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Sandia National Laboratories

Modernizing the Asset Inventory Process

Plus Other Modernizations to the Oracle Assets Module at SNL

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Oracle Fixed Assets Technical Lead

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U.S. DEPARTMENT OF ENERGY | NNSA

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About Me

- Senior Software Systems Engineer in the Supply Chain Systems Department
  - Oracle Fixed Assets Module Lead
  - Been at SNL for 7.5 Years
  - Previously worked in Finance, Business Intelligence, and IT Audit
  - Also worked at the Savannah River Site as a Summer Cyber Scholar

- Graduate of the University of New Mexico
  - BBA in Management Information Systems
  - MS Information Systems and Assurance

Agenda

1. Property Inventory Background
2. Network Inventory Solution
3. How it was Built
4. Looking Forward
5. Constraints and Lessons Learned
6. Other IT Modernizations to the Oracle Assets Module
7. Questions

Project Background

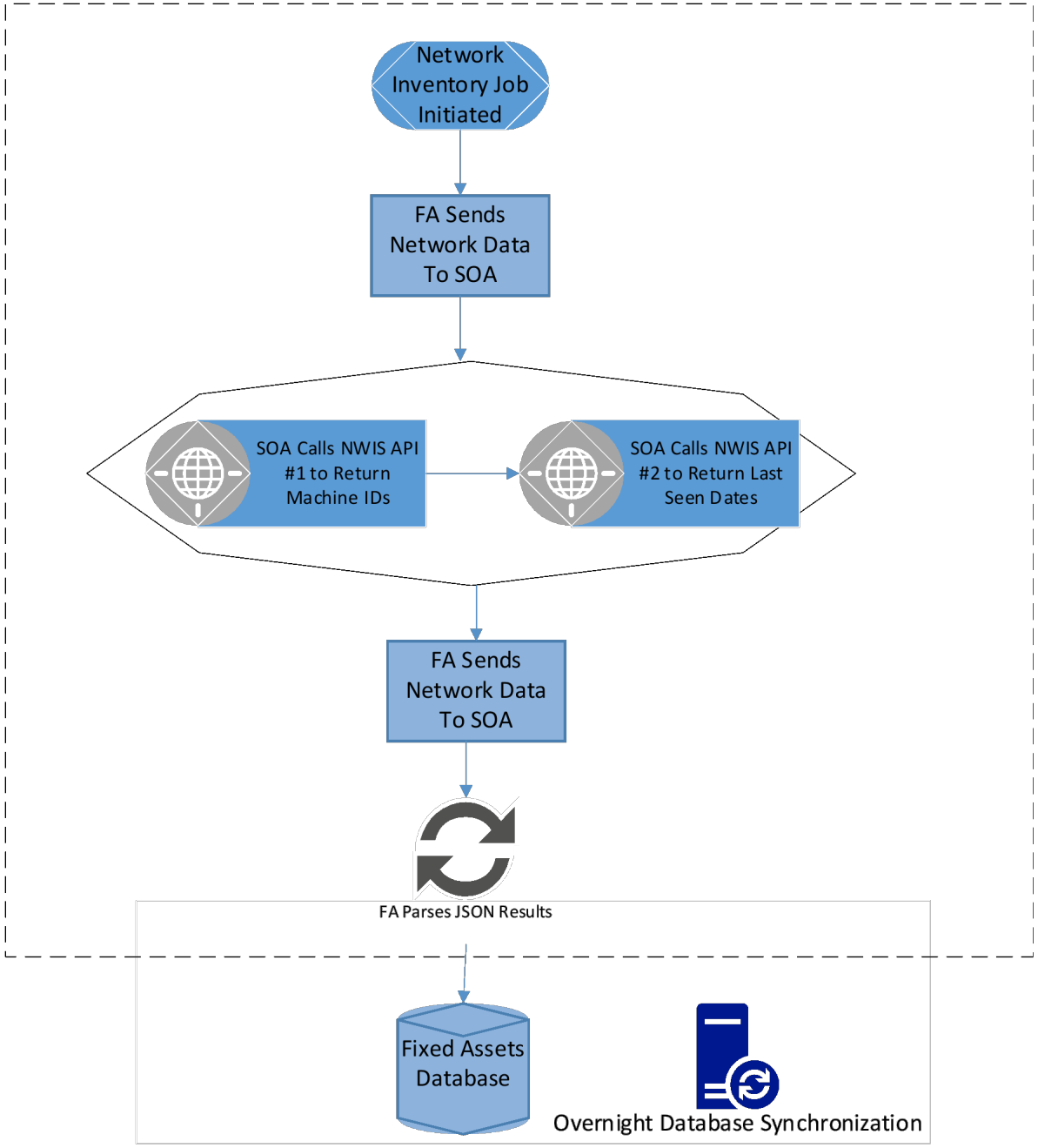
- A property inventory is conducted annually to demonstrate that SNL's property management policy and procedures are being followed and effective.
- Two Types of Inventory
  - Statistical Sample (~2,500 items)
  - Wall-to-Wall (~100,000+ items)
- Previously, only two methods of inventory
  - Scans
  - Memos
- Inventories can be time-consuming
  - Especially during a wall-to-wall

Inventory by Network Identification Solution

- A Fueling Innovations funded, cross-functional team implemented a solution that will account for ~51% of property from a network connection during annual inventory reviews.
  - Team consisted of members from Supply Chain Systems (Oracle), Network Information System, Networking.
  - Oracle Fixed Assets leverages network data to inventory items using Last Seen On Network log times.

