



California Regional Water Quality Control Board

Central Valley Region



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ACTION MEMORANDUM FOR TIME-CRITICAL REMOVAL ACTION AT THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) CROWS LANDING FLIGHT FACILITY, ADMINISTRATION PLUME AT INSTALLATION RESTORATION PROGRAM (IRP) SITE 17, CROWS LANDING, STANISLAUS COUNTY, CALIFORNIA

We have reviewed the *Action Memorandum for Time-Critical Removal Action at the National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility, Administration Plume at Installation Restoration Program (IRP) Site 17, Crows Landing, Stanislaus County, California* (Memo), received 4 December 2000. The Memo documents the Navy's Time-Critical Removal Action (TCRAs) for Site 17 (Demolished Hanger Area) and the adjacent former underground storage tanks (USTs) at UST Cluster 1. The Navy discovered that, during the most recent groundwater monitoring event, that a previously identified petroleum hydrocarbon plume and a volatile organic compounds (VOCs) plume had become commingled, and that additional previously undetected contaminants of concern (COCs) were present in the groundwater plume, specifically ethylene dibromide (EDB), acetone, 2-butanone (MEK), and 4-methyl 2-pentanone (MIBK). The Navy reports that the plume encompasses an area over 40 acres, and has spread to within 500 feet of the eastern boundary of the facility. The Navy has decided to undertake the time-critical removal action under authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as authorized under 42 U.S.C. Section 9604, Section 2705, and federal Executive Order 12580. The removal action will consist of groundwater extraction from areas of highest contaminant concentrations, using new or existing extraction or monitoring wells. The Navy specifies the removal action as an interim attempt to remove adequate contaminant mass to protect human health and the environment, and provide hydraulic control over the groundwater plume. The Navy will transition the removal action into a remedial action if the interim response proves ineffective for addressing these contaminated groundwater issues.

General Comment

We view this action to be a precursor to the final remedial action, and as such, require that cleanup standards be developed for this site. This document does not address state requirements for groundwater cleanup standards, as they relate to this removal action, or the final remedy. As stated previously in comments on 19 October 2000, several new Contaminants of Concern (COCs) have been detected in groundwater at the site. Cleanup levels have not been determined for the new COCs. Since several of

the new COCs have extremely low Water Quality Goals in relationship to their concentrations in groundwater, cleanup levels will need to be established for the new COCs as well, in the Feasibility Study (FS) and Record of Decision (ROD).

Specific Comments

1. Section V., Subsection A, Number 1 (V.A.1.) states that the extraction will continue until either 50000 gallons of water have been extracted, or ethylene dibromide (EDB) concentrations are lowered to 1000 ug/L. This is a five-fold reduction from the highest EDB level reported in the latest round of groundwater sampling (5080 ug/L). This figure (1000 ug/L) is still six orders of magnitude above the EDB Maximum Contaminant Level (MCLs) of 0.05 ug/L. Since EDB is a known carcinogen with a CAL/EPA Cancer Potency Factor as Drinking Water (10^{-6}) of 0.0097 ug/L, provide the rationale for using this interim concentration value for the time-critical removal action. If the proposed concentration is reached, how much does this groundwater removal action reduce the risk to human health and the environment, considering that the Navy has also identified:

- Acetone to 68,400 ug/L;
- Benzene to 70,400 ug/L;
- Methyl Ethyl Ketone (MEK) to 75,400 ug/L; and
- Methyl Isobutyl Ketone (MIBK, reported as 4-Methyl-2-pentanone) to 3560 ug/L?

2. Section V.A.4 Engineering Evaluation/Cost Analysis (EE/CA) text only says "Not applicable." Provide an explanation that clarifies how the decision was made to say that an EE/CA is, or is not, applicable, and reference the location in the CERCLA text that the Navy provided to RWQCB. The need for an EE/CA was a RWQCB comment on 10 October 2000.

