2024

ATTACHMENT C: Request for Proposals Well Drilling Services Scope of Work

AMERICAN SAMOA POWER AUTHORITY
PAGO PAGO 96799, AMERICAN SAMOA

Contents

Request for Proposal (RFP) for Well Drilling Services

Project: Well Drilling Services
Location: American Samoa
Company: American Samoa Power Authority

Introduction

American Samoa, an unincorporated territory of the United States located in the South Pacific Ocean, is seeking proposals from qualified well drilling companies to provide well drilling services. The territory consists of five main islands and two coral atolls and is known for its unique cultural and environmental characteristics. This RFP invites companies with the necessary expertise and resources to submit their proposals for well drilling in this region.

Scope of Work

1. Qualifications:

- The company must have a registered driller in the United States.
- The company must possess the necessary expertise and with 20years experience in well drilling.
- The driller must be familiar with drilling through volcanic formations and mitigate issues when circulation is lost due to lava tubes and subsurface fractures.

2. Requirements:

- **Equipment**: The Company must provide all necessary equipment for drilling, including but not limited to drilling rigs, flatbed water truck, pump hoist, forklift, pumps, well logging equipment and other associated tools.
- **Labor**: The Company must provide the labor necessary for the drilling operations. Local labor must be hired in accordance with local regulations and to support the community.
- **Materials**: The Company must procure and supply all materials needed for the drilling process (e.g. casings, cement, drilling foam, equipment spare parts, PPE, on site tents for welding and equipment shelter etc.)
- **WQ Measurements**: Chloride and TDS measurements must be taken every 10 feet from Static Water Level to termination depth of the well. ASPA aims to keep chloride levels below 200ppm for new wells.
- **Reports and Well Video Log**: Drilling Company must submit all reports and final video of the well showing well has been properly developed and clear of any debris and obstruction.
- **Well Site**: Must be capped with an approved seal after drilling is completed. Site must be secured and all drilling materials and equipment must be cleared from well site. Site must be left in a clean and secured condition after demobilization from each site.

3. Payment Terms:

- Payment will be made based on the actual footage drilled. Bid form states estimated depths for each well based on elevation above mean sea level, however during drilling each well, the depth maybe less than specified or deeper if needed. **Proposals should include a per foot drilling rate.**
- The selected drilling company may apply for mobilization costs in accordance with the terms outlined in the RFP.
- The selected drilling company may apply for demobilization costs in accordance with the terms outlined in the RFP.
- The company must provide proof of insurance covering the drilling operations.

4. Site Identification:

The American Samoa Power Authority (ASPA) will identify and provide the locations for the well drilling. Further information and scope of work for the project sites is provided in the Drilling Site Locations section for this SOW.

5. Scope of Work:

a. **Drilling**: Drill a well to the required depth, as specified in the RFP docs.
b. **Casing Installation**: Install appropriate casing and ensure proper neat sanitary sealing.
c. **Testing**: Conduct initial water quality and flow rate tests (pumping tests).
d. **Completion**: Ensure the well is properly completed and operational.
e. **Documentation**: Provide all relevant documentation, including drillers logs, daily activity log reports, pumping test results and reports, and as built drawings.

Proposal Submission Requirements:

1. Company Information:

Provide a brief overview of your company, including experience, qualifications, and registration details.

1. Equipment List:

Detail the drilling equipment and materials that will be used for the project.

Labor Plan: Outline the plan for hiring and utilizing local labor.

2. Cost Proposal:

Provide a detailed cost proposal including per foot drilling rates, mobilization and demobilization costs.

3. Insurance:

Provide evidence of insurance coverage for the drilling operations.

4. References:

Include five references or case studies from previous similar projects.

Evaluation Criteria:

- Experience and qualifications of the drilling company
- Adequacy of proposed equipment and materials
- Cost effectiveness and clarity of the cost proposal
- Plan for local labor utilization
- Proof of insurance and overall risk management

Submission Instructions:

- Proposals must be submitted by submission deadline.
- Send proposals to contact person’s name, title, and email address at submission address.
- Late submissions will not be considered.

Contact Information:

For any questions or additional information, please contact:

Contact Person: **Renee Matautia**
Title: **Procurement Manager**
Phone Number: **(684) 699-3057** ext. **1120**
Email Address: **renee@aspower.com**

Additional Information:

- The successful contractor will be required to enter into a formal agreement with ASPA outlining the terms and conditions of the project.
- ASPA reserves the right to reject any or all proposals and is not obligated to select the lowest bid.
- Thank you for your interest in this project. We look forward to receiving your proposal.

American Samoa Power Authority (ASPA)
Address:
PO Box PPB
American Samoa Power Authority
Pago Pago, AS 96799
American Samoa
Website: **www.aspower.com**

Drilling Site Locations:

This SOW addresses the drilling and construction of new water groundwater wells, see the Table below for the list of proposed wells for this project. The proposed wells are wells that have been budgeted under this project for drilling and construction. The project engineer will determine the final depth of each well and will inform the driller during drilling and construction.

Well ID	Village Area	Island	Notes
12	Mapusaga	Tutuila Island	Refer to Map of Drilling Sites (**Attachment A**), Geology Map (**Attachment B**) and Soils Map (**Attachment C**) of American Samoa for more information on each site. *Requires mobilization by boat to Manu'a Islands, est. 8 hours from Tutuila Is. Crew will require accommodation and transportation. Details to be discussed with ASPA Engineer.
13	Pavaiai	Tutuila Island	
17	Iliili	Tutuila Island	
22	Fagaalu	Tutuila Island	
26	Mapusaga	Tutuila Island	
35	Pavaiai	Tutuila Island	
36	Pavaiai	Tutuila Island	
37	Pavaiai	Tutuila Island	
38	Pavaiai	Tutuila Island	
39	Pavaiai	Tutuila Island	
40	Pavaiai	Tutuila Island	
94	Nuu'uli	Tutuila Island	
95	Futiga	Tutuila Island	
100	Fagatogo	Tutuila Island	
153	Aoa	Tutuila Island	
181	Fagaalu	Tutuila Island	
205	*Ofu	Manu'a	
206	*Olosega	Manu'a	
211	*Faleasao/Ta'u	Manu'a	
212	*Faleasao/Ta'u	Manu'a	

Project Locations

Mapusaga Fou 12

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to

determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Mapusaga village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 1**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

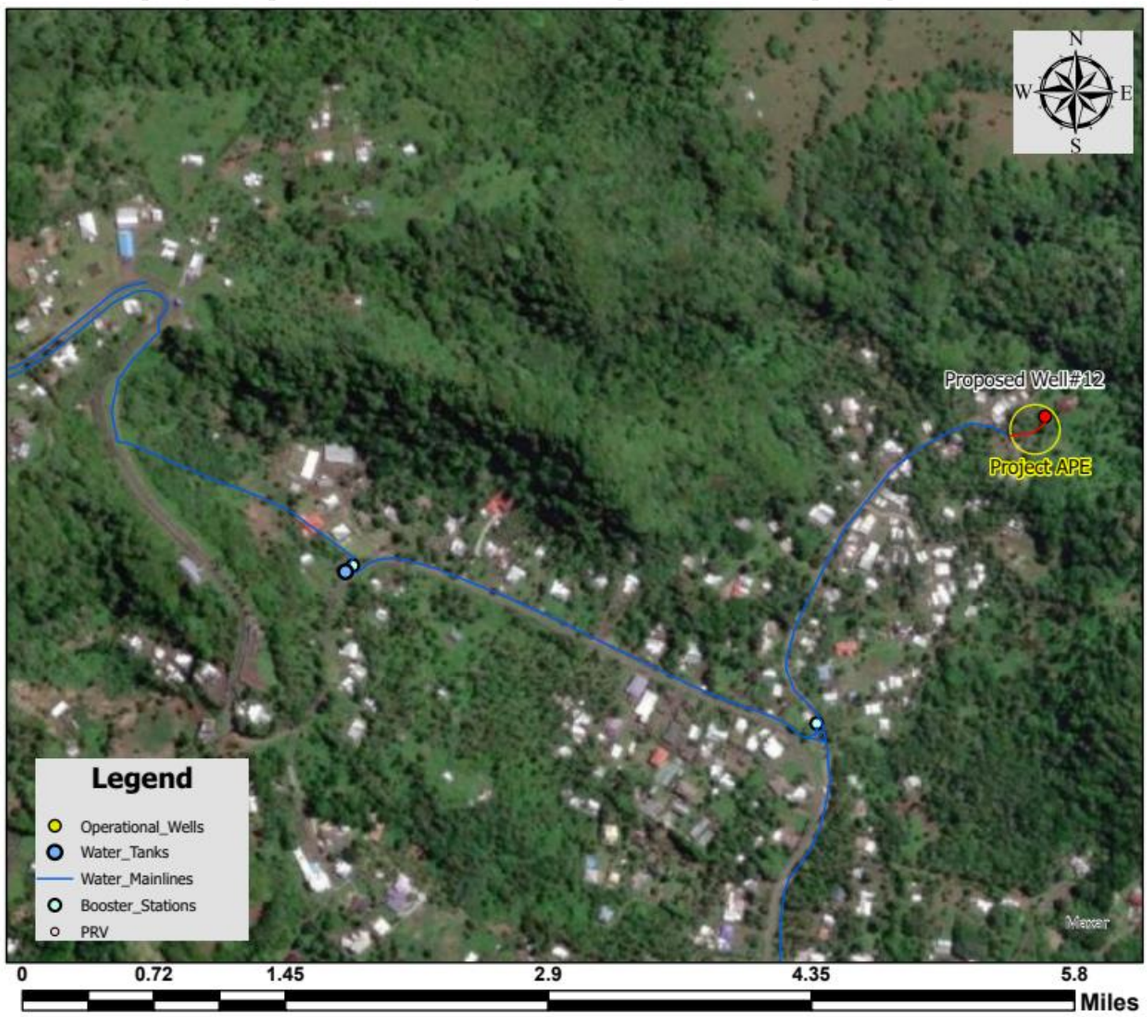


Figure 1: Location of Well 12 in the Mapusaga area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai Well 13

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all

the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 2**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

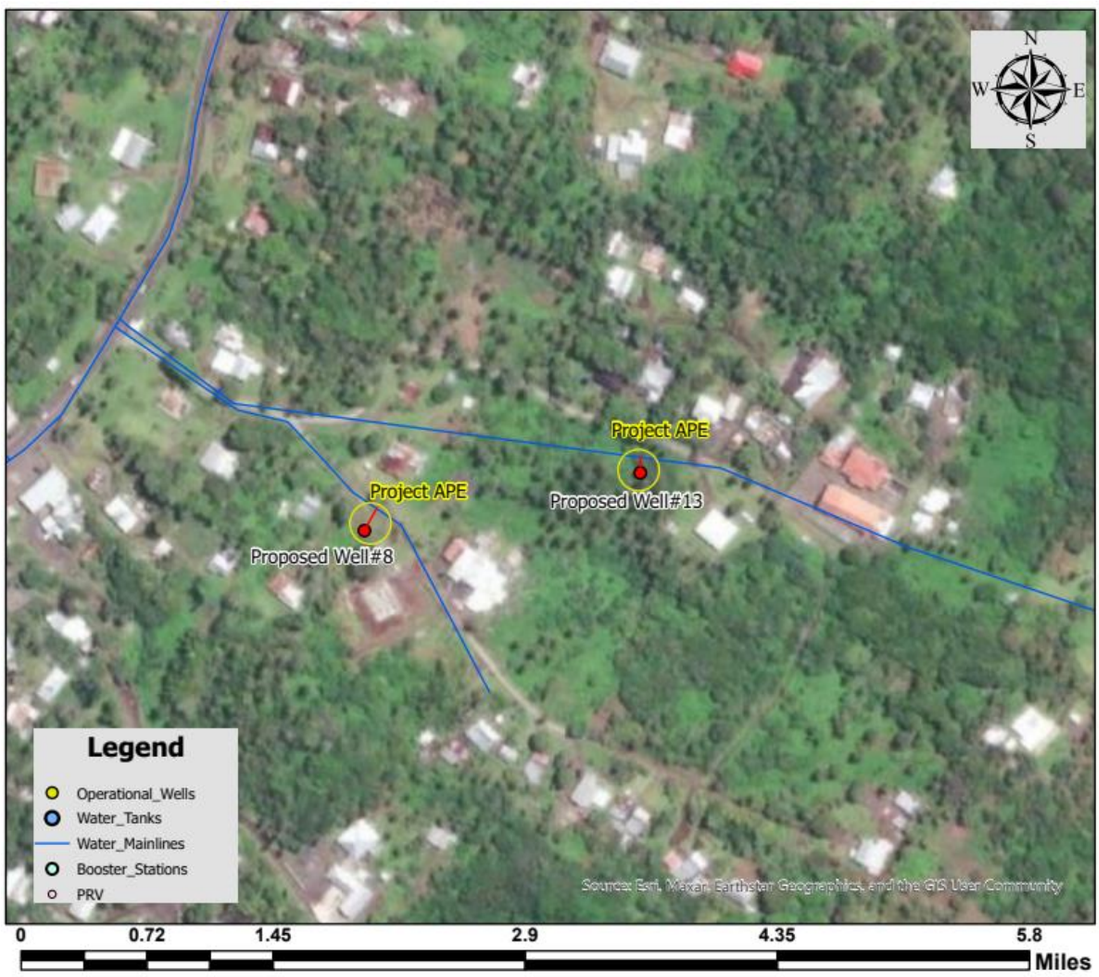


Figure 2: Location of Well 13 in the Pavaiai (Toluao Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Iliili Well 17

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the

sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Iliili village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 3**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

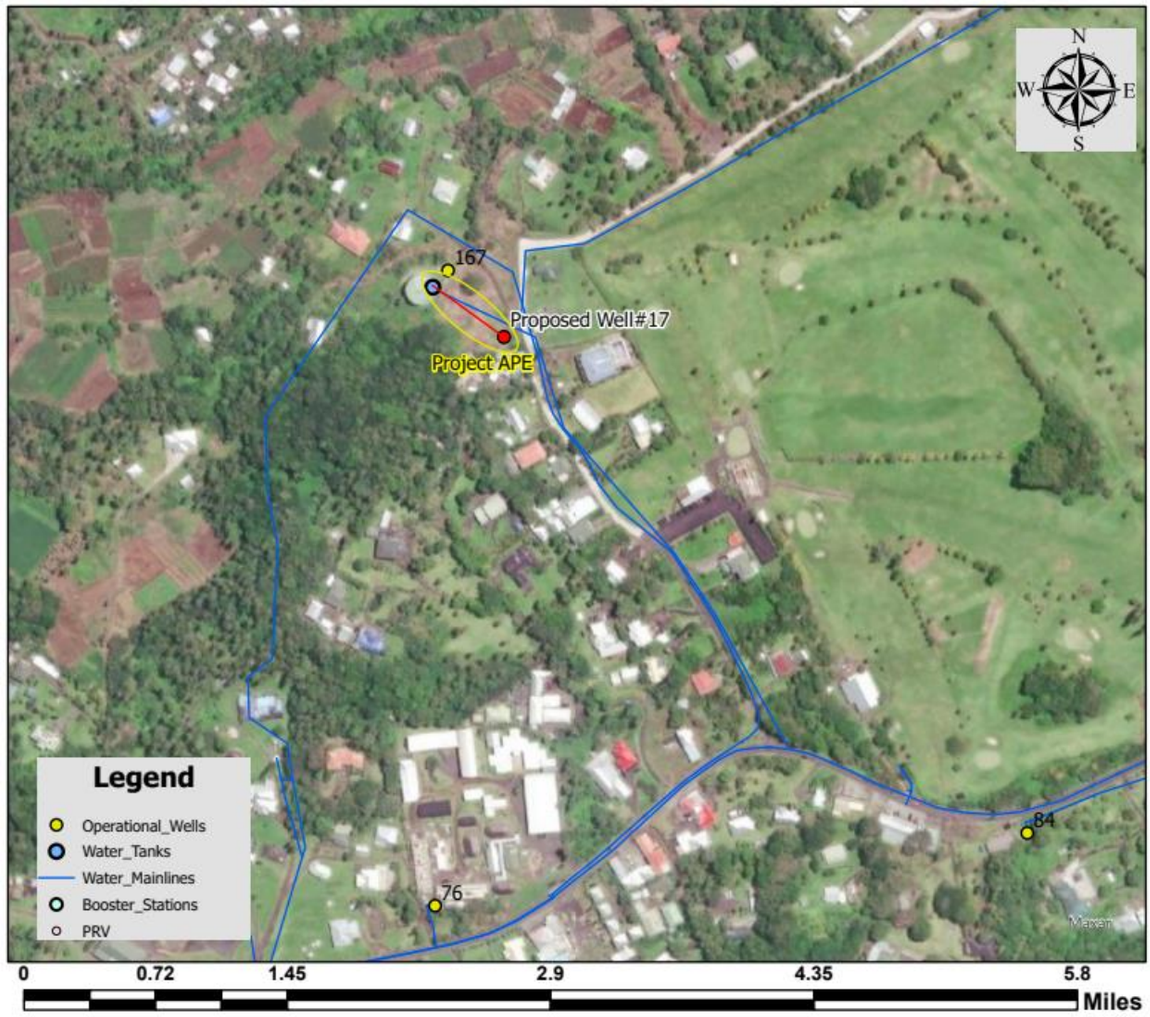


Figure 3: Location of Well 17 in the Iliili area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Fagaalu 22

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report

will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Fagaalu village on the central part of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 4**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

