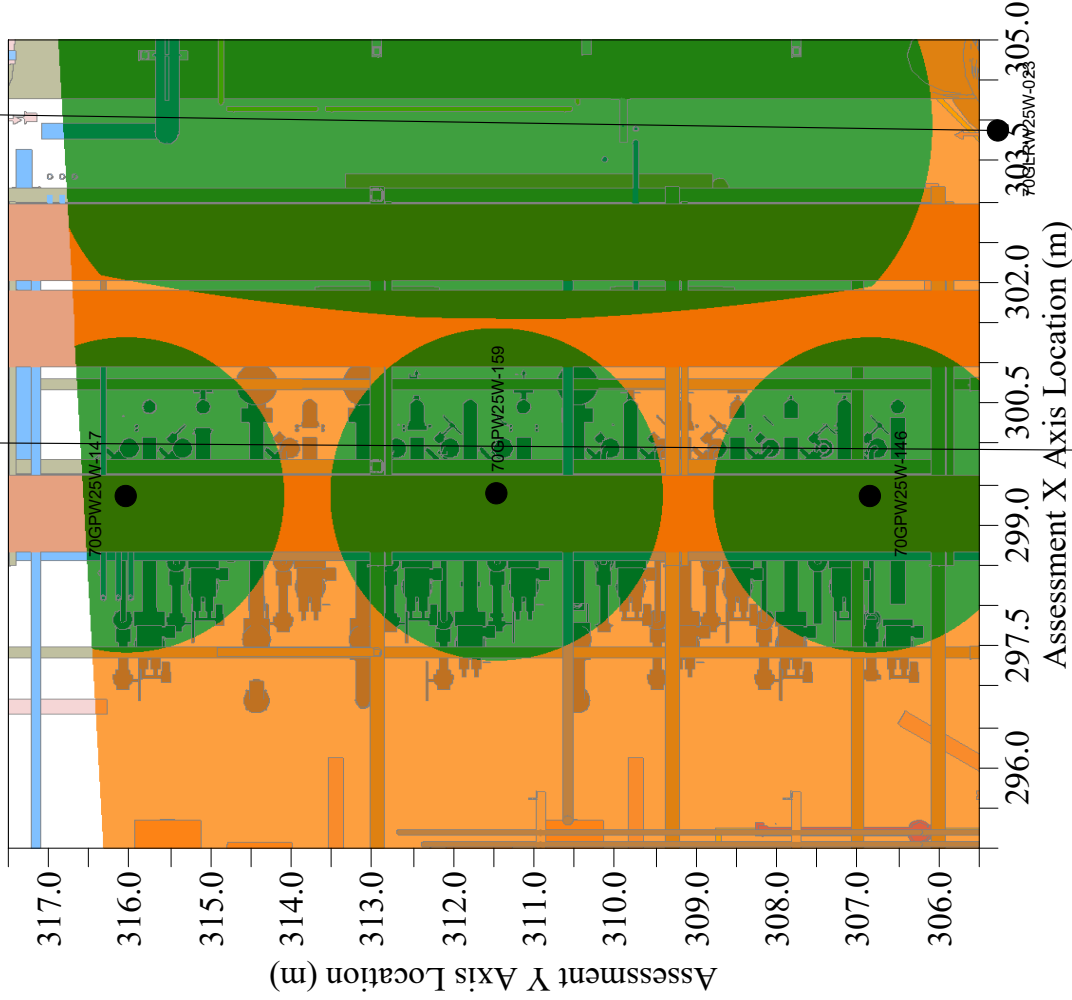
Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W

706DLRW25W-029

Gas Detector coverage at 2.858 m ALD



COVERAGE KEY

Control Action

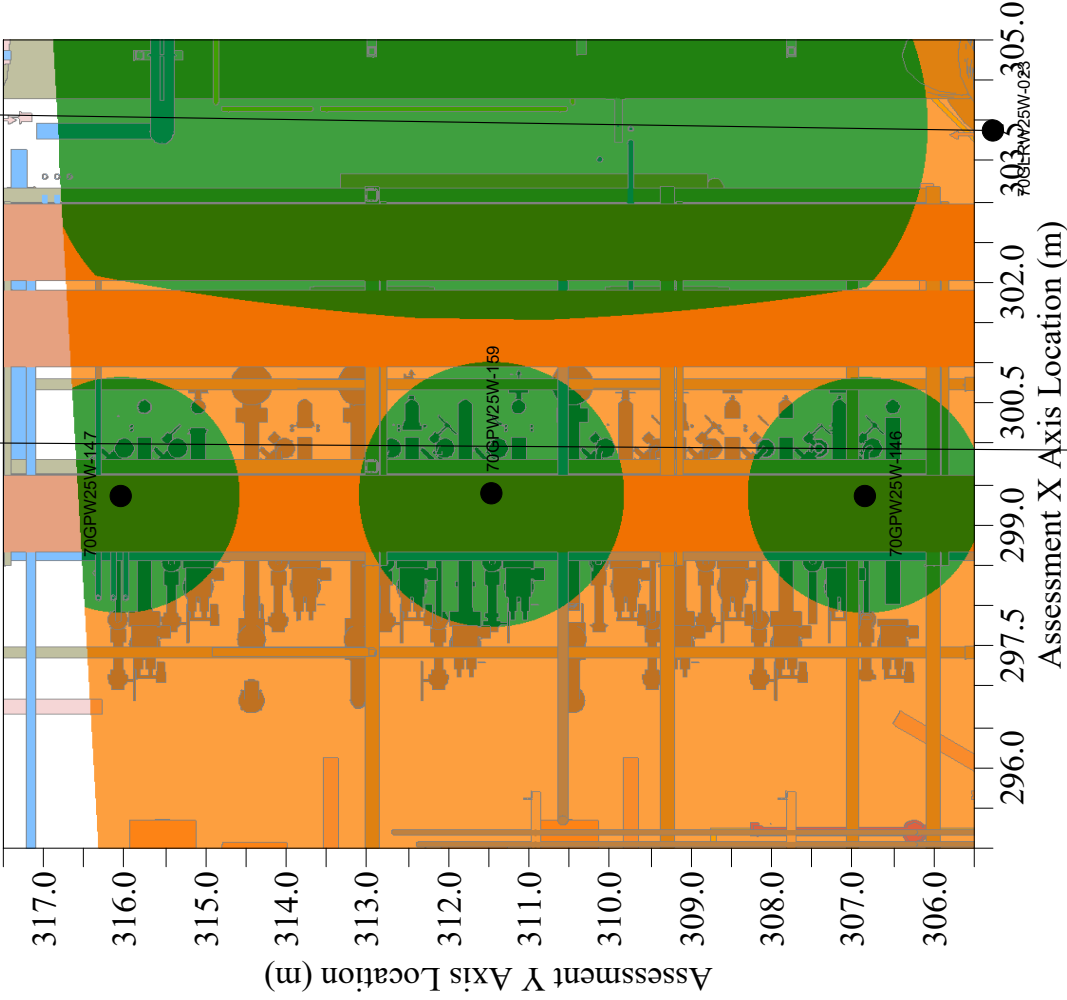
Alarm

Drawing Description		Platform/site	Project Name
Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W

706DLRW25W-029

Gas Detector coverage at 3.323 m ALD



COVERAGE KEY

Control Action

Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25W

Project Name-Proposed Area W25W

Platform/site

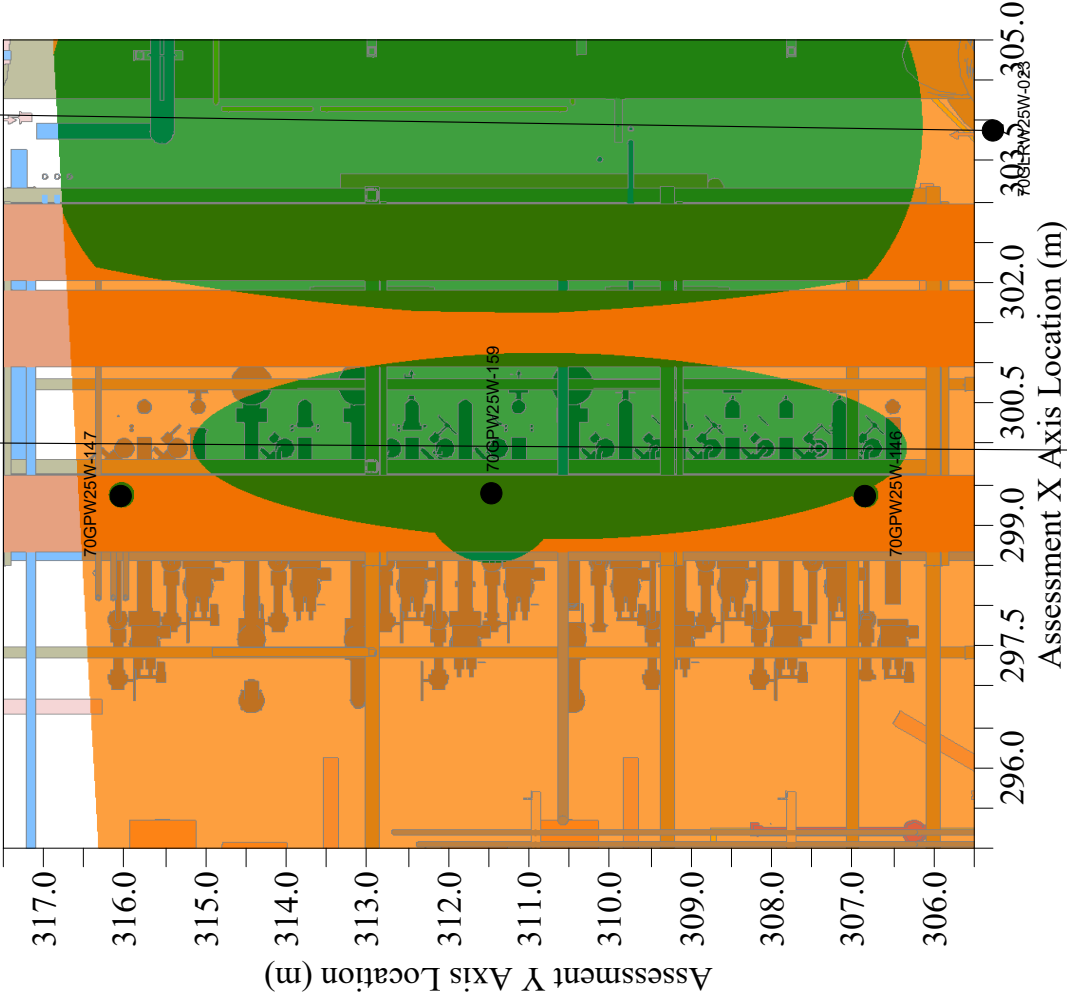
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 3.787 m ALD



