GROUNDHOG
MINE DIGITIZATION & AUTOMATION

User Guide for Mucking Activity: FMS Operator App

Contents

Overview: 3
How to get started: 4
Task Acceptance/Creation 4
Recording Information: 12
How to record dumping destination details: 12
How to record material type: 14
How to record bucket count: 16
How to notify supervisors, take pictures, and read notes: 18
How to record sample bag information: 20
How to view Task History and Heading History and record task completion: 23
Delays and Downs Tracking: 27
How to log and view downs and delays: 27
How to view and select reason codes: 29
image 29
image ..... **Error! No bookmark name given.**
Switching tasks: ..... **Error! No bookmark name given.**
How to change/switch tasks: 31
Communication Protocol ..... **Error! No bookmark name given.**

Overview:

The FMS Operator App has been designed to accommodate various workflows, and this user guide specifically focuses on the mucking workflow. This comprehensive document is intended to guide users through the fundamental steps of utilizing the app for mucking activities. Below is an elaborate overview of the key functionalities covered in this guide:

Task Acceptance / Creation:

- Navigation: Learn how to navigate through the app's interface to start an assigned task or to create a new task.
- Task Details: Enter essential task information such as engine hours, location, etc.

Recording Information:

- Data Entry: Enter data to record pertinent details during the mucking activity, including destination location, material type, bucket counts, photo capture, and any notable observations.
- Sample Bag Information: Learn to capture sample bag data before completing the mucking task.

Delay and Downtime Tracking:

- Log Delays: Understand how to log delays or downtime incidents during mucking operations.
- Reason Codes: Familiarize yourself with the predefined reason codes for delays, ensuring accurate and consistent reporting.

Switching Tasks:

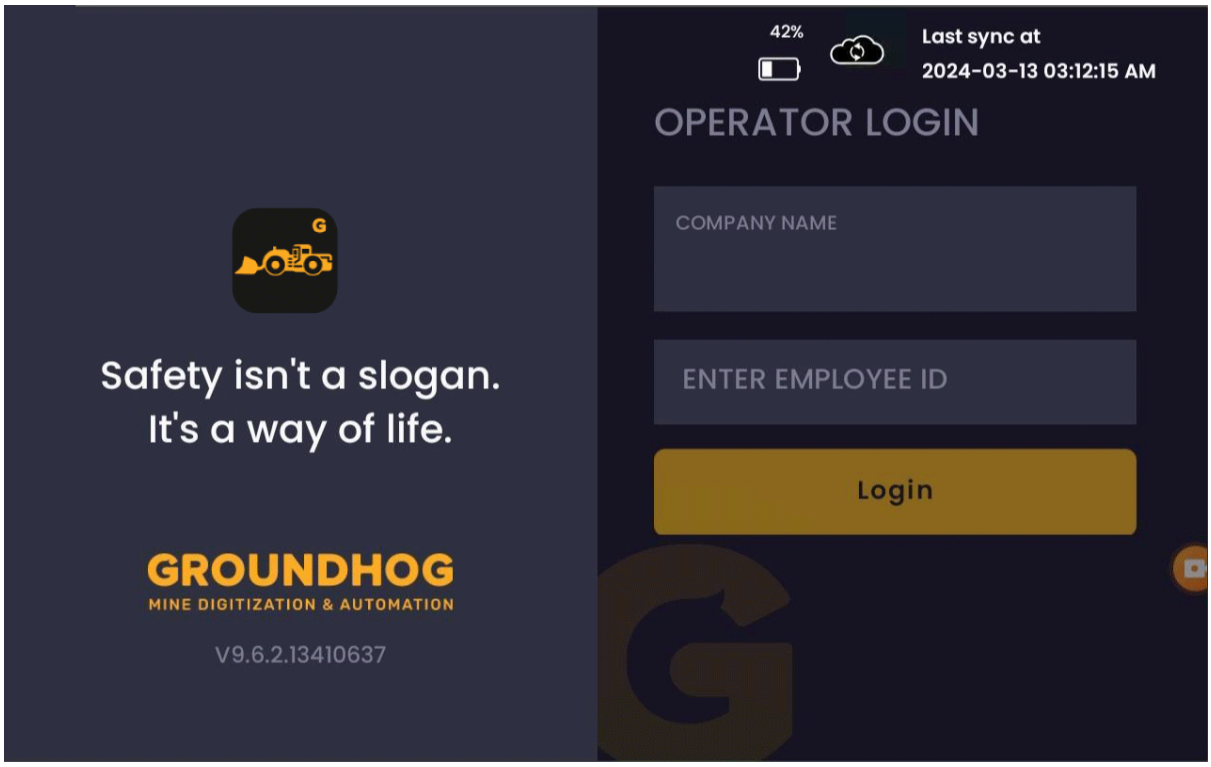
- Task Transition: This feature seamlessly transitions between different mucking tasks.

By following this user guide, operators can navigate the FMS Operator App seamlessly, ensuring a smooth and efficient mucking workflow while leveraging the full capabilities of state-of-the-art technology for enhanced productivity and data accuracy.

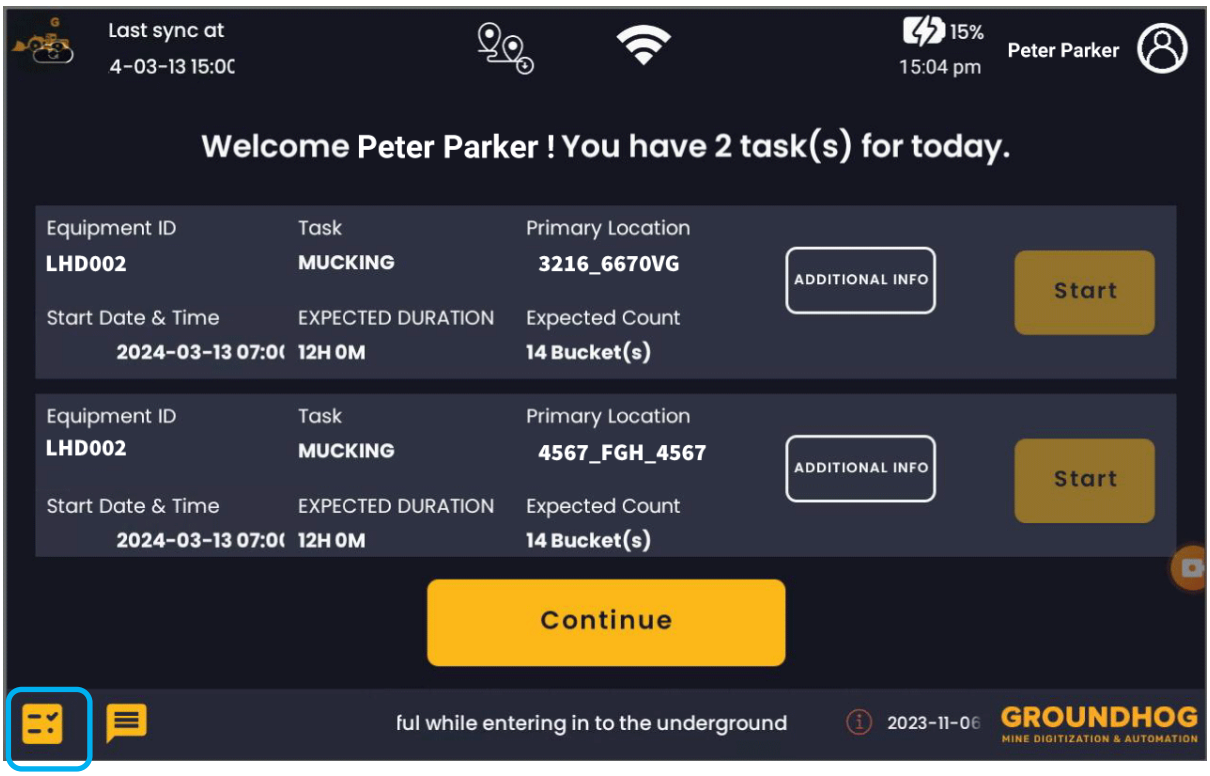
How to get started:

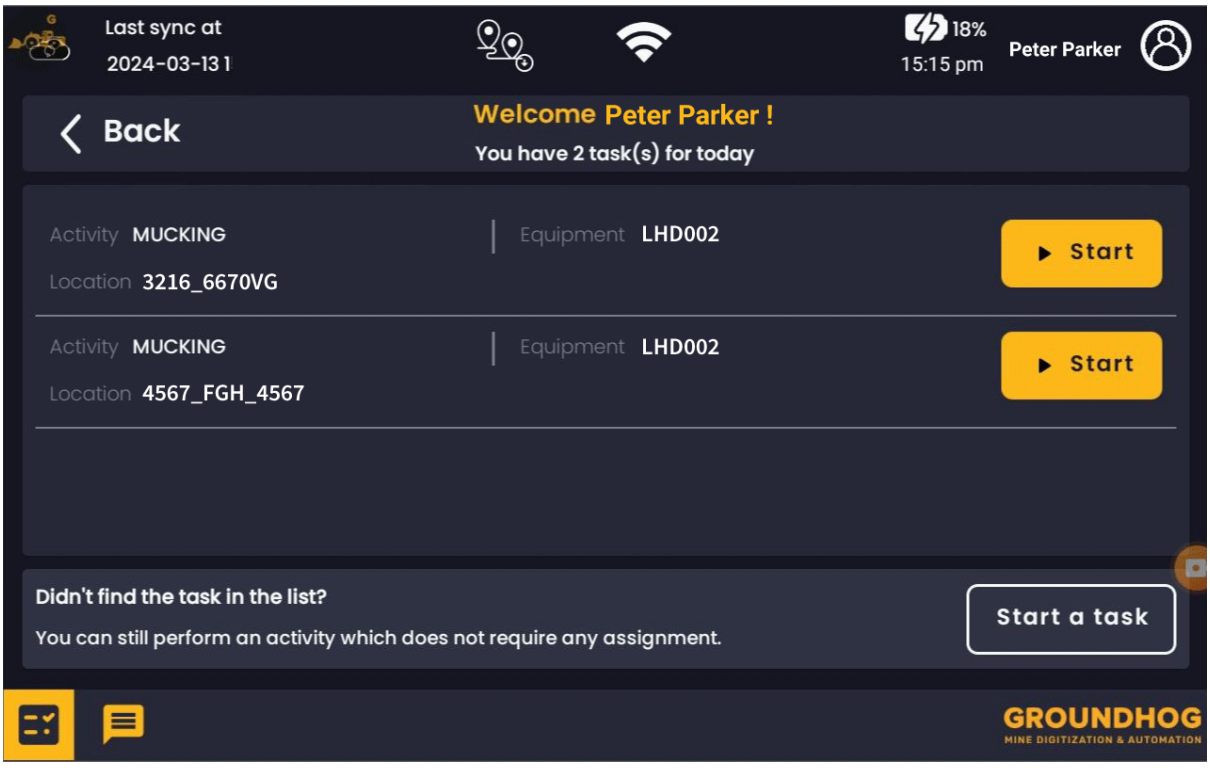
Task Acceptance/Creation

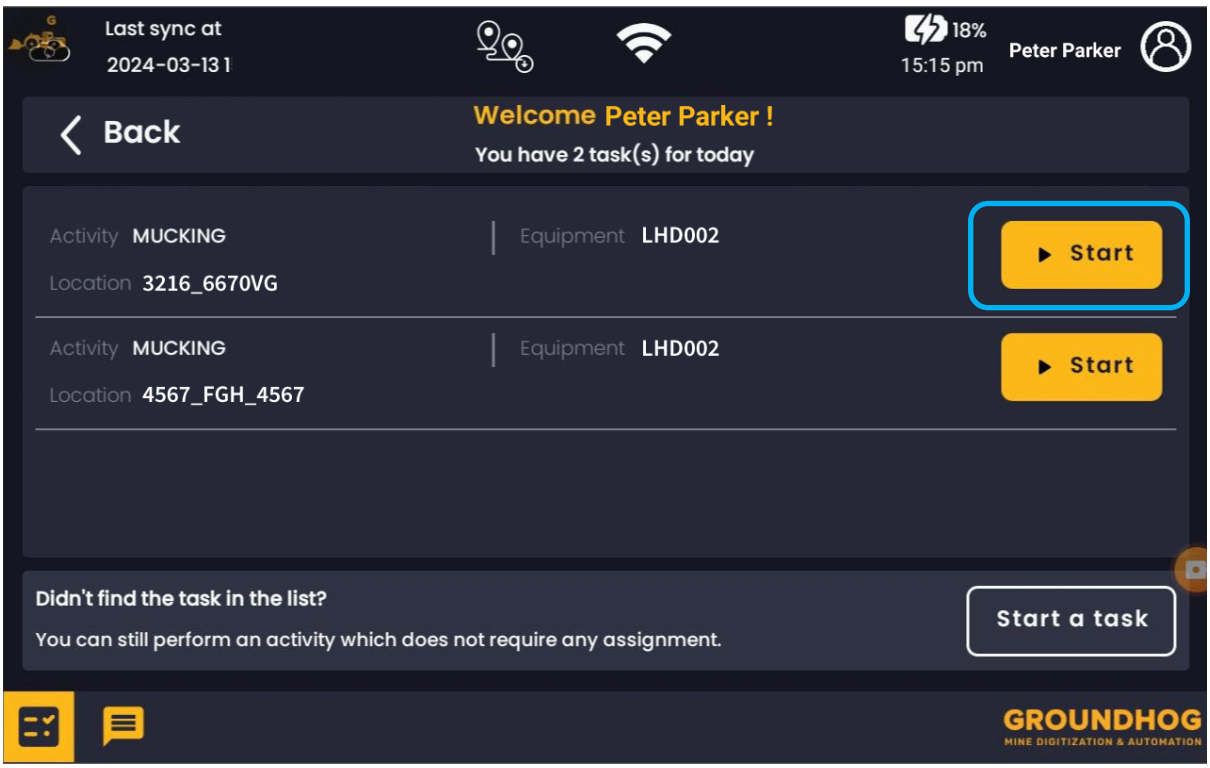
1. Login to the FMS UG Operator App with your ID.

