**Public Health Assessment** 

## Sand Park

## **AKA Browning-Ferris, Inc.**

# Loves Park, Winnebago County, Illinois

## EPA Facility No. ILD980606693

March 14, 2002

Prepared by

Illinois Department of Public Health Under Cooperative Agreement with the Agency for Toxic Substances and Disease Registry

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#### Purpose

The Illinois Environmental Protection Agency (Illinois EPA) requested the Illinois Department of Public Health (IDPH) evaluate the public health significance of the Sand Park site and recommend further actions to reduce or prevent possible health effects.

#### **Site Description and History**

The Sand Park site is a 40-acre parcel of land in Loves Park, Winnebago County, Illinois. About 22 acres of the site is a closed landfill, and the property is used as a city park (Attachment 1). The site is bordered on the north by Riverside Boulevard, on the east by Chicago and Northwestern Railroad tracks, on the west by Walker Road, and on the south by Loves Park City Hall. The Rock River is about one mile west of Sand Park.

Structures on the site include a miniature golf course and driving range on the northeast corner; a toboggan hill on the east side of the site; a swimming pool, bathhouse, and parking lot in the center of the property; and a memorial on the southwest portion of the site. Loves Park municipal well #2 is on the southwest corner of the site, about 200 feet from the landfill. Loves Park municipal well #1 is about 0.3 miles southwest of the site.

The site is a former sand and gravel pit that the Rockford Park District purchased in 1941 for development as a recreational facility. The site began operating as a landfill in the 1950s. Municipal, commercial, and industrial waste were accepted during landfill operations, and landfill inspection records were available starting in February 1970. Although no problems with hazardous wastes are noted, several reports suggest that hazardous wastes were present.

The landfill continued operation until capacity was reached in May 1972. A 2-foot clay cover was applied to the eastern half of the site in 1975 [1]. Although the western half of the site does not have a final cover, enough cover soil is present to prevent direct contact with landfill materials [2].

The first monitoring well (G-101) was installed in 1974 to sample for chloride, iron, and other residues. In 1983, Illinois EPA installed monitoring wells G-102, G-103, G-104, and G-105. Monitoring wells G-106 and G-107 were installed in early 1985 (Attachment 2). Several samples were collected from those wells before they were abandoned.

In May 1991, two underground gasoline storage tanks and one diesel fuel storage tank were removed from a location about 200 feet northwest of the site. Soil samples showed the presence of petroleum products, and cleanup was conducted. Groundwater samples collected during the clean up activities contained several non-petroleum volatile organic compounds (VOCs) thought to be migrating from the Sand Park site [3].

The Illinois State Water Survey (ISWS) installed 10 monitoring wells throughout Loves Park in the spring of 1994 to determine the direction of groundwater flow. The shallow groundwater flow is generally from east to west toward the Rock River. During drilling activities, hazardous plating materials were discovered about 0.25 miles south of the site. One well (ISWS #3) was installed at the southwest corner of the site about 30 feet from municipal well #2. Samples collected from the monitoring well in April and June 1994 showed the presence of VOCs, but the source was not known.

In September 1994, Illinois EPA conducted a site inspection at the request of the U.S. Environmental Protection Agency (USEPA). Another Illinois EPA site inspection was done in August 1995 that included collection of one shallow soil sample (1 - 3 inches), four shallow aquifer groundwater samples (Attachment 3), and one residential well sample.

In April 1996, 5 shallow (13 to 20 feet) monitoring wells, MW108 through MW112 were installed. These wells were to replace some original monitoring wells. In July 1997, 5 deep (about 120 feet) wells were installed at locations near wells MW108 through MW112 (designated MW108B - MW112B). Those 5 wells sampled the deeper aquifer around the site (Attachment 4) [4].

#### Site Visit

IDPH staff have visited the site several times over the past few years [5]. The most recent site visit was on July 31, 2001. The surface of the site was covered with grass and other vegetation, but the groundcover was brown and sparse due to the dry summer conditions. Groundcover is maintained by the Rockford Park District. A chain-link fence surrounded the southeast portion of the Sand Park facility. The remaining property boundaries were unfenced and were open to the public. A hill that previously consisted of landfill waste was used as a golf driving range and a toboggan run.

A public swimming pool was in the middle portion of the site. On July 31, 2001, the pool was extremely busy, and patrons were snacking and sunbathing on beach towels on the dry groundcover within the chain-link fence that surrounded the pool area. The asphalt parking lot near the swimming pool was full and patrons had parked on the dry grass around the pool. The parking lot had settled in some places, probably because of insufficient compaction or decomposition of the landfill materials. Some areas of the parking lot had settled as much as 1 foot, resulting in a very uneven surface. On a previous site visit, several low areas with ponded water were noted west of the parking lot.