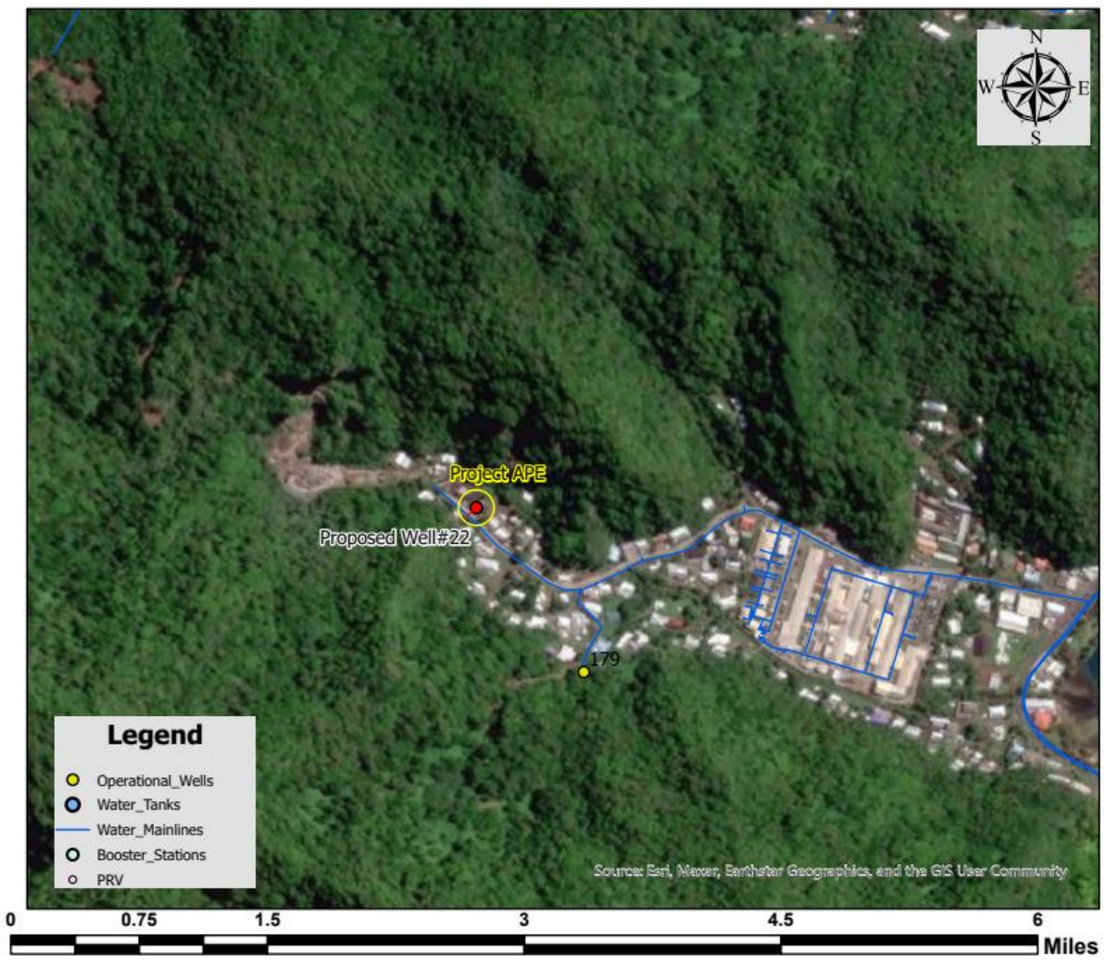


Figure 4: Location of Well 22 in the Mapusaga area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai Well 26

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Mapusaga village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 5**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

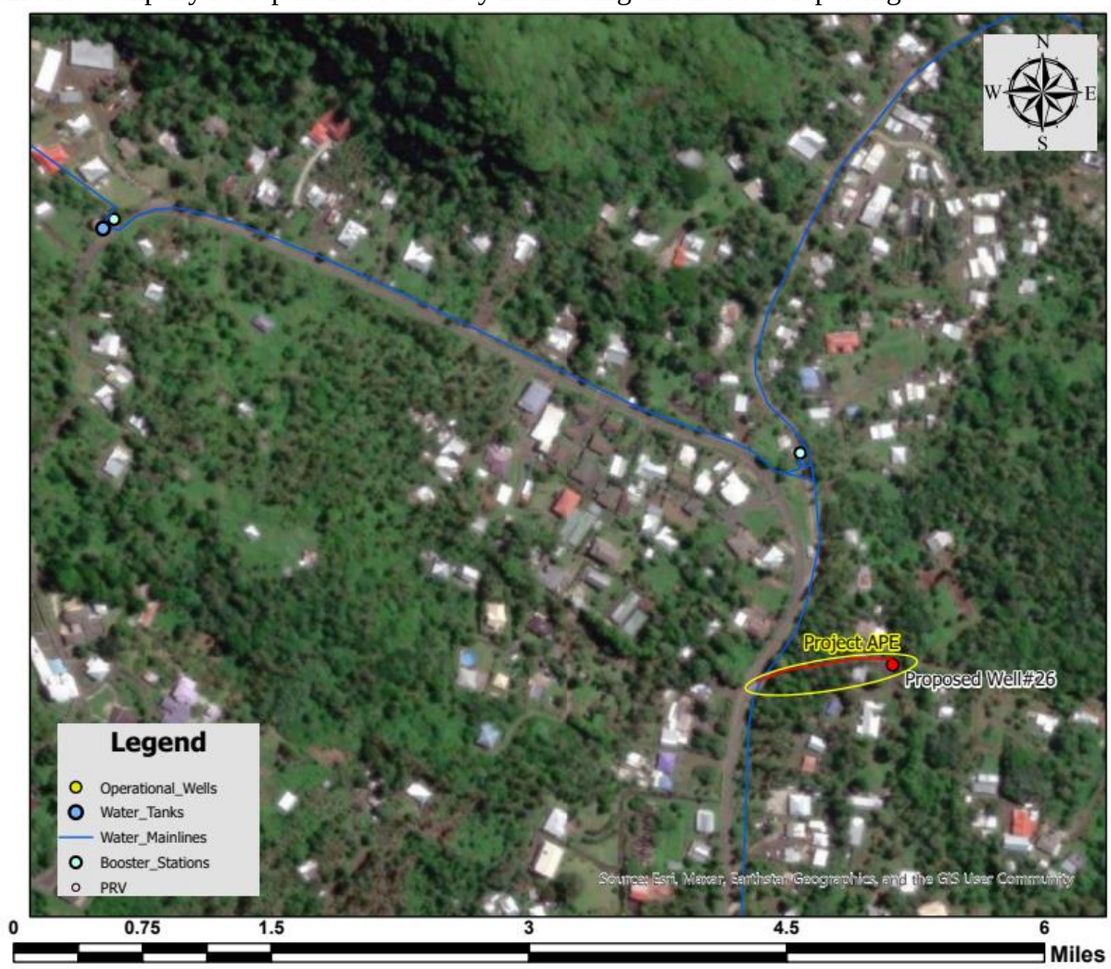


Figure 5: Location of Well 26 in the Mapusaga area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai 35

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low

pressure and water shortage, the location is shown in **Figure 6**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

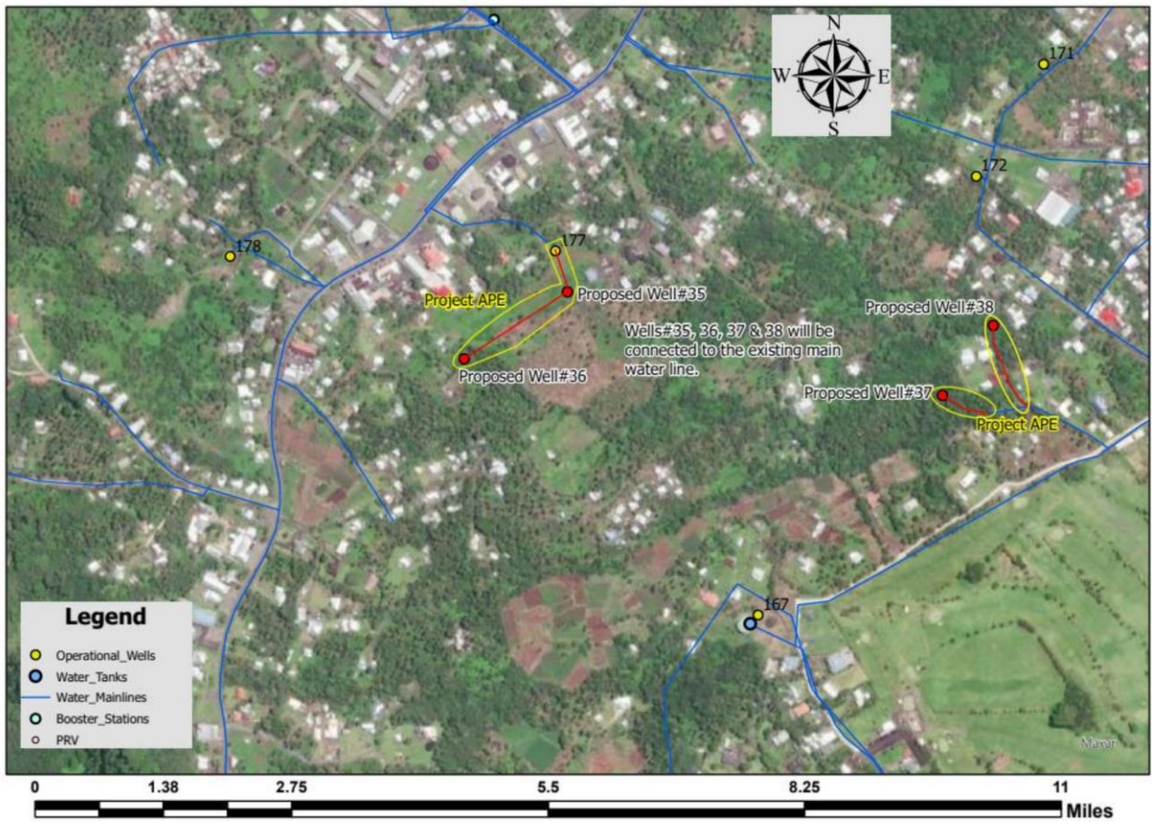


Figure 6: Location of Well 35 in the Pavaiai (Tuana'itau PV Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai 36

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 7**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

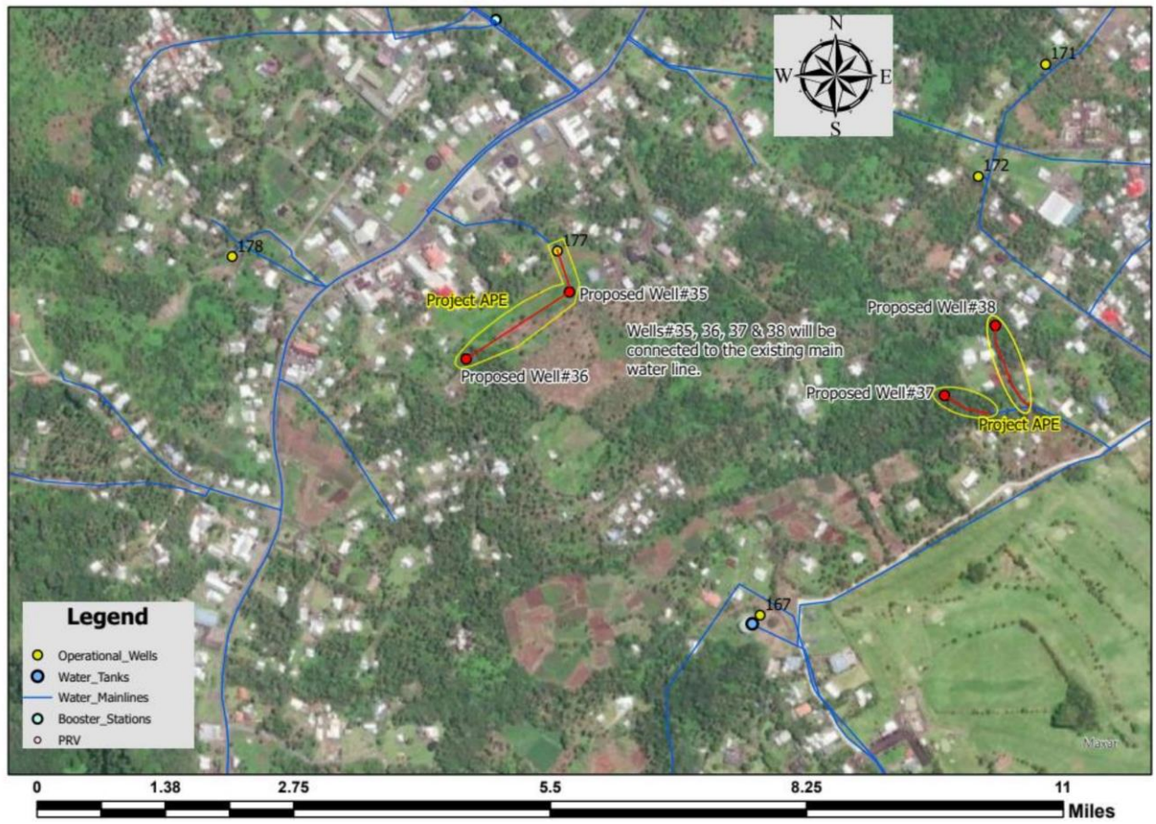


Figure 7: Location of Well 36 in the Pavaiai (Tuana'itau PV Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai 37

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 8**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

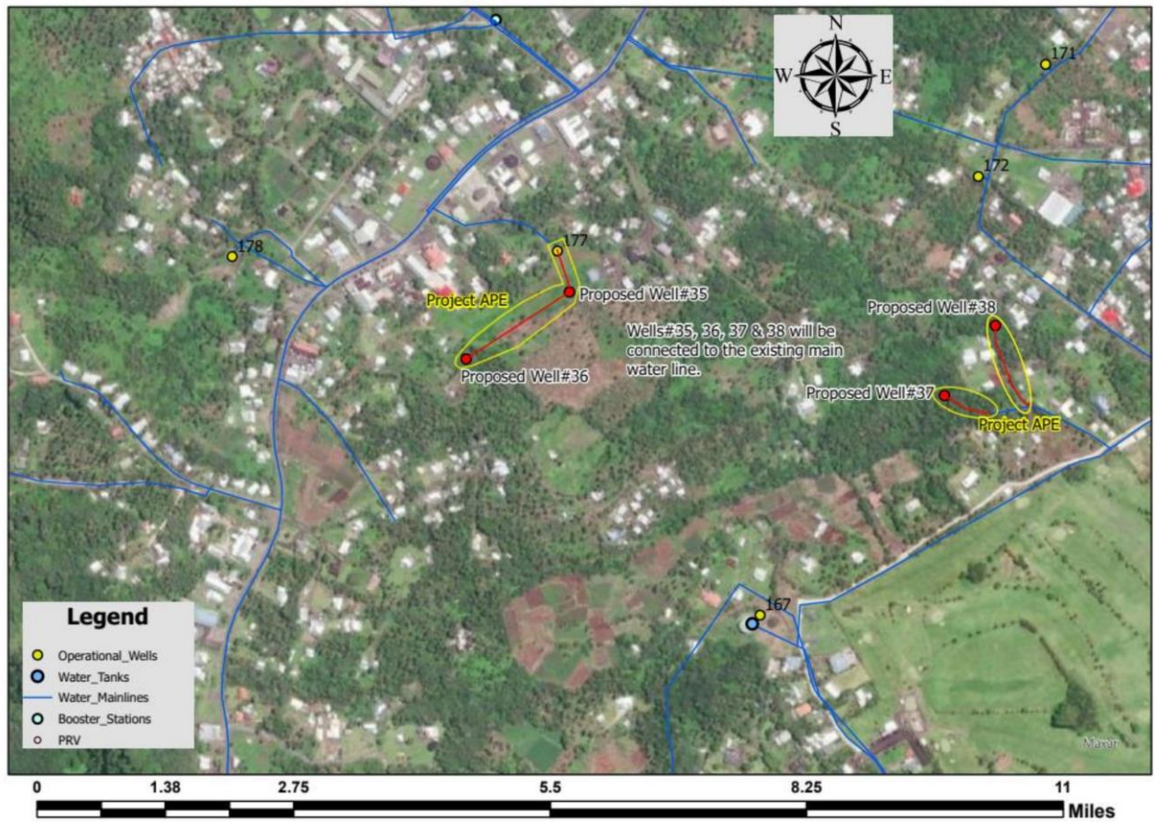


Figure 8: Location of Well 37 in the Pavaiai (Tuana'itau PV Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai 38

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 9**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

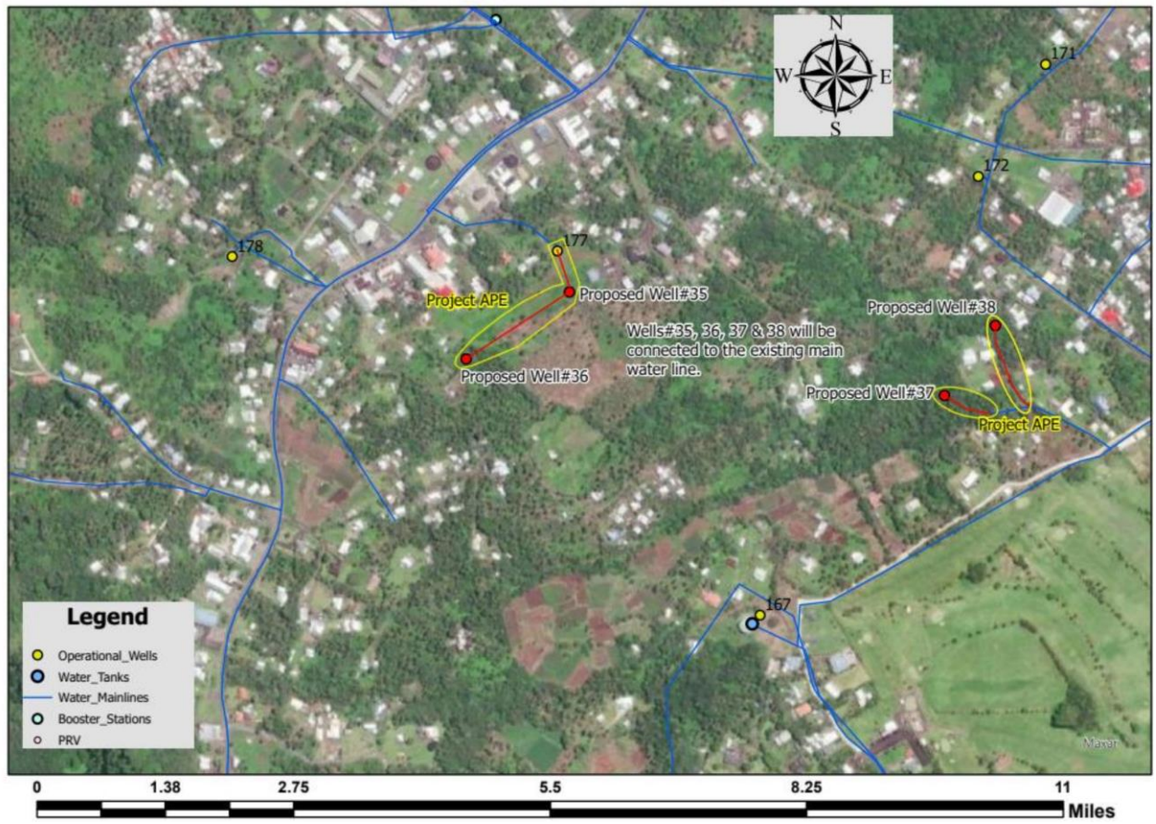


Figure 9: Location of Well 38 in the Pavaiai (Tuana'itau PV Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai Well 39