COVERAGE KEY

Control Action

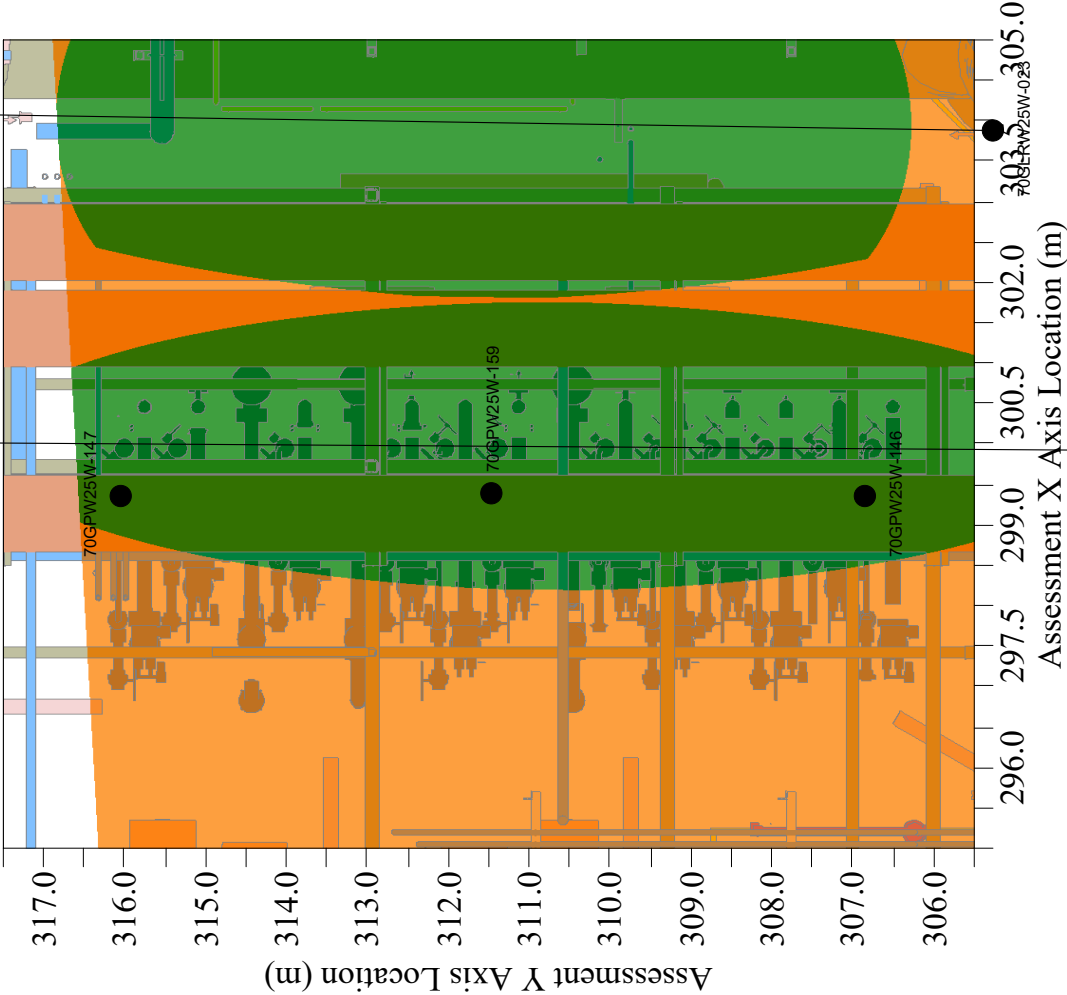
Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

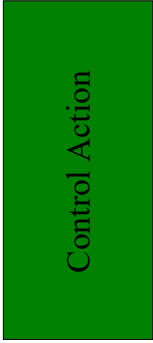
Project Name-Proposed Area W25W

70GDLRW25W-029

Gas Detector coverage at 4.251 m ALD



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25W

Project Name-Proposed Area W25W

Platform/site

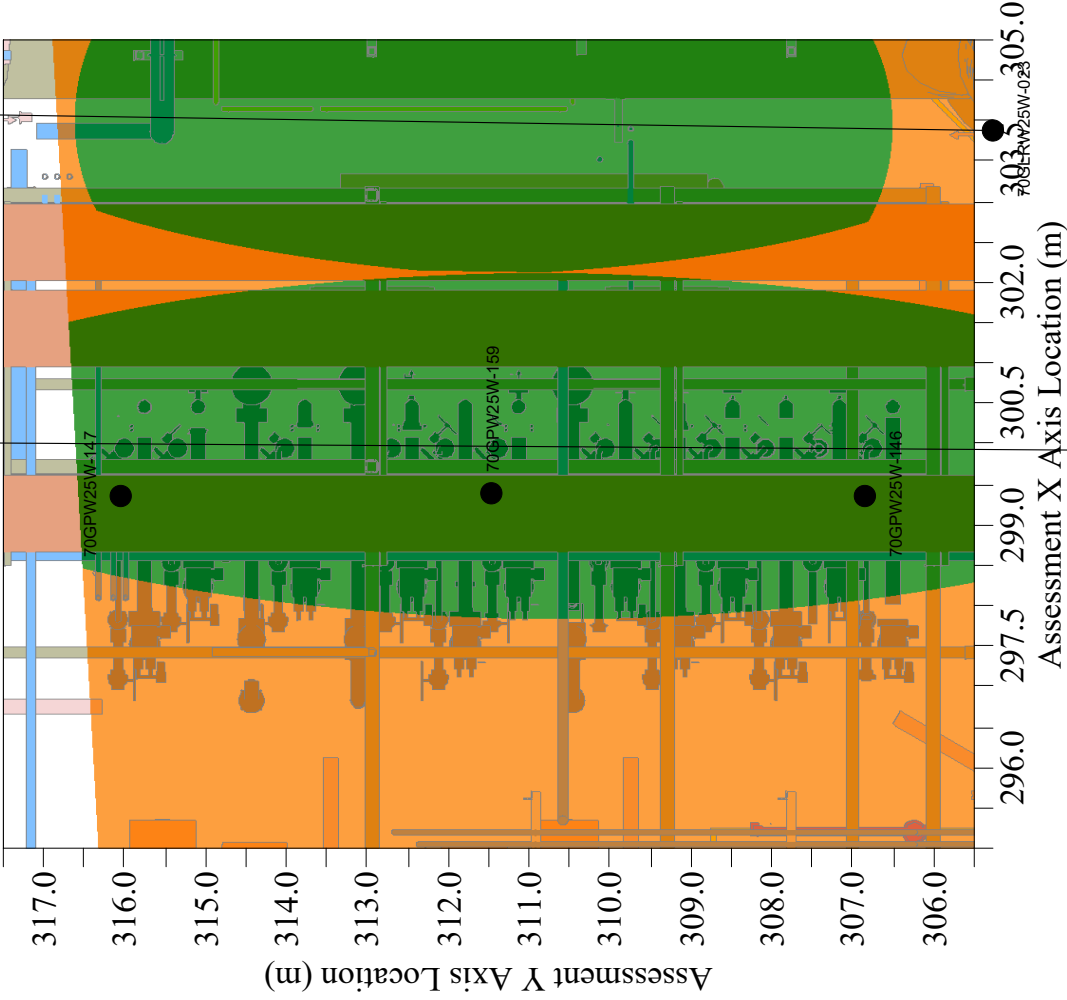
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 4.716 m ALD



COVERAGE KEY

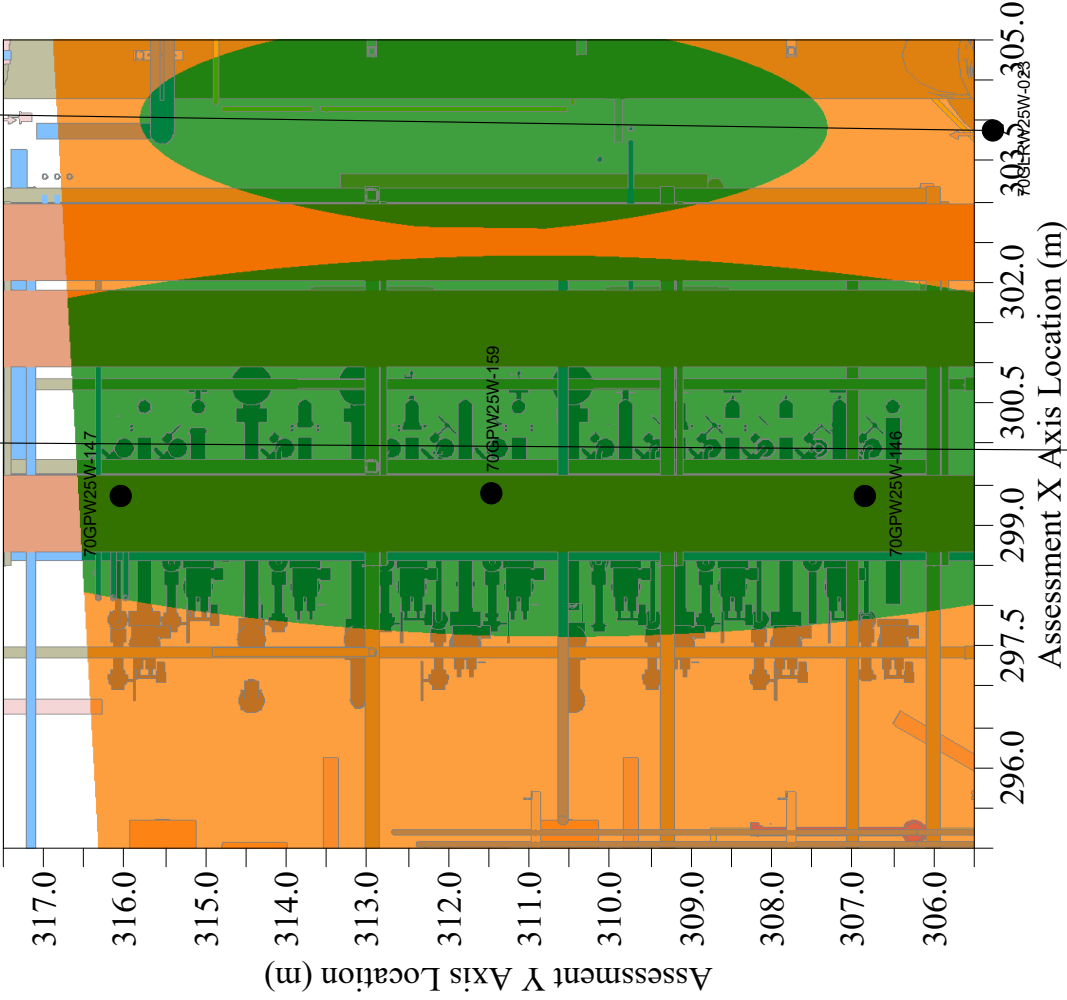
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 5.180 m ALD