Single family homes border the site on the northwest and west. Several small businesses (metal working, metal plating, automotive, etc.) are within a half mile southeast of the site. Ten functional groundwater monitoring wells were on the site [6].

#### Demographics, Land Use, and Natural Resource Use

The Sand Park site is in a heavily populated area of Winnebago County. The area consists of industrial, business, and residential properties. The population of Loves Park is about 17,300 people [7]. The homes near Sand Park represent low to moderate income housing. The distance from the site boundary to the nearest home is about 50 feet.

Four grade schools, one junior high school, one private high school, one daycare facility, and several nursing homes are within a one-mile radius of Sand Park. Of the schools, three grade schools, the junior high, and the daycare facility are served by Loves Park Water Department.

Two aquifers, a shallow aquifer above the clay layer and a deeper aquifer below the clay layer, exist in the sand and gravel deposits below the site. Five monitoring wells (MW108 – MW112) are finished in the shallow aquifer. ISWS MW3 is finished at the bottom of the shallow aquifer. Five other monitoring wells (MW108B – MW112B) are finished in the deeper aquifer at a depth of 119 feet. Loves Park municipal wells #1 and #2 are finished in the deeper aquifer at a depth of 200 feet [1]. Water level measurements taken from both the ISWS wells and off-site monitoring wells suggest that groundwater is moving northwest toward the Rock River.

Municipal well #1 is out of the projected groundwater flow path from the site, and the water from that well is treated by filtration and aeration. Finished water supply samples are tested for VOCs about every 3 months. USEPA Maximum Contaminant Levels (MCLs) have not been exceeded.

Municipal well #2 is also out of the projected groundwater flow path from the site, but could be close enough to draw contaminants into the well during use. That well is has been abandoned by the city because of past trichloroethylene (TCE) contamination [8].

About 25 private wells exist in the residential area between the site and the Rock River. The well nearest to the landfill is about two blocks southwest of the site.

#### Discussion

#### **Chemicals of Interest**

IDPH compared environmental sampling results with the appropriate comparison values (Attachment 5). Comparison values are used to select chemicals of interest for further evaluation. Chemicals found at levels greater than comparison values or those for which no comparison values exist were selected for further evaluation.

Many chemicals have been detected in the shallow aquifer at levels greater than comparison values (Tables 1 - 4). The highest level of benzene was found in well ISWS MW3, much higher than seen in any other on-site sample. (Table 1).

#### **B.** Groundwater – Deeper Aquifer

Only one set of samples has been collected from the deeper monitoring wells. Those wells monitor the deeper aquifer where the municipal wells are finished. The chemicals of interest were 1,1-dichloroethane and manganese.

#### C. Soil

Only one shallow soil sample (less than 6 inches) has been collected from the site (August 1995). The results are listed in Table 5. No background samples were collected for comparison. The chemicals of interest were polycyclic aromatic hydrocarbons (PAHs).

#### **Off-site Contamination**

#### A. Groundwater – Shallow Aquifer

One residential well was sampled during the Illinois EPA site inspection in August 1995 (Table 6). That well is about 0.45 miles downgradient of the site. The chemical of interest found was bis(2-ethylhexyl)phthalate. That chemical was also found in the blank sample, so the accuracy of this result is suspect.

Three monitoring wells finished in the shallow aquifer are about 200 feet northwest of the site. Those wells were installed to monitor groundwater during an off-site gasoline clean-up project. Samples collected from those wells contained several non-petroleum VOCs thought to be migrating from Sand Park (Table 8). Chemicals of interest are 1,1-dichloroethane, chloroethane, methylene chloride, and vinyl chloride.

#### **B.** Groundwater – Deeper Aquifer

Loves Park municipal wells #1 and #2 are finished in the deeper aquifer. Manganese and TCE are the chemicals of interest (Table 7). Municipal well #1 is not within the projected groundwater flow from the site, so the manganese may come from another source. Municipal well #2 has been contaminated with TCE in the past and is no longer used.

#### **Quality Assurance and Quality Control**

In preparing this public health assessment, IDPH relied on the information provided in the referenced documents and assumed that adequate quality assurance and quality control measures were followed regarding chain-of-custody, laboratory procedures, and data reporting.

#### **Physical Hazards**

No physical hazards were observed on the site during the IDPH site visits. A section of the landfill is used in the winter for tobogganing, but the physical hazard involved with that activity is beyond the scope of this assessment. The Sand Park property appears to be well kept and mowed.