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 10**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

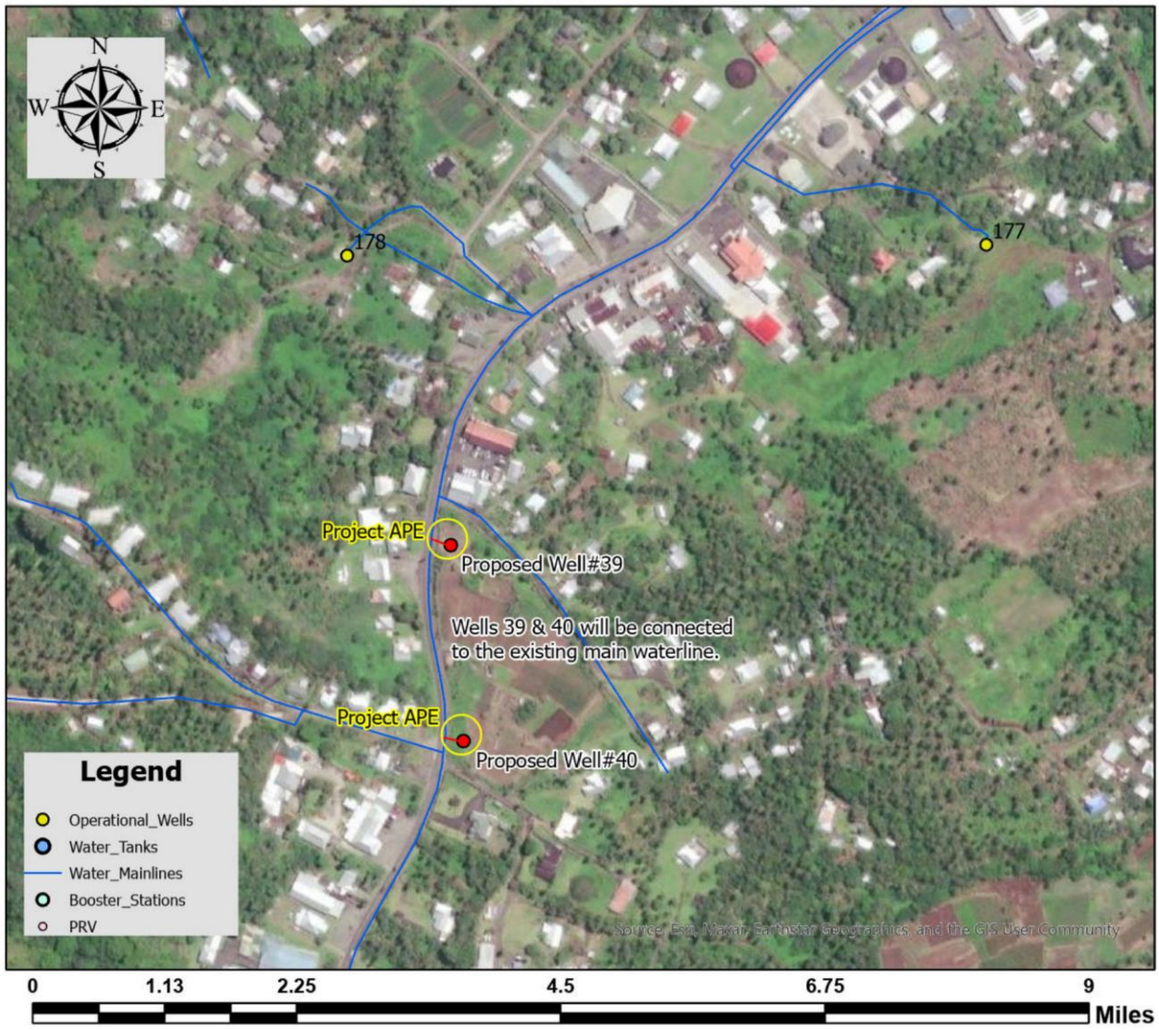


Figure 10: Location of Well 39 in the Pavaiai (Leomiti PV Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Pavaiai Well 40

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Pavaiai village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 11**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

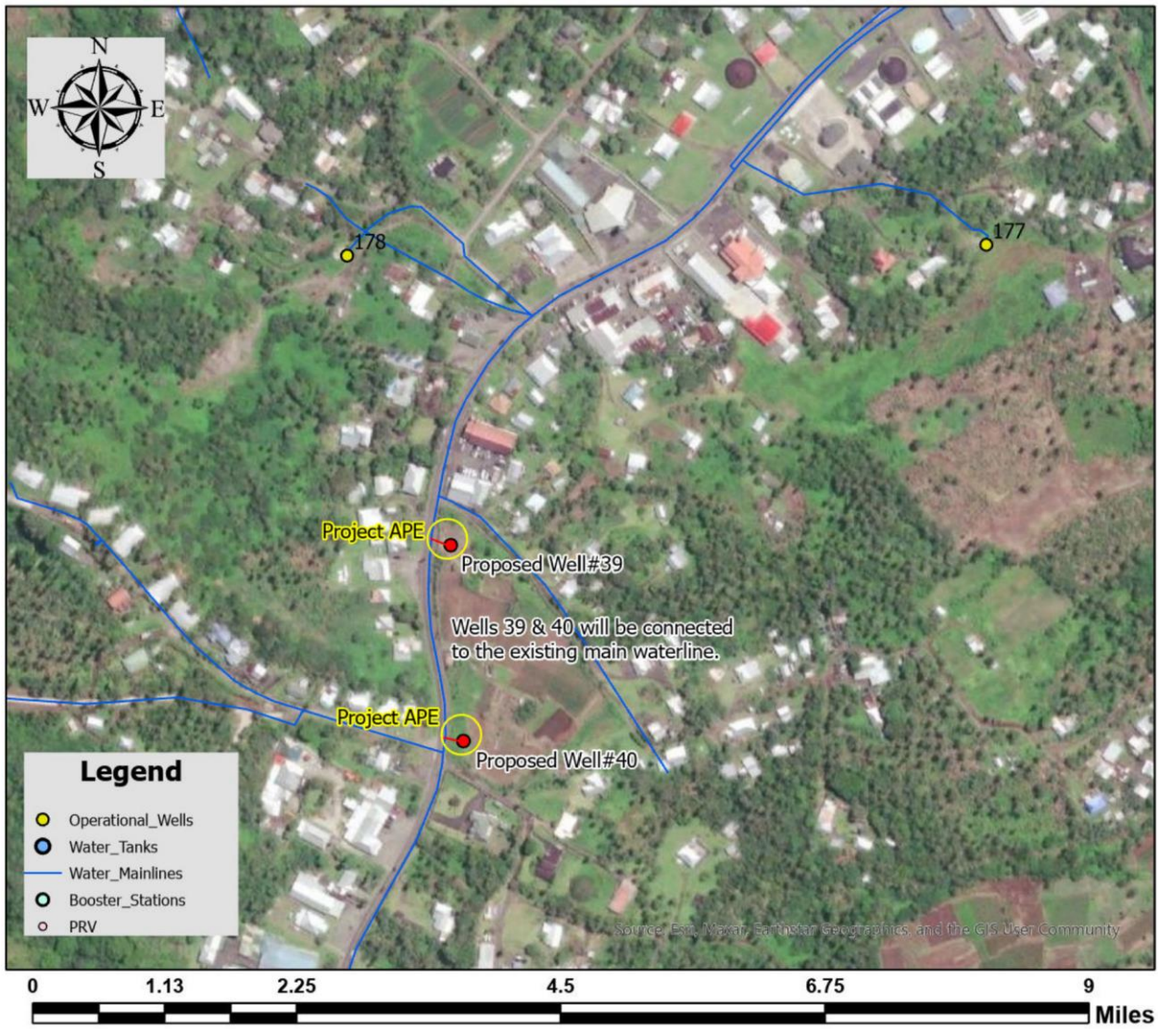


Figure 11: Location of Well 40 in the Pavaiai (Leomiti PV Site) area.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Nuu'uli Well 94

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Nuu'uli village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 12**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

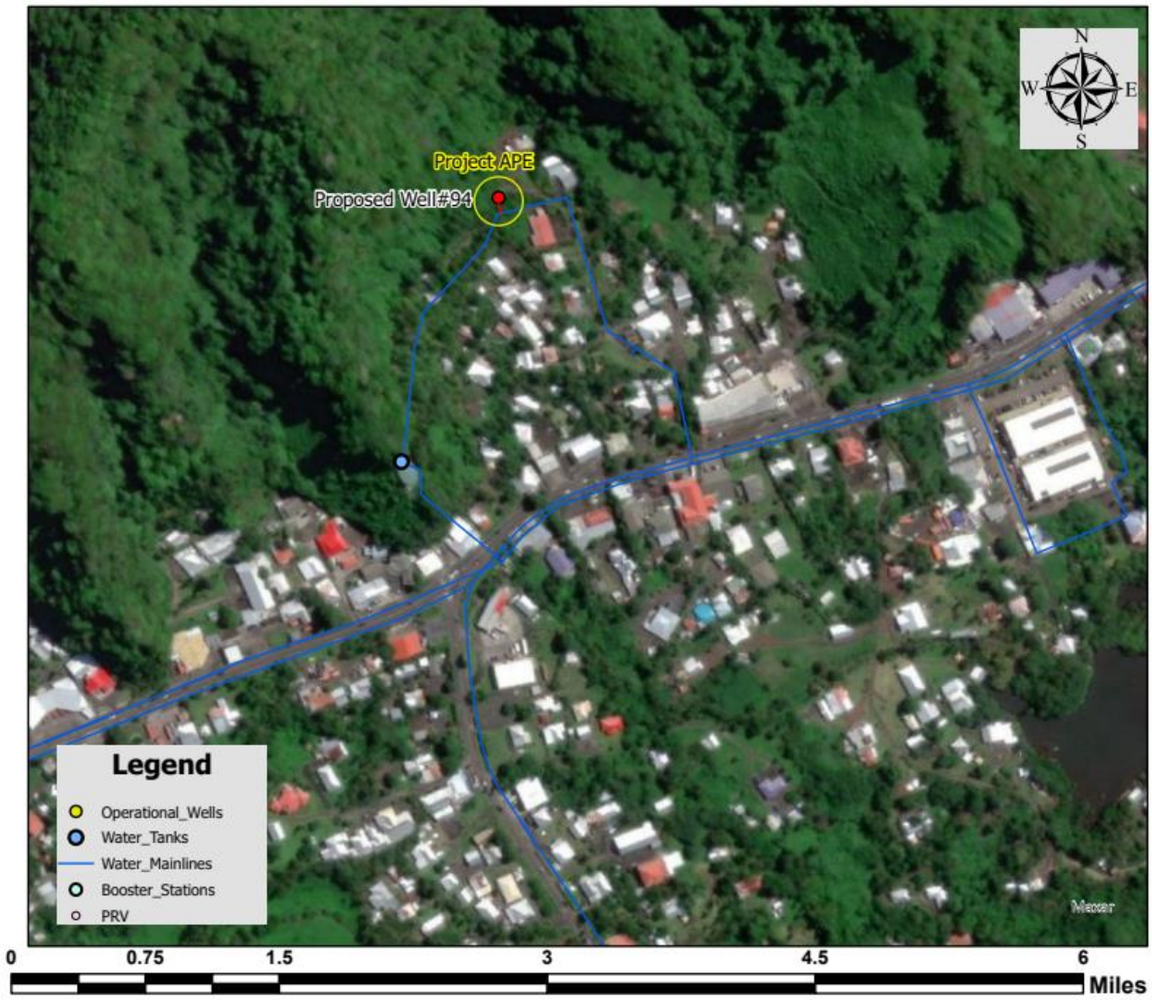


Figure 12: Location of Well 94 in Nuu'uli.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Futiga Well 95

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Futiga village on the western side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 13**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

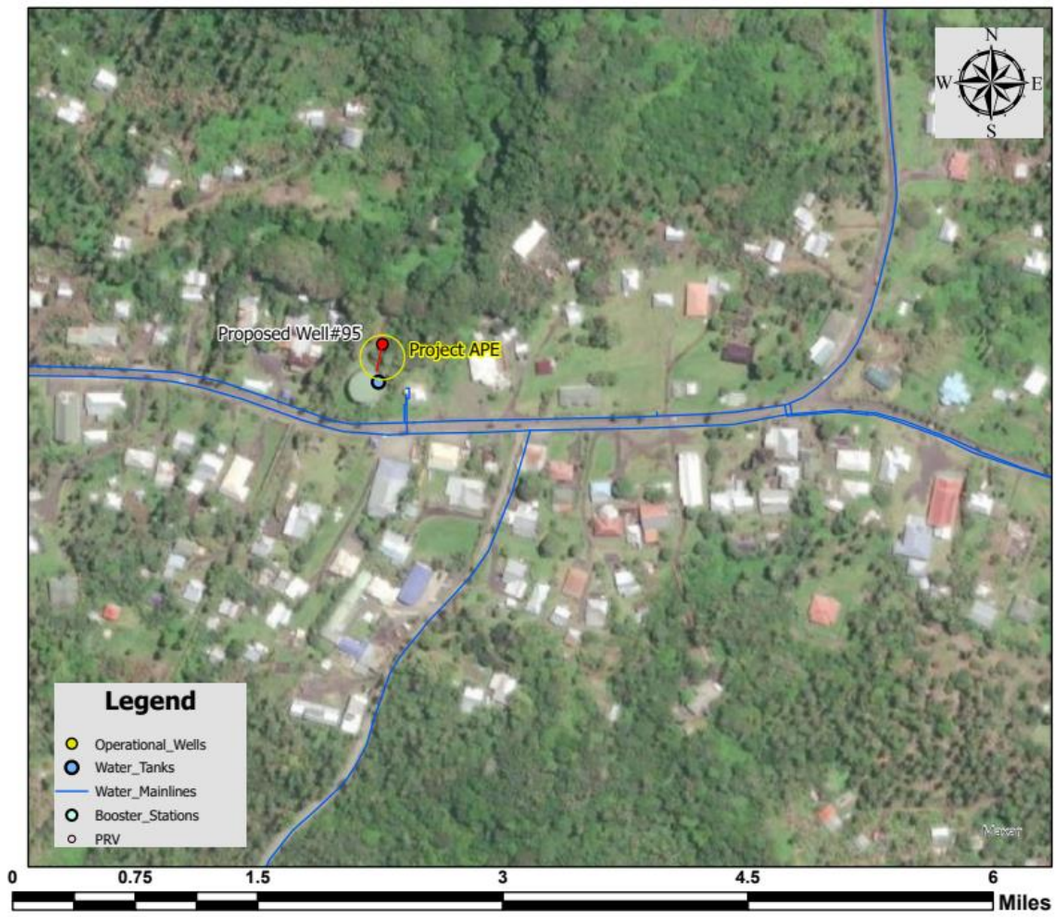


Figure 13: Location of Well 95 in Futiga.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Fagatogo Well 100

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Fagatogo village on the central side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 14**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

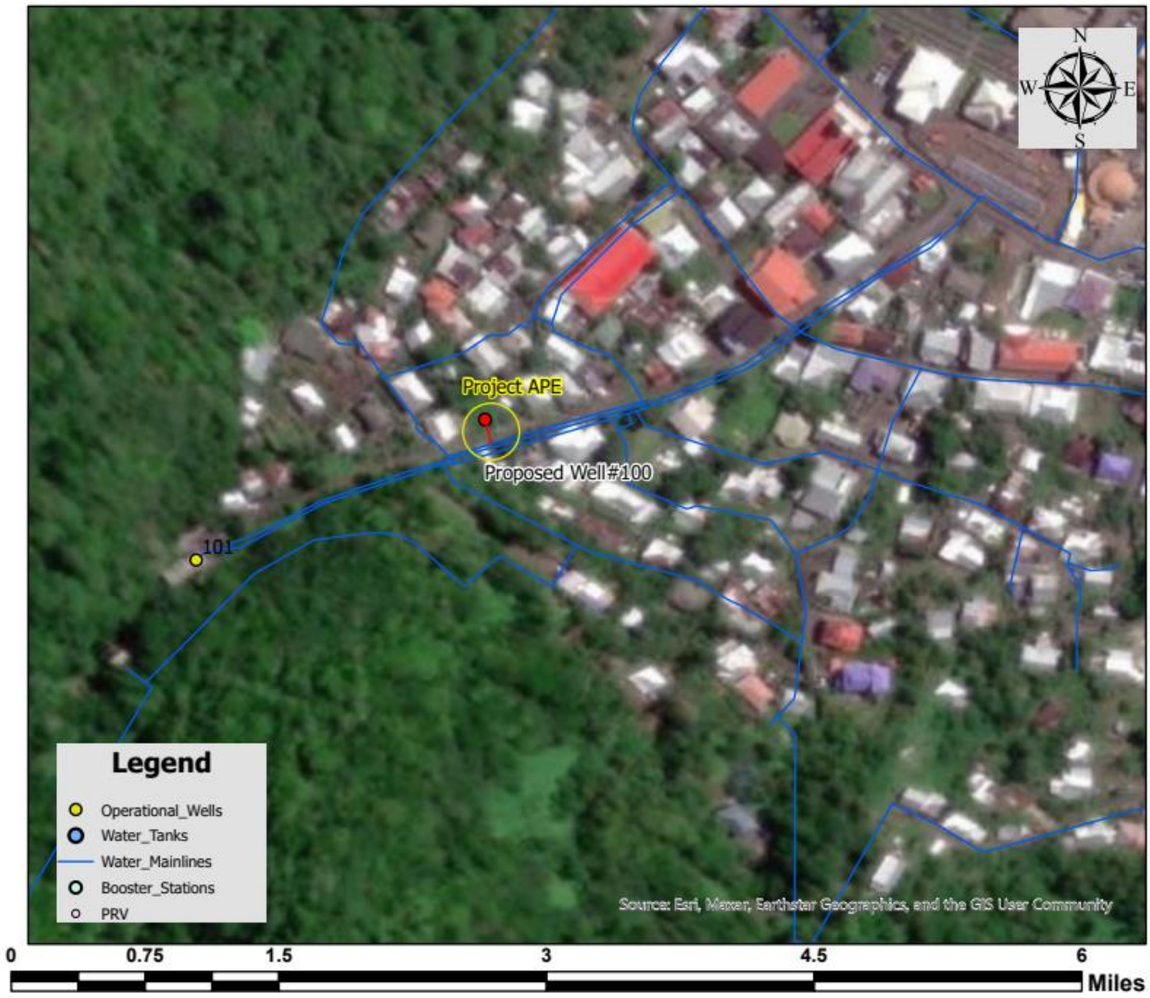


Figure 14: Location of Well 100 in Fagatogo.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Aoa Well 153