How We Did It

- Process is kicked off by a Control-M automated job that runs a PL/SQL Package.
- Oracle Assets makes calls to SOA Suite
- SOA Suite calls 2 NWIS APIS, sends the results of the second API back to Oracle Assets
- Oracle Assets parses the results and inserts them into the database

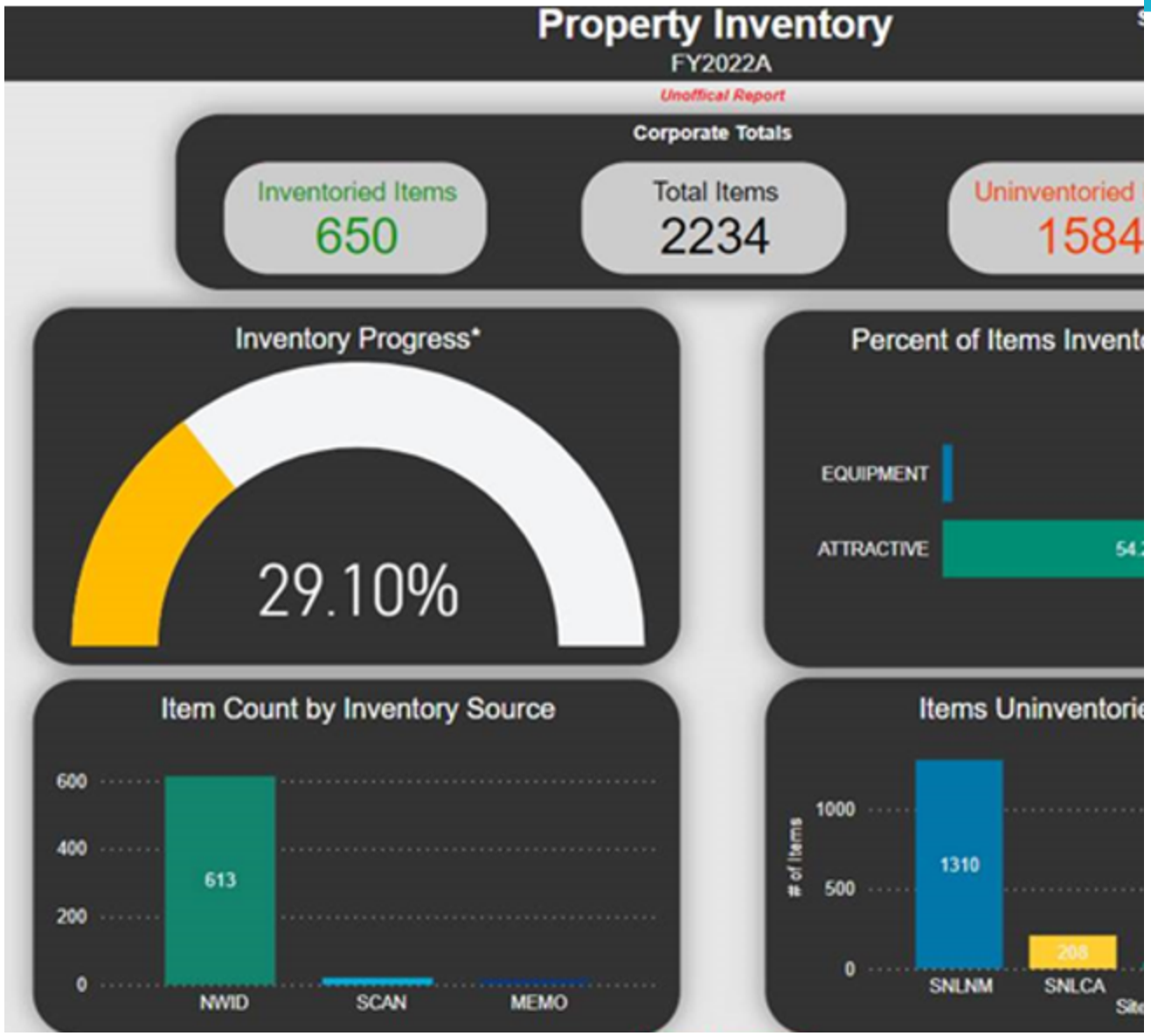


Output into Oracle Database

SL_TRANSACTION_ID	ASSET_NUMBER	SL_INV_SOURCE	SL_LAST_SEEN_ON_NW
667543	S1059601	NWID	9/18/2020 6:49:00 PM
667538	S1036381	NWID	12/21/2020 8:30:00 PM
667540	S974794	NWID	2/20/2020 9:11:00 PM
667539	S1059601	NWID	9/18/2020 6:49:00 PM
667534	S1036381	NWID	12/21/2020 8:30:00 PM
667536	S974794	NWID	2/20/2020 9:11:00 PM

Results

- In 2021, we were able to inventory 570 items (26%) using the network solution.
- In 2022, we surpassed 600 network items!
- Expected to save 10,000 labor hours.
- Avoids the purchase of additional scanners.
- 3 year ROI of ~$900,000



Constraints and Lessons Learned

- Calling Microsoft API's from Oracle
  - Solution – Use SOA Suite as a "Middle-Man"
- Request Time-Outs Due to Record Size
  - Send requests in batches
- COVID-19 and Remote Work

Looking Forward

- Wall-to-Wall this year.
- Adding mobile device date.
- Minimal maintenance.