3. Section V.A.5 states that "Because CERCLA on-site response actions do not require permitting...approval of, or consultation with, administrative bodies; documentation; reporting; record keeping; and enforcement are not ARARS for CERCLA actions confined to the site." The State Water Resources Control Board's and the Regional Water Board's legal position is that CERCLA Sections 14 and 120(a)(4), not CERCLA Section 121(d), govern the application of state requirements at this facility. Since the site is not listed on the National Priorities List, CERCLA Section 120(a)(4) requires the federal facility to comply with all state laws concerning removal or remedial action, including state laws regarding enforcement.

4. Section V.A.5 also states "Only those state standards that are identified by the state in a timely manner and are more stringent than federal requirements may be applicable or relevant and appropriate." Currently the Navy has not solicited the state for ARARs. As a courtesy, we have attached the State Water Board requirements for soil and groundwater cleanups that apply to the site.

5. This document includes two letters from the RWQCB as Attachment 2. In those letters, we commented on the Navy's Memorandum, Interim Status Report, and Technical Information Package (RWQCB, 10 October 2000) and the Revision 1 of the Work Plan (RWQCB, 19 October 2000). We request that the Navy include formal responses to these comments in Attachment 2, in order to clarify the Navy's rationale for conducting the Time-Critical Removal Action.

If you have any questions please contact me at (916) 255-3050 or bartonj@rb5s.swrcb.ca.gov.

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cc: Francesca D Onofrio – CALEPA-DTSC
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State Requirements for Soil Remediation

#	Source	Standard, Requirement, Criterion, or Limitation	ARARs, or To Be Considered	Description	Comments
1	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	Water Quality Control Plan (Basin Plan) for the RWQCB, CVR.	Applicable	Establishes water quality objectives, including narrative and numerical standards, that protect the beneficial uses of surface and ground waters in the region. Describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies and provide comprehensive water quality planning. Also includes implementation actions for setting soil cleanup levels for soils which threaten water quality. [ADD SPECIFIC BENEFICIAL USES AND WATER QUALITY OBJECTIVES FOR WATERS SUBJECT TO ROD.]	Specific applicable portions of the Basin Plan include beneficial uses of affected water bodies and water quality objectives to protect those uses. Any activity, including, for example, a new discharge of contaminated soils or in-situ treatment or containment of contaminated soils, that may affect water quality must not result in water quality exceeding water quality objectives. Implementation plans and other policies and requirements may also apply.
2	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13304, 13240, 13241, 13242, 13243)	RWQCB, CVR Basin Plan, "Policy for Investigation and Cleanup of Contaminated Sites." [CHECK REGION'S BASIN PLAN FOR SIMILAR POLICY AND REPLACE.]	Applicable	Establishes and describes policy for investigation and remediation of contaminated sites. Also includes implementation actions for setting groundwater and soil cleanup levels.	Cleanup levels for soils should be equal to levels that would achieve background concentrations in groundwater unless such levels are technically and economically infeasible to achieve. In such cases, soil cleanup levels are such that groundwater will not exceed applicable groundwater quality objectives.

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#	Source	Standard, Requirement, Criterion, or Limitation	ARARs, or To Be Considered	Description	Comments
3	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	RWQCB, CVR Basin Plan, "Policy for Application of Water Quality Objectives" [CHECK REGION'S BASIN PLAN FOR SIMILAR POLICY AND REPLACE.]	Applicable	This policy defines water quality objectives and explains how the Regional Water Board applies numerical and narrative water quality objectives to ensure the reasonable protection of beneficial uses of water and how the Regional Water Board applies Resolution No. 68-16 to promote the maintenance of existing high quality waters.	Applies to all cleanups of discharges that may affect water quality.
4	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13263, 13304)	State Water Resources Control Board Resolution No. 68-16 ("Antidegradation Policy")	Applicable	Requires that high quality surface and ground waters be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with maximum benefit to the people of the state.	Applies to discharges of waste to waters, including discharges to soil that may affect surface or ground waters. In-situ cleanup levels for contaminated soils must be set so that ground waters will not be degraded, unless degradation is consistent with the maximum benefit of the people of the state. If degradation is allowed, the discharge must meet best practical treatment or control, and result in the highest water quality possible consistent with the maximum benefit to the people of the state. In no case may water quality objectives be exceeded.

