

PCS PHOSPHATE – SUWANNEE RIVER

CATHODIC PROTECTION SURVEY

MAY 2008

TABLE OF CONTENTS

CATHODIC TEST POINTS-----5

GAS PIPE CASING-----7

INTRODUCTION-----3

RECOMMENDATIONS-----4

RESULTS AND ANALYSIS-----3

STRUCTURE-TO-SOIL POTENTIAL DATA-----9

May, 2008

PCS Phosphate  
Post Office Box 300  
White Springs, Florida 32096-0300  
ATTN: Mr. Ron Spells  
Project Representative

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

The annual cathodic protection survey was conducted for PCS Phosphates during the month of May, 2008. During this survey, PCS Phosphates natural gas system 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 4 readings were taken during this survey. As can be seen by the structure-to-soil potential measurements and the enclosed data sheet, 25% 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**  
**May, 2008**

The sacrificial anode arrangement designed to protect the coated and wrapped steel natural gas system is not providing 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 a lack of complete cathodic protection, with CP levels being below State and Federal minimum standards. One [1] Railroad casing 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.

The six inch steel gas pipe from the metering station to the limestone unloading area is not cathodically protected at this time. Structure-to-soil readings at the limestone unloading area and the metering station outlet have dropped approximately 300 millivolts and remedial action is required to bring these piping areas into compliance with State and Federal minimum guidelines for applied cathodic protection. The 3/8" stainless steel tubing line located at the metering station requires a di-electric union to prevent further CP loss.

At this time, the Natural Gas Distribution System for PCS Phosphates Suwannee River Chemical Plant complex is not Cathodically Protected. Remedial action, including anode installation, casing isolation or protection is 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 C.P. Tester  
Certification # 371

## **CATHODIC TEST POINTS**

**CATHODIC TEST POINTS**  
**PCS Phosphates – Suwannee River**  
**Underground Natural Gas System**  
**May, 2008**

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CTP - #1

[1] Red Anode Wire	-1.593 MV
[1] Black Gas Pipeline Wire	-0.763 MV
Anode and Gas Line Wires Together	-1.042 MV

CTP - #2

[1] Red Anode Wire	-0.850 MV
[1] Black [Tape] Casing Pipeline Wire	-0.650 MV
[1] Black [No Tape] Gas Pipeline Wire	-0.700 MV
Anode and Gas Line Wires Together	-0.795 MV

CTP - #3

[1] Red Anode Wire	-1.643 MV
[1] Black [Tape] Casing Pipeline Wire	-0.961 MV
[1] Black [No Tape] Gas Pipeline Wire	-0.921 MV
Anode and Gas Line Wires Together	-1.011 MV

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

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

**PCS Phosphates – Suwannee River**

**Underground Natural Gas System**

**May, 2008**

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\*Railroad Casing @ CTP #3 -0.961

Scale House Drive Casing @ CTP #2 -0.650

\*Casing Anode Installed

**STRUCTURE - TO - SOIL POTENTIAL DATA**

# STRUCTURE – TO – SOIL POTENTIAL DATA

PCS Phosphates – Suwannee River

Underground Natural Gas System

May, 2008

Test Location	Energized Potentials Volts
Metering Station [6" Steel Line Outlet]	-0.798
Limestone Loading [6" Riser Inlet]	-0.695