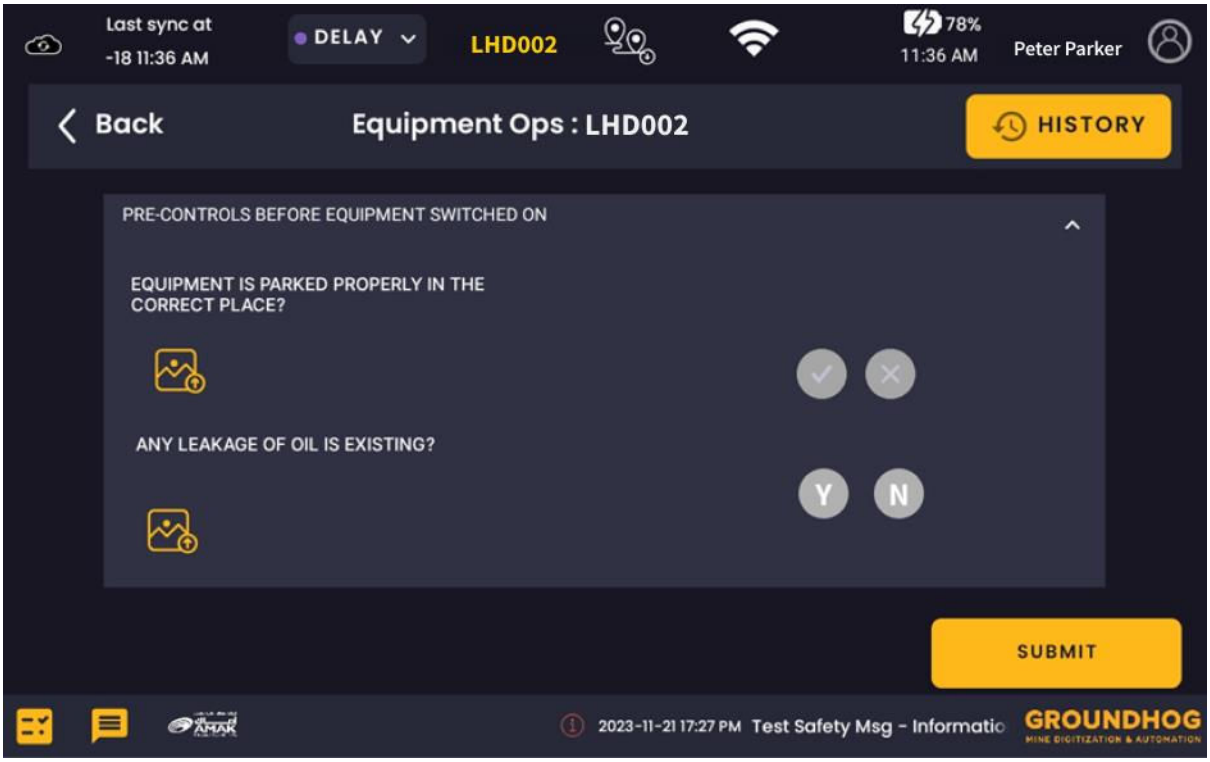


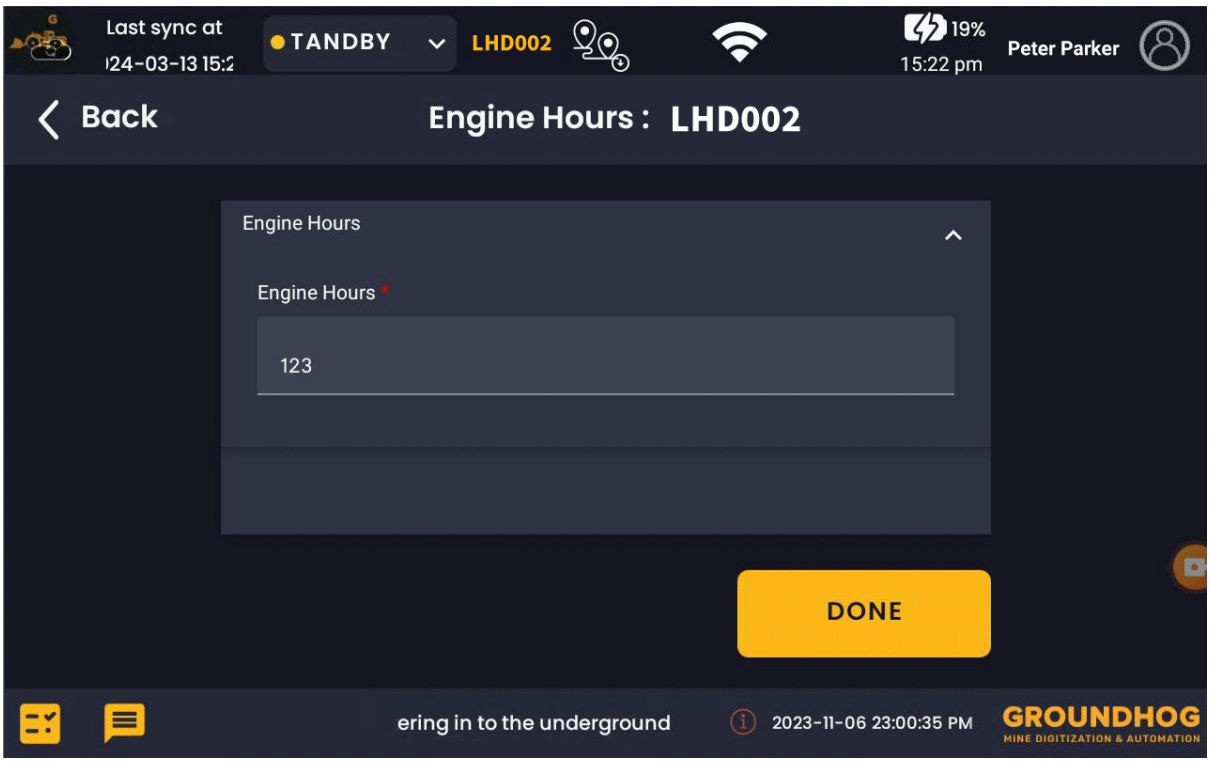
2. The task list screen is displayed. This screen presents all tasks assigned to the Operator.
    a. Click on the task list button at the screen's bottom left corner. Another view of tasks will appear. Click “Start” on this screen.
    b. Add engine hours.
    c. The operator will be directed to the mucking activity screen.

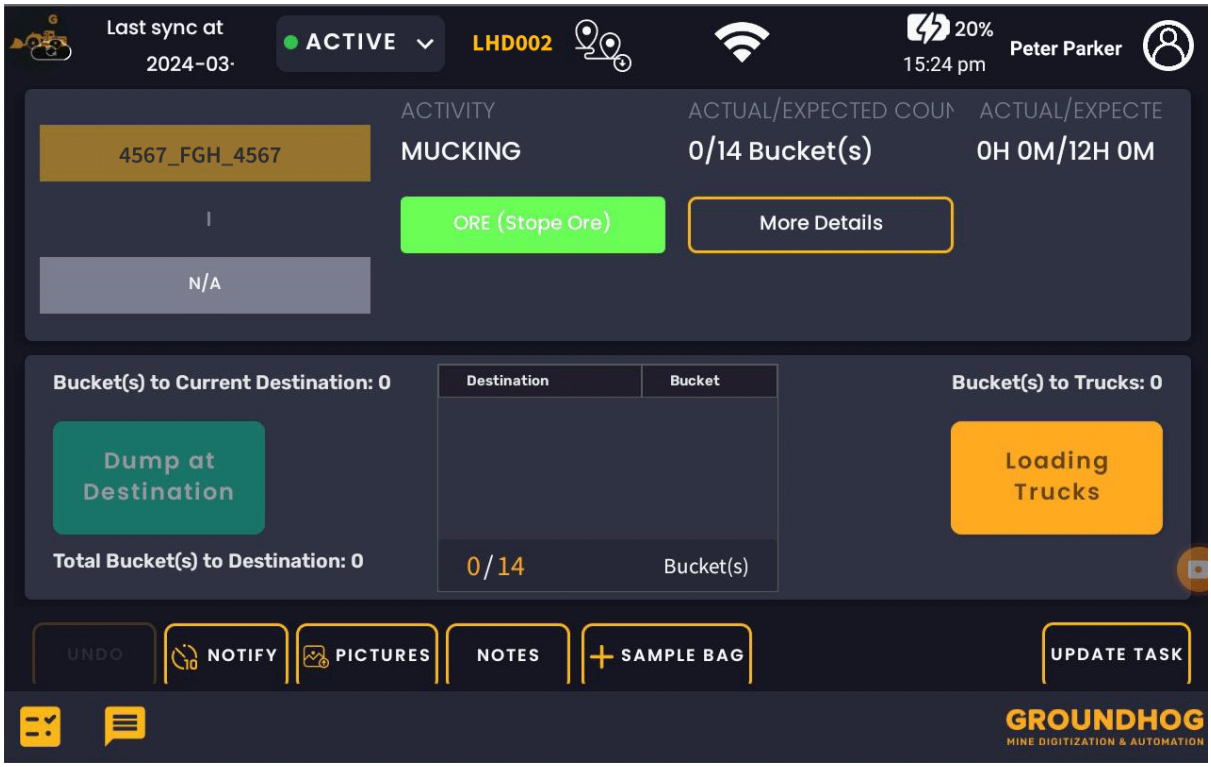

Last sync at
4-03-13 15:0(
15%
15:04 pm
Peter Parker
Welcome Peter Parker ! You have 2 task(s) for today.
Equipment ID
LHD002
Task
MUCKING
Primary Location
3216_6670VG
ADDITIONAL INFO
Start
Start Date & Time
2024-03-13 07:0(
EXPECTED DURATION
12H 0M
Expected Count
14 Bucket(s)
Equipment ID
LHD002
Task
MUCKING
Primary Location
4567_FGH_4567
ADDITIONAL INFO
Start
Start Date & Time
2024-03-13 07:0(
EXPECTED DURATION
12H 0M
Expected Count
14 Bucket(s)
Continue
ful while entering in to the underground
2023-11-06
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
2024-03-13 1
18%
15:15 pm
Peter Parker
Back
Welcome Peter Parker !
You have 2 task(s) for today
Activity MUCKING
Equipment LHD002
Location 3216_6670VG
Start
Activity MUCKING
Equipment LHD002
Location 4567_FGH_4567
Start
Didn't find the task in the list?
You can still perform an activity which does not require any assignment.
Start a task
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
2024-03-13 1
18%
15:15 pm
Peter Parker
Back
Welcome Peter Parker !
You have 2 task(s) for today
Activity MUCKING
Equipment LHD002
Location 3216_6670VG
Start
Activity MUCKING
Equipment LHD002
Location 4567_FGH_4567
Start
Didn't find the task in the list?
You can still perform an activity which does not require any assignment.
Start a task
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

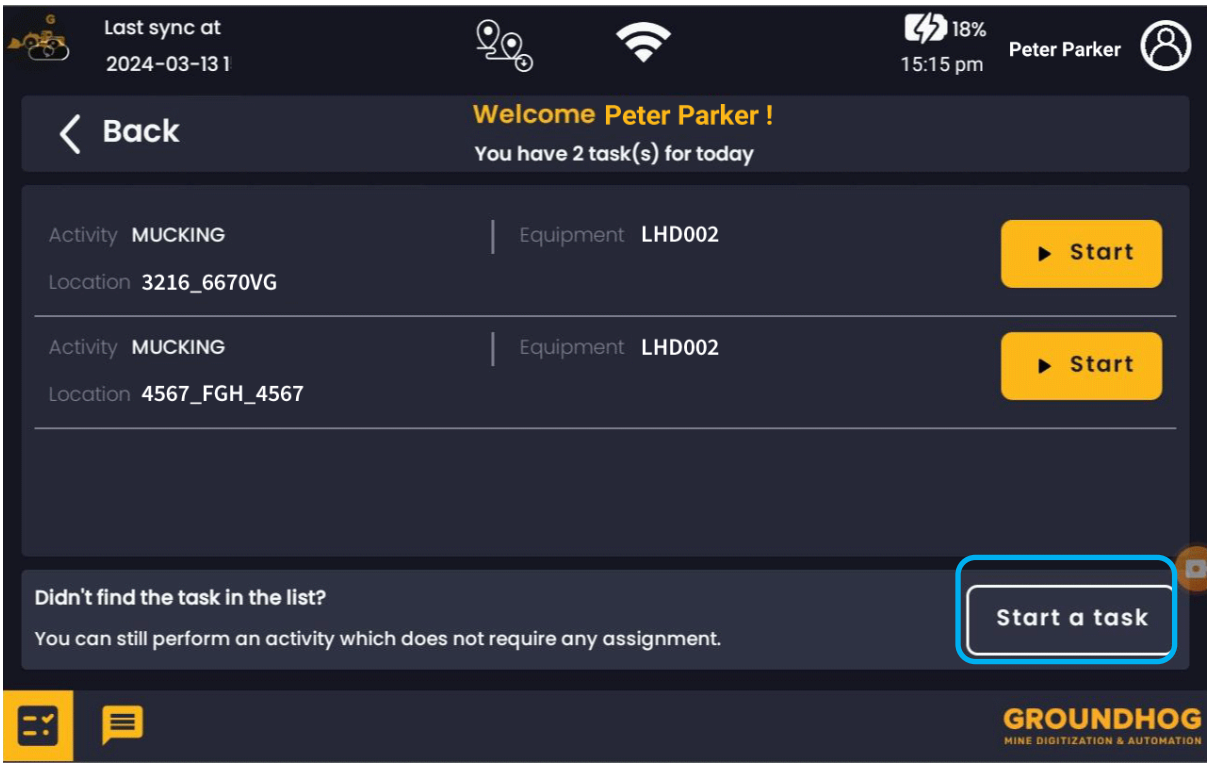

Last sync at
-18 11:36 AM
DELAY
LHD002
78%
11:36 AM
Peter Parker
Back
Equipment Ops : LHD002
HISTORY
PRE-CONTROLS BEFORE EQUIPMENT SWITCHED ON
EQUIPMENT IS PARKED PROPERLY IN THE CORRECT PLACE?
ANY LEAKAGE OF OIL IS EXISTING?
Y
N
SUBMIT
2023-11-21 17:27 PM Test Safety Msg - Informatio
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

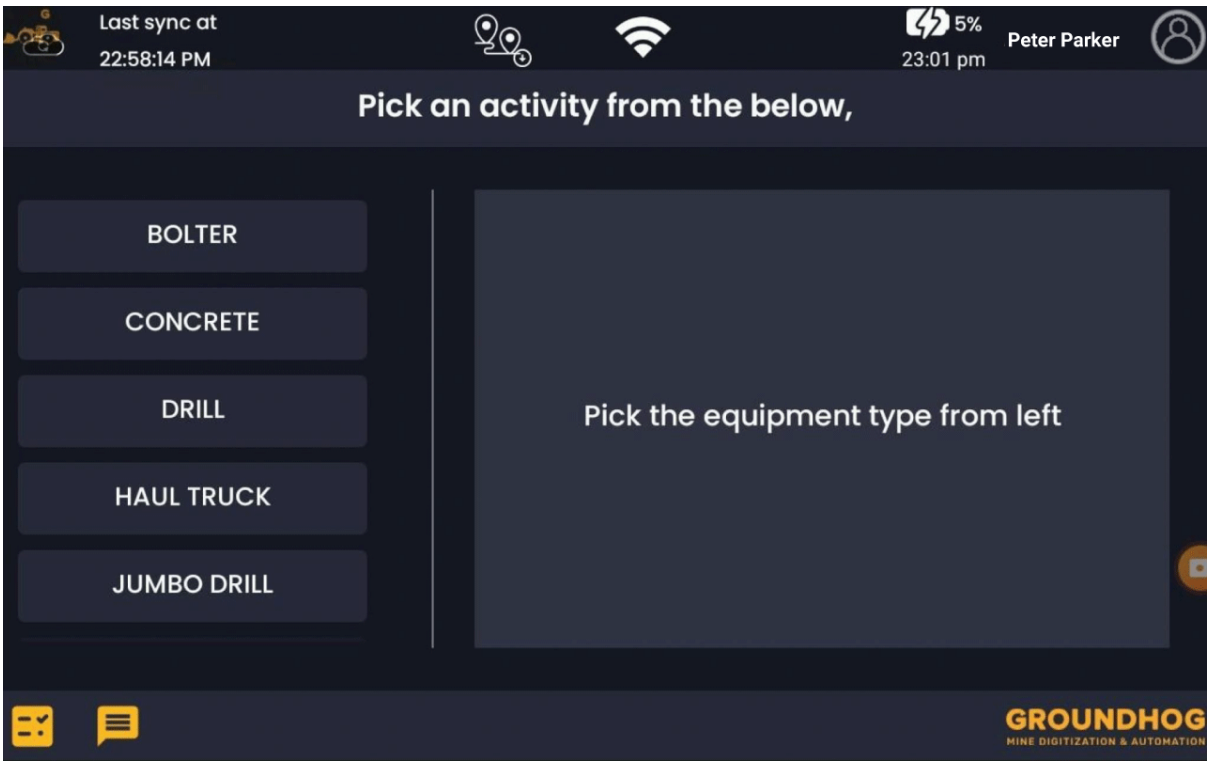

Last sync at
24-03-13 15:2
TANDBY
LHD002
19%
15:22 pm
Peter Parker
Back
Engine Hours : LHD002
Engine Hours
Engine Hours *
123
DONE
ering in to the underground
2023-11-06 23:00:35 PM
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

