

The evaluation of the ground water extraction system indicated the system was then performing below the mass removal rates the system achieved in 1996 and 1997. In typical ground water extraction systems, contaminant mass removal is extremely high for the first several years of operation but decreases significantly in later years as the concentration of the contamination decreased. Mass removal can also be reduced by flow reductions due to clogging of system piping, well screens, and pumps from significant iron bacterial buildup and calcification of plumbing lines. The pumping rates for the pumps installed in extraction wells RW-1 and RW-2 was a combined average of 21 gallons per minute (gpm) in the first year of operation. Over time, the pumping rate has decreased to a combined average of 6.5 gpm primarily due to considerable accumulations of iron and manganese precipitates and iron bacteria caused by aeration in the discharge lines and pumps. Reduced drawdown in the recovery wells was directly responsible to the decreased contaminant influent concentrations noted in late 1998.

Charts of the system performance data, including removal rates and cumulative removal for PVOc and ground water are included with this appeal as **Exhibit 16**. As you can clearly see by the charts, the system performed extremely well during the initial year of operation with a decrease in efficiency as the system became increasingly clogged.

Although the existing ground water pump and treat system was effective in removal of a large amount of contaminant mass (182 pounds of PVOcs prior to retrofitting the system), the system was showing signs of reduced contaminant recovery and system line clogging. Therefore, Ayres recommended system modifications to correct the blockage caused by the iron and manganese bacteria. Consequently, Ayres requested the Department and DNR to allow a reconfiguration of the system to allow for more cost-effective removal and treatment of the surficially impacted ground water. Ayres plan was to reconfigure the system to remove the most heavily contaminated ground water located in the upper four to five feet of the aquifer without utilizing the existing recovery wells or their subsurface piping which was clogged. Ayres experience in modifying another consultants ground water pump and treat system experiencing similar problems was extremely successful and the Bud's Mobil site was an excellent candidate for this type of retrofit.

Ayres received a response to our recommendations that the system be retrofit from Mr. Ted Amman, DNR project manager, dated September 14, 1999. Mr. Amman stated that "we support that recommendation and urge your consultant to proceed quickly with the changes." Mr. Amman also stated "[h]owever, until an efficient and effective pumping system is in place, we recommend dropping all further efforts to test or operate the vapor extraction system. Removing contaminated ground water should be the top and only priority until we see some improvements in groundwater quality". The Claimant received correspondence from Commerce dated October 20, 1999 regarding the status of their PECFA reimbursement claim for the Buds Mobil site. A number of statements contained in this letter gave the Claimants substantial concern. The letter states in part that a substantial portion of the claim would not be eligible for reimbursement until

it can be proven that the installed remediation system at the site have been used effectively (or modified to work effectively).

THE SOIL VAPOR EXTRACTION SYSTEM WAS EFFECTIVE

The cover letter to the claim review stated that "the Department believes that the installed SVE system has not been operational or has been ineffective if operational." As indicated above, the SVE system was primarily installed to reduce vapor transport into off-site vectors (see Exhibit 11 – June 1993 RAP) and was not designed to be the primary contaminant mass remover. In fact, the SVE system was very effective at reducing vapor migration and was also achieving a significant level of contaminant removal as described below.

Ayres believes that the Department did not think that the system was operational because Ayres was initially unable to provide SVE laboratory data to support its operation until recently. The reason Ayres was unable to provide such data was because the project engineer assigned to this project resigned from Ayres in the fall of 1998. As a result and due to pressing space needs, the project engineer's files were placed into banker's boxes and stored in Ayres' archive room. Ayres mistakenly assumed that all original reports, laboratory analysis reports, etc. were in the main project file. Consequently, Ayres was not able to substantiate the SVE sampling program from the system until the project engineer's files were recently recovered from the archives.

Having now located the original SVE data, Ayres has been able to determine the cumulative PVOC discharge rate during operation since start-up on May 1, 1997 through 1998 when Ayres ceased collection of samples because low pumping rates did not depress the ground water table sufficiently to keep the SVE system running consistently. During this operational period, Ayres extracted over 17 pounds of PVOCs from the SVE system. The mass removal rate is undoubtedly considerably greater since Ayres only sampled the system at a collection point located immediately upstream from the vent stack. The reason it is sampled in this location is for evaluating discharge contaminant levels for meeting discharge limits (air samples are generally collected to document compliance with air discharges not to calculate mass removal). It is also understood that soil vapor concentrations generally peak relatively soon after system start-up and reach asymptotic levels fairly quickly during the life of an SVE system. Prior to installation, our SVE pilot test indicated consistent total PVOC levels of 135 ppm through the 5.5-hour test. The test used a flow rate of 405 scfm for a total VOC discharge rate of 0.74 lbs./hr or 60.48 lbs./year.