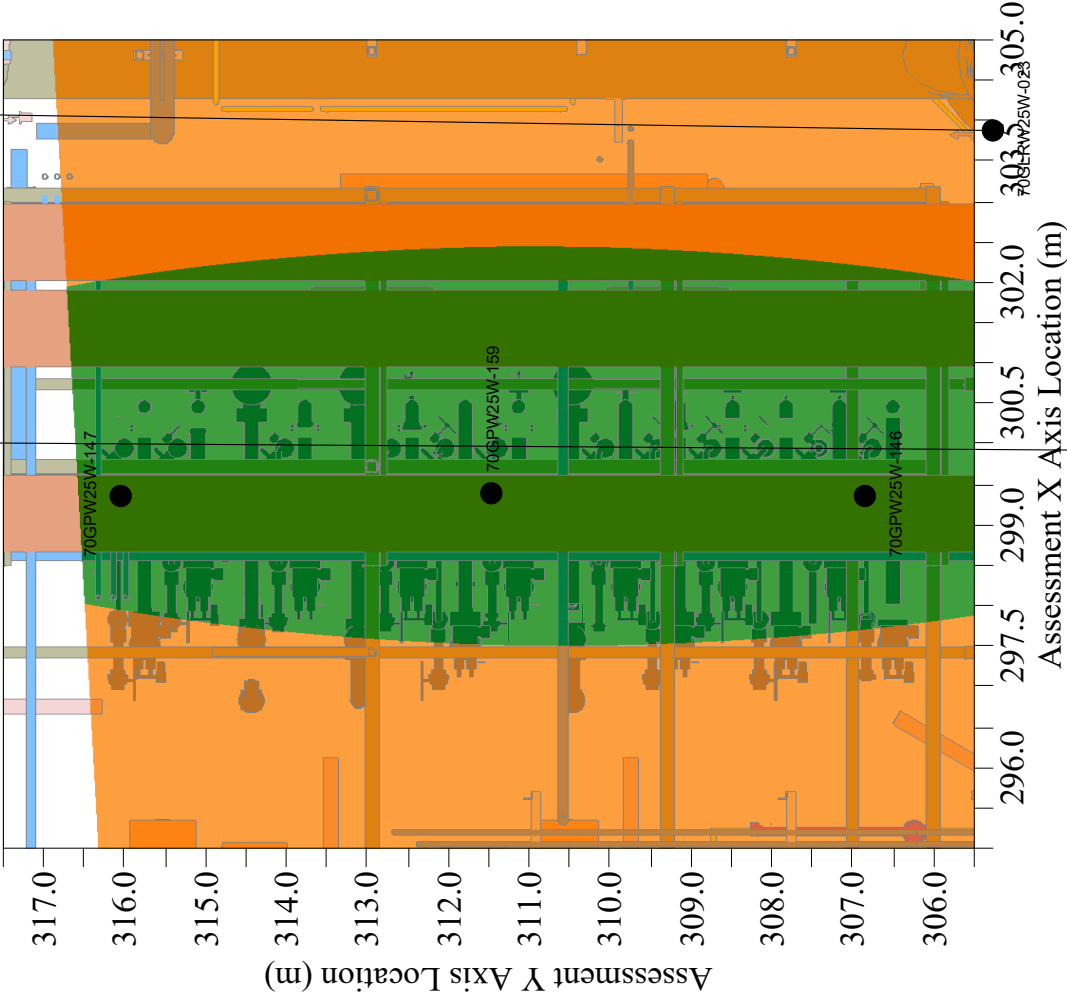
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 5.644 m ALD



COVERAGE KEY

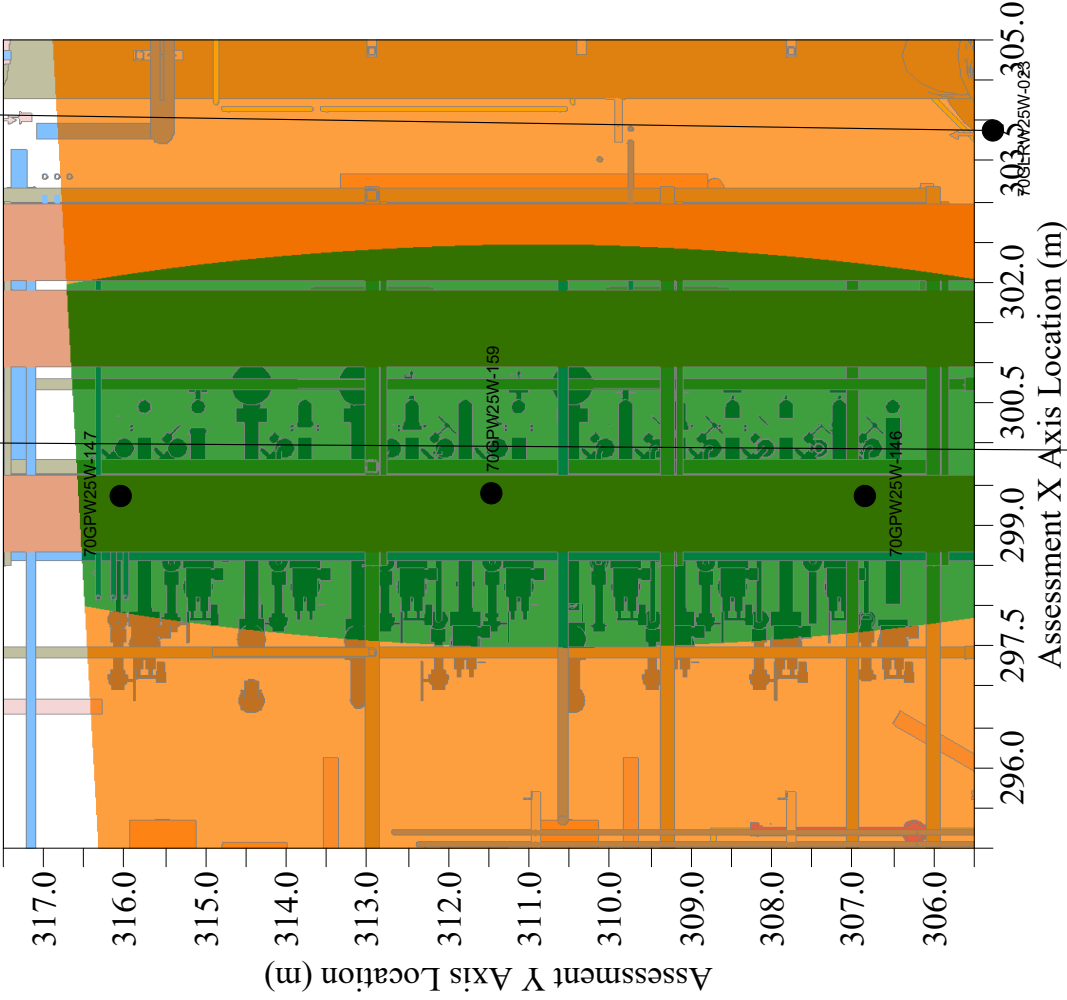
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 6.108 m ALD



COVERAGE KEY

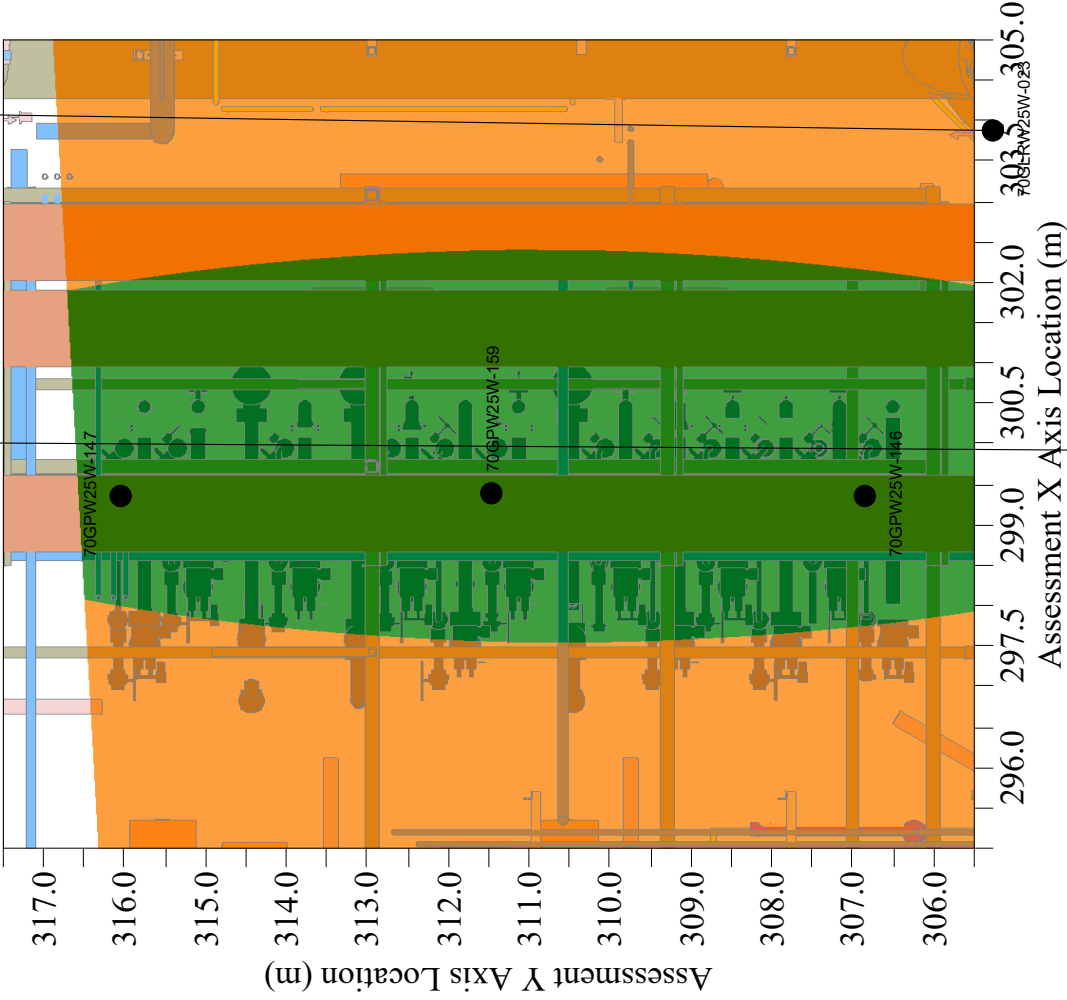
Control Action

Alarm

Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Area W25W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Area W25W			

