# GUO LAB DODGEN B021/121 WEEKLY SWIPES & SURVEYS

Revised 7/9/2019

| Week # | 19 | Dates: | 5/09/2021-5/15/2021 | Counted On | 5/10/2021 |
|---|---|---|---|---|---|
| INSTRUMENT USED: Quantasmart (Serial# 073396) | | CONTROL FACTOR: | | 1.40E-06 | |
| CHANNEL ENERGY RANGE (keV) | | CH A: 4-200 | CH B: 200-2000 | CH C: 4-2000 | |
| COUNTING TIME: 5 Min. | uCi/swipe = CPM:C * Control Factor | | uCi/cm2 = CPM:C * Control Factor / 100 | | |
| Limit of quantification (LOQ)= | 8.72E-08 uCi/cm$^2$ | QUANTIFICATION BELOW REG GUIDE 8.23 LIMITS OK | | | |

| Swipe # | LOCATION: ROOM # & AREA/OBJECT | GROSS CPM CHANNEL C | uCi/swipe | uCi/cm$^2$ | NOTE: |
|---|---|---|---|---|---|
| 1. | BACKGROUND 1 | 28 | ********** | ********* | |
| 2. | BACKGROUND 2 | 24 | ********** | ********* | |
| 3. | BACKGROUND 3 | 32 | ********** | ********* | |
| 4. | BACKGROUND 4 | 27 | ********** | ********* | |
| 5. | BACKGROUND 5 | 27 | ********** | ********* | |
| 6. | BACKGROUND 6 | 25 | ********** | ********* | |
| 7. | B021 ELEVATOR ENTRANCE | 29 | M | M | |
| 8. | B021 FENCED GATE | 27 | M | M | |
| 9. | B021 RAM SAFE | 25 | M | M | |
| 10. | B021 EAST FLOOR | 27 | M | M | |
| 11. | B021 NORTH BENCH TOP | 29 | M | M | |
| 12. | B021 WEST LAB FLOOR | 25 | M | M | |
| 13. | B021 WORK PLATFORM | 29 | M | M | |
| 14. | B021 CALORIMETER | 28 | M | M | |
| 15. | B021 COMPUTERS | 26 | M | M | |
| 16. | B021 DSC/TGA | 27 | M | M | |
| 17. | B021 SOUTH BENCH TOP | 25 | M | M | |
| 18. | 121 DOORWAY | 30 | M | M | |
| 19. | 121 GLOVE BOX- FLOOR | 29 | M | M | |
| 20. | 121 GLOVE BOX | 28 | M | M | |
| 21. | 121 WEST BENCH TOP | 28 | M | M | |
| 22. | 121 CENTER OF LAB | 28 | M | M | |
| 23. | 122 EAST BENCH TOP | 29 | M | M | |
| | $^{36}$Cl SOURCE 09/14/1971 | 50117 | ********** | ********* | |
| | | 101.05% | CALIBRATION CHECK OK? | YES | |

Notes(s): M = below limit of quantification on the LSC. The limit of quantification is checked against lowest allowable contaimination limit of 1 x $10^{-6}$ uCi/cm$^2$.

| SURVEY PREPARED BY: R. Bergman | REVIEWED BY: M. Heine |
|---|---|
| SIGN/DATE: [signature] | SIGN/DATE: [signature] 5/18/21 |

Assay Definition-

Assay Description:

Assay Type: CPM
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\CSE\Reactor Weekly\20210510_1311
Raw Results Path: C:\Packard\Tricarb\Results\CSE\Reactor Weekly\20210510_1311\20210510_1311.results
Assay File Name: C:\Packard\TriCarb\Assays\Reactor Weekly.lsa

Count Conditions-

Nuclide: Reactor
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set: n/a
Count Time (min): 5.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: Off

| Regions | LL | UL |
|---|---|---|
| A | 4.0 | 200.0 |
| B | 200.0 | 2000.0 |
| C | 4.0 | 2000.0 |

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: n/a Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

| Regions | Half Life | Units | Reference Date | Reference Time |
|---|---|---|---|---|
| A | | | | |
| B | | | | |
| C | | | | |

