



## CITY OF SANTA MARIA

### Fact Sheet and Frequently Asked Questions Non-Hazardous Hydrocarbon Impacted Soil (NHIS):



#### **SUMMARY:**

The Santa Maria Regional Landfill, on a rural section of East Main Street just south of the Santa Maria River, has operated successfully for about 50 years but is nearing the end of its life. As more sections of the landfill become full, the City closes them by building a landfill cap. The cap includes an impervious clay liner complete with an engineered drainage system, which is covered by a layer of clean soil and plants. The cap is supported by a smooth mound – made from large quantities of soil – sloped to prevent rainwater and surface water from infiltrating the buried trash.

It takes a lot of soil to build a sloped foundation for the cap. The City uses an innovative solution that has been approved by County and State regulators – from various sites throughout southern California, (but primarily from Santa Barbara County) it accepts soils containing oil. These soils are called non-hazardous hydrocarbon impacted soils, or NHIS for short. The NHIS is only used to build a foundation layer for the cap.



Photo: Close-up of NHIS. Pen is to show scale.

Where does this stuff come from? A century of oil production left large quantities of soils impacted by oil production in the Santa Maria Valley. Only those soils that meet the State-approved criteria for use at the landfill are accepted by the City. Acceptable NHIS materials primarily are soils from oil field sumps, tank farm locations, pipeline leaks, or petroleum product spills.

What is allowed into the landfill is highly regulated. The City landfill is regulated by State and local agencies and also follows Federal Environmental Protection Agency standards. The landfill has been design to handle and safely contain non-hazardous contaminated materials. The landfill is a fully permitted, licensed, contained and audited government waste disposal site with a comprehensive waste screening and data management program.

In 2003, the City obtained approval from State and local regulatory agencies to accept and encapsulate NHIS at the landfill. Bringing NHIS to the landfill serves to safely reuse the impacted soils that lack suitable characteristics to remain in-

place to support residential and industrial structures. This way, oil companies are able to clean up sites quicker and the City is able to safely close its landfill to meet a State deadline.

The NHIS is separated from the buried trash with a layer of clean soil and an industry-standard flexible plastic liner. This plastic liner adds an impermeable barrier between the NHIS and groundwater. The closure cap adds a second permanent barrier over the NHIS materials ensuring that surface water does not leak into the NHIS materials. The bottom plastic liner and top clay cap, encases the NHIS at the landfill, which already has a monitoring program in place and when closed will be monitored for at least another 30 years. During that time the trash and the NHIS will naturally degrade.

No significant impacts associated with the use of NHIS were identified by the May 2004 Supplemental Environmental Impact Report for the Santa Maria Landfill.



Photos: Liner being installed in mid-September, 2006, at the Santa Maria Regional Landfill. The synthetic liner is about 3/32<sup>nd</sup>s of an inch thick. NHIS will be deposited on top of this layer.



### **Questions and Answers about NHIS:**

- What is the City's NHIS program?

The program consists of trucking material from cleanup sites to the designated disposal site within the City Landfill. There, the soil is used to build slopes for expediting closure of the landfill.

Photo: A truck partially filled moments earlier with NHIS at the Guadalupe Dunes prepares to depart for the Santa Maria Regional Landfill after crews have removed excess sand from the rig's exterior and tires, and secured a tarp to cover the load.



Photo courtesy of Chevron Corp.

- Why does the City of Santa Maria have an NHIS program?

The City of Santa Maria has an NHIS program for two primary purposes. The first is to provide a foundation for the final cap to be constructed on the unlined portion of the Santa Maria Regional Landfill in accordance with final landfill closure requirements. Landfill capping is a containment technology that forms a barrier between the buried refuse and the surface, shielding people and the environment from the landfill's contents. A cap must restrict surface water infiltration into the subsurface. This project will reduce the potential for negative environmental impacts to the Santa Maria Groundwater Basin that lies beneath the landfill. The impermeable characteristic of sump soils makes NHIS a perfect fit for landfill closure.

The project's second purpose is to help dispose of impacted soils that are structurally unsuitable to leave in place to support residential and industrial construction.

- What is a sump?

A sump is an excavation created during the oil well drilling process. During the drilling operation the sump is used to dispose of drilling materials including water, drilling mud, and oily soils.

- Why are oil companies removing sump soil (NHIS)?

