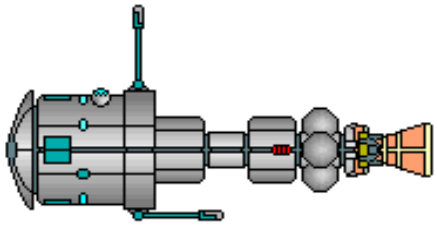


Atlas Manufacturing Corporation 'Comet'

It was built for the Truane's Star Department of Commerce (DoC). The DoC wanted to set up a research station and stake a claim on Volturnus after hearing that several major Corporations were interesting in opening Volturnus system for colonization and resource mining.

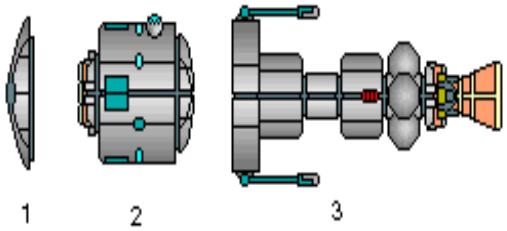


Figure 1

DoC requirements call for a ship that could transport a 4 man crew and setup a research station on the planet. Altas (AMC) came up with the solution that was both cost effective and easy to construct. The ship consists of three part. (1) Heat / Meteorite shield, (2) Lander and (3) Drive Assemble.

The shield allow AMC to use less expensive heat resistance material in the construction of the lander. The use of Ion Engine also reduced cost since it carries only enough fuel for two, 14 light year jumps.

The lander with heat shield would do a ballistic reentry into the atmosphere. Once it reached the higher atmosphere, two parachutes would deploy slowing the craft even further, then eject the heat shield. When the ship got to within 300 meters of the surface, the parachute would be released and the rocket motors would fire easing the craft rest of the way down to the surface.

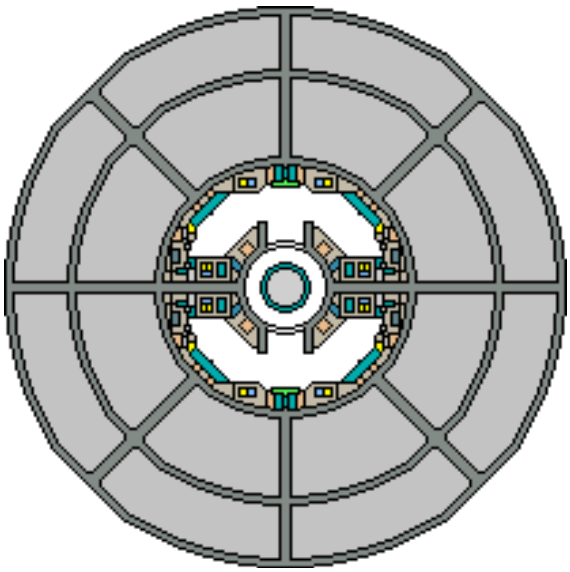
The Drive Assembly would remain in orbit acting as a mapping satellite until it was time to depart.

To return to orbit, the lander would fire up its chemical rocket engines and blast off. Once in orbit, it would dock with the Drive Assemble and return to Truane's Star.

Lander Layout:

The ship is somewhat unconventional. The lander's deck orientation is opposite of the direction of thrust. Crews complained about being strapped into their seats on the bridge for the 5 hours it took to reach maximum speed and during deceleration.

In case of emergencies each deck can be sealed off by a sliding hatch located in the floor and ceiling of each deck.



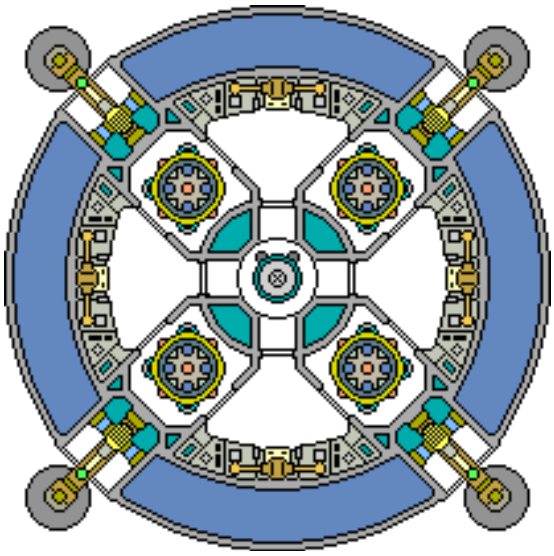
Heat/Meteorite Shield

Made from a heat resistance material the shield provides protection for the lander during reentry. The shield is coated with an Ablative armor which protects the shield during space flight and micro meteorite strikes. This was thought to be

essential since system wasn't mapped and the chances of such strikes were high.

