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From: Commander, Western Division Naval Facilities Engineering Command
To: Distribution

Subj: CTO 0248, NAVAL FUEL DEPOT, POINT MOLATE

Encl: (1) Minutes of Meeting on 09 November 1993
(2) Minutes of Meeting on 10 November 1993
(3) Minutes of Meeting on 06 June 1993

1. We are forwarding enclosures (1) through (3) for your information. We apologize for the delay of these documents and will be prompt on the submittal of the next meeting minutes.
2. The point of contact on this matter is Lou Ocampo, Remedial Project Manager at (415) 244-2536.

Original signed by:

MARCELO PASCUA JR.
Head, Installation Restoration Section
Base Closure Team

Distribution:

Regional Water Quality Control Board (Attn: Jack Gregg w/encl 1)
Regional Water Quality Control Board (Attn: Gina Kathuria w/encl 1, 3)
Regional Water Quality Control Board (Attn: Shin-Roei Lee w/encl 1, 3)
Regional Water Quality Control Board (Attn: Katey Hart w/encl 1)
PRC Denver (Attn: Jeff Reichmuth w/encl 1, 2, 3)
PRC Denver (Attn: David West w/encl 1, 2, 3)
NFD Point Molate (Attn: Bill Lewis w/encl (1, 2, 3)
NFD Point Molate (Attn: Tommy Flores w/encl 1, 2, 3)
NFD Point Molate (Attn: Bob Dunham w/encl 1, 3)
NFD Point Molate (Attn: Joe DeLouise w/encl 2)
NFD Point Molate (Attn: Walter Robertson w/encl 2)
FISCO (Attn: Ron Samuel w/encl 1)
PWC Oakland (Attn: Ronald Graham w/encl 2)
WESTDIV (Attn: Lou Ocampo w/encl 1, 2, 3)
WESTDIV (Attn: Marcelo Pascua w/encl 3)

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File: NFD Pt Molate

NFD Point Molate
Treatment Ponds Area Source Control Design
Kickoff Meeting
RWQCB, PRC, WESTDIV, Point Molate
Meeting Minutes
November 09, 1993

Attendance: Jack Gregg-RWQCB
Gina Kathuria-RWQCB
Shin-Roei Lee-RWQCB
Katey Hart-RWQCB
Bill Lewis-Point Molate
Tommy Flores-Point Molate
Bob Dunham-Point Molate
Ron Samuel-Fleet and Industrial Supply Center (FISC), formerly NSC OAKLAND
Lou Ocampo-WESTDIV
David West-PRC Denver
Jeff Reichmuth-PRC Denver

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- Introduction by Lou Ocampo- Lou explained major components of newly awarded Contract Task Order (CTO) 0248
- Major components include:
 - shoreline assessment
 - expanded site inspection (SI) at landfill
 - source control design for Treatment Ponds Area
 - quarterly groundwater sampling
- Dave West presented the tasks associated with CTO 0248 (seven tasks) and associated field activities with these tasks
- Sediment sampling under Task 2 was discussed in more detail with emphasis on a two-phased approach to the sampling effort
- Jack Gregg made several specific comments on collection and analysis methods for sediment samples, including:
 - whole sediment versus interstitial water
 - the amount of overturn in the near-shore seiments
 - how exposed is the oil to the water column

- the performance of a modified bioassay test, perhaps an elutriate test under Phase 2 sampling
- general need for more detail in the sampling methods and approach
- Dave West suggested that Jack Gregg (RWQCB) should interface with PRC's subtask manager, Bill Desmond, in PRC's Dallas office for further discussion of sediment collection and analysis
- Task 4, the source control design (or interim remedial design) for the Treatment Ponds Area was presented by Jeff Reichmuth
- Jeff discussed combined concept of hanging wall (or partial containment) and keyed wall (complete containment) for extraction trench
- The dual design concept would provide complete containment for contaminated groundwater and allow uninhibited groundwater flow into San Francisco Bay where non-contaminated groundwater is present (reducing the volume of groundwater requiring treatment)
- Profile and cross-sectional diagrams of the trench design were presented
- Trench length is anticipated to be about 1,200 feet long, approximately 15 to 30 feet deep
- PRC provided rough maximum estimate of 1,000 gallons per minute (GPM) collection flowrate into trench during normal operating (dry season) conditions; PRC indicated that computer modeling would be used to develop flow basis for design
- Katie Hart (RWQCB - surface water division) discussed the following:
 - whether groundwater would be treated during both rainy and dry seasons
 - groundwater could be discharged through existing facility outfall without establishing a new NPDES permit
 - Point Molate NPDES permit expires March 1994
 - if there is a process for discharge via the existing deep water outfall, we would want to look into this instead of establishing a new outfall (NPDES) requirement
 - frequency of monitoring depends on potential variability of groundwater quality - the existing permit limitations may be referenced for the non-toxic constituents
 - basin plan has been revised since the existing permit was issued
 - copper limits haven't been established for sediment
 - marine water aquatic life requirements will be employed in future NPDES discharge permits