#### **Exposure Assessment**

To determine whether residents living near the site have been, are being, or may be exposed to hazardous chemicals migrating from the site, IDPH evaluated the surrounding environmental conditions and local activities that might lead to exposure. IDPH evaluates that information for five elements, which represent the parts of an exposure pathway. The five elements include a contaminant source, an environmental transport pathway (such as groundwater, soil, or air), a point of exposure (such as tap water), a route of exposure (such as ingestion of contaminated groundwater), and a receptor population, or people who might contact the contamination.

If all five elements are identified, then a completed exposure pathway exists. Exposure to contaminants has occurred or is occurring. A potential exposure pathway is one in which at least one of the five elements is missing but could exist. Exposure might have occurred, might be occurring, or could occur in the future. An exposure pathway can be eliminated if at least one of the five elements is missing and will never be present.

#### **Completed Exposure Pathways**

#### A. Groundwater

The use of municipal wells #1 and #2 has resulted in persons being exposed to low levels of manganese and TCE. Exposure to these chemicals will be evaluated further in the toxicological evaluation section.

#### A. Soil

People may have been exposed in the past to contamination in on-site surface soils and waste materials (Table 9). These past exposures may have occurred in the landfill disposal areas. Site workers and trespassers may have been exposed to site-related contaminants by incidental ingestion, inhalation, or direct skin contact with on-site surface soils or waste during normal landfill operations. In addition, nearby residents may have been exposed by inhalation or incidental ingestion to contaminated dust during landfill operations. Only one surface soil sample has been collected from the site. This sample contained elevated levels of PAHs, although the landfill was reportedly covered with clean soil.

Future exposure to subsurface soils or waste materials is possible. Any construction activities may expose workers to unknown contaminants (Table 10).

#### **B.** Groundwater – Shallow Aquifer

The domestic use of the shallow aquifer groundwater is a past completed exposure pathway. The home with the well that tested positive for bis(2-ethylhexyl)phthalate in 1995 connected to the public water supply in 1996. Based on the available information, the flow of groundwater from Sand Park could provide a transport pathway for contaminants. IDPH does not recognize a completed exposure pathway for the deeper aquifer. Also, the groundwater under the site is contaminated and future use of this water may expose residents to contaminants by ingestion, inhalation, and skin contact.

#### C. Groundwater – Deeper Aquifer

Past, present and future exposures are possible from site-related contaminants in the public water supply, but exposures are unlikely. The municipal wells are finished below a confining clay layer. The water from well #1 is treated by filtration and aeration. Well #2 is no longer used. In addition, samples are collected from the distribution system quarterly.

#### **Toxicological Evaluation**

IDPH estimated exposure to chemicals in off-site shallow groundwater based on two exposure scenarios. One was for a child drinking 1 liter of water per day for 16 years, and another for an adult drinking 2 liters of water per day for 40 years. Inhalation of VOCs during bathing, showering, and other household purposes was assumed to be equivalent to ingestion exposure.

IDPH compared the estimated doses with minimal risk levels (MRLs) developed by ATSDR for chemicals commonly found at hazardous waste sites. An MRL is an estimate of the daily human

exposure to a contaminant below which adverse, noncancerous, health effects are unlikely to occur. When an MRL was not available, IDPH used the USEPA reference dose (RfD). RfDs are used for long-term exposure, but may not be protective of hypersensitive individuals.

Each chemical of interest that persons could potentially contact based on the exposure scenarios described above was evaluated. The remaining chemicals detected in the shallow aquifer are not discussed because they do not appear to have migrated off the site. IDPH did not evaluate PAHs in soil because one soil sample is insufficient to predict exposure for the entire site. In addition, the site was reportedly covered with clean soil, and the surface is well vegetated. Given the use and condition of the site, it is unlikely that persons are exposed to chemicals in soil that would be a public health hazard.

#### A. Manganese

Manganese has been detected in off-site municipal wells at 210 parts per billion (ppb). Manganese has also been detected in a shallow on-site monitoring well at a level of 18,000 ppb, and in the deeper monitoring wells at 310 ppb.

Manganese is an essential nutrient in our diets. In an average diet, an adult consumes about 2.3 to 8.8 milligrams per day of manganese. Residents exposed to the levels of manganese in the public water supply would not likely experience adverse health effects. If persons were exposed to the maximum level of manganese detected in the monitoring wells, they could experience neurological disorders. Manganese is not believed to cause cancer [17].

#### **B.** Trichloroethylene (TCE)

TCE was detected at a maximum level of 8 ppb in municipal well #2 in July 1985, but the use of water from this well was later limited. As a result, the time of exposure would have been brief. The maximum contaminant level (MCL) for TCE is 5 ppb. MCLs have been established by the U.S. Environmental Protection Agency for public water supplies to reduce the chances of developing adverse health effects from contaminated drinking water. These standards are well below levels for which health effects have been observed and are enforceable limits that public water supplies must meet.