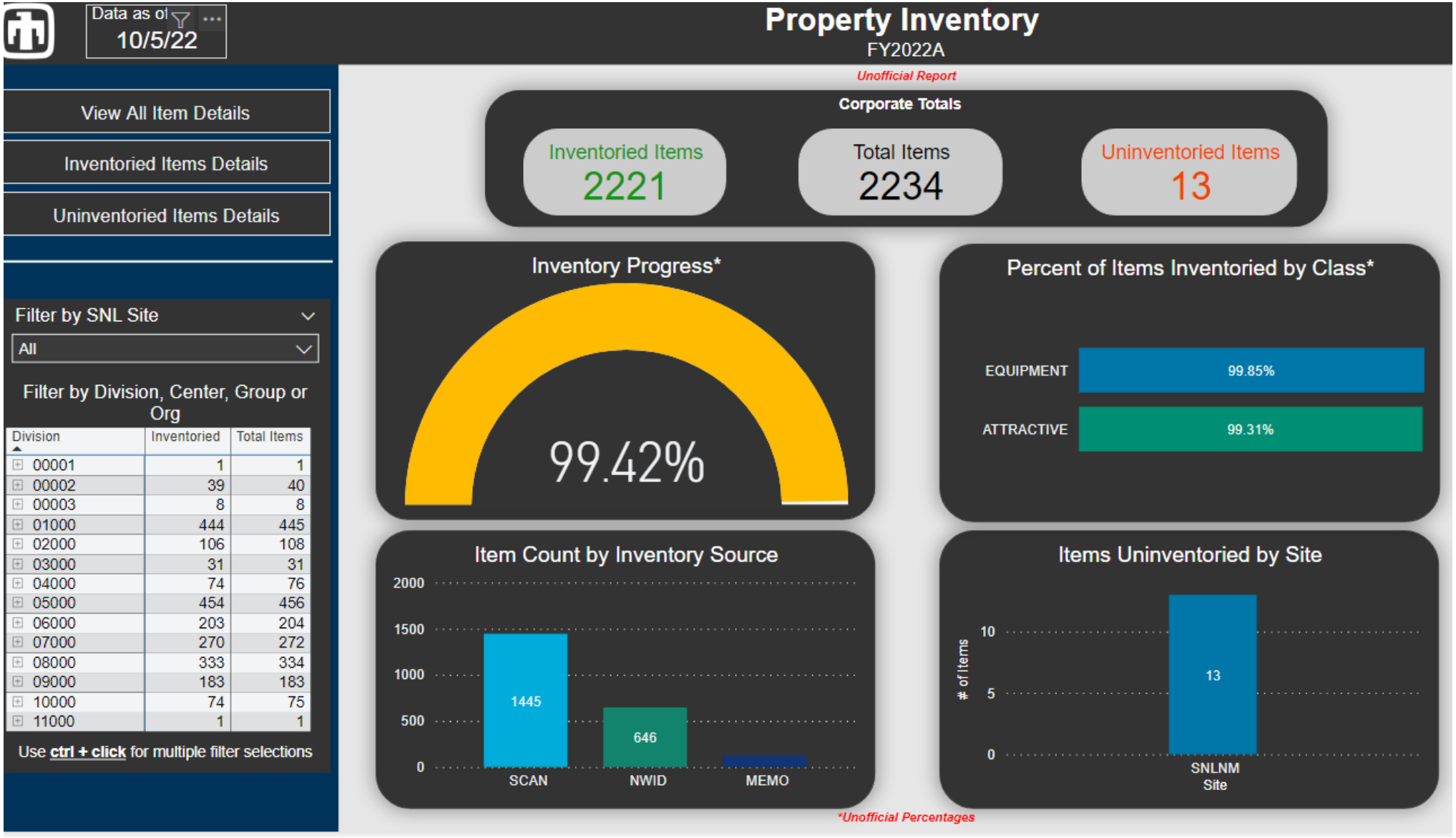
Inventory Reporting Modernization

Previous Reporting Methods

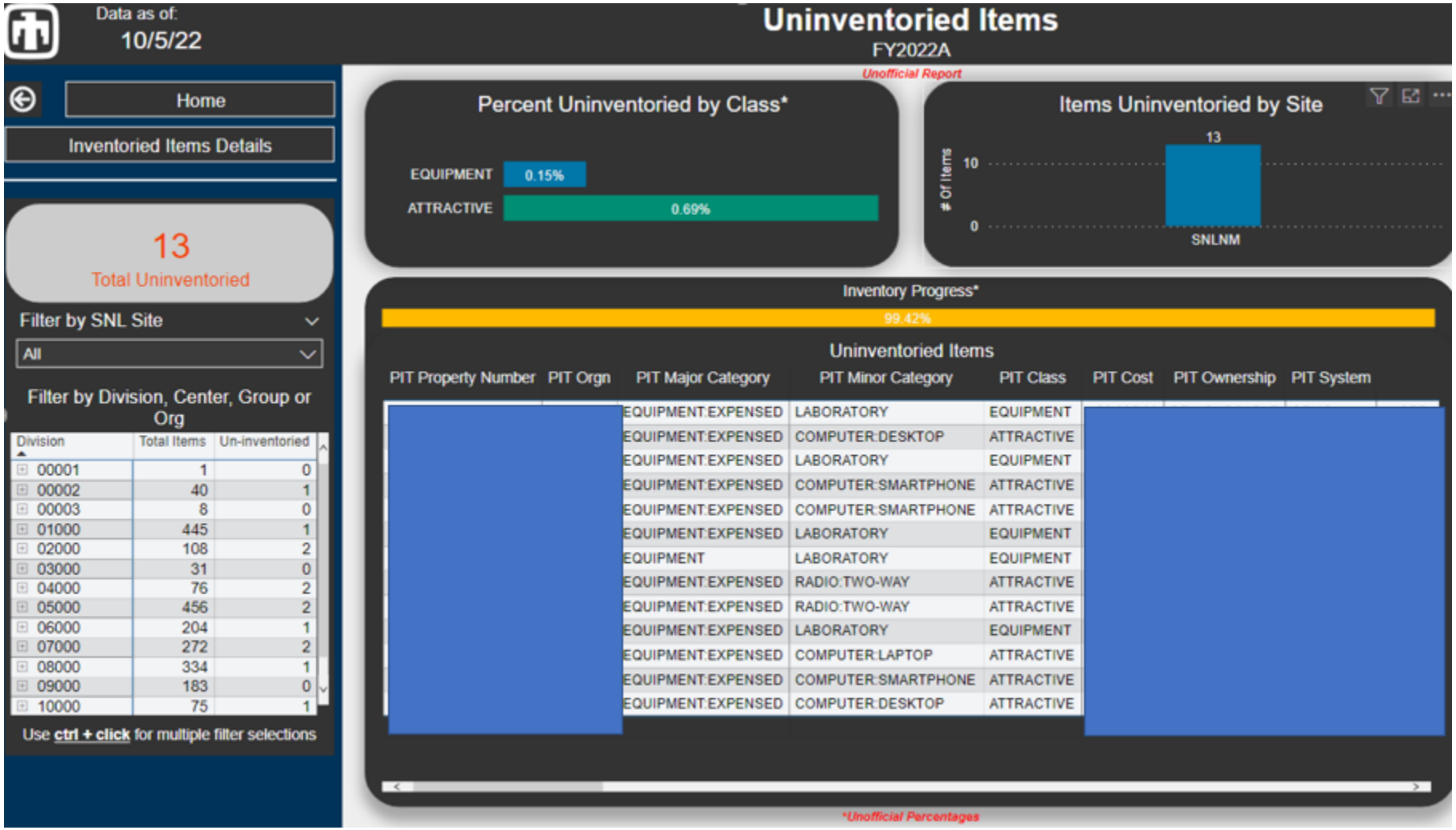
- Canned Oracle Reports
  - Non-Interactive
  - Slow Run-Times

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	INVENTOI	ASSET_ID	ASSET_NU	ASSET_CA	SL_CLASS	SL_COST	SL_INVEN	SL_NBV	SL_ORGAI	SL_OWNE	SL_SYSTEI	INVENTOI	SL_INV_S(	CREATED_	CREATION	LAST_UPD	LAST_UPD	LAST_UPD
2	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
3	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
4	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
5	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
6	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
7	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
8	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
9	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
10	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
11	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
12	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
13	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######
14	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######	######