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#	Source	Standard, Requirement, Criterion, or Limitation	ARARs, or To Be Considered	Description	Comments
5	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240, 13260, 13263, 13267, 13300, 13304, 13307)	State Water Resources Control Board Resolution No. 92-49 (As amended April 21, 1994)	Applicable	Establishes requirements for investigation and cleanup and abatement of discharges. Among other requirements, dischargers must clean up and abate the effects of discharges in a manner that promotes the attainment of either background water quality, or the best water quality that is reasonable if background water quality cannot be restored. Requires the application of Title 23, CCR, Section 2550.4 requirements to cleanups.	Applies to all cleanups of discharges that may affect water quality.
6	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240)	State Water Resources Control Board Resolution No. 88-63 ("Sources of Drinking Water Policy") (as contained in the RWQCB's Water Quality Control Plan)	Applicable	Specifies that, with certain exceptions, all ground and surface waters have the beneficial use of municipal or domestic water supply.	Applies in determining beneficial uses for waters that may be affected by dischargers of waste.
7	Staff Report of the RWQCB, CVR	The Designated Level Methodology for Waste Classification and Cleanup Level Determination	To Be Considered	Provides guidance on how to classify wastes according to Title 27, CCR, Division 2, Subdiv.1/ Title 23, CCR, Division 3, Chapter 15, Article 10	Performance standard to be considered in determining the classification of wastes and contaminated soils.

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#	Source	Standard, Requirement, Criterion, or Limitation	ARARs, or To Be Considered	Description	Comments
8	Staff Report of the RWQCB, CVR	"A Compilation of Water Quality Goals"	To Be Considered	Provides guidance on selecting numerical values to implement narrative water quality objectives contained in the Basin Plan.	Performance standard to be considered in selecting appropriate numerical values to implement the Basin Plan for setting cleanup levels and discharge limits. The numerical values contained in the staff report may be applicable, relevant and appropriate, or to be considered, depending on the source of the values.
9	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304)	Title 27, California Code of Regulations (CCR), Division 2, Subdiv. 1 (Section 20080 et seq.), Title 23, CCR, Division 3, Chapter 15, (Section 2510 et seq.)	Applicable	Establishes waste and siting classification systems and minimum waste management standards for discharges of waste to land for treatment, storage, and disposal. Engineered alternatives that are consistent with Title 27/ Title 23 performance goals may be considered. Establishes corrective action requirements for responding to leaks and other unauthorized discharges.	Applies to all discharges of waste to land for treatment, storage, or disposal that may affect water quality. The application of some of the specific sections of Title 27/ Title 23 to different situations is discussed below. Provisions of Title 23 apply to hazardous waste and provisions of Title 27 apply to designated and non-hazardous waste.
10	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 23, CCR, Section, 2520, 2521	Applicable	Requires that hazardous waste be discharged to Class I waste management units that meet certain design and monitoring standards.	Applies to discharges of hazardous waste to land for treatment, storage or disposal.

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11	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 27, CCR, Section, 20200(c), 20210	Applicable	Requires that designated waste be discharged to Class I or Class II waste management units.	Applies to discharges of designated waste (nonhazardous waste that could cause degradation of surface or ground waters) to land for treatment, storage, or disposal.
12	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 27, CCR, Section 20230	Applicable	Requires that inert waste does not need to be discharged at classified units	Applies to discharges of inert waste to land for treatment, storage, or disposal.
13	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13269).	Title 27, CCR, Section 20200(c), 20220	Applicable	Requires that nonhazardous solid waste be discharged to a classified waste management unit.	Applies to discharges of nonhazardous solid waste to land for treatment, storage, or disposal.
14	Porter-Cologne Water Quality Control Act (California Water Code Sections 13260, 13263, 13370.5, 13372, 13373, 13374, 13375, 13376, 13377, 13383).	40 CFR Parts 122, 123, 124, National Pollution Discharge Elimination System, implemented by California Storm water Permit for Industrial Activities, State Water Resources Control Board Order #97-03-DWQ.	Applicable	Regulates pollutants in discharge of storm water associated with hazardous waste treatment, storage, and disposal facilities, wastewater treatment plants, landfills, land application sites, and open dumps. Requirements to ensure storm water discharges do not contribute to a violation of surface water quality standards.	Applies to storm water discharges from industrial areas. Includes measures to minimize and/or eliminate pollutants in storm water discharges and monitoring to demonstrate compliance.

