Primrose, Annette

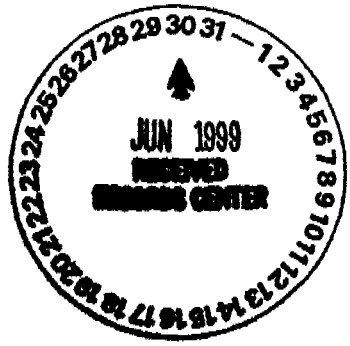
From: Greengard, Tom
Sent: Thursday, June 03, 1999 5:59 PM
To: 'Carl.Spreng@state.co.us'
Cc: Castaneda, Norma; Butler, Lane; Primrose, Annette
Subject: Solar Ponds Project

Attached is section 5.5 Performance Monitoring of the Solar Ponds Decision Document. The section has been revised per your email and our discussions. What do you think?

Please let us know as soon as possible so we can finalize the document. If the revised section is satisfactory, will you be able to write the approval letter before you leave? I left you a voice mail after our meeting today asking about the approval process during your absence next week. I'll call you tomorrow.

Thanks, Tom 966-5635

section 5-5.doc



RE: RF/RMRS-98-286.UN
ADMIN RECORD

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I101-B-00041

5.5 Performance Monitoring

Performance monitoring will be conducted to determine the effectiveness of the system in meeting the project objectives. Monitoring of the treatment system will be accomplished by comparing results for groundwater water influent and effluent to the treatment system. Additionally, surface water quality will be monitored at a point of evaluation in North Walnut Creek at a location downgradient of the SPP. The schedule for monitoring is shown in Table 5-1. After sufficient data are gathered to demonstrate stable conditions, the requirements may be changed to annual or less frequent monitoring. Decision rules for this monitoring will be defined and evaluated as a special project within the IMP.

Table 5-1. Schedule for Water Quality Sampling and Water Level Measurements

Task	Month 1-6	Months 7-12	Subsequent Years
Treatment System Influent	Monthly	Quarterly	Semi-Annually
Treatment System Effluent	Monthly	Quarterly	Semi-Annually
Downgradient Surface Water Quality	Monthly	Quarterly	Semi-Annually
Hydraulic Head in Collection Trench	Monthly	Quarterly	Semi-Annually

Influent concentrations will be measured at the piezometer nearest to the collection cell. Effluent concentrations will be measured at the metering manhole to determine treatment efficiencies. The influent will be sampled at the same frequency as the effluent. Physical problems, not treatment limitations, are expected to determine when the treatment media will require replacement. It is expected that the organic treatment media will provide a carbon source in excess of what would be needed for nitrate reduction and therefore would not require replacement. However, the organic media may plug due to bacterial growth blocking the pore spaces. To detect such a condition, piezometers will be installed near the treatment cell to monitor water levels. Steadily increasing water levels may be an indication that the media is plugged, requiring replacement.

If effluent concentrations approach influent concentrations, then monthly or more frequent sampling will be performed until the cause is determined. If a corrective action is required, then monthly effluent sampling will continue for at least three months after a corrective action is implemented to ensure that the action is sufficient.

Groundwater monitoring will continue during and after the remedial action has been completed, as described in the IMP. Groundwater wells 1786 and 1386 currently monitor the drainage and will be, at a minimum, monitored for nitrate and uranium. An additional well cluster to the north of the barrier will be installed to provide additional data and for performance monitoring purposes. The frequency of sampling and analytical suites will be consistent with the IMP and will measure uranium and nitrate concentrations.

Performance monitoring in the North Walnut Creek Drainage will be implemented at station GS13 to monitor changes in surface water quality as a result of the selected remedy. This location was selected because it is immediately downstream of where the groundwater plume intersects the drainage. The loading to the stream will be evaluated to determine long-term system performance and will be reported on an annual basis. In accordance with the Action Level Framework, if the stream concentrations exceed stream standards, then an evaluation will be performed after consultation with the regulators.

If stream standards are being met consistently at GS13 and if simple modeling techniques show that the stream standards would be met without treatment, based on the influent plume concentrations and flow rate, and the stream concentrations and flow rate that exist at that time, then treatment will be discontinued. This system is expected to continue operations until after Site closure when stream flow and concentrations have stabilized. The system will be abandoned in place as a flow-through system. System shutdown will be re-evaluated as part of the final Site CAD/ROD.