

**Massachusetts Military Reservation Cleanup Team
Building 1805
Camp Edwards, MA
July 24, 2013
6:00 – 8:00 p.m.**

Draft Meeting Minutes

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Action Item:

1. A public meeting on the Demolition Area 1 Remedy Selection Plan will be held in the town of Bourne.

Handouts Distributed at Meeting:

1. Responses to Action Items from the April 10, 2013 MMRCT Meeting
2. Presentation handout: Demolition Area 1 Remedy Selection Decision Document Addendum
3. Presentation handout: Demolition Area Proposed Cleanup Plan
4. Remedy Selection Plan for Demolition Area 1 Decision Document Addendum
5. Presentation handout: J-2 Range Feasibility Study/Remedy Selection

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6. Presentation handout: J-2 Range Proposed Cleanup Plan
 7. Remedy Selection Plan for J-2 Range
 8. MMR Cleanup Team Meeting Evaluation form
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**Agenda Item #1. Introductions, Late-Breaking News, Approval of April 10, 2013
MMRCT Meeting Minutes, and Review of Action Item Responses**

Ms. Donovan convened the meeting of the Massachusetts Military Reservation Cleanup Team (MMRCT) at 6:00 p.m. and asked the team members to introduce themselves.

Major Cody announced that the Air Force Civil Engineer Center (AFCEC) would not be presented at tonight's meeting due to furloughs. He also noted, on behalf of AFCEC, that the recent ponds testing results were all nondetect, and added that AFCEC would brief at the next MMRCT meeting, on October 9, 2013. He also announced that MMR has been renamed Joint Base Cape Cod.

Ms. Donovan clarified for the audience that two cleanup programs are operating at Joint Base Cape Cod: AFCEC's Installation Restoration Program (IRP), and the Army Guard's Impact Area Groundwater Study Program (IAGWSP). She then asked if there were any changes or additions to the April 10, 2013 MMRCT meeting minutes. No comments were offered and the minutes were approved as written. Ms. Donovan also mentioned that a written response to the Action Item from the April meeting was provided.

Agenda Item #2. Demolition Area 1 Addendum Remedy Selection Plan

Mr. Gregson showed a layout of Demolition Area 1 (Demo 1) and pointed out the base boundary, the Cape Cod Canal, the town of Bourne, the Demo 1 source area, the groundwater plume migrating to the west, and the cleanup systems currently in place. He noted that the systems were installed, beginning in 2004, under a Rapid Response Action (RRA) that included two extraction wells, four modular treatment units (MTUs) on Frank Perkins Road and on Pew Road, near the source, pumping at rate of 46,000 gallons per day (gpd). In 2006 the Demo 1 Decision Document (DD) for groundwater called for expansion of the RRA system, increasing the number of extraction wells to five, and including a permanent treatment facility to replace three of the MTUs, with a pumping rate of 1.3 million gpd. The DD also included a contingency for additional extraction wells if the plume migrated farther than expected.

Mr. Gregson reported that additional investigation revealed that the plume had indeed migrated farther than originally mapped, so the contingency remedy was put in place, which included an extraction well at the base boundary and a treatment system with an infiltration gallery to cut off the plume, with a pumping rate of 93,600 gpd. Under the current system, there are six extraction wells pumping at a combined rate of 665 gallons per minute (gpm), and four reinjection wells and one infiltration basin. Nearly 1 million gpd is being treated, and 2.2 billion gallons of groundwater have been treated since 2006.

Mr. Gregson then showed a figure depicting the plume in 2006 and in 2013, noting that perchlorate, an oxidizer, is one of the contaminants of concern (COCs), and RDX is the other COC. Mr. Gregson then noted that additional contamination was defined between the Pew Road treatment system and off base, and in response the IAGWSP installed another extraction well to cut off the contamination. The current focus is on the part of the plume that has migrated off base. He showed a close-up figure of the off-base plume and pointed out Route 28, the rotary at the base entrance, Lily Pond, Flax Pond, and County Road.

