

PCS PHOSPHATE – SWIFT CREEK  
CATHODIC PROTECTION SURVEY

MAY 2008

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May, 2008

PCS Phosphate  
Swift Creek Mining Plant  
Post Office Box 300  
White Springs, Florida 32096-0300  
ATTN: Mr. Hank Meyer  
Project Representative

<p>Swift Creek Mining 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 Phosphate – Swift Mining Creek Plant during the month of May, 2008. During this survey, PCS Phosphate – Swift Creek Mining Plant natural gas system was inspected for the effectiveness of cathodic protection, as applied. The cathodic protection system for PCS Phosphate – Swift Creek Mining Plant consists essentially of Galvomag Magnesium anodes placed in various locations throughout the natural gas system.

## **RESULTS AND ANALYSIS**

A total of 9 readings were taken during this survey. As can be seen by the structure-to-soil potential measurements and the enclosed data sheet, all 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 Phosphate – Swift Creek Mining Plant Underground Natural Gas System May, 2008**

The sacrificial anode arrangement designed to protect the coated and wrapped steel natural gas system is 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 complete cathodic protection. One [1] highway casing and Two [2] Railroad casings were inspected during this survey. All carrier casing pipes were found to be isolated from the natural gas piping.

Cathodic Test Point #3 is no longer in service due to severance of wires connecting the anode and steel gas main to the test point. Reconnection could not be established due to depth (approx. 18 feet) of the steel gas pipe. Cathodic Protection levels around the Swift Creek complex have decreased approximately 100 millivolts since the last CP survey, but continue to provide protection. The lowest reading obtained [-0.903 V] is at the inlet of the gas metering station.

At this time, the Natural Gas Distribution System for the PCS – Swift Creek complex is completely Cathodically Protected with no further action required. Railroad casing #2 should be closely monitored for signs of an electrolytic short between the carrier casing and the gas pipe. The two inch gas riser located at the Boiler Room is extremely corroded and requires repair or replacement as soon as possible. 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 – Swift Creek Mining Plant**  
**Underground Natural Gas System**  
**May, 2008**

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CTP - #1

Black Anode Wire	-1.130 MV
Black Gas Pipeline Wire	-1.281 MV
White Casing Pipe Wire	-0.581 MV

CTP - #2

White Anode Wire	-1.382 MV
Black Gas Pipeline Wire	-1.361 MV

CTP - #3

No Longer Used - Disconnected

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

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

**PCS Phosphate – Swift Creek Mining Plant**

**Underground Natural Gas System**

**May, 2008**

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Railroad Casing - #1	-0.523
Railroad Casing - #2	-0.744
Highway Casing - #3	-0.446

**STRUCTURE - TO - SOIL POTENTIAL DATA**

## **STRUCTURE – TO – SOIL POTENTIAL DATA**

**PCS Phosphate – Swift Creek Mining Plant**

**Underground Natural Gas System**

**May, 2008**

<u>Test Location</u>	<u>Energized Potentials Volts</u>
Gas Metering Station - Inlet	-0.903
Gas Metering Station – Outlet	-1.193
4" Gas Riser @ Plant	-1.447
2" Gas Riser @ Boiler Room	-1.342