New Power BI Reports



New Power BI Reports



Other Modernizations to the Oracle Assets Module

Oracle Rest Data Services - ORDS

- Built 13 REST services since 2019

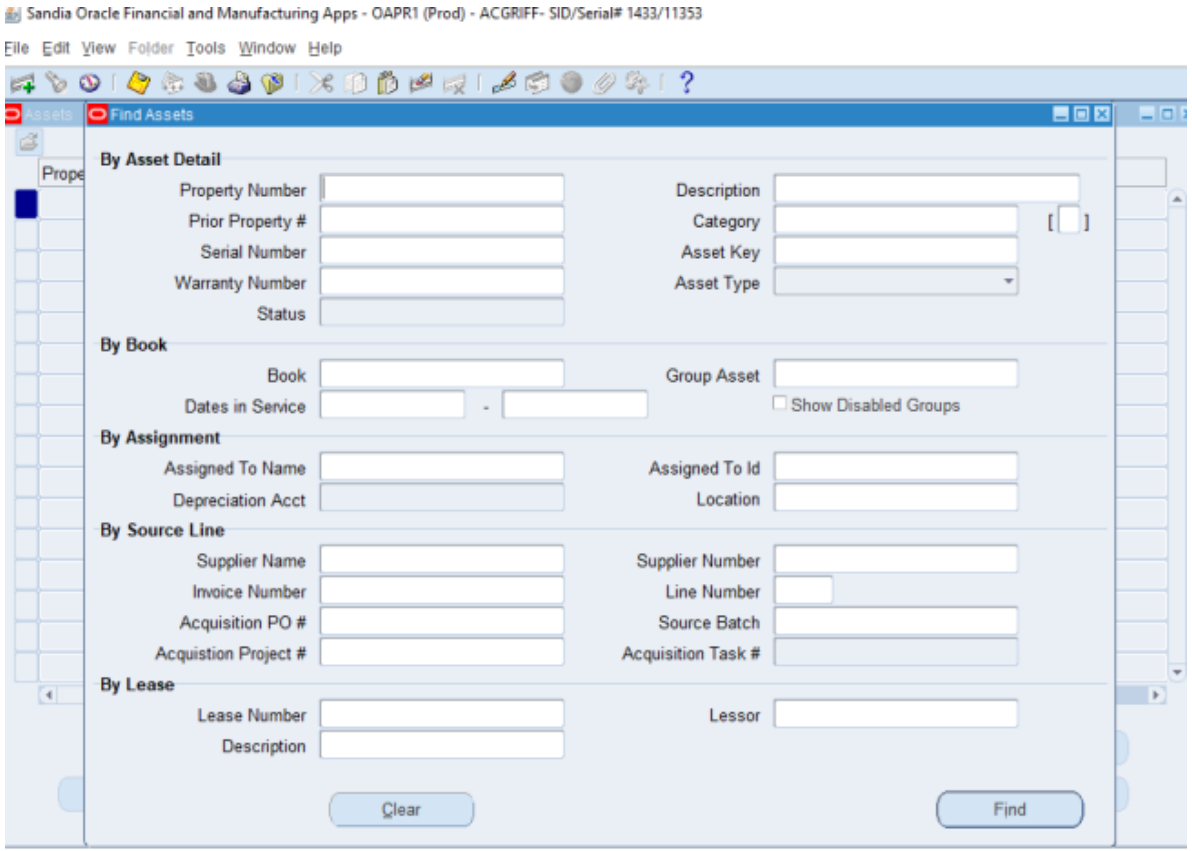
Resource Templates

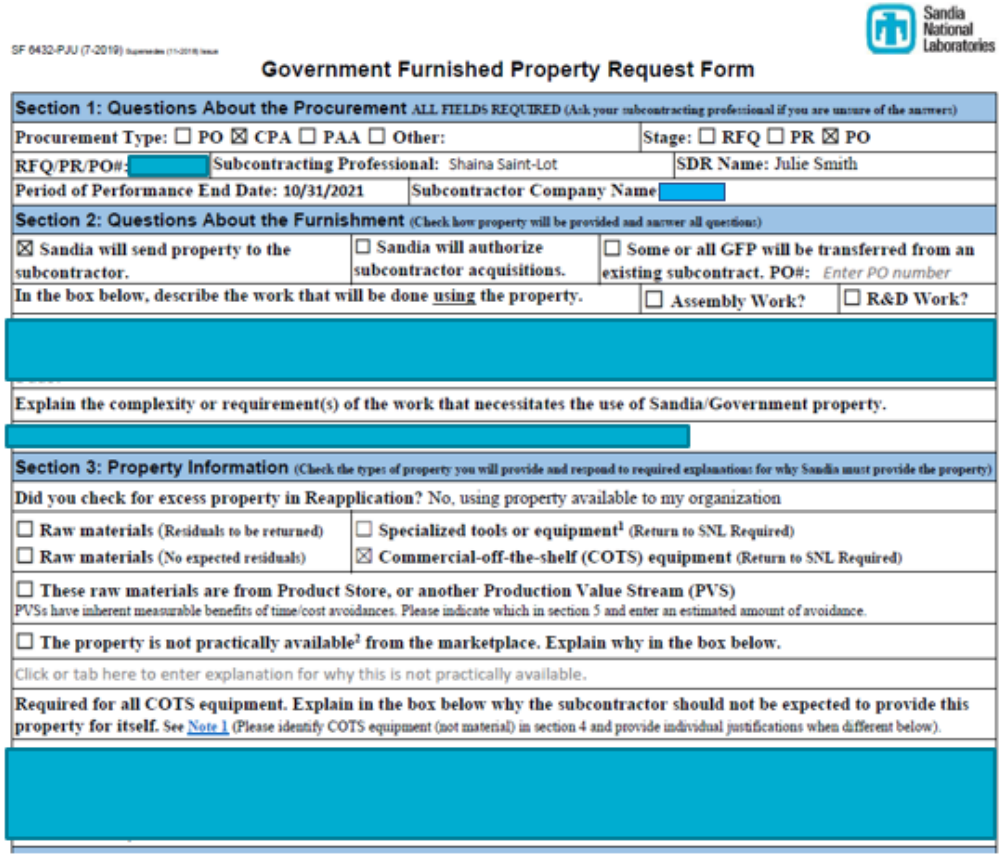
Go | Actions

URI Template	Priority	ETag Type
ws-approved-gfp/	0	HASH
webshipper-fa	0	HASH
nwis-trans	0	HASH
reapp-loc	0	HASH
reapp-pickup	0	HASH
reapp-reapply	0	HASH
ws-po-data/	0	HASH
reapp-retire	0	HASH
ws-po-data/{po}	0	HASH
ws-approved-gfp/{po}	0	HASH
wsUpdateFaGfp	0	HASH
ws-gfp-update/:id	0	HASH
transfer-trans	0	HASH

Transition to Modern Applications

Getting users away from outdated software or manual processes.