The SVE system was clearly both operational and effective in preventing vapor transport into contaminant vectors as evidenced by no additional reports of gasoline vapors in neighboring basements and sewer utilities. The effectiveness of the SVE system did decline as the ground water recovery system became increasingly plugged thus, insufficiently depressing the ground water table, however, contaminant mass removal was still being accomplished during system operation.

Finally, although the SVE system has been temporarily shut off as a cost savings measure, Ayres intention was to re-start the system after the reconfiguration of the proposed ground water remediation system was complete.

A tabulation of the SVE discharge monitoring data is included at **Exhibit 17** and included with this appeal.

THE GROUND WATER EXTRACTION SYSTEM WAS EFFECTIVE

The Department's October 20, 1999 letter states that "only one of the two ground water extraction wells has been effective." Ayres contends that both recovery wells have been effective in both mass reduction and for plume control. Ayres' ground water extraction system performance data indicate that over 14,600,000 gallons of ground water were removed and treated between system start-up on July 23, 1996 and December 30, 1999. Using influent data collected over this period, the Buds' Mobil ground water remediation system removed over 182 pounds of volatile organic hydrocarbons through 1999. Ayres has always maintained that the ground water recovery system has been effective and has the performance data to support this contention. Historical ground water monitoring reports routinely forwarded to the DNR documented the effectiveness of the system through 1998. One only need to review Ayres quarterly ground water monitoring report dated November 5, 1998 to see that significant reductions in concentrations were occurring since system start-up in 1996. Figure 2 - Water Table Contour (8-12-98) contained in this quarterly report demonstrates the sizable capture area achieved by the ground water remediation system. A series of bar graphs and charts outlining the performance of the ground water extraction system is included with this appeal as **Exhibit 19**.

COMPLICATIONS PERTAINING TO SITE REMEDIATION FOR CONSIDERATION

In early 1984, DNR staff retained the services of Fuel Recovery Company ("FRC") of St. Paul, MN to remove free product from the release site at Bud's Mobil. During this activity, FRC pumped from a single recovery well at a rate of 42 gpm for 70 continuous days. During removal of 4,230,600 gallons of water, the DNR contractor skimmed off over 1,400-gallons of gasoline product. During this very rapid dewatering, the surface of the ground water was depressed so greatly, that free-phase gasoline was in contact with soil material well below the ground water surface.

Although not clearly stated in FRC's report of their remediation activities, Ayres' assumed that FRC depressed the water table by nearly 20 feet. This rapid depression of the water table surface would allow the free product to be in direct contact with geologic material at a depth of nearly 16 feet below static water levels. Ayres has documented soil contamination 23 feet below surface grade in the vicinity of the former DNR extraction well. Experience has shown that this

intentional or unintentional "smearing" of contamination so far beneath the water table makes ground water remediation more difficult and far-more time consuming.

An additional complication, which presented itself to our remediation project, is that neither FRC previous investigation nor information provided by the new property owners (Benders') indicated that additional USTs were present on the Bud's Mobil property. Consensus indicated that all previous tanks had been removed from the property by 1987. During construction of the remediation system in late August 1995, three additional USTs were discovered on the property. Three of these tanks contained some old gasoline, were quite corroded, and were found to have leaked a significant amount of product beneath them. Two other tanks previously known to exist on the property by the owners did not appear to have leaked, were small in size, and contained waste oil.

These new conditions were not, and could not have been anticipated during the design of the initial remediation system. Thus, these unanticipated conditions have complicated the already complex remedial conditions present at the site, slowing cleanup timelines and adding a layer of inefficiency to the operational status of the former remediation system.

