



Montana Department of Environmental Quality
Permitting and Compliance Division
Waste and Underground Tank Management Bureau
1520 East 6th Avenue
P.O. Box 200901
Helena, Montana 59620-0901

**Draft Environmental Assessment
Loveland Products, Inc.**

Montana Hazardous Waste Corrective Action Order Number: MHWCAO-15-01

Issued to: Loveland Products, Inc.
1525 Lockwood Road
Billings, Montana 59103-0957

Legal Description: Section 26, Township 1 North, Range 26 East
Yellowstone County, Montana

Issued by: Hazardous Waste Program
Waste and Underground Tank Management Bureau
Permitting and Compliance Division
Montana Department of Environmental Quality

Purpose of the Environmental Assessment

The Montana Department of Environmental Quality (DEQ) is required under the Montana Environmental Policy Act (MEPA) to conduct an environmental assessment (EA) on the proposed action described in this document. An EA details all reasonable alternatives to DEQ's action, outlines the potential impacts to the human environment resulting from DEQ's action, and outlines reasonable alternatives to that action.

Based on the impact analysis and professional judgment, DEQ makes a decision on the proposed action and summarizes the decision in the EA. If the decision significantly impacts the human environment, a more detailed environmental review, called an environmental impact statement, must be conducted by DEQ.

Public Comment Period

The public, including interested citizens, DEQ, EPA, other governmental agencies, and the applicant, are given 45 days to review and comment on the draft EA and the proposed groundwater remedy selection. **The comment period will extend from May 18 to July 6, 2015.** All comments must be submitted in writing to Ann Kron, DEQ, Permitting and Compliance Division, Waste and Underground Tank Management Bureau, P.O. Box 200901, Helena, MT 59620-0901, fax at (406) 444-1374, or email at DEQhazwaste@mt.gov. For additional information please contact Ann Kron at (406)-444-5824 or email at akron@mt.gov.

Montana Hazardous Waste Regulations

Rules administering hazardous waste management in Montana are set forth in the Administrative Rules of Montana (ARM), Title 17, Chapter 53, sub-Chapters 1 through 15. Federal regulations for hazardous waste management are set forth in Title 40 of the Code of Federal Regulations (CFR), Parts 124 and 260 through 279, and are incorporated by reference in ARM. For ease of reading this document, when federal regulations under Title 40 of the CFR have been incorporated by reference into ARM, only the federal citation is used.

Description of Project

DEQ is proposing to select a facility-wide remedy for cleanup of contaminated groundwater at the Loveland Products, Inc. (LPI) facility.

The state of Montana issued a hazardous waste permit to LPI for post-closure maintenance of a surface impoundment in 1992; the permit was reissued in 2004. In 2015, the permit was replaced with an equivalent mechanism called a Corrective Action Order on Consent (CAO). Both the previous hazardous waste permits and the current CAO also include requirements for facility-wide investigation and remediation of contaminated environmental media (i.e. soil, groundwater). Soil contamination was addressed in a separate Statement of Basis and corresponding Environmental Assessment in April, 2010. Therefore, this Environmental Assessment and its corresponding Statement of Basis only address groundwater contamination at the LPI facility.

As required by its current CAO, LPI must investigate and remediate contaminated groundwater found at the site, as well as any groundwater contamination that has migrated off-site. Results of remedial investigations conducted by LPI since 1996 indicate that Chemicals of Potential Concern (COPC) have been detected in groundwater at the site at concentrations above Montana water quality standards as presented in Circular DEQ-7 (DEQ, 2012). Currently, four classes of groundwater contaminants are monitored at the facility. These four classes include metals, chlorinated herbicides, semi-volatile organic compounds, and phenolics. From those four classes, the current COPCs analyzed in groundwater at the site are: 2,4-D, Clopyralid, Dicamba, Dichlorprop, MCPA, MCPP, Diallylate, Triallylate, Arsenic, and Phenol. The most recent analytical results from sampling conducted in November, 2014, showed exceedances of Circular DEQ-7 water quality standards for diallylate in four wells, and arsenic in two wells. All other analytes were below Circular DEQ-7 standards.