Mr. Gregson reported that off base investigations identified that perchlorate had migrated about 3,700 feet west of the base boundary. The updated model suggested that the time to achieve cleanup may extend beyond the 11 years originally predicted in 2006. Therefore, the U.S. Environmental Protection Agency (EPA) required additional investigation and the development of a technical memorandum to help address two questions: What additional actions are necessary to address the contamination that's migrated past the base boundary? and, Are additional actions appropriate to achieve cleanup of the plume within the timeframe required by the 2006 DD?

Mr. Gregson stated that eight alternatives were evaluated in the technical memorandum. After reviewing the report, EPA determined that the DD Addendum and Remedy Selection Plan (RSP) should be limited to those alternatives that address the off-base contamination (Alternatives 2, 4 and 4a). The alternative costs presented reflect only the off-base portion of the remedy, and the performance of the alternatives are compared to Alternative 1, which is operation of the current system with monitored natural attenuation (MNA) for the off-base contamination. Mr. Gregson then noted that the other alternatives in the technical memorandum looked at optimizing the current system to address on-base contamination. He said that only minor changes to the current on-base system were recommended; if in the future, however, it looks like more significant changes are needed, another DD Addendum would be issued.

Mr. Gregson reviewed the Alternative 1 slide, which noted the following: the current treatment system would remediate the on-base plume; the plume beyond the base boundary would be restored via MNA; long-term groundwater monitoring would be implemented to monitor the off-base plume; land use controls (LUCs) would protect against the use of groundwater during restoration; perchlorate would be reduced to below the drinking water standard of 2 parts per billion (ppb) by 2026; and the cost would be \$2,362,000.

Mr. Gregson reviewed the Alternative 3 slide; groundwater contamination would be remediated through the continued use of the current extraction/treatment/reinjection (ETR) system modified to include a new off-base extraction well upgradient of Lily Pond, operating at 100 gpm; long-term groundwater monitoring would continue and be expanded to monitor the off-base plume; LUCs would protect against the use of groundwater during restoration; perchlorate would be reduced to below 2 ppb by 2021; and the cost would be \$3.6 million.

Mr. Gregson then reviewed the Alternative 4 slide: groundwater contamination would be remediated through the continued operation of the current ETR system modified to include two new off-base extraction wells west and east of Lily Pond operating at 100 gpm each; long-term groundwater monitoring would continue and be expanded to monitor the off-base plume; LUCs would protect against the use of groundwater during restoration; perchlorate would be reduced below 2 ppb by 2022; and the cost would be \$5.5 million.

Mr. Gregson also reviewed the Alternative 4a slide: groundwater contamination would be remediated through continued operation of the current ETR system modified to include a new off-base extraction well west of Lily Pond operating at 100 gpm; long-term groundwater monitoring would continue and be expanded to monitor the off-base plume; LUCs would be protect against the use of groundwater during restoration; perchlorate would be reduced to below 2 ppb by 2025; and the cost would be \$4 million. He also displayed a figure showing the system layouts for Alternatives 3, 4, and 4a and pointed out the extraction well and treatment locations.

Mr. Gregson concluded his portion of the presentation by showing a "Comparison of Alternatives" slide. He noted that the estimated cleanup year for RDX, 2022, is not influenced by the off-base system as all of the RDX contamination is on base. He also said that Alternative 3 (at a cost of \$3.6 million) is predicted to capture about 8 pounds of perchlorate, Alternative 4 (at a cost of \$5.5 million) is predicted

to capture about 10.5 pounds, and Alternative 4a (at a cost of \$4 million) is predicted to capture about 10 pounds.

Mr. LoGiudice asked if there's any plan for an additional alternative that would speed up the cleanup time. Ms. Jennings said that she would address this question during her portion of the presentation.

