



Appendix A

**Chronology of Events and Deliverables**



This appendix provides a chronological list of events held by, and deliverables produced by, members of the ATCAT, ERWG and HHWG leading up to the production of the Risk Management Plan.

- March 26, 2007 – Avila Tank Farm Collaborative Assessment Team (ATCAT) Meeting: Overview of Collaborative Process Plan for Managing Risk held at Chevron Offices, San Luis Obispo
  - Avocet reviewed site history & environmental data collected from the site. Sampling included groundwater, surface water, cliff seeps and soil gas.
  - McDaniel Lambert reviewed and discussed the Human Health Risk Assessment from 2004/2005 and added that additional soil gas sampling was necessary to resolve uncertainties
  - ARCADIS and David Wolf Environmental presented points brought up in the predictive Ecological Risk Assessment (pERA) in 2004 and went over baseline biological surveys that included December 2005 Ecological Evaluation Supplement.
  - ARCADIS discussed the process used to develop a Plan for Managing Risk (PMR) and said the plan for San Luis Obispo Tank Farm was a good model to follow. Chevron stated the RMP provided necessary information for preparation of the Feasibility Study (FS). Discussed in more details was the use of Initial Evaluation Areas (IEA).
- April 16 2007 – ARCADIS distributed the Draft Wetlands pERA Addendum
- April 20, 2007 – Avocet distributed the Soil Gas Sampling Plan (Appendix C)
- April 23, 2007 – ATCAT Conference Call.
  - Avocet’s Soil Gas Sampling Plan distributed on April 20 was discussed in detail and approved with revisions suggested.
- May 6, 2007 – McDaniel Lambert distributed the Draft Human Health Area Screening Evaluation.
- May 10, 2007 - ATCAT Eco Risk Working Group (ERWG) Conference Call.
  - ARCADIS discussed comments received from California Department of Fish and Game on the Draft Wetlands pERA Addendum and a revised report was issued.
  - ARCADIS reviewed the Draft Eco Risk Evaluation Matrix and explained how the individual evaluation areas (IEAs) were examined.
- May 14, 2007 ATCAT Human Health Risk Working Group (HHRWG) Conference Call.
  - McDaniel Lambert reviewed the Draft Human Health Area Screening Evaluation distributed on May 6<sup>th</sup>. Special attention was paid to IEAs expressing points made from both ERWG and HHRWG perspective.
- May 29, 2007



- Avocet distributes draft memo of Additional Evaluation of TPH Profiles in Shallow Soils
- May 31, 2007 ATCAT Combined HHRWG and ERWG Conference Call.
  - Avocet reviewed and discussed the technical memorandum distributed to ERWG on the May 29<sup>th</sup> with emphasis on additional evaluation of TPH profiles in shallow soils
  - All call participants ratified the approach for evaluating TPH profile in shallow soil
  - McDaniel Lambert reviewed the basic methodology used to develop the recommendation for soil sample collection during the soil gas investigation and summarized the recommendations for each IEA.
- June 6, 2007 - Combined HHRWG and ERWG Conference Call.
  - Avocet and McDaniel Lambert reviewed and described the proposed locations for additional sampling for the soil gas investigation of the IEAs
  - All call participants approved the supplemental soil gas sampling plan with the discussed changes
  - The Regional Water Quality Control Board brought up TPH leaching from source areas in soil for group discussion.
- October 8, 2007 - McDaniel Lambert distributed the PCB memorandum.
- September 24, 2007 - ATCAT Meeting at Chevron offices San Luis Obispo.
  - Chevron reviewed and discussed the overall goals of ATCAT process and status of site development plans
  - ARCADIS discussed briefly the revised Wetland pERA which addressed the comments from California Department of Fish and Game and also provided an overview of the eco risk evaluation matrix
  - Avocet covered several topics including the results of the soil-gas survey, soil sampling results and depth to petroleum assessment.
  - McDaniel Lambert provided a brief overview of the human health risk evaluation and suggested a follow-up HHRWG call. The PCB Memorandum was also reviewed and provisionally ratified.
  - The Cliff Springs Human Health Risk Assessment Memorandum was discussed and provisionally ratified subject to review.
  - The Wetlands pERA Addendum was provisionally ratified.
- November 20, 2007 - McDaniel Lambert distributed the Final Cliff Springs Screening Evaluation
- December 3, 2007 - ATCAT Meeting at Pelican Point Restaurant, Pismo Beach, CA
  - The revised Cliff Springs Human Health Risk Assessment Memorandum was provisionally ratified.
  - A review of the site development plan was discussed at length with Chevron noting input and response to public meetings.