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15	Porter-Cologne Water Quality Control Act (California Water Code Sections 13260, 13263, 13370.5, 13372, 13373, 13374, 13375, 13376, 13377, 13383).	40 CFR Parts 122, 123, 124, National pollution discharge elimination system, implemented by State Water Resources Control Board Order No. 92-08 DWQ	Applicable	Regulates pollutants in discharge of storm water associated with construction activity (clearing, grading, or excavation) involving the disturbance of 5 acres or more. Requirements to ensure storm water discharges do not contribute to a violation of surface water quality standards.	Applies to construction areas over 5 acres in size. Includes measures to minimize and/or eliminate pollutants in storm water discharges and monitoring to demonstrate compliance.
16	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20080(g), Title 23, CCR, Section 2510(g)	Applicable	Requires monitoring. If water quality is threatened, corrective action consistent with Title 27, Title 23 is required	Applies to areas of land where discharges had ceased as of November 27, 1984 (the effective date of the revised Title 27/ Title 23 regulations).
17	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20090(d) Title 23 CCR, Section 2511(d)	Applicable	Actions taken by public agencies to cleanup unauthorized releases are exempt from title 27/ Title 23 except that wastes removed from immediate place of release and discharged to land must be managed in accordance with classification (Title 27 CCR, Section 20200/ Title 23 CCR, Sections 2520) and siting requirements of Title 27 or Title 23 and wastes contained or lift in place must comply with Title 27 or Title 23 to the extent feasible.	Applies to remediation and monitoring of sites.

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18	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20080 (d) Title 23, CCR, Section 2510(d)	Applicable	Requires closure of existing waste management units according to Title 27/Title 23	Applies to "existing" waste management units (i.e., areas where waste was discharged to land on or before 27 November 1984, but that were not closed, abandoned, or inactive prior to that date).
19	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 1323, 13269).	Title 27, CCR, Section 21400, Title 23, CCR, Section 2582.	Applicable	Requires surface impoundments to be closed by removing and treating all free liquid and either removing all remaining contamination or closing the surface impoundment as a landfill.	If water quality is threatened, this section is relevant and appropriate for natural topographic depressions, excavations, and diked areas where wastes containing free liquids were discharged.
20	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Sections 20385-20435 Title 23, CCR, Section 2550 .	Applicable	Where groundwater monitoring is required under 2510 or 2511 of Ch 15 (and equivalent for Title 27), applies to authorized waste management units as well as unauthorized discharges of waste to land and to closed abandoned or inactive units.	Applies to all areas in which waste has been discharged to land to determine the threat to water quality.
21	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20385, Title 23, CCR, Section 2550.1	Applicable	Requires detection monitoring. Once a significant release has occurred, evaluation or corrective action monitoring is required.	Applies to all areas in which waste has been discharged to land to determine the threat to water quality.
22	Porter-Cologne Water Quality	Title 27, CCR, Section 20390, Title 23, CCR,	Applicable	Requires establishment of a water quality protection standard consisting	Applies to all areas in which waste has been discharged to land where

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	Control Act (California Water Code Sections 13140-13147, 13172, 13260 13263, 13267, 13269).	Section 2550.2		of a list of constituents of concern, concentration limits, compliance monitoring points and all monitoring points. This section further specifies the time period that the standard shall apply.	groundwater is threatened.
23	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260 13263, 13267, 13269).	Title 27, CCR, Section 20395, Title 23, CCR, Section 2550.3	Applicable	Requires development of a list of constituents of concern which include all waste constituents, that are reasonably expected to be present in the soil from discharges to land, and could adversely effect water quality.	Applies to all areas in which waste has been discharged to land where groundwater is threatened.
24	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260 13263, 13267, 13269).	Title 27, CCR, Section 20400, Title 23, CCR, Section 2550.4	Relevant and Appropriate	Concentration limits must be established for groundwater, surface water, and the unsaturated zone. Must be based on background, equal to background, or for corrective actions, may be greater than background, not to exceed the lower of the applicable water quality objective or the concentration technologically or economically achievable. Specific factors must be considered in setting cleanup standards above background levels.	If water quality is threatened, this section applies in setting soil cleanup levels for all cleanups of discharges of waste to land.