For the benefit of anyone who hadn't attended an MMRCT meeting before, Ms. Jennings explained that the IAGWSP is doing investigative work under an EPA Administrative Order (AO) and EPA makes the final decisions on cleanup. She noted that decisions are based on a number of factors, one of which is public input, and a public comment period on Demo 1 is ongoing.

Ms. Jennings stated that the Proposed Plan for Demo 1 is made up of an on-base component and an off-base component. She also said that at the time of the original Demo 1 decision, EPA was very concerned about the possibility of contamination migrating off base, and had contingencies in place if that happened. Therefore, when contamination started to be discovered beyond the farthest extraction well, EPA asked the IAGWSP to look at the extent of the contamination and evaluate if anything needed to be done to accelerate cleanup of the on-base contamination and address the off-base contamination.

Ms. Jennings noted that the on-base component is continued operation of the current system with some minor optimizations, such as changing flow rates. The three current systems include six extraction wells, pumping at 665 gpm, four reinjection wells, and one infiltration basin. The systems are the Frank Perkins Road system, the Pew Road system, and the base boundary system, which was added later. Ms. Jennings also reported that perchlorate in the on-base component is predicted to reach 2 ppb by 2019, while in the original DD issued in 2006 it was predicted achieve cleanup in 2018. RDX is predicted to reach cleanup by 2022, while in the original DD cleanup was predicted to be achieved by 2018. She also stated that the cost of the on-base component is about \$4 million.

Ms. Jennings showed some photographs, including the interior of the Frank Perkins Road treatment facility, and some MTUs. She also mentioned that MTUs can be moved to other areas of the base where they are needed, and added that an MTU will likely be used to treat the off-base portion of the plume. Barbara Sanders, a resident of Pocasset, asked if an MTU makes noise. Ms. Jennings replied, "Not really" and added that tours could be arranged to see some. She said that there have never been any noise complaints about MTUs that are out in neighborhoods.

Ms. Jennings displayed a figure of the on-base portion of the plume and pointed out the RDX contamination that's causing the cleanup timeframe to extend, from 2018 to 2022. She said that alternatives to accelerate the cleanup timeframe were considered, but it was determined that it wasn't worthwhile to implement such an alternative – given the four-year differential versus the cost. Nevertheless, optimization will continue to be evaluated going forward.

Ms. Jennings stated that for the off-base component, Alternative 4a consists of: one new extraction well west of Lily Pond, operating at 100 gpm; one new treatment system west of Lily Pond utilizing granulated activated carbon and ion exchange; and one new infiltration basin, also west of Lily Pond. She noted that one of the primary reasons for selecting Alternative 4a is that it prevents contamination from migrating past County Road, removes more mass through treatment, and gives more certainty that it won't migrate farther. She also said that although implementation issues are a concern, they pertain primarily to access, while the other alternatives had implementation issues having to do with impacts to the neighborhood itself during construction. The exact location of the extraction well, treatment facility, and reinjection wells will depend on design and working through some access issues. Ms. Jennings then showed a figure of the off-base area and pointed out the general area where the system is expected to be located. She said that the goal is to site the system where it will capture the most contamination with the least impact to the community.

Ms. Jennings stated that with the proposed cleanup plan perchlorate will reach 2 ppb by 2025, RDX will reach 0.6 ppb by 2022, and the cost will be about \$4 million. She also said that in terms of accelerating cleanup time, the alternatives that were considered were the fastest that could be done. She explained that it's not a very large area, and it's very limited by time of travel, unfortunately – so even with three extraction wells there wouldn't be “much bang for our buck.” Mr. LoGiudice said that he understands better now, given the impact to the neighborhood. Ms. Jennings confirmed that with Alternative 4a, the contamination will just migrate and be captured downgradient and it just takes some more time to reach the extraction well.

Ms. Jennings also reported that the other components of the plan include continuous groundwater monitoring and LUCs to prevent use of the water. She further noted that Five-Year Reviews of the entire system will be conducted to ensure that it's behaving as expected.