IDPH estimated the dose of TCE for children and adults through ingesting groundwater containing 8 ppb for 2 years and found that exposure to that level of TCE would pose no increased cancer risk. The estimated exposure to children and adults is less than the no-observed-adverse-effect levels (NOAELs) for TCE in animals. NOAELs reflect actual doses used in animal studies that did not result in observable health effects.

#### **ATSDR Child Health Initiative**

IDPH estimated exposure to chemicals in water based on children drinking 1 liter of water per day for 16 years. No adverse health effects would be expected. IDPH recognizes and considered the unique vulnerabilities of infants and children. Children are at greater risk than adults from certain kinds of exposures to hazardous substances. Children are smaller, resulting in higher doses of chemical exposure per body weight.

#### Conclusions

Based on the available information, IDPH concludes that current exposures are not at levels expected to cause adverse health effects; thus, the groundwater at Sand Park site poses no apparent public health hazard. On the site, the shallow aquifer is contaminated with high levels of several chemicals, but no one is currently exposed to that water. No groundwater sampling has occurred since 1997.

Residents using the shallow aquifer downgradient of the site are potentially at risk from other contaminants. Past monitoring well samples contained several inorganic and organic contaminants in the shallow aquifer at significant levels. Benzene, manganese, and lead are of particular concern because of the high levels detected in on-site shallow groundwater. The site does not appear to have had any impact on the municipal wells in the area.

Only one surface soil sample has been collected at the site. Area municipal well water is tested about every three months. The local water authority has abandoned well #2 because of prior contamination.

#### Recommendations

IDPH recommends that Illinois EPA ensure that the monitoring wells are resampled to determine if groundwater contamination is migrating.

IDPH recommends that the municipal wells continue to be sampled as scheduled.

The contractor should work with Illinois EPA to determine if sufficient physical separation exists between the underlying refuse and users of the recreational areas.

#### **Public Health Action Plan**

A contractor for the Rockford Park District will resampled the wells in 2001. The contractor determined whether any private wells downgradient of the site existed and should be sampled.

Municipal well #2 has been abandoned as previously recommended, and continued monitoring of municipal wells is scheduled.

IDPH will review the results of any future environmental sampling and give residents information regarding the results of this sampling.

#### **Preparer of Report**

Steve Johnson Environmental Toxicologist Illinois Department of Public Health

#### Reviewer

Ken Runkle Environmental Toxicologist Illinois Department of Public Health

## **ATSDR Regional Representative**

Mark Johnson Regional Operations, Office of the Assistant Administrator

#### **ATSDR Technical Project Officers**

Gail Godfrey Division of Health Assessment and Consultation

Steve Inserra Division of Health Studies

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#### Certification

This Sand Park Public Health Assessment was prepared by the Illinois Department of Public Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. It is in accordance with approved methodology and procedures existing at the time the public health assessment was begun.

Technical Project Officer SPS, SSAB, DHAC, ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health assessment and concurs with its findings.

Chief, SSAB, DHAC, ATSDR

#### References

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- 18. Agency for Toxic Substance and Disease Registry. Toxicological Profile for Methylene Chloride, Atlanta, GA. April, 1993.
- 19. Agency for Toxic Substance and Disease Registry. Toxicological Profile for Trichloroethylene, Atlanta, GA. September, 1997.
- 20. Agency for Toxic Substance and Disease Registry. Toxicological Profile for Vinyl Chloride, Atlanta, GA. September, 1997.

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Tables

#### Final Release

Table 1.Volatile Organic Chemicals of Interest in Shallow On-Site Groundwater in parts per billion (ppb)Only those levels detected greater than comparison values are listed.

Chemical	G105 8/84	GW 102 8/84	ISWS3 4/94	ISWS3 6/94	GP 103 8/95	GP 104 8/95	MW 109 4/96	MW 109 6/97	MW 110 6/97	MW 108 4/96	MW 111 4/96	MW 112 4/96
benzene	10.9		1,300	1,200	5	4		2.6	5.4			
bis(2- ethylhexyl)phthalate		13.4		10						7.7	48	19
2,4-dimethylphenol							410					
vinyl chloride						28						

1

3

Comparison values used:

benzene bis(2-ethylhexyl)phthalate 2,4-dimethylphenol vinyl chloride cancer risk evaluation guide

cancer risk evaluation guide

200 reference dose media evaluation guide for children

0.2 chronic environmental media evaluation guide for children

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# Table 2.Inorganic Chemicals of Interest in April 1996 Shallow Monitoring Well<br/>Samples in parts per billion (ppb)

Only those levels detected greater than comparison values are listed.

