

Appendix B

Inspection Photos and Checklist

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Photo 1. Burgermeister Spring.



Photo 2. Inside Quarry Proper.



Photo 3. Southeast drainage.



Photo 4. Highway D culverts outlet.



Photo 5. Culvert under Highway 94.



Photo 6. Disposal cell inspection looking south.



Photo 7. Cell cover rock test plot TP1; north edge north facet (2003 Inspection).



Photo 8. Cell cover rock test plot TP1; north edge of north facet (2009 Inspection).



Photo 9. Cell cover test plot TP1; north edge of north facet.



Photo 10. Cell cover rock test plot TP2; north edge north facet (2003 Inspection).



Photo 11. Cell cover rock test plot TP2; north edge north facet (2009 Inspection).



Photo 12. Cell cover test plot TP2; bottom of north side slope.



Photo 13. Cell cover rock test plot TP3; northeast ridgeline (2003 Inspection).



Photo 14. Cell cover rock test plot TP3; northeast ridgeline (2009 Inspection).



Photo 15. Cell cover test plot TP3; northeast ridgeline.



Photo 16. Cell cover rock test plot TP4; located on upper west side (2003 Inspection).



Photo 17. Cell cover rock test plot TP4; located on upper west side (2009 Inspection).



Photo 18. Cell cover test plot TP4; located on upper west side.



Photo 19. Cell cover rock test plot TP5; located on lower west side (2003 Inspection).



Photo 20. Cell cover rock test plot TP5; located on lower west side (2009 Inspection).



Photo 21. Cell cover test plot TP5; located on lower west side.



Photo 22. Disposal cell, small hole dug into rock.



Photo 23. LCRS Sump.



Photo 24. Erosion areas north of the disposal cell, showing vegetative growth.

Annual Site Inspection Checklist

Purpose of the Checklist

This checklist has been developed from the EPA guidance document *Comprehensive Five Year Review Guidance* dated June 2001 (OSWER No. 9355.7-03B-P) and from Section 2.3 of the *Long-Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site*. The checklist was modified to site-specific conditions as recommended by the guidance document. The checklist will be completed annually during the Weldon Spring Site annual surveillance and maintenance inspection. The checklist will also be used to assist in compiling information for the five-year review.

I. SITE INFORMATION	
Site name: DOE Weldon Spring Site	Date(s) of inspection: Oct 26-28, 2016
Location: St. Charles, MO	EPA ID: MO6210022830
Agencies accompanying DOE for portions of the annual inspection: <input checked="" type="checkbox"/> EPA, Region 7 <input type="checkbox"/> MDNR <input checked="" type="checkbox"/> Other (list): MoDOT, MDC, St. Charles County	Weather: Mid 60's Windy
Remedy Includes: <input type="checkbox"/> Disposal Cell <input type="checkbox"/> Institutional controls <input type="checkbox"/> Monitored Natural Attenuation <input type="checkbox"/> Long Term Monitoring <input type="checkbox"/> Other	
Inspectors Terri Uhlmeyer (Stoller), Randy Thompson (Stoller) Participants Patrick Anderson (MDNR) Vijendra Kothari (DOE) Jane Powell (DOE) Hoai Tran (EPA) Hannah Humphrey (MDNR) Kevin Wideman (MoDOT) John Vogel (MDC) Ryan Tilley (St. Charles County Health) Pieter Sheehan (St. Charles County Health) Tim Zirbes (Stoller) Tom Welton (Stoller) Becky Cato (Stoller) Vonne Deyo (Stoller)	