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 6.573 m ALD



COVERAGE KEY



Control Action



Alarm

Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25W

Project Name-Proposed Area W25W

Platform/site

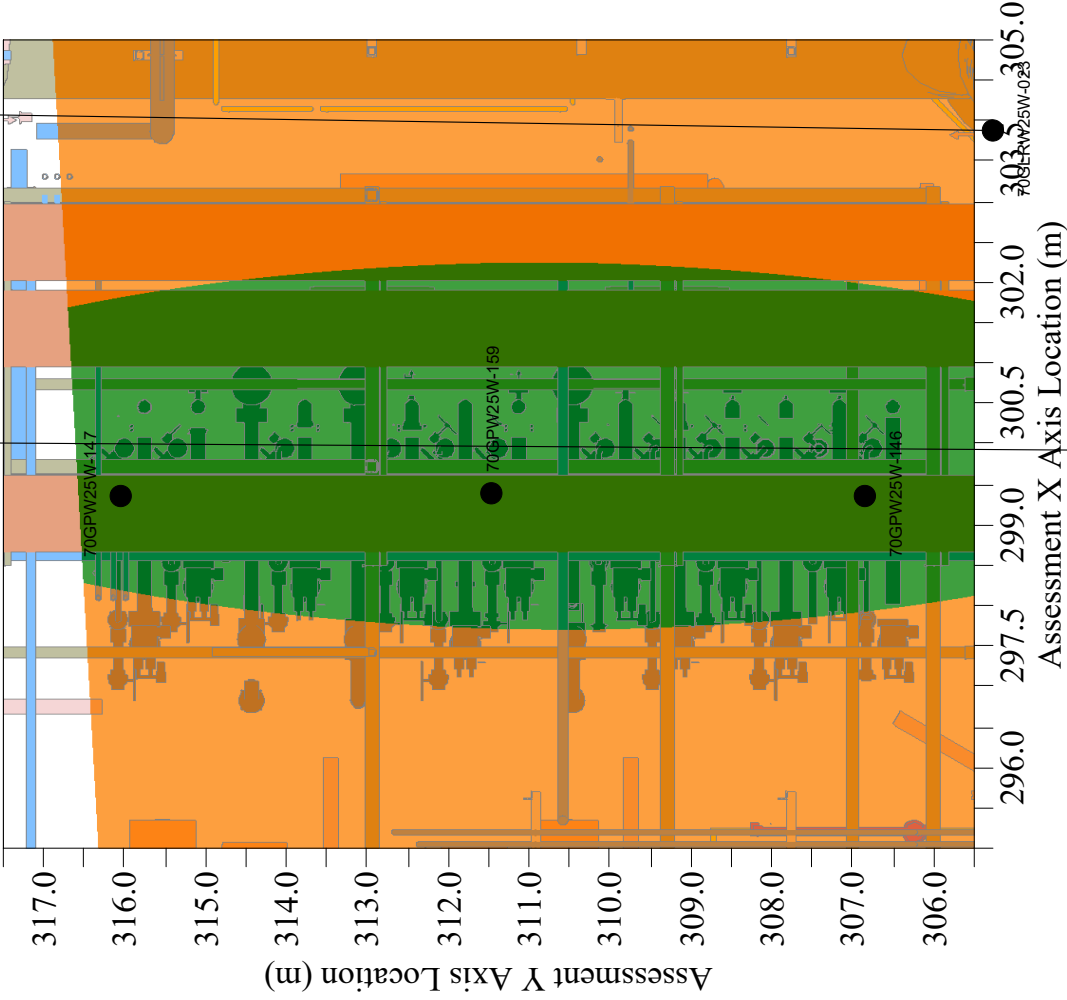
Drg category

Project Name

Assessment result (20-Jul-2018)

Project Name-Proposed Area W25W
70GDLRW25W-029

Gas Detector coverage at 7.037 m ALD



COVERAGE KEY



Company Name

Powered by Hazmap3D
www.micropack.co.uk

Drawing Description

Proposed Area W25W

Project Name-Proposed Area W25W

Platform/site

Drg category

Project Name

Assessment result (20-Jul-2018)



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:54



PROJECT INFORMATION

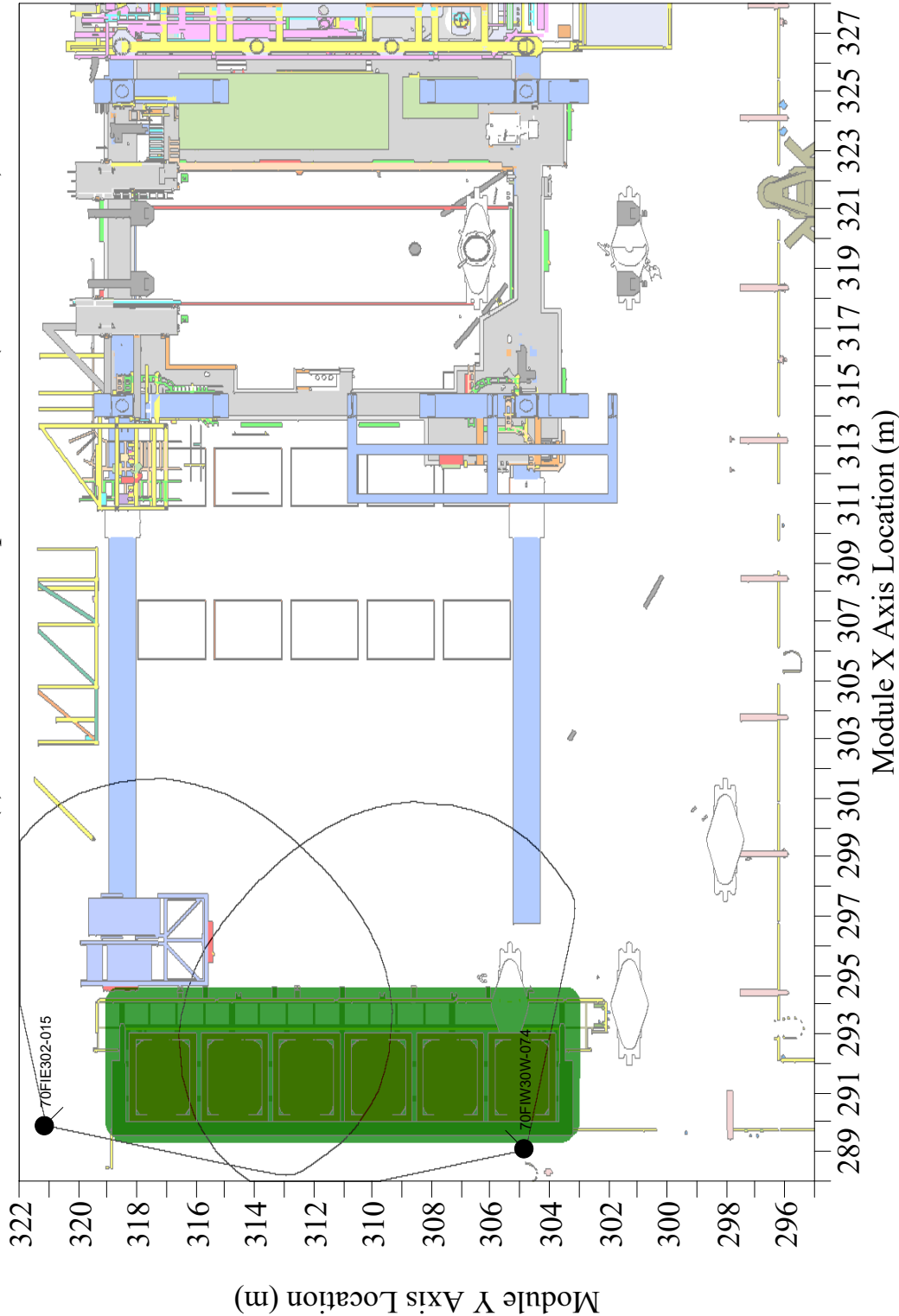
Project name: **Project Name**
Assessment title: **Fire Detection Area W30W**
Number of detectors: 2 (2 existing, 0 new, 0 relocated)
Overall coverage: 18% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

LR	4%	14%	82%
Totals	4%	14%	82%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (1.876 m ALD)

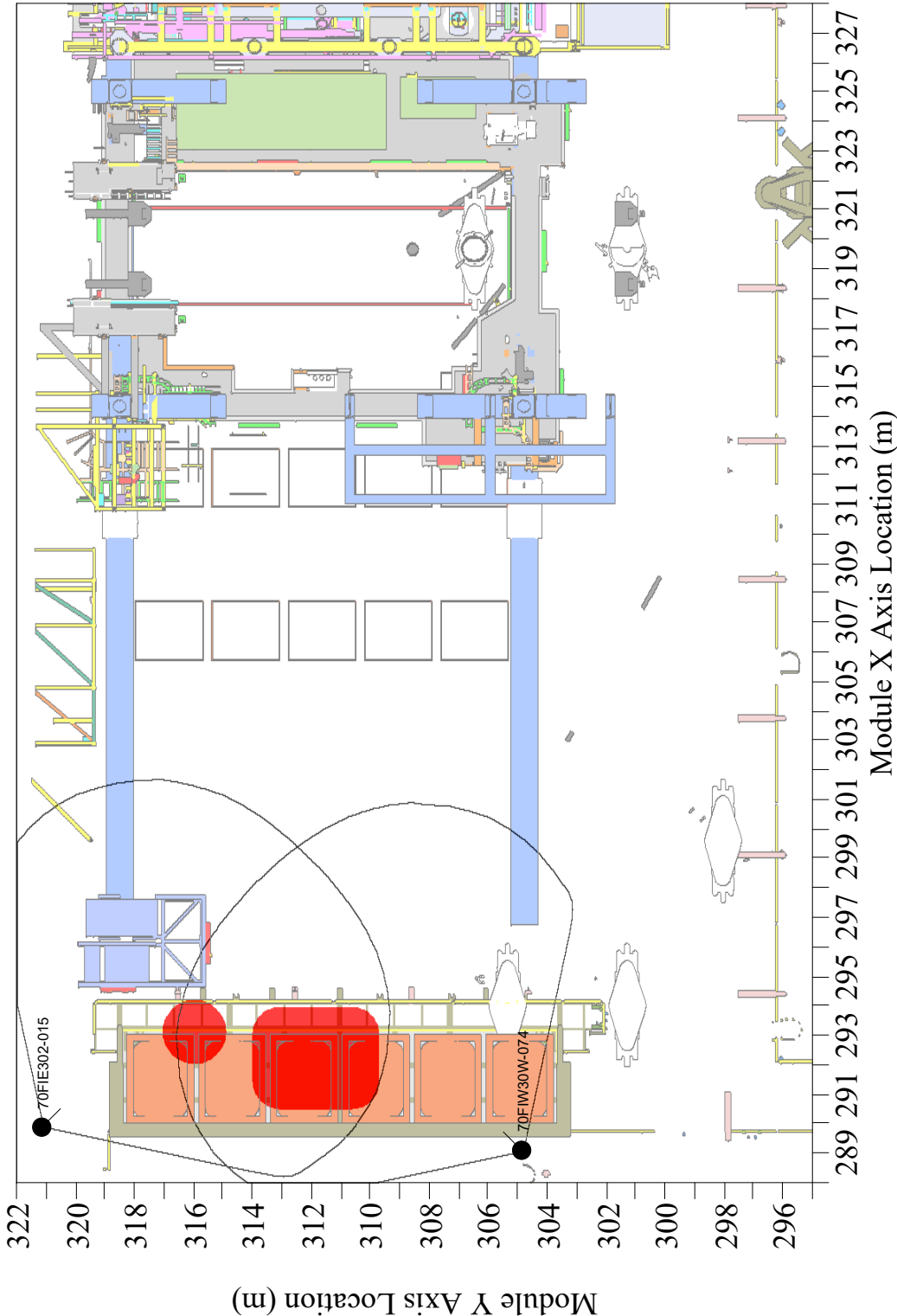
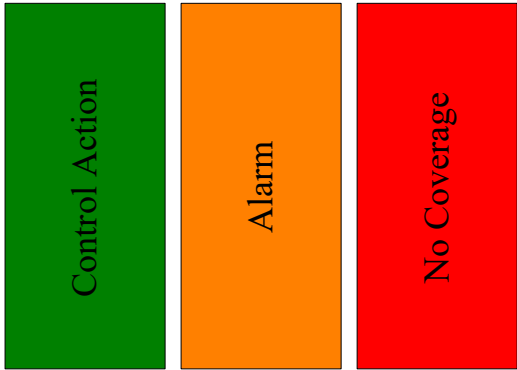


Company Name	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Dwg category	Grademap (20-Jul-2018)
	Project Name-Fire Detection Area W30W			
	Powered by Hazmap3D			
www.micropack.co.uk				