There is a small compartment that houses sensing equipment for the shield and a 1,000 kilometer radar system.

The shield is attached to lander by six explosive bolts. The heat shield cannot be reattached to the lander after it has been discarded. Nor can the parachutes be used as well.

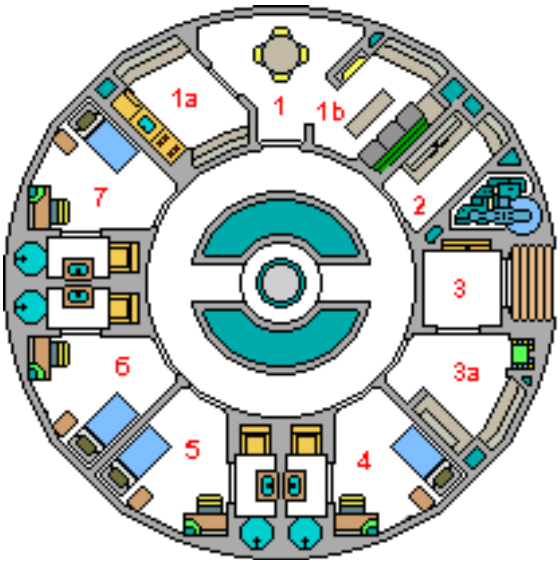


Deck 1

This deck houses the four rocket motor, landing gear and fuel tanks. Four maintenance areas are provide to work on the engines and inspect the power and fuels systems. Each room has two inspection hatches for engines.

At the bottom of the access tube is a hatch used to gain access to the avionics bay on the heat shield. The hatch is locked when nobody is working in the bay. After the heat Shield has been jettisoned. The hatch will not open unless there is an command from the bridge. The hatch cannot be opened from the outside.

The lander will sits one meter off the ground (it will auto-level itself) and the hatch at the bottom becomes useless on rough terrain.



Deck 2

1 Galley / Lounge: (1) the dining area seats four. It has a full kitchen (1a) and (1b) lounge with entertainment system.

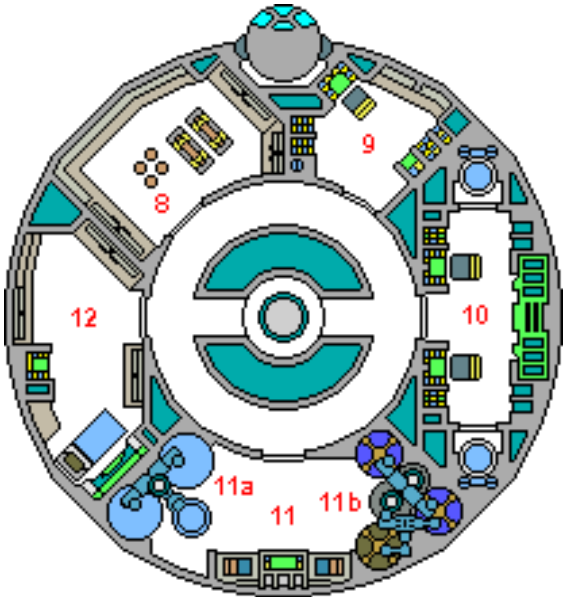
2 Storage Locker: Spare parts and personal gear that can't be stowed in the room are placed here.

3 Airlock with extendable Lock: The airlock allows access to the interior of the ship. The cabinet in the room houses tools and safety equipment used during spacewalks. The Comet is equipped with an extendable lock for docking with other spacecraft. (3a) After enter the ship, personal must pass through this room. The room houses space suits, EVA equipment and the airlock control panel.

Access to the ground is done using a ladder built into the hull. A small retractable crane is mounted above the airlock. It can only lift 250 kilograms. The Airlock has a Level 3 Security Lock.

4-7 Quarters: These are the crew's quarters. They are single occupancy stateroom. Each room contains, one beds, one nightstand, 1 desk and a full bath. Above and below each bed are storage areas and compartments for personal belongings. On the desk is a

small workstation used to watch vids, games or read messages from home. (Should be treated as a home computer, Level 1.) They are not connected to the ship's network but can receive and send messages via the ship's communication array.