Ms. Jennings then reviewed next steps: the public comment period started July 17, 2013 and will run through August 16, 2013; comments can be mailed or emailed to Kate Renahan at EPA; at the end of the comment period EPA will issue its response to comments, the final decision will come out in September 2013, and will be followed by the design and construction phase.

Ms. Donovan reminded the group that the Demolition Area 1 RSP document is available at tonight's meeting and includes information about how to submit comments. She also said that the Massachusetts Department of Environmental Protection (MassDEP) is an active player in determining the best decision, but does not issue its final letter of concurrence until after all public comments have been reviewed.

Ms. Sanders said that she lives exactly in the area where the system will be installed. She said that from what she can tell, the system will be sited “from the Lily Pond where the trailer park goes in, in the back section.” She then said that she thinks that it should be better publicized – perhaps with a map in one of the local newspapers – since the system is going to impact nearby homes. She said that she thinks it's “pretty scary,” which is why she asked about the noise.

Ms. Jennings replied that there has actually been a fairly intensive community relations effort to make people aware of what's been proposed. Ms. Sanders said that she wonders why tonight's meeting wasn't conducted in the town of Bourne, rather on base, and added that she thinks it really upsetting to a lot of people. Ms. Jennings said that it's certainly possible to hold a meeting in Bourne. Ms. Sanders said that if the community were more aware of the situation, residents would come to the meeting. Ms. Jennings assured Ms. Sanders that there's a concerted effort to encourage affected residents to attend the meetings, and she is more than happy to hold a meeting in Bourne to attract more people.

Ms. Richardson of the IAGWSP stated that when the investigation began about two or three years ago, several articles were published in the local newspapers. She also noted that the IAGWSP has reached out to the community, including talking to the Bourne Board of Health, the town manager, and the Department of Public Works. She also noted that the IAGWSP meets annually with realtors in the area to let them know about both IAGWSP and AFCEC activities. She further stated that the cleanup program is about to issue another fact sheet to be distributed to the town halls and libraries. Regarding the Demo 1 investigation, Ms. Richardson said that the IAGWSP has been mailing out neighborhood notices to let them know what's going on, and has published paid advertisements in the Bourne Enterprise to solicit public comment on the plan. Ms. Donovan asked if notices were sent to Ms. Sanders' neighborhood. Ms. Sanders said “this is the only one I got.”

Ms. Ross, another affected resident, stated that tonight's presentation was excellent. She also said that she's attended two other meetings in the past, but letters are sent out to those in the footprint of the plume, and not to those who are in the path of the plume. She also said that letters don't arrive until after there's a drill in front of someone's house. Ms. Ross then said that she thinks that tonight's presentation should be made at the Bourne selectmen's meeting, which is televised throughout the

town. She also remarked that coming to the base for a meeting can be very intimidating to many people, although she knows that they have been receiving letters, but again, she thinks that the letters only go “as far as the plume is going.” Ms. Ross further noted that, like Ms. Sanders, she works in real estate and “hasn’t gotten anything in years.”

Ms. Jennings said that there have been past attempts to be on the agenda of board of selectmen, but “they usually bump us.” Major Cody added that the same presentation was made at the May town meeting. Ms. Ross replied that that hadn’t occurred, however, until it became “a crisis, almost.” She added that the first thing that should be done is to ask to make a presentation. Ms. Donovan noted that the selectmen do have packed agendas, but both the Air Force and the Army do go out once a year to provide general updates. She also said that it’s possible to work with the local cable company and the town manager. Ms. Donovan assured Ms. Ross that her request would be seriously considered, as community input is truly wanted.