Other complications arose after the design and construction of the Bud's Mobil remediation system. On July 29, 1996, three USTs containing diesel fuel were removed by METCO from the Viola Quick Stop property. Soil samples collected at tank closure indicated that a release had occurred. On February 11, 1998, Ayres conducted a limited contamination assessment on the Quick Stop property. Assessment results indicated that significant ground water contamination exists at the Quick Stop property. Moreover, contamination levels are elevated in soil up to 7-8 feet below static water level. In June 1998, Ayres produced a contamination assessment report that concluded that significant ground water contamination exists at the Viola Quick Stop site. This report indicates that the Viola Quick Stop ground water contaminant plume is impacting the Bud's Mobil ground water plume. Although the Bud's Mobil ground water remediation system was successful in decreasing contaminant concentration levels within the plume, it was not intended or designed to capture or remediate the Viola Quick Stop plume and has only been successful in capturing a portion of that plume.

The Department and the DNR cannot expect the original pump and treat system to capture two separate plumes over a similar time period without a significant modification to the existing remediation system. Moreover, Ayres was never under contract to remediate two separate plumes.

MW410156_1.DOC

BEFORE THE
DEPARTMENT OF NATURAL RESOURCES

Exhibit 2

In the Matter of Gasoline Contamination)
Caused by the Discharge of Gasoline, from) DECISION
Bud's Mobil Oil, Owned and Operated by)
Mr. Ed Hill, Jr.,)
Village of Viola, Richland County,)
Wisconsin)

FINDINGS OF FACT

1. On February 22, 1984, the Department of Natural Resources was notified of gasoline fumes in the basement of a residence and in portions of the sanitary sewer line in the Village of Viola, Richland County, Wisconsin.
2. The Department of Natural Resources hired a consultant on February 24, 1984 to investigate the gasoline contamination.
3. On February 27, 1984, the consultant arrived at Viola and drilled 16 test borings. Gasoline product contamination was found in 7 of those borings and liquid was found in the boring closest to the underground storage tanks at the Mobil gasoline station. With the extent of contamination known, the consultant fitted 11 of the borings with two inch PVC well screen and casing to serve as temporary observation wells.
4. Mr. Ed Hill Jr., d/b/a Bud's Mobil Oil, owns and operates the Mobil gasoline station in Viola, Wisconsin.
5. On March 1, 1984, representatives of the Department of Natural Resources met with Mr. Ed Hill, village officials and the consultant. Mr. Hill was informed of the investigation results and asked to follow through with a shallow well recovery system. Mr. Hill indicated he was unable to handle the financial burden of a recovery operation. Subsequently, the Department contracted with the consultant to install and operate a recovery system.
6. A recovery system was put into operation on March 12, 1984. This system was operated continuously until June 19, 1984, when the Department authorized termination.
7. The cost incurred by the Department to identify, locate, monitor, contain and remove the gasoline contamination in the Village of Viola was \$12,843.44.

CONCLUSIONS OF LAW

1. The discharged gasoline that contaminated soil and groundwater in the Village of Viola is a "hazardous substance" as that phrase is defined in section 144.01(4m), Wisconsin Statutes.
2. Mr. Ed Hill Jr., d/b/a Bud's Mobil Oil, had possession of, and control over, the gasoline before it was discharged and has the responsibility under section 144.76(3), Wisconsin Statutes, to take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from any discharge to the air, land, or waters of this State.
3. The Department of Natural Resources has the authority under section 144.76(7)(b), Wisconsin Statutes, where action required under sub. (3) is not being adequately taken or the identity of the person responsible for the discharge is unknown, to identify, locate, monitor, contain, remove or dispose of the hazardous substance or take any other emergency action which it deems appropriate under the circumstances.

DECISION

1. Mr. Ed Hill Jr., d/b/a Bud's Mobil Oil, is required by section 144.76(7)(b), Wisconsin Statutes, to reimburse the Department of Natural Resources for costs described in Findings of Fact #7 and shown on the attached invoice.
2. The Department of Natural Resources retains jurisdiction to amend this Decision if such action is necessary for the protection of public health, safety or welfare.

NOTICE OF APPEAL RIGHTS

Any person aggrieved by this decision may seek judicial review by serving and filing a petition in accordance with the provisions of sections 227.15 and 227.16, Stats., within thirty (30) days after service of this decision.

Any petition for judicial review of this decision shall name the Department of Natural Resources as the respondent. This notice is provided pursuant to sections 227.11(2), Stats.