Sandia National Laboratories

SF 6432-PJU (7-2019)

Government Furnished Property Request Form

Section 1: Questions About the Procurement ALL FIELDS REQUIRED (Ask your subcontracting professional if you are unsure of the answers)

Procurement Type: ☐ PO ☒ CPA ☐ PAA ☐ Other: | Stage: ☐ RFQ ☐ PR ☒ PO

RFQ/PR/PO#: [redacted] | Subcontracting Professional: Shaina Saint-Lot | SDR Name: Julie Smith

Period of Performance End Date: 10/31/2021 | Subcontractor Company Name [redacted]

Section 2: Questions About the Furnishment (Check how property will be provided and answer all questions)

☒ Sandia will send property to the subcontractor. | ☐ Sandia will authorize subcontractor acquisitions. | ☐ Some or all GFP will be transferred from an existing subcontract. PO#: *Enter PO number*

In the box below, describe the work that will be done using the property. | ☐ Assembly Work? | ☐ R&D Work?

[redacted]

Explain the complexity or requirement(s) of the work that necessitates the use of Sandia/Government property.

[redacted]

Section 3: Property Information (Check the types of property you will provide and respond to required explanations for why Sandia must provide the property)

Did you check for excess property in Reapplication? No, using property available to my organization

☐ Raw materials (Residuals to be returned)
☐ Raw materials (No expected residuals)
☐ Specialized tools or equipment[1] (Return to SNL Required)
☒ Commercial-off-the-shelf (COTS) equipment (Return to SNL Required)

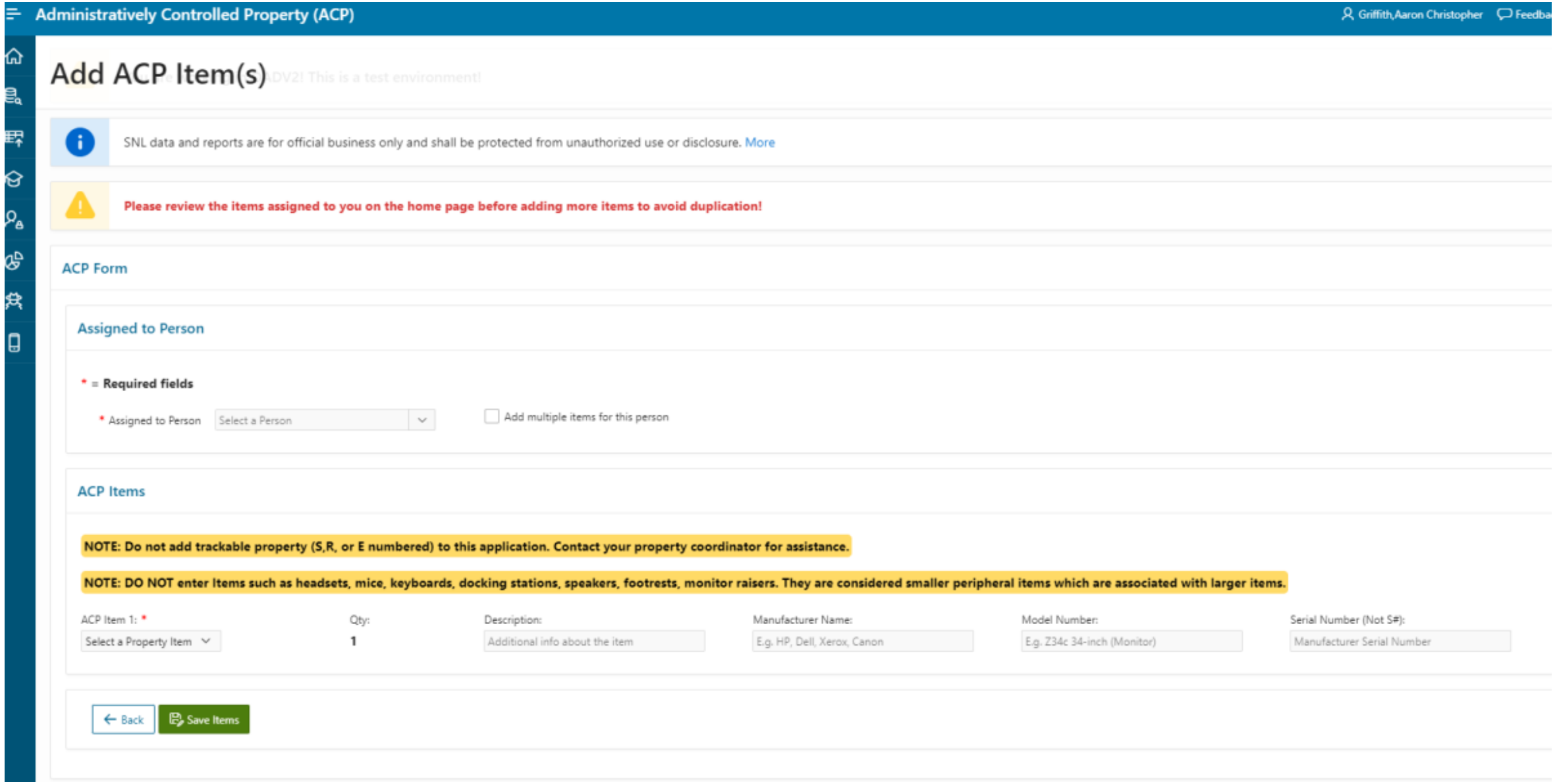
☐ These raw materials are from Product Store, or another Production Value Stream (PVS)
PVSs have inherent measurable benefits of time/cost avoidances. Please indicate which in section 5 and enter an estimated amount of avoidance.

☐ The property is not practically available[2] from the marketplace. Explain why in the box below.