DEQ is recommending a combination of corrective measures for groundwater at the LPI facility which includes monitored natural attenuation, institutional controls, and localized enhanced bioremediation. The localized enhanced bioremediation will be implemented as determined by concentrations of COPCs in the groundwater monitoring wells. In addition, the proposed remedy includes requirements for further investigation and remediation, if necessary, in all of the deferred areas at the facility. Deferred areas are inaccessible at this time due to plant operations.

The remedy recommended by DEQ is described in a Statement of Basis. The Statement of Basis summarizes information that can be found in greater detail in reports describing the remedial investigation, human health and ecological risk assessments, and the corrective measures study. These reports are part of DEQ's public records.

Objectives of Proposed DEQ Action

DEQ is charged with administering the provisions of the ARM. The objective of the proposed action is to comply with ARM provisions pertaining to facility-wide remedial activities. DEQ must ensure facility-wide remedial activities at the LPI facility are protective of human health and the environment.

Alternatives Considered

Alternative 1: No Action

The No Action alternative provides a baseline for analyzing other alternatives. Under the No Action alternative, DEQ would not select a remedy to address groundwater contamination at the LPI facility. This alternative involves no groundwater remedial action, exposure control, or routine monitoring. Future use of groundwater, and the potential for direct contact with groundwater, is not controlled under this alternative. Intrinsic natural attenuation would still be occurring at the facility, though its progress would not be monitored. Existing monitoring wells would be abandoned so they do not provide a conduit for potential future releases.

As stated in 75-10-406(7) MCA, DEQ must require corrective action for all releases of hazardous waste or constituents at a facility permitted under 75-10-406 MCA, including corrective action for releases that extend beyond the facility boundaries. LPI has completed an extensive remedial investigation of the facility, including sampling, groundwater monitoring, human health and ecological risk assessments, and corrective measures feasibility study. LPI has also implemented various interim corrective measures to address groundwater contamination. Results of this work indicate cleanup of contamination is required to protect human health and ecological receptors.

The No Action alternative would not comply with requirements for facility-wide remediation cited in 75-10-406(7) MCA and 40 CFR 264.101. In addition, if not addressed, concentrations of contaminants present in environmental media could pose potential risk of exposure to human and ecological receptors. Based on the above analysis, DEQ has determined the No Action alternative is not reasonable and the alternative is not considered further in this EA.

Alternative 2: Remedy proposed by DEQ in the Statement of Basis

Under this alternative, DEQ would propose corrective measures for groundwater based on technologies described in the *Groundwater Corrective Measures Study Report, Revision 2, Loveland Products, Inc., Billings, Montana* (AECOM October, 2012) and in a Statement of Basis developed by DEQ.

LPI evaluated four cleanup technology alternatives for groundwater in a Corrective Measures Study (CMS). LPI then recommended a combination of technologies they believed would meet the stated objectives for site-wide cleanup. The evaluation and recommended corrective measures were included in a CMS Report (AECOM 2012) with an Addendum submitted in 2013. The CMS report documents the process for developing and evaluating corrective measures alternatives that would address contamination identified at the facility.

These alternatives were evaluated using technical, human health, environmental, and institutional criteria. Cost of implementation was considered as well. The evaluation criteria are required by CAO conditions and described in Appendix D of the LPI CAO.

A detailed evaluation of the alternatives was conducted in two stages. Each alternative was first evaluated under the technical evaluation criteria of reliability, implementability, and safety. Next, the alternatives were further evaluated against the human health, environmental, and institutional criterion. From the results of this evaluation process, corrective measures were developed for groundwater. LPI then recommended these corrective measures to DEQ as the preferred cleanup options for the facility.

DEQ has concluded, based on the review of the Corrective Measures Study, as well as an extensive knowledge of the remedial activities that have been conducted and the contamination present at the facility, that the groundwater corrective measures recommended by LPI will meet the cleanup objectives for the facility, with minor additions. The proposed corrective measures for groundwater are described below.

Institutional Controls

Institutional controls will include implementing administrative and legal controls that prohibit access to groundwater except for purposes of remediation. These controls must be protective for both current and future owners of the property.