Dated at Madison, Wisconsin, this 29th day of October, 1984

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Paul P. Didier
Paul P. Didier, Director
Bureau of Solid Waste Management

CORRESPONDENCE/MEMORANDUM

Exhibit 3

Date: November 3, 1989
To: File, Bud's Mobil, Viola
From: Ted Amman
Subject: Update

On Friday, October 6, 1989, I stopped at Viola in Richland County to check the monitoring wells installed in 1984. After pumping for approximately three months and recovering over 1400 gallons of gas, the Department authorized termination of cleanup. The rate of recovery of free product at the site was down to roughly one-half gallon per day at the time of termination. Termination did not include proper abandonment of the three monitoring wells. When Laurie Egge visited this site in March 1989, she found 7-8 inches of product in well #1.

On my site visit on 10/6/89, I talked briefly with Mr. Bender, and then we checked all three monitoring wells. Well #2 came up clean. Well #1 had approximately 4 inches of light-colored (diluted) gas floating on the groundwater. Well #3 still had no protective casing or cover and was cut off at ground level. I sampled the well and found 1½ inches of dark (dirty and old) gasoline at the bottom. Monitoring wells #1 and #2 had barely two feet of water in them. Monitoring well #3 had less than six inches of water/gas in it. Since monitoring well #3 was providing an open and uncontrolled conduit to groundwater, I told Mr. Bender to fill in this well with a concrete slurry as soon as possible, and to submit a well abandonment form. He said he would get someone to do it early next week.

Mr. Bender indicated that he had not proceeded with further investigation or cleanup of this site (per request of 5/15/89) because he did not believe he was responsible. It was his understanding that the Department had investigated and cleaned up this site. When he had purchased this property, he said he checked with the Department and they were unable to find any records for this site. I advised Mr. Bender that the Department would proceed with an investigation as per Laurie Egge's letter of 7/25/89.

TA:jh
8911\swlbudsm.lbe
cc: Joe Brusca
Chip Krohn - LaCrosse
Ray Tierney - SW/3

NOTE: DO NOT USE THIS FORM WHEN DOCUMENTING INSPECTIONS AT HAZARDOUS WASTE AN
SEE BACK SIDE OF THIS FORM FOR MORE INFORMATION.

ATTN: <u>Laurie Egri - SW/3 - GEF2</u>				License Num	
<input type="checkbox"/> Residuals Management SW/3	<input checked="" type="checkbox"/> District <u>Wendell Wojner</u>			EPA ID Nr	
<input type="checkbox"/> Hazardous Waste Management SW/3 Unit _____	<input type="checkbox"/> Environmental Enforcement EE/5			WI- _____	
<input type="checkbox"/> Systems Management SW/3	<input type="checkbox"/> _____			Facility ID Number _____	
Facility/Company Name <u>Vibla Quick Stop / Buds Mobil</u>		Location (Address or ¼¼) <u>Hwy 56</u>		City, State, Zip Code <u>Vida, WI 54464</u>	
Facility Type <u>LCST</u>	District <u>SO/WO</u>	County <u>Richland/Woman</u>	Contact Method <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> In-Person	Date <u>8/23/90</u> M M D D Y Y	Time (24-Hour Clock) <u>1400</u>
Facility Representative Contacted <u>William + Ann Bender</u>		Title or Position of Representative <u>Owners</u>		Telephone Number (include area code) <u>(608) 607-1418</u>	

Following a brief inspection of the water main trenching work through the downtown area, I met with Mr. + Mrs. Bender to advise them of our (the Department's) position. That is, to request they (the Benders) take appropriate action to investigate + cleanup the petroleum contamination. I explained the availability of funds thru DCEFA for investigative + cleanup costs. I also explained that if they refused or failed to take action, we would proceed using state funds/federal funds and would likely seek cost recovery. Further, if they refused they would be no longer eligible for reimbursement under DCEFA. The Benders expressed frustration and dismay. They felt + expressed strong feelings that they were not at fault or to blame for the contamination that still existed. I indicated fault wasn't an issue but as current property owners they were responsible. They disagreed saying that they understood that the state (ie the Department) had cleaned the site back in 1984. They asked if we (the Dept.) hadn't cleaned it up in 1984, how come we walked away and ignored it for five years? I was unable to provide satisfactory answers to all their questions but, before I left, I made it clear they would be getting an RP letter requesting investigation + cleanup action.