		S	Comparison				
Chemical	MW108	MW109	MW110	MW111	MW112	Value	Source
Antimony		14				4	RMEG
Barium		2,000	5,600		1,200	700	RMEG
Beryllium	6	14	6		11	4	MCL
Chromium	240	740	190	180	530	100	LTHA
Copper		2,300				1,300	MCLa
Lead	200	3,400	100	220	800	15	MCLa
Manganese	8,000	18,000	2,400	4,600	10,000	50	RMEG
Nickel	300	1,100			440	200	RMEG
Thallium		25	2.6			0.4	LTHA
Vanadium	290	1,500	210	210	630	30	IEMEG
Zinc		4,800				3,000	EMEG

EMEG - environmental media evaluation guide

RMEG - reference dose media evaluation guide

IEMEG - intermediate environmental media evaluation guide

CREG - cancer risk evaluation guide

MCLa - maximum contaminant level (action level)

MCL - maximum contaminant level

LTHA - lifetime health advisory

# Table 3.Inorganic Chemicals of Interest in June 1997 Shallow Monitoring Well<br/>Samples in parts per billion (ppb)

Only those levels detected greater than comparison values are listed.

		Comparison					
Chemicals	MW108	MW109	MW110	MW111	MW112	Value	Source
Arsenic	100	620			97	50	MCL
Barium		700	780			700	RMEG
Chromium	120	260			110	100	LTHA
Lead	65	340			110	15	MCLa
Manganese	5,500	5,800	330	640	2,400	50	RMEG
Nickel		390				200	RMEG
Vanadium	140	390			110	30	IEMEG

EMEG - environmental media evaluation guide

RMEG - reference dose media evaluation guide

IEMEG - intermediate environmental media evaluation guide

CREG - cancer risk evaluation guide

MCLa - maximum contaminant level (action level)

MCL - maximum contaminant level

LTHA - lifetime health advisory

# Table 4.Chemicals of Interest in August 1997 Deeper Aquifer Monitoring Well<br/>Samples in parts per billion (ppb)

Only those levels detected greater than comparison values are listed.

						Comp	parison
Chemical	MW 108B	MW 109B	MW 110B	MW 111B	MW 112B	Value	Source
manganese	190	230	120	150	310	50	RMEG

RMEG - reference dose media evaluation guide

## Table 5. Chemicals of Interest in August 1995 Soil Samples in parts per million (ppm)

	Sample	Com	parison
Chemicals	X103	Value	Source
Acenaphthylene	91J	na	na
2-Methylnaphthalene	43J	na	na
Dibenzofuran	140J	na	na
Phenanthrene	1,400	na	na
Carbazole	75J	na	na
Benzo(a)anthracene	980	na	na
Chrysene	870	na	na
Benzo(b)fluoranthene	460	na	na
Benzo(k)fluoranthene	600	na	na
Benzo(a)pyrene	600	0.1	CREG
Indeno(1,2,3-cd)pyrene	320Ј	na	na
Dibenz(a,h)anthracene	130J	na	na
Benzo(g,h,i)perylene	280J	na	na

J - estimated value

na - not available

CREG - cancer risk evaluation guide (one in a million risk)

# Table 6.Chemicals of Interest in August 1995 Off-Site Private Well Samples in parts<br/>per billion (ppb) (Well located about 0.45 miles northwest of site)

	Sample	Com	parison
Chemical	G201	Value	Source
Bis(2-ethylhexyl)phthalate	32 B	3	CREG

CREG - cancer risk evaluation guide (1 in 1,000,000 increased risk) B - chemical also found in blank sample

#### Table 7. Chemicals of Interest in Off-site Municipal Well Samples in parts per billion (ppb)

Chemical	Municipal Well #1	Municipal Well #2	Date	Comp	arison
				Value	Source
Manganese	210	59	April 1997	50	RMEG
Trichloroethylene		8	July 1985	5	MCL

RMEG - reference dose media evaluation guide

MCL - maximum contaminant level

# Table 8.Chemicals of Interest in Off-site Monitoring Wells 200 Feet Northwest of the<br/>Site in parts per billion (ppb) June 1992 to May 1996

	Highest Detected	Comparison			
Chemical	Level	Value	Source		
1,1-Dichloroethane	38	na	na		
Chloroethane	50	na	na		
Vinyl Chloride	43	0.2	EMEG		

na - not available

CREG - cancer risk evaluation guide (1 in 1,000,000 increased risk)

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EMEG - environmental media evaluation guide

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# Table 9. Completed Exposure Pathways