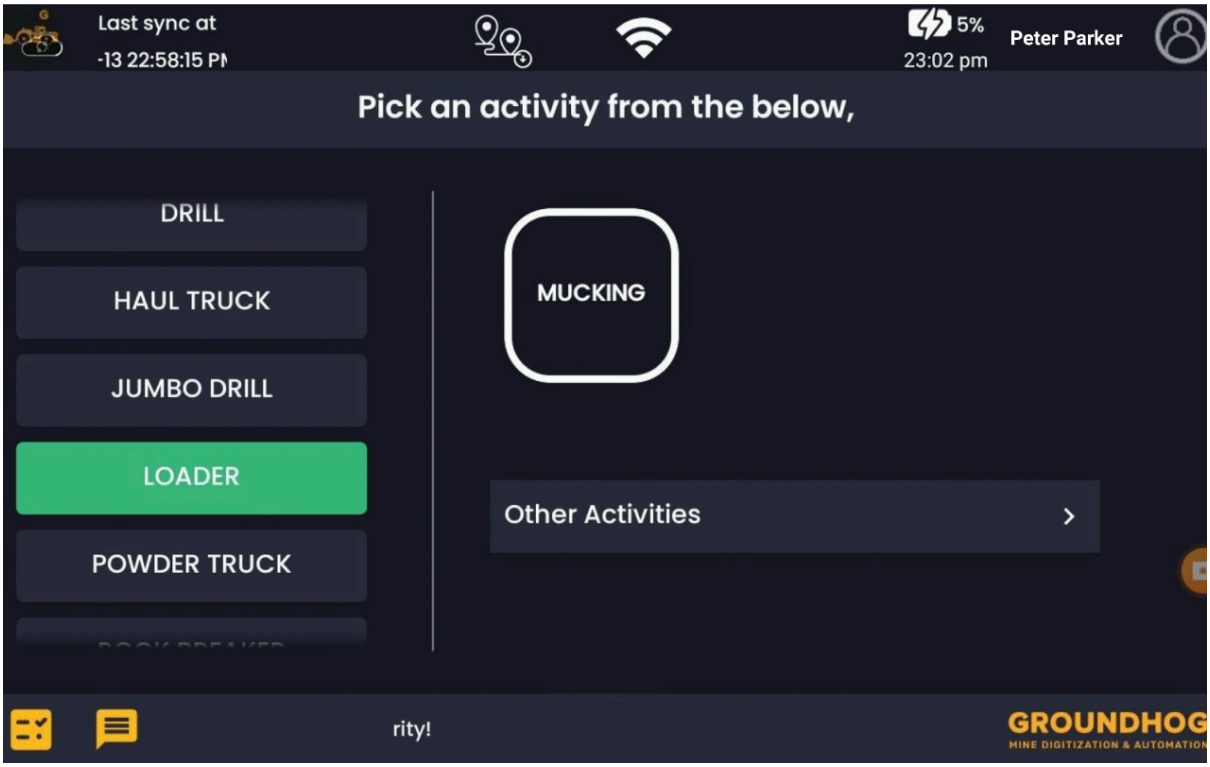

Last sync at
2024-03-
ACTIVE
LHD002
20%
15:24 pm
Peter Parker
4567_FGH_4567
ACTIVITY
MUCKING
ACTUAL/EXPECTED COUI
0/14 Bucket(s)
ACTUAL/EXPECTE
0H 0M/12H 0M
ORE (Stope Ore)
More Details
N/A
Bucket(s) to Current Destination: 0
Destination
Bucket
Bucket(s) to Trucks: 0
Dump at Destination
Loading Trucks
Total Bucket(s) to Destination: 0
0/14
Bucket(s)
UNDO
NOTIFY
PICTURES
NOTES
SAMPLE BAG
UPDATE TASK
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

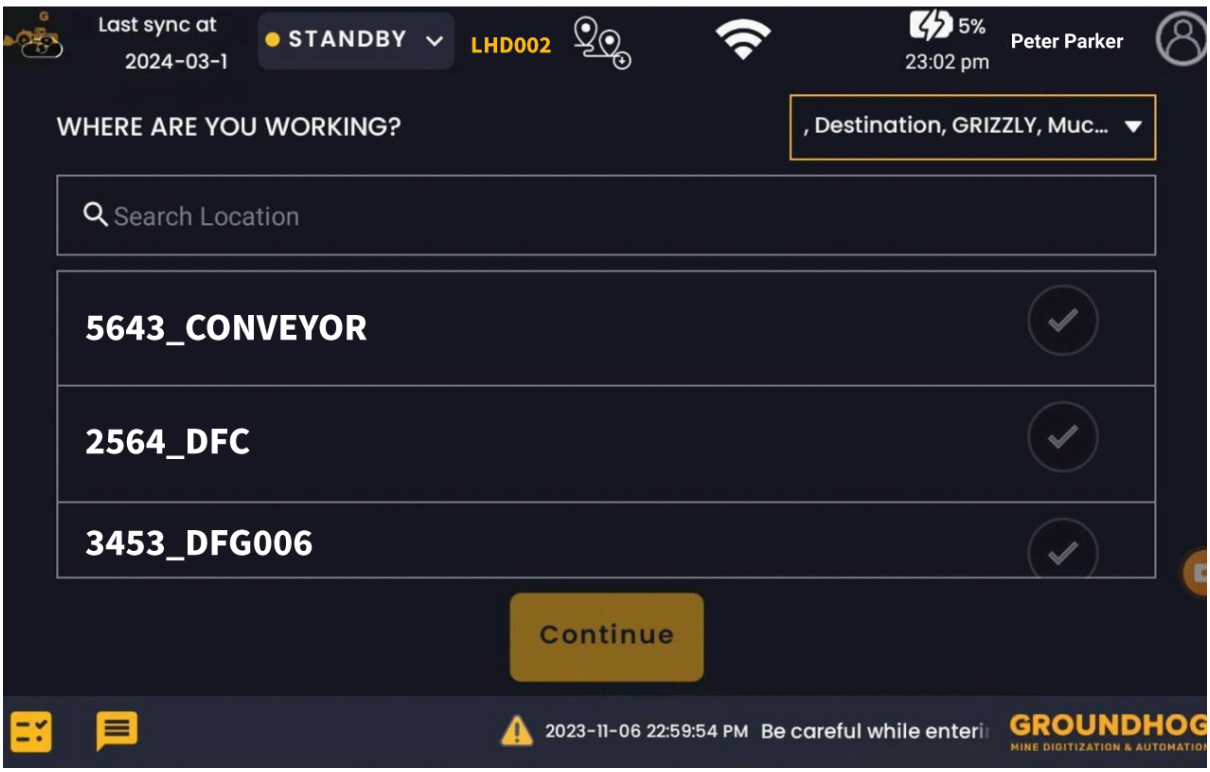
3. If no tasks are assigned or the Operator wants to do a task that is not listed, the Operator can initiate a task independently by clicking the "Start a Task" button. They will then proceed to:
    a. Pick an activity.
    b. Select the equipment type and activity type.
    c. Input engine hours if applicable.
    d. Choose the location where they will be working.

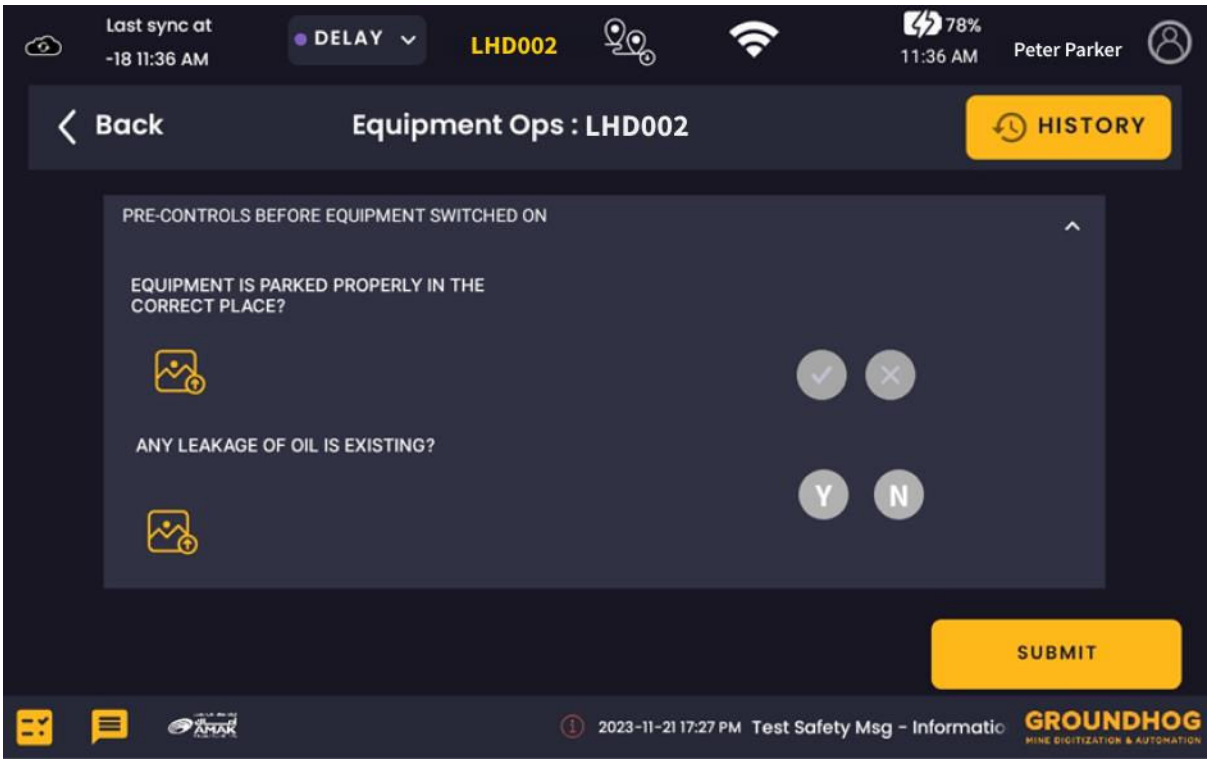
    Following these steps, the Operator will be directed to the mucking activity screen to begin their assigned task.

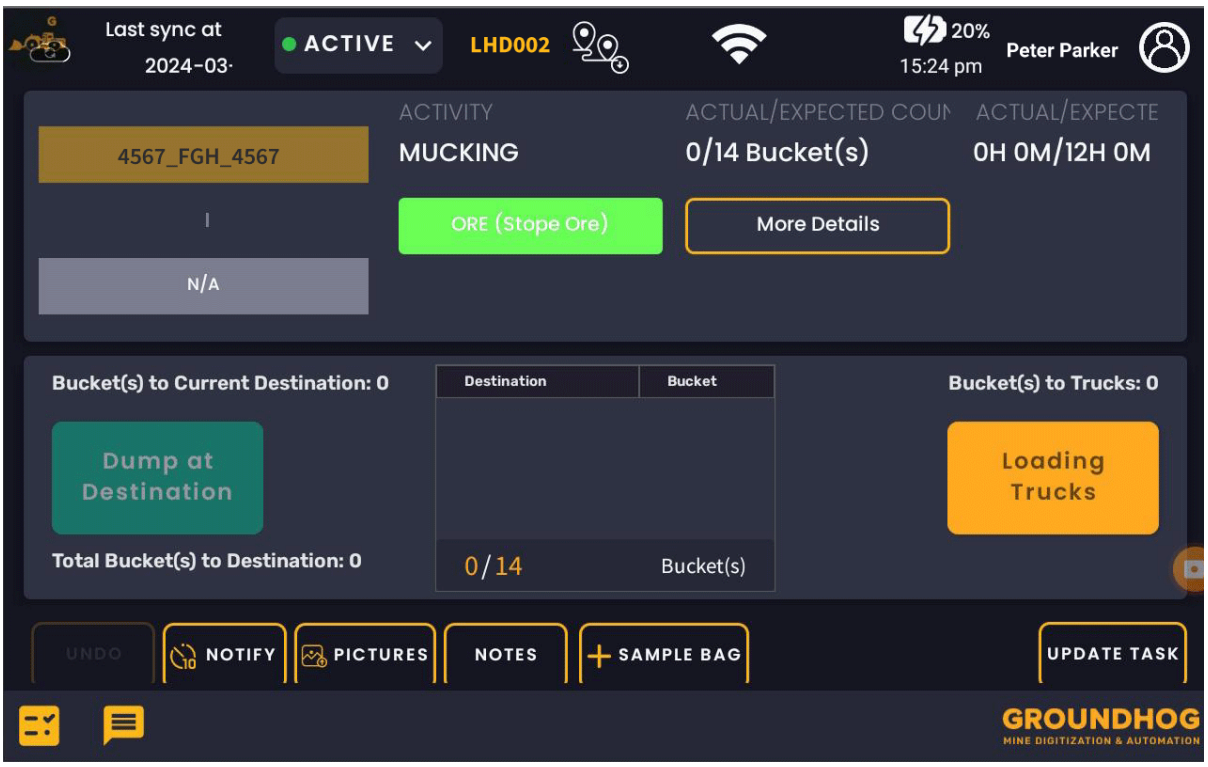



Last sync at
22:58:14 PM
5%
23:01 pm
Peter Parker
Pick an activity from the below,
BOLTER
CONCRETE
DRILL
HAUL TRUCK
JUMBO DRILL
Pick the equipment type from left
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
-13 22:58:15 PM
5%
23:02 pm
Peter Parker
Pick an activity from the below,
DRILL
HAUL TRUCK
JUMBO DRILL
LOADER
POWDER TRUCK
MUCKING
Other Activities
rity!
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
2024-03-1
STANDBY
LHD002
5%
23:02 pm
Peter Parker
WHERE ARE YOU WORKING?
, Destination, GRIZZLY, Muc...
Search Location
5643_CONVEYOR
2564_DFC
3453_DFG006
Continue
2023-11-06 22:59:54 PM Be careful while enteri
GROUNDHOG


Last sync at
-18 11:36 AM
DELAY
LHD002
78%
11:36 AM
Peter Parker
Back
Equipment Ops : LHD002
HISTORY
PRE-CONTROLS BEFORE EQUIPMENT SWITCHED ON
EQUIPMENT IS PARKED PROPERLY IN THE CORRECT PLACE?
ANY LEAKAGE OF OIL IS EXISTING?
Y
N
SUBMIT
2023-11-21 17:27 PM Test Safety Msg - Informatio
GROUNDHOG