Monitored Natural Attenuation

Long-term groundwater monitoring will be required to evaluate changes in chemical composition and distribution to ensure that site conditions do not change in a manner that inhibits COPC degradation. The monitoring must include an evaluation of hydraulic conditions, current COPC concentrations, and geochemical parameters indicative of MNA performance.

During the CMI process, it may be determined that additional wells must be installed on the property to achieve effective facility-wide site monitoring of groundwater conditions.

Periodic Localized On-site and Off-site Bioremediation Enhancements

In addition to the iSOC[®] unit currently owned by LPI, an additional iSOC[®] unit would be purchased for the site, with the option to purchase more than one additional iSOC[®] unit. These units would be mobile and would be rotated among the wells where higher concentrations of COPCs are found. DEQ will determine when and where the iSOC[®] units are used both on and off-site. LPI may also request DEQ approval for use and placement of the iSOC[®] units.

Enhanced bioremediation through technology equivalent or better than the iSOC[®] system may also be evaluated, but must be approved by DEQ.

Stipulations and Controls

LPI must meet all requirements of the current Corrective Action Order on Consent (CAO), which includes conditions for corrective measures implementation, and any applicable requirements of the Montana Hazardous Waste Act and the Administrative Rules of Montana. The LPI CAO requires submission of work plans and progress reports to DEQ for all corrective action activities. Work plans must include engineering requirements for treatment technologies and monitoring well installation, safety procedures, sampling procedures, and quality assurance for sampling and analysis. Implementation of corrective measures is documented through progress reports, which must include evaluation of progress towards meeting cleanup standards, as well as the efficacy of any remedial action at the facility. All work plans and reports will be subject to DEQ's review and approval.

Non-compliance with CAO conditions and/or hazardous waste regulations is subject to enforcement by DEQ.

Analysis of Regulatory Impacts on Private Property Rights

A *Private Property Assessment Act Checklist* was completed for the remedy selection and is on file at DEQ. DEQ determined that no taking or damaging impacts on private property have occurred that would require a further impact assessment.

Summary of Impacts

Potential human environmental impacts from implementation of alternative 2 are rated in Tables 1 and 2. The summary of impacts was completed for Alternative 2 only; Alternative 1 was not considered to be a reasonable alternative. The human environment includes those attributes, such as biological, physical, social, economic, cultural, and aesthetic factors, that interrelate to form the environment. Impacts may be adverse, beneficial, or both. The following criteria are used to rate the impacts:

- ◆ The severity, duration, geographic extent, and frequency of occurrence;
- ◆ The probability the impact will occur if the proposed action occurs;
- ◆ Growth-inducing or growth-inhibiting aspects of the impact;
- ◆ The quantity and quality of each environmental resource or value effected;
- ◆ The importance to the state and society of each environmental resource or value effected;
- ◆ Any precedent set as a result of an impact from the proposed action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and
- ◆ Potential conflict with local, state, or federal laws, requirements, or formal plans.

The following are definitions for major, moderate, minor, none, and unknown impacts on the human environment:

Major: A significant change from the present conditions of the human environment. Major impacts are serious enough to warrant preparing an environmental impact statement (EIS).

Moderate: Not a major or minor change from the present condition of the human environment. A single moderate impact may not warrant preparing an EIS; however, when considered with other impacts, an EIS may be required.

Minor: A slight change from the present condition of the human environment. Minor impacts are not serious enough to warrant preparing an EIS.

None: No change from the present conditions of the human environment.

Unknown: An EIS must be conducted to determine the effects on the human environment if impacts are unknown.