Pathway Name	Source	Medium	Exposure Point	Exposure Route	Receptor Population	Time of Exposure	Exposure Activities	Estimated Number Exposed	Chemicals
Groundwater	Sand Park	Groundwater	Private wells	Ingestion Inhalation Skin Contact	Residents	Past	Drinking Showering	5	See Tables 1 - 3

# Table 10. Potential Exposure Pathways

Pathway Name	Source	Medium	Exposure Point	Exposure Route	Receptor Population	Time of Exposure	Exposure Activities	Estimated Number Exposed	Chemicals
On-site Soil	Sand Park	Surface and Subsurface Soils	Site	Inhalation Ingestion	Site workers	Future	Excavating on-site soils	25	Landfill Waste
Groundwater	Sand Park	Groundwater	Future users	Ingestion Inhalation Skin Contact	Residents	Present Future	Drinking Showering	100	See Tables

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Attachments

# Approximate Location of Sand Park Site





Surface Water Roads





### ATTACHMENT 2



Sand Park Site Map (Source: Illinois EPA)



**1995 Geoprobe Sample Locations** (Source: Illinois EPA)





#### Monitoring Well Locations (Source: Sub Tech Inc.)

#### ATTACHMENT 5

#### **Comparison Values Used In Screening Contaminants For Further Evaluation**

Environmental Media Evaluation Guides (EMEGs) are developed for chemicals based on their toxicity, frequency of occurrence at National Priorities List (NPL) sites, and potential for human exposure. They are not action levels but are comparison values. They are developed without consideration for carcinogenic effects, chemical interactions, multiple route exposure, or exposure through other environmental media. They are very conservative concentration values designed to protect sensitive members of the population.

Reference Dose Media Evaluation Guides (RMEGs) are another type of comparison value. They are developed without consideration for carcinogenic effects, chemical interactions, multiple route exposure, or exposure through other environmental media. They are very conservative concentration values designed to protect sensitive members of the population.

Cancer Risk Evaluation Guides (CREGs) are estimated contaminant concentrations based on a probability of one excess cancer in a million persons exposed to a chemical over a lifetime.

Maximum Contaminant Levels (MCLs) have been established by USEPA for public water supplies to reduce the chances of occurrence of adverse health effects from use of contaminated drinking water. These standards are well below levels for which health effects have been observed and take into account the financial feasibility of achieving specific contaminant levels. These are enforceable limits that public water supplies must meet.

Lifetime Health Advisories for drinking water (LTHAs) have been established by USEPA for drinking water. They represent the concentrations of chemicals in drinking water that are not expected to cause any adverse, non-carcinogenic effects over a lifetime of exposure. These are conservative values that incorporate a margin of safety.

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**Comments From Public Comment Period** 

September 9 to October 12, 2001

November 13, 2001

Illinois Department of Public Health Division of Environmental Health **ATTN: Mr. Ken Runkle** 525 West Jefferson Street Springfield, Illinois 62761



Re: Public Comment Response IDPH Public Health Assessment Report Former Loves Park Landfill (a.k.a, 'Sand Park') Loves Park, Illinois EPA Facility No. ILD980606693

Dear Mr. Runkle:

The Rockford Park District ("RPD") is forwarding this correspondence to your attention in response to the Illinois Department of Public Health ("IDPH") Public Health Assessment Report ("Report") dated September 9, 2001 for the former Loves Park Landfill site (a.k.a., 'Sand Park'). It is the understanding of the RPD, that the IDPH will accept this correspondence in its entirety and record such in the public record as part of the public comment period for the Report.

The RPD was surprised by the fact that the Illinois Environmental Protection Agency ("IEPA") solicited the involvement of your agency and by the report that was generated. The RPD considers protection of human health and the environment to be of utmost importance. The RPD has and will continue to fully cooperate with the corrective action requirements as outlined by the Illinois Environmental Protection Agency ("IEPA") and to ensure that the site continues to meet or exceed all applicable health limits.

Since 1989, the RPD has partnered with the IEPA to proactively address the environmental issues associated with the site. A meeting took place on May 30, 2000 between the RPD, its consultants and the IEPA to discuss the work to be conducted at the site and to formalize the technical issues and content of a consent order. In this meeting, a benchmark for all work associated with the site was established. Since that time the RPD has fulfilled its agreement to conduct the work as outlined in this meeting.

The work outlined in the recommendations section of the IDPH letter seems to deviate from the scope of work previously agreed to by the RPD and the IEPA. The RPD will contact the IEPA and will cooperatively re-establish a scope of work for the project that is protective of human health and the environment.