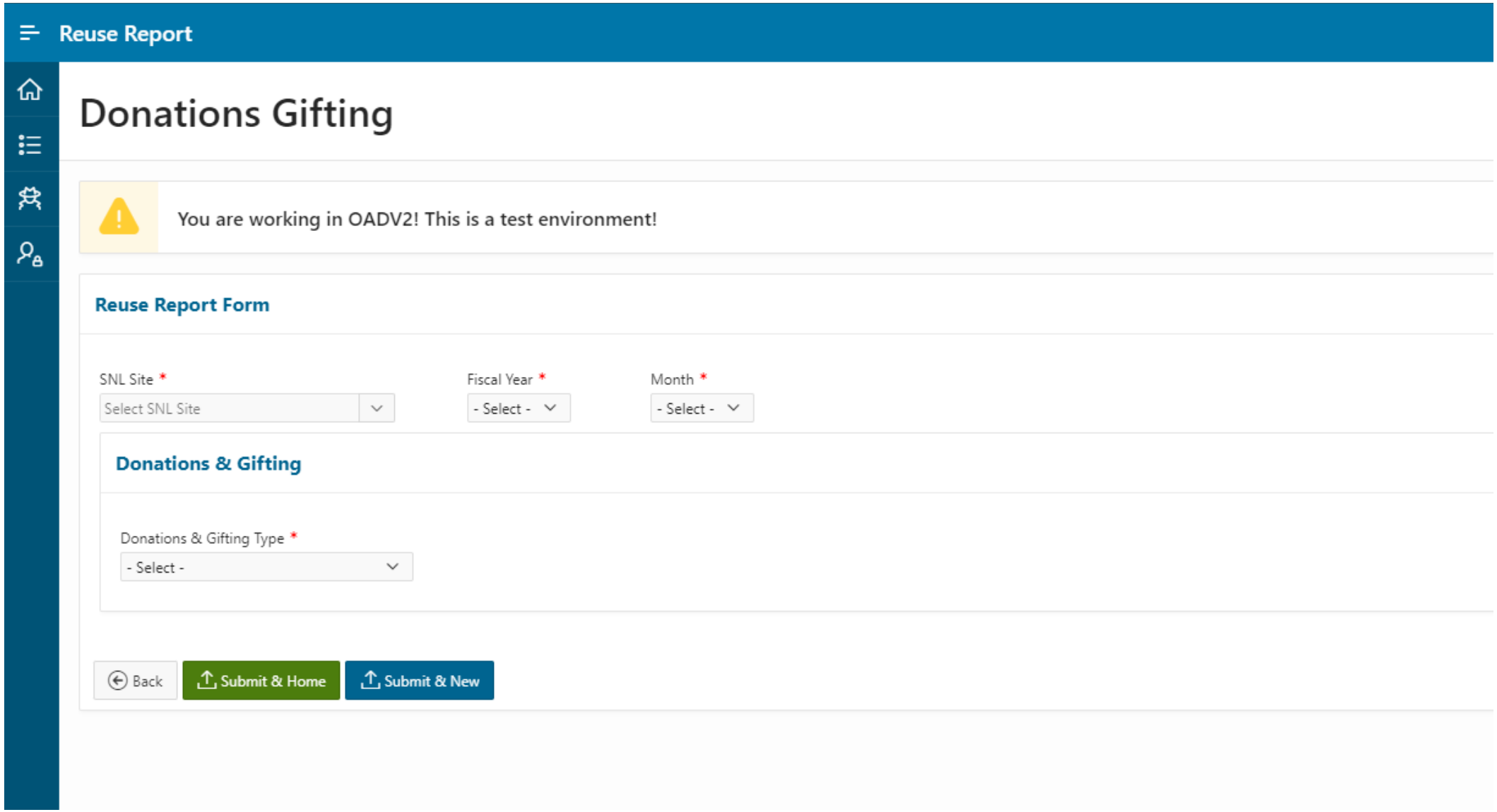
Click or tab here to enter explanation for why this is not practically available.

Required for all COTS equipment. Explain in the box below why the subcontractor should not be expected to provide this property for itself. See Note 1 (Please identify COTS equipment (not material) in section 4 and provide individual justifications when different below).