With the exception of the NHIS soil at the Guadalupe Dunes, where the NHIS soil poses a risk to surface waterways and groundwater, all of the NHIS is being removed as part of property lease agreements between landowners and previous oil drilling operators. There is no regulatory mandate for sump removal.

- Is the current landfill location safe for the NHIS program?

State and Federal laws mandate that all landfills be monitored for at least 30 years after landfill closure, so the Santa Maria Regional Landfill provides an ideal location for continue monitoring of NHIS encapsulated within liner systems. Also, precautions are being taken because the City landfill is located next to the Santa Maria River. None of the NHIS is being placed in contact with the river, and the landfill itself forms a thick reinforcement to the river levee.

- The City is mining soil from the Santa Maria River, so why does the City need NHIS soil for landfill closure?

The amount of soil that the City is mining from the river is limited by the State regulatory agencies. Permits were originally issued to use the soil for daily operations to cover the trash. The landfill now employs a number of alternative cover systems using tarps, plastic films, and recycled materials. This clean soil is

now used in small amounts to aid in covering refuse on a daily basis. It is also stockpiled for use as the vegetative layer, which will be placed over the clay closure cap as protection and aesthetic purposes. During the first two years of the NHIS program, the City has received more volumes of NHIS than would have been allowed under existing permits for river mining excavation over a 10 year period.

- Can the City close the landfill without the NHIS program?

The California Regional Water Quality Control Board mandates the City to close the unlined landfill area by January 1, 2008. Without the NHIS program, it would be both financially and logistically impossible for the City to close all of the unlined landfill area before the deadline.

- Does the City of Santa Maria bury toxic or hazardous waste at the landfill?

**No.** The City of Santa Maria is prohibited from accepting toxic waste and hazardous waste of any kind for disposal within the landfill. NHIS is a non-hazardous material. Over the past decade, hundreds of sumps have been removed from the Santa Maria Valley; no sump has been identified as a source of hazardous material.

- Does the City of Santa Maria accept any hazardous waste?

Yes. The City does collect **household** hazardous waste such as paint, used oil, and household cleaning products where it is collected and ultimately shipped off for proper disposal. This is done only at the City's Household Hazardous Waste Facility, which is in an area separated from the landfill where other refuse is disposed. None of the household hazardous wastes are disposed of within the landfill. The Household Hazardous Waste Program is an essential service, which helps to protect the health and welfare of the community.

- Does City take on additional liabilities by having the NHIS program?

No. The City takes no more liability by accepting the NHIS soil than it already has as a result of operating a municipal landfill to service the public.

- Why is NHIS non-hazardous even though it contains oil or oil products?

Because the oil-impacted soil contains more soil than oil, under current regulations it is not considered hazardous. The State Regional Water Quality Control Board also tested the NHIS from the Guadalupe Dunes in a laboratory and approved it as being within the landfill's acceptance criteria.

- Why does the City of Santa Maria accept non-hazardous waste from San Luis Obispo and Guadalupe?



Photos: Guadalupe Dunes and poppy with grasshopper



Photos courtesy of Chevron Corp.

Under State and County review, oil-impacted soil has been excavated and isolated from the groundwater and stockpiled by Chevron Corp. at its nearly 3,000-acre site in the Guadalupe Dunes. This soil must be treated or transported to a suitable disposal site. This former oil field is bordered to the south by the Santa Maria River and to the west by the Pacific Ocean. Treatment or removal of the soil is essential to eliminate all potential for its contact with the Valley groundwater also located beneath the dunes, or with the marine environment.

The City of Santa Maria wants to beneficially use the non-hazardous soil as foundation for the required landfill cap, to enable oil companies to expedite the cleaning of the Guadalupe Dunes. Use of the NHIS accelerates the schedule for construction of the cap being installed at the landfill to preserve air and groundwater quality for all residents in the Santa Maria Valley.

- How does the NHIS Program benefit residents of the Santa Maria Valley?

The City has accelerated the schedule for closure of the inactive portions of the landfill by factors of at least two and as high as four. More than 90 acres have been closed. Use of the non-hazardous soils for foundation under the landfill cap eliminates the requirement to acquire newly quarried materials. The clean-up operation therefore facilitates the timely construction (using the “clean soils”) of new infrastructure such as schools. Reclaimed, oil-impacted properties are freed up for agriculture and other new development planned in the Santa Maria Valley.