Cycle 1 Results

| P# | DATE | TIME | S# | Count Time | CPMA | CPMB | CPMC | SIS | MESSAGES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5/10/2021 | 1:13:00 PM | 1 | 5.00 | 22 | 5 | 28 | 213.03 | |
| 1 | 5/10/2021 | 1:19:25 PM | 2 | 5.00 | 19 | 5 | 24 | 233.28 | |
| 1 | 5/10/2021 | 1:25:47 PM | 3 | 5.00 | 27 | 5 | 32 | 284.00 | |
| 1 | 5/10/2021 | 1:32:06 PM | 4 | 5.00 | 22 | 6 | 27 | 166.16 | |
| 1 | 5/10/2021 | 1:38:29 PM | 5 | 5.00 | 21 | 5 | 27 | 285.99 | |
| 1 | 5/10/2021 | 1:44:52 PM | 6 | 5.00 | 20 | 5 | 25 | 252.34 | |
| 1 | 5/10/2021 | 1:51:16 PM | 7 | 5.00 | 26 | 4 | 29 | 190.11 | |
| 1 | 5/10/2021 | 1:57:38 PM | 8 | 5.00 | 22 | 6 | 27 | 230.43 | |
| 1 | 5/10/2021 | 2:04:02 PM | 9 | 5.00 | 21 | 5 | 25 | 197.23 | |
| 1 | 5/10/2021 | 2:10:26 PM | 10 | 5.00 | 21 | 5 | 27 | 328.53 | |
| 1 | 5/10/2021 | 2:16:40 PM | 11 | 5.00 | 23 | 5 | 29 | 320.06 | |
| 1 | 5/10/2021 | 2:22:59 PM | 12 | 5.00 | 19 | 6 | 25 | 217.73 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 5/10/2021 | 2:29:16 PM | 13 | 5.00 | 25 | 4 | 29 | 229.95 |
| 1 | 5/10/2021 | 2:35:39 PM | 14 | 5.00 | 23 | 5 | 28 | 232.23 |
| 1 | 5/10/2021 | 2:42:02 PM | 15 | 5.00 | 23 | 3 | 26 | 199.95 |
| 1 | 5/10/2021 | 2:48:28 PM | 16 | 5.00 | 22 | 6 | 27 | 352.32 |
| 1 | 5/10/2021 | 2:54:53 PM | 17 | 5.00 | 20 | 6 | 25 | 402.25 |
| 1 | 5/10/2021 | 3:01:20 PM | 18 | 5.00 | 24 | 6 | 30 | 182.06 |
| 1 | 5/10/2021 | 3:07:44 PM | 19 | 5.00 | 24 | 5 | 29 | 270.87 |
| 1 | 5/10/2021 | 3:14:03 PM | 20 | 5.00 | 24 | 4 | 28 | 224.96 |
| 1 | 5/10/2021 | 3:20:26 PM | 21 | 5.00 | 22 | 5 | 28 | 332.90 |
| 1 | 5/10/2021 | 3:26:45 PM | 22 | 5.00 | 23 | 5 | 28 | 244.40 |
| 1 | 5/10/2021 | 3:33:09 PM | 23 | 5.00 | 24 | 5 | 29 | 230.29 |
| 1 | 5/10/2021 | 3:38:51 PM | 24 | 5.00 | 14444 | 35673 | 50117 | 1009.13 |

# LABORATORY SURVEY

Radiation Safety Office
Washington State University
Pullman, WA 99164-1302
(509) 335 8916