II. INTERVIEWS (Check all that apply)				
1. Local Site Manager	<u>Yvonne Deyo</u> Name	<u>Site Manager</u> Title	<u>10/25/10</u> Date	
Interviewed <input type="checkbox"/> at site <input checked="" type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. <u>300-0012</u>				
Problems, suggestions; <input checked="" type="checkbox"/> Report attached _____				
2. Environmental Data Manager	<u>Pandy Thompson</u> Name	<u>Data Manager</u> Title	<u>10/10/10</u> Date	
Interviewed <input type="checkbox"/> at site <input checked="" type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. <u>636-926-7040</u>				
Check to ensure that environmental data is reviewed and trended.				
Problems, suggestions; <input type="checkbox"/> Report attached _____				
3. Other Staff (as applicable)	<u>N/A</u> Name	_____ Title	_____ Date	
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____				
Problems, suggestions; <input type="checkbox"/> Report attached _____				
4. Local response agencies: Contact to notify of annual inspection and to determine if there are any concerns or issues.				
Agency:	<u>St. Charles County Sheriff</u>			
Contact	<u>Jim Hudson</u> Name	<u>Captain</u> Title	<u>10/18/10</u> Date	<u>636-949-7325</u> Phone no.
Problems; suggestions; <input checked="" type="checkbox"/> Report attached _____				
Agency:	<u>Cottleville Fire Department</u>			
Contact	<u>Mark Boale</u> Name	<u>Asst. Fire Chief</u> Title	<u>10/13/10</u> Date	<u>636-447-6655</u> Phone no.
Problems; suggestions; <input checked="" type="checkbox"/> Report attached _____				
Agency:	<u>SimplexGrinnel (LCRS and Interpretive Center Alarm Company)</u>			
Contact	<u>Cindy</u> Name	_____ Title	<u>10/25</u> Date	<u>888-746-7539</u> Phone no.
Problems; suggestions; <input checked="" type="checkbox"/> Report attached _____				
Agency:	<u>N/A</u>			
Contact	_____ Name	_____ Title	_____ Date	_____ Phone no.
Problems; suggestions; <input type="checkbox"/> Report attached _____				

5. Stakeholders: Contact to notify of annual inspection and to determine if there are any concerns or issues.

Agency: Francis Howell High School Contact Name: Mr. Chris Greiner, Principal

Contact Name Current yes no

Phone Number Current yes no _____ (new phone no. if applicable)

Contact Bandy Carter Asst. Principal 10/28/10 636-851-4700 ^{40804 4701}
 Name (if different than above) Title Date Phone no.

Problems; suggestions; Report attached _____

Agency: Missouri Department of Transportation (local office) Contact Name: Bill Wilcox

Contact Name Current yes no

Phone Number Current yes no Bill Wilcox (new phone no. if applicable)

Contact same _____ 10/25/10 636-441-8471
 Name (if different than above) Title Date Phone no.

Note: Set up date and time and provide annual training on the site institutional controls and culverts.

Problems; suggestions; Report attached _____

Agency: St. Charles County Contact Name: Pieter Sheehan, Environmental Public Health Manager

Contact Name Current yes no

Phone Number Current yes no N/A (new phone no. if applicable)

Contact same same 10/13/10 636-949-7406
 Name (if different than above) Title Date Phone no.

Problems; suggestions; Report attached _____

6. Other interviews Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1.	Documents <input checked="" type="checkbox"/> Surveillance and Maintenance Plan <input checked="" type="checkbox"/> Maintenance logs Remarks _____	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A <input type="checkbox"/> N/A
2.	Health and Safety Procedures Remarks _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
3.	Permits and Service Agreements <input checked="" type="checkbox"/> NPDES Permits <input checked="" type="checkbox"/> MSD agreement and records <input type="checkbox"/> Other permits Remarks _____	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> Up to date	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A

4.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks _____				
5.	Leachate Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks _____				
6.	Interpretative Center Sign-In Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks _____				
IV. O&M COSTS				
1.	O&M Cost Records (This information may be reviewed and completed prior to the inspection)			
Original O&M cost estimate <u>1,667,325.96</u>				
Total annual cost for prior federal fiscal year:				
From <u>10/1/09</u> To <u>9/30/10</u> <u>1,592,066.67</u>				
	Date	Date	Total cost	
2.	Unanticipated or Unusually High O&M Costs During Review Period			
Describe costs and reasons:				
<u>The upgrade to the Interpretive Center is included in this cost.</u>				

V. INSTITUTIONAL CONTROLS				
Institutional Control (IC) Inspections				
1.	Land and Shallow Groundwater Use within the Chemical Plant Site and Quarry Property			
Inspect for indications of excavations into soil or bedrock and groundwater withdrawal or use in restricted areas. If any party has been granted use of portions of the Chemical Plant or Quarry area, inspect to ensure that land use is in compliance with the terms of the restrictions within the notation.				
Note any observations: <u>No indications of excavations or groundwater withdrawal or use.</u>				