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Aoa village on the eastern side of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 15**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

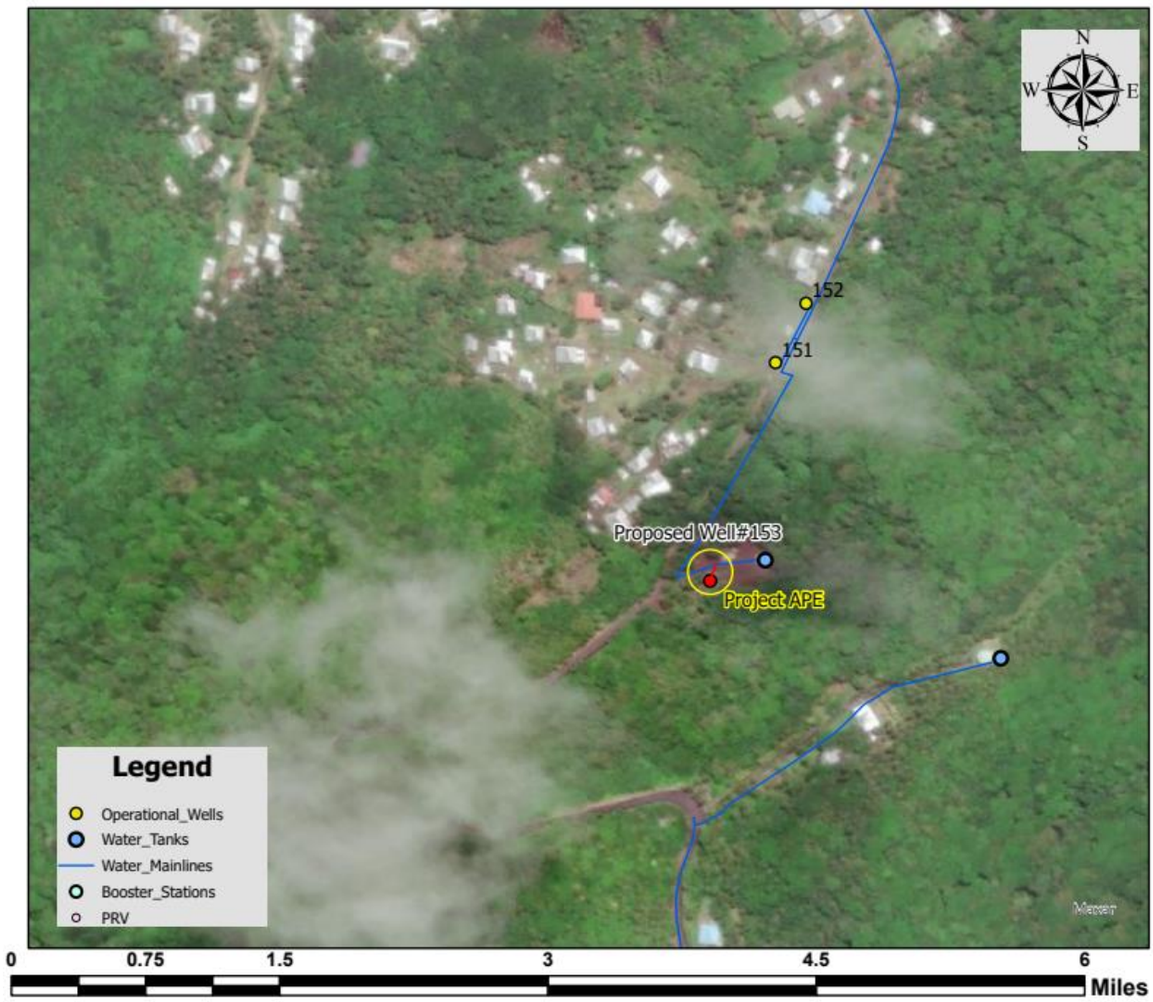


Figure 15: Location of Well 153 in Aoa.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Fagaalu Well 181

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Faga'alu village on the central part of Tutuila Island in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 16**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

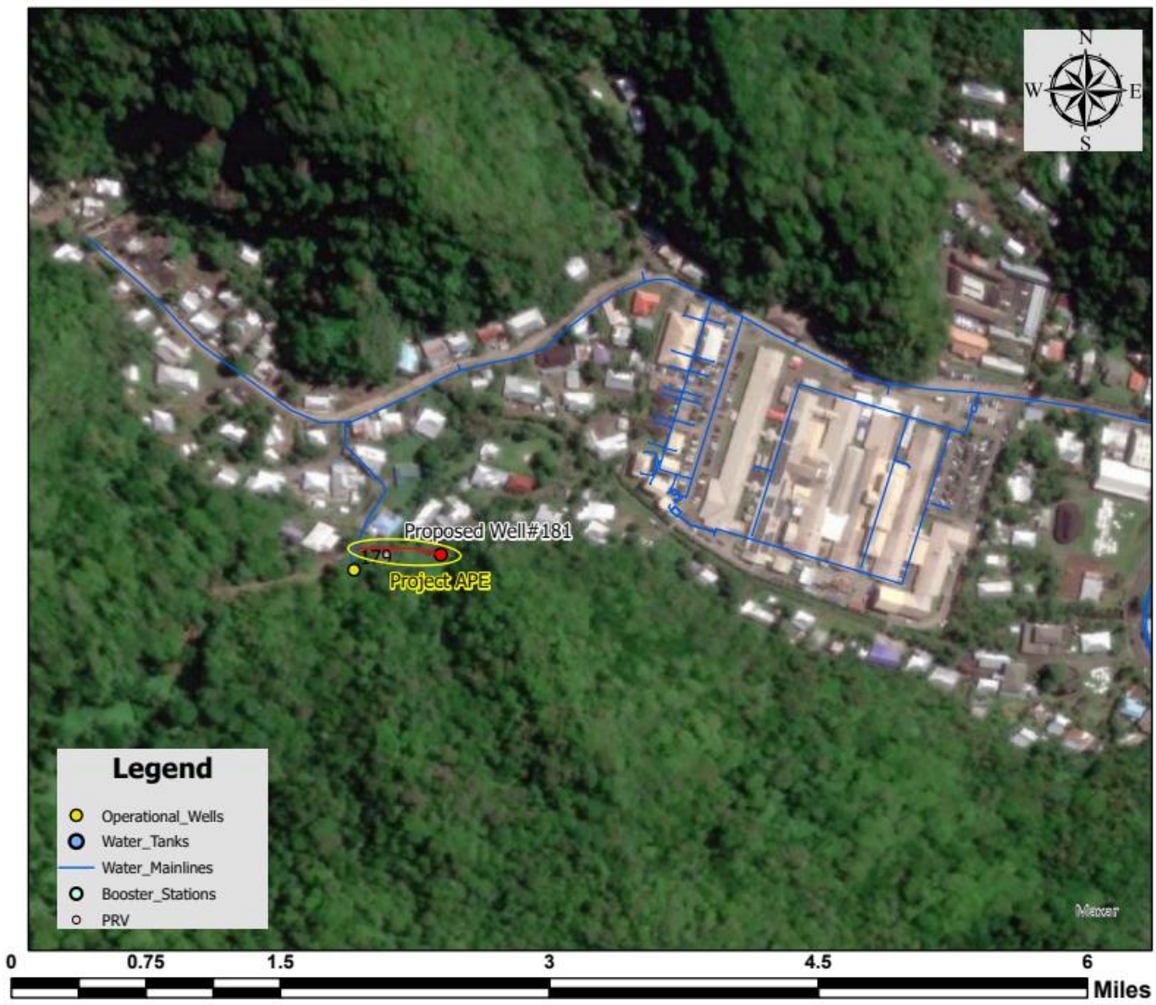


Figure 16: Location of Well 181 in Faga'alu.

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Ofu Well 205

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in the island of Ofu in the Manu'a group of Islands in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 17**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

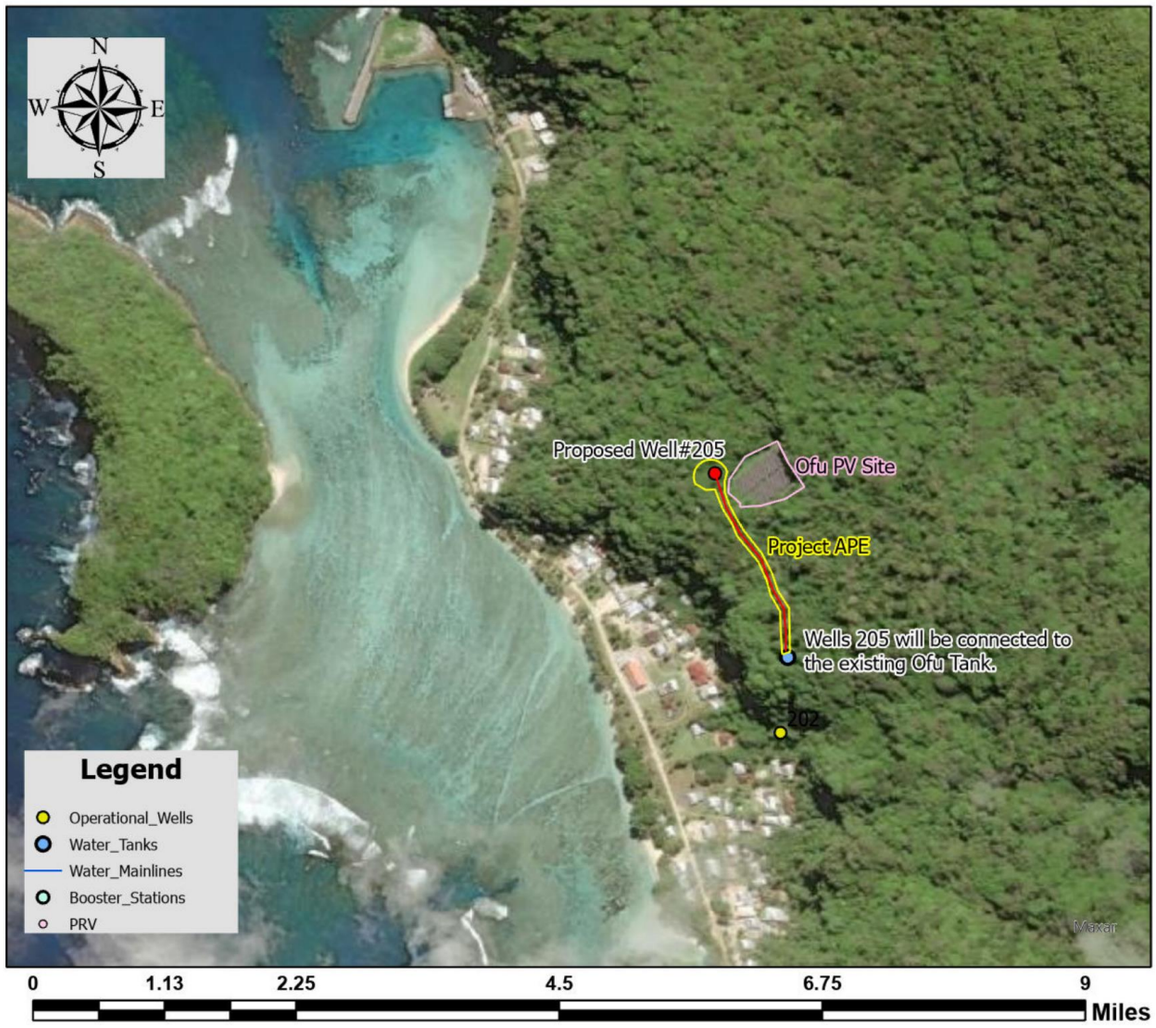


Figure 17: Location of Well 205 in Ofu Island (Manu'a).

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Olosega Well 206

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in the island of Olosega in the Manu'a group of Islands in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 18**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

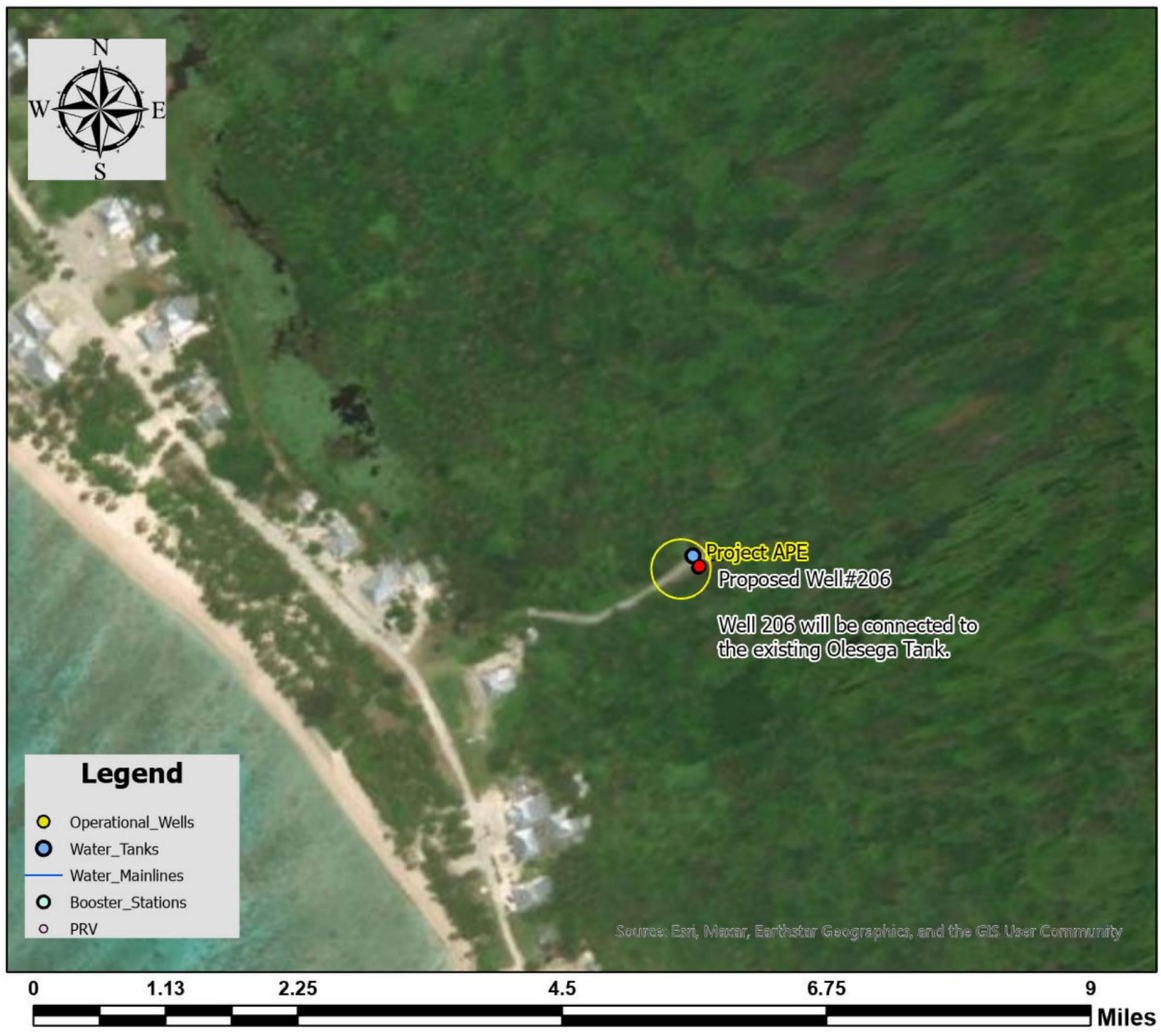


Figure 18: Location of Well 206 in Olesega Island (Manu'a).

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Faleasao/Ta'u 211

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Faleasao village on Ta'u Island in the Manu'a group of Islands in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 19**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

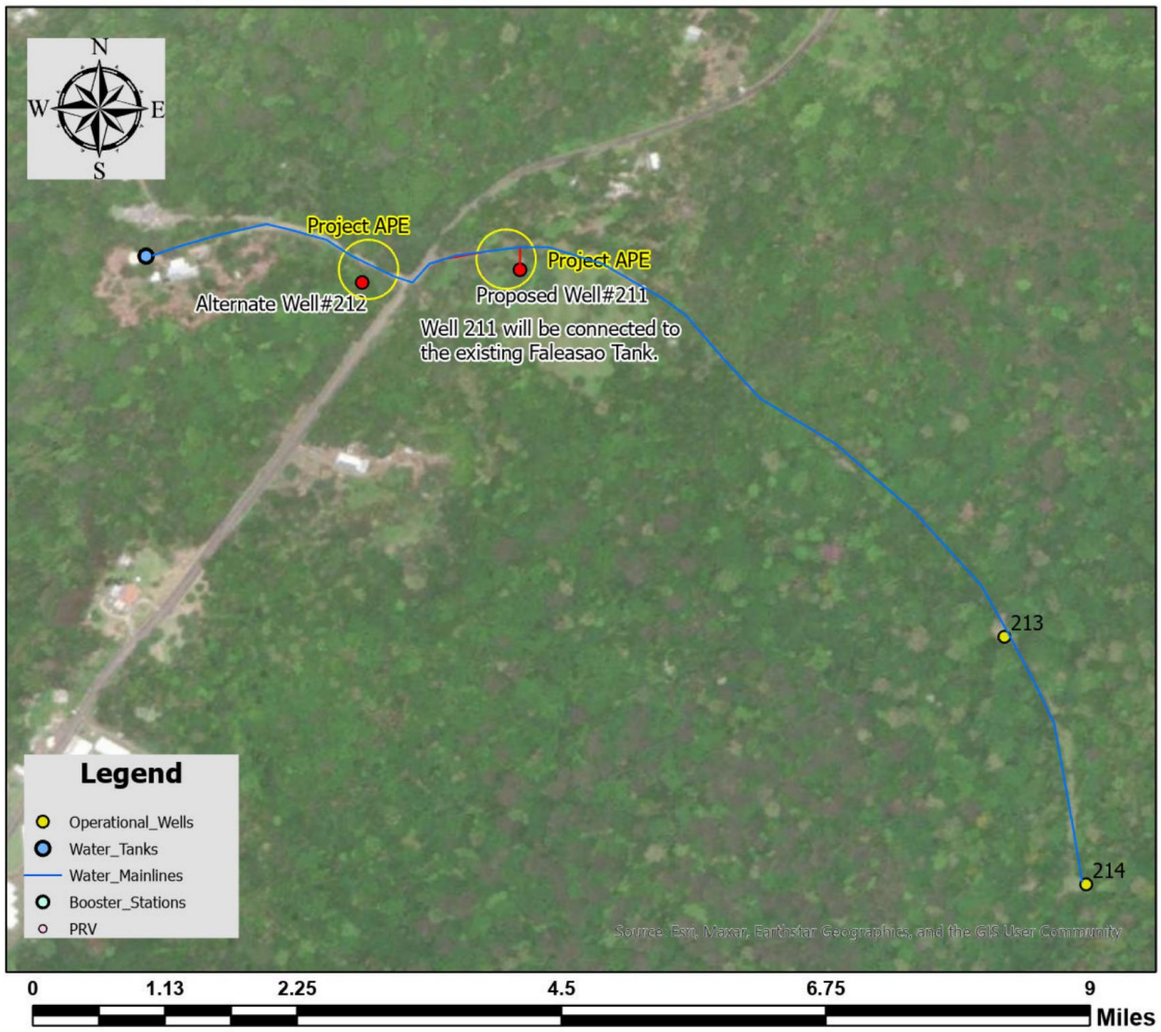


Figure 19: Location of Well 211 in Faleasao area on Ta'u Island (Manu'a).