Project Name-Fire Detection Area W30W

Fire Detector coverage at 0.376 m ALD

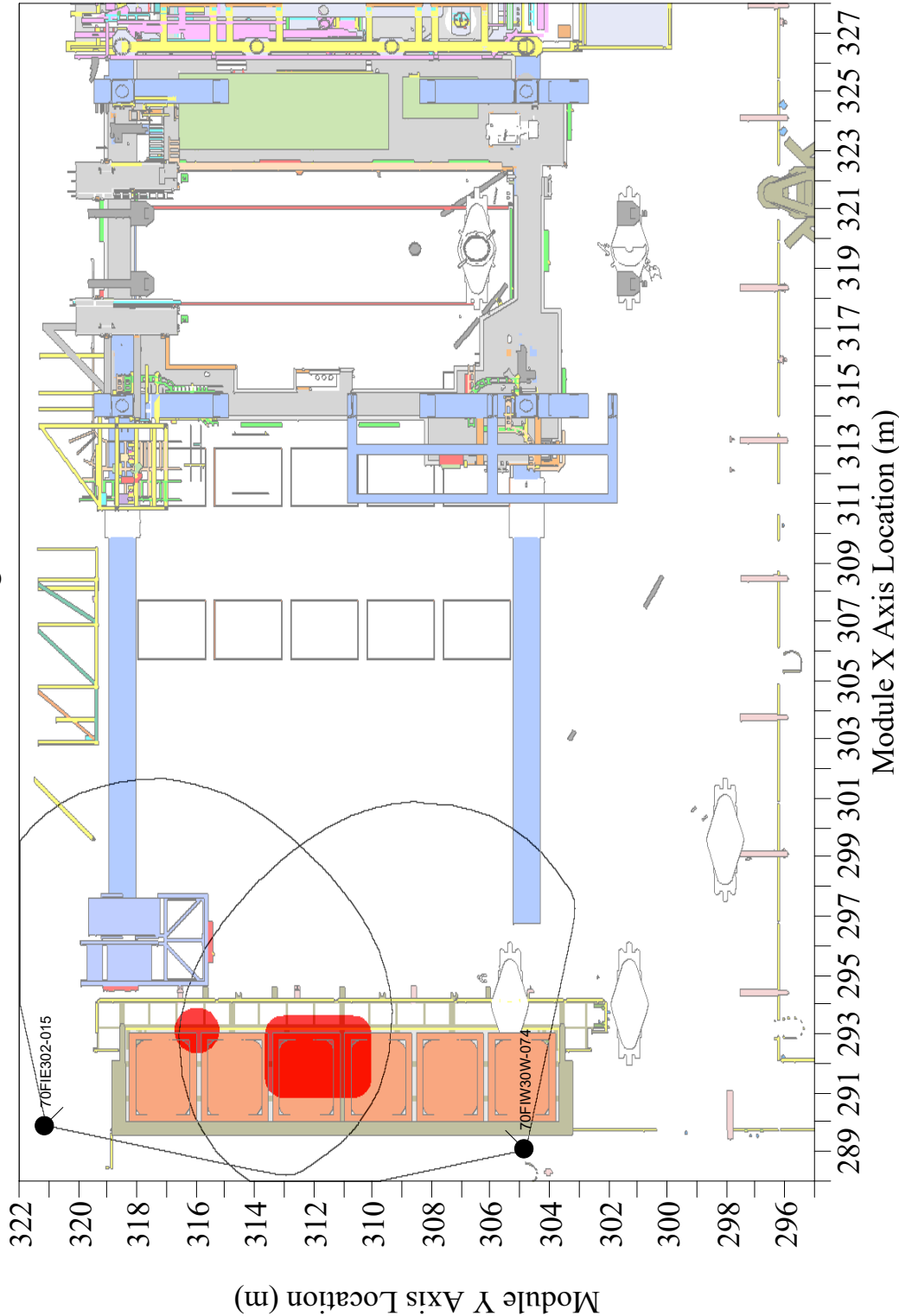
COVERAGE KEY



Company Name	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W30W			
Powered by Hazmap3D				
www.micropack.co.uk				

Project Name-Fire Detection Area W30W

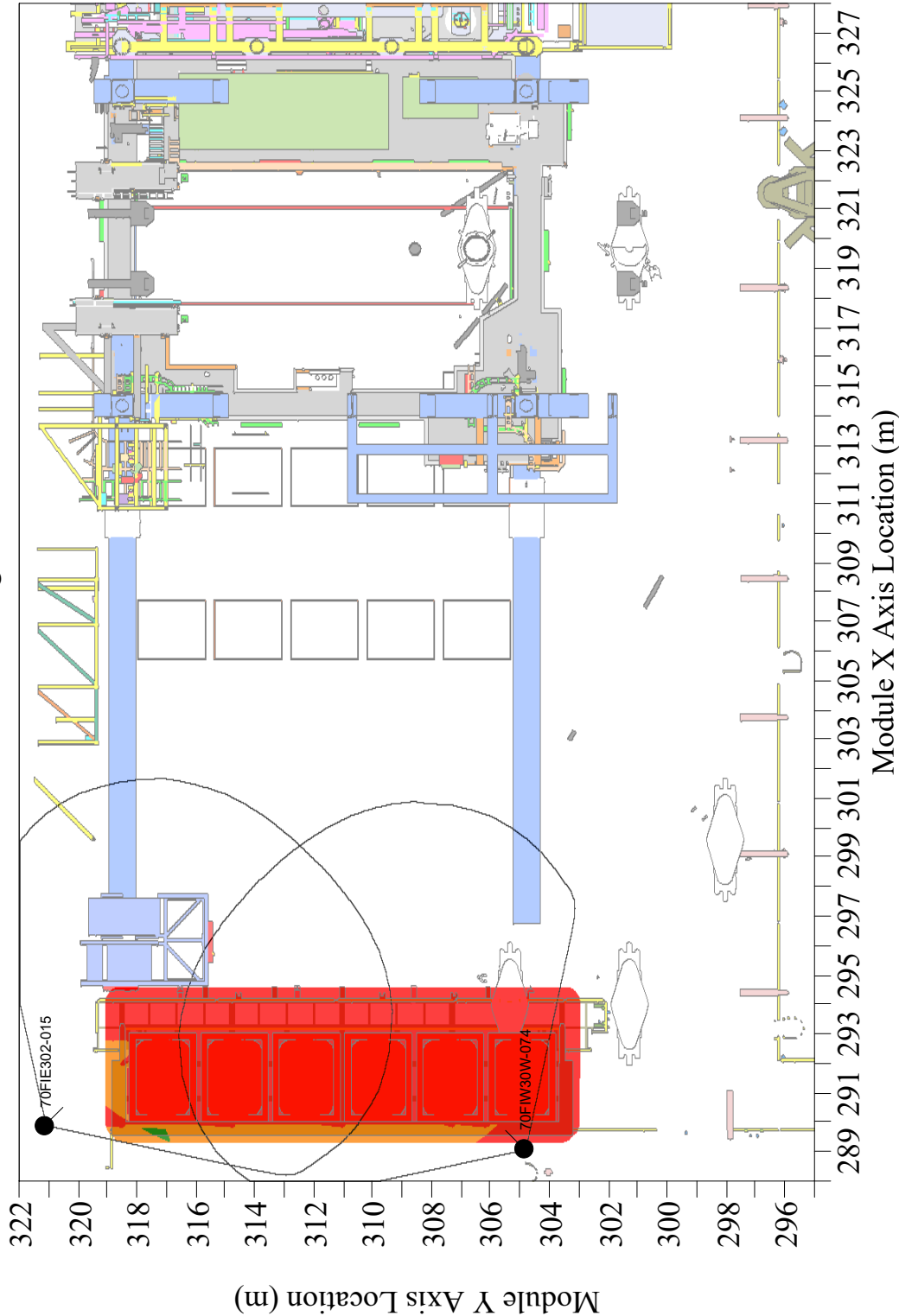
Fire Detector coverage at 0.876 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W30W			

Project Name-Fire Detection Area W30W

Fire Detector coverage at 1.876 m ALD

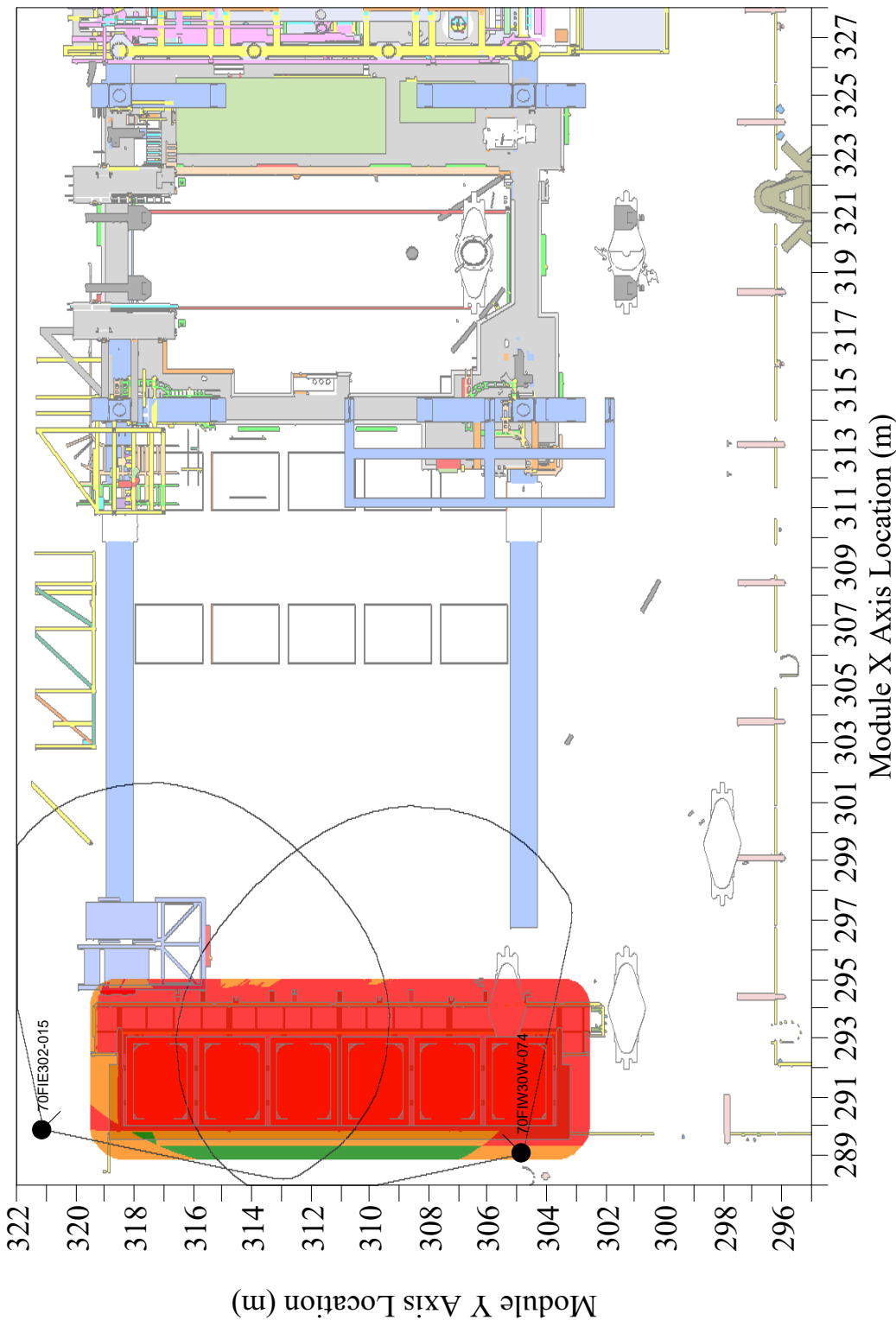
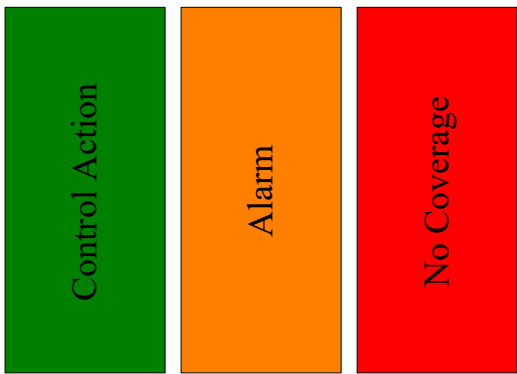


Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W30W			

Project Name-Fire Detection Area W30W

Fire Detector coverage at 2.376 m ALD

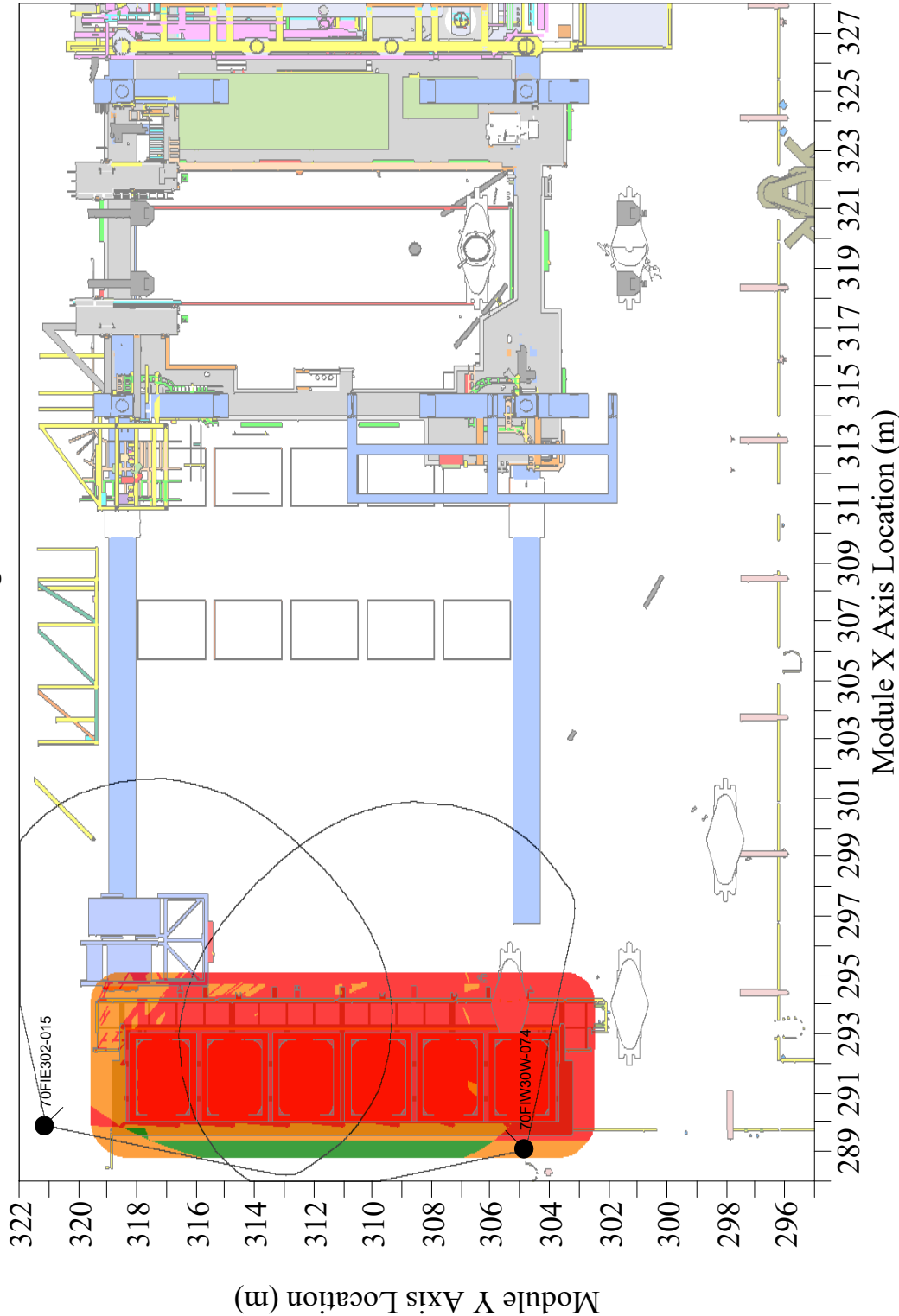
COVERAGE KEY



Company Name	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W30W			
	Powered by Hazmap3D www.micropack.co.uk			

Project Name-Fire Detection Area W30W

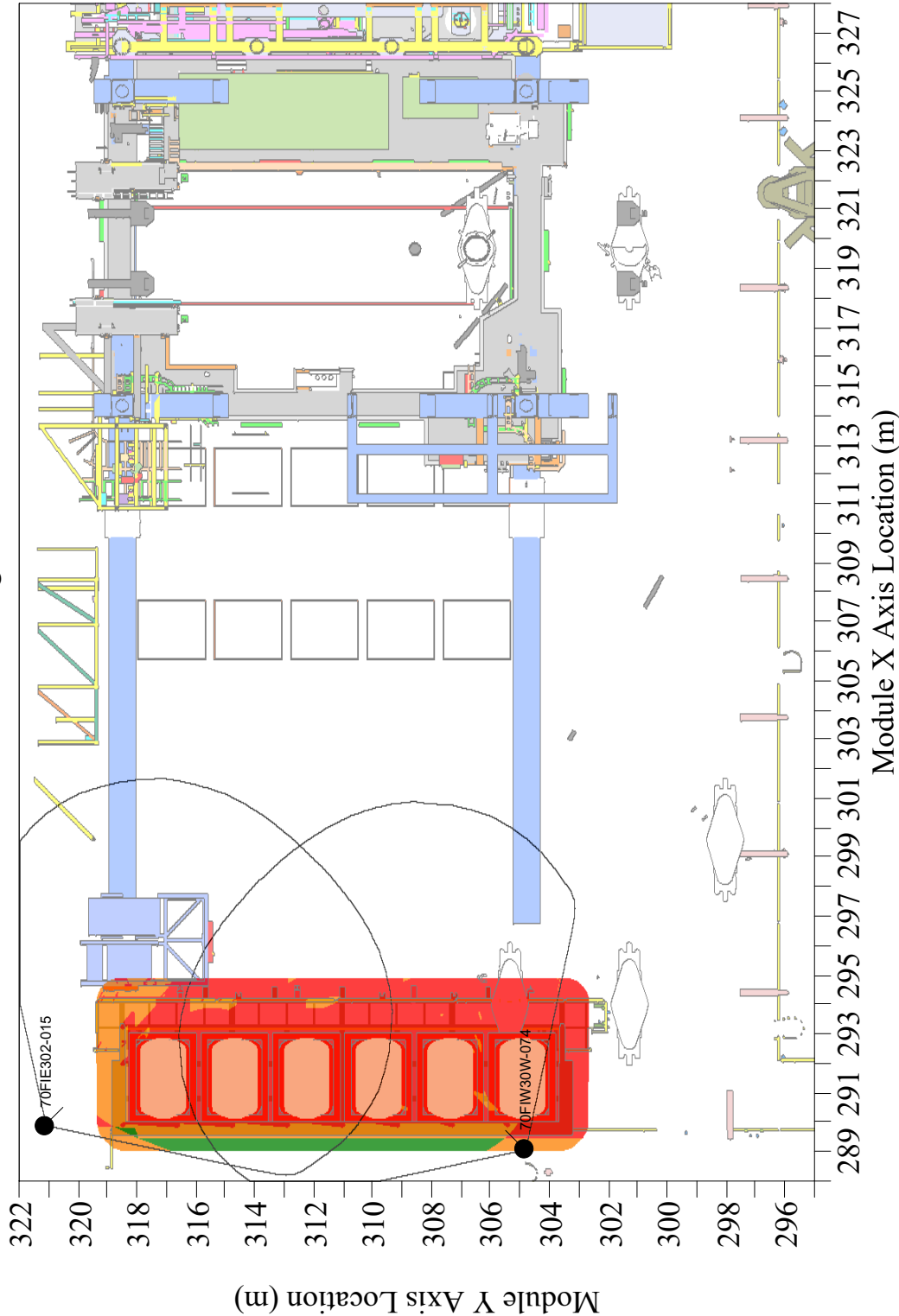
Fire Detector coverage at 2.876 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W30W			

Project Name-Fire Detection Area W30W

Fire Detector coverage at 3.376 m ALD



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Fire Detection Area W30W			



FLAME DETECTOR ASSESSMENT
Performed by HazMap3D v2.10
Assessed on 20-Jul-2018 at 10:55



PROJECT INFORMATION

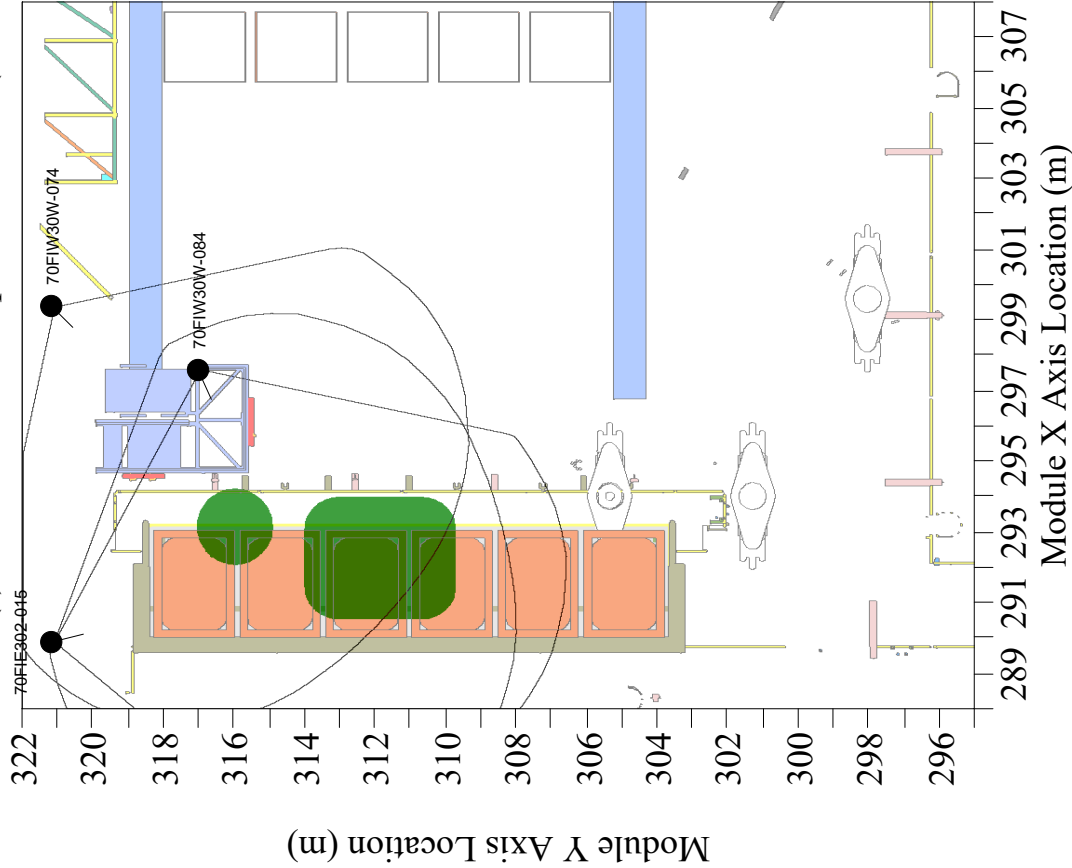
Project name: **Project Name**
Assessment title: **Proposed Fire Detection Area W30W**
Number of detectors: 3 (0 existing, 1 new, 2 relocated)
Overall coverage: 58% (% graded samples achieving alarm action or better)