The RPD and its environmental consultant, Deuchler Environmental, Inc. ("DEI") of

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1401 NORTH SECOND STREET • ROCKFORD, ILLINOIS 61107-3086 • TELEPHONE 815/987-8800 • FAX 815/987-8877 Serving the Communities of Cherry Valley, Loves Park, New Milford and Rockford Aurora, Illinois have developed a list of comments and questions regarding the IDPH report. The comments and questions are as follows:

- 1. Why are Public Health Assessments conducted?
- 2. Who requested the Public Health Assessment for this site?
- 3. When was this request made?
- 4. Why was the Public Health Assessment Report issued for public comment and under what enabling authority? If this is standard procedure, then why are these types of reports issued for public comment and under what enabling authority?
- 5. Why was this report released to the United States Environmental Protection Agency ("USEPA"), the Winnebago County Health Department and the Illinois Attorney General? If this is standard procedure, then why are these agencies issued copies of these types of reports?
- 6. Were agencies other than those listed in item #5 above given copies of the report? If so, please provide a list of these agencies and an explanation of why these agencies were given copies of the report.
- 7. What are the IDPH public notice and public comment requirements for reports such as this?
- 8. Why was the RPD not notified of the assessment activities, the existence of the report and the public comment period? Why was the report not forwarded to the RPD?
- 9. What was the purpose of the July 31, 2001 site visit made by the IDPH?
- 10. Page 3, Paragraph 5 states that Municipal Well #2 is close enough to the site to draw contaminants into the well during use. On what is this statement based? Has the City of Loves Park been contacted to ascertain the criteria that are used to determine the use of this well?
- 11. Page 3, Paragraph 7 states that sampling results were referenced to "comparison values" that include numerous references. What are the specific references from which the comparison values were derived? Why weren't the State of Illinois

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remediation objectives used as the comparison values?

- 12. Page 4, Paragraph 3 states that a shallow soil sample was obtained from the site in August 1995. Who collected this sample, for what purpose and where can the analysis results be obtained?
- 13. Table 1: What wells are referenced by the designations of GW102, GP103 and GP104 as indicated on this table? Where was this data obtained for these wells including the ISWS well?
- 14. Table 2: Where was this data obtained?
- 15. Table 3: According to RPD records, the results from MW108 for barium should be 490 ug/l, not 4900 ug/l and the results from MW-109 for nickel should be 590 ug/l, not 390 ug/l.
- 16. Table 4: The RPD would like to note that the level of 1,1-dichloroethane of 11 ug/l is below the IEPA Tiered Approach to Corrective Action Objectives ("TACO") remediation objective of 4000 ug/l for Class I ground water as outlined in 35 IAC 742, Appendix B, Table E.
- 17. Table 6: Who collected the water sample from this well and for what purpose?
- 18. Table 7: The RPD would like to note that the level of trichloroethene in Municipal Well #1 of 3 ug/l is below the IEPA TACO remediation objective of 5 ug/l for Class I ground water as outlined in 35 IAC 742, Appendix B, Table E.
- 19. Table 8: What are the designations and specific locations of the monitoring wells referenced in this table?
- 20. Table 9: The RPD would like to note that there is no evidence to conclude that any exposure pathways are currently complete. The RPD will be working in conjunction with the IEPA to determine if there are any exposure pathways currently complete at the site. Additionally, while exposure pathways are important to assess in situations such as this, the toxicity of the chemicals of concern to the potentially exposed populations is equally important. It may not be reflective of actual site conditions to assume that populations are potentially exposed at the levels which were present in the Municipal Wells. This is due to the fact that the water from the well is transported away from the well, mixed with water from

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other wells and treated prior to consumption and use via the municipal water delivery system.

- 21. How were the potentially exposed population figures listed in Tables 9 and 10 determined?
- 22. While the RPD will continue to fully cooperate with the IEPA to insure protection of human health and the environment, there are questions as to the basis for the recommendations listed at the end of Page 8 of the report.

The IDPH concludes on Page 8, Paragraph 2 that:

"Based on the available information, IDPH concludes that exposures are not at levels expected to cause adverse health effects and thus the Sand Park site poses no apparent public health hazard."

Yet, on Page 8, Paragraphs 5-8 the IDPH recommends additional work. On what are these recommendations based? What are the IDPH's goals that are hoped to be achieved based upon conducting the outlined activities?

The Rockford Park District appreciates the opportunity to provide these comments and questions. Please feel free to contact Marc Fisher of Deuchler Environmental, Inc. at (630) 897-8380 or myself at (815) 987-8863 at any time should you have any questions regarding this correspondence.