Mr. Dinardo noted that he is a citizen from the town of Falmouth, serving on the MMRCT, and the Bourne residents at this meeting could also become members of the team. He then said that he thinks everyone has to appreciate the work being done by the base cleanup programs as they work to try to remediate the situation. Mr. Dinardo then asked if it’s correct that there’s no significant RDX in the leading edge portion of the plume. Ms. Jennings confirmed that that’s correct. Mr. Dinardo then referred to an Alternative 4a map and asked if the segmented portion to the west is considered to be MNA. Ms. Jennings replied yes. Mr. Dinardo then asked if groundwater flow is going west to east in that area. Ms. Jennings confirmed that it is. Mr. Dinardo then said that he thinks it’s important for everyone to understand that the decision that’s made isn’t stagnant; there will be constant monitoring and changes can be made to optimize the system. He also asked if the costs for the on-base remediation work stay the same for all the alternatives. Ms. Jennings confirmed that they do.

Mr. Goddard said that the Pocasset Community Center building at seven o’clock would be a good location and time for a meeting in Bourne. He added that he thinks that arrangements could be made with Bourne’s local cable station to cover the meeting. Mr. Goddard also recommended the posting of signs with contact information when construction of the system begins.

Agenda Item #3. J-2 Remedy Selection Plan

Mr. Gregson showed a map of the J-2 Range area and pointed out the Forestdale neighborhood in Sandwich, the J-2 Range, and the two plumes of contamination coming from the range (J-2 Northern and J-2 Eastern).

Mr. Gregson noted that the J-2 Range was used as a musketry range from 1935 to 1940s, as a transition range from the 1940s to 1960s, and as a rifle range from the 1950s to 1980s. Also, from the 1950s to the 1980s parts of the range started to be used by defense contractors hired by the military to test weapons systems for various purposes. Because they were private companies, limited records are available, so much of what was learned about their activities comes from interviews and field data from collecting soils samples, observing munitions on the ground, and installing monitoring wells. Mr. Gregson stated that the munitions testing involved artillery, 37mm, 57mm, 105mm, fuzes, rockets, and projectiles. In addition, open burning/open detonation of munitions occurred on the range, conducted by both military explosive ordnance disposal (EOD) personnel and local law enforcement who disposed of confiscated ammunition and fireworks there.

Mr. Gregson stated that more than 3,000 soil samples were collected from 700 locations from 1997 through 2010; these included surface samples (less than 2 feet deep), borings, and post-excavation samples taken after the removal of contaminated soil. About 8,700 cubic yards of contaminated soil was removed, with the soil removal effort primarily focused on disposal areas, particularly Disposal Area 2, which is the major source of the Northern plume. The major source of the Eastern plume appears to have been firing, munitions testing, and disposal activities. Mr. Gregson reported that

21,600 high-explosive munitions were removed, as were 11,000 munitions with small quantities of energetics (either explosives or propellants), and 114,000 pounds of scrap metal. He also noted that investigation of the J-2 North (J-2 N) and J-2 East (J-2 E) plumes involved the installation of 185 monitoring well screens at 75 locations, and the collection and analysis of more than 1,200 groundwater samples. Mr. Gregson displayed a figure showing the layout of the range and pointed out the investigation area, Disposal Area 2, and the source area of the J-2 E plume.

Mr. Gregson then reported that the primary COC for the J-2 N plume is perchlorate, with an area more than 8,000 feet long and 850 feet wide. RDX, the other COC, has been detected in only two monitoring wells, near the source area. Both the J-2 N and J-2 E plumes have active treatment systems in place, installed in 2006 and 2008, to accelerate the cleanup and protect the downgradient public water supply wells on base. Mr. Gregson stated that at J-2 N three extraction wells are operating at 375 gpm, more than a billion gallons of groundwater have been treated to date, and the plume is becoming segmented due to operation of the treatment system. He then showed a figure depicting the treatment system layouts for the two J-2 Range plumes and pointed out the various components and two of the base water supply wells. He explained that while the existing systems were put in as an interim measure, the current focus is on a comprehensive remedial investigation (RI) and feasibility study (FS) to ensure that the systems in place are what is needed for the long term.

