

**Hornecker, Lynn M (EFDSW)**

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**From:** Hornecker, Lynn M (EFDSW)  
**Sent:** Friday, May 18, 2001 2:49 PM  
**To:** Potacka, Marianna K (EFDSW); 'dchuck@mail.arc.nasa.gov';  
'solliges@mail.arc.nasa.gov'; 'bartonj@rb5s.swrcb.ca.gov'; 'fdonofri@dtsc.ca.gov';  
'bhicks@envres.org'  
**Cc:** 'bstaab@mail.arc.nasa.gov'; Piszkin, F Andrew (EFDSW); Avery, Marie A (EFDSW);  
Munekawa, Gary J (EFA West); Smith, David R (EFA West)  
**Subject:** Responses to NASA Comments dated 27 April 2001 (Revision 2 Work Plan, NASA  
Crows Landing Flight Facility)

Hello All,

Transmitted as the attachment are responses to comments on the Revision 2 Work Plan submitted by NASA on 27 April 2001.



clresponsetonasacm1sr  
ev2workpl...

V/R  
Lynn Marie Hornecker  
SOUTHWESTNAVFACENGCOM  
BRAC PROGRAMS OFFICE  
(619) 532-0783/Fax (619) 532-0780  
18 May 2001

RESPONSES TO COMMENTS FROM THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)  
 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 1

| Comment   | Response  |
|---|---|
| <p><b>Comments prepared by Donald M. Chuck, Environmental Services Office, NASA Ames Research Center, Moffett Field, California dated 27 April 2001 (E-Mail message dated 27 April 2001)</b></p> <p><b>Subject:</b> <u>Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites, NASA Crows Landing Flight Facility, Crows Landing California,</u></p> <p><b>Addressee:</b> Marianna Potacka, Base Realignment and Closure (BRAC) Environmental Coordinator</p>  |   |
| <p><b>General Comments</b></p> <p>NASA has received the following document from the Navy: <u>Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites, NASA Crows Landing Flight Facility, Crows Landing California,</u> by IT Corporation dated March 19, 2001. As noted in the cover letter, Attachments 8, 9, and 10 are new to the previous edition. These three attachments were reviewed and the following comments are provided.</p> <p>In general, much of the work proposed in these attachments appears to be duplication of work previously done at the site. Additionally, more rationale needs to be provided to justify some of the proposed investigation work. This is especially true for the proposed survey work at Sites 10 and 18 where no-further-action records of decision have already been signed by the Navy and regulatory agencies.</p> <p>There is concern that some of the duplicative work proposed will further delay the remediation of the site and NASA's ability to transfer the property to Stanislaus County. Specific comments follow.</p> | <p>The Navy appreciates the participation of the NASA team in the Navy's environmental restoration program projects at NASA Crows Landing Flight Facility. We received your comments as an e-mail attachment on 27 April 2001. The Navy transmitted the Revision 2 Work Plan to the Regional Water Quality Control Board (RWQCB) and the California Department of Toxic Substances Control (DTSC) on 20 March 2001, and we requested comments by 29 March 2001. The RWQCB requested an additional week for review, and the RWQCB included comments with their letter dated 3 April 2001. DTSC deferred to the RWQCB on the review of this document.</p> <p>For clarification, the Navy's environmental restoration program projects are not intended to create impediments to property transfer and/or reuse. Verification activities are required at some of the sites in order to fill data gaps in previous investigations and/or studies and the verification activities provide data that is useful to the Navy in identifying the most efficient and cost-effective management strategies for the Installation Restoration Program (IRP) and Underground Storage Tank (UST) Program sites.</p> <p>Thank you for submitting comments on the work plan.</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 2