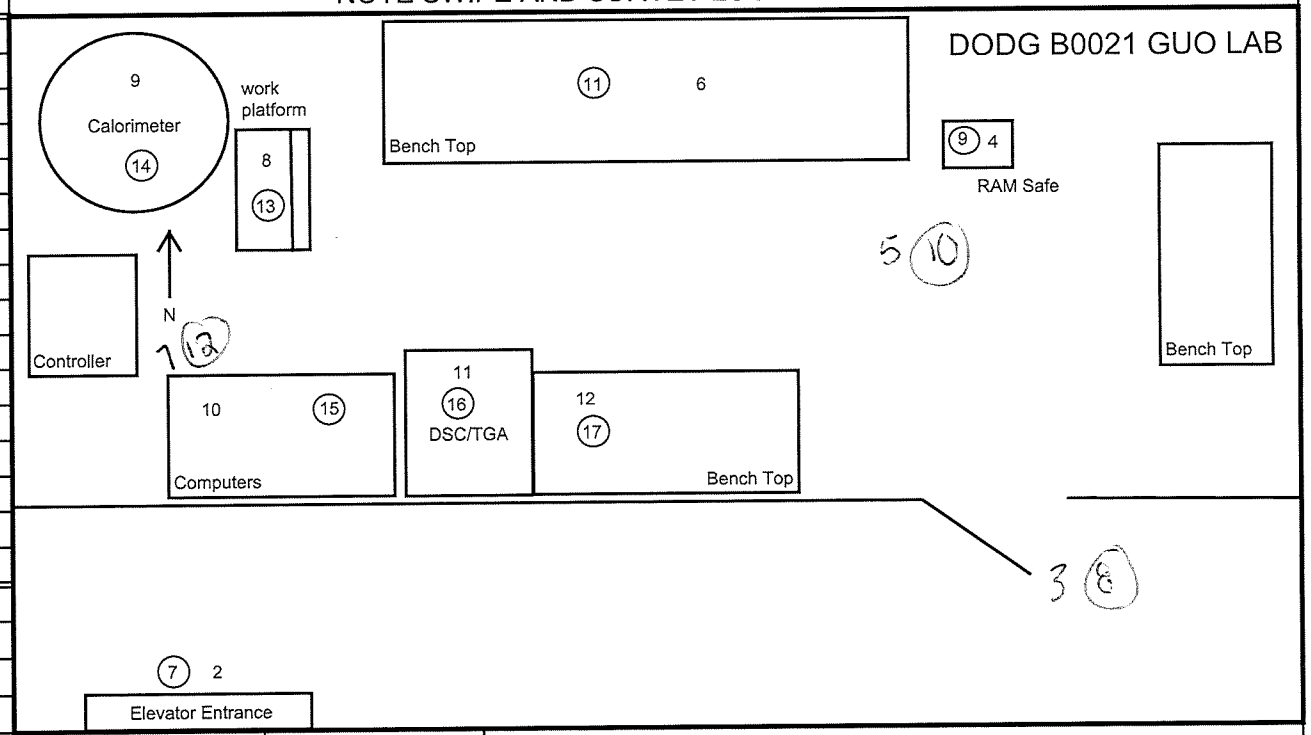
| Building | Room | Lab Class | Survey Instrument | Serial No. | Radiation Detected |
|---|---|---|---|---|---|
| Dodgen Research Facility | B0021 - GUO | D | GM Detector Model 3 | 58680 | Gamma |
| **Authorized User** | **Date** | **Time** | **Swipe Instrument** | **Serial No.** | **Radiation Detected** |
| Xiaofeng Guo | 05/10/2021 | 0944 | Quantasmart | 073396 | Beta/Gamma |

Reactor Status (Check One) ON ☒ OFF ☐

LSC Printout Date: 5/10/2021

| Survey # | Location | CPM |
|---|---|---|
| 1 | Background | 80 |
| 2 | Elevator Entrance | 100 |
| 3 | South Floor | 90 |
| 4 | RAM Safe | 300 |
| 5 | East Lab Floor | 70 |
| 6 | North Bench Top | 50 |
| 7 | West Floor | 70 |
| 8 | Work Platform | 70 |
| 9 | Calorimeter | 80 |
| 10 | Computers | 40 |
| 11 | DSC/TGA | 90 |
| 12 | South Bench Top | 70 |
| | | |
| | | |
| | | |

NOTE SWIPE AND SURVEY LOCATIONS ON MAP




Swipe # and Locations

| | | | |
|---|---|---|---|
| 1-6 | Background | 16 | DSC/TGA |
| 7 | Elevator Entrance | 17 | South Bench Top |
| 8 | South Floor | | |
| 9 | RAM Safe | | |
| 10 | East Lab Floor | | |
| 11 | North Bench Top | | |
| 12 | West Lab Floor | | |
| 13 | Work Platform | | |
| 14 | Calorimeter | | |
| 15 | Computers | | |

| | | |
|---|---|---|
| Surveyed By: RB | Date: 05/10/2021 | Notes |
| Swiped By: RB | Date: 05/10/2021 | |
| Reviewed By: [signature] | Date: 5/11/2021 | |

Circled numbers on map indicate a swipe area of 100 square cm. Numbers not circled indicate a survey location.