Deck 3

8 Cargo Hold: This room is storage for the expedition, food, equipment and sample collected during the mission.

9 Telescope: The telescope is a multispectrum type used for mapping planet, asteroid and solar systems. Other uses include; meteorological studies, astronomy and gas analysis. It can also run an astronavigation program.

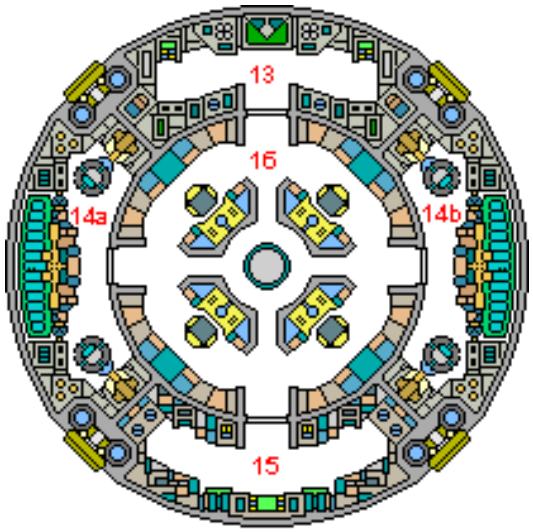
10 Analysis Lab: The lab is for general analysis of mineral and organic material. The sample analysis unit (bright green in the center), at the top and bottom are two isolation chambers and to either side of the door are the workstations for the lab.

11 Life support: This room house the ship's life support system. It has a standard 20 ship days or 400 hours operational life and handle as many as eight personnel. Once on the planet's surface, the system cleans the air coming into the ship. Water brought in from the planet surface can also be filtered as well. Filters can be changed and cleaned by the ship's crew.

11a Atmospheric Scrubbers: This main the ship's atmosphere for 20 ship days or 400 hours. Recharging this unit can only be done at a spaceport

11b Water Purification Plant: This unit cleans and sanitizes the water used in the container during its mission. Recharging this unit can only be done at a spaceport.

12 First Aid Station: This is simply a first aid station for the ship. It contain one life support beds and several supply lockers and cabinet mounted in the walls. A small work station is provided to allow the Med Tech to monitor patients. A single work station allows a med to scan an individual lying on the Med Bed. It cannot diagnose diseases or illness. It only aids the medic in treatment. (+ 30% to medical skills)



Deck 4

13 Electronics' Bay: This room houses the equipment that connects the bridge to the rest of the ship as well as the electrical system.

14a/14b Nav Array: The Nav-Array is a multi spectrum device. The device has

the following items built in: A radio telescope, Doppler radar, multi-frequency radio scanner, and a full spectrum optical system. The array is mainly used to do a rapid assessment of a solar system or planet. It also has the ability to detect other ships in the area. It intended purpose is to reduce the strain on the astronavigation equipment.

The Nav-Array can chart a system in about 30 hours and do planetary survey from orbit in 20 hours. In each case, the Array provides a detailed map of the system or planet they are in orbit around. The multi spectrum optical system allows the crew to determine the composition of a planet's atmosphere at great distances. Since the system operates separately from Astronavigation, the survey takes place during calculations for the next jump.

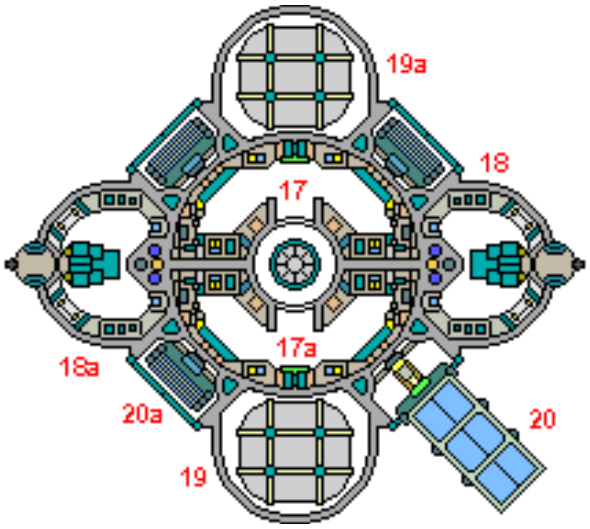
Under normal circumstances in a well known system, the crew can detect any ship within a 500,000 kilometer range. The Array adds 15% to the player's chances of detecting a ship within an unknown system at a range of 300,000 kilometers. It also removes the -5% per light year penalty from Charting New Routes Skill since the Astronavigation systems can be committed to plotting the new course.