- Avocet completed supplemental soil gas surveys and had received limited data back from the laboratory at the time of the meeting.
  - ARCADIS presented a figure identifying development exposure areas and individual evaluation areas based on the site development plan drafted by SDG. The utility of using an eco-evaluation matrix was discussed.
  - McDaniel Lambert identified and reviewed potential new risk receptors and will conduct a preliminary evaluation of the current development exposure areas diagram to identify any suggested revisions.
- January 8, 2008 - McDaniel Lambert distributed the Draft Cliff Springs Action Levels Memo
- March 9, 2008 - Avocet distributed the Additional Soil Sampling and TPH Profile Report (Appendix E)
- March 10, 2008 - McDaniel Lambert distributed the Ratified Cliff Springs Action Levels Memo (Appendix H)
- March 11, 2008 - ATCAT Meeting at RWQCB Offices, San Luis Obispo, CA
  - All participants ratified the 12/3/07 meeting summary ver2 as written
  - ARCADIS and McDaniel Lambert agreed to prepare a revision to the Cliff Springs Memorandum addressing the ecological protection concerns
  - Chevron presented an update on site development plan and all is going well
  - ARCADIS provided an overview of the risk management plan approach and expressed the purpose was to re-evaluate the eco and human health risk based on the site development plan. Also reviewed was the eco risk evaluation matrix with comments from California Department of Fish and Game
  - McDaniel Lambert provided an overview of risk management for the overall project. A data usability and validation analysis was conducted with no significant problems.
- April 1, 2008 - ERWG Conference Call.
  - ARCADIS led discussion on updated eco evaluation matrix. ERWG discussed preliminary recommendations to be included in the RMP. ARCADIS to continue working on TPH and VOC uncertainties prior to finalizing any recommendations on those constituents.
- April 17, 2008 - ERWG Conference Call.
  - ARCADIS led discussion on revised eco evaluation matrix based on the April 1<sup>st</sup> ERWG call. ERWG discussed additional preliminary recommendations to be included in the RMP.
- April 29, 2008 - ERWG Conference Call.
  - ARCADIS led discussion on revised eco evaluation matrix based on the April 17<sup>th</sup> ERWG call. ERWG discussion focused primarily on TPH RMP recommendation.



- April 30, 2008 – McDaniel Lambert distributed the Draft Avila Tank Farm Supplemental HHRA (Appendix G).
- May 5, 2008 – Avocet distributed the Draft Soil Gas Investigation Report.
- May 07, 2008 – HHRWG Conference Call.
  - McDaniel Lambert led discussion on the Supplemental HHRA distributed on April 30th.
- May 20, 2008 – ATCAT Meeting at RWQCB Offices, San Luis Obispo, CA.
  - Avocet provided an overview of the previous groundwater quality studies at the site.
  - ARCADIS presented an overview of the ecological risk evaluation that will be used in the RMP.
  - McDaniel Lambert presented an overview of the status of the human health risk evaluation that will be used in the RMP.
  - ARCADIS gave a presentation summarizing the organization and objectives of the RMP
  - Avocet provided an overview of the FS approach.
- August 12, 2008 – ATCAT Meeting at RWQCB Offices, San Luis Obispo, CA.
  - McDaniel Lambert provided an overview of the comments provided by the County Health Department and the Air Pollution Control District.
  - ARCADIS presented an overview of the outcome of the RMP and the ecological risk evaluation used to support the RMP.
  - Avocet reviewed the elements to be addressed in the feasibility study / remedial action plan (FS/RAP)
- May 11, 2009 – EHS/APCD Meeting at SLO County EHS Offices, San Luis Obispo, CA.
  - The meeting purpose was to review and discuss the EHS and APCD comments on the final draft of the Supplemental Human Health Risk Assessment for the Avila Tank Farm Property.
- September 14, 2009 – McDaniel Lambert distributed the Supplemental Human Health Risk Assessment, version 1.2 (sHHRA).
- October 20, 2009 – EHS/APCD Meeting at SLO County EHS Offices, San Luis Obispo, CA.
  - The meeting purpose was to review and discuss revisions to the Supplemental Human Health Risk Assessment, version 1.2 (sHHRA) distributed by Chuck Lambert on September 14th and resolve outstanding issues, if any.
- January 26, 2010 – Chevron/EHS/APCD/RWQCB Meeting at Chevron Offices, San Luis Obispo, CA.