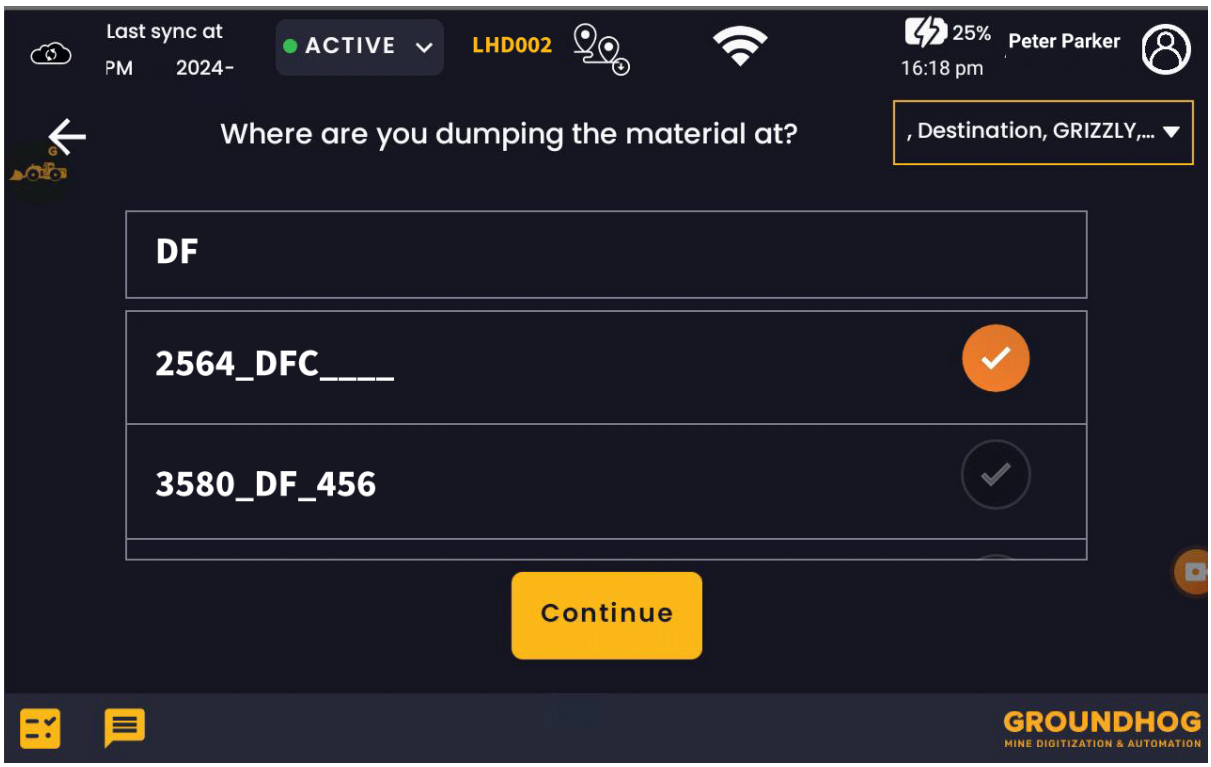

Last sync at
2024-03·
ACTIVE
LHD002
20%
15:24 pm
Peter Parker
ACTIVITY
ACTUAL/EXPECTED COUI
ACTUAL/EXPECTE
4567_FGH_4567
MUCKING
0/14 Bucket(s)
0H 0M/12H 0M
ORE (Stope Ore)
More Details
N/A
Bucket(s) to Current Destination: 0
Destination
Bucket
Bucket(s) to Trucks: 0
Dump at Destination
Loading Trucks
Total Bucket(s) to Destination: 0
0/14
Bucket(s)
UNDO
NOTIFY
PICTURES
NOTES
SAMPLE BAG
UPDATE TASK
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

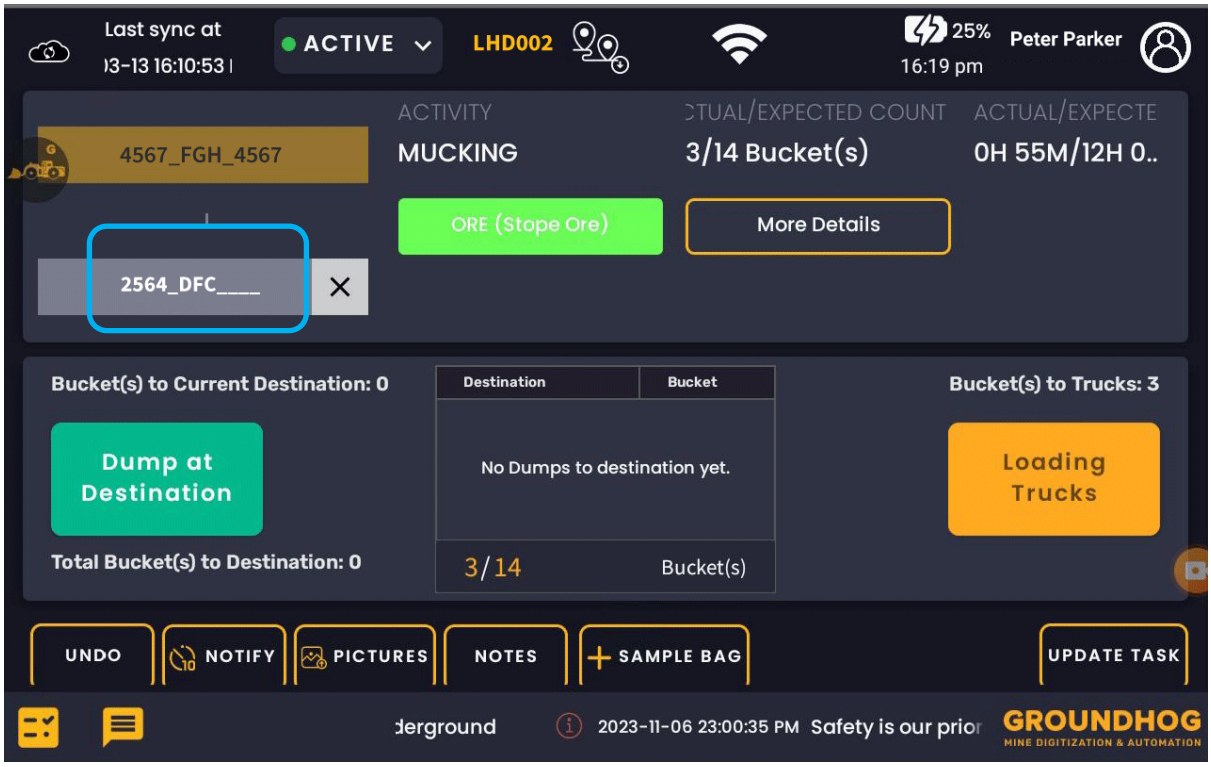
Recording Information:

The Operator will be directed to the mucking activity screen to begin their assigned task.

How to record dumping destination details:

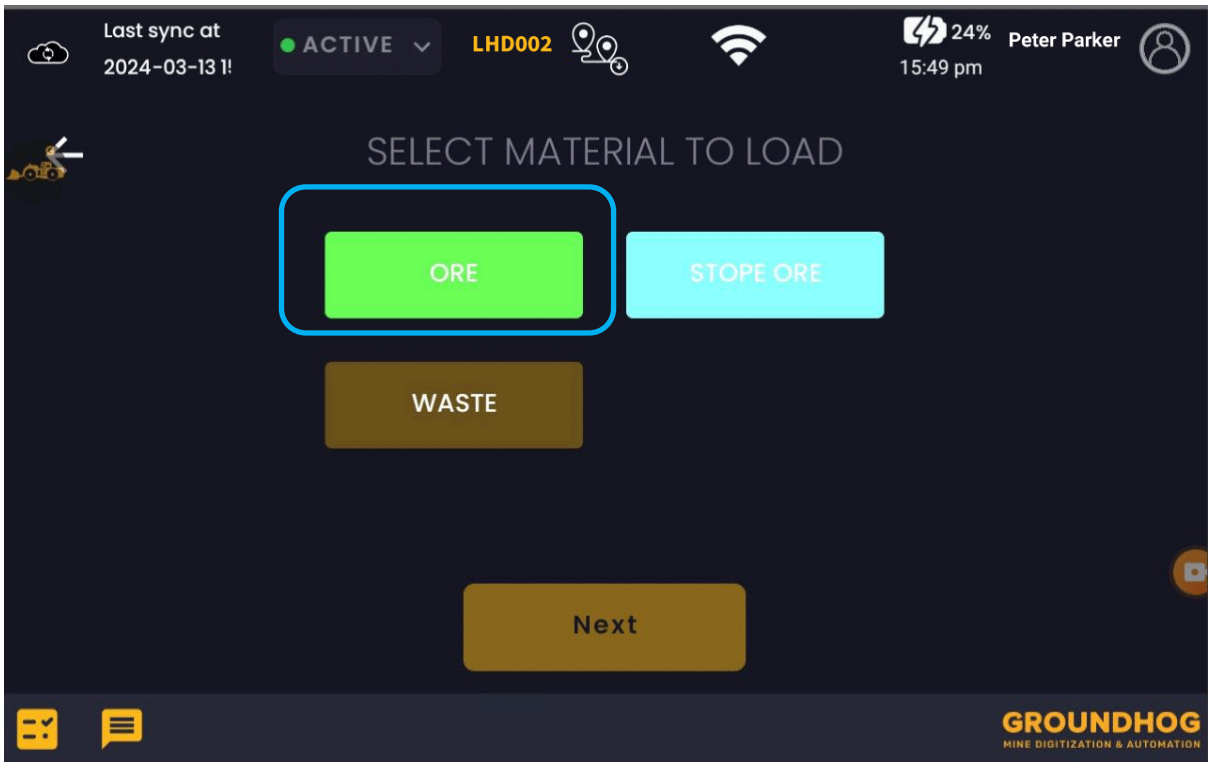
The left side displays the source (top) and destination (bottom) locations. To modify the destination, the operator can click on the designated button.

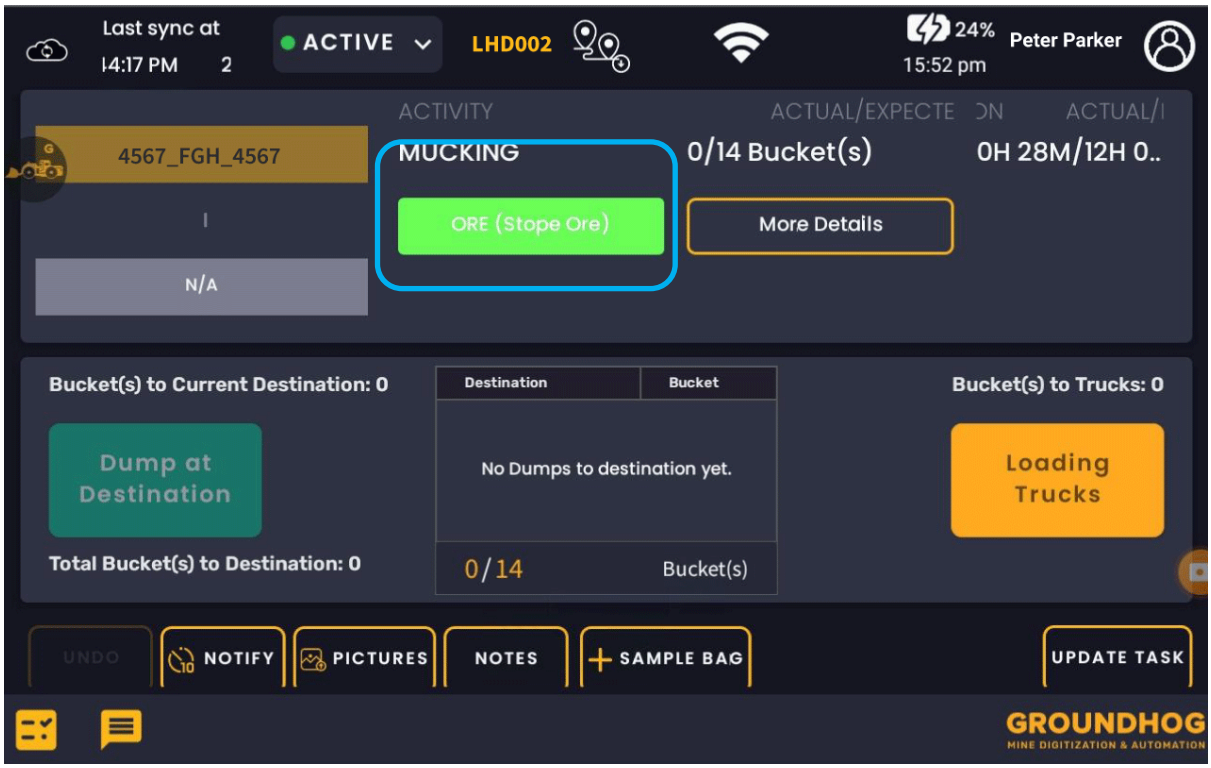

Last sync at
PM 2024-
ACTIVE
LHD002
25%
Peter Parker
16:18 pm
Where are you dumping the material at?
, Destination, GRIZZLY,...
DF
2564_DFC____
3580_DF_456
Continue
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
)3-13 16:10:53 I
ACTIVE
LHD002
25%
Peter Parker
16:19 pm
4567_FGH_4567
2564_DFC____
ACTIVITY
MUCKING
CTUAL/EXPECTED COUNT
3/14 Bucket(s)
ACTUAL/EXPECTE
0H 55M/12H 0..
ORE (Stope Ore)
More Details
Bucket(s) to Current Destination: 0
Dump at Destination
Total Bucket(s) to Destination: 0
Destination
Bucket
No Dumps to destination yet.
3/14
Bucket(s)
Bucket(s) to Trucks: 3
Loading Trucks
UNDO
NOTIFY
PICTURES
NOTES
SAMPLE BAG
UPDATE TASK
derground
2023-11-06 23:00:35 PM Safety is our prior
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

How to record material type:

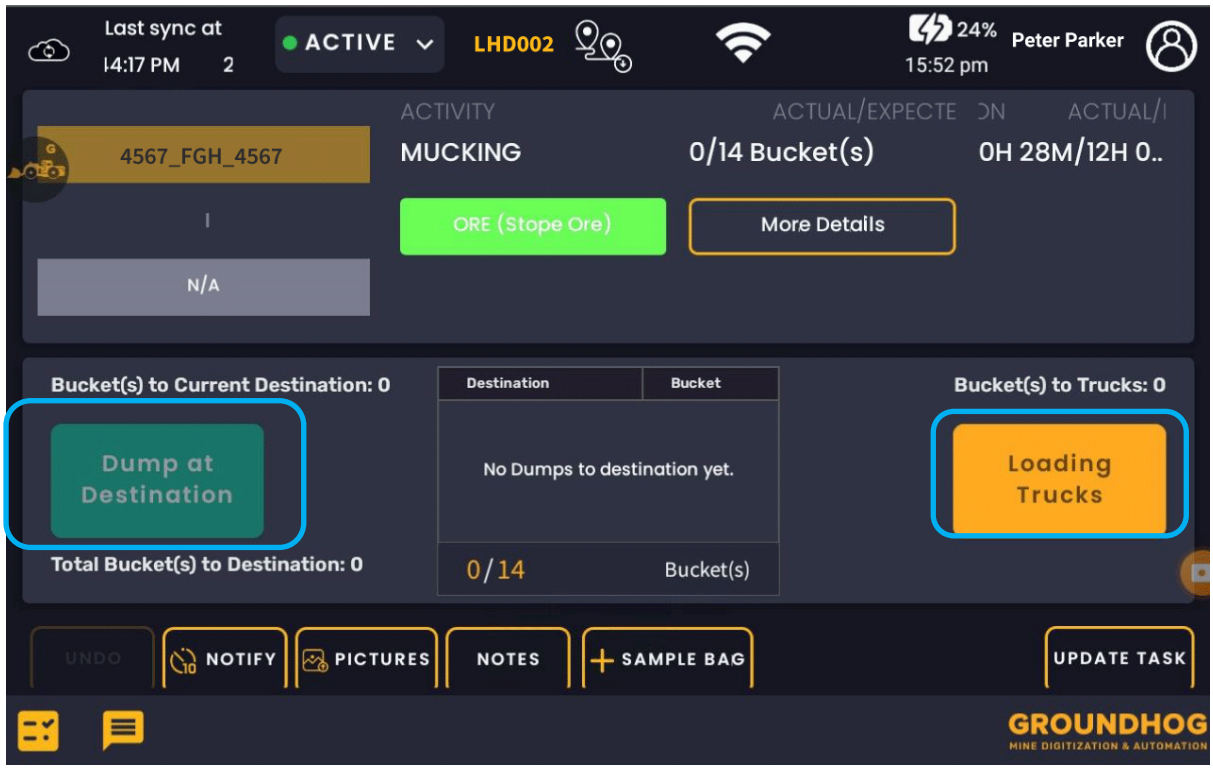
The operator can adjust the material being handled by clicking on the "Material" button, referred to as "Stope Ore." This action will direct the operator to a screen where they can modify the material selection.