When the heat shield is attached, the ship has a blind spot directly to the front (See Deck 1 for limitations).

15 Ship's Computer: This room contains the Computer.

16 Bridge: The bridge has four work stations: Pilot, Co-pilot/Astronavigation, Captain and Engineer.

Steering thruster mounted every 45° degree on this deck provide for course correction during land. When mated to the Drive Assemble, they help maneuver the ship.



Deck 5

17/17a Electronics' Bay: This room control the transfer of power from the Drive Assembly to the Lander. As well as the network systems which allows the Lander to communicate commands to Drive Assembly. There is an iris hatch at top the central access tube. It can be opened only with authorization from the Bridge. When docked with the Drive, it allow access to the assembly. It is also there to remove the parachute cables, if the need arise.

18/18a Mooring System: This simple system allows the Lander to dock with the Drive Assembly. All the pilot has to do is align it with the corresponding mooring system on the assembly. The ports in this compartment are used to connect the Lander's systems with the assembly Access to compartment, requires the removal of an access hatch on the hull.

19/19a Parachute bay: There are two large parachutes in these bays. They aid in the landing of the craft on the planet surface or in emergencies, land the craft safely.

20/20a Solar Panels: The solar panels provide power to the lander after it is on the planet's surface. The panel are able to the sun movement to provide the most power. The panels cannot be deploy while

docked with the Drive Assembly. 20 shows the panel deployed, while 20a shows it in stowed.

Mooring anchor are not shown.

Drive Assembly:

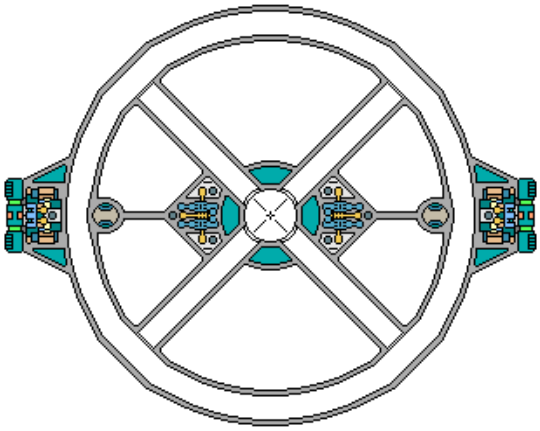
The Drive Assembly is treated as a separate craft. It's whole purpose is to get the lander to Volturnus. After that, it is stays in orbit around the planet until it's time to leave.

While the Assembly is in orbit, it sensor will collect data on the planet and solar system. It will then be download only after the Lander has returned to the Assembly and they are ready to return. This is due to an encryption security program.

The mooring anchors (there are 6 of them) and the locking mechanism on the Assembly are not strong enough for radical maneuvers such as those made in combat. If the ship is reused these mooring and locks must be inspected and replaced as need.

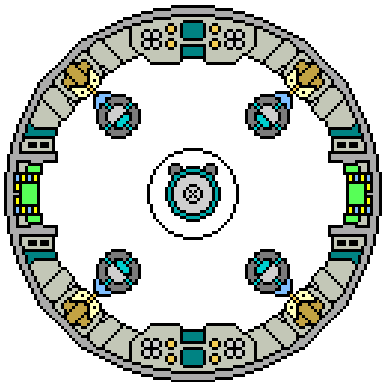
There is only enough fuel onboard to make two trips in this ship. It was a cost cutting measure used by Atlas. It's maximum range is 14 light years one way, that if you plan on returning to the point of origin. In theory, it can travel 28 light years one way without refueling.

There is no atmosphere in the drive assembly. Spacesuits are required, unless this commander has decided to use the Lander's life support system to flood the assembly with atmosphere. Again this was a cost cutting measure by AMC.