- **Shin-Roei Lee (RWQCB) discussed the following:**
 - future investigations must verify that groundwater metals concentrations exist at background levels and are not derived from facility contamination
 - how groundwater metals concentrations might affect future surface water discharge limits
 - detection limits for metals need to be consistent with potential future discharge limits
 - total metals (versus filtered) concentrations should be obtained
- **Jeff Reichmuth inquired whether RWQCB has considered bio-availability of metals in determining discharge limits; also pointed out that there are not discharge limits for BTEX**
- **Shin-Roei Lee responded with the following:**
 - if there are groundwater constituents without discharge limits, then PRC would have to use best available technology
 - ARARs should be water-quality based verses technology based
- **Jeff Reichmuth inquired as to the applicability of RWQCB Order #91-056 for future discharge limits**
- **Katie Hart responded that the basin plan will probably regulate metals in discharge, but not TPH**
- **Gina Kathuria stated that 10 to 1 dilution at deep-water outfall would be allowed with a diffuser**
- **Gina Kathuria inquired as to the presence of a second water-bearing horizon; Dave West responded that a second water-bearing horizon does not exist at the site (the geology of the site was reviewed)**
- **Jeff Reichmuth continued discussion of extraction trench design and discussed the facility's ORS and BS&W tank capacities with Bill Lewis**
- **Jeff Reichmuth discussed the need for expedited design reviews by RWQCB to meet schedule and fiscal requirements; RWQCB agreed to submit informal comments within at least 30 days of design submittal**

NFD Point Molate
Treatment Ponds Area Source Control Design
Kickoff Meeting
PRC, WESTDIV, Point Molate, PWC, GEO-CON
Meeting Minutes
November 10, 1993

Attendance: Bill Lewis-Point Molate
Tommy Flores-Point Molate
Bob Dunham-Point Molate
Joe DeLouise-Point Molate
Walter T. Robertson-Point Molate
Ronald A. Graham-Public Works Center (PWC)
Lou Ocampo-WESTDIV
David West-PRC Denver
Jeff Reichmuth-PRC Denver
Rodger Hosier-PRC Denver
David D. Brown-GEO-CON Inc.

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- Introduction by Lou Ocampo; major components of Contract Task Order (CTO) 0248
- Dave West presented the purpose of the meeting as an interface between Point Molate, PRC, and PWC for the design considerations associated with a shoreline extraction trench and cutoff wall
- Dave West outlined the anticipated location of the combined shoreline extraction trench/cutoff wall
- Dave West explained that the shoreline extraction trench/cutoff wall is a source control measure (also referred to as an interim remedial action)
- PRC discussed the concept of a hanging wall (or partial containment) combined with a keyed wall (complete containment) for the extraction trench
- The dual design concept would provide complete containment for contaminated groundwater and allow uninhibited groundwater flow into San Francisco Bay where non-contaminated groundwater is present
- Profile and cross-sectional diagrams of the trench design were presented
- Trench length is anticipated to be about 1,200 feet long, approximately 15 to 30 feet deep
- PRC provided a rough maximum flow estimate of 1,000 gallons per minute (GPM) into the trench during normal operating conditions
- Ron Graham stated:
 - water discharged to the treatment ponds will need to meet the wastewater treatment plant requirements

