DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

ENTERED

Colonel John C. Kubinec
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5600

JUN 04 2012

RECEIVED
JUN 2012
NMED Hazardous Waste Bureau

Mr. John Kieling, Manager
RCRA Permits Management Program
Hazardous Waste Bureau (HWB)
New Mexico Environment Department (NMED)
2905 Rodeo Park Road
Santa Fe New Mexico 87505

Dear Mr. Kieling

In response to an agreement reached at the 5 April 2012 Tiger Team Meeting, Kirtland AFB is submitting the attached document. The *"Soil Vapor Extraction System Components Partial Design, Interim Measures Work Plan, Bulk Fuels Facility Spill, Solid Waste Management Units St-106 and SS-111, Addendum May 2012"* (Attachment 1) formalizes previous discussion concerning proposed SVE system components and design. Submittal and approval of the attached document will expedite system procurement and installation.

Please contact Mr. L. Wayne Bitner at (505) 853-3484 or at ludie.bitner@kirtland.af.mil or Ms. Victoria R. Martinez at (505) 846-6362 or at victoria.martinez@kirtland.af.mil if you have any questions.

Sincerely

JOHN C. KUBINEC, Colonel, USAF
Commander

Attachment:
"Soil Vapor Extraction System Components Partial Design, Interim Measures Work Plan, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111, Addendum May 2012"

cc:
NMED-RPD (Davis) w/o attachment
NMED-HWB (Moats, McDonald, Brandwein) w/attachment
NMED-GWQB (J. Schoeppner) w/attachment
NMED-PSTB (Reuter) w/attachment
NMED-OGC w/o attachment
EPA Region 6 (L. King) w/o attachment
AFCEE/CMSE (Mr. Oyelowo) w/o attachment
Public Info Repository (Central New Mexico)
Administrative Record/Information Repository (AR/IR)
File, w/ attachment

KAFB3901

40 CFR 270.11
DOCUMENT CERTIFICATION
May 2012

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

JOHN C. KUBINEC, Colonel, USAF
Commander, 377th Air Base Wing

This document has been approved for public release.

KIRTLAND AIR FORCE BASE
377 ABW Public Affairs

Shaw Environmental, Inc.

2440 Louisiana Blvd NE, Suite 300
Albuquerque, NM 87110
Phone: 505.262.8928

Shaw
Shaw Environmental and Infrastructure, Inc.

May 23, 2012

Subject: **Soil Vapor Extraction System Components Partial Design**
Interim Measures Work Plan, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111
Addendum May 2012
Kirtland Air Force Base, New Mexico

This letter is being submitted as an addendum to the Final Interim Measures Work Plan, prepared by Shaw Environmental and Infrastructure, Inc. (Shaw) for the U.S. Army Corps of Engineers (USACE) under contract W912DY-10-D-0014, Delivery Order 0002. This letter is based on the discussion and agreement reached during the 5 April 2012 Tiger Team working group meeting and includes a list of Soil Vapor Extraction (SVE) Treatment System components that require a long lead time due to manufacturer availability and requirements. The intent is to obtain New Mexico Environment Department approval of the SVE treatment system components in this letter so that they can be ordered, thereby expediting the construction and operation of the treatment system.

Based on the soil and soil vapor data that has been collected at the site, the proposed system is designed to have the flexibility to manage the wide range of inlet gas hydrocarbon concentrations that are expected. The system components meet the requirements of NFPA 91, *Standard for Exhaust Systems for Air Conveying Vapors, Gases, Mists, and Noncombustible Particulate Solids*. It can extract and treat 1600 standard cubic feet per minute (scfm) of air with hydrocarbon concentrations of up to 25% of the lower explosive limit (LEL) (or 3450 parts per million by volume gasoline range organics). If inlet air from the extraction wells exceeds this level, dilution air can be pulled into the system. If inlet air is below the design level, the heat recovery and catalytic options can reduce fuel consumption under these conditions.

The SVE skid that Shaw is proposing for the treatment system is:

- T-1001 Vapor Liquid Knockout Pot – 3foot diameter by 6 feet length
- P-1001 SVE Liquid Pump (centrifugal) – 10 gallons per minute (gpm) by 50 feet head
- T-1002 SVE Liquid Storage Tank – 2500 gallon capacity
- B-1001 SVE Extraction Blower – 1000 1000 scfm at 11-inches HG vacuum and 1600 SCFM at 40-inches water vacuum)

The SVE skid equipment will include silencers and sound enclosure on the blower, as well as all of the required piping, valves, electrical instruments, and a control panel.

In addition to the SVE skid, Shaw is proposing a thermal oxidizer skid for the treatment system:

- Z-1001: Thermal/Catalytic Oxidizer System
- B-2003: Combustion Air Blower

The proposed thermal oxidizer skid is a Dual Thermal/Catalytic Oxidizer System, complete with a combustion air blower, exhaust stack, and all instrumentation and controls. Hydrocarbon destruction efficiency for the proposed component is at least 98% of Gasoline Range Organics at 1600 scfm. The dual thermal/catalytic oxidizer system can run in pure thermal oxidation mode when SVE gas is high in hydrocarbons and in catalytic mode (to reduce fuel consumption) when gas concentrations taper off. An optional heat recovery exchanger is available and will probably be purchased. Cost savings from reduced fuel consumption at low inlet hydrocarbons will likely offset initial cost of the heat recovery exchanger. Auxiliary fuel in all cases is natural gas.

Additional information on the proposed system including a flow diagram and typical drawings for these units is included on the attached CD (Attachment A). Drawings are typical and have not been finalized to reflect exact design for Kirtland Air Force Base.

Shaw is continuing to work on the complete treatment system design, which will be submitted as a letter addendum to the Interim Measures Work Plan.

ATTACHMENT A

Additional Information on Proposed SVE Treatment System