

# CASE STUDY: BIOLOGIX SALT BINDER PANHANDLE EASTERN HOPETON PLANT SPILL

## Introduction

The product used for this application is BIOLOGIX SALT BINDER is a proprietary humidified soil extract with the nine essential soil microbes included in the formulation. The product works by providing an organic substructure with an extremely high ion exchange capacity that the Na<sup>++</sup> and Cl<sup>-</sup> ions can bind and be charged neutralized (via an ionic bond). The carbon chain then becomes a food supply for the natural soil and **product's adjunct microbes, which over time dissipates the salts. A specialized blend of enzymes significantly increase the degradation process by facilitating the transfer and uptake of nutrient by the microbial population.**

## Application

The area outside the tank battery on the plant had been contaminated with multiple barrels of salt water, and the ground was tested on March 2, 2007 with chloride levels as high as 38,515ppm. The patches of soil (the spill ran down like a creek) were then treated with BIOLOGIX SALT BINDER on June 6th, 2007. The product was allowed to work until July 27th, 2007 and samples were taken from the same spots of the spill as before and tested on July 30th, 2007. The chloride levels and total soluble salt levels (ppm) of each were tested and are listed below:

March 2, 2007 Pre-Treatment Sample	CHLORIDES	T. SOLUBLE SALT
West Sample	38,515	87,600
East Sample	19,000	43,200
July 27, 2007 Post-Treatment Sample	CHLORIDES	T. SOLUBLE SALT
West Sample	250	1,850
East Sample	650	2,550

As you can see from the above data, the chloride contribution from the liquid was not only neutralized, but was reduced over 99% in the west sample. And the TSS levels were reduced as much as 98% in just the short time between treatment and sampling, and both were reduced to acceptable levels.



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**Laboratory Report # 96233**

March 7, 2007

JENKINS & PRICE SUPPLY, INC.  
ATTN: SETH JENKINS  
4328 W OWEN K. GARRIOTT  
END, OK 73703

**TWO SOIL SAMPLES**  
**PROJECT: PANHANDLE EASTERN (UNTREATED)**

DATE SAMPLED: 03/02/07  
DATE RECEIVED: 03/06/07

ANALYSIS (in mg/Kg):

<u>TEST</u>	<u>UNTREATED #1</u>	<u>UNTREATED #2</u>
CHLORIDES	38,515	19,000
T. SOLUBLE SALTS	87,600	43,200



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Laboratory Report # 96780

July 30, 2007

JENKINS & PRICE, INC.  
ATTN: SETH JENKINS  
4325 W OWEN K. GARRIOTT  
ENID, OK 73703

**TWO SOIL SAMPLES**  
**PROJECT: PANHANDLE EASTERN**

DATE SAMPLED: 07/27/07  
DATE RECEIVED: 07/27/07

ANALYSIS (in mg/Kg):

	<u>CHLORIDES</u>	<u>T. SOLUBLE SALTS</u>
WEST/SURFACE	250	1,850
EAST/SURFACE	650	2,550

A handwritten signature in black ink, appearing to read "S. Joshi".

CERTIFIED BY: SURESH JOSHI  
CHEMIST/ANALYST



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