| Comment  | Response  |
|--|---|
| <p>Specific Comments</p> <p><b>COMMENT 1</b><br/>           Sect. 1.1.1, Par. 4, 3<sup>rd</sup> Sent., Pg. 1-2</p> <p>The sentence states that remediation of the vadose zone at Cluster 1 had commenced in August 2000. It has been NASA's understanding, based on other documents and reports from the Navy, that Cluster 1 is still undergoing SVE performance testing and "optimization." Additionally, construction of the previously proposed remedial system was stopped. The sentence needs to be changed to indicate that testing is still underway at Cluster 1 and not remediation.</p> | <p>Attachment 8, Response 1.</p> <p>For clarification, the construction of vapor extraction wells at UST Cluster 1 was completed during calendar year 2000. The Navy is removing contaminant mass from the vapor extraction wells, and consequently, the Navy is remediating the vadose zone at UST Cluster 1 during the process of optimizing soil vapor extraction (SVE) treatment operations. The Navy will continue optimization activities until the most efficient configuration for mass removal and the most cost-effective operating procedures are identified. The requirements of the California Code of Regulations (CCR), Title 23, Division 3, Section 16, Article 11, 2725 indicate that the most cost-effective corrective action should be implemented.</p> <p>Since August 2000, thousands of pounds of petroleum hydrocarbons have been removed from the vadose zone at UST Cluster 1. The Navy provides preliminary information on influent vapor concentrations and petroleum mass removal estimates for UST Cluster 1 in the monthly status reports that are submitted to the Regional Water Quality Control Board, Central Valley Region, the California Department of Toxic Substances Control, Stanislaus County, and NASA.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 3

| Comment  | Response  |
|--|---|
| <p><b>COMMENT 2</b><br/>           Sect. 1.1.1, Par. 5, Sent. 3, Pg. 1-2</p> <p>Delete the <i>or</i> from <i>and/or</i> in this sentence. Aviation gasoline (AVGAS) was stored at Cluster 1 and released from the tanks.</p> | <p>Attachment 8, Response 2.</p> <p>For clarification, page 3-1, paragraph 3.1-UST Cluster 1 of "The Final Corrective Action Plan, Underground Storage Tank Sites, UST Cluster 1, Cluster 2, 109, and 117 " (Tetra Tech, 1998) states "The tanks were used to store aircraft fuels including JP-4, JP-5, and possibly aviation gasoline."</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>  |
| <p><b>COMMENT 3</b><br/>           Sect. 1.1.1, Par. 7, Last Sent., Pg. 1-3</p> <p>Change the sentence to state that the "pits were <i>removed</i> and backfilled ..."</p>   | <p>Attachment 8, Response 3.</p> <p>For clarification, page 3-4, paragraph 3.1.2 of "The Final Corrective Action Plan, Underground Storage Tank Sites, UST Cluster 1, Cluster 2, 109, and 117" (Tetra Tech, 1998) states "All three tanks at UST Cluster 1 were demolished and removed in fall 1994. Separate excavations were completed around each tank to total depths ranging from 9 to 22 feet bgs. Excavations were completed to remove the tanks and associated equipment, not to remove all contaminated soil. The excavations had sloping sidewalls and no shoring was used. Plate 2 shows the excavation profiles in cross section. Areas beneath the tank fill and truck unloading stands on the north side of the site were excavated to only a few feet. Cobbles at the dry well locations were removed to a depth of about 12 feet." The text of page 3-4 does not indicate that the pits were completely removed. The text of page 3-4 also indicates that the excavations were filled with imported coarse gravel.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 4