Check if additional sheets attached

By Paul Connor

RESPONDENCE/MEMORANDUM

Date: March 23, 1989
To: File, Bud's Mobil, Viola
From: Laurie Egre
Subject: 1984 LUST Incident

Exhibit 4

In February of 1984, the Department was notified of gasoline odors in a basement and sewer lines in the Village of Viola, near Bud's Mobil Station. Station owner Ed Hill was requested to investigate a probable release, but did not have the financial ability to do so. District Warden Henry Kern hired Fuel Recovery Company (FRC).

FRC installed 17 borings to define the extent of contamination. A layer of floating gasoline was found. Three borings were converted to monitoring wells, and a drawdown/recovery well was constructed. By June of 1984 1,411 gallons of leaded gas had been recovered (volume lost was unknown), and the rate of recovery had decreased to one-half gallon per day. Over four million gallons of groundwater was pumped to a storm sewer. The Department authorized abandonment of the recovery system. Ed Hill was required to reimburse the Department \$12,843, but was apparently unable to pay.

On March 13, 1988, I visited the above site to determine^{if} the monitoring wells were still in place. Wells #1 and #2 are in place, with steel protective casings. Well #3, on the Mobil Station property, has been snapped off at ground level and needs to be repaired or abandoned as soon as possible. Well #3 was inaccessible to a bailer due to ice in the top of the PVC casing. Well #2 had no visible petroleum product or odor. (The water table is at about 10 feet.) Several bailers of water were emptied from well #2 to remove sediment. Well #1 contained 7 to 8 inches of gasoline above water.

New locks were placed on wells #1 and #2. The Mobil station is now owned by Bill Bender, who also owns the Viola Quick Stop north of the station. Mr. Bender said there are no tanks remaining at the old Mobil station, which is now leased out as a repair shop. Mr. Bender said he has photos of tank excavation; he does not believe soil was excavated. I left a set of keys for wells #1 and #2 with Mr. Bender.

The Village Clerk's office said there have been no reports of recurring gasoline odors in basements or sewer lines. Tom Stibbe, WD, Water Supply, said the municipal well, one block northwest, is heavily used and the Village wants to expand its capacity.

LBE:cmt

8904\SW1VIOLA.LBE

cc: Joe Brusca (SD)
Tom Bergimini - SW/3-ER

McNALLY, MALONEY & PETERSON, S.C.
ATTORNEYS AT LAW

COPY

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KATHLEEN J. NAVARRE

†CERTIFIED PUBLIC ACCOUNTANT

December 5, 2000

Mr. William Morrissey
Deputy Bureau Director
Environmental & Regulatory Services
PECFA
P.O. Box 7838
Madison, WI 53707-7838

RE: Ann & William Bender Sites
Bud's Mobil, PECFA # 54664-9999-42; BRRTS # 03-53-000183
Viola Quick Stop, PECFA # 54664-7011-02;
BRRTS # 03-53-000183

Dear Bill,

I am writing to you on behalf of my clients, Ann and William Bender, with regard to two PECFA project sites they own in Viola, WI. I know from our telephone conversation that you already know something of their situation as well as some knowledge of the history and existing site conditions. As I mentioned, the remediation efforts at their two sites have ceased because the Benders have been advised Commerce will allow only a single one million dollar PECFA reimbursement for both sites, and costs to date for the two sites equal or exceed that amount. As we discussed, the Benders' consultant, Ayres & Associates, believes it can demonstrate to your satisfaction that the plumes have been commingled artificially as the result of remedial activity at the Bud's Mobile site. Conversely, there is little evidence to tell us whether or not the plume would have commingled naturally and what little evidence there is does not support commingling.

The history of this site necessarily involves a discussion of the investigation and remediation of the Bud's Mobil site by a DNR consultant, activities that took place in 1984 (see Exhibit 1). Our intent here is not to attempt to place blame but the history is necessary in order for Commerce to understand, firsthand, the site-specific conditions in Viola.