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25	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20405, Title 23, CCR, Section 2550.5	applicable	Requires identification of the point of compliance , hydraulically down gradient from the area where waste was discharged to land.	Applies to all areas in which waste has been discharged to land where groundwater is threatened.
26	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20410 Title 23, CCR, Section 2550.6	Relevant and Appropriate.	Requires monitoring for compliance with remedial action objectives for three years from the date of achieving cleanup levels.	Applies to all soil cleanup activities.
27	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20415 Title 23, CCR, Section 2550.7.	Relevant and Appropriate.	Requires general soil, surface water, and ground water monitoring.	Applies to all areas in which waste has been discharged to land.
28	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260	Title 27, CCR, Section 20420, Title 23, CCR, Section 2550.8.	Applicable	Requires detection monitoring to determine if a release has occurred.	Applies to all areas where waste has been discharged to land and groundwater is threatened.

State Requirements for Soil Remediation

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	13263, 13267, 13269).				
29	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20425 Title 23, CCR, Section 2550.9	Applicable	Requires an assessment of the nature and extent of the release, including a determination of the spatial distribution and concentration of each constituent.	Applies to sites at which monitoring results show statistically significant evidence of a release.
30	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20430 Title 23, CCR, Section 2550.10	Relevant and Appropriate	Requires implementation of corrective action measures that ensure that cleanup levels (i.e., water quality protection standard established under section 2550.2) are achieved throughout the zone affected by the release by removing the waste constituents or treating them in place. Source control may be required. Also requires monitoring to determine the effectiveness of the corrective actions.	If water quality is threatened, this section applies to all soil cleanup activities.
31	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269).	Title 27, CCR, Section 20950; 22207 (a); 22212 (a), and 22222. Title 23, CCR, Section 2550.0 (b); 2580; 2580(f).	Applicable	General closure requirements, including continued maintenance of waste containment, drainage controls, and groundwater monitoring throughout the closure and post-closure maintenance periods.	Applies to partial or final closure of waste management units.

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32	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13269)	Title 27, CCR, Section 21090	Relevant and Appropriate	Requires a final cover for landfills constructed in accordance with specific prescriptive standards, to be maintained as long as wastes pose a threat to water quality.	If water quality is threatened, this section is relevant and appropriate for wastes contained or left in place at the end of remedial actions that could affect water quality. Includes closure of landfills and other areas where wastes have been discharged to land.

State Requirements for Groundwater Remediation

#	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
1	Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.)	California Water Code Section 13243	The RWQCB may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.	Applicable	Applies to groundwater remedial action.
2	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	Water Quality Control Plan (Basin Plan) for the RWQCB, CVR [SITE PAGES WITH BENEFICIAL USES AND WATER QUALITY OBJECTIVES.]	Establishes water quality objectives, including narrative and numerical standards, that protect the beneficial uses and water quality objectives of surface and ground waters in the region. Describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies and provide comprehensive water quality planning. [ADD LIST OF SPECIFIC BENEFICIAL USES AND WATER QUALITY OBJECTIVES FOR WATERS SUBJECT TO ROD.]	Applicable	Specific applicable portions of the Basin Plan include beneficial uses of affected water bodies and water quality objectives to protect those uses. Any activity, including, but not limited to, the discharge of contaminated soils or waters or in-situ treatment or containment of contaminated soils or waters, must not result in actual water quality exceeding water quality objectives.
3	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13304, 13240, 13241, 13242, 13243)	RWQCB, CVR Basin Plan, "Policy for Investigation and Cleanup of Contaminated Sites." [CHECK REGION'S BASIN PLAN FOR SIMILAR PROVISIONS AND REPLACE THIS LISTING.]	Establishes and describes policy for investigation and remediation of contaminated sites. Also includes implementation actions for setting groundwater and soil cleanup standard.	Applicable	Cleanup standards for water should be equal to background concentrations unless such levels are technically and economically infeasible to achieve. In such cases, cleanup standards should not exceed applicable water quality objectives.