| Comment   | Response   |
|---|--|
| <p><b>COMMENT 4</b><br/>           Sect. 1.2, Pg. 1-3</p> <p>The objectives presented here are vague in nature. More details are needed to describe: where the sampling will take place (at least a map show proposed sampling locations), the data gaps or needs for the sampling (the rationale for the sampling), and how the proposed sampling will meet the requirements for the data needs.</p> | <p>Attachment 8, Response 4.</p> <p>For clarification, page 1-3 states "The objectives of the discrete groundwater sampling activities predominantly include, but are not limited to, verification sampling, depth profile sampling, and plume delineation at various sites within and around the boundaries of the Facility. " The Navy will submit a form (included in Appendix A to Attachment 8) to team members that identifies the location and rationale for sampling prior to conducting the field sampling activities. Data quality objectives for sampling activities are defined in the Sampling And Analysis Plan section of the Work Plan.</p> <p>Plume delineation is an objective of the sampling, and the California Regional Water Quality Control Board (RWQCB), Central Valley Region has provided review comments (RWQCB, 8 April 1998 and RWQCB, 30 December 1998) identifying several data gaps including inadequate characterization of the VOC plume at Site 17. The Navy is delineating the extent of the release(s) to groundwater and identifying the nature of the release(s) consistent with the definition of a Remedial Investigation as described in the "National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan (NCP)), Title 40 Code of Federal Regulations (CFR) Part 300" which is described in the following sentences, extracted from 40CFR300.430:</p> <p><i>The purpose of the remedial investigation (RI) is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives.</i></p> <p>And</p> <p><i>The lead agency shall characterize the nature of and threat posed by the hazardous substances and hazardous material and gather data necessary to assess the extent to which the release poses a threat to human health or the environment or to support the analysis and design</i></p> |

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Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
PAGE 5

| Comment | Response   |
|---------|--|
|         | <p><i>of potential response actions by conducting, as appropriate, field investigations .....</i></p> <p>Previously completed investigations did not identify the boundaries of the Administration Area Plume (the commingled petroleum hydrocarbon/solvent plume) on the north, east, south, and west sides. While the plume delineation procedures described in Attachment 8 may be utilized at any sites with known or suspected releases to groundwater, the Navy's priority is the delineation of the boundaries of the release to shallow groundwater at the Administration Area.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 6

| Comment   | Response   |
|---|--|
| <p><b>COMMENT 5</b><br/>           Sect. 2.1, Pg. 2-1</p> <p>Please provide the criteria to be followed for deciding to install a monitoring well. Concurrence from NASA will also be necessary for the installation of wells at Crows Landing. To obtain concurrence, maps showing well locations, nearby utilities, and a copy of the Stanislaus County well permit will be required.</p> | <p>Attachment 8, Response 5.</p> <p>The decisions to construct wells will be made after the data collected from direct-push technology sampling is evaluated. Preliminary data will be conveyed to the members of the BRAC Cleanup Team, Stanislaus County, and NASA as it becomes available. Wells may be constructed for the purpose of long-term monitoring or for other purposes such as treatability studies and/or removal actions.</p> <p>The Navy intends to continue to request NASA's concurrence prior to initiating intrusive field activities at the Facility.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |
| <p><b>COMMENT 6</b><br/>           Sect. 2.3, Pg. 2-1</p> <p>The criteria to be used for deciding when to take soil samples and to do borehole logging needs to be provided. What are the data quality objectives (DQOs) to be addressed by this work?</p>  | <p>Attachment 8, Response 6.</p> <p>Information pertaining to the sampling activities is provided in the Attachment 8, Response 4.</p> <p>Data quality objectives for sampling activities are presented in the Sampling And Analysis Plan section of the Work Plan.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>   |
| <p><b>COMMENT 7</b><br/>           Sect. 2.6, Pg. 2-2</p> <p>The criteria to be used for deciding when to install a well need to be better defined.</p>   | <p>Attachment 8, Response 7.</p> <p>Please see Attachment 8, Response 4.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>  |

