



GOIL

Good energy

Xp³-ID

Fuel: Gasoline and Diesel Fuel w/ Xp³-ID additive
Test: Fuel Efficiency and its control from theft or adulteration

Xp Lab, Inc.

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OBJETIVE

Test to see if adding Xp3-ID additive to GOIL fuel would have any effect on control and reduction of theft and/or adulteration of fuel sold through the GOIL branded gas stations.

BACKGROUND

Xp3-ID, fuel marker additive is added to all the fuel that is sold through GOIL gas stations. All the Gasoline and Diesel fuel leaving the refinery has the Xp3G-ID y Xp3D-ID additive added prior to leaving. Once the additive/marker is added, a sample of the fuel is taken and compared to the color code card, to determine the baseline “color” for that fuel.

Once the fuel delivery trucks arrive at the gas stations, the person in charge of receiving the fuel, verifies if the fuel was tampered along the way. Verification is done by testing for the presence of the Xp3-ID marker using the color code card. If untampered, the “color” shown by the card should match the same baseline “color” from the originating location.

In order to verify that the fuel wasn't then altered once at the gas station, starting March 2013, a testing procedure was established. An inspector would visit each gas station and check if the fuel within the tanks contained the Xp3-ID marker which would alert the inspector if the fuel had been tampered with.

As shown above, alteration and theft can occur in two locations: A) from refinery to gas station, and B) at the gas station itself. The TESTING below describes this second (B) location of test for alteration while fuel is at the station.

TESTING – LOCATION B

1. During the initial testing period which went from March-December of 2013, “Inspection Period #1”, the inspectors visited 50 different gas stations to check if the diesel or gasoline was altered. Each of these 50 gas stations were visited three times during this period of 10 months.
2. During the next 8 months, January-August 2014, “Inspection Period #2”, the inspectors visited 150 gas stations to test if the diesel or gasoline was altered. Each of these 150 gas stations were visited three times during this period of 10 months.

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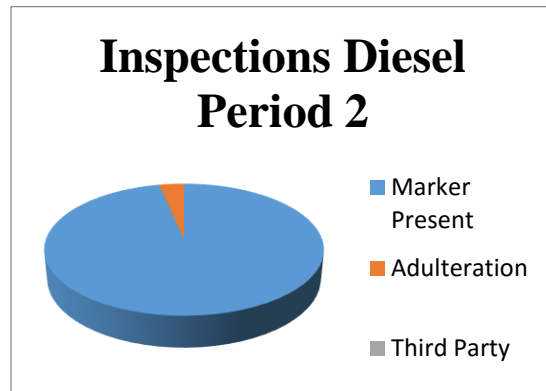
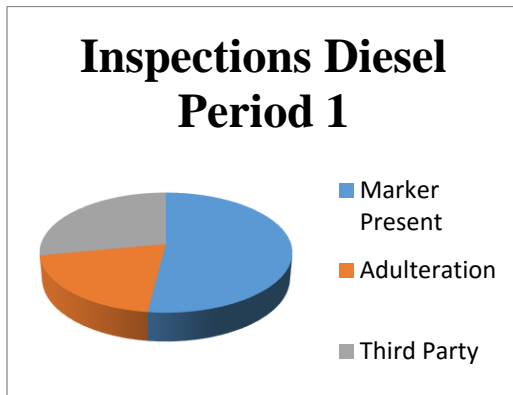
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RESULTS

Diesel Deposits

During the first test period “Inspection Period #1”, of the 50 gas stations, 24 (48%) showed some form of Adulteration, and 10 were classified as being altered by Third Party (people not working for or at GOIL).

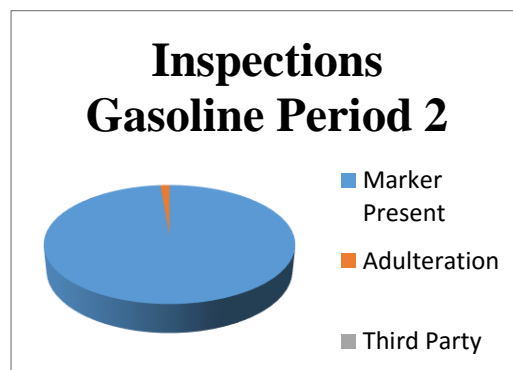
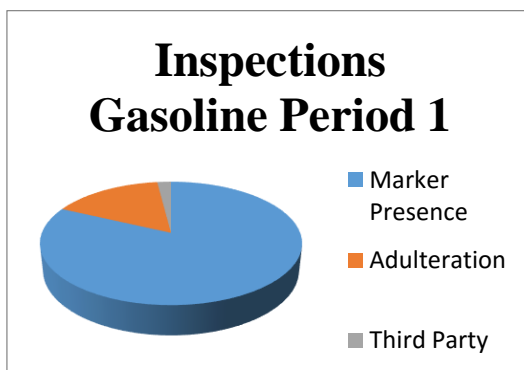
However, in “Inspection Period #2”, of the 150 gas stations audited, only 5 (3%) showed some form of Adulteration.



Gasoline Deposits

During the first test period “Inspection Period #1”, of the 50 gas stations, 8 (16%) showed some form of Adulteration, and only one was classified as being altered by Third Party (people not working for or at GOIL).

However, in “Inspection Period #2”, of the 150 gas stations audited, only 2 (1%) showed some form of Adulteration.



CONCLUSION

In the first test period, when the gas station personnel didn't know they would be audited, the % of fuel tanks being tampered with was very high. In contrast, during the second period, once the employees knew they were being audited and the Xp3-ID marker couldn't be tampered with and could be tested in an instance, the number of tampering occurrences were almost nonexistent.

All this has produced a tremendous amount of savings to the company.

See the Appendix on the next page for Testing process for Location A (refinery to gas station).

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CASE STUDY



APPENDIX – STEP BY STEP TEST PROCESS – REFINERY TO GAS STATION (LOCATION A)

In the test above, testing was done at the gas station. Below you will see the testing process for the first part which

Tanker trucks are loaded with fuel at the refinery. As they are leaving, they go through what they call an “additivation” station.



A GOIL employee goes up to the tanker and takes a sample of the fuel of each tank prior to adding the additive.



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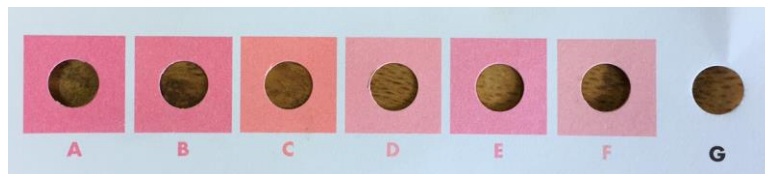
CASE STUDY



An Xp3 employee then goes up to the tanker and adds the specified amount of Xp3 fuel additive with ID required.



Once the additive has been added, the GOIL employee goes up and takes another sample of the fuel (with additive) and uses the color coded card to record the marker color, which will be used later at the destination point to see if the fuel has been tampered with along the way.



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CASE STUDY



The samples are marked and locked away. The fuel samples, along with the color coded cards serve as evidence in case there is any dispute.

A copy of the color coded card accompanies the fuel to serve to be used to test for fuel alteration in transit from refinery to gas station.



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