2.	Groundwater Use in Areas Surrounding the Chemical Plant			
Groundwater use is restricted in areas. Inspect affected areas for evidence of groundwater or spring water use (Burgermeister Spring and Spring 6303). Inspect to ensure that land use continues to be in compliance with the terms of the license, easement, or permit and the restrictions contained therein.				
Note any observations: <u>Inspected monitoring wells on Army property and GW restriction area. Found monument WS46. The Army is building a large reserve building. Found WS46 and WS90. WS90 was damaged (boundary markers)</u>				

<p>3. Groundwater (Quarry)</p> <p>Groundwater use is restricted in areas. Inspect affected areas for evidence of groundwater withdrawal or use in the area of impact. Inspect to ensure that land use continues to be in compliance with the terms of the license and the restrictions contained therein.</p> <p>Note any observations: <u>No evidence of groundwater withdrawal or use. No land use changes. Following monuments were located: WQ 7, 8, 10, 11, 12. WQ 12 needs to be restamped.</u></p>
<p>4. Land Use in Quarry Area Reduction Zone</p> <p>A naturally occurring reduction zone exists in soil south of the Katy Trail and north of the Femme Osage Slough. Inspect for indications of excavations into soils and bedrock in the uranium reduction zone. Inspect to ensure that land use continues to be in compliance with the terms of the easement and the restrictions contained therein.</p> <p>Note any observations: <u>No indications of excavations into soils or bedrock. No land use changes. NO DIG signs were posted on bollards</u></p>
<p>5. Southeast Drainage</p> <p>Check for indications of residential use or construction in the Southeast Drainage (200-foot-wide corridor), or other activity that would indicate nonrecreational use of the area. Check Springs 5303 and 5304 for residential, commercial, or agricultural use of spring water.</p> <p>Note any observations: <u>No indications of residential use or construction in the SE Drainage or corridor. No use of springs was noted. The springs were flowing</u></p>
<p>6. Highway D Culvert</p> <p>Check for signs of disturbance of the affected region where the Frog Pong outlet culverts pass beneath Highway D and in the utility rights-of-way in the affected area.</p> <p>Note any observations: <u>No changes or disturbance to Culverts.</u></p>
<p>7. State Route 94 Culvert</p> <p>Check for signs of disturbance of the affected region where the culvert passes beneath State Route 94 and in the utility rights-of-way in the affected area.</p> <p>Note any observations: <u>A portion of the culvert had been cut by Stoller in Aug 2010 at the request of MoDOT. The culvert is now open.</u></p>

8. Pipeline from LCRS to Missouri River

Inspect the entire length of the pipeline and outfall for any disturbances or maintenance needs.

Note any observations: No disturbances in areas of pipeline or manhole. Portion of pipeline was replaced by the Army during the construction of their new Reserve Center.

Institutional Control Annual Contact Log

In accordance with the LTS&M Plan, the following will be contacted to verify cognizance of institutional controls and real estate agreements. Fill in all that apply.

- 1. Agency: Missouri Department of Conservation Contact Name: Joel Porath, Wildlife Regional Supv.
Address: August A. Busch Memorial Conservation Area, 2360 Highway D, St. Charles, MO 63304
Institutional Control and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, Quarry Area Groundwater Use Restriction, Quarry Reduction Zone Land Use Restriction, Southeast Drainage Residential Use Restriction, North Gate Access, Well Sampling Access Agreement, Effluent Discharge Pipeline, Hamburg Trail Use Agreement.

Contact Name Current yes no
Phone Number Current yes no 636-300-1953 X 226 (new phone no. if applicable)

Contact same same 10/12/10 636-441-4554
Name (if different than above) Title Date Phone no.

Problems; suggestions; Report attached

- 2. Agency: Missouri Department of Conservation Contact Name: John Vogel, Area Manager
Address: August A. Busch Memorial Conservation Area, 2360 Highway D, St. Charles, MO 63304
Institutional Control and Real Estate Licenses to Verify: See No. 1

Contact Name Current yes no
Phone Number Current yes no same (new phone no. if applicable)

Contact same same 10/11/10 636-300-1953 X 318
Name (if different than above) Title Date Phone no.