RESPONSES TO COMMENTS FROM THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)  
 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 7

| Comment  | Response  |
|--|---|
| <p><b>COMMENT 8</b><br/>           Sect. 4.1, Pg. 4-1</p> <p>Copies of the weekly reports to be submitted to the Navy should also be sent to NASA. NASA would also like copies of well logs and sampling analyses as they become available. The data can be marked a "preliminary" and will be treated as such by NASA. NASA needs to be kept better informed of the progress of the work going on at the NASA Flight Facility, Crows Landing.</p>   | <p>Attachment 8, Response 8.</p> <p>The Navy will continue to provide information to the members of the BRAC Cleanup Team, Stanislaus County, and NASA in the monthly status reports.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>  |
| <p><b><u>Attachment 9: Site Verification at Former and Current Sewer System</u></b></p> <p><b>COMMENT 1</b><br/>           Sect. 1.1, Par. 6, Pg. 1-2</p> <p>The paragraph states that the previous report for the sanitary sewer system concluded that the risks associated with metals and chemicals detected during the site investigation was acceptable based on residential and industrial risk scenarios. What has changed since then to require this further investigative work? What are the data quality objectives (DQOs) that the work proposed in this work plan will address? Acetone and MEK are commonly found lab contaminants. Please indicate the reasons for thinking otherwise.</p> | <p>Attachment 9, Response 1.</p> <p>For clarification, the Navy is conducting site verification activities at the former and current sewer systems in order to address several concerns pertaining to the previous sewer investigation (Tetra Tech, 1999) that were identified by the California Regional Water Quality Control Board (RWQCB), Central Valley Region.</p> <p>Data quality objectives are described in the Sampling and Analysis Plan section of the Work Plan.</p> <p>In response to comments from the RWQCB, the Navy conducted a videographic survey of the most currently used sewer line adjacent to Bell Road in January 2001. The results of the survey, summarized in the Navy's monthly status report for May 2001, indicate that the sewer pipe had offsets and/or cracks in several locations, and consequently, releases from the sewer pipeline may have occurred. The Sewer Investigation document dated 1999 identified the presence of contaminants in groundwater adjacent to Bell Road. The site verification activities described in Attachment 9 will provide more information along the current sewer pipeline adjacent to Bell Road.</p> <p>Exploratory trenching activities that were conducted by the Navy in April 2001</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 8

| Comment | Response  |
|---------|---|
|         | <p>were briefly described in the Navy's monthly status report for May 2001. The locations of the septic tanks and the former (original) sewer pipeline were confirmed, and the locations of the septic tanks and former pipeline were approximately 30 feet west of the locations shown in previous sewer investigation documents. Previous review comments from the RWQCB dated 27 July 1998 state the following: "However, it appears that the Navy did not verify the location of the former sewer line and did not determine if any laterals extend from this sewer line. This raises the concern that the boring locations and soil, soil gas, and groundwater samples that were collected are not close enough to this sewer line and are, therefore, inadequate to determine if the sewer line is a source area for the constituents of concern that were evaluated (SVOCs, VOCs, heavy metals, TPH-E, and TPH-P)." The exploratory trenching at the southernmost former oxidation pond associated with the original sewage treatment plant identified the presence of buried wastes within the pond. The site verification activities described in Attachment 9 will provide more information about conditions near the pipelines and the other sewage plant components.</p> <p>For clarification, acetone and MEK (2-butanone) and other solvents used at the analytical testing laboratories may cause contamination of field samples. Not all of the results reported for acetone and MEK in the Sewer Investigation document are qualified due to laboratory contamination. Some acetone, 2-butanone, and other VOC results are qualified "J" (the analyte was positively identified; the associated value is an estimated quantity because the detected amount is less than the required detection limits, or because quality control criteria were not met). Examples of other qualifiers for VOC results from the sewer investigation are presented with this response. The Navy identified solvents, including acetone and MEK, in groundwater near a former dry well associated with the former tank CL-2 in July 2000, after the preliminary sewer investigation was completed. Verification of conditions along the current and former sewer system pipelines and at other sewage system components is appropriate based upon the qualified data from the previous sewer</p> |