State Requirements for Groundwater Remediation

#	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
4	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	RWQCB, CVR Basin Plan, "Policy for Application of Water Quality Objectives" [CHECK REGION'S BASIN PLAN FOR SIMILAR POLICY AND REPLACE THIS LISTING.]	This policy defines water quality objectives and explains how the Regional Water Board applies numerical and narrative water quality objectives to ensure the reasonable protection of beneficial uses of water and how the Regional Water Board applies Resolution No. 68-16 to promote the maintenance of existing high-quality waters.	Applicable	Applies to groundwater remedial actions.
5	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	RWQCB, CVR Basin Plan, "Wastewater Reuse Policy" [CHECK REGION'S BASIN PLAN FOR SIMILAR POLICY AND REPLACE THIS LISTING.]	Requires applicants for waste discharge requirements and discharge permits to evaluate land disposal as an alternative to discharge to surface waters.	Applicable	Applies to groundwater extracted by groundwater treatment system.
6	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13263, 13304)	State Water Resources Control Board Resolution No. 68-16 ("Anti-degradation Policy").	Requires that high quality surface and ground waters be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the state, does not unreasonably affect present and anticipated beneficial uses, and does not result in water quality less than that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with maximum benefit to the people of the state.	Applicable	Applies to discharges of waste to waters, including discharges to soil that may affect surface or ground waters. In-situ cleanup levels for contaminated ground waters must be set at background level, unless allowing continued degradation is consistent with the maximum benefit of the people of the state. If degradation of waters is allowed, or allowed to remain, the discharge must meet best practical treatment or control standards, and result in the highest water quality possible that is consistent with the maximum benefit to the people of the state. In no case may water quality objectives be exceeded.

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#	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
7	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240, 13260, 13263, 13267, 13300, 13304, 13307)	State Water Resources Control Board Resolution No. 92-49 (As amended April 21, 1994)	Establishes requirements for investigation and cleanup and abatement of discharges. Among other requirements, dischargers must clean up and abate the effects of discharges in a manner that promotes the attainment of either background water quality, or the best water quality that is reasonable if background water quality cannot be restored. Requires the application of Title 23, CCR, Section 2550.4, requirements to cleanups.	Applicable	Applies to groundwater remedial actions.
8	Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240)	State Water Resources Control Board Resolution No. 88-63 ("Sources of Drinking Water Policy") (as contained in the RWQCB's Water Quality Control Plan)	Specifies that, with certain exceptions, all ground and surface waters must have the beneficial use of municipal or domestic water supply.	Applicable	Applies in determining beneficial uses for waters that may be affected by discharges of waste.
9	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304)	Title 27, CCR, Division 2, Subdivision 1 (Section 20080 et seq.) Title 23, CCR, Division 3, Chapter 15 (Section 2510 et seq.).	Establishes waste and siting classification systems and minimum waste management standards for discharges of waste to land for treatment, storage, and disposal. Engineered alternatives that are consistent with Title 27/Title 23 performance goals may be considered. Establishes corrective action requirements for responding to discharges to land, including spills and leaks and other unauthorized discharges.	Applicable	The Application of specific sections of Title 27/ Title 23 is discussed below. Provisions of Title 23 apply to hazardous waste and provisions of Title 27 apply to designated and nonhazardous solid waste.