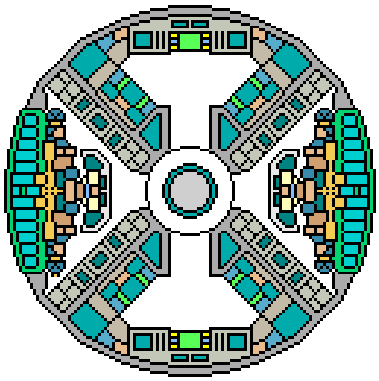
Deck 1

The dock ring (Mooring Clamps not shown) allows access to the antennae and inspections ports the mooring pins, power and computer couplers. They must be check for proper alignment and that all clamps are secure before switching power over to, and taking control of the Drive Assemble. (Engineer Skill minus 2d10 minutes).



Deck 2

This deck houses the engineering controls for the ship. Once the Lander is attached, the Drive Assembly systems are monitor from these station (work station left and right (light green are the monitors)). 4 Parabatteries add an additional 20 hours of emergency power to the Lander. When the Drive Assemble is separated from the Lander, they act as backup power for the Assembly. The hatch on this deck is consider a Level 5 lock (center of the deck).

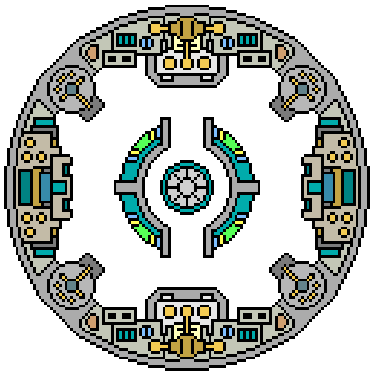


Deck 3

This deck contains the computers and planetary mapping arrays. There are two computers on this deck (top and bottom) one is used to store data for the mapping array (right and left) why the other is the engineering computer.

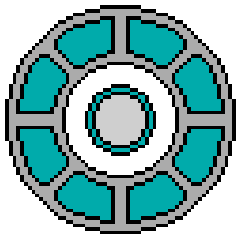
The arrays are the same as 14a and 14b.

The computers have a double security lock out. One is a password and the other are the mooring pins. If the lander is not docked with the assembly the computers are inactive. Activation of the Drive Assemble and these computers without the Lander should be seen as formable task (-60 percent).



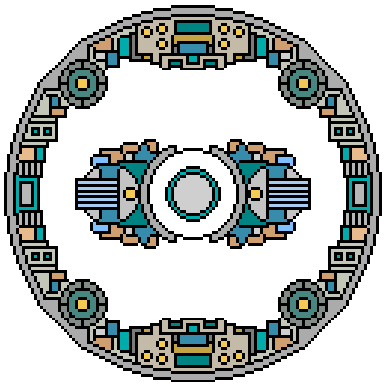
Deck 4

This deck contains the electro-mechanic equipment that controls and transfer the power from the atomic reactor. There is an iris value lock on this deck that blocks access to the reactor decks below (treat as a Level 5 lock).



Deck 5

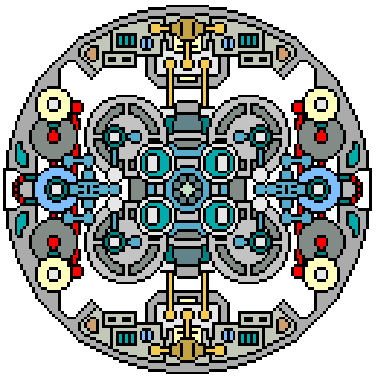
This deck is a access tube which connects the engineering section to the reactor decks. It is a six meter long tube with access panels lining the entire length. Behind these panels are electric and control cables which control and transfer power from the reactor to the rest of the assemble.



Deck 6

This deck houses the equipment that monitors and controls the reactor. No radiation suits are required on this level. Monitoring of the reactor is done on Deck 2 of the Drive Assembly or from the bridge of the Lander.

The reactor can be manually shut down from this level. (engineering level minus 2d10 minutes).

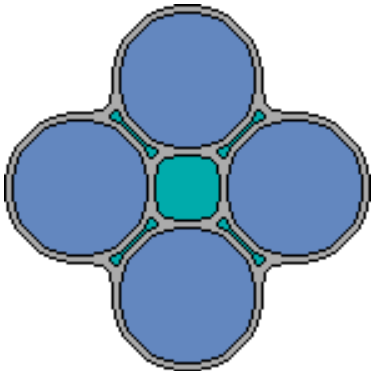


Deck 7

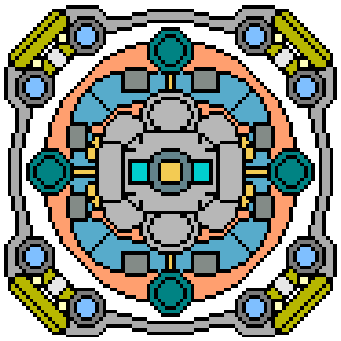
This deck is six meters tall and houses the reactor which powers the ship. At the top and bottom are the power relays which transfers power to the rest of the ship. To the right and left are the heat exchangers for the reactor and in the center is the reactor itself.