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Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
PAGE 9

| Comment | Response  |
|---------|---|
|         | <p>investigation and the confirmed presence of solvents in groundwater at other locations at the Facility.</p> <p>EXAMPLES OF QUALIFIED DATA:<br/>Appendix B of the Sewer Investigation document dated 1999 includes data validation reports for selected samples, and extracts from a report for Volatile Organic Compounds (VOCs) follow:</p> <p>Sample Delivery Group (SDG) No. 9714047/050/057/058 (SS-GW-07, SS-GW-10, SS-GW-11, SS-GW-11(D), trip blank): According to the case narrative, the pH for all water samples except Trip Blank were greater than 2 indicating inadequate preservation. No action was taken at the request of Todd Bechtel, Tetra Tech EM. Inc.</p> <p>Due to holding time problems, results for all compounds in one sample were qualified as estimated.</p> <p>Due to calibration problems, results for acetone in six samples, 2-hexanone in nine samples, and chloroethane, bromomethane and 4-methyl-2-pentanone in eight samples were qualified as estimated.</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 10

| Comment  | Response   |
|--|--|
|  | <p>Sample Delivery Group (SDG) No. 9714170/172 (SS-GW-05, SS-GW-06, SS-GW-08, soil sample, trip blank): According to the case narrative, the pH for all water samples except SS-TB-02 were greater than 2 indicating inadequate preservation. No action was taken at the request of Todd Bechtel, Tetra Tech EM. Inc.</p> <p>Due to calibration problems, results for acetone, vinyl chloride, and carbon tetrachloride in four samples and 2-hexanone, bromomethane, and 4-methyl-2-pentanone in 12 samples were qualified as estimated.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |
| <p><b>COMMENT 2</b><br/>           Sect. 1.1, Par. 8, Last Sent., Pg. 1-3</p> <p>The sentence states that source and extent of nonvolatile solvents in the administration area have not been identified. Data presented to date and based on previous reports, it appears that the dry well at CL2 appears to be the source. Also based on data review, it does not appear that the extent is beyond the already defined plumes in the administration area.</p>  | <p>Attachment 9, Response 2.</p> <p>For clarification, the dry well near former tank CL-2 appears to be a source of solvents, however, the Navy does not have sufficient evidence to conclude that this dry well is the only possible source of solvents.</p> <p>Please see Attachment 8, Response 4.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>   |
| <p><b>COMMENT 3</b><br/>           Sect. 1.2, Pg. 1-3</p> <p>The section refers to nonchlorinated solvents that were recently detected in soil gas. Are these detections from the recent soil vapor extraction tests done at Cluster 1? Review of soil gas data in the Draft Current and Former Sewer System Site Investigation Report, dated June 16, 1999, none of the compounds detected at Cluster 1 were detected except for acetone and MEK. It should also be noted that these compounds were not detected along the lines themselves</p> | <p>Attachment 9, Response 3.</p> <p>For clarification, few soil gas samples were collected from the shallow soils (approximately 0 to 20 feet below ground surface) in the Administration Area during previous investigations. Twenty-eight soil gas samples were collected near the groundwater interface during the remedial investigation of Site 17 (depths of 40 to 50 feet below ground surface (bgs)), eight samples were collected at depths between 20 and 30 feet bgs, and three samples were</p>  |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 11