- quality of the treated effluent is very important
- modifications to the treatment plant may include the sand filter hydraulic air valves
- the sewage treatment plant and the treatment ponds are two different systems
- effluent from base housing goes to the sewage treatment plant then to the ponds
- Lou Ocampo stated:
 - concern about meeting the environmental restoration budget
 - allotted CTO budget for source control construction is 1.2 million dollars
 - PRC must distinguish costs for retrofitting the treatment ponds or facility operations for non-environmental restoration activities with installation restoration (IR) activities
 - it is easier to justify a separate treatment system for groundwater collected in the extraction trench than provide funding for existing plant modifications
- Bill Lewis stated that Point Molate would have to correct sandfilter valve problems at the treatment plant internally (with other funding)
- Lou Ocampo stated that design submittals, including the 35% design, will require review by PWC and Point Molate personnel
- General discussion of groundwater discharge to the treatment pond system, including:
 - surface water versus groundwater contributions to the treatment ponds
 - plant operations logs indicate rainy season discharge up to two million gallons per month; 91,000 gallons per month during dry season
 - additional input water from tank bottoms
 - additional recharge from fire hydrant system
 - 100 to 200 GPM extraction trench groundwater likely to be discharged to treatment ponds
 - limitations of flow through plant
 - wastewater treatment plant influent is from ORS system (french drains and valve boxes), BS&W system, surface water, and storm water
- Tom Robertson:
 - separate treatment system for extraction trench discharge water may be the best approach
 - could increase ponds capacity threefold by enlarging (squaring off) ponds

- pond number three is lowest in elevation: typically becomes flooded during rainy season
- Lou Ocampo:
 - must award the construction bid by September 30, 1994
 - discussed possibility of submitting a 35% design to a remedial action contractor (RAC); Jeff Reichmuth (PRC) indicated that this approach would not be appropriate
- GEO-CON stated that they may be a subcontractor under the RAC program
- General discussion of PRC's submittals, including report to the ROICC
- General discussion of utility and fuel line location via exploratory trenches and facility construction support (draining fuel lines, operations interruptions, cutting and refitting fuel lines); determined that PRC should procure exploratory trenching contractor
- Dave Brown of GEO-CON presented a slideshow of the biopolymer slurry trench design; concepts presented or discussed included:
 - investigation derived waste (IDW) management plan for soil generated during excavation
 - slurry has high BOD, up to 2000-3000 mg/l
 - may have to run degraded slurry through carbon canisters to remove hydrocarbons
 - presentation of viscosity and pH changes with time and preservation effects on slurry
 - HDPE liner installation and joint types
 - conveyance pipe poses maintenance advantages, including enhanced enzyme injection for biofouling
 - discussion of high pressure jet grouting, including rotating and lifting effects; typical columns would be 3 to 4 feet in diameter, installed on 2 to 3 foot centers, depending on pressure, rate of retraction, and rotation
 - trench excavation costs, \$250 to \$350 per linear foot (given expected depth); trench liner costs \$2 per square foot; total trench costs anticipated to be \$500,000 to \$600,000
 - two jet-grouted wing walls may be required at each end of the trench

NFD Point Molate
CTO 0248 Scoping Meeting
PRC, WESTDIV, Point Molate, RWQCB
Meeting Minutes
June 6, 1993

Attendance: William Lewis-Point Molate
Tommy Flores-Point Molate
Robert Dunham-Point Molate
Lou Ocampo-WESTDIV
Marcelo Pascua-WESTDIV
Shin-Roei Lee-RWQCB
Gina Kuthuria-RWQCB
David West-PRC Denver
Jeff Reichmuth-PRC Denver

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- Purpose of meeting was presented as scoping requirements for new Contract Task Order (CTO) 0248 to be issued by WESTDIV
- Lou Ocampo (WESTDIV) outlined the Navy's execution plan for NFD Point Molate
- Lou Ocampo and Marcelo Pascua discussed:
 - the prioritized direction of WESTDIV toward cleanup under the installation restoration (IR) program
 - fiscal year (FY) 1993 and 1994 project allocation for remedial action and RI/FS activities at NFD Point Molate targeted at 1.8 million dollars, but cutbacks could be expected for RI/FS activities
 - CTO 0248 award date by July 30, 1993
- PRC discussed further investigation and source control needs at NFD Point Molate based on:
 - 1990 site inspection (SI) completed under CTO 0010
 - 1992 site characterization completed in the Treatment Ponds Area and additional shoreline areas under CTO 0143
- PRC reviewed 1992 site characterization data indicating a source of gasoline or light-end fuel in groundwater south of the Treatment Ponds Area and within Drum Lot No.1
- PRC outlined the known extent of this BTEX plume but explained that additional monitoring wells would be required to assess whether the plume extends to San Francisco Bay
- Bill Lewis (Point Molate) said that facility personnel would investigate abandoned fuel lines south of the Treatment Ponds Area as soon as possible; there may be an abandoned 2-inch fuel line between Valve Box 72 and the old drum filling plant (DFP) or between the DFP and the truck