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

Faleasao/Ta'u 212

This proposed well will be drilled until static water level is reached, and the project engineer will determine the finishing depth after static water for this well. The well must have 8" casing and a neat sanitary grout seal installed to the depth specified by the project engineer. Once drilling is completed and there is sufficient water, the new well must undergo pumping tests to determine the sustainable yield before connecting it to the system. The drilling company is responsible for setting up the well for pumping tests, sizing the pump to be used and ordering all the materials and supplies for the test, organizing water quality analysis and providing the sustainable yield recommendation report to the project engineer. The yield recommendation report will be reviewed and approved by the ASPA drilling engineer before payment is made for the work completed on this well.

At remote sites, ASPA uses a portable generator for power supply and the company is expected to provide all necessary equipment for setup and tests. This new well site is located in Faleasao village on Ta'u Island in the Manu'a group of Islands in an area currently struggling with low pressure and water shortage, the location is shown in **Figure 20**. ASPA will prepare the sites and obtain the required easements and permits for site access and well construction. The existing road to the well site will be prepared as necessary to allow all heavy equipment for drilling and vehicles to access the new drilling site. The drilling company is responsible for setting up safety barriers, silt barriers, erosion control measures and safety protocols on site. All staff must have PPE on site and the company is responsible for safety monitoring and incident reporting.

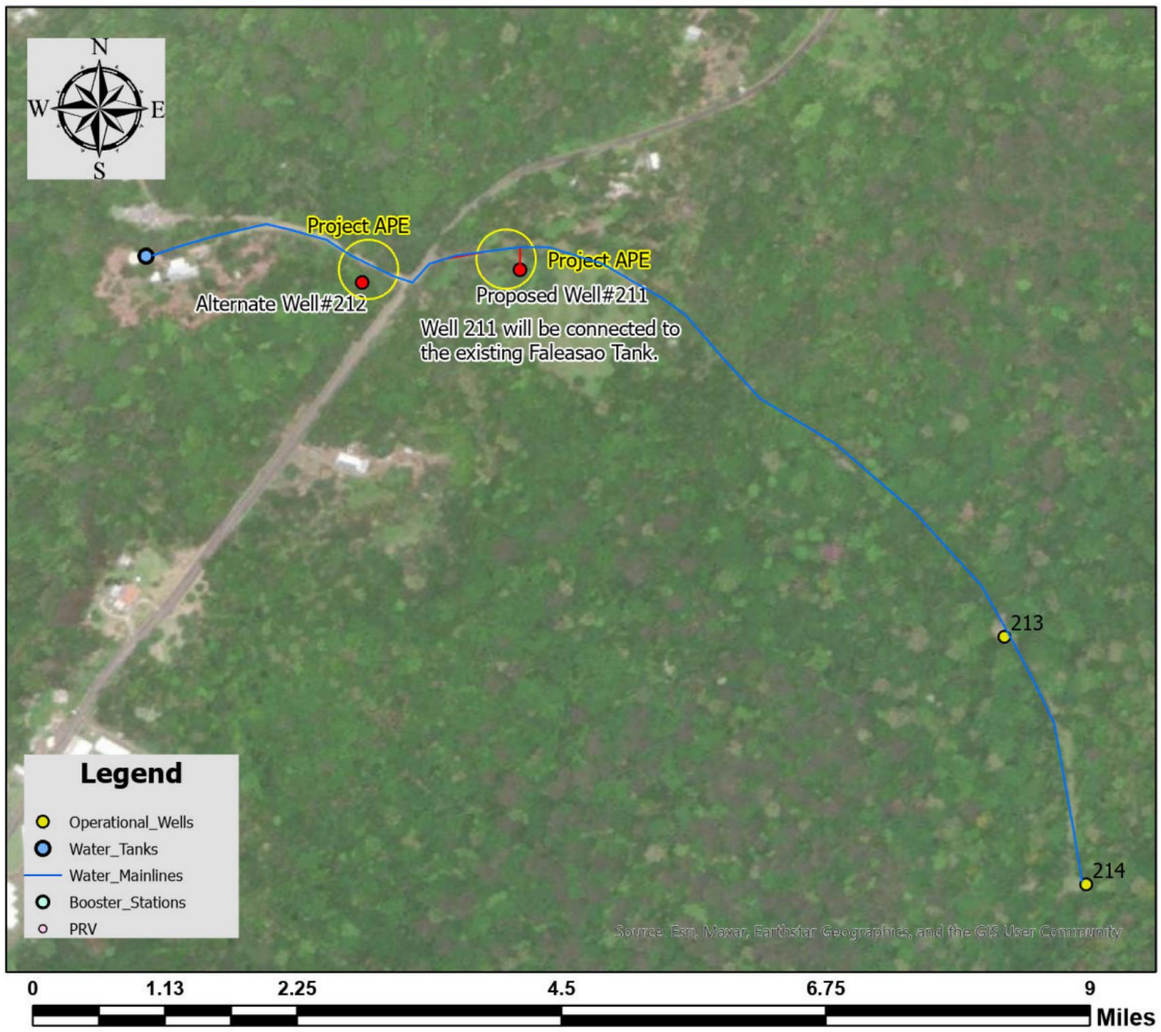
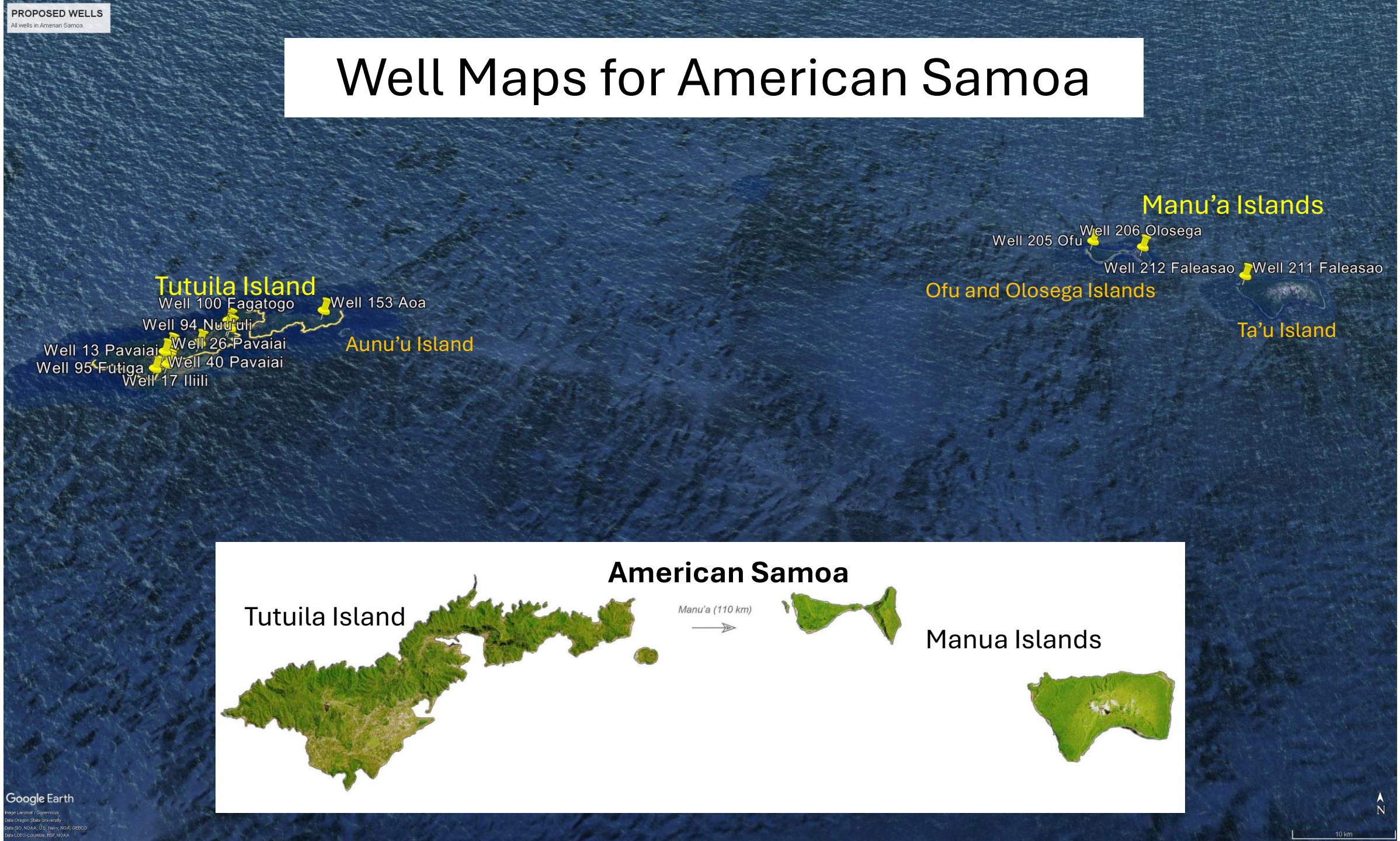


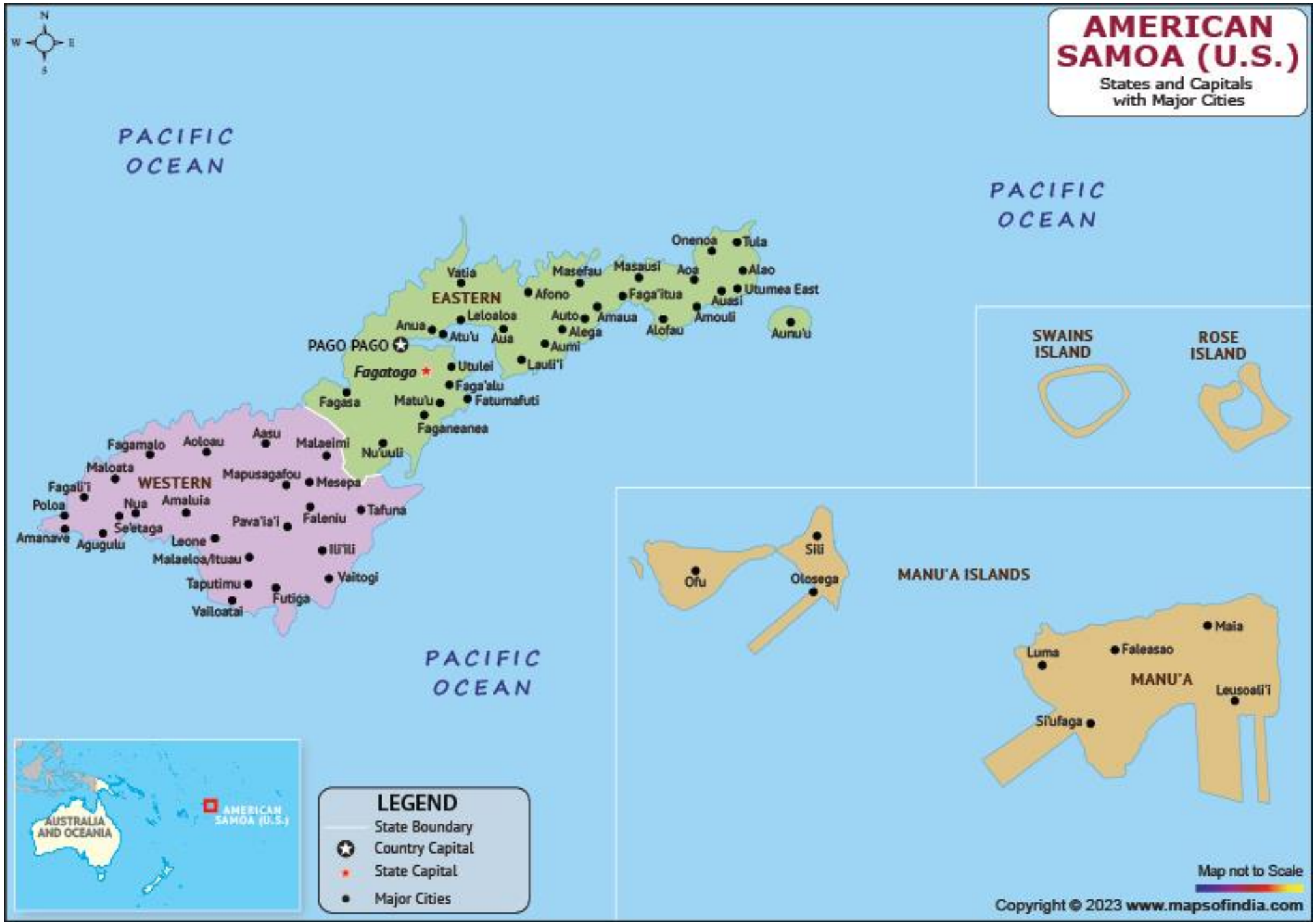
Figure 20: Location of Well 212 in Faleasao area on Ta'u Island (Manu'a).

The drilling staging area will have enough space to allow for maneuvering the drill rig into/and around the project area, and for casings, equipment, water tank, drilling crew vehicle and any other necessary materials needed on site during drilling works. ASPA's Well Drilling Engineer will be responsible for Quality Control and Quality Assurance for this well. Once drilling works have been completed and a sufficient yield recommendation report has been provided to ASPA for this new well, the "Well Connections Project" (separate project) will then commence to prepare our well heads, waterline connections and fence off the area for the well.

ATTACHMENT A: Map of Drilling Sites

Well Maps for American Samoa




AMERICAN SAMOA (U.S.)
States and Capitals with Major Cities
PACIFIC OCEAN
PACIFIC OCEAN
PACIFIC OCEAN
N
W
E
S
EASTERN
WESTERN
MANU'A ISLANDS
PAGO PAGO
Fagatogo
Vatia
Masefau
Masausi
Aoa
Onenoa
Tula
Alao
Utumea East
Aussi
Amouli
Aunu'u
Afono
Faga'itua
Auto
Amaua
Alofau
Leloaloa
Anua
Atu'u
Aua
Alega
Aumi
Lauli'i
Utulei
Faga'alu
Fatumafuti
Matu'u
Fagasa
Faganeanea
Nu'uuli
Malaeimi
Aasu
Aoloau
Fagamalo
Maloata
Fagali'i
Poloa
Nua
Amaluia
Se'etaga
Amanave
Agugulu
Leone
Malaeloa/Ituau
Taputimu
Vailoatai
Futiga
Vaitogi
Ili'ili
Pava'ia'i
Faleniu
Tafuna
Mapusagafou
Mesepa
SWAINS ISLAND
ROSE ISLAND
Siti
Ofu
Olosega
Maia
Luma
Faleasao
MANU'A
Leusoali'i
Si'ufaga
AUSTRALIA AND OCEANIA
AMERICAN SAMOA (U.S.)
LEGEND
State Boundary
Country Capital
State Capital
Major Cities
Map not to Scale
Copyright © 2023 www.mapsofindia.com