Mr. Gregson then showed a cross-section figure of the J-2 N perchlorate plume and pointed out an extraction well, a public water supply well, monitoring wells associated with the public water supply well, and IAGWSP monitoring wells. He also showed a cross-section figure for the J-2 N RDX plume and pointed out the extraction well that will capture that contamination.

Mr. Gregson listed the J-2 N alternatives evaluated in the FS: no further action; MNA with LUCs; focused extraction with three wells, MNA, and LUCs (the existing system); the existing system optimized; and focused extraction with five wells, MNA, and LUCs. He noted that the first two alternatives would involve shutting down the existing system.

Mr. Gregson reviewed Alternative 1, no further action: the existing system would be shut down; groundwater monitoring would be discontinued; LUCs would not be implemented; perchlorate would be predicted to reach below 2 ppb by 2065; and cost for well abandonment/documentation would be \$213,000. Alternative 1 would not comply with existing EPA or MassDEP regulations. He also reviewed Alternative 2, MNA with LUCs: the existing system would be shut down; groundwater contamination would be reduced through natural processes; long-term groundwater monitoring would continue; LUCs would protect against the use of groundwater during remediation; perchlorate would be predicted to reach below 2 ppb by 2065; cost for groundwater monitoring, well abandonment, and close-out documentation would cost \$2.8 million. Alternative 2 does not complete the cleanup in a reasonable timeframe.

Mr. Gregson reviewed Alternative 3, the existing system: groundwater contamination would be remediated through the maintenance of flow rates of the current ETR system (three extraction wells, 375 gpm); long-term groundwater monitoring would continue; LUCs would protect against use of the groundwater; and perchlorate is predicted to reach below 2 ppb by 2029, with a cost of \$5.8 million. Mr. Gregson stated that with Alternative 4, the optimized existing system, pumping rates at the three wells would be adjusted, but the total would remain at 375 gpm, and perchlorate would be predicted to reach below 2 ppb by 2027, with a cost of \$5.3 million. Mr. Gregson stated that Alternative 5, focused extraction with five wells (pumping at 625 gpm), is a more aggressive alternative designed to accelerate cleanup time. The alternative doesn't save a lot of time, however, with perchlorate predicted to drop below 2 ppb by 2024, at a cost of \$10.7 million. Mr. Gregson then showed a figure depicting layouts for the three active treatment alternatives (Alternatives 3, 4, and 5) and pointed out the various components.

Mr. Goddard remarked that the cross-section view shows contamination beyond extraction well 3 (EW-3), but the map view does not. Ms. Jennings explained that the contamination is shown in a very light pink, making it difficult to see, but it is there, extending out to monitoring well 337 (MW-337). Mr. Goddard asked if that contamination is predicted to attenuate before it reaches the public water supply well. Mr. Gregson replied that it is, and added that some additional wells will be installed to ensure that that's the case.

Mr. Gregson continued his presentation by noting that the J-2 E perchlorate plume is about 4,250 feet long and 1,700 feet wide, while the RDX plume is about 6,000 feet long and 1,150 feet wide. An ETR system was installed in 2008, the primary focus of which was to accelerate restoration of the aquifer and protect a downgradient water supply well. Three extraction wells are operating at 425 gpm, and more than 846 million gallons of water have been treated to date. Like the J-2 N plume, the J-2 E plume is becoming segmented due to the operation of the treatment system. Mr. Gregson then showed a cross-section figure of the perchlorate plume and pointed out the three extraction wells. He also showed a cross-section figure of the RDX plume and noted that a small part of the plume will attenuate naturally.

Mr. Gregson reviewed the J-2 E Alternative 1, no further action: the existing system would be shut down; long-term groundwater monitoring would be discontinued; no LUCs would be implemented; perchlorate would be predicted to drop below 2 ppb by 2104 and RDX below 0.6 ppb by 2055; and the cost for well abandonment/documentation would be \$246,000. Alternative 1 does not comply with existing regulations.