Sincerely, Rockford Park Dist

Manager, Design and Construction

JR/mrf

cc: Vanessa Keehner, IEPA
John Cook, John R. Cook Associates
G. Michael Scheurich, Guyer & Enichen, P.C.
Marc R. Fisher, DEI

# Public Health

George H. Ryan, Governor - John R. Lumpkin, M.D., M.P.H. Director

525-535 West Jefferson Street • Springfield, Illinois 62.761-0001

#### #101039101H

November 20, 2001

Jim Reid Manager, Design and Construction Rockford Park District 1401 North Second Street Rockford, IL 61107-3086

Dear Mr. Reid:

Thank you for your comments and questions in your letter dated November 13, 2001. Also thank you for informing us that the Rockford Park District (RPD) and Illinois EPA are working together to address the corrective action requirements for the Sand Park property. Here are our responses to your questions and comments.

#### **Comments and Questions 1 - 8**

The Illinois Department of Public Health (IDPH) conducts public health assessments under cooperative agreement with the federal Agency for Toxic Substances and Disease Registry (ATSDR). A fact sheet that explains some evaluation activities conducted under the ATSDR cooperative agreement is enclosed.

IDPH works with the Illinois EPA Bureau of Land to determine which sites to evaluate based on the Illinois EPA work plan for site activity. The Sand Park site was originally listed on our work plan in 1998.

Under ATSDR policy, public health assessments are released in three stages. The initial release goes out to state and federal environmental agencies for review and comment. After comments have been received and addressed, the public comment release is made to local, state, and federal agencies, a copy is placed in a local library or the public repository, and a copy is posted on the IDPH web site. Those agencies receiving the Sand Park public comment release included Illinois EPA, U.S. EPA, IDPH, the Winnebago County Health Department, the Illinois Attorney General, and ATSDR. A legal notice was run in the September 9, 2001 edition of the *Rockford Register Star* to announce the public comment release. RPD was not included because owners or primary responsibly parties are not part of our routine distribution list. After comments from this review phase are received and addressed, ATSDR makes a final release of the public health assessment.

#### **Question 9**

IDPH staff visited the site to determine if conditions had changed since the previous site visit. Since the pool area was at near maximum capacity, we had the opportunity to view potential exposure pathways for the public using the facility.

#### **Question 10**

We have checked with Illinois EPA staff and have found that this well has been abandoned. We will change the document to note this information.

#### **Question 11**

ATSDR issues comparison values to screen for chemicals that may pose a public health hazard. Attachment 5 of the public comment release explains each of the comparison values used. As a health agency under cooperative agreement with ATSDR, we give these comparison values priority over those used by Illinois EPA.

#### Question 12

The shallow soil sample was collected as part of the Illinois EPA CERCLA site inspection and can be found in that report.

#### Questions 13 & 14

GW102 was an original monitoring well in the north-central part of the site. GP103 and GP104 were Geoprobe samples. GP103 was northwest of the swimming pool parking lot and GP104 was north of the hill. The ISWS well used to be near municipal well 2. All of this data was obtained from Illinois EPA files for the Sand Park site.

#### Question 15

We have rechecked the data sheets and have found that the correct level of barium in MW108 should be 490 ug/L. This error will be corrected. For MW109, our copy of the data shows the result for nickel to be 390 ug/L.

#### **Question 16**

ATSDR does not list a comparison value for 1,1-dichloroethane. The Illinois EPA TACO Class I groundwater remediation objective is an appropriate comparison value and will be used to remove 1,1-dichloroethane from Table 4.

#### Question 17

Illinois EPA collected this water sample as part of the CERCLA site inspection. IDPH wrote a letter to the resident interpreting the result.

#### **Question 18**

We will remove the value of 3 ug/L from the Municipal Well #1 column in Table 7.

#### **Question 19**

These wells were at a gas station northwest of the Sand Park site. Although fuel-related chemicals were found in these wells, the presence of chlorinated solvents suggested another source, perhaps the landfill.

#### Comment 20

We concur that the groundwater pathway is currently incomplete and therefore is a potential exposure pathway. Table 9 shows this pathway completed in the past. Table 10 shows this pathway as potential in the present.

#### **Question 21**

The number of persons potentially exposed is based on an estimate of the persons in the immediate area near the site.

#### Comment 22

Our conclusion is based on the available information; however, groundwater has not been sampled since 1997, and after consultation with Illinois EPA we determined that the groundwater should be sampled again to determine the status of contamination in the aquifer. Also, surface soil sampling was limited. We concurred with Illinois EPA that an inspection of the landfill cap should occur, especially in the areas near the pool.

Again, thank you for your comments. If you have any questions or require any additional information, feel free to contact us at 217-782-5830.

Sincerely,

Ken Runkle Environmental Toxicologist

#### cc: Steve Johnson, IDPH Rockford Regional Office