- The meeting purpose was to discuss outstanding issues related to the sHHRA and how it will be integrated into the RMP. Also discussed were: agency Involvement, soil remediation, refinement of risk characterization of other pathways, status of plans for vapor barriers, VOC inhalation pathway for downwind resident and agency questions and issues.
  
- October 25, 2010 - Chevron/EHS/RWQCB Meeting at Chevron Offices, San Luis Obispo, CA.
  - The meeting purpose was to address DQAs. No surprises from the DQA analysis and criteria were set for utilizing the DQAs.
  - APCD raised concerns of risk to offsite residents. It was determined that levels of contamination were far below the SOMA documents risk for cancer etc..
  - Also discussed was the finalization of the sHRRRA.
  
- August 30<sup>th</sup> 2011 - Chevron/EHS/APCD/RWQCB Meeting at RRM Design, San Luis Obispo, CA
  - The meeting addressed site development plan updates including investigation in the Cliff Springs Area, four monitoring wells with higher levels of LNPL were studied regarding free product, and Chevron completed a landslide assessment and further wetlands delineation
  - Addressed the thinking on HHR by agencies on the various Areas of the site
  - Discussed the Environmental Document Process (figure included)
  - RMP discussions included utility of RMP, baseline conditions, transparency, cumulative risk, risk targets, methane as an asphyxiant, soil leaching, groundwater as a transport mechanism, cleanup requirements, soil vapor barriers, and cumulative risk
  - FS deferred until RMP cleared up
  
- November 1<sup>st</sup>, 2011 - Conference Call
  - Included action items from August 31<sup>st</sup> meeting
    - o Included Chevron progress with site development, county planning, issuing a letter of preliminary Agency determination, defines baseline case, and the RA.
  
- December 5<sup>th</sup>, 2011
  - Review Status of Action Items
    - o HHRA and Pre-Feasibility Upgrade Update
    - o Potential revisions to Project Avila Air Quality Assessment
    - o CCC involvement with ATCAT and General Plan Amendment
  - Site Conceptual Model update
  - Development Conceptual Plan



- No residential uses for bubbles A & M; revised soil zones; Rik Williams reviewed the remedial activities of Chevron
  
- January 30<sup>th</sup>, 2012
  - Rik Williams raised a procedural question regarding the review and ratification of meeting on whether he should coordinate with Dan Niles. It was agreed he should.
  - Jennifer Holder reviewed the draft outline of the Pre-Feasibility Report (PFR) Covered Action Items from Dec. 5<sup>th</sup> meeting.
  
- March 6<sup>th</sup>, 2012
  - Letter of Determination to go out by the end of the week according to Aaron Labarre. Also, discussed levels of lead with DTSC in areas where children may be present and new methodology for cumulative cancer risks.
  - Jennifer Holder distributed a revised draft of the pre-feasibility report.
  - Robert van Hyning brought up ARAR's and that they should be more specific.
  - Site Conceptual Model issues from the December 5<sup>th</sup>, 2011 are being resolved by Chevron. Also, the RWQCB is currently reviewing two documents and will release comments at a later date.
  