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The Benders bought Bud's Mobil in 1986 after examining the Village's file on the site. That file included a final report by a DNR consultant that indicated to the Benders that the contamination had been removed. The file also contained a DNR Findings of Fact and Law and Decision that confirmed the remediation efforts had been terminated by the DNR. Village officials believed the site had been cleaned up and indicated as much to the Benders. Today, that investigation by the Benders would not be enough but in 1986 their belief that the site had been remediated was not unreasonable. (Exhibits 1&2)

The earlier investigation and remediation, administered by the DNR at Bud's Mobil in 1984, almost certainly increased the complexity and duration of the Bender's remediation efforts which in turn led to significantly increased remediation costs for them. In addition, those DNR remediation efforts would have caused the Quick Trip plume to merge with the Bud's Mobil plume.

We know now that the investigation of the Bud's Mobil site by the DNR consultant, Fuel Recovery Company ("FRC"), was not thorough and the remediation was obviously not complete. FRC failed to identify or locate several additional leaking underground storage tanks which were discovered on the Bud's Mobil site by Ayres in the mid 1990's. We also know that the failure to properly abandon the monitoring wells installed by FRC for over five years (including one immediately adjacent to the leaking tanks not discovered by FRC) provided a direct pathway for additional and accelerated groundwater contamination. This failure to abandon the wells almost certainly substantially increased the Benders' remediation costs at Bud's Mobil. Free product still remained inside of these "un-abandoned" wells some 5 years later! (Exhibits 3&4)

We also know that the groundwater recovery system used by the FRC removed groundwater at a very high rate (37.5 gpm), drawing free product deep below the normal water table surface (see Exhibit 1). The Fuel Recovery Company's Progress Report #1 indicated that approximately 50 gallons of free product was being collected daily with over 1,008 gallons of free product collected in the span of 4 weeks and over 1.4 millions gallons of water per month released into the Village storm sewer, totaling over 4 million gallons of water removal over a very short period of time. As of April 10, 1984, FRC reported that "(t)he presence of 1.71 feet of free product in MW-3 indicates that a substantial volume of free product still exists on the groundwater at the site". FRC goes on to note that "a substantial cone of depression on the groundwater surface has been created around the recovery well. It is expected that any free product which exists within this cone of depression will eventually be drawn into the recovery well."

We can not go back in time to find the reasons for the decisions that were made but any consultant with a rudimentary knowledge of hydrogeology would know that pumping at this high of rate would most likely bring free product into contact with geologic material

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well below the surface of the static groundwater level. Nonetheless, termination of the free product recovery well was authorized by the DNR just two months later (June 1984).

The effects of this rapid dewatering can be seen in the later Ayres assessment activities conducted at the project location. Ayres documented significant levels of petroleum contamination at depths of approaching 27 feet below the static groundwater level in MW-12 and PZ-1. These wells are located within 40 feet of the FRC's recovery well. In wells located some distance from FRC's recovery well, Ayres found no contamination at depths below the groundwater table surface. Since petroleum is a light nonaqueous phase liquid, it is highly improbable that it reached the depth of 27 feet below the groundwater surface without a significant dewatering of the site.

This deep contamination greatly contributed to a much more difficult remediation process for the Benders, which resulted in significantly higher remediation costs for the two sites.

This is the position the Benders find themselves today. They purchased a site they reasonably believed was clean only to ultimately learn it was not only very dirty but difficult and expensive to remediate at least in part because of earlier DNR remediation activities.

In addition, at this point there is clearly a commingled plume on the Bud's Mobil site which we understand is the reason Commerce has indicated it will allow a single PECFA cap for the two sites. As we discussed in our telephone conversation, Ayres believes it can demonstrate to your satisfaction that the two plumes were commingled as the result of remedial activity. The Quick Stop site is approximately 90 feet cross gradient of Bud's Mobil, and can be shown to have been cross gradient historically. While plumes can move cross gradient for a variety of reasons, and some potential reasons such as sewer and water lines did exist, in the case of the Quick Stop plume, there were three reasons that go beyond the "potential" or theoretical.

First, the rapid dewatering technique used by FRC in 1984 certainly pulled the Quick Stop plume down gradient and cross gradient and caused it to commingle with the Bud's Mobil plume. Second, in 1996 Ayres started operation of its first water extraction system which had a recovery zone that included at least a portion of the Quick Stop plume which further commingled the plumes. Third, the reconfigured groundwater recovery system installed in 1999 at the Bud's Mobil by Ayres, had a capture zone that also covered the Quick Stop site and also commingled the plumes. Ayres' reconfigured system had a pumping rate of approximately 16 gallons per minute, less than half of the 37.5 gallons per minute utilized by FRC. However, Ayres has been able to show that even at a pumping rate less than half of that used by FRC, capture of the Viola Quick Stop plume occurred almost immediately.