Problems; suggestions; Report attached

- 3. Agency: Missouri Department of Conservation Contact Name: Doyle Brown, Policy Coordinator
Address: P.O. Box 180, Jefferson City, MO 65102
Institutional Control and Real Estate Licenses to Verify: See No. 1

Contact Name Current yes no
Phone Number Current yes no same (new phone no. if applicable)

Contact same same 10/22/10 573-522-4115 x3355
Name (if different than above) Title Date Phone no.

Problems; suggestions; Report attached

- 4. Agency: Missouri Department of Natural Resources Contact Name: Mary Bryan, Real Estate Manager
Address: P.O. Box 176, Jefferson City, MO 65102
Institutional Controls and Real Estate Licenses to Verify: Quarry Area Groundwater Use Restriction, Southeast Drainage Residential Use Restriction, Well Sampling Access Agreement, Effluent Discharge Pipeline

Contact Name Current yes no
Phone Number Current yes no n/a (new phone no. if applicable)

Contact same same 10/13/10 573-751-7987
Name (if different than above) Title Date Phone no.
Problems; suggestions; Report attached

5. **Agency:** Missouri Department of Natural Resources **Contact Name:** Quinn Kellner, Natural Resource Manager, Jones-Confluence Point State Park
Address: P.O. Box 67, West Alton, MO 63386
Institutional Controls and Real Estate Licenses to Verify: Quarry Area Groundwater Use Restriction, Southeast Drainage Residential Use Restriction, Well Sampling Access Agreement, Effluent Discharge Pipeline
Contact Name Current yes no
Phone Number Current yes no n/a (new phone no. if applicable)

Contact same same 10/19/10 636-899-1135
Name (if different than above) Title Date Phone no.
Problems; suggestions; Report attached

6. **Agency:** Missouri Department of Transportation **Contact Name:** Tom Blair, Asst. District Engineer
Address: 1590 Woodlake Dr., Chesterfield, MO 63017
Institutional Controls to and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, and question MoDOT regarding Missouri State Highway 94 Culvert and Highway D culverts about plans for repairs/replacements.
Contact Name Current yes no 314-453-1803
Phone Number Current yes no n/a (new phone no. if applicable)

Contact same same 10/18/10 314-340-4203
Name (if different than above) Title Date Phone no.
Problems; suggestions; Report attached

7. **Agency:** Missouri Department of Transportation **Contact Name:** Kevin Wideman, Sr. Environmental Specialist
Address: P.O. Box 270, Jefferson City, MO 65102
Institutional Controls to and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, and question MoDOT regarding Missouri State Highway 94 Culvert and Highway D culverts about plans for repairs/replacements.
Contact Name Current yes no
Phone Number Current yes no n/a (new phone no. if applicable)

Contact same same 10/14/10 573-526-4171
Name (if different than above) Title Date Phone no.
Problems; suggestions; Report attached

8. **Agency:** Missouri Department of Transportation **Contact Name:** Jim Gremaud, St. Charles County Area Engineer
Address: 6780 Old Hwy. N. St. Charles, MO 63304
Institutional Controls to and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, and question MoDOT regarding Missouri State Highway 94 Culvert and Highway D culverts about plans for repairs/replacements.
Contact Name Current yes no
Phone Number Current yes no N/A (new phone no. if applicable)
Contact same same 10/18/10 636-240-5277
Name (if different than above) Title Date Phone no.
Problems; suggestions; Report attached _____

9. **Agency:** U.S. Dept. of Army **Contact Name:** Marsha Miller, Facility Manager
Address: Weldon Spring Training Area, 7301 Hwy 94 S. St. Charles, MO 63304
Institutional Controls to and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, Effluent Discharge Pipeline, Well Sampling Access Agreement
Contact Name Current yes no
Phone Number Current yes no N/A (new phone no. if applicable)
Contact same same 10/11/10 636-329-1200
Name (if different than above) Title Date Phone no.
Problems; suggestions; Report attached _____