- March 29<sup>th</sup>, 2012
  - Rik Williams and Lois Cappel are continuing to work on the Site Conceptual Model
  - RWQCB reviewed the Padre's LNAPL Mobility and Recoverability Pilot Study and a cursory review of the Supplemental Cliff Area Characterization Report with comments coming next month.
  - The RWQCB reviewed the draft SCM and suggested to compare it with the original RMP
  - Jennifer Holder is anticipating a pre-feasibility report preliminary schedule by April 12<sup>th</sup>.
  - Site information and History Compendium is complete and undergoing review according to Robert Van Hyning.
  
- May 10<sup>th</sup>, 2012
  - Chuck Lambert informed ATCAT that Chevron had submitted some follow up questions to EHS
  - Robert van Hyning suggested separating the ARARs into federal and state tables.
  - Status of LNAPL Study and Cliff Area Study - RWQCB preparing a comment letter for release by end of May
  - Cursory LNAPL Brainstorm - Dan Niles and the Chevron project team held an initial review of the LNAPL recovery options on 5/2/12.
  - Monitoring and Report Plan (MRP) - Louis Cappel will prepare a revised monitoring plan draft by May 18<sup>th</sup> to submit to the RWQCB. A meeting will be scheduled to finalize a new MRP by June 30<sup>th</sup>.



- Site Conceptual Model - Chevron revised the SCM outline and Table Of Contents based on Dan's input. Avocet is preparing a revised draft for internal Chevron review by May 18th. Chevron plans to submit a draft for the RWQCB review by June 8th.
- Schedule for Pre-Feasibility Report Jennifer Holder will distribute an updated schedule for the preparation of the Pre-Feasibility Report, which will include taking into consideration the current soil-gas sampling by May 16th. At this time she anticipates completion of the first draft in the mid-September time frame.
- June 25, 2012
  - Chevron discussed recent sighting of sheen during sampling in the tidal area. Chevron has prepared a draft sampling plan, which has been reviewed by the agencies involved, and they anticipate delivering a draft within a week.
  - Avocet confirmed that they are reorganizing the ARARs into two tables; 1) Federal and 2) State/County/Local. He anticipates distribution of the revised ARARs tables in approximately one month
  - Chevron and Avocet advised that they plan to submit the Site Conceptual Model to the RWQCB and distribute it to the ATCAT shortly.
  - Chevron noted many of the activities, previously planned to be completed in May, were deferred to mid or late July due to the activity in the Cliff Area's intertidal zone pool.
- August 6, 2012 - Chevron/EHS/APCD/RWQCB Meeting at RRM Design, San Luis Obispo, CA
  - Chevron led a discussion of current intertidal zone investigation activities
  - RRM presented the latest vision plan for Avila Tank Farm redevelopment
  - Chevron and Avocet discussed the forthcoming CSM Report. The CSM would not be including the intertidal zone issues.
  - ERM provided an update on the progress of the Pre-FS Report
  - EHS and APCD planned to identify list of documents for a compendium of Site information.
- September 10, 2012 - Conference Call
  - Chevron and ERM led a discussion on the objectives of the Action Levels Memo
    - o CDFG was going to consult Coast Guard about what actions should be undertaken if an action level (AL) was exceeded.
    - o RWQCB suggested framing the action levels as "Is harm done," and "What to do about. It."
    - o CDFG was not in agreement with eco-based ALs and would provide comments.
    - o EHS wanted AL memo to be a decision making tool that separates eco and human health decision making objectives



- CDFG indicated they would be distributing their intertidal zone data
  
- September 10, 2012 - Conference Call
  - Chevron and ERM led a discussion on the objectives of the Action Levels Memo  
CDFG was going to consult Coast Guard about what actions should be undertaken if an action level
  
- September 25, 2012 - Conference Call
  - Chevron and Avocet led a discussion on the status of Interim Remedial Action Plan for the intertidal area
    - o Chevron and Avocet led a discussion on the status of Interim Remedial Action Plan and Follow-Up CDFG was
  - RWQCB provided extensive comments to the plan
  