Mr. Gregson then reviewed Alternative 2, MNA and LUCs: the existing system would be shut down; groundwater contamination would be reduced through natural processes; long-term groundwater monitoring would continue; LUCs would protect against use of groundwater during remediation; perchlorate would be predicted to drop below 2 ppb by 2041 and RDX to below 0.6 ppb by 2055; and the cost for groundwater monitoring, well abandonment, and close-out documentation would be \$3.2 million. Alternative 2 does not complete cleanup within a reasonable timeframe.

Mr. Gregson also reviewed Alternative 3, the existing system: groundwater contamination would be remediated through the maintenance of flow rates of the current groundwater ETR system (three extraction wells, pumping at 425 gpm); long-term groundwater monitoring would continue; LUCs would protect against the use of groundwater; perchlorate is predicted to drop below 2 ppb by 2027 and RDX to below 0.6 by 2023; and the cost is projected to be \$5.5 million.

Mr. Gregson reviewed Alternative 4, existing system optimized: groundwater contamination would be remediated through increasing the pumping rates in the existing system to 495 gpm; long-term groundwater monitoring would continue; LUCs would protect against the use of groundwater; perchlorate is predicted to drop below 2 ppb by 2027 and RDX to below 0.6 ppb by 2022; and the projected cost would be \$6 million. He also reviewed Alternative 5, focused extraction with five wells: groundwater would be remediated through optimizing the pumping rates in the existing system and adding two new extraction wells for a total pumping rate of 850 gpm; long-term monitoring would continue; LUCs would protect against the use of groundwater; perchlorate would be predicted to drop below 2 ppb by 2022 and RDX to below 0.6 ppb by 2021; and the cost would be \$9.5 million.

Mr. Gregson showed a figure depicting layouts for Alternatives 3, 4, and 5 and pointed out the various components. He also showed a "Comparison of Alternatives" slide and noted that for the J-2 N plume, the estimated perchlorate mass captured for Alternative 3 is 13.9 pounds, for Alternative 4 is 13.2 pounds, and for Alternative 5 is 11.6 pounds. For J-2 N, the estimated mass captured for Alternative 3 is 13 pounds of perchlorate and 2.9 pounds of RDX, for Alternative 4 is 13.5 pounds of perchlorate and 2.8 pounds of RDX, and for Alternative 5 is 11.6 pounds of perchlorate and 3.1 pounds of RDX.

Mr. LoGiudice asked what happens to the 407 tons of scrap metal that Mr. Gregson mentioned earlier. Mr. Gregson replied that it's transported off base for recycling. Mr. LoGiudice asked if there's a fee associated with that. Mr. Gregson replied that the program gets some money back, but it doesn't cover the costs of dealing with the scrap.

Mr. Goddard asked if it's correct that the contamination is expected to attenuate well before it reaches the public water supply well. Mr. Gregson confirmed that it is.

Ms. Rielinger noted that Alternative 4 for J-2 E has a shutoff time that's two years earlier than Alternative 3, yet the cost is half a million dollars more. She asked if that is the result of an increase in pumping rate. Mr. Gregson replied yes, there's an increased operation cost with the increased pumping rate. Ms. Rielinger said that cost-wise, little is gained by shutting it off two years earlier. Mr. Gregson agreed.

Mr. Dinardo asked how energy costs are calculated, and mentioned the use of wind-generated energy. Mr. Gregson replied that energy costs are just a projection of current energy costs, so potential future savings from the use of alternative energy are not taken into account. He also noted that the point is really to compare alternatives using the same yardstick. Mr. Dinardo noted that the willingness to spend money on infrastructure could be affected by a decreasing trend in operating costs in the future.

Ms. Donovan then turned the remainder of the presentation over to Ms. Jennings. Ms. Jennings stated that the J-2 Range remedy has three components: the Northern plume – Alternative 4 (Enhanced); the Eastern plume – Alternative 4; and the Source Area Cleanup, which is believed to be complete, but requires some investigation to verify that.