Last sync at
2024-03-13 1!
ACTIVE
LHD002
24%
Peter Parker
15:49 pm
SELECT MATERIAL TO LOAD
ORE
STOPE ORE
WASTE
Next
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
14:17 PM 2
ACTIVE
LHD002
24%
Peter Parker
15:52 pm
ACTIVITY
ACTUAL/EXPECTE
ON
ACTUAL/I
4567_FGH_4567
MUCKING
0/14 Bucket(s)
0H 28M/12H 0..
ORE (Stope Ore)
More Details
N/A
Bucket(s) to Current Destination: 0
Destination
Bucket
Bucket(s) to Trucks: 0
Dump at Destination
No Dumps to destination yet.
Loading Trucks
Total Bucket(s) to Destination: 0
0/14
Bucket(s)
UNDO
NOTIFY
PICTURES
NOTES
SAMPLE BAG
UPDATE TASK
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

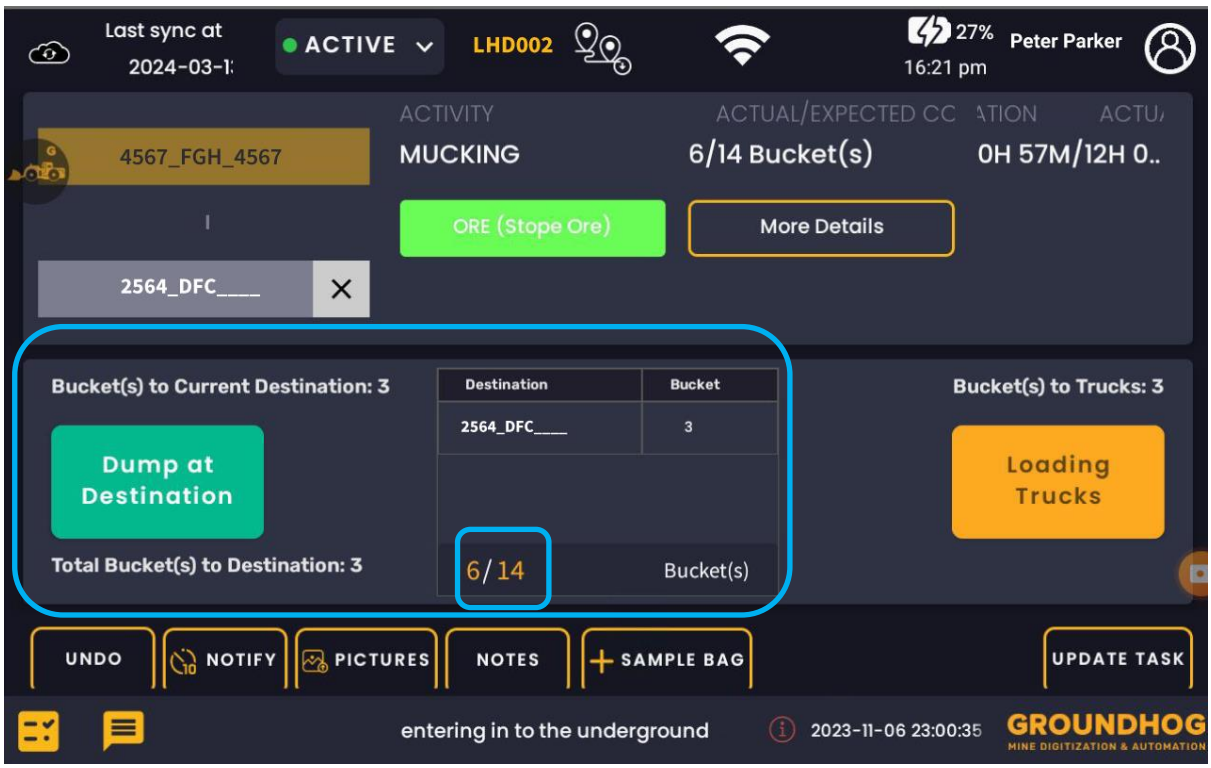
How to record bucket count:

Muckers load trucks or dump at the destination. To load, click "Loading Trucks;" to dump, click "Dump at Destination."



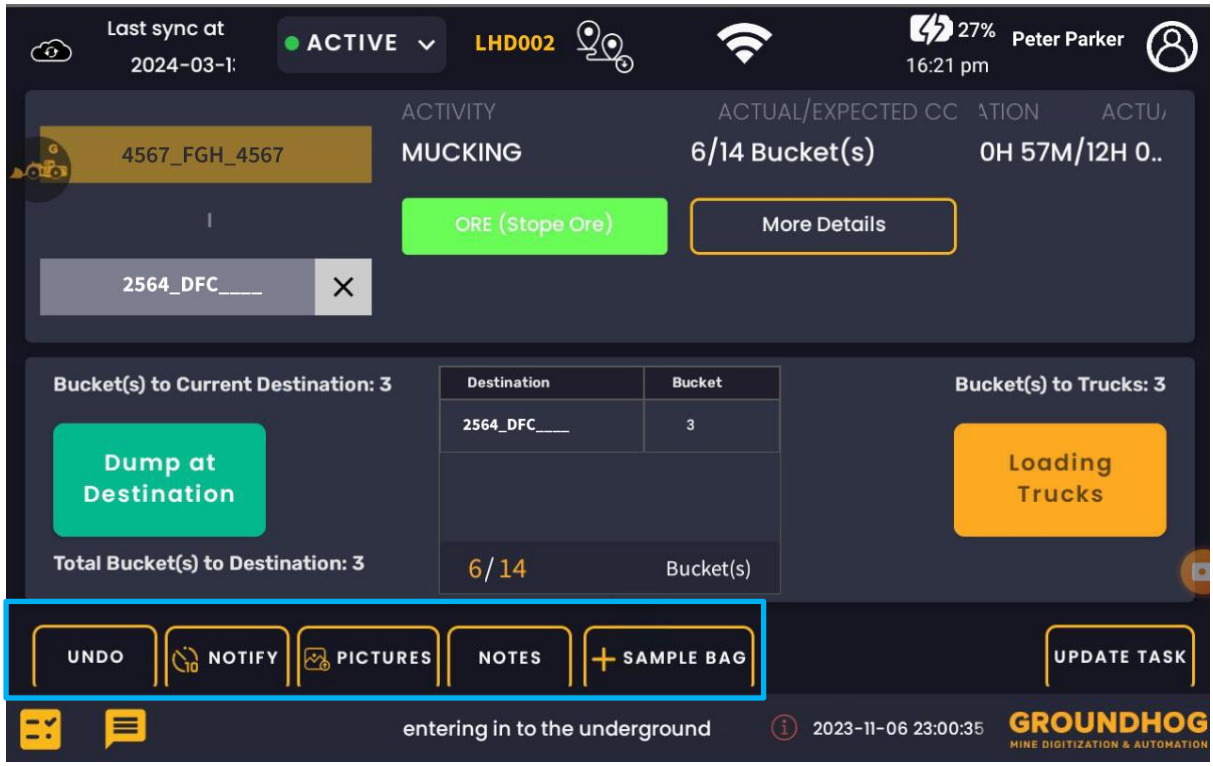
Select "Loading Trucks". This action will increment the number of buckets to trucks.

When dumping material, select "Dump at Destination". The operator can track the number of loaded or dumped buckets. If performing both activities, the total number of loaded and dumped buckets is displayed.



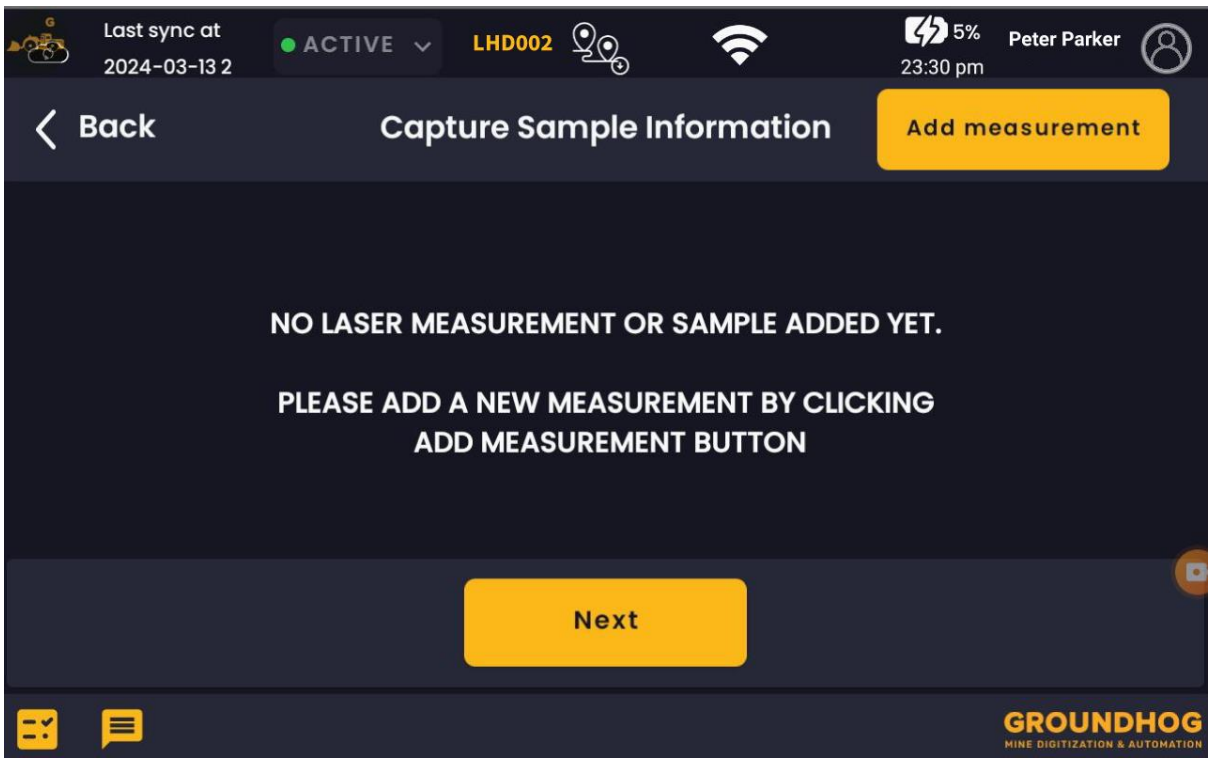
How to notify supervisors, take pictures, and read notes:

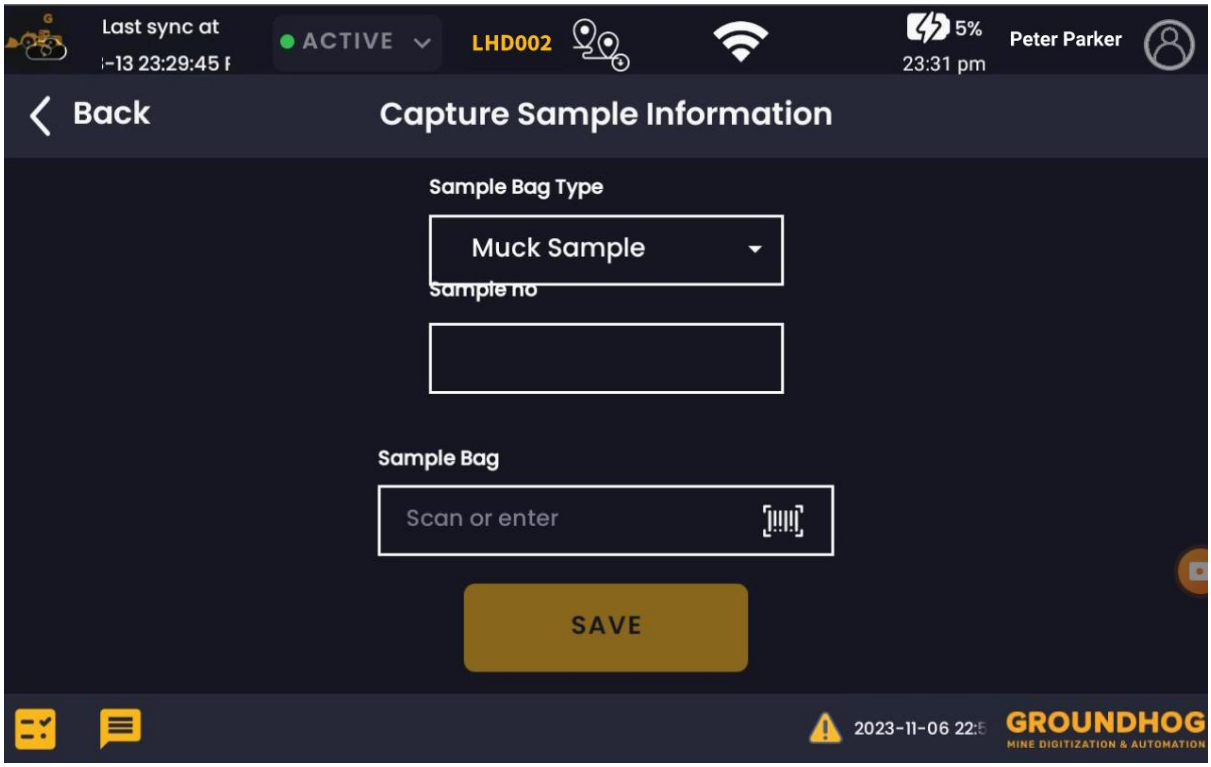
The operator can revert the bucket count, inform the Admin, capture images as proof of work or issues, access supervisor notes, and record sample bag details.