10. **Agency:** St. Charles County Recorder of Deeds
Address: 201 N 2nd, St. Charles, MO 63301
Institutional Controls to and Real Estate Licenses to Verify: Recorded real estate restrictions at the Recorder of Deeds Office or on the Internet at ~~www.saintcharlescounty.org~~
Contact N/A website changed: ~~http://recorder.sccmo.org/recorder/~~
Name Title Date Phone no.
Problems; suggestions; Report attached Verified on the above revised website that the Notation of Land Ownership was filed in Book 3754, Page 419
St. Charles County website is now www.sccmo.org/Home/

11. **Agency:** St. Charles County Planning and Zoning Department **Contact Name:** Wayne Anthony
Address: 201 N 2nd, St. Charles, MO 63301 Request in for regarding if any Planning + zoning activities
Institutional Controls to and Real Estate Licenses to Verify: Awareness of Restrictions with 1/4 mile of the chemical plant + quarry properties
Contact Name Current yes no
Phone Number Current yes no N/A (new phone no. if applicable)
Contact same same 10/18/10 636-949-7900x7221
Name Title Date Phone no.
Problems; Report attached suggestions; _____

5.	Guard Rail Around Cell <input checked="" type="checkbox"/> Location shown on site map Secure <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks _____ _____ _____	
6.	Stairs to Top of Cell <input checked="" type="checkbox"/> Location shown on site map Stairs in good condition <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Handrail stable and in good condition <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Remarks _____ _____ _____
7.	Other Site Conditions: Remarks _____ _____ _____ _____
VII. EROSION	
1.	Chemical Plant Areas <input checked="" type="checkbox"/> Location shown on site map Erosion evident <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth _____ Remarks <i>The erosion has been mapped in 2007, 2008, 2009, and 2010. The erosion figure is included in the inspection report. It shows location and estimated depth. The erosion will continue to be monitored. It was noted that some of the worst erosion channels on the north side of the cell have good vegetation growing in them.</i>
2.	Quarry Area <input type="checkbox"/> Location shown on site map Erosion evident <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth _____ Remarks _____ _____ _____

VIII. CHEMICAL PLANT DISPOSAL CELL

1. **Settlement /Bulges** Location shown on site map New settlement noted Yes No

A. Annually: Walk along the grade break at the top of the side slopes, around the cell perimeter, and along 10 transects across the cell surface. Inspect for local depressions, regional departures from planar surfaces, and shifts in intersections (vertices) of cell surface planes. Inspect for vertical shear of the cover layers indicated by sudden, abrupt steps that exceed an approximately 6-inch change of surface level over no more than 10 feet distance.

B. During 5-Year Review Inspections (Beginning 2005 and at 5-year Intervals): Conduct an aerial mapping survey with a vertical resolution not less precise than 0.5 feet. Produce and record maps and survey data for the cell surface represented by 1.0 foot contour intervals. Evaluate the data for indications of settlement. Consider the position and spacing of contour lines as indications of elevation change and possible settlement.

Remarks The inspectors walked the 10 transects. Noted 2 additional minor depressions which will be put on map. Hole dug near transect 5. Aerial survey was performed in May 2010. Was discussed during inspection. Aerial survey indicated general settlement. No major changes.

2. **Rock Cover** Signs of degradation Yes No Signs of intrusion Yes No

A. Annually: During settlement monitoring inspection also visually inspect for departures from original rock conditions or from the previous inspection. Note observable discoloration on areas larger than 2,500 square feet, presence of finer materials at surface and apparent rock gradation changes. Document rock conditions annually with photographs.

B. During 5-Year Review Inspections (Beginning 2005 and at 5-year Intervals): Inspect cell cover for gradation changes by walking 10 transects across the cell. Concentrations of degraded, split, or weathered pieces of limestone will be mapped, photodocumented and visually assessed as a percentage of rock exposed within each mapped area. If degraded rock is evenly distributed, inspectors will estimate the overall percentage of degraded rock. If the amount of degraded rock appears to be increasing, based on a review of previous annual rock quality assessments, additional monitoring or gradation testing will be performed. If rock does not appear degraded, photodocumentation of several GPS located areas will establish rock conditions for future reference.