Table 1. Potential Impacts on Physical and Biological Environment

Alternative 2 – DEQ’s Proposed Remedy							
Resources		Major	Moderate	Minor	None	Unknown	Discussion Attached
A.	Air Quality				▪		
B.	Water Quality, Quantity, and Distribution			▪			★
C.	Geology and Soil Quality, Stability, and Moisture				▪		
D.	Historical and Archaeological Sites				▪		
E.	Aesthetics				▪		
F.	Terrestrial and Aquatic Life and Habitats				▪		
G.	Vegetation Cover, Quantity, and Quality				▪		
H.	Unique, Endangered, Fragile, or Limited Environmental Resources				▪		
I.	Demands on Environmental Resource of Water, Air, and Energy				▪		
J.	Cumulative and Secondary Impacts				▪		

Description of Potential Impacts on Physical and Biological Environment

1. *Resource B - Water Quality, Quantity, and Distribution:* Groundwater has been impacted by historical industrial practices at the LPI facility. Requirements in the CAO for groundwater remedy implementation include groundwater sampling and maintenance of groundwater remediation technologies. Should groundwater monitoring indicate migration of constituents, LPI must implement corrective measures to remediate the contamination and prevent further migration. Remediation of contaminated groundwater is expected to have a positive impact on water quality.

Table 2. Potential Impacts on Social, Economic, and Cultural Environment

Alternative 2 – DEQ’s Proposed Remedy		Major	Moderate	Minor	None	Unknown	Discussion Attached
A.	Social Structures and Mores				▪		
B.	Cultural Uniqueness and Diversity				▪		
C.	Local and State Tax Base and Tax Revenue				▪		
D.	Agricultural or Industrial Production				▪		
E.	Human Health				▪		
F.	Access to and Quality of Recreational and Wilderness Activities				▪		
G.	Quantity and Distribution of Employment				▪		
H.	Distribution of Population				▪		
I.	Demands for Governmental Services			▪			★
J.	Industrial and Commercial Activity			▪			★
K.	Locally Adopted Environmental Plans and Goals			▪			★
L.	Cumulative and Secondary Impacts			▪			★

Description of Potential Impacts on Social, Economic, and Cultural Environment

1. *Resource I - Demands for Governmental Services:* Implementation of a remedy would require submittal of work plans, reports, and completion certification documentation to the DEQ Hazardous Waste Program. These submittals would be reviewed by program staff. In addition, staff would conduct inspections during facility-wide corrective action activities. Notice to the public regarding completion of the remedy would require staff time to develop notices and review and address any public comments. Therefore, a minor impact to government services is anticipated.
2. *Resource J - Industrial and Commercial Activity:* LPI often hires environmental consulting firms to implement cleanup remedies, media sampling, technical evaluations, and work plan and report development for corrective action activities at the LPI facility. Samples for analytical evaluation would be sent to an external analytical laboratory for analysis. Impacts on industrial and commercial activity would be at the same level as similar impacts conducted during previous corrective action activities at the facility.

3. *Resource K - Locally Adopted Environmental Plans and Goals:* The remedy would require that LPI implement institutional measures to control or prevent present and future on-site land use and access to contaminated soil and groundwater. LPI would be required to develop put institutional controls in place that will prohibit current and future use of contaminated groundwater and restrict land use of contaminated areas on the LPI site. The institutional controls must be restrictive for both current and future landowners. Currently, the area encompassing the LPI facility is zoned as heavy industrial. Implementation of institutional controls is expected to have minor impacts on local environmental plans and goals.
4. *Resource L - Cumulative and Secondary Impacts:* Remediation of groundwater to meet Circular DEQ-7 water quality concentration levels would allow reuse of the LPI property. This would have a beneficial cumulative and secondary impact. Land use controls implemented as part of the remedy would provide additional long-term protection to that provided by the local zoning authority. Long-term restrictions on land use for industrial purposes would have minor cumulative and secondary impacts.

Individuals or Groups Contributing to EA
Montana Department of Environmental Quality

Draft EA Prepared

Ann Kron
May 1, 2015

Recommendation

Based on the EA analysis, impacts of Alternative 2 on the Physical and Biological Environment, and Social, Economic, and Cultural Environment are minor. Based on the EA analysis, regulatory requirements, and professional judgment, DEQ recommends Alternative 2, DEQ's proposed remedy for the LPI facility.

The EA analysis demonstrates this state action will not be a major action significantly affecting the quality of the human environment. Therefore, the EA is an adequate level of environmental review and an EIS is not required.