COVERAGE SUMMARY

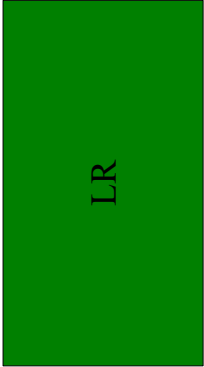
LR	13%	45%	42%
Totals	13%	45%	42%

GRADEMAP

Graded Volume(s) Cross Section at representative Z (0.376 m ALD)



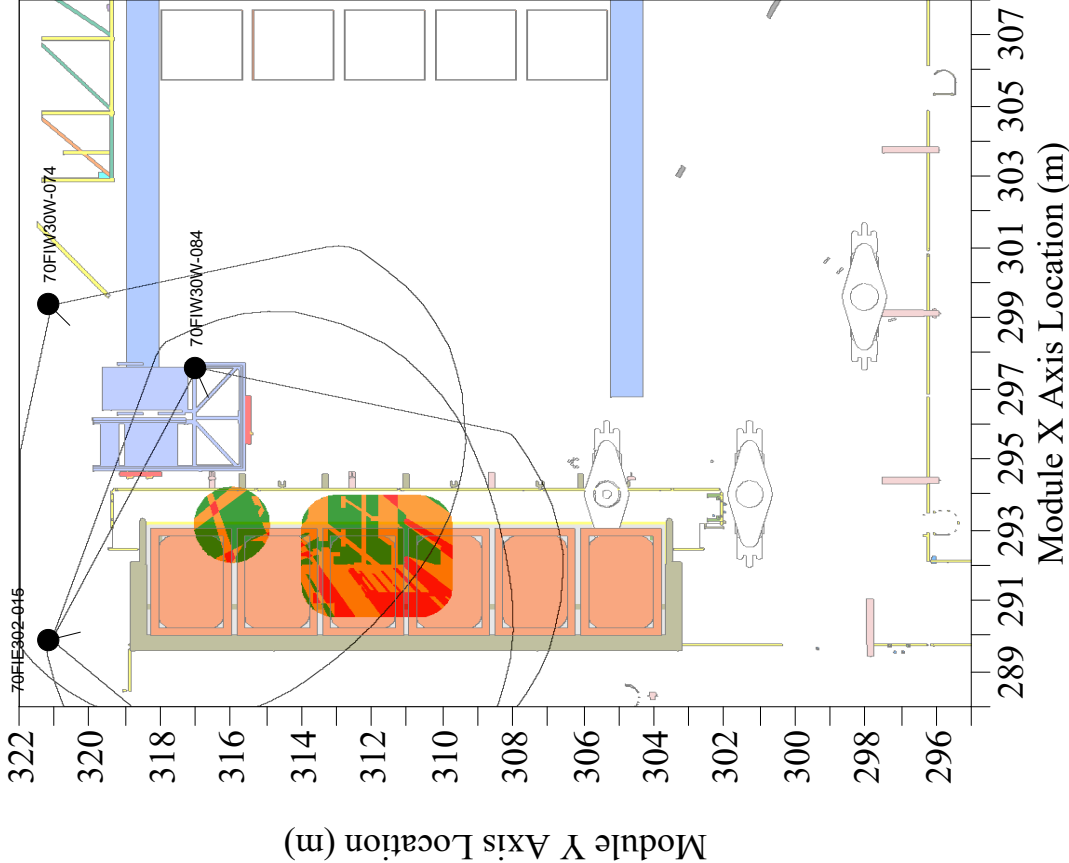
GRADE COLOURS



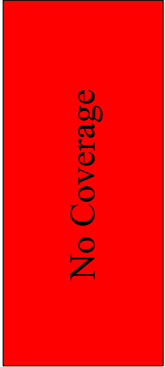
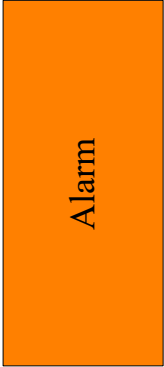
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Grademap (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			

Project Name-Proposed Fire Detection Area W30W

Fire Detector coverage at 0.376 m ALD



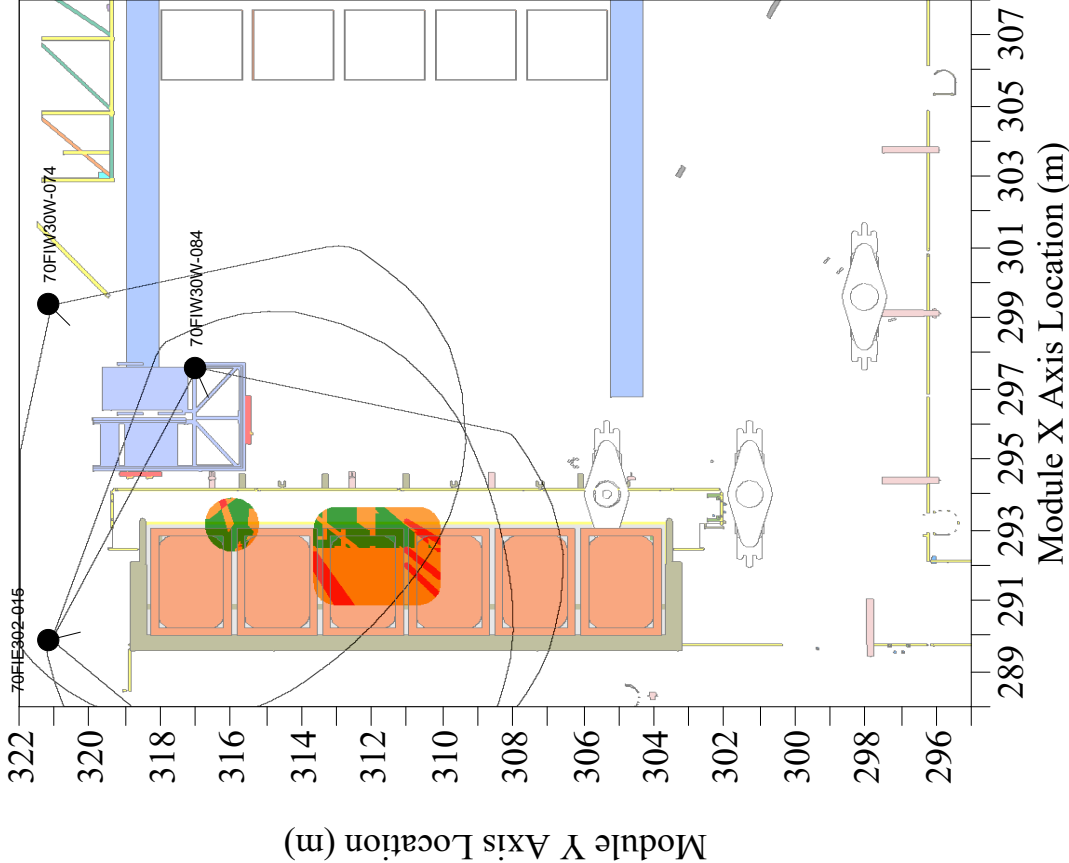
COVERAGE KEY



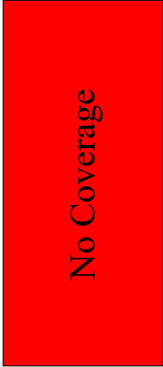
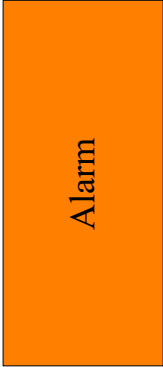
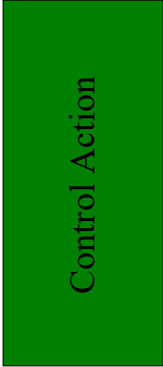
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			

Project Name-Proposed Fire Detection Area W30W

Fire Detector coverage at 0.876 m ALD



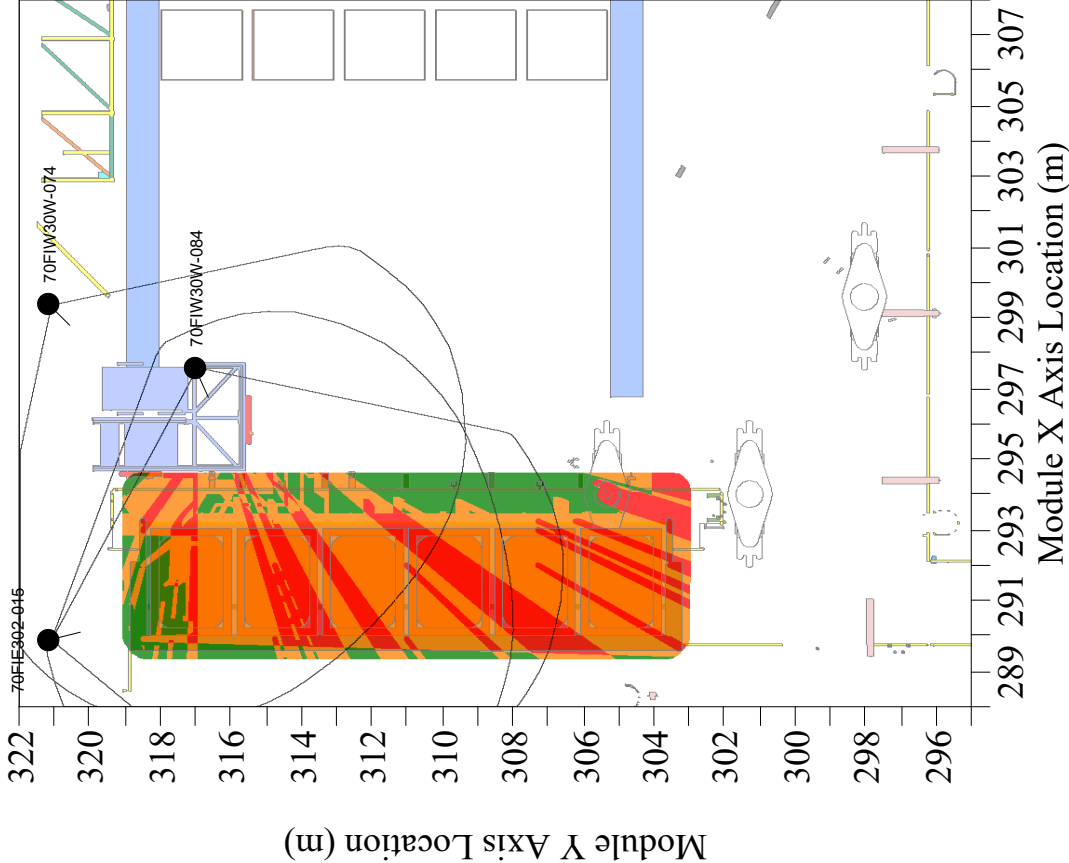
COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			