| Comment  | Response  |
|--|---|
| <p>but at the basins. Based on the sewer investigation report and previous soil gas work in the administration area, there does not appear to be any indication that the sewer lines are a conduit for contamination.</p> <p>It is unclear why a passive soil gas survey is to be conducted in the administrative area. There is an abundance of soil gas, groundwater, and soil data for this area already. The rationale for performing this survey needs to be explicitly presented other than to verify previously collected data. Why does all of the data previously gathered need to be verified? Passive soil gas testing is not meant to be used to verify results of active soils gas surveys. The gas collection and analytical methods used in passive and active soil gas are completely different. Active soil gas testing draws soil gas by vacuum and can cover a larger area. The results provide a concentration of a compound in a volume of air. Passive techniques do not draw the gas in but require that the gas be able to contact the collection device. The results of the sampling technique measure ion flux collected over time by the adsorbent material. While qualitative comparisons can be made, the information from one technique is not directly related to the other.</p> <p>While the survey of the main trunk lines of the sewer system may provide some additional data, the effort in the administration area is not necessary and will delay the remedial process for Site 17/Cluster 1 groundwater. As presently proposed, the passive soil gas is to verify previous sampling in this area. Then this survey will be followed by soil gas collection using direct-push techniques to verify the passive gas survey. Data then gathered from the passive and active gas survey will be used to determine if additional investigation and soil and groundwater sampling will be done. This amounts to conducting another remedial investigation.</p> <p>With the data already collected to date, there is sufficient information to begin remediation of this site for both the vadose zone and the saturated zone. The EPA has designated soil vapor extraction (SVE) for VOCs in the vadose zone.</p> | <p>collected at depth of 10 feet bgs. The maximum carbon tetrachloride concentration of 11,190 ppbv was identified at a depth of 48 feet bgs, and carbon tetrachloride concentrations of 793 to 2,621 ppbv were reported at depths from 10 to 20 feet bgs.</p> <p>Soil gas samples were collected at approximate depths of 30 to 35 feet bgs during previous pilot tests at Site 17, and carbon tetrachloride was reported at 8,500 to 11,000 ppbv in monitoring points screened from 35 to 65 feet bgs.</p> <p>Verification of conditions in the near-surface soils using passive soil gas survey techniques followed by confirmation sampling will facilitate the Navy's assessment of potential human health risks and potential impacts to groundwater at the Administration Area. Data quality objectives for the soil gas survey are included in the Sampling and Analysis Plan section of the Work Plan.</p> <p>For clarification, soil vapor extraction (SVE) treatment is being utilized to remove petroleum hydrocarbon mass from UST Cluster 1. The feasibility study for IRP Site 17 is in the process of being revised as of May 2001, and soil vapor extraction is one of several alternatives under consideration for remediation of the vadose zone, where necessary, at IRP Site 17 (the demolished hangar area). The previously published feasibility study for IRP Site 17 (Tetra Tech, 1999) indicated that no further actions were recommended for the vadose zone at IRP Site 17.</p> <p>The United States Environmental Protection Agency has identified three presumptive remedies for volatile organic compounds in soil: soil vapor extraction, excavation and treatment by thermal desorption, and excavation and treatment by incineration (USEPA Citizen's Guide to Understanding Presumptive Remedies, 1997). USEPA states, "Presumptive remedies are based upon historical patterns of remedy selection and our scientific and</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 12

| Comment  | Response   |
|--|--|
| <p>An SVE system will provide additional soil gas information as well as remediation. It is not necessary to locate every discrete source of contamination. An SVE system of sufficient coverage will likely remediate all sources of VOCs that are present. SVE also stimulates biodegradation of contaminants in the soil. Air sparging combined with pumping is appropriate for the saturated zone. Air sparging reduces VOCs and also provides oxygen which is needed to help biodegrade petroleum products and acetone.</p> | <p>engineering evaluation of how well cleanup technologies perform.” And “The identification of a presumptive remedy does not relieve EPA of the obligation to propose the remedy for public comment, or to respond to comments suggesting that other alternatives should have been considered.” And “Any remedy, including presumptive remedies, must be selected in accordance with Section 121(d)(2)(A)(ii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which specifies that selected remedial actions comply with promulgated standards under Federal and more stringent State environmental laws (i.e., State ARARs).”</p> <p>Groundwater remedies for the Administration Area Plume will be evaluated according to the criteria presented in 40 CFR 300, and presumptive remedies will be considered. A final remedy for the Administration Area Plume will be implemented following the completion of the feasibility study, the proposed plan, the responses to regulatory and public comments, and the CERCLA Record of Decision.</p> <p>Please see Attachment 9, Response 1.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |

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 Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
 NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
 PAGE 13

| Comment   | Response  |
|---|---|
| <p><b>COMMENT 4</b><br/>           Sect. 2.1.3, Last Sent., Pg. 2-1</p> <p>Delete the last portion of this sentence: "unless ... Navy." All utilities damaged as a result of construction will be repaired.</p>   | <p>Attachment 9, Response 4.</p> <p>Comment acknowledged.</p> <p>For clarification, some subsurface utilities were abandoned many years ago and are no longer in use, and some of these utilities have been previously damaged or partially demolished. The Navy does not plan to repair utility systems that were previously abandoned, damaged, or partially demolished.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>   |
| <p><b>COMMENT 5</b><br/>           Sect. 3.0, Pg. 3-1</p> <p>Copies of the weekly reports to be submitted to the Navy should also be sent to NASA. NASA would also like copies of well logs and sampling analyses as they become available. The data can be marked a "preliminary" and will be treated as such by NASA. NASA needs to be kept better informed of the progress of the work going on at the NASA Flight Facility, Crows Landing.</p>            | <p>Attachment 9, Response 5.</p> <p>The Navy will continue to provide information to the members of the BRAC Cleanup Team, Stanislaus County, and NASA in the monthly status reports.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p>  |
| <p><b><u>Attachment 10: Geophysical Surveys at Various Sites</u></b></p> <p><b>COMMENT 1</b><br/>           Sect. 1.0, Pg. 1-1</p> <p>Among the sites listed for the geophysical survey are IRP Site 10 and IRP Site 18. These sites have already been investigated and a no-further-action (NFA) Record of Decision (ROD) had been concluded between the agencies and the Navy. These sites should therefore be removed from the list for investigation.</p> | <p>Attachment 10, Response 1.</p> <p>For clarification, the Draft Revision 2 Work Plan, Attachment 10 provided for surveys at abandoned water supply well sites, IRP Site 10, IRP Site 18, and a former ready magazine area. The Final Revision 2 Work Plan, Attachment 10 provides for surveys at abandoned water supply well sites, IRP Site 10, and a former ready magazine area. The surveys at IRP Site 18 were deleted from the Final Revision 2 Work Plan, Attachment 10.</p> <p>The surveys described in Attachment 10 are intended to provide information on site conditions for future property transfer documentation.</p> |

RESPONSES TO COMMENTS FROM THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)  
Subject: Work Plan, Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification at Various Sites,  
NASA Crows Landing Flight Facility (IT Corporation, March 2001)

DATE: 18 MAY 2001  
PAGE 14

| Comment | Response   |
|---------|--|
|         | <p>Due to an absence of documentation describing the boundaries of the investigation area for Site 10 and the locations of the exploratory trenches at Site 10, and the absence of documentation pertaining to well closure dates and methods of closure of former water supply wells, the Navy will conduct these surveys.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |

RESPONSES TO COMMENTS FROM THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)  
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 PAGE 15