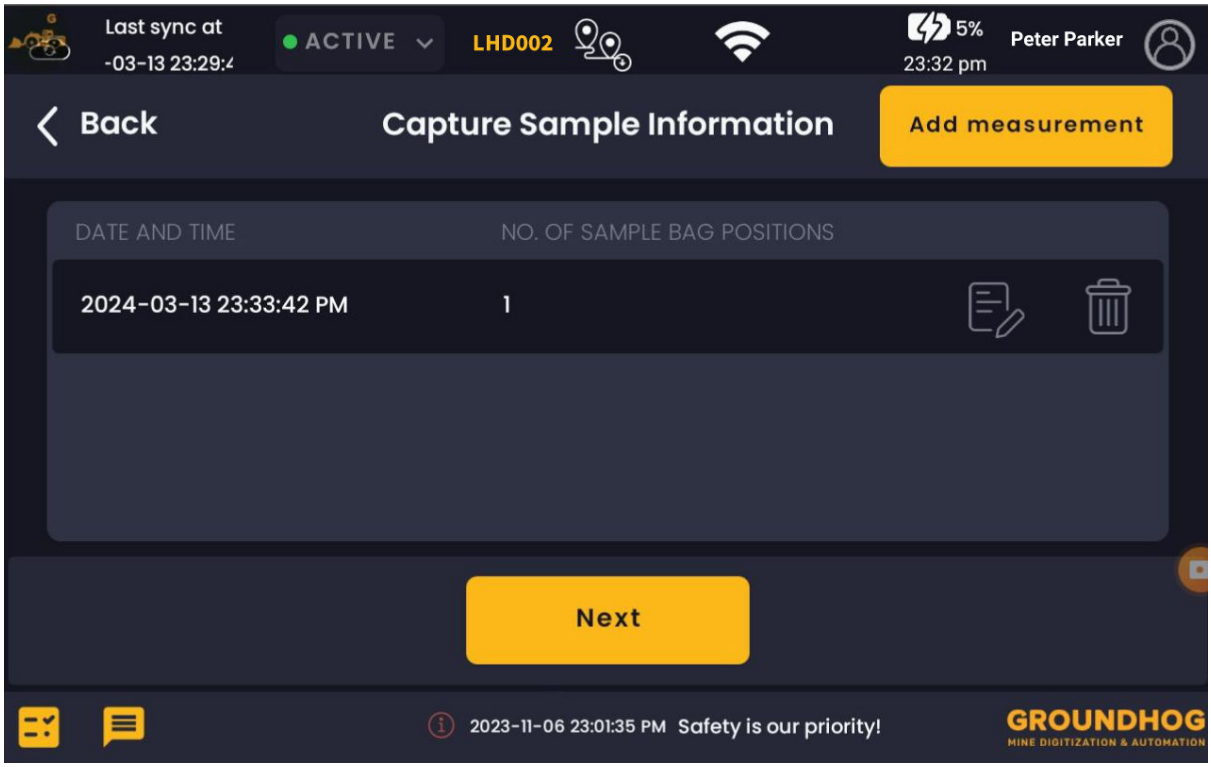

Last sync at
2024-03-1
ACTIVE
LHD002
27%
16:21 pm
Peter Parker
ACTIVITY
ACTUAL/EXPECTED CC
ATION
ACTU
4567_FGH_4567
MUCKING
6/14 Bucket(s)
0H 57M/12H 0..
ORE (Stope Ore)
More Details
2564_DFC____
Bucket(s) to Current Destination: 3
Destination
Bucket
2564_DFC____
3
Bucket(s) to Trucks: 3
Dump at Destination
Loading Trucks
Total Bucket(s) to Destination: 3
6/14
Bucket(s)
UNDO
NOTIFY
PICTURES
NOTES
SAMPLE BAG
UPDATE TASK
entering in to the underground
2023-11-06 23:00:35
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

How to record sample bag information:

Before the mucking task is completed, operators need to collect sample bags and capture information in the app. Below is the flow for capturing sample bag information. Click on the “Sample Bag” option to proceed to the next screen.

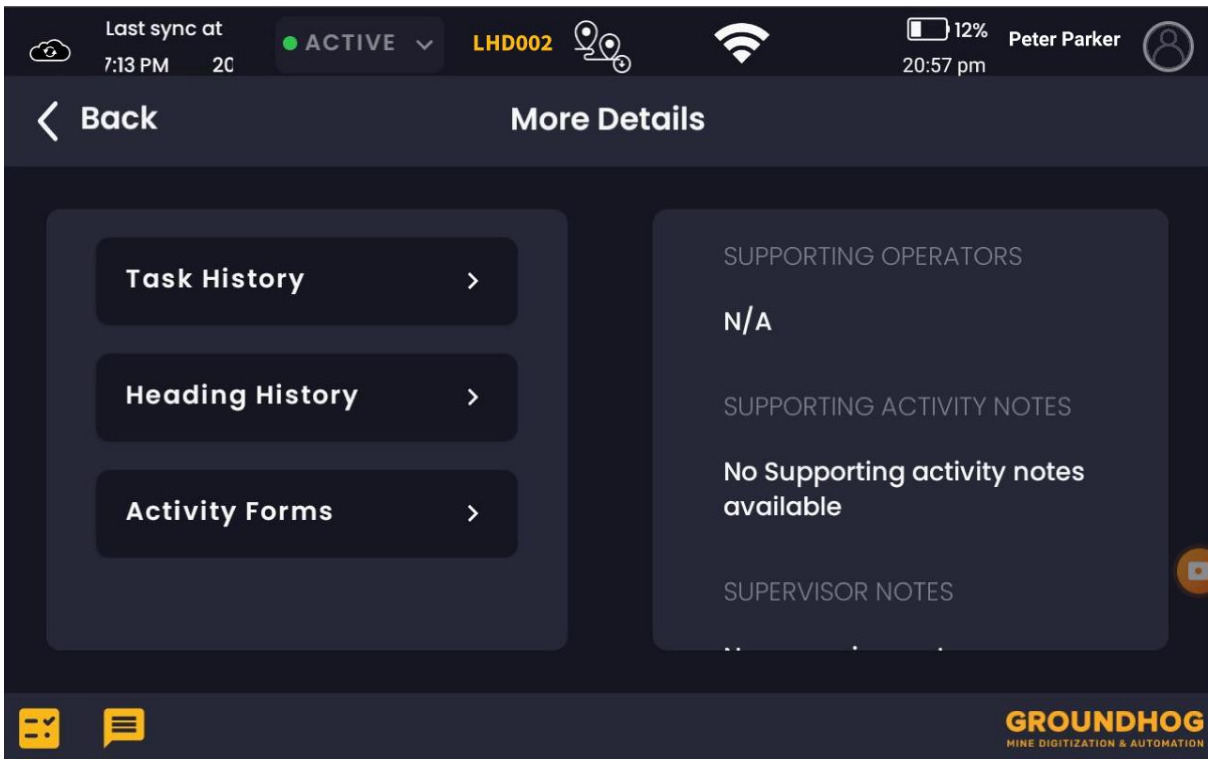

Last sync at
2024-03-13 2
ACTIVE
LHD002
5%
23:30 pm
Peter Parker
Back
Capture Sample Information
Add measurement
NO LASER MEASUREMENT OR SAMPLE ADDED YET.
PLEASE ADD A NEW MEASUREMENT BY CLICKING
ADD MEASUREMENT BUTTON
Next
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

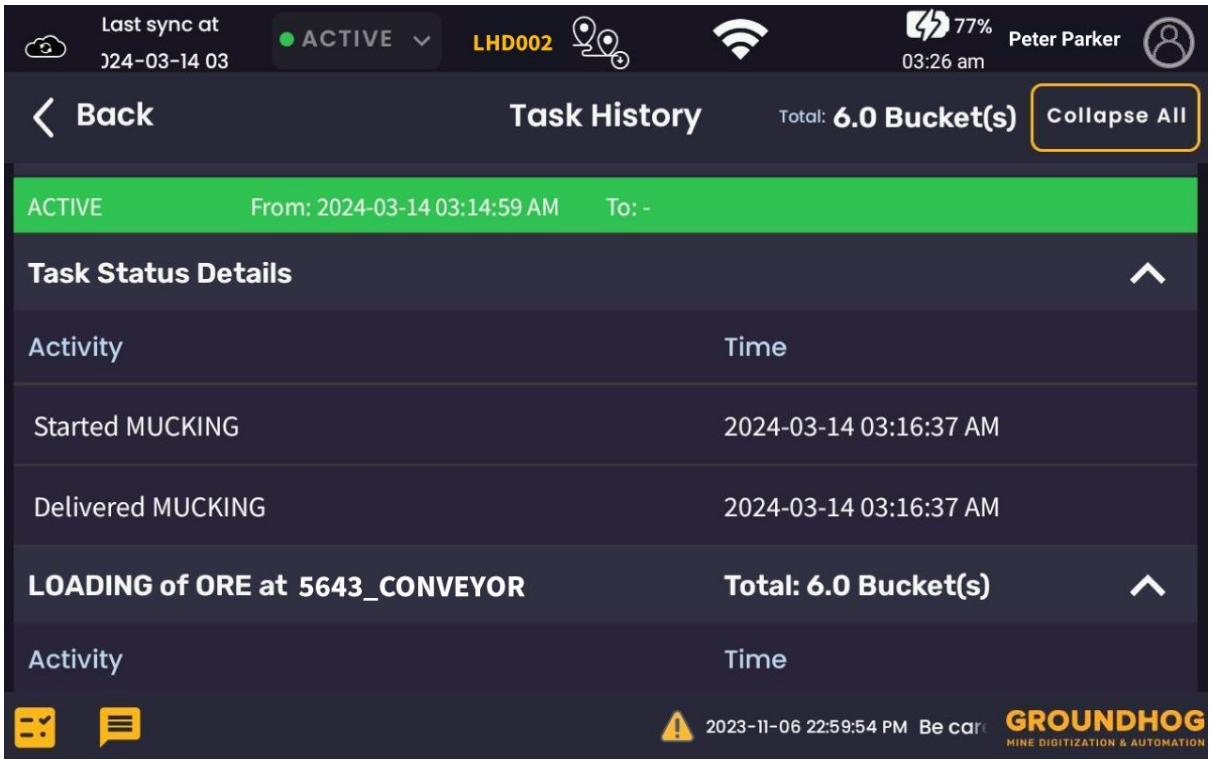

Last sync at
-13 23:29:45 F
ACTIVE
LHD002
5%
23:31 pm
Peter Parker
Back
Capture Sample Information
Sample Bag Type
Muck Sample
Sample no
Sample Bag
Scan or enter
SAVE
2023-11-06 22:5
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

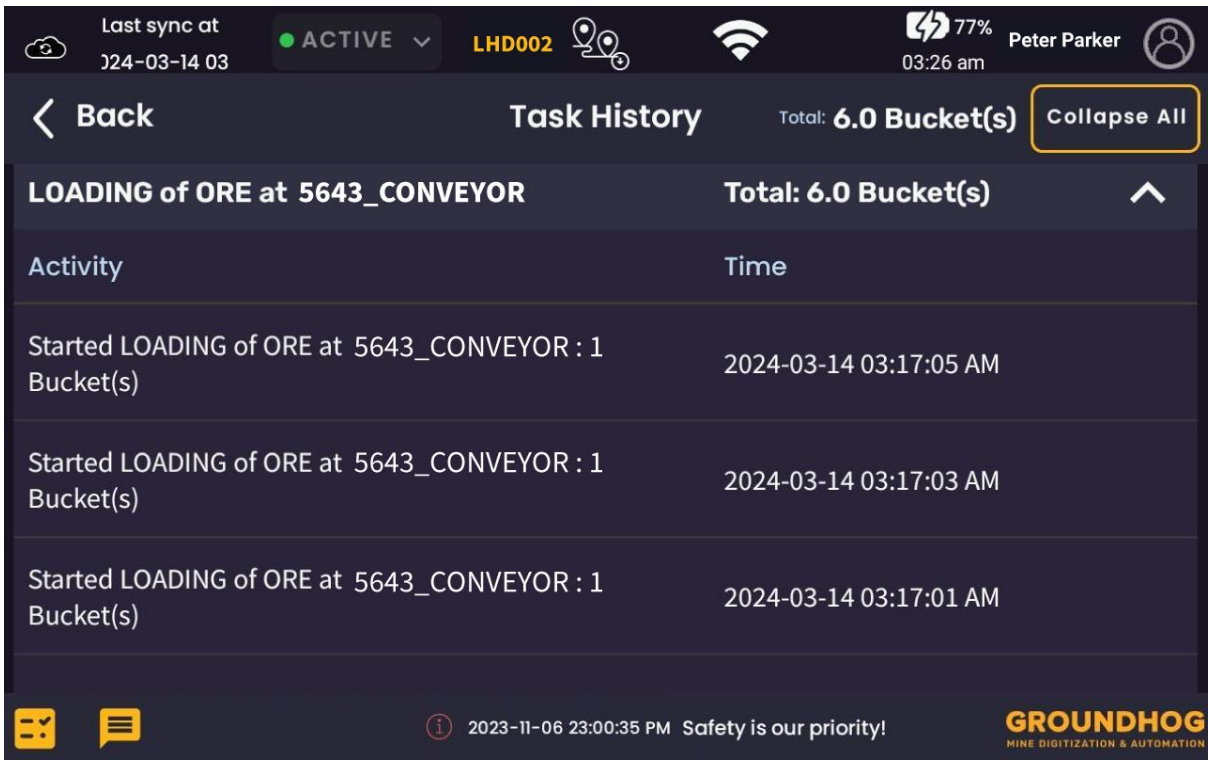

Last sync at
-03-13 23:29:4
ACTIVE
LHD002
5%
23:32 pm
Peter Parker
Back
Capture Sample Information
Add measurement
DATE AND TIME
NO. OF SAMPLE BAG POSITIONS
2024-03-13 23:33:42 PM
1
Next
2023-11-06 23:01:35 PM Safety is our priority!
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

How to view Task History and Heading History and record task completion:

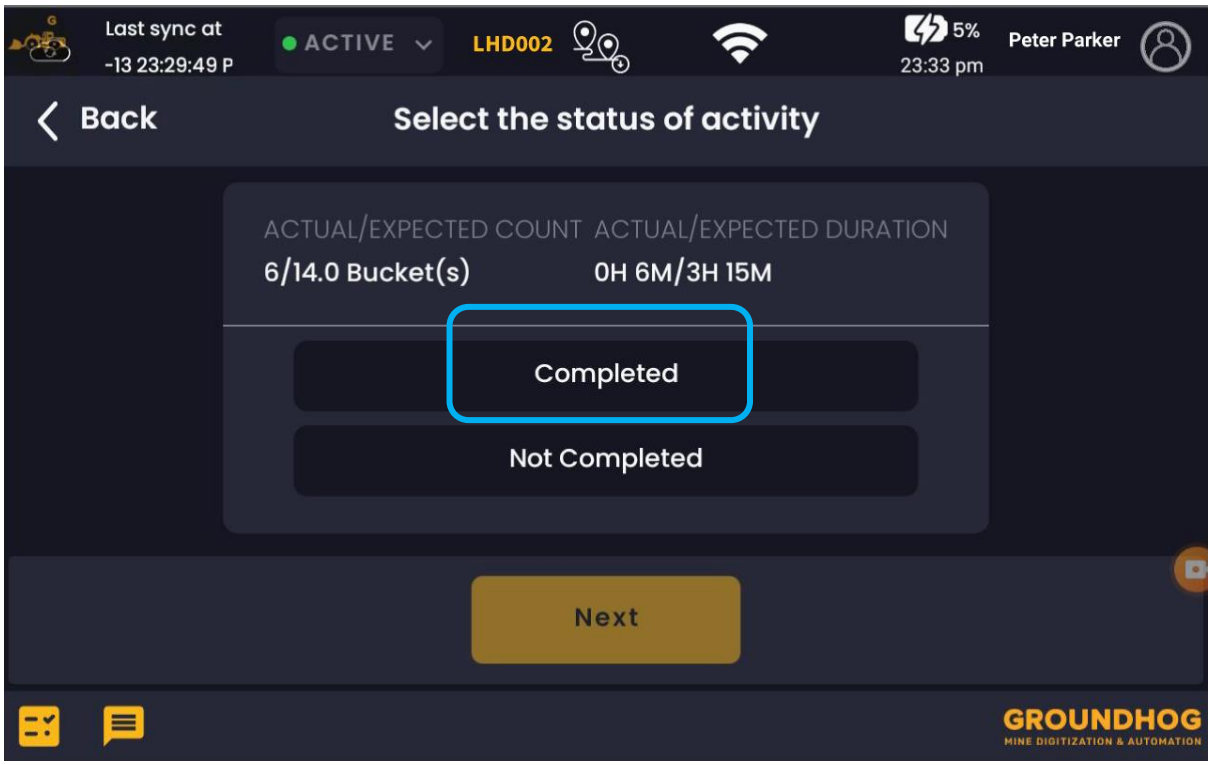
To access more details, including Task History, Heading History, or Activity Forms linked to the task, click "More Details." This screen also provides information about Supporting Operators involved in the task and any notes from the Supervisor. During task creation, notes from Supporting Operators, Supporting Activities, or the Supervisor can be added via the task OpsCenter.