State Requirements for Groundwater Remediation

#	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
10	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20090(d) Title 23, CCR, Section 2511 (d)	Action taken by public agencies to clean up unauthorized releases are exempt from Title 27/ Title 23 accept that wastes removed from immediate place of release and discharged to land must be managed in accordance with classification (Title 27, CCR, Section 20200/ Title 23, CCR, Section 2520) and siting requirements of Title 27 or Title 23 and wastes contained or left in place must comply with Title 27 or Title 23 to the extent feasible.	Applicable	Applies to remediation and monitoring of sites.
11	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20400 Title 23, CCR, Section 2550.4.	Concentration limits must be established for groundwater, surface water, and the unsaturated zone. Must be based on background, equal to background, or for corrective actions, may be greater than background, not to exceed the lower of the applicable water quality objective or the concentration technologically or economically achievable. Specific factors must be considered in setting cleanup standards above background levels.	Applicable	Applies in setting ground water cleanup levels for all discharges of waste to land.
12	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20410 Title 23, CCR, Section 2550.6	Requires monitoring for compliance with remedial action objectives for three years from the date of achieving cleanup standards.	Applicable	Applies to groundwater remedial actions.

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13	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20415 Title 23, CCR, Section 2550.7.	Requires general soil, surface water, and ground water monitoring.	Applicable	Applies to all areas at which waste has been discharged to land.
14	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title, 27, CCR, Section 20425 Title, 23, CCR, Section 2550.9.	Requires an assessment of the nature and extent of the release, including a determination of the spatial distribution and concentration of each constituent.	Applicable	Applies to areas at which monitoring results show statistically significant evidence of a release.
15	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267, 13304).	Title 27, CCR, Section 20430 Title 23, CCR Section 2550.10	Requires implementation of corrective action measures that ensure that cleanup levels are achieved throughout the zone affected by the release by removing the waste constituents or treating them in place. Source control may be required. Also requires monitoring to determine the effectiveness of the corrective actions.	Applicable	Applies to groundwater remedial acations.

State Requirements for Groundwater Remediation

#	Source	Standard, Requirement, Criterion, or Limitation	Description	ARARs, or To Be Considered	Comments
16	Porter-Cologne Water Quality Control Act (California Water Code Sections 13140-13147, 13172, 13260, 13263, 13267 13304).	Title 27, CCR, Section 21090	Requires a final cover constructed in accordance with specific prescriptive standards, to be maintained as long as wastes pose a threat to water quality.	Applicable Relevant & Appropriate	Applies to wastes contained or left in place at the end of remedial actions that could affect water quality. Includes closure of landfills and other areas where wastes have been discharged to land. Relevant and appropriate for "closed, abandoned, or inactive" landfills and other areas where wastes have been discharged to land and water quality is threatened.
17	California Safe Drinking Water Act (California Health & Safety Code Section 4010 et seq.)	Title 22, CCR, Section 64400 et seq.	Requirements for public water systems. Includes Maximum Contaminant Levels (MCLs) and Secondary Maximum Contaminant Levels (SMCLs). State MCLS which are more stringent than the federal MCLs, or not addressed by federal MCLs are [LIST SPECIFIC CONSTITUENTS, e.g., BENZENE.]	Applicable	The act is legally applicable for an aquifer and associated distribution and pre-treatment system that is currently defined as "public water system" If it is only a potential "Public water system," then the act is relevant and appropriate.
18	Staff Report of the RWQCB, CVR	"A Compilation of Water Quality Goals"	Provides guidance on selecting numerical values to implement narrative water quality objectives contained in the Basin Plan.	To Be Considered	Performance Standard. To be considered in selecting appropriate numerical values to implement the Basin Plan for setting cleanup levels and discharge limits. The numerical values contained in the staff report may be ARAR's, or Performance Standards, depending on the source of the values.

TRANSMITTAL

Date: 12 Jan 2001

From: Lynn Marie Hornecker 

To: Diane Silva
Code 01LS.DS

Subj: CERCLA Administrative Record Materials
NALF Crows Landing

Installation: Naval Auxiliary Landing Field, Crows Landing

UIC Number: N60211

Document Title (or subject):

Action Memorandum for Time-Critical
Removal Action at NASA Crows Landing

Author: James L. Barton

Flight Facility

Recipient:

Marianna Potacka, SWDIV
ewqcb

Record Date: 8 January 2001

Approximate Number of Pages: 22

EPA Category: 01.1

Sites: Site 17, UST Cluster 1

Key Words: Groundwater, solvents, petroleum, ARARs

State of California

Contract: N/A

CTO Number:

N/A