| Comment   | Response   |
|---|--|
| <p><b>COMMENT 2</b><br/>           Sect. 1.1, Last Paragraph, Pg. 1-2</p> <p>In the first sentence, change the verb <i>is</i> to <i>was</i>. The location of Site 10, based on review of aerial photographs and a map in the 1984 <u>Initial Assessment Survey</u> done by the Navy, was explored with trenches and nothing was found. Based on this trenching, the agencies agree to the NFA ROD.</p> <p>The second sentence is incorrect. Site 18 consisted of two locations. The firing range portion was located near the runways near Site 11. There was a berm there where both small arms and aircraft guns were fired. The site is clearly seen in several early aerial photographs. The berm was removed and the area has been under cultivation since. As part of the remedial investigation for the site, a metal detector was used to locate and determine if any bullets or shells were still left. Some small caliber bullets were found consistent with a small arms range. It was determined that there was no risk left at the site. The other location is near Little Salado Creek in the southern portion of the base. A 20mm shell was found there. The site was reported as the location of an A-4 jet crash. A-4's carried 20mm cannons. The site was surveyed by an explosive ordnance detail from the Navy and no other munitions were found. Based on these results, the Navy and the agencies agreed to a NFA ROD.</p> <p>Well 6/8-20H1 appears to be located where Well #1 for the base water supply is located. This well was destroyed by the Navy in 1992. Well 6/8-20A1 was Well #2 for base water supply. It should still be there.</p> <p>A copy of the aerial photograph(s) showing the disturbed area in question should be provided. A review of several aerial photographs provided in a transmittal from the Navy dated 3/21/01 did not reveal a construction area as described in the paragraph and indicated on Figure 1.</p> | <p>Attachment 10, Response 2.</p> <p>Comments acknowledged.</p> <p>For clarification, the surveys at Site 18 have been deleted from Attachment 10.</p> <p>For clarification, the Navy continues to acquire and review historical information pertaining to construction and use of former water supply wells and previously completed well destruction activities. As of May 2001, no documentation pertaining to historical water supply well destruction activities (including activities at well 6/8-20H1) had been acquired.</p> <p>For clarification, the Navy provided a copy of the Compilation of Historical Aerial Photographs and Maps to the BRAC Cleanup Team members, Stanislaus County, and NASA in April 2001.</p> <p>No changes to the text of the work plan will be made in response to this comment.</p> |

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DATE: 18 MAY 2001  
 PAGE 16

| Comment  | Response   |
|--|--|
| <p><b>COMMENT 3</b><br/>           Sect. 2.2, Pg. 2-2</p> <p>Since there exists a NFA ROD for Site 10, further work at this site is not warranted.</p>   | <p>Attachment 10, Response 3.</p> <p>Comment acknowledged. Please see Attachment 10, Response 1.</p>   |
| <p><b>COMMENT 4</b><br/>           Sect. 2.3, Pg. 2-2</p> <p>Since there exists a NFA ROD for Site 10, further work at this site is not warranted.</p>   | <p>Attachment 10, Response 4.</p> <p>Comment acknowledged. Please see Attachment 10, Response 1.</p>   |
| <p><b>COMMENT 5</b><br/>           Sect. 3.1, Pg. 3-1</p> <p>Copies of the weekly reports to be submitted to the Navy should also be sent to NASA. NASA would also like copies of well logs and sampling analyses as they become available. The data can be marked a "preliminary" and will be treated as such by NASA. NASA needs to be kept better informed of the progress of the work going on at the NASA Flight Facility, Crows Landing.</p> | <p>Attachment 10, Response 5.</p> <p>The Navy will continue to provide information to the members of the BRAC Cleanup Team, Stanislaus County, and NASA in the monthly status reports.</p> <p>No changes to the text of the work plan will be made in response to this comment</p>   |
| <p><b>COMMENT 6</b><br/>           Figure 1</p> <p>Site 10 is incorrectly located. It should be moved approximately 300 ft. north from where it is depicted.</p> <p>NASA is prepared to discuss these and other issues concerning the remedial work at the NASA Flight Facility, Crows Landing and what can be done to expedite both the clean up and transfer of the property.</p>  | <p>Attachment 10, Response 6.</p> <p>The location of Site 10 was identified based upon information presented in the Remedial Investigation Report dated 1997 and the Record of Decision (ROD)/Remedial Action Plan of 1999. The boundaries of the Site 10 investigation were not identified by land survey, and coordinates are not available for the investigation boundary or for the exploratory trenches that were described in the ROD.</p> <p>The Navy will refine the location of Site 10 on future maps based upon the results of the work described in the Work Plan. No changes to the text of the work plan will be made in response to this comment.</p> |

## TRANSMITTAL

Date: 18 May 2001

From: Lynn Marie Hornecker 

To: Diane Silva  
Code 01LS.DS

**Subj: CERCLA Administrative Record Materials**  
NALF Crows Landing

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