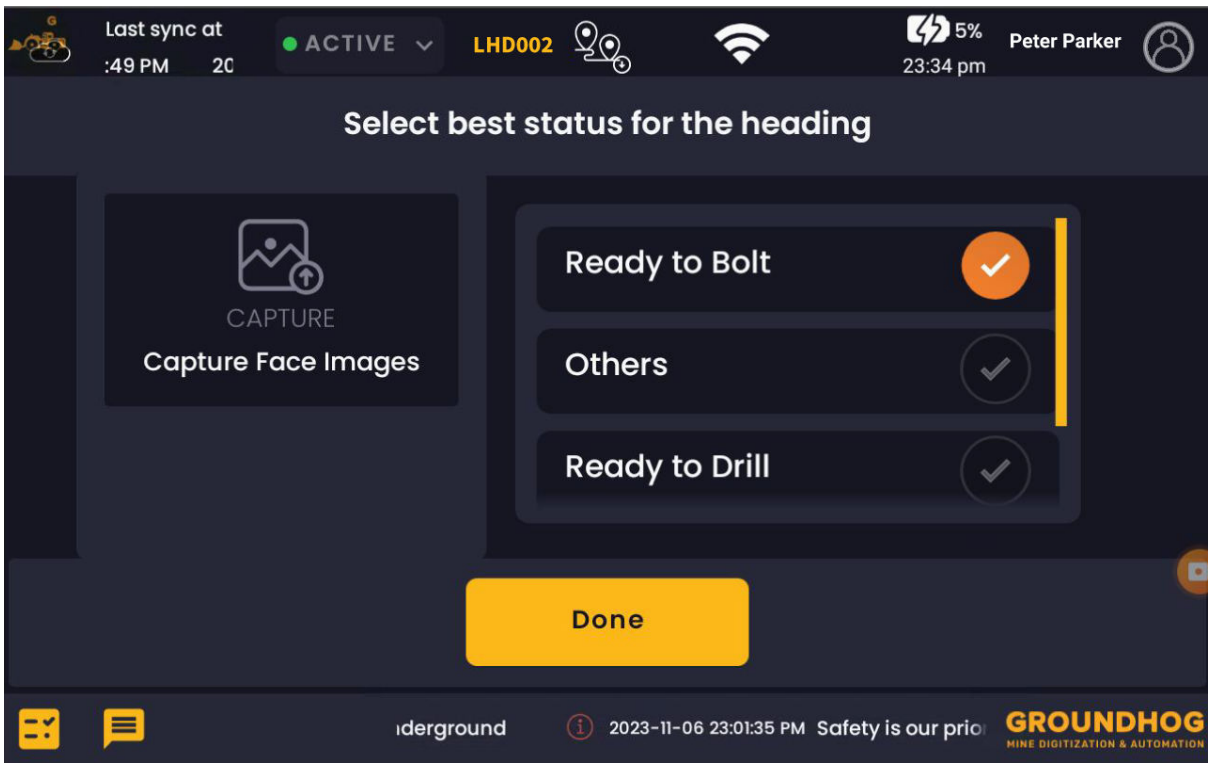

Last sync at
7:13 PM 20
ACTIVE
LHD002
12%
20:57 pm
Peter Parker
Back
More Details
Task History
Heading History
Activity Forms
SUPPORTING OPERATORS
N/A
SUPPORTING ACTIVITY NOTES
No Supporting activity notes available
SUPERVISOR NOTES
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Last sync at
024-03-14 03
ACTIVE
LHD002
77%
03:26 am
Peter Parker
Back
Task History
Total: 6.0 Bucket(s)
Collapse All
ACTIVE
From: 2024-03-14 03:14:59 AM
To: -
Task Status Details
Activity
Time
Started MUCKING
2024-03-14 03:16:37 AM
Delivered MUCKING
2024-03-14 03:16:37 AM
LOADING of ORE at 5643_CONVEYOR
Total: 6.0 Bucket(s)
Activity
Time
2023-11-06 22:59:54 PM Be car
GROUNDHOG
MINE DIGITIZATION & AUTOMATION



Once the Sample Bag Information is saved, the details will be displayed on the subsequent screen. To proceed with the task, click the back button, or alternatively, click the "Next" button to finalize the task and record its status.

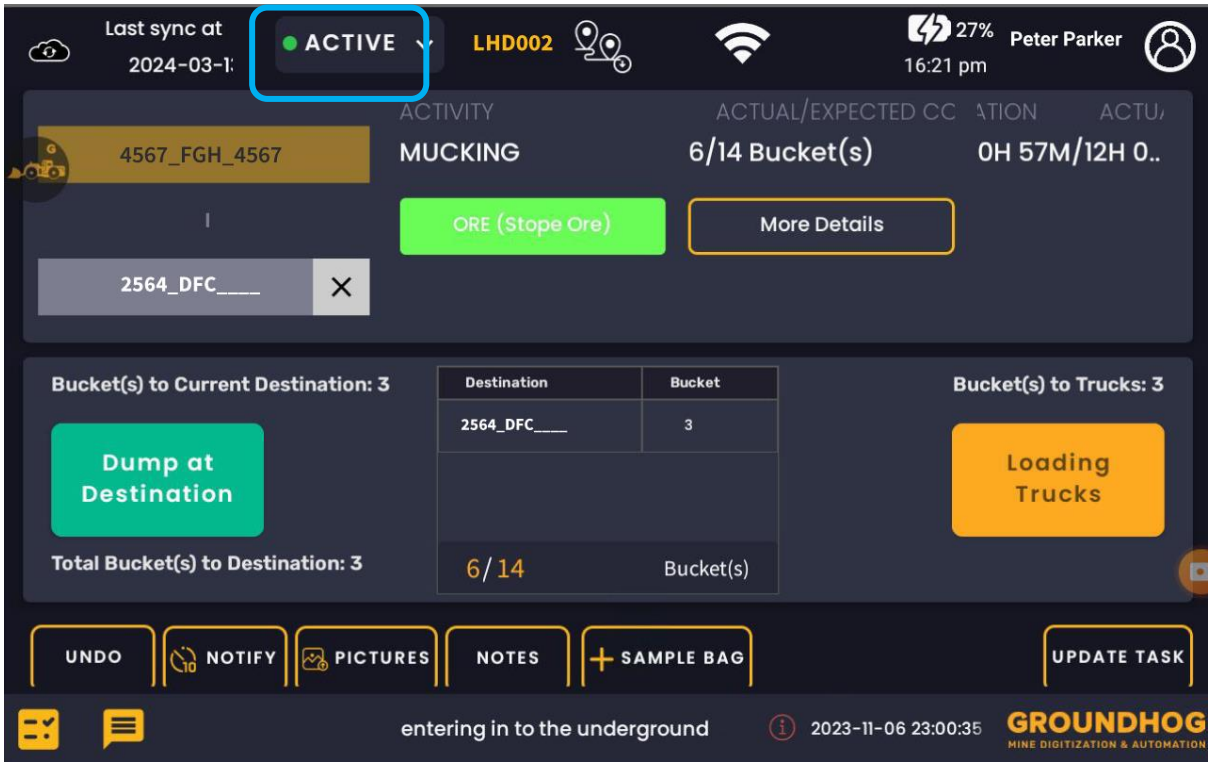


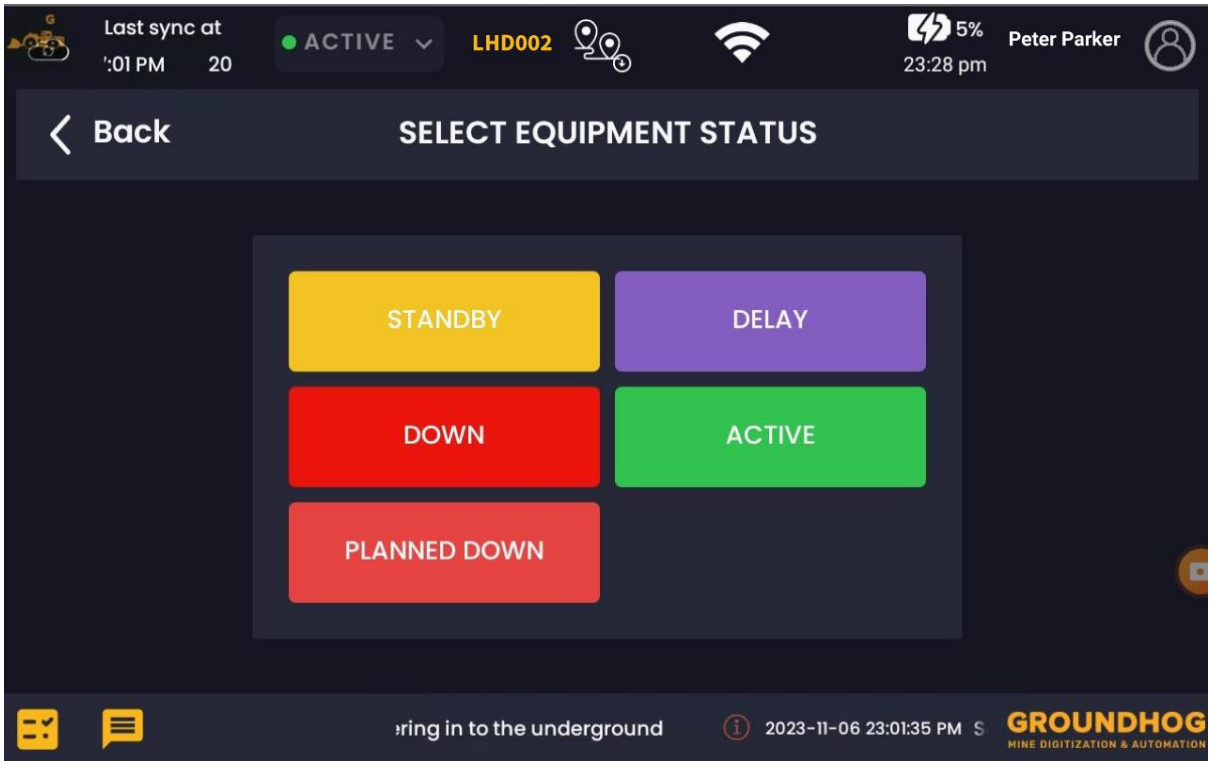

Last sync at
:49 PM 20
ACTIVE
LHD002
5%
23:34 pm
Peter Parker
Select best status for the heading
CAPTURE
Capture Face Images
Ready to Bolt
Others
Ready to Drill
Done
derground
2023-11-06 23:01:35 PM Safety is our prio
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

Delays and Downs Tracking:

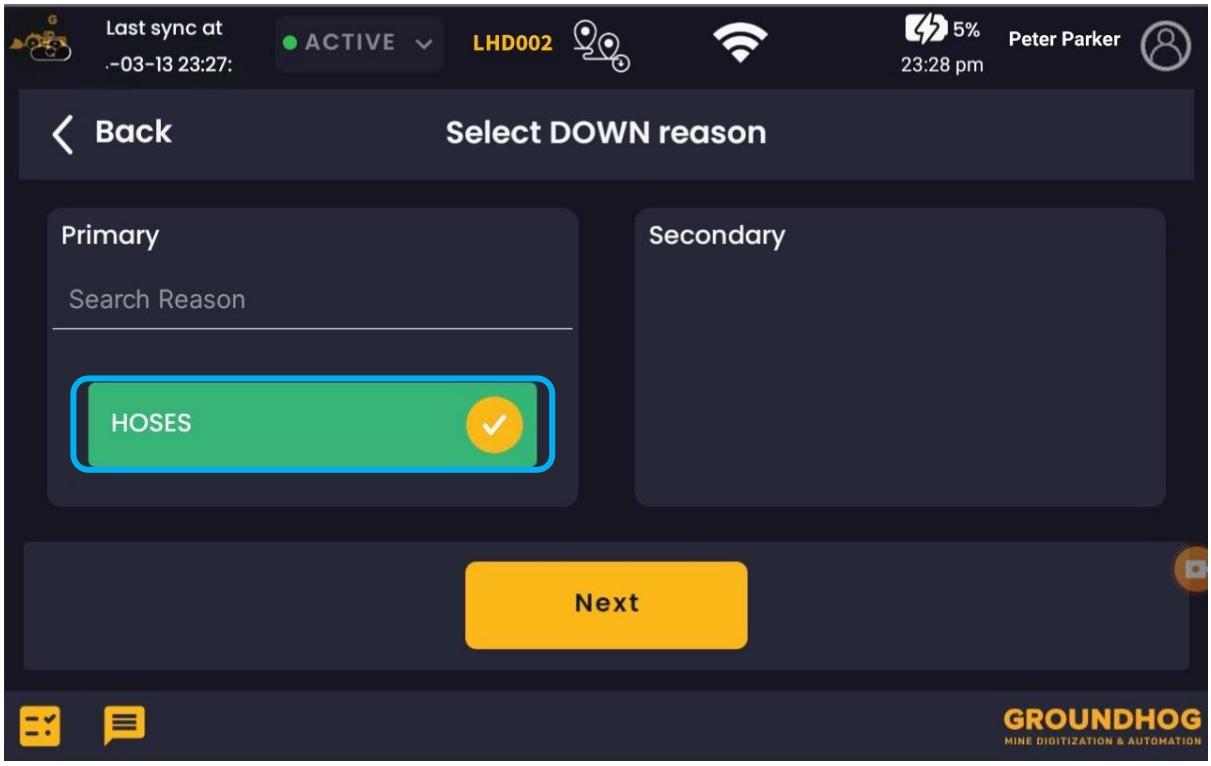
How to log and view downs and delays:

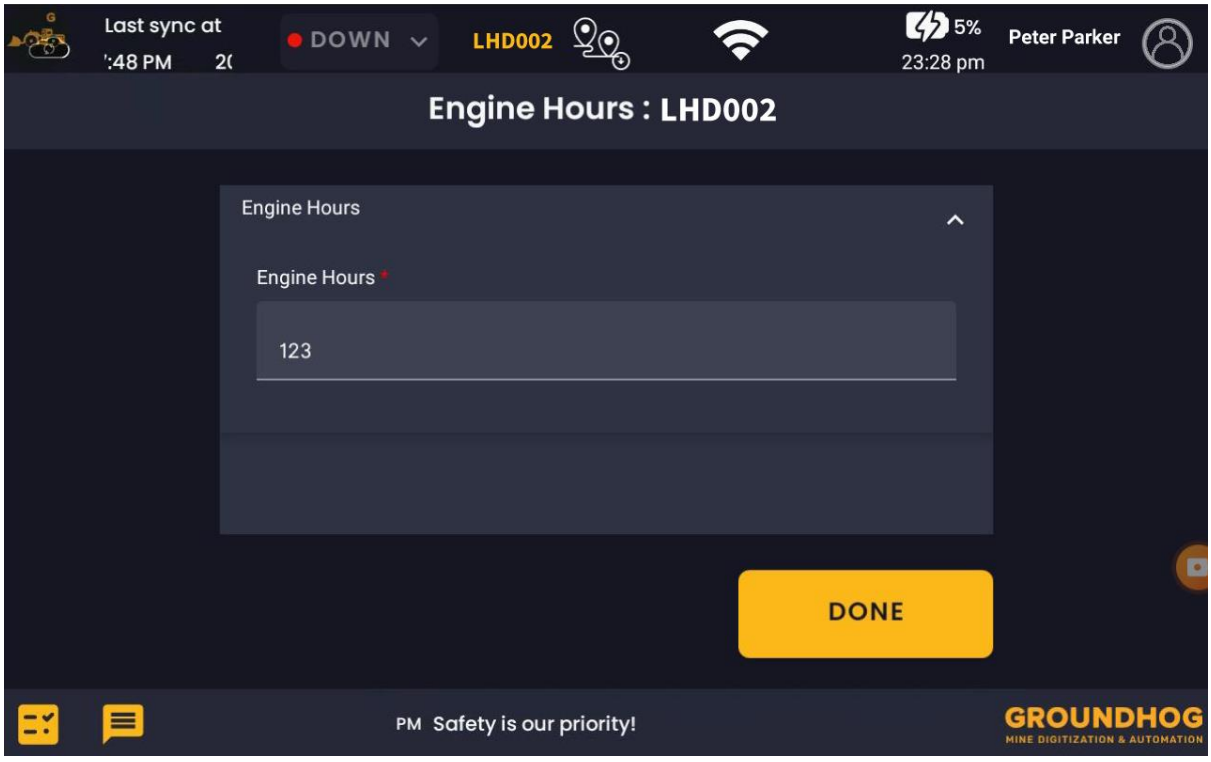
If the equipment is not operational, the operator can select the "Active" status displayed on the header and change it to "DOWN" to accurately reflect the equipment's status.