- November 8, 2012 - Conference Call
  - Chevron wants to provide the community with project information and the opportunity to ask questions before they submit a pre-application to County Planning, which triggers an "email blast" to interested parties.
  - Chevron slated to make a second request for water service to the Avila Beach CSD next week.
  - Chevron rebranded the Intertidal Zone Action Level Memo as the Intertidal Zone Notification Plan.
    - o ERM will review all Agency benchmarks and take the lowest value that triggers notification. If the most conservative benchmark is exceeded, they would notify all four Agencies. RWQCB and CDFG agreed.
  - Padre led a discussion on the Intertidal Zone Observation Monitoring Plan and Sampling since beach area was scoured.
  - Padre provided a status update on the status of the Interim Remedial Action Plan and associated activities, including liquid recovery from bailing. Chevron informed group of application submittal to APCD for vapor extraction system.
  - Padre preparing a report on sampling activities, including a third-party data Evaluation.



- Chevron indicated the target date to distribute the draft Pre-Feasibility Study would be before the end of December.
  - McDaniel Lambert announced that they distributed an addendum to the supplemental HHRA yesterday. ATCAT agreed that Agency comments on the HHRA Addendum would be completed by Dec. 3<sup>rd</sup>.
- December 19, 2012 - Padre Associates distributed the Report of Findings, Intertidal Zone Assessment Activities, Area South of Former Tank
  - January 15, 2013 – ATCAT Meeting Summary at RRM Design office in San Luis Obispo
    - McDaniel Lambert noted that HHRA Addendum was under review by EHS.
    - ERM provided an overview of the draft intertidal zone notification plan that was distributed in December. RWQCB and other Agency representatives confirmed that the draft plan met their notification objectives.
      - Agency representatives agreed to submit written comments on the draft notification plan by Jan. 31, 2013.
    - CDFW indicated that Mussel Study was ongoing.
    - Padre noted that they have completed two of the three planned winter tide pool sampling events.
    - Avocet received the minor use permit from the County to begin construction of a 6-inch diameter well for future dewatering and SVE use.
    - ATCAT members will provide written comments via email on the Site Conceptual Model response to comments table by February 15<sup>th</sup>.
    - RRM Design announced that Chevron has submitted the preliminary project application to County Planning and Building in order to get the EIR consultant.
    - Chevron intends to begin work on the formal FS based on the current draft of the Pre-Feasibility Study. Agencies participating in the ATCAT will evaluate whether they can provide comments in writing on the draft Pre-Feasibility Study by March 15<sup>th</sup>.
  - February 1, 2013 – ATCAT Conference Call Summary
    - Participants discussed the ability of Agency representatives to meet the tentative March 15<sup>th</sup> timeline to submit comments on the draft Pre-Feasibility Report.
    - Agency representatives agreed that they could review the updated SCM and provide additional comments, if any, by March 1<sup>st</sup>.



- ERM received comments on the draft Intertidal Zone Notification Plan from EHS and emails from APCD and RWQCB stating they had no additional comments.
  - Chevron described that the SVE system pulled vapor from a wider area than anticipated and that SVE with thermal oxidation should be a viable remediation strategy.
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- March 21, 2013 – ATCAT Conference Call Summary
    - APCD stopped their review of the Pre-Feasibility Report (PFR) until the SCM adequately addresses their concerns stated in their March 12, 2013 letter to the ATCAT because the conclusions of the PFR are dependent on the SCM.
    - EHS noted that revisions to the HHRA Addendum could impact the conclusions of the PFR and that EHS would anticipate revisions to the Addendum be reflected in the PFR.
    - Chevron intends to prepare a one-year monitoring report summarizing all the intertidal sampling and reporting results since last summer.
    - Chevron was successful in recovering enough sheen sample to have it analyzed by Colorado State University. CDFG inquired as to whether the sheen sample could be fingerprinted against a source sample.
    - Avocet reported on the Dewatering/SVE Workplan which would provide comprehensive cliff area approach, slated for review in 6 weeks.
    - Agencies agreed to provide comments on NPS by 4/12/13.
    - Strategic Initiatives reported that County Planning was proceeding with hiring an EIS consultant.
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- August 6, 2013 – ATCAT Conference Call Summary
    - Strategic Initiatives anticipates distributing the draft Final HHRA to the full ATCAT by mid-August.
    - Chevron reported that pilot SVE and Dewatering test equipment has been installed onsite. Five shallow soil-vapor extraction wells, 8 dual-phase monitoring wells and 2 extraction wells have been developed.
    - Padre confirmed that they would be comparing the sampling results to the notification thresholds for intertidal zone monitoring.
    - ERM noted that the Pre-Feasibility Report RTC was distributed to the ATCAT for review on July 9th. Agency comments appear to be minimal (CDFW – black abalone listing; APCD – logistics of restricting the site’s post remediation GW use).
    - Chevron described draft FS as near completion, and would like to discuss it at the next ATCAT meeting on Sept. 17<sup>th</sup>.