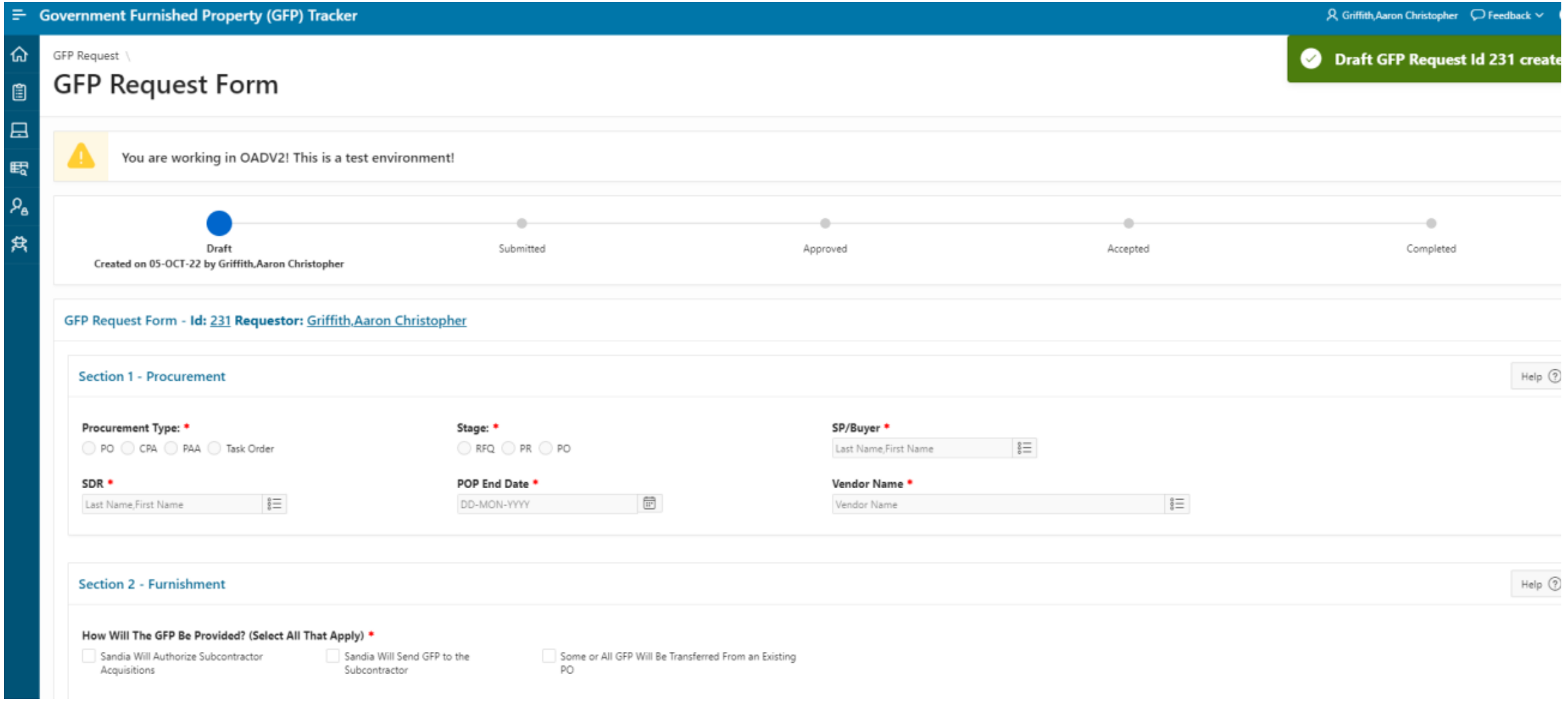
APEX Applications - ACP



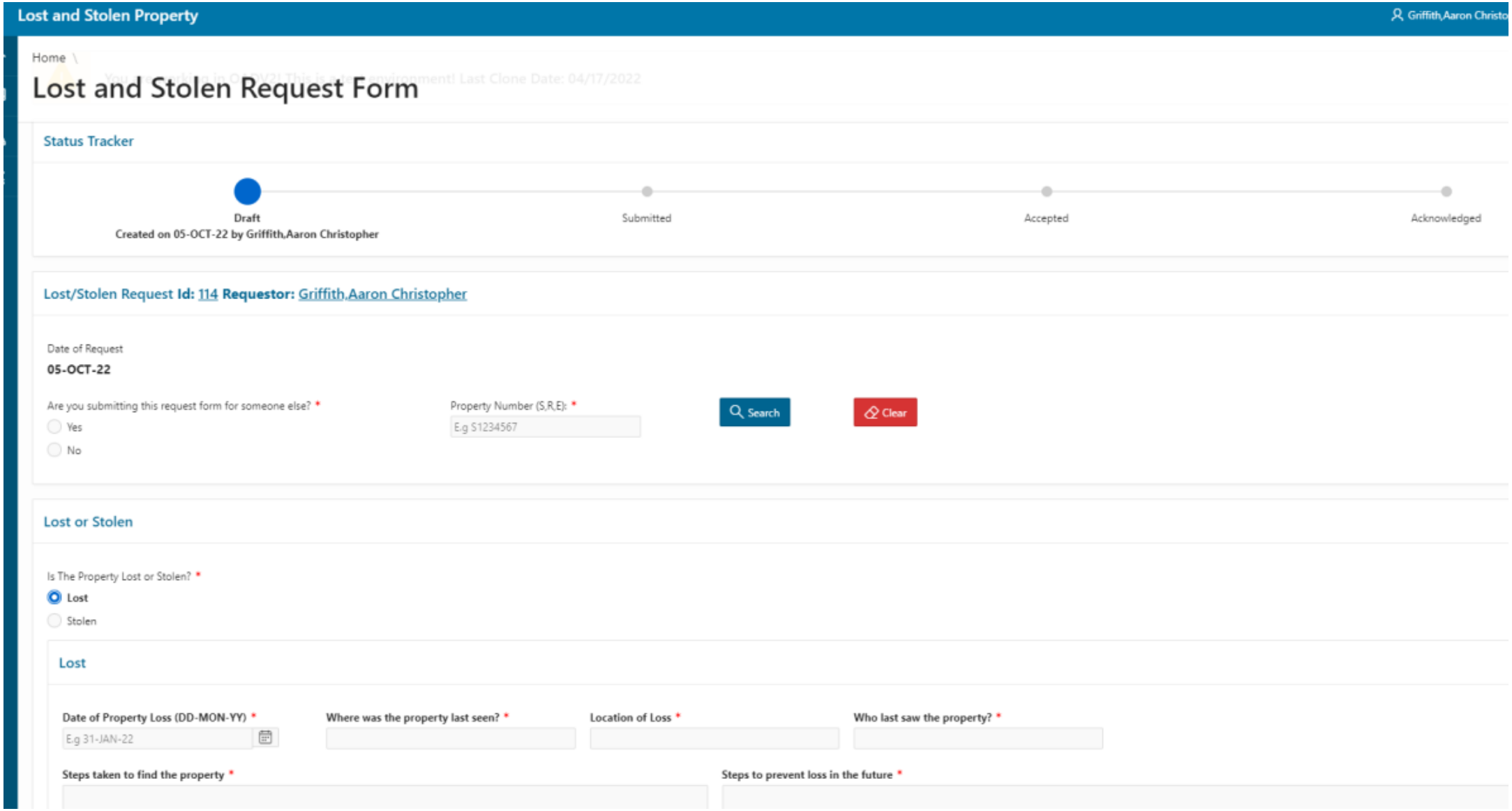
APEX Applications – Reuse Report



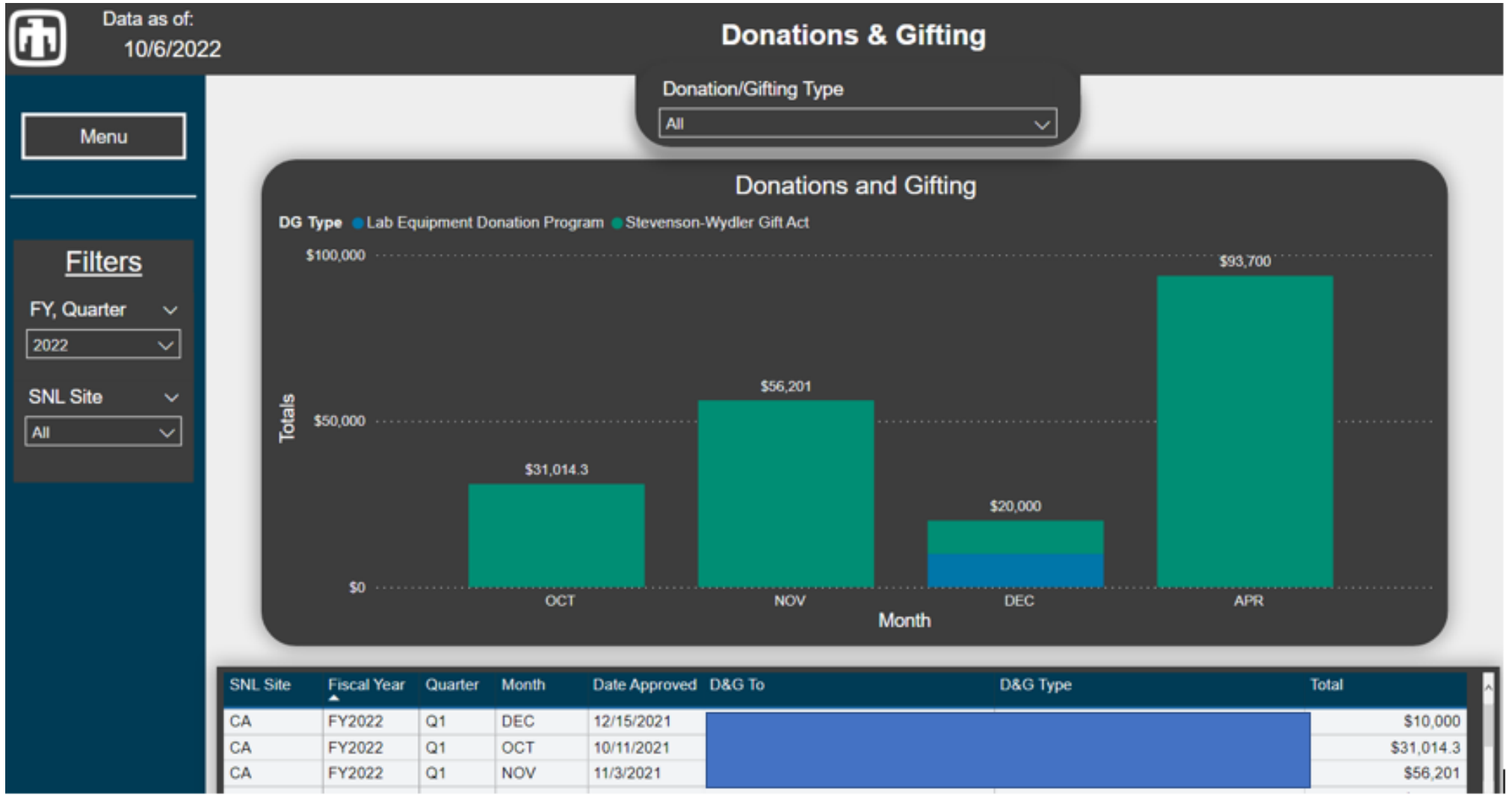
APEX Applications – GFP Tracker



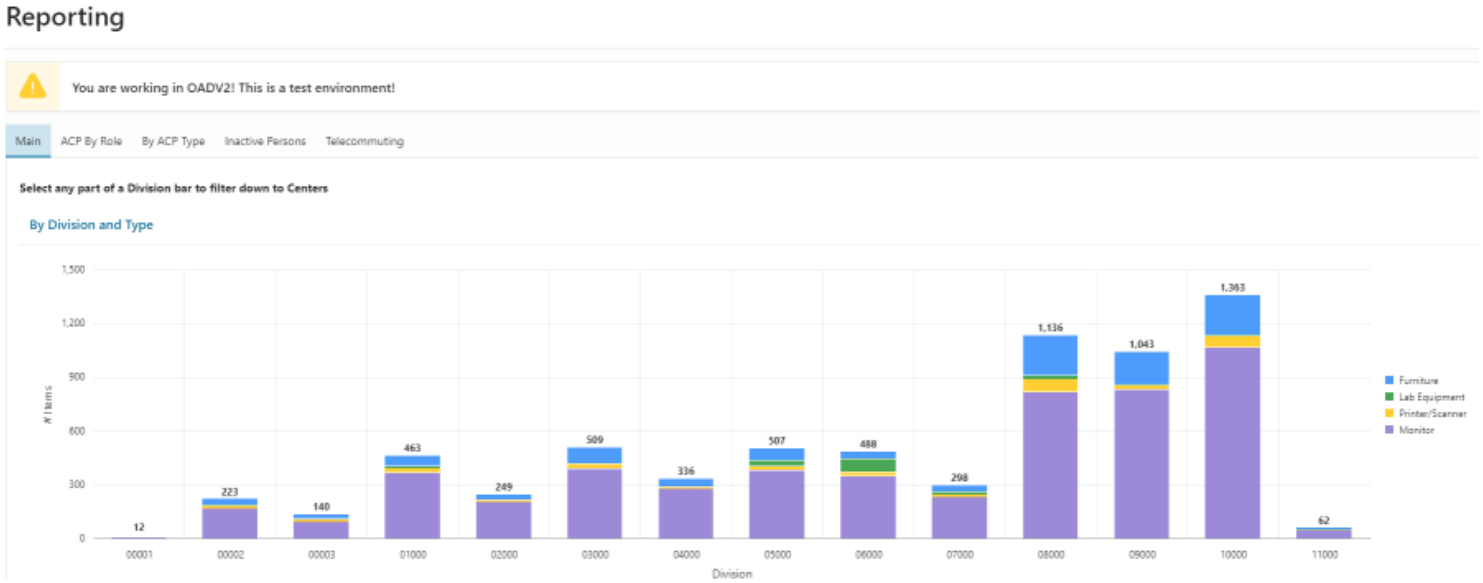
APEX Applications – Lost and Stolen Property



Modern Reporting – Power BI



Modern Reporting - APEX



Telecommuting

These reports only look at active Sandians. Inactive Sandians with items, regardless of telecommuter status, will be in the Inactive Pe

Non-telecommuting employees with items

Search: All Text Columns | Go | Actions | Reset

Org	Name	Center	Division	Items	Relationship
00515	[redacted]	00500	00003	1	Employee
01984		01900	01000	1	Employee
07578		07500	07000	2	Employee
00515		00500	00003	4	Employee

Future of the Oracle Assets Module at SNL

- More APEX Applications
- Growth of API Portfolio
- Continuous Improvement of Reporting Solutions
- Robotic Process Automation
- Oracle Enterprise Command Center
- Move to Oracle Cloud Infrastructure
- Continue to Modernize!

Thank You!

Questions?