Wells on the Western Side of Tutuila Island
Wells 12, 13, 17, 26, 35, 36, 37, 38, 39, 40, 94, 95
Well 94 Nuu'uli
Well 12 Mapusaga
Well 26 Pavaiai
Well 13 Pavaiai
Well 35 Pavaiai
Well 37 Pavaiai
Well 36 Pavaiai
Well 38 Pavaiai
Well 39 Pavaiai
Well 40 Pavaiai
Well 17 Iliili
Well 95 Futiga
Nu'uuli Pala Special Management Area
one Pala Special Management Area
American Samoa Community College
Carquest Auto Parts - HAWTHORNE...
Pago Pago International Airport
Pago Airport Inn
Baby S-ter
Cost.U.Less
KS Mart
Golf Course
Carl's Jr
Pritchard's Bakery
Faasao Marist High School
Leone High School
Moana O Sina
Fogamaa Crater National Natural Landmark
Turtle and Shark
Fagatele Marine Sanctuary
Rte 001
Rte 014
Google Earth
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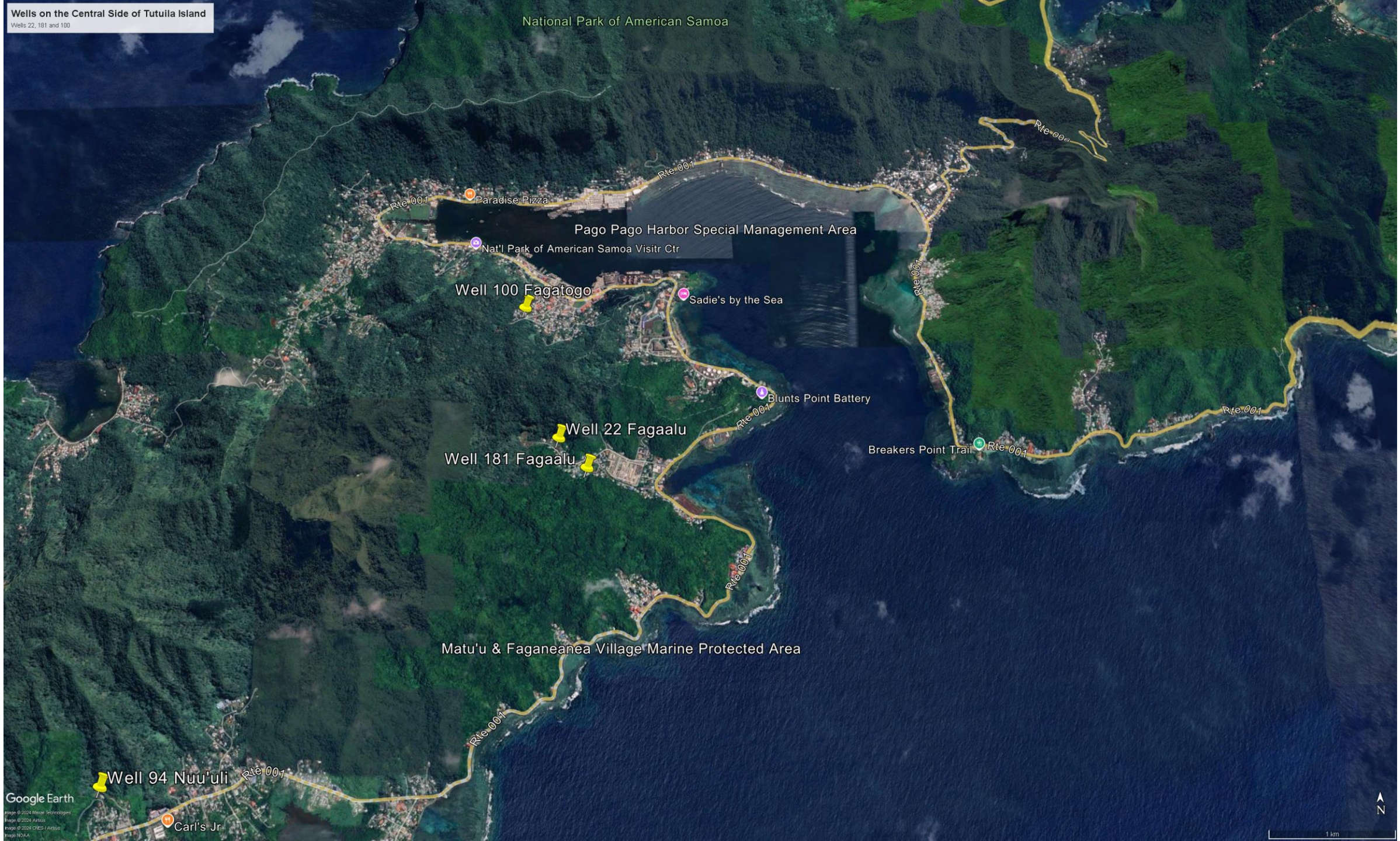
1 km


Wells on the Central Side of Tutuila Island
Wells 22, 181 and 100
National Park of American Samoa
Rte 001
Paradise Pizza
Pago Pago Harbor Special Management Area
Nat'l Park of American Samoa Visitr Ctr
Well 100 Fagatogo
Sadie's by the Sea
Blunts Point Battery
Well 22 Fagaalu
Well 181 Fagaalu
Breakers Point Trail
Matu'u & Faganeanea Village Marine Protected Area
Well 94 Nuu'uli
Carl's Jr
Google Earth
N
1 km


Well on the Eastern Side of Tutuila Island
Wells 153
NOAA American Samoa Observatory
Matātula Elementary School
Aua Village Marine Protected Area
Well 153 Aoa
Rte 001
Rte 002
Rte 006
Alofau Village Marine Protected Area
Rte 001
Rte 008
Rte 008
Amouli Beach Fales
Two Dollar Beach
Aunuu Island National
Google Earth
Data LDEO-Columbia, NSF, NOAA
Image © 2024 Airbus
Image © 2024 Maxar Technologies
Image NOAA
N
1 km


Wells on Ofu and Olosega in Manu'a
Wells 205 and 206
Well 205 Ofu
Rte 20
Asaga Inn
Rte 20
Ofu Beach
Well 206 Olosega
Rte 20
Rte 20
Ofu Airport
Google Earth
Image © 2024 Airbus
Data Oregon State University
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Data LDEO-Columbia, NSF, NOAA
N
900 m


Wells on Ta'u in Manu'a
Wells 211 and 212
Well 212 Faleasao
Well 211 Faleasao
Ta'u Medical Dispensary
Manu'a High School
Fitiuta Airport
Big Momma
Google Earth
Image © 2024 Airbus
Data Oregon State University
Image © 2024 CNES / Airbus
Data LDEO-Columbia, NSF, NOAA
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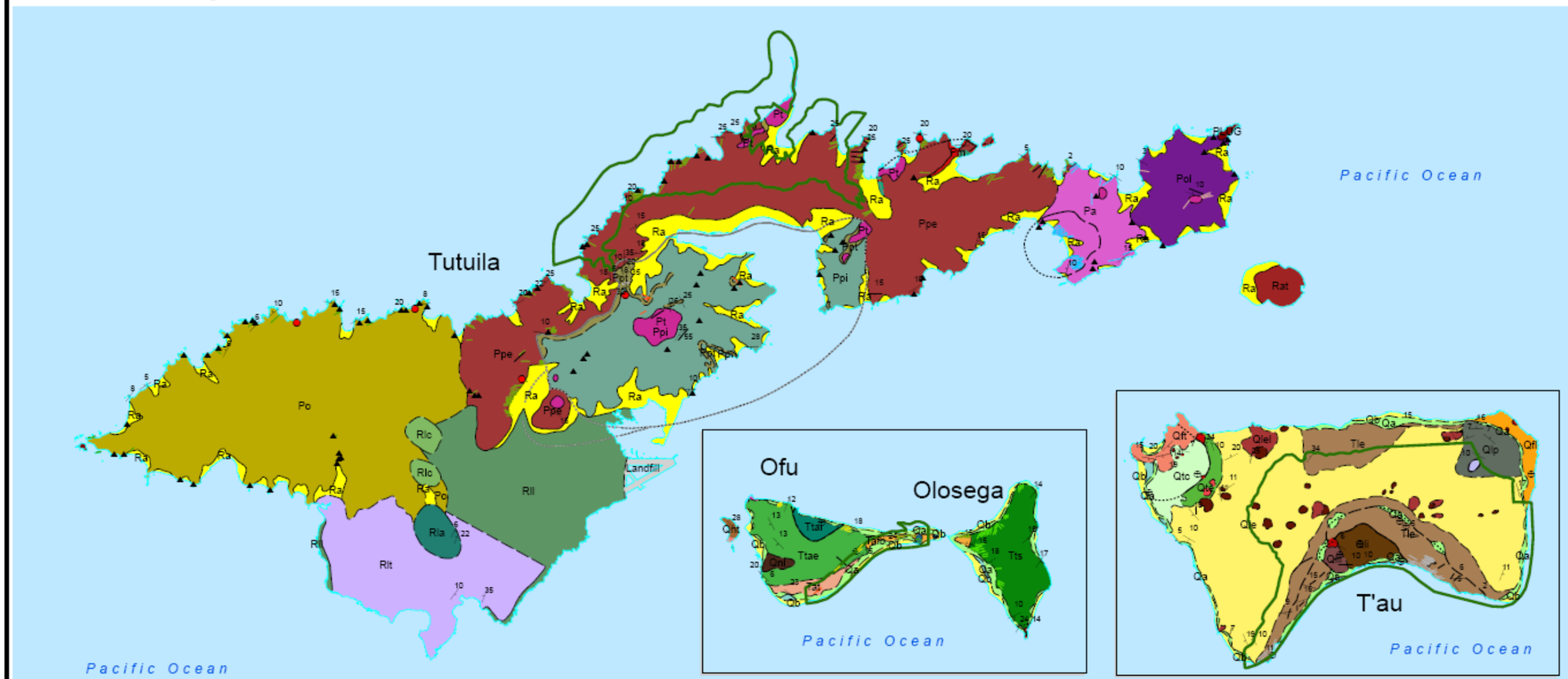
800 m

ATTACHMENT B: Geology Map of American Samoa

National Park of American Samoa
American Samoa

National Park Service
U.S. Department of the Interior

Geologic Map of National Park of American Samoa



This map graphically presents digital geologic data prepared as part of the NPS Geologic Resources Division's Geologic Resource Evaluation Program. The source map used in creation of the digital geologic data product was:

Geology of Tutuila island - Harold T. Stearns, 1994, Geology of the Samoan Islands: Geological Society of America, Vol. 55, pp. 1279-1332. Scale approximately 1:63,000.

Geology of Tau island - Gary D. Stice and Floyd W. McCoy, Jr. 1968, Geology of the Manu'a Islands, Samoa: Pacific Science, Vol. XXII. Scale approximately 1:56,000.

Geology of Ofu and Olosega islands - Gary D. Stice and Floyd W. McCoy, Jr. 1968, Geology of the Manu'a Islands, Samoa: Pacific Science, Vol. XXII. Scale approximately 1:56,000.

Digital geologic data and cross sections for National Park of American Samoa, and all other digital geologic data prepared as part of the Geologic Resource Evaluation Program, are available online at the NPS Data Store: http://science.nature.nps.gov/nrdata/

0 1.25 2.5 5 Kilometers
0 1 2 4 Miles

Produced by Geologic Resources Division

National Park of American Samoa Boundary

Geologic Attitude and Observation Localities
- strike and dip of beds
- horizontal beds

Volcanic Point Features
- plug
- outcrop of vitric tuff or cinders

Linear Volcanic Features
- caldera, approximate
- caldera, concealed

Faults
- known or certain
- approximate
- concealed

Linear Dikes
- Qnt - Nu'u Formation—tuff
- Ttae - Tuafanua Formation—A'ofa shield
- Tuafanua Formation—Sili shield
- Po - Taputapu Volcanics
- Ppe - Pago Volcanic Series
- Ppi - Pago V. Series—andesite/basalt flows
- Tle - Leta Formation—pre-caldera
- Pa - Alofau Volcanics
- Pol - Olomoana Volcanics
- Pm - Masefau Dike Complex

Geologic Contacts
- known or certain
- approximate
- shoreline

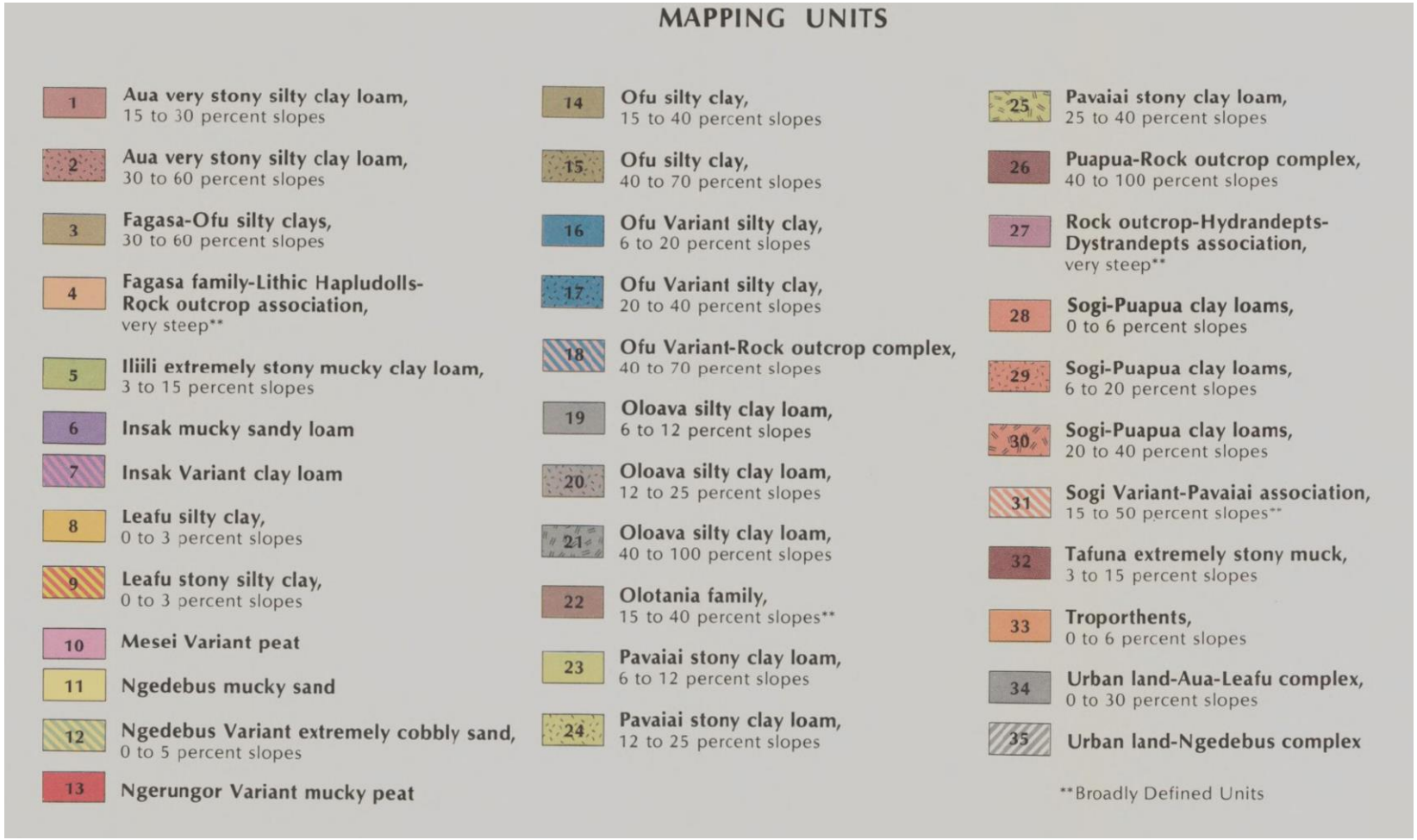
Geologic Units
- landfill
- plug
- Ra - beach sand and alluvium
- Rll - Leone Volcanics, pahoehoe flow
- Rlc - Leone Volcanics, cinder cone
- Rla - Leone Volcanics, ash cone
- Rlt - Leone Volcanics, lithic-vitric tuff
- Rat - 'Aunu'u Tuff
- Qb - beach deposits
- Qa - alluvium, talus and stream deposits
- Qm - marsh
- Qnt - Nu'u Formation, lapilli tuff
- Qnl - Nu'u Formation, basalt flows
- Qfc - Fili'uta Formation, cinder cone
- Qfl - Fili'uta Formation
- Qfl - Faleasao Formation
- Qlp - Lualele Formation, pahoehoe flows
- Qlc - Lualele Fm, ponded lavas
- Qtec - Tunoa Fm, cinder cones - basalt & olivine basalt
- Qte - Tunoa Fm, lava flows - basalt & olivine basalt
- Qtcc - Tunoa Fm, cinder cones - ash, tuff & olivine basalt
- Qtc - Tunoa Fm, ash, tuff & olivine basalt
- Qlel - Leta Fm, post-caldera lava flows
- Qlec - Leta Fm, post-caldera cinder cone
- Qle - Leta Fm, post caldera volcanics
- Qll - Leta Fm, intra-caldera associated lava flows
- Qlic - Leta Fm, intra-caldera cinder cone
- Ql - Leta Fm, intra-caldera member
- Pt - Trachyte plugs and dikes
- Ptp - Trachytic pumice deposits
- Po - Taputapu Volcanics
- Ppe - Pago Volcanic Series
- Ppl - Pago Volcanic Series, lithic-vitric tuff
- Ppi - Pago Volcanic Series, intra-caldera
- Pa - Alofau Volcanics
- Pol - Olomoana Volcanics
- Pm - Masefau Dike Complex
- Ttae - Tuafanua Fm, A'ofa shield
- Tts - Tuafanua Fm, Sili shield
- Ttal - Tuafanua Fm, ponded flows
- Tafl - Asaga Fm, associated plug
- Tafb - Asaga Fm, breccia cone
- Tat - Asaga Fm, composite cone
- Tam - tuff cone
- Tas - tuff cone
- Tac - cinder cone
- Tle - Leta Fm, pre-Caldera member

January 2008

ATTACHMENT C: Soils Map of American Samoa

Soil survey of American Samoa/by Sakuichi Nakmura; United States Department of Agriculture, Soil Conservation Service in cooperation with the Government of American Samoa

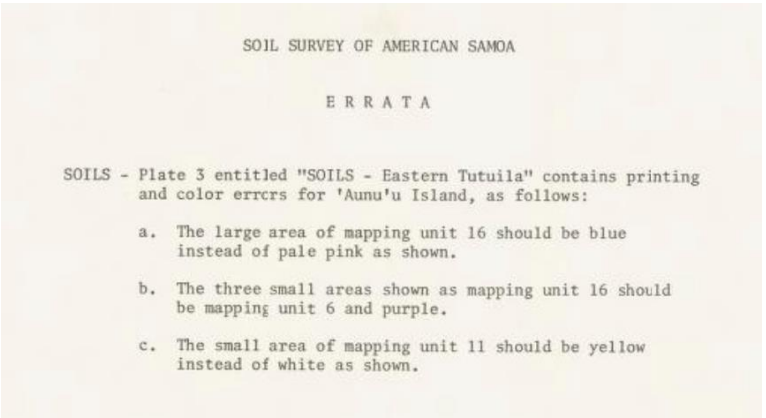
Creator
Nakamura, Sakuichi



MAPPING UNITS

1 Aua very stony silty clay loam, 15 to 30 percent slopes
2 Aua very stony silty clay loam, 30 to 60 percent slopes
3 Fagasa-Ofu silty clays, 30 to 60 percent slopes
4 Fagasa family-Lithic Hapludolls-Rock outcrop association, very steep**
5 Iliili extremely stony mucky clay loam, 3 to 15 percent slopes
6 Insak mucky sandy loam
7 Insak Variant clay loam
8 Leafu silty clay, 0 to 3 percent slopes
9 Leafu stony silty clay, 0 to 3 percent slopes
10 Mesei Variant peat
11 Ngedebus mucky sand
12 Ngedebus Variant extremely cobbly sand, 0 to 5 percent slopes
13 Ngerungor Variant mucky peat
14 Ofu silty clay, 15 to 40 percent slopes
15 Ofu silty clay, 40 to 70 percent slopes
16 Ofu Variant silty clay, 6 to 20 percent slopes
17 Ofu Variant silty clay, 20 to 40 percent slopes
18 Ofu Variant-Rock outcrop complex, 40 to 70 percent slopes
19 Oloava silty clay loam, 6 to 12 percent slopes
20 Oloava silty clay loam, 12 to 25 percent slopes
21 Oloava silty clay loam, 40 to 100 percent slopes
22 Olotania family, 15 to 40 percent slopes**
23 Pavaiai stony clay loam, 6 to 12 percent slopes
24 Pavaiai stony clay loam, 12 to 25 percent slopes
25 Pavaiai stony clay loam, 25 to 40 percent slopes
26 Puapua-Rock outcrop complex, 40 to 100 percent slopes
27 Rock outcrop-Hydrandepts-Dystrandepts association, very steep**
28 Sogi-Puapua clay loams, 0 to 6 percent slopes
29 Sogi-Puapua clay loams, 6 to 20 percent slopes
30 Sogi-Puapua clay loams, 20 to 40 percent slopes
31 Sogi Variant-Pavaiai association, 15 to 50 percent slopes**
32 Tafuna extremely stony muck, 3 to 15 percent slopes
33 Troporthents, 0 to 6 percent slopes
34 Urban land-Aua-Leafu complex, 0 to 30 percent slopes
35 Urban land-Ngedebus complex