The reactor is intend to operate for two years without refueling. Refueling the reactor need to be done at a specialized center.

When the Lander is detached from the Drive Assembly, the reactor automatically is set to idle providing just enough power to keep the internal system running and the mapping arrays operational.



This depiction shows the fuel tanks. Already stated, it contain enough fuel for 28 light years worth of travel one way. These tanks can be refueled at any station which services Ion Engines. These tanks are designed to hold only Hydrogen.



This depiction shows the main Ion engine and it's maneuvering thrusters.

Appendix 1: Designer Note

I watch too many science shows and try to depict my ships with some resemblance to real world Ideas. There is also a precedent for this in Star Frontiers, Eleanor Moraes. As stated in Face of the Enemy SFKH3, the Moraes has a supply ship orbiting Mahg Mar, which it can dock with and attach landers.

Appendix 2: GM Note

In the Alpha Dawn Rulebook PDF, there is a mention of the survey team sent to Volturnus nine months prior to the adventure starting. This would be their ship. Since no one is sure what happen to them, this could lead to an adventure all by itself or precursor to the events to come.

Player Disorientation due to the Design:

The lander is backwards to the direction of travel. It is therefore necessary for the crew to remain strapped in during the initial 5 hour run up to maximum speed. They will feel as if they are being pulled upward during time. Once the engines are cut off, the lander has no gravity.

Since the Lander is constructed to work as an operational planetary base, the weightless environment will need getting use to since the decks orientation is

pointed towards the ground. Rules for zero-gravity should apply.

Possible Outcomes: (Roll 2d10)

1-3 Sathar discover them in the system and have take them prisoner. They destroy the Drive Assembly and Lander. They are now agents of the Sathar.

4-8 Pirates attack them and they are killed. The lander has been turned into their headquarter or outpost and reactor from the Drive assembly has been (with great effort) scavenged to power their base.

9-13 They landed on the planet without incident and were later killed by the natives or taken prisoner by the Pirates.

14-17 They landed on the planet and realize something has gone wrong but are unable to return to Truane's Star. They either died or gone native leaving the lander in order to find food and water.

18-19 They crashed on the planet and there are no survivors.

20 They discover something in the system which prompted them to travel further into the unknown.

Other Possible Scenarios:

The lander if intact, could provide them with shelter and a base of operations. It could also have much needed supplies.

It may also give the players way of leaving the planet. This can be explained as the Drive Assembly was set in a long elliptical orbit which passes by the planet once every three months. The Pirates and the Sathar are aware of the Drive assembly but since it is no threat, they have done nothing to it. And with the security systems in place. The undamaged Drive Assembly has not been breached. Then again, it could be booby trapped as well.

Another Scenario is that the can be used in other adventures. The ship can be used as a follow up ship, like the Alpha Scout or the Eleanor Moraes in order to stake a claim to the world or just general exploration. The ship major drawback will always be its fuel and the lack of armament. It is a vehicle used to get players from point A to B and provide a base of operations, nothing more.

Appendix 3: STAGING GROUND: VOLTURNUS

This replaces the base described by Mister Putman in his PDF. To me this make sense considering, a four man team was sent to the planet. The ship has all the requirement to do the survey housed in one nice neat package. It also provides a clue to how the Pirates are laundering their mining operation. Atlas or another Corporation used the initial survey information gather by the team to setup the operation on Volturnus. It also explains why there was no follow up mission until the PC get involved.

Looking at the team list, we have two members from the Truane's Star government, a Professor and a Navigator from Atlas. Either one of them was bribed or the entire team was working for the corporation in the first place. Another possibility is one of them is working for the Pirates.

We should also consider that the Pirates are probably Mercenaries sent there to establish the mining camp and protect the interests of the corporation. This would explain why, they are well armed and well supplied. It also explains how they are introducing the mined materials into the economy without suspicion.