Remarks The 5 rock degradation test plots were compared to previous years photos. The rocks had not changed or degraded. ~~So~~ The rocks in Test Plot #5 had been disturbed with 3 rocks being removed.

3. **Vegetative Growth** Weeds or Plants on Cell Yes No

Remarks _____

4.	Wet Areas/ Water Damage Wet areas <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Location shown on site map Areal extent _____ Ponding <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Location shown on site map Areal extent _____ Seeps <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Location shown on site map Areal extent _____ Remarks _____ _____ _____
5.	Toe/Apron Drains Proper drainage <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Silting <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Erosion <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Remarks _____ _____ _____
6.	Slope Instability <input type="checkbox"/> Location shown on site map Evidence of slope instability <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Remarks _____ _____ _____
7.	Leachate Collection and Removal System <input checked="" type="checkbox"/> Fence/Gates/Locks in good condition <input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input checked="" type="checkbox"/> LCRS flow rates <input checked="" type="checkbox"/> Review data trending and Action Leakage Rate <input type="checkbox"/> Sump Containment System (Burrito) flow rates <input type="checkbox"/> Burrito flow rate issues <input checked="" type="checkbox"/> Compliance with MSD Agreement <input type="checkbox"/> Review shipping records Data Issues <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Flow Rate Issues <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Remarks _____ _____ _____
8.	Condition of 300 Ft. Buffer Zone Erosion <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Remarks _____ _____ _____
9.	Condition of Prairie Erosion <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Remarks _____ _____ _____
IX. GROUNDWATER MONITORING	
1.	Disposal Cell Monitoring Well Network <input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Sampled in accordance with LTS&M Plan <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Evidence of surface water infiltration at casing <input type="checkbox"/> Needs maintenance <input checked="" type="checkbox"/> Proper ID on each well <input type="checkbox"/> Acceptable quality of data Data Issues <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Remarks <u>Inspected all 5 Disposal cell wells MW-2032, 2046, 2047, 2051, 2055. The ID no. for 2055 had been scraped off for repainting, but was still visible.</u> _____ _____

2. **Chemical Plant Groundwater Monitoring Well Network**
 Properly secured/locked Functioning Sampled in accordance with LTS&M Plan
 Good condition Evidence of surface water infiltration at casing Needs maintenance
 Acceptable quality of data *Some wells reg. maintenance + are detailed in the inspection report -*
 Data Issues Yes No
 List wells checked by number (> 10% of wells) MW-2006, 2012, 2013, 2014, 2017, 2023, 2024, 2033, 2034, 2045, 2046, 2049, 2050, 2053, 3003, 3006, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3031, 3037, 3040, 4001, 4002
 Remarks 4006, 4007, 4020, 4027, 4028, 4029, 4030, 4031, 4034, 4035, 4036, 4037, 4040, 4041, 4042, 4043, 1004, 1005, 1006, 1101.

3. **Quarry Monitoring Well Network**
 Properly secured/locked Functioning Sampled in accordance with LTS&M Plan
 Good condition Evidence of surface water infiltration at casing Needs maintenance
 Acceptable quality of data *MW-1052 needed repainting*
 Data Issues Yes No
 List wells checked by number (> 10% of wells) MW-1002, 1004, 1005, 1006, 1007, 1008, 1009, 1013, 1027, 1030, 1031, 1032, 1049, 1052
 Remarks MW-1052 needed repainting.

X. OVERALL OBSERVATIONS

Implementation of the Remedies

Describe issues and observations relating to whether the remedies are effective and functioning as designed.
This is in the inspection for the 4th Five year review.
The remedy is in place and implemented in acc. with the applicable Record of Decisions.
The actual remedies will be evaluated in the CERCLA Five-year Review Report, which will be final in September 2011

Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedies.
The groundwater monitoring wells are in good condition and maintained by a full-time staff.

<p>Early Indicators of Potential Remedy Problems</p> <p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of one or more of the remedies may be compromised in the future.</p> <p>No issues</p>
<p>Opportunities for Optimization</p> <p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedies.</p> <p>The LCPS has a real time monitoring system with the SOARS program.</p>