**Broadly Defined Units



SOIL SURVEY OF AMERICAN SAMOA

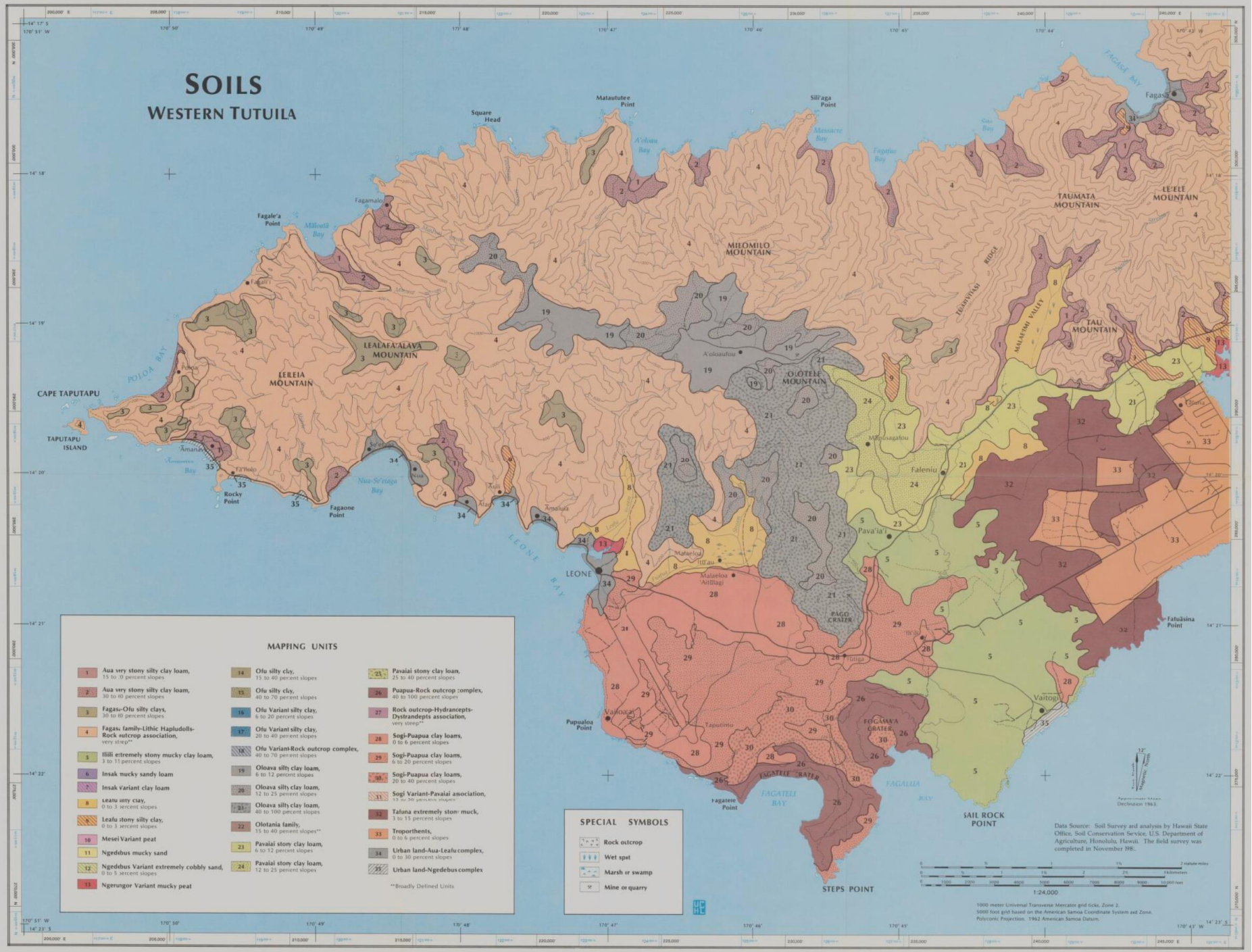
E R R A T A

SOILS - Plate 3 entitled "SOILS - Eastern Tutuila" contains printing and color errors for 'Aunu'u Island, as follows:

a. The large area of mapping unit 16 should be blue instead of pale pink as shown.

b. The three small areas shown as mapping unit 16 should be mapping unit 6 and purple.

c. The small area of mapping unit 11 should be yellow instead of white as shown.


SOILS
WESTERN TUTUILA
Square Head
Mataututee Point
Sili'aga Point
Fagasā
Fagamalo
Fagale'a Point
Māloulū Bay
MILOMILO MOUNTAIN
TAUMATA MOUNTAIN
LE'ELE MOUNTAIN
TAU MOUNTAIN
LEALAFA-'ĀLAVA MOUNTAIN
LEILEIA MOUNTAIN
OLOTELE MOUNTAIN
CAPE TAPUTAPU
TAPUTAPU ISLAND
POLOA BAY
Rocky Point
Fagaone Point
Nua-Se'etaga Bay
LEONE
LEONE BAY
Pago Crater
Fatuāsina Point
Pupualoa Point
Vaitogi
FOGAMA'A CRATER
FAGATELE CRATER
Fagatele Point
FAGATELE BAY
FAGALILIA BAY
SAIL ROCK POINT
STEPS POINT
MAPPING UNITS
1 Aua very stony silty clay loam, 15 to 30 percent slopes
2 Aua very stony silty clay loam, 30 to 60 percent slopes
3 Fagasā-Ofu silty clays, 30 to 60 percent slopes
4 Fagasā family-Lithic Hapludolls-Rock outcrop association, very steep**
5 Ilili extremely stony mucky clay loam, 3 to 15 percent slopes
6 Insak mucky sandy loam
7 Insak Variant clay loam
8 Leafu silty clay, 0 to 3 percent slopes
9 Leafu stony silty clay, 0 to 3 percent slopes
10 Mesei Variant peat
11 Ngedebus mucky sand
12 Ngedebus Variant extremely cobbly sand, 0 to 5 percent slopes
13 Ngerungor Variant mucky peat
14 Ofu silty clay, 15 to 40 percent slopes
15 Ofu silty clay, 40 to 70 percent slopes
16 Ofu Variant silty clay, 6 to 20 percent slopes
17 Ofu Variant silty clay, 20 to 40 percent slopes
Ofu Variant-Rock outcrop complex, 40 to 70 percent slopes
19 Oloava silty clay loam, 6 to 12 percent slopes
20 Oloava silty clay loam, 12 to 25 percent slopes
21 Oloava silty clay loam, 40 to 100 percent slopes
22 Olotania family, 15 to 40 percent slopes**
23 Pavaiai stony clay loam, 6 to 12 percent slopes
24 Pavaiai stony clay loam, 12 to 25 percent slopes
25 Pavaiai stony clay loam, 25 to 40 percent slopes
26 Puapua-Rock outcrop complex, 40 to 100 percent slopes
27 Rock outcrop-Hydrandepts-Dystrandepts association, very steep**
28 Sogi-Puapua clay loams, 0 to 6 percent slopes
29 Sogi-Puapua clay loams, 6 to 20 percent slopes
30 Sogi-Puapua clay loams, 20 to 40 percent slopes
31 Sogi Variant-Pavaiai association, 15 to 30 percent slopes
32 Tafuna extremely stony muck, 3 to 15 percent slopes
33 Troporthents, 0 to 6 percent slopes
34 Urban land-Aua-Leafu complex, 0 to 30 percent slopes
35 Urban land-Ngedebus complex
**Broadly Defined Units
SPECIAL SYMBOLS
Rock outcrop
Wet spot
Marsh or swamp
Mine or quarry
Data Source: Soil Survey and analysis by Hawaii State Office, Soil Conservation Service, U.S. Department of Agriculture, Honolulu, Hawaii. The field survey was completed in November 198.
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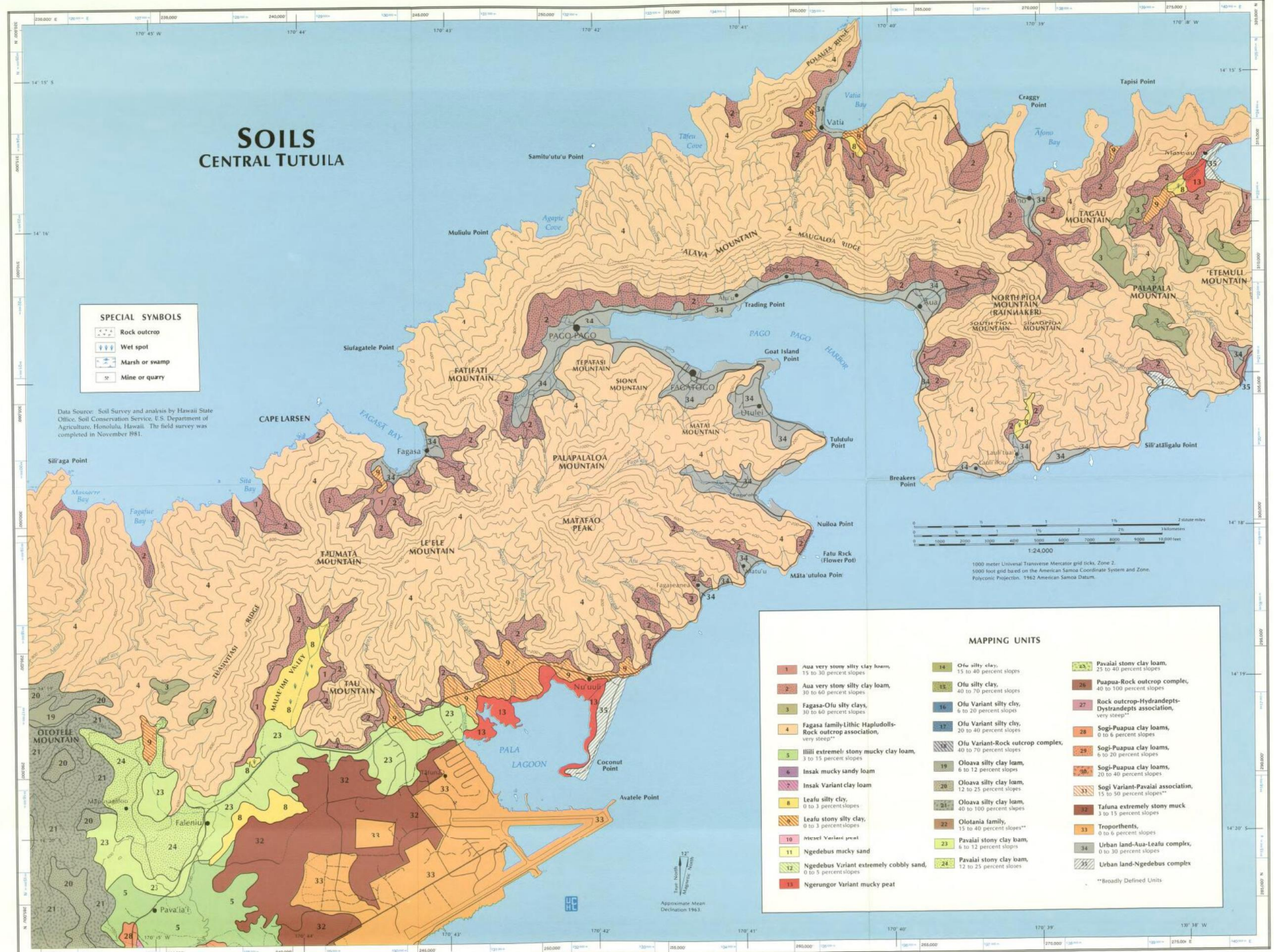
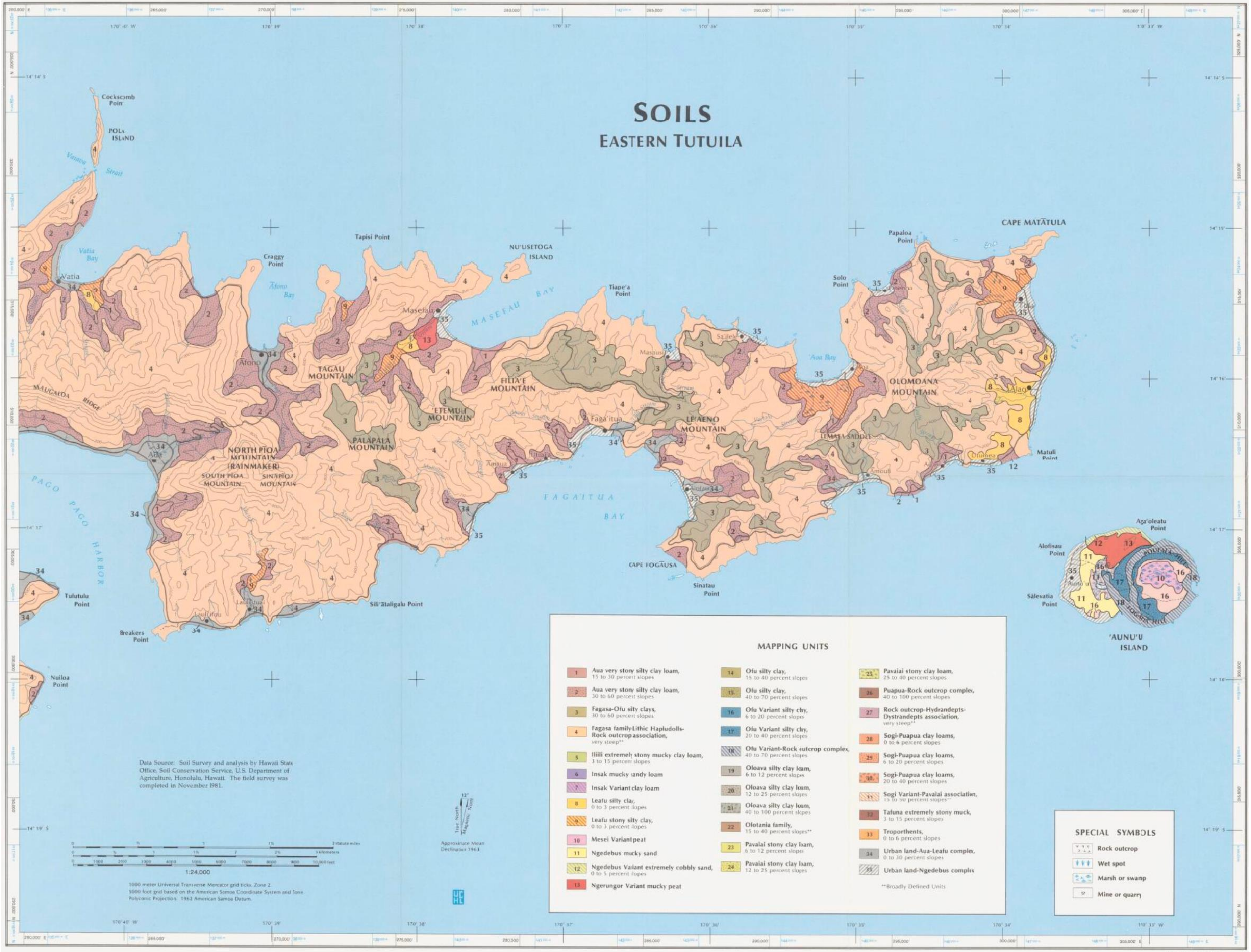
1000 meter Universal Transverse Mercator grid ticks, Zone 2.
5000 foot grid based on the American Samoa Coordinate System and Zone.
Polyconic Projection. 1962 American Samoa Datum.

