

PCS PHOSPHATE – SUWANNEE RIVER  
CATHODIC PROTECTION SURVEY  
DECEMBER 2009

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December, 2009

PCS Phosphates  
Post Office Box 300  
White Springs, Florida 32096-0300  
ATTN: Mr. Ron Spells / Mr. Jeff Hackney  
Project Representatives

<p>Suwannee River Chemical Plant Effectiveness of Cathodic Protection Survey Underground Natural Gas System</p>
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### **INTRODUCTION**

The annual cathodic protection survey was conducted for PCS Phosphates during the month of December, 2009. During this survey, PCS Phosphates natural gas system at the Suwannee River Facility was inspected for the effectiveness of cathodic protection, as applied. The cathodic protection system for PCS Phosphates consists essentially of Galvomag Magnesium anodes placed in various locations throughout the natural gas distribution system.

### **RESULTS AND ANALYSIS**

A total of Five [5] readings were taken during this survey. As can be seen by the structure-to-soil potential measurements and the enclosed data sheet, 100% of the readings obtained were indicative of cathodic protection. A structure-to-soil potential of 850 millivolts or more negative is the basis used in this report to confirm cathodic protection.

**RECOMMENDATIONS**  
**PCS Phosphates – Suwannee River**  
**Underground Natural Gas System**  
**December, 2009**

The sacrificial anode arrangement designed to protect the coated and wrapped steel natural gas system is providing minimal adequate current to afford cathodic protection to the steel distribution system. Structure-to-soil readings obtained from Cathodic Test Points and gas risers on the steel distribution system indicate minimum cathodic protection levels being Four [4] millivolts above minimum State and Federal standards. One [1] Railroad casing, located near Cathodic Test Point #3, was inspected during this survey and found to have a sacrificial anode installed on the casing pipe. The Cathodic Test Point at the Scale House Drive casing has been repaired to allow CP readings in this area.

Cathodic readings indicate the six inch steel gas pipe from the metering station to the limestone unloading area is cathodically protected at this time. Structure-to-soil readings at the limestone unloading area and the metering station outlet have increased approximately 300 millivolts and are in compliance with State and Federal minimum guidelines for applied cathodic protection.

At this time, cathodic protection readings indicate the Natural Gas Distribution System for PCS Phosphates Suwannee River Chemical Plant complex is cathodically protected. Remedial action is not required to meet the minimum standard State and Federal code. I trust the above information to be satisfactory and in sufficient detail, however, should you require additional information, please contact me.

Sincerely,

J. Scott Roberts  
NACE Certified CPT  
Certification # 183023

## **CATHODIC TEST POINTS**

**CATHODIC TEST POINTS**  
**PCS Phosphates – Suwannee River**  
**Underground Natural Gas System**  
**December, 2009**

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CTP - #1

[1] Red Anode Wire	-1.398 MV
[1] Black Gas Pipeline Wire	-0.965 MV
Anode and Gas Line Wires Together	-1.116 MV

CTP - #2

[1] Red Anode Wire	-1.263 MV
[1] Black [Tape] Casing Pipeline Wire	-0.637 MV
[1] Black [No Tape] Gas Pipeline Wire	-0.854 MV
Anode and Gas Line Wires Together	-1.191 MV

CTP - #3

[1] Red Anode Wire	-1.587 MV
[1] Black [Tape] Casing Pipeline Wire	-0.919 MV
[1] Black [No Tape] Gas Pipeline Wire	-0.973 MV
Anode and Gas Line Wires Together	-1.228 MV

**STRUCTURE-TO-SOIL POTENTIALS**  
**GAS PIPE CASINGS**

**STRUCTURE-TO-SOIL POTENTIAL - GAS PIPE CASINGS**

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\*Railroad Casing @ CTP #3 -0.865

Scale House Drive Casing @ CTP #2 -0.970

\*Casing Anode Installed

**STRUCTURE - TO - SOIL POTENTIAL DATA**

# STRUCTURE – TO – SOIL POTENTIAL DATA

PCS Phosphates – Suwannee River

Underground Natural Gas System

December, 2009

Test Location	Energized Potentials Volts
Metering Station [6" Steel Line Outlet]	-0.919
Limestone Loading [6" Riser Inlet]	-0.637