# LABORATORY SURVEY

Radiation Safety Office
Washington State University
Pullman, WA 99164-1302
(509) 335 8916

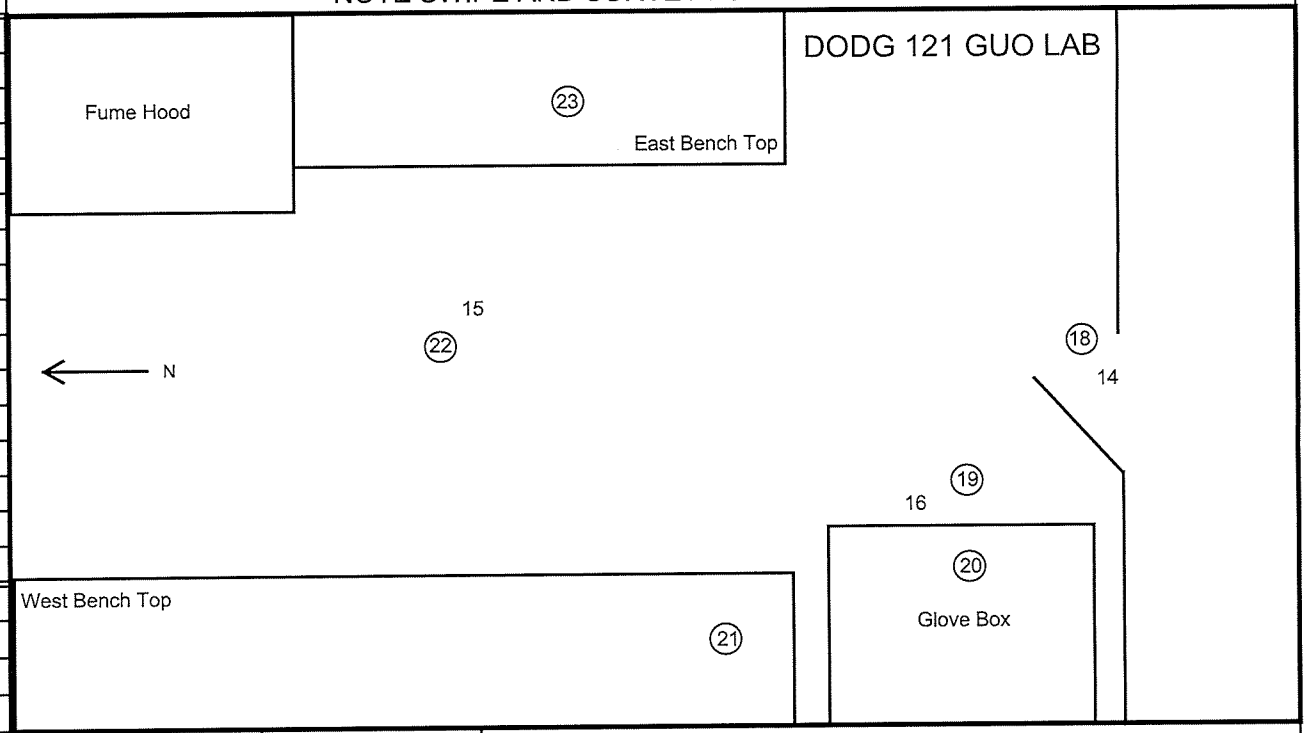
| Building | Room | Lab Class | Survey Instrument | Serial No. | Radiation Detected |
|---|---|---|---|---|---|
| Dodgen Research Facility | 121- GUO | D | GM Detector Model 3 | 58680 | Gamma |
| Authorized User: Xiaofeng Guo | Date: 05/10/2021 | Time: ~~0944~~ 1001 | Swipe Instrument: Quantasmart | Serial No. 073396 | Radiation Detected: Beta/Gamma |
| Reactor Status (Check One) ON ☒ OFF ☐ | | | | | |

LSC Printout Date: 5/10/2021

| Survey # | Location | CPM |
|---|---|---|
| 13 | Background | 70 |
| 14 | 121 Doorway | 100 |
| 15 | 121 Center of lab | 70 |
| 16 | 121 Glove Box | 270 |

| Swipe # and Locations | | | |
|---|---|---|---|
| 18 | 121 Doorway | | |
| 19 | 121 Glove Box-floor | | |
| 20 | 121 Glove Box | | |
| 21 | West Bench Top | | |
| 22 | 121 Center of lab | | |
| 23 | East Bench Top | | |

NOTE SWIPE AND SURVEY LOCATIONS ON MAP




| Surveyed By: | Date: | Notes |
|---|---|---|
| RB | 05/10/2021 | |
| Swiped By: RB | Date: 05/10/2021 | |
| Reviewed By: | Date: 5/11/2021 | |

Circled numbers on map indicate a swipe area of 100 square cm. Numbers not circled indicate a survey location.