Ms. Jennings stated that the plan for the J-2 N plume includes three extraction wells, the goal of which is to protect the water supply by achieving containment at each extraction well so that nothing slips by. She also noted that investigation is under way to finalize pumping rates, and it may be that some shifting of flow will occur in order to achieve that goal. She further stated that the extracted groundwater will be pumped to the two existing MTUs and one treatment facility, and that an additional pipeline might be needed to add more flow to the farthest treatment facility. She also mentioned that the four existing infiltration trenches would be used to return the treated water to the aquifer.

Ms. Jennings also spoke about the contingency for additional active treatment if groundwater exceeding drinking water standards is either passing Gibbs Road or predicted to do so. Currently, the investigation in the area of the plume that's past the extraction well is being beefed up for more certainty about how much contamination is there and how far it will migrate before dissipating to nondetect levels. She then showed a figure of the plume and pointed out an area of investigation designed to ensure that the extraction well there is achieving full containment, which may require shifting some of the flow "from here down to there." She also pointed out an area of investigation designed to confirm that contamination doesn't reach past Gibbs Road, and noted that if it does or appears that it will, the contingency for an additional extraction well would be triggered. Ms. Jennings stated with the proposed plan, perchlorate is predicted to reach 2 ppb by 2027, RDX to reach 0.6 ppb by 2020, and the cost will be about \$5.3 million.

Ms. Jennings then reported that for the J-2 E plume, the three existing extraction wells, which have already been optimized, will operate at 495 gpm. The groundwater is pumping to four existing MTUs, and there are three infiltration trenches. Ms. Jennings showed a figure of the plume and said that there's a good deal of confidence that the desired containment is being achieved, and it's less likely that the contamination will impact the water supply. Therefore, the goal is really just to keep the contamination from migrating off base. With the proposed plan, perchlorate is predicted to reach 2 ppb by 2027, RDX to reach 0.6 ppb by 2022, and the cost will be about \$5.9 million.

Ms. Jennings stated that it's believed that most of the sources have already been removed, as the Army dealt with sources as they found them during the course of the investigation and did a fair amount of soil treatment when the thermal treatment unit was on base. She also noted, however, that in some areas soil sampling and geophysical work will be conducted to confirm that everything has been removed. She then showed a figure and pointed out the various removal-action/investigation area grids, and noted that the plan calls for enhancing groundwater monitoring downgradient of the range to ensure that the source response is protective.

Ms. Jennings then reviewed the additional, standard components of the remedy: long-term groundwater monitoring to verify the remedy is protective and to ensure that cleanup is achieved, LUCs to protect against use of groundwater, and Five-Year Reviews to evaluate effectiveness of the groundwater treatment and source control measures.

Ms. Jennings stated that the J-2 Range comment period will end on August 16, 2013. Comments can be mailed or emailed to Kate Renahan at EPA, and EPA will issue a response to comments on the RSP, with the final DD in September 2013.

Mr. Jacobs stated that Alternative 4 is the current operating condition for the J-2 N plume. About three months ago the pumping rate of the upgradient well was increased by 75 gpm and the rate of the middle well was reduced by 75 gpm. He said that the original design in the first several years that the system operated was Alternative 3, but it's currently operating in the Alternative 4 mode – so the recommended remedy is what's currently pumping – and the intent of that is to get more contaminant mass upgradient of EW-1, where the highest concentrations existed. Mr. Jacobs also stated that the drilling investigation downgradient of the extraction well will be undertaken to ensure that the model between Gibbs Road and the last extraction well can be validated, as it's of paramount importance to protect the supply well. About four additional monitoring wells will be installed over the next couple months to help validate the model in that area.

Mr. Dinardo expressed his appreciation for the recent tour, which he felt was very beneficial to both MMRCT members and the public officials who participated.

Agenda Item #4. Adjourn

Ms. Donovan stated that the MMRCT will meet next on October 9, 2013, and she adjourned the meeting at 7:38 p.m. (*Note – the meeting date was since postponed to November 13, 2013*)