Project Name-Proposed Fire Detection Area W30W

Fire Detector coverage at 1.876 m ALD



COVERAGE KEY

Control Action

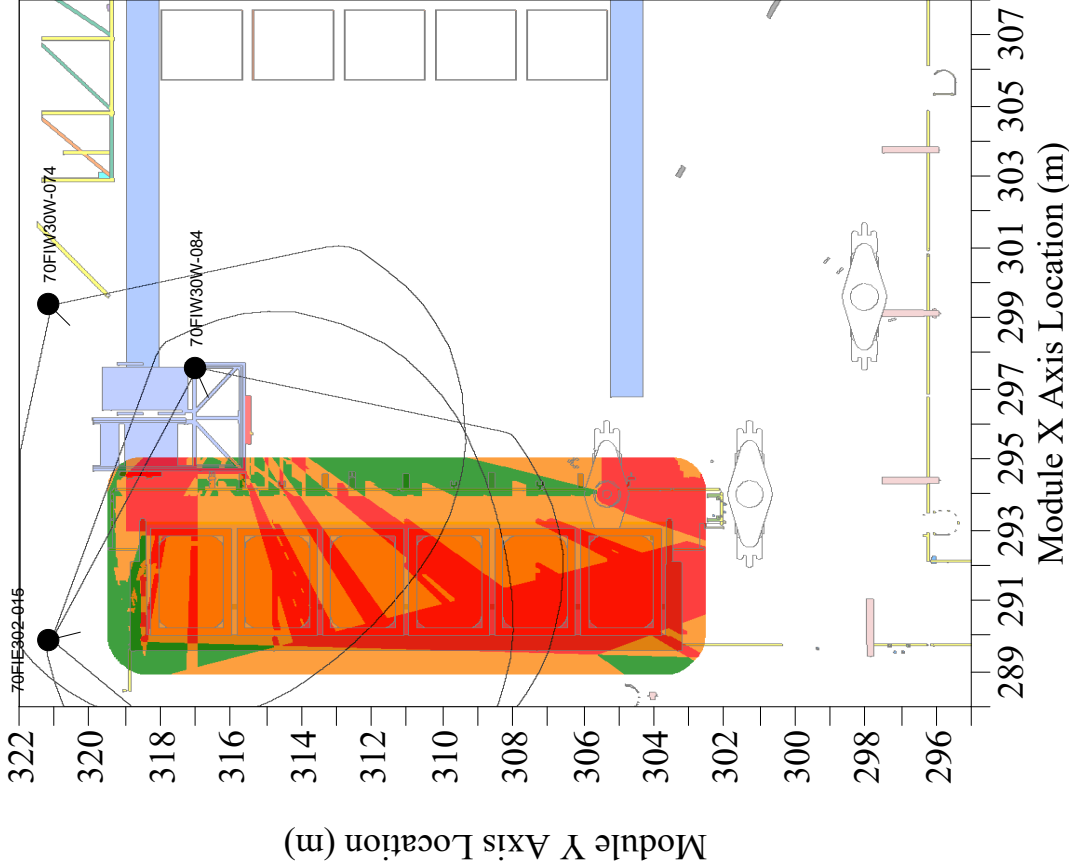
Alarm

No Coverage

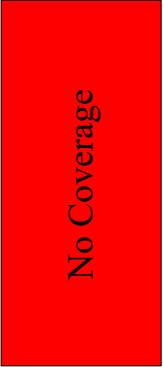
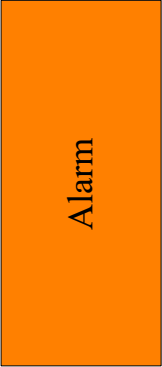
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			

Project Name-Proposed Fire Detection Area W30W

Fire Detector coverage at 2.376 m ALD



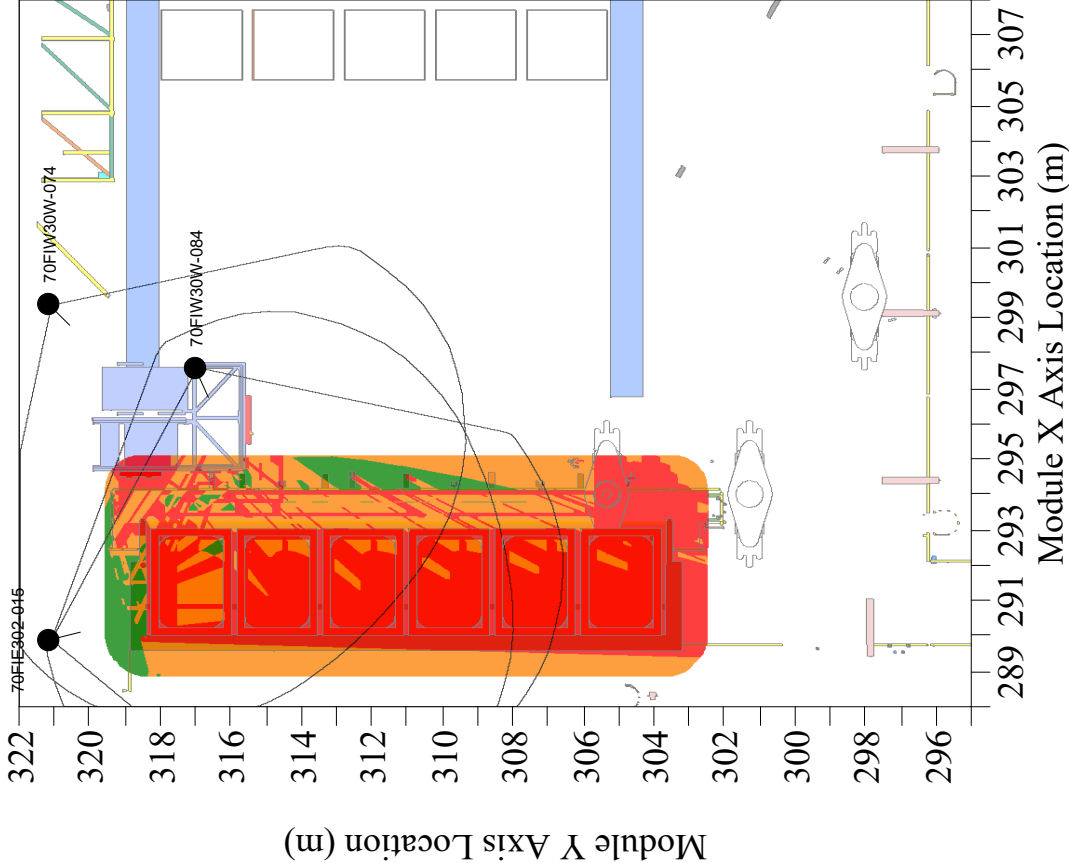
COVERAGE KEY



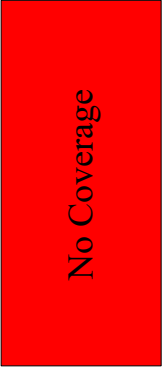
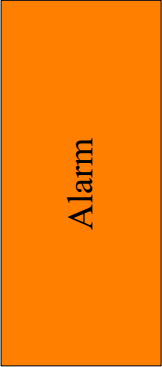
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			

Project Name-Proposed Fire Detection Area W30W

Fire Detector coverage at 2.876 m ALD



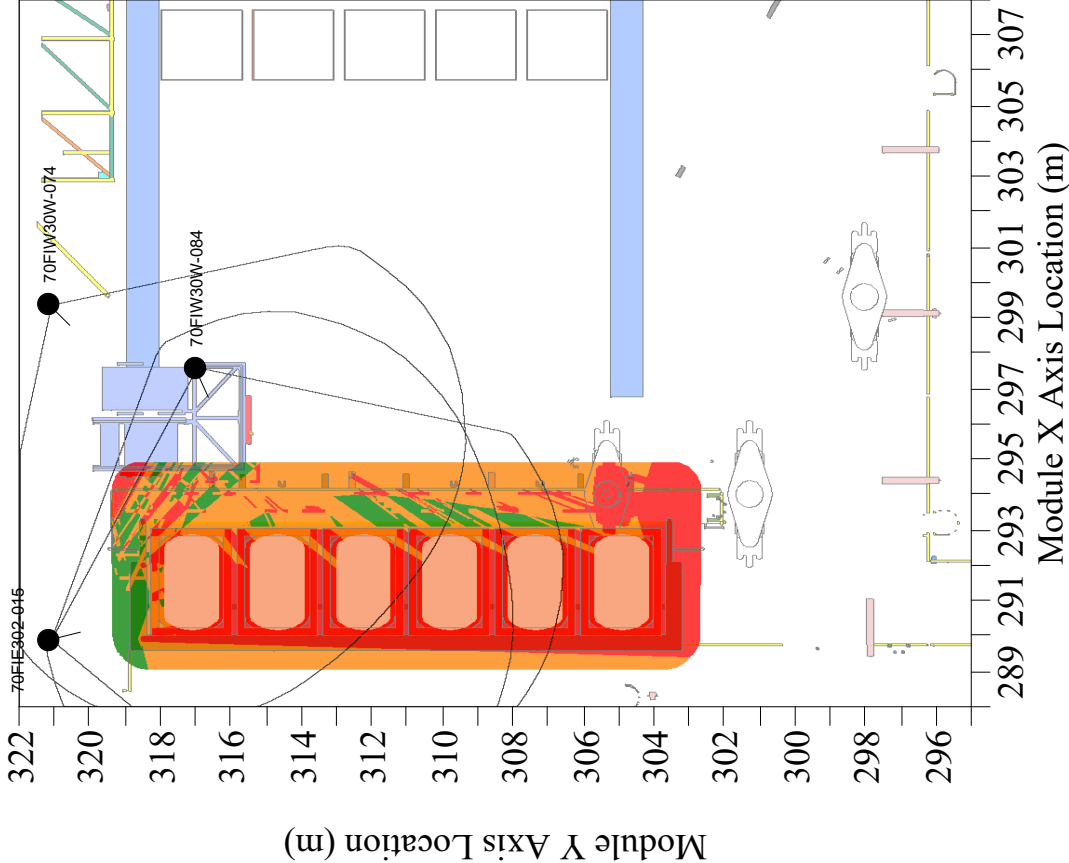
COVERAGE KEY



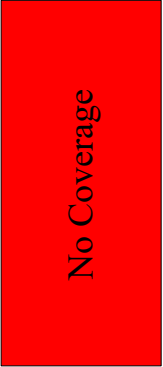
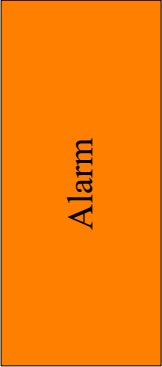
Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			

Project Name-Proposed Fire Detection Area W30W

Fire Detector coverage at 3.376 m ALD



COVERAGE KEY



Company Name Powered by Hazmap3D www.micropack.co.uk	Drawing Description		Platform/site	Project Name
	Proposed Fire Detection Area W30W		Drg category	Assessment result (20-Jul-2018)
	Project Name-Proposed Fire Detection Area W30W			