- ATCAT concluded that ATCAT is not intended to be an organization that speaks to the press; however, if a participant attributes a statement to the ATCAT, it must be documented in a ratified meeting summary and in the event that a draft meeting summary has not yet been ratified, a conference call will be convened to ratify the draft meeting summary or agree on the public statement.
  - CDFW, RWQCB, APCD and EHS indicated that they had met with County Planning to provide input on the selection requirements for a CEQA consultant
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- June 5, 2013 – ERM distributed the Final Notification Plan for the Intertidal Area, Avila Tank Farm
  
  - August 30, 2013 – McDaniel Lambert distributed the final Human Health Risk Assessment (fHHRA)
  
  - September 17, 2013 – ATCAT Conference Call Summary
    - McDaniel Lambert reported that the HHRA was submitted to EHS on August 20, 2013. Copies were distributed to the full ATCAT.
    - Chevron noted that the intertidal continues to be covered with sand, CDFW asked whether odors were also checked, and Padre affirmed odors were routinely checked at low tide.
    - Chevron reported that the Fall/Winter Intertidal Sampling Report is being reviewed and will be available by late September.
    - Avocet indicated that they began SVE and Dewatering pilot tests at shallow location on Sept. 5<sup>th</sup>. Noted initial vapor concentrations as high but decreasing. Avocet explained that the purpose of the test was to gain a better understanding at the interface with groundwater.
    - ERM anticipates distribution of the Pre-Feasibility Report to the ATCAT approximately six weeks after the Letter of Determination is received.
    - Avocet has completed a technical memo and submitted it to Chevron for review.
    - Strategic Initiatives, RRM Design and Chevron revised the draft Goals and Process Ground Rules document based on input received at the June 18 ATCAT meeting and August 6 conference call.
  
  - October 23, 2013 – ATCAT Draft Meeting Summary
    - ERM recommended changing the release date for the revised Pre-FS to the 2<sup>nd</sup> week in Jan. to allow for internal review, updates of Appendices and incorporation of the recently released Letter of Determination.
    - CDFW would like comments on the draft Mussel Report by Dec. 2<sup>nd</sup>. The report does not require ATCAT ratification.



- Chevron completed shallow portion of SVE pilot test in Sept. and are reviewing the data. Noted that methane was detected during start-up. Dual phase pilot test should be completed by Oct. 28<sup>th</sup>.
- EHS will implement public notification and signage when beach is scoured.
- CDFW explained that an agency's authorities included their policies in addition to regulations. Chevron expressed concern over the suggested change. Chevron will work with CDFW to clarify implications of the language and develop acceptable language by the end of Oct.
- Avocet has been working with RWCQB on FS issues including alternatives to development as part of CEQA. Avocet is following a modified CERCLA RI/FS process.
- Avocet described that the FS will address Chevron's baseline remediation concept and future land-use, and detailed four remedial alternatives that apply to the entire site, including 1) monitored natural attenuation, 2) Chevron's baseline remediation, 3) baseline remediation and development grading, and 4) enhanced baseline remediation and development grading.
- Avocet noted that baseline remediation takes care of most of the site issues and that each successive alternative addresses issues not included in the previous alternative.
- RRM Design questioned how archaeological sites were being addressed.
- ATCAT agreed that the next key element for CEQA was that Chevron and SLO Co. Planning work together to develop an acceptable project description.