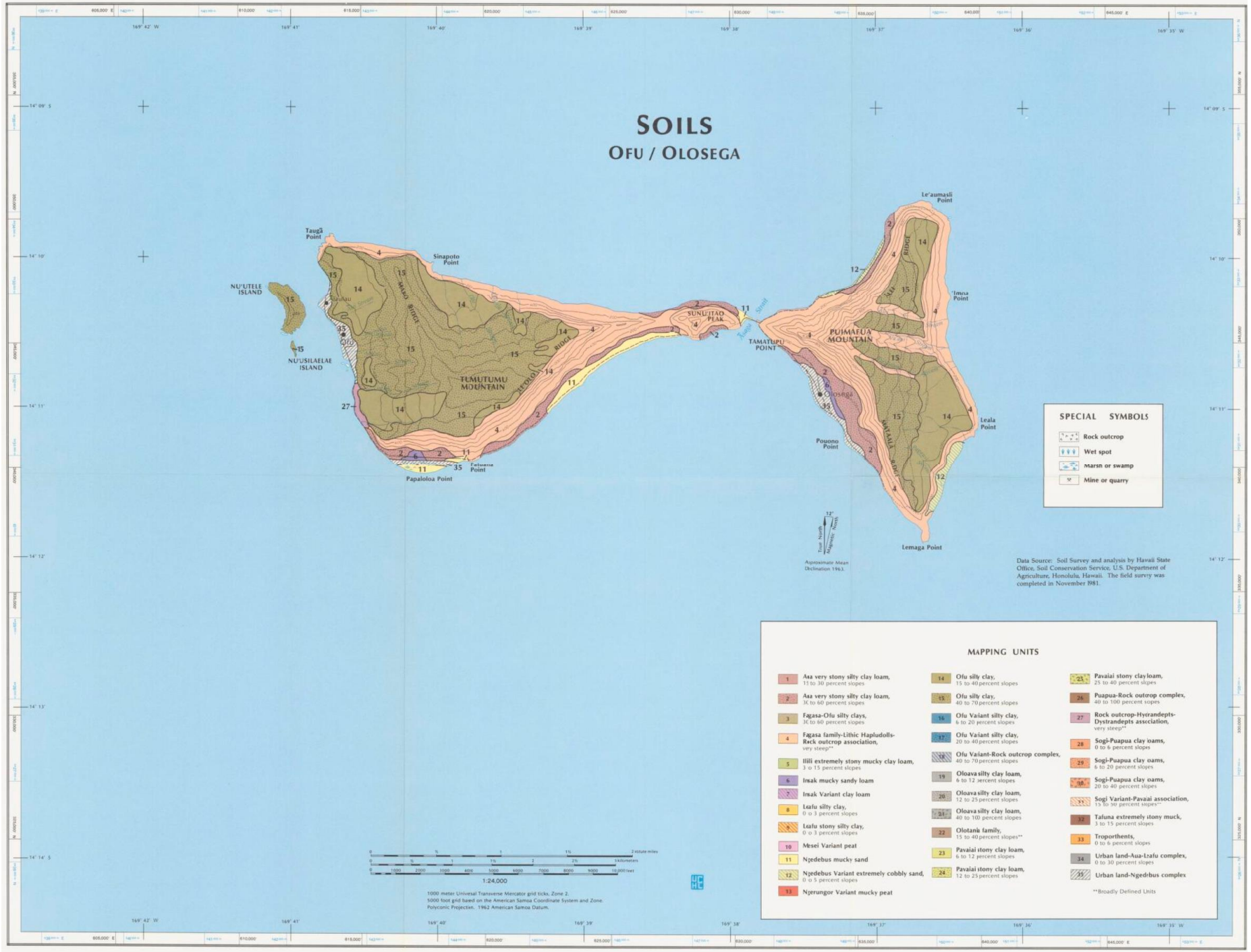

SOILS
CENTRAL TUTUILA
SPECIAL SYMBOLS
Rock outcrop
Wet spot
Marsh or swamp
Mine or quarry
Data Source: Soil Survey and analysis by Hawaii State Office, Soil Conservation Service, U.S. Department of Agriculture, Honolulu, Hawaii. The field survey was completed in November 1981.
MAPPING UNITS
1 Aua very stony silty clay loam, 15 to 30 percent slopes
2 Aua very stony silty clay loam, 30 to 60 percent slopes
3 Fagasa-Ofu silty clays, 30 to 60 percent slopes
4 Fagasa family-Lithic Hapludolls-Rock outcrop association, very steep**
5 Iliili extremely stony mucky clay loam, 3 to 15 percent slopes
6 Insak mucky sandy loam
7 Insak Variant clay loam
8 Leafu silty clay, 0 to 3 percent slopes
9 Leafu stony silty clay, 0 to 3 percent slopes
10 Mesel Variant peat
11 Ngedebus mucky sand
12 Ngedebus Variant extremely cobbly sand, 0 to 5 percent slopes
13 Ngerungor Variant mucky peat
14 Ofu silty clay, 15 to 40 percent slopes
15 Ofu silty clay, 40 to 70 percent slopes
16 Ofu Variant silty clay, 6 to 20 percent slopes
17 Ofu Variant silty clay, 20 to 40 percent slopes
18 Ofu Variant-Rock outcrop complex, 40 to 70 percent slopes
19 Oloava silty clay loam, 6 to 12 percent slopes
20 Oloava silty clay loam, 12 to 25 percent slopes
21 Oloava silty clay loam, 40 to 100 percent slopes
22 Olotania family, 15 to 40 percent slopes**
23 Pavaiai stony clay loam, 6 to 12 percent slopes
24 Pavaiai stony clay loam, 12 to 25 percent slopes
25 Pavaiai stony clay loam, 25 to 40 percent slopes
26 Puapua-Rock outcrop complex, 40 to 100 percent slopes
27 Rock outcrop-Hydrandepts-Dystrandepts association, very steep**
28 Sogi-Puapua clay loams, 0 to 6 percent slopes
29 Sogi-Puapua clay loams, 6 to 20 percent slopes
30 Sogi-Puapua clay loams, 20 to 40 percent slopes
33 Sogi Variant-Pavaiai association, 15 to 50 percent slopes**
32 Tafuna extremely stony muck 3 to 15 percent slopes
33 Troporthents, 0 to 6 percent slopes
34 Urban land-Aua-Leafu complex, 0 to 30 percent slopes
35 Urban land-Ngedebus complex
**Broadly Defined Units
1:24,000
1000 meter Universal Transverse Mercator grid ticks, Zone 2.
5000 foot grid based on the American Samoa Coordinate System and Zone.
Polyconic Projection. 1962 American Samoa Datum.
Approximate Mean Declination 1963.
POLAUTA RIDGE
Valia Bay
Craggy Point
Tapisi Point
Tāfeu Cove
Samitu'utu'u Point
Agagie Cove
Muliulu Point
'ALAVA MOUNTAIN
MAUGALOA RIDGE
Afono Bay
TAGAU MOUNTAIN
'ETEMULI MOUNTAIN
PALAPALA MOUNTAIN
NORTH PIOA MOUNTAIN (RAINMAKER)
SOUTH PIOA MOUNTAIN
SINAOPIOA MOUNTAIN
Trading Point
PAGO PAGO
PAGO PAGO HARBOR
Siufagatele Point
FATIFATI MOUNTAIN
TEPATASI MOUNTAIN
SIONA MOUNTAIN
FAGATOGO
Goat Island Point
MATAI MOUNTAIN
Tuitulu Point
Sili'atāligalu Point
Breakers Point
CAPE LARSEN
FAGASA BAY
Fagasa
Sili'aga Point
Massacre Bay
Sita Bay
Fagafue Bay
PALAPALALOA MOUNTAIN
MATAFAO PEAK
Nuiloa Point
Fatu Rock (Flower Pot)
Mata'utuloa Point
LE'ELE MOUNTAIN
TUMATA MOUNTAIN
TEASIVIFASI RIDGE
MALAE'IMI VALLEY
TAU MOUNTAIN
Nu'uuli
OLOTELE MOUNTAIN
PALA LAGOON
Coconut Point
Avatele Point
Māpusaāloo
Faleniu
Pava'ia'i



SOILS
EASTERN TUTUILA
MAPPING UNITS
1 Aua very stony silty clay loam, 15 to 30 percent slopes
2 Aua very stony silty clay loam, 30 to 60 percent slopes
3 Fagasa-Ofu silty clays, 30 to 60 percent slopes
4 Fagasa family-Lithic Hapludolls-Rock outcrop association, very steep**
5 Iliili extremely stony mucky clay loam, 3 to 15 percent slopes
6 Insak mucky sandy loam
7 Insak Variant clay loam
8 Leafu silty clay, 0 to 3 percent slopes
9 Leafu stony silty clay, 0 to 3 percent slopes
10 Mesei Variant peat
11 Ngedebus mucky sand
12 Ngedebus Variant extremely cobbly sand, 0 to 5 percent slopes
13 Ngerungor Variant mucky peat
14 Ofu silty clay, 15 to 40 percent slopes
15 Ofu silty clay, 40 to 70 percent slopes
16 Ofu Variant silty clay, 6 to 20 percent slopes
17 Ofu Variant silty clay, 20 to 40 percent slopes
18 Ofu Variant-Rock outcrop complex, 40 to 70 percent slopes
19 Oloava silty clay loam, 6 to 12 percent slopes
20 Oloava silty clay loam, 12 to 25 percent slopes
21 Oloava silty clay loam, 40 to 100 percent slopes
22 Olotania family, 15 to 40 percent slopes**
23 Pavaiai stony clay loam, 6 to 12 percent slopes
24 Pavaiai stony clay loam, 12 to 25 percent slopes
25 Pavaiai stony clay loam, 25 to 40 percent slopes
26 Puapua-Rock outcrop complex, 40 to 100 percent slopes
27 Rock outcrop-Hydrandepts-Dystrandepts association, very steep**
28 Sogi-Puapua clay loams, 0 to 6 percent slopes
29 Sogi-Puapua clay loams, 6 to 20 percent slopes
30 Sogi-Puapua clay loams, 20 to 40 percent slopes
31 Sogi Variant-Pavaiai association, 15 to 30 percent slopes**
32 Tafuna extremely stony muck, 3 to 15 percent slopes
33 Troporthents, 0 to 6 percent slopes
34 Urban land-Aua-Leafu complex, 0 to 30 percent slopes
35 Urban land-Ngedebus complex
**Broadly Defined Units
SPECIAL SYMBOLS
Rock outcrop
Wet spot
Marsh or swamp
Mine or quarry
Data Source: Soil Survey and analysis by Hawaii State Office, Soil Conservation Service, U.S. Department of Agriculture, Honolulu, Hawaii. The field survey was completed in November 1981.
1:24,000
1000 meter Universal Transverse Mercator grid ticks, Zone 2.
5000 foot grid based on the American Samoa Coordinate System and Zone.
Polyconic Projection. 1962 American Samoa Datum.
Approximate Mean Declination 1963
CAPE MATĀTULA
OLOMOANA MOUNTAIN
LE'AENO MOUNTAIN
FILIA'E MOUNTAIN
TAGAU MOUNTAIN
PALAPALA MOUNTAIN
ETEMULI MOUNTAIN
NORTH PIOA MOUNTAIN (RAINMAKER)
SOUTH PIOA MOUNTAIN
SINAPIOA MOUNTAIN
MAUGALOA RIDGE
MASEFAU BAY
FAGA'ITUA BAY
PAGO PAGO HARBOR
NU'USETOGA ISLAND
POLA ISLAND
'AUNU'U ISLAND
CAPE FOGĀUSA

SOILS

OFU / OLOSEGA



SPECIAL SYMBOLS

- Rock outcrop
- Wet spot
- Marsh or swamp
- Mine or quarry

MAPPING UNITS

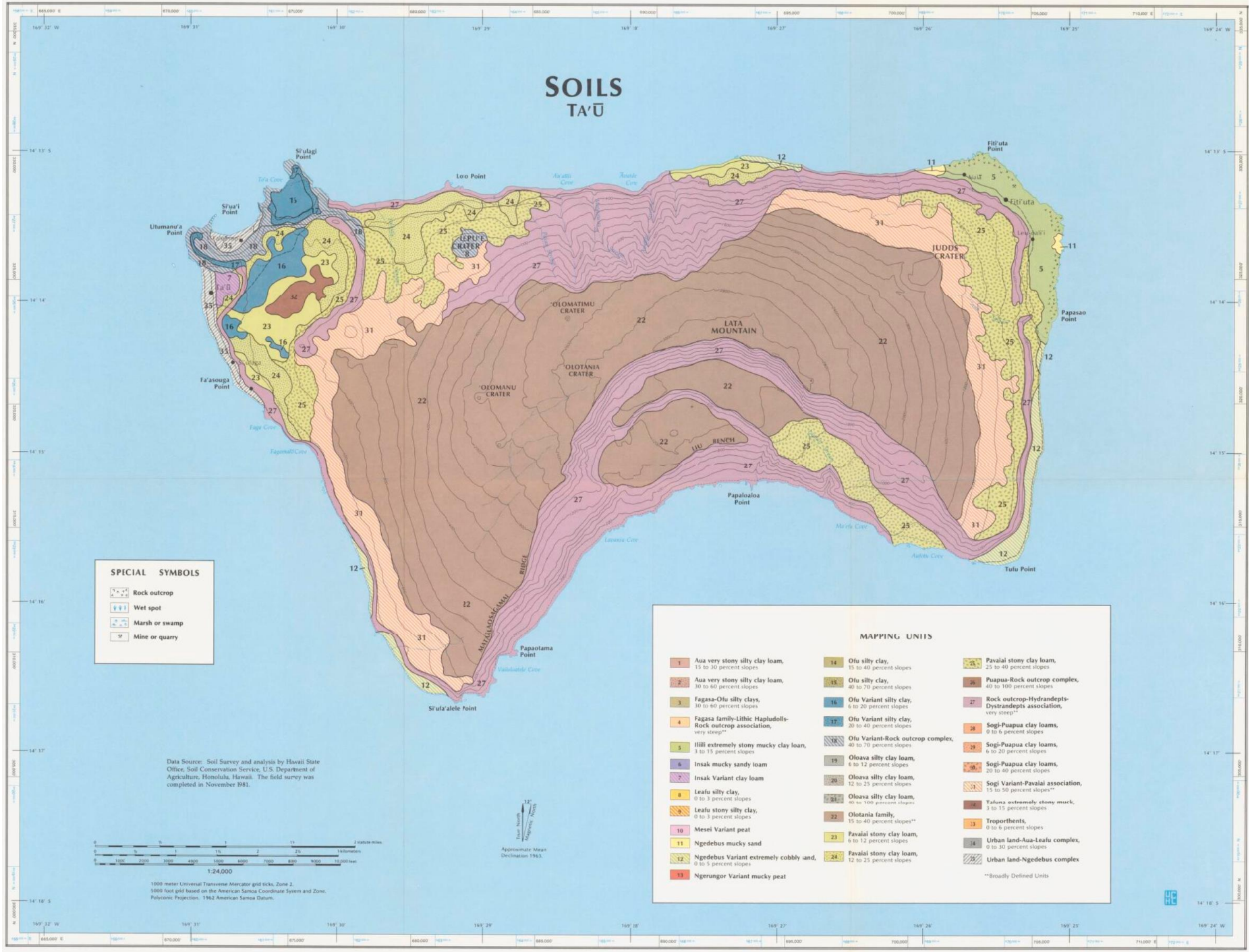
1. Asa very stony silty clay loam, 15 to 30 percent slopes
2. Asa very stony silty clay loam, 30 to 60 percent slopes
3. Fagasa-Ofu silty clays, 30 to 60 percent slopes
4. Fagasa family-Lithic Hapludolls-Rock outcrop association, very steep**
5. Ilili extremely stony mucky clay loam, 3 to 15 percent slopes
6. Inak mucky sandy loam
7. Inak Variant clay loam
8. Leafu silty clay, 0 to 3 percent slopes
9. Leafu stony silty clay, 0 to 3 percent slopes
10. Mesei Variant peat
11. Ngedebus mucky sand
12. Ngedebus Variant extremely cobbly sand, 0 to 5 percent slopes
13. Ngerungor Variant mucky peat
14. Ofu silty clay, 15 to 40 percent slopes
15. Ofu silty clay, 40 to 70 percent slopes
16. Ofu Variant silty clay, 6 to 20 percent slopes
17. Ofu Variant silty clay, 20 to 40 percent slopes
18. Ofu Variant-Rock outcrop complex, 40 to 70 percent slopes
19. Oloava silty clay loam, 6 to 12 percent slopes
20. Oloava silty clay loam, 12 to 25 percent slopes
21. Oloava silty clay loam, 40 to 100 percent slopes
22. Olotana family, 15 to 40 percent slopes**
23. Pavaiai stony clay loam, 6 to 12 percent slopes
24. Pavaiai stony clay loam, 12 to 25 percent slopes
25. Pavaiai stony clay loam, 25 to 40 percent slopes
26. Puapua-Rock outrop complex, 40 to 100 percent slopes
27. Rock outcrop-Hyrandepts-Dystrandepts assciation, very steep**
28. Sogi-Puapua clay loams, 0 to 6 percent slopes
29. Sogi-Puapua clay oams, 6 to 20 percent slopes
30. Sogi-Puapua clay oams, 20 to 40 percent slopes
31. Sogi Variant-Pavaai association, 15 to 50 percent slopes**
32. Tafuna extremely stony muck, 3 to 15 percent slopes
33. Troporthents, 0 to 6 percent slopes
34. Urban land-Aua-Leafu complex, 0 to 30 percent slopes
35. Urban land-Ngedebus complex

**Broadly Defined Units

1:24,000

1000 meter Universal Transverse Mercator grid ticks, Zone 2.
5000 foot grid based on the American Samoa Coordinate System and Zone.
Polyconic Projection. 1962 American Samoa Datum.

Data Source: Soil Survey and analysis by Hawaii State Office, Soil Conservation Service, U.S. Department of Agriculture, Honolulu, Hawaii. The field survey was completed in November 1981.


SOILS
TA'Ū
Si'ulagi Point
Leo Point
Fiti'uta Point
Fiti'uta
Si'ua'i Point
Utumanu'a Point
Fa'asouga Point
Papaotama Point
Si'ula'alele Point
Papaloaloa Point
Papasao Point
Tufu Point
LEPU'E CRATER
JUDDS CRATER
OLOMATIMU CRATER
LATA MOUNTAIN
OLOTANIA CRATER
'OLOMANU CRATER
LIU BENCH
MATAFAOSE'AMAU RIDGE
Ta'a Cove
Fagaitua Cove
Fagamalō Cove
Laoana Cove
Ma'efa Cove
Aufutu Cove
Valialatele Cove
SPECIAL SYMBOLS
Rock outcrop
Wet spot
Marsh or swamp
Mine or quarry
MAPPING UNITS
1 Aua very stony silty clay loam, 15 to 30 percent slopes
2 Aua very stony silty clay loam, 30 to 60 percent slopes
3 Fagasa-Ofu silty clays, 30 to 60 percent slopes
4 Fagasa family-Lithic Hapludolls-Rock outcrop association, very steep**
5 Iliili extremely stony mucky clay loan, 3 to 15 percent slopes
6 Insak mucky sandy loam
7 Insak Variant clay loam
8 Leafu silty clay, 0 to 3 percent slopes
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10 Mesei Variant peat
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15 Ofu silty clay, 40 to 70 percent slopes
16 Ofu Variant silty clay, 6 to 20 percent slopes
17 Ofu Variant silty clay, 20 to 40 percent slopes
18 Ofu Variant-Rock outcrop complex, 40 to 70 percent slopes
19 Oloava silty clay loam, 6 to 12 percent slopes
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21 Oloava silty clay loam, 40 to 100 percent slopes
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30 Sogi-Puapua clay loams, 20 to 40 percent slopes
31 Sogi Variant-Pavaiai association, 15 to 50 percent slopes**
32 Tafuna extremely stony muck, 3 to 15 percent slopes
33 Troporthents, 0 to 6 percent slopes
34 Urban land-Aua-Leafu complex, 0 to 30 percent slopes
35 Urban land-Ngedebus complex
**Broadly Defined Units
Data Source: Soil Survey and analysis by Hawaii State Office, Soil Conservation Service, U.S. Department of Agriculture, Honolulu, Hawaii. The field survey was completed in November 1981.
1:24,000
1000 meter Universal Transverse Mercator grid ticks, Zone 2.
5000 foot grid based on the American Samoa Coordinate System and Zone.
Polyconic Projection. 1962 American Samoa Datum.
Approximate Mean Declination 1963.