loading rack

- General discussion occurred regarding the 1998 Federal requirement for the abandonment of underground fuel lines and placement of these lines aboveground; how these activities may be coordinated with future removal actions or source control measures under the IR program was also discussed
- Bill Lewis stated that the defense logistics agency (DLA) is funding the retrofitting or movement of fuel lines; Bob Dunham indicated that Point Molate has a program in place that will begin in phases starting 1993
- PRC presented recommendations for CTO 0248, including:
 - Investigation of near-shore sediments (chemical and toxicity analysis) to provide ecological risk assessment data
 - Additional shoreline monitoring wells at areas not investigated previously to establish an entire well network
 - Quarterly groundwater monitoring at specified wells within the network
 - Design of source control (interim remedial action) measures for floating hydrocarbons within the Treatment Ponds Area
- PRC discussed various approaches to the source control, including:
 - extraction wells
 - an extraction trench
 - slurry walls
 - in-situ remedial methods
 - soil excavation
- Shin-Roei Lee (RWQCB) inquired or made suggestions regarding PRC's approach to CTO 0248 as follows:
 - RWQCB does not consider extraction wells to be an acceptable source control or remedial action for the known floating hydrocarbons within the Treatment Ponds Area
 - extraction wells may not effectively remove floating product given the heterogeneity of the site
 - the rationale behind the locations of proposed monitoring wells should be provided
 - baseline sediment quality should be established in the near-shore sediments
 - sediment samples should also be collected at stormwater outfall locations

- toxicity tests should be completed in the near-shore sediments, specifically for 3 or 4 types of invertebrates
- the landfill (investigated under CTO 0010) should be given a priority basis; additional groundwater monitoring should be completed at the landfill, and some proposed well locations along the shoreline should be substituted for landfill monitoring locations
- RWQCB mentioned board guidance on using dredge spoils for reclamation of tidal flats
- PRC responded to the above suggestions by RWQCB as follows:
 - since submittal of the Treatment Ponds Area Interim Corrective Action Evaluation (November 1992), PRC has considered an extraction trench (employing a non-permeable liner) as a more effective source control measure; PRC agreed that point source extraction wells would not provide complete containment along the shoreline, especially where unidentified preferential flow pathways exist
 - the installation of additional monitoring wells along the shoreline coupled with existing wells will provide long-term monitoring of groundwater quality and establish a monitoring well network
 - baseline sediment quality has not been established because many of the sediment samples collected under CTO 0143 were transitional beach samples, not true tidal flats sediment
 - PRC agreed that specific stormwater outfall locations along the facility's shoreline should be chosen as sediment sample locations to assess potential worst case scenario conditions
 - PRC agreed that a selected number of toxicity tests should be performed in near-shore sediments, but a maximum number (such as eight or ten samples) would have to be established due to cost constraints
 - PRC agreed that the groundwater quality within and downgradient of the landfill should be established; PRC proposed a limited effort to determine whether the landfill poses any threat to groundwater quality as compared to historical fuel spills or leaks within this area
- RWQCB requested that the Navy submit designs for review; PRC stated that the design basis report and construction drawings would be submitted to RWQCB
- The scope for CTO 0248 was outlined as follows:
 - I. a three-phase design (35%, 100%, and final) for an extraction trench (source control)
 - II. a shoreline investigation to include the following:
 - 1) 11 to 15 additional monitoring wells extending to the Point Molate fuel pier
 - 2) collection of sediment samples with emphasis at stormwater outfall locations (samples to be collected at approximately 250-foot intervals)

3) sediment toxicity analyses at each outfall location and at the sediment sample locations exhibiting the highest concentrations of contaminants

III. biannual or quarterly groundwater sampling at a selected network of monitoring wells (approximately 20 wells)