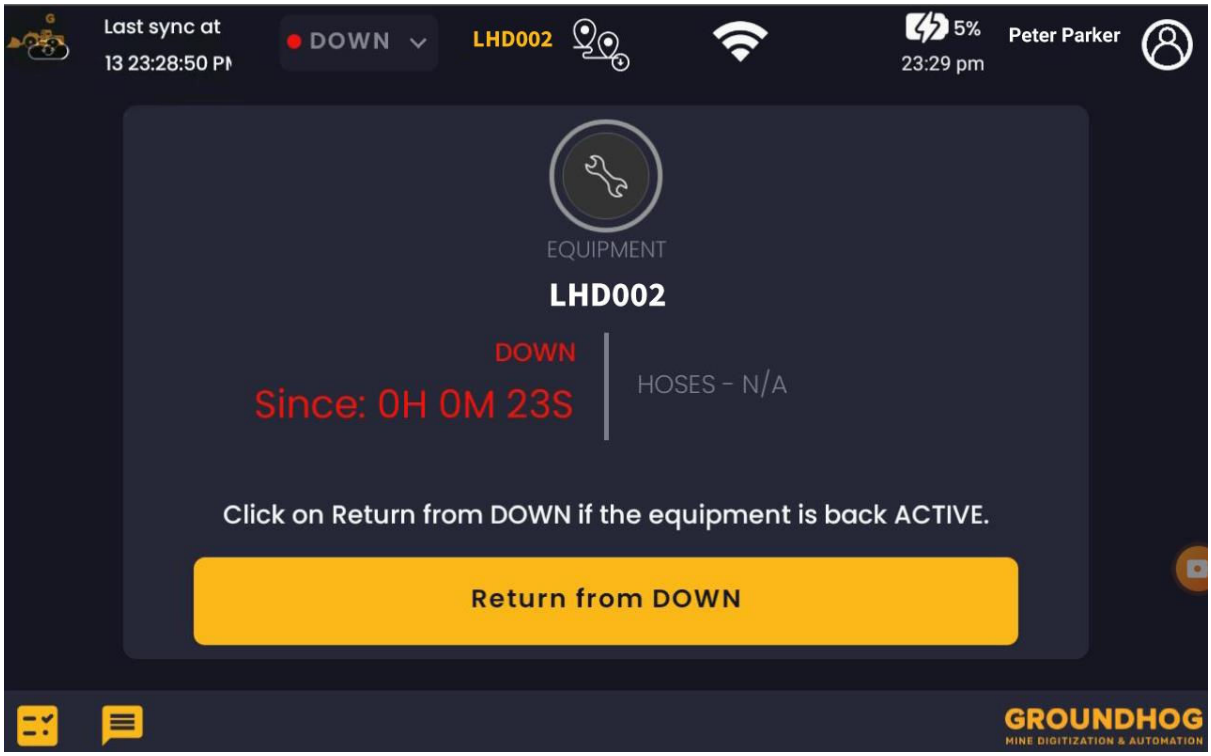



Last sync at
':01 PM 20
ACTIVE
LHD002
5%
23:28 pm
Peter Parker
Back
SELECT EQUIPMENT STATUS
STANDBY
DELAY
DOWN
ACTIVE
PLANNED DOWN
ering in to the underground
2023-11-06 23:01:35 PM S
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

How to view and select reason codes:



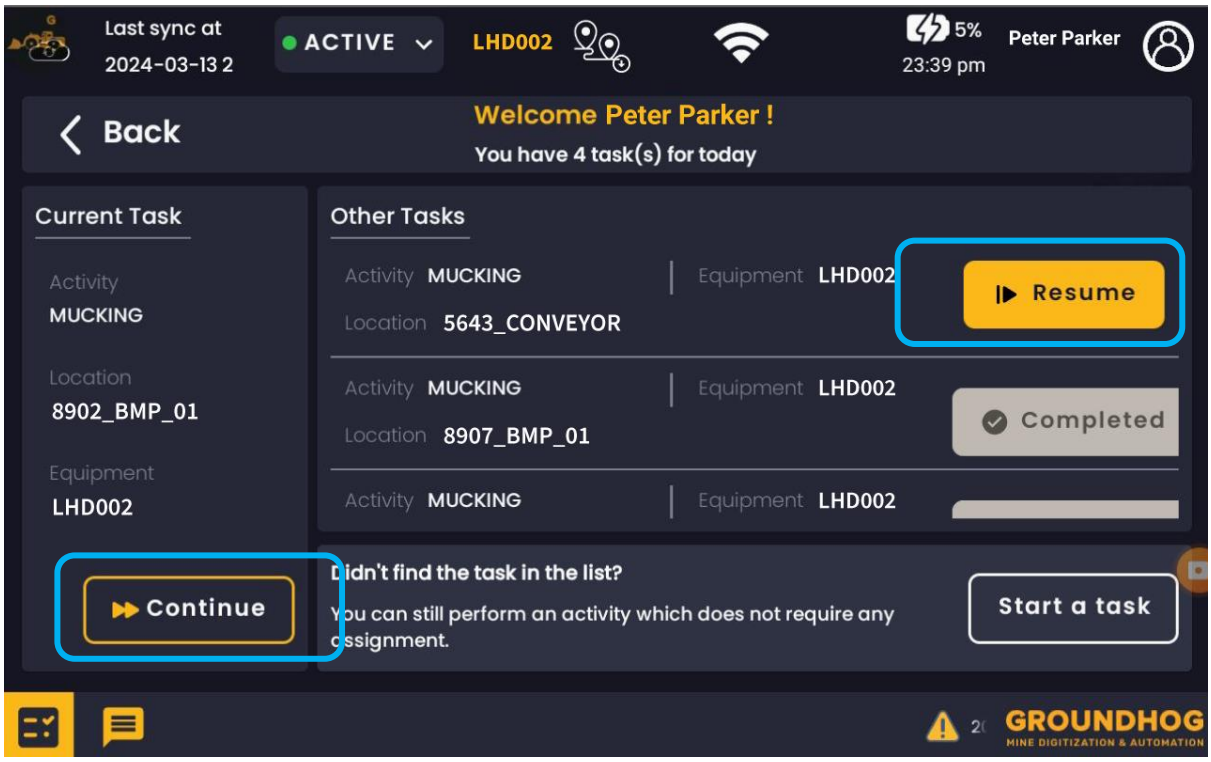



Last sync at
13 23:28:50 PM
DOWN
LHD002
5%
23:29 pm
Peter Parker
EQUIPMENT
LHD002
DOWN
Since: 0H 0M 23S
HOSES - N/A
Click on Return from DOWN if the equipment is back ACTIVE.
Return from DOWN
GROUNDHOG
MINE DIGITIZATION & AUTOMATION

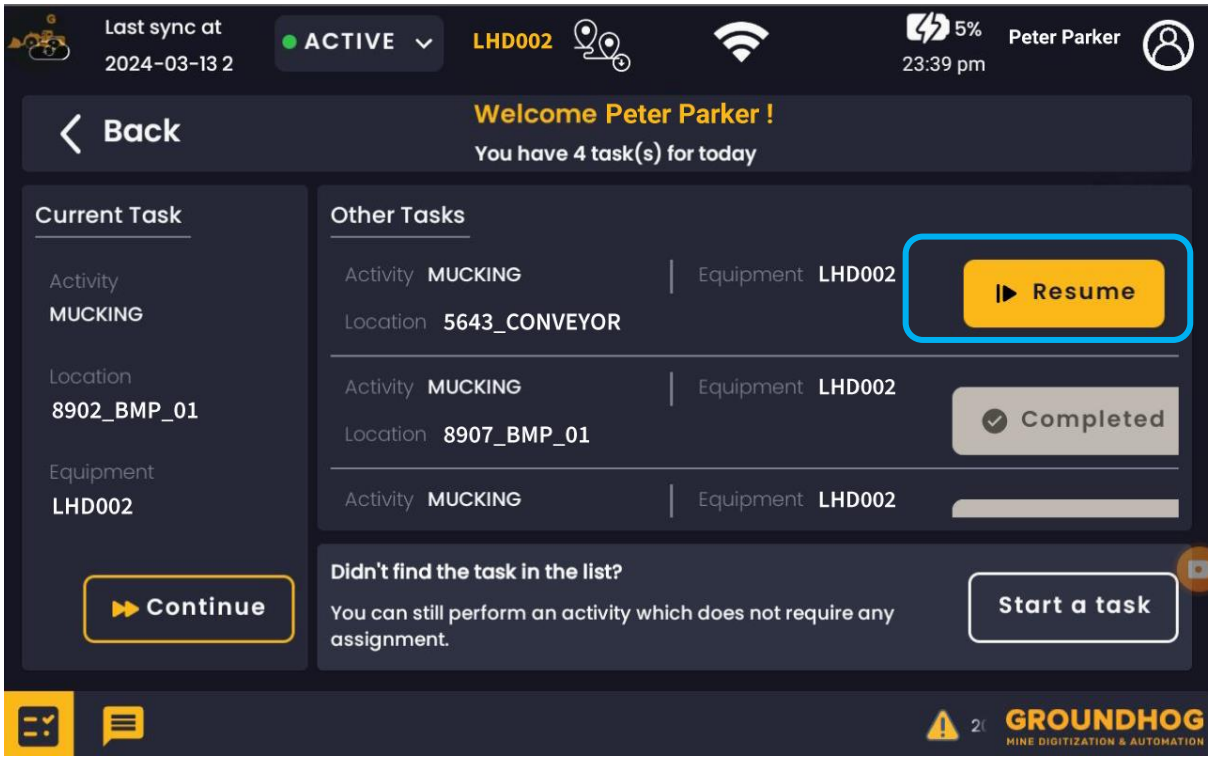
Switching tasks:

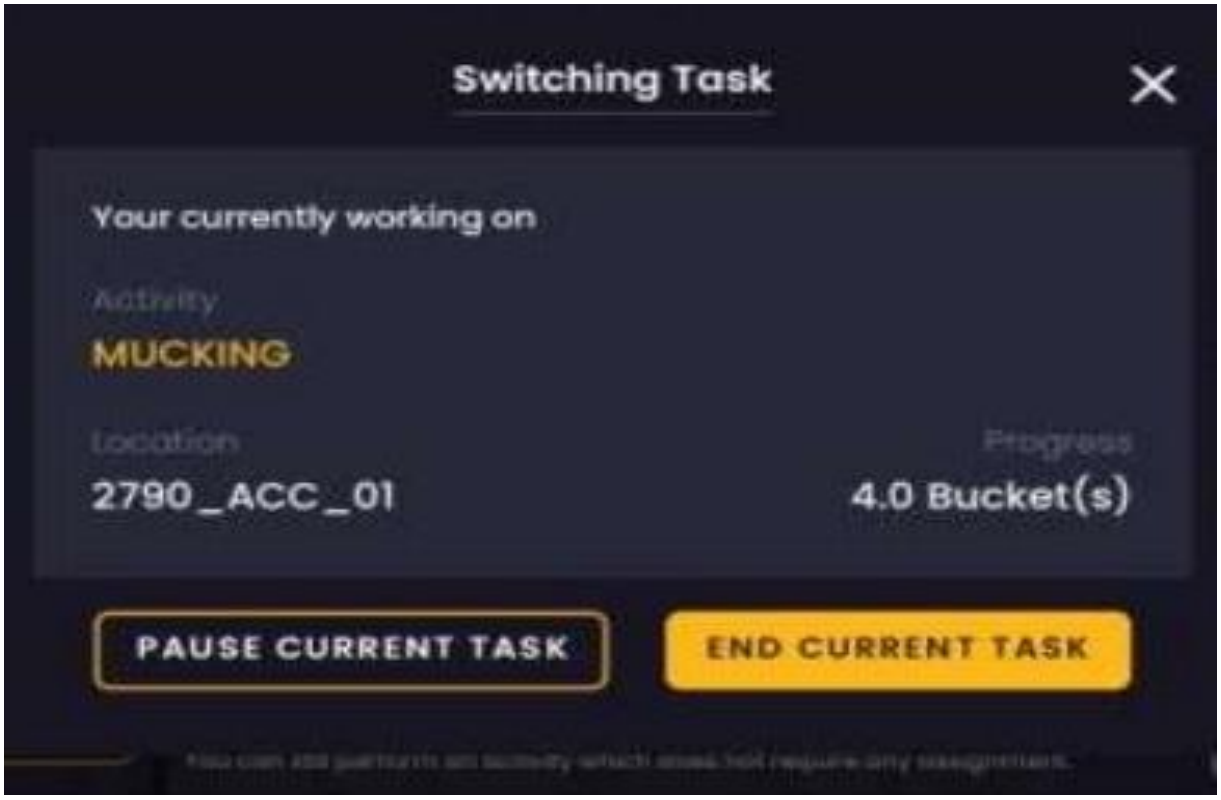
How to change/switch tasks:

From the Task List screen, the operator can initiate a new task while still working on the current one. The current task is displayed on the left side of the screen. Clicking "Continue" allows the operator to proceed with the current task, while clicking "Resume" on the right side of the screen enables them to switch to that task.



When clicking "Resume," a popup will appear asking if you wish to pause or end your current task.


Last sync at
2024-03-13 2
ACTIVE
LHD002
5%
23:39 pm
Peter Parker
Back
Welcome Peter Parker !
You have 4 task(s) for today
Current Task
Activity
MUCKING
Location
8902_BMP_01
Equipment
LHD002
Continue
Other Tasks
Activity MUCKING
Equipment LHD002
Location 5643_CONVEYOR
Resume
Activity MUCKING
Equipment LHD002
Location 8907_BMP_01
Completed
Activity MUCKING
Equipment LHD002
Didn't find the task in the list?
You can still perform an activity which does not require any assignment.
Start a task
GROUNDHOG
MINE DIGITIZATION & AUTOMATION


Switching Task
Your currently working on
Activity
MUCKING
Location
2790_ACC_01
Progress
4.0 Bucket(s)
PAUSE CURRENT TASK
END CURRENT TASK

Communication Protocol

GroundHog has implemented a three-tiered communication protocol to establish a structured and efficient communication framework. Each level addresses specific aspects of support and management, ensuring that concerns are addressed promptly and effectively.

Level 1: Site Support: At the foundation of our communication protocol is Level 1 - Site Support. This level primarily deals with on-site issues and immediately assists field operators and personnel.

Level 2: GroundHog Support Team: Level 2 is the GroundHog Support Team, the intermediate layer between on-site operations and higher management. This level focuses on resolving complex technical issues and providing advanced support.

Level 3: GroundHog Management: The apex of our communication protocol is Level 3 - GroundHog Management. This level involves high-level decision-makers and managers who oversee the entire operational landscape.

Our customer-first approach includes an extremely responsive Customer Service team, intuitive programs to accelerate adoption in the field, and transparent data to increase productivity.

SUPPORT CONTACTS

Lisa Daniels
Head of Customer Success
ldaniels@groundhogapps.com
+1 714 486 5549 USA
Cross functional support

Kranthi Kumar Mathala
Mine Control and Digitization Consultant
kmathala@groundhogapps.com
7829670307 - India
Cross-functional support