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Ayres staff, has modeled, using standard and acceptable engineering methods the groundwater conditions at the Viola Quick Stop and Bud's Mobil site. There were no extraordinary factors or assumptions used. The Ayres' model shows that under static conditions, the plumes would not be commingled (Exhibit 5). However, the same model using the FRC pumping rate of 37.5 gallons per minute and the FRC recovery well location shows a capture and commingling of the plumes. (Exhibit 6) In addition, because of Ayres' actual on-site experience with its own systems, Ayres can say with a great deal of confidence that the FRC system almost immediately captured and commingled the Quick Stop plume in 1984. Ayres will also state that the FRC remediation efforts were incomplete; that is, contamination was left in place. Finally, Ayres will say that once the plumes commingled, they did not and would not be expected to separate.

You asked in our telephone conversation about MW 11. You indicated that if the groundwater flow was to the south southwest you would expect to see contamination in that area. In fact, MW 11 had benzene at 487 ug/L in 1992 and at 242 ug/L in July 1996. One month later, in August 1996, Ayres started its first ground water extraction system and by January 1997, levels of benzene in MW 11 were under 5 ug/L showing an immediate capture of that area of the Quick Stop plume. I have also included "Figure 2, the Combined Benzene Isoconcentration Map, Early 1998". While as you noted in our telephone conversation the lines are drawn in by an engineer, the map does show what Ayres believed was occurring before the commingled plumes became an issue for POECFA purposes. (Exhibit 8)

There is virtually no additional information that exists or could be developed that indicates the plumes either were commingled or would have commingled naturally. Any direct evidence would have to have existed prior to 1984 since the FRC actions had combined the plumes by then. FRC has one drawing that indicates the presence of two plumes, one involving "old" product and one involving "new" product. However, the old-new distinction was made based on appearance and smell which could have resulted from nothing more than the relative concentration of the two spills. FRC did no testing and although the FRC file contains a two plume drawing with one edge of each "touching" the other, there is no information to indicate FRC made any significant effort to determine the exact boundaries of the plumes. There was no reason to do so.

In summary, there is extremely strong evidence supporting the position that the recovery efforts of FRC caused the plumes to commingle but virtually no evidence to support commingling in the absence of the FRC efforts. What little there is does not support commingling. To say at this time, long after the plume were commingled artificially, that the plumes would have commingled naturally seems pretty speculative and people like the Benders should not face financial ruin in the absence of something much more substantial.


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I would appreciate it if you could give us an informal opinion on the artificially commingled issue. If you need any additional information, please let me know. Scott Wilson at Ayres and I would be happy to meet to discuss these sites in more detail.

Thank you for considering this for the Benders.

Very truly yours,

McNALLY, MALONEY & PETERSON, S.C.


Marvin I. Strawn

CC Ann & William Bender
Scott Wilson

MIS
Email: mstrawn@mmplaw.com

Exhibit 7

STATE OF WISCONSIN
REPLY MESSAGE
FORM AD-16

INSTRUCTIONS TO SENDER:
REMOVE YELLOW COPY FOR YOUR FILE.
SEND REMAINDER OF FORM INTACT WITH CARBONS TO PERSON ADDRESS

TO: _____ FROM: _____

Joe Brusca - SD, Fitchburg

Dave Lumburg - WD; Eau Claire

SUBJECT-MESSAGE

- Joe -

Re: Bud's Mobil, Viola, Richland Co.

As we discussed on 4/19, WD. Lumburg staff will be happy to manage this project once SD staff have determined the source of funding and have the project underway.

Because PRR did apparently authorize abandonment of the recovery fund system, perhaps ERF can be used to supplement the DUSE clean-up fund. With a municipal well (broke away) and a proposal to expand the capacity of the well, this would seem to be an emergency justifying the use of public funds.

RECEIVED
APR 25 1989
SO. DIST. HDQTRS.

4/23/89

REPLY _____ SIGNED _____ DATE _____

cc Bill Evans
Choy Krohn - lck
Tom Bergamini - SW/3

SIGNED _____ DATE _____

The Village Clerk's office said there have been no reports of recurring gasoline odors in basements or sewer lines. Tom Stibbe, WD Water Supply, said the