07/13/2004 TUE 10:51 FAX 408 655 0575 HydroSolutions Inc

Solutions Inc.

July 13, 2004

Mark Hasla, Production Engineer Fulton Fuel Company 127 Main St Shelby, MT 59474

Dear Mark:

Re: Draft Work Plan for Crude Oil Release at Fred and George Creek, Response to MDEQ Notice of Violation Letter of April 29, 2004

This letter provides detailed responses to all the requirements contained in the referenced letter, written by Laura Alvey of the Remediation Division of the Montana Department of Environmental Quality (MDEQ). The responses are provided in the attached Remedial Investigation (RI) Work Plan, which describes how the work will be accomplished. Table I is a summary of the responses with an approximate schedule.

We believe that this offers reasonable responses which will satisfy the DEQ requirements. The DEQ will review this Work Plan and issue a written response. Following receipt of this approval, and with your concurrence, we will begin the work.

Please contact me if you have any questions on the Work Plan. We will finalize it after discussion with you and Ms. Coppock: As you know, this Work Plan must be sent to Laura Alvey of the DEQ by July 16, 2004, to satisfy your formal response to the referenced letter.

Respectfully submitted,

HydroSolutions Inc. Mark A. Netz

Project Geologist

Thomas J., Øsbome, CGWP Principal Hydrologist

Enc. RI Work Plan, Table I and 2, Figure I.
C. Ms. Rence Coppock, Crowley Law Firm Gary McDermott Wilham Fulton

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BACKGROUND

This is a work plan for a Remedial Investigation (RI) designed to further evaluate and eventually resolve the Fred and George Creek crude oil release site in Toole County, Montana. HydroSolutions, Inc. (HSI) has prepared this work plan on behalf of the Fulton Fuel Company, in response to the requirements specified by the Montana Department of Environmental Quality (DEQ), Remediation Division, Groundwater Remediation Program (04/29/2004 Notice of Violation letter). It is intended that this work eventually lead to the issuance of a No-Further-Action letter by the Montana Department of Environmental Quality (DEQ). The DEQ letter outlined 15 items for response. Each of these actions is described below in Table 1 and the Scope of Work. The corresponding item number from the DEQ letter is referenced in the table.

SITE HISTORY

The Fulton Fuel Company, owned and operated by William Fulton, and has been conducting operations in the Sweet Grass Hills area of Montana since 1961 beginning as Fulton Producing Company. The 3" fiberglass pipeline, from which the release occurred was originally constructed by Western Natural Gas Company and was acquired by FFC in 1993. The three producing wells and pipeline were unitized as part of a water flood unit on September 1, 1993.

The pipeline stream crossing where the release occurred is located approximately 55 miles north of Shelby. There are three operating production wells associated with the pipeline, which runs north to south across Fred and George Creek to a tank battery located to the south of the creek. The fiberglass pipeline is approximately 15 years old. The point of release from the pipeline occurred beneath Fred and George Creek, in the southwest corner of section 14, Township 37N, Range 2B (Figure 1).

Release Point and Discovery

The pipeline release was discovered on February 29, 2004. The collection facility south of Fred and George Creek showed a 6 to 10 barrel deficiency on the moming of February 29, 2004, following which the discovery of the release at the creek was made by FFC staff. The release amount of 6 to 10 barrels was calculated based on the missing production amount. According to statements from FFC employees, the point of release was immediately evident by crude-stained ice and snow.

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Initial Response Action

Immediately following discovery of the release, both ends of the portion of the pipeline that runs under Fred and George Creek were excevated and capped, effectively eliminating the possibility of further release of crude into the creek bed.

A containment dike with a 4 inch siphon (siphon dam) was built across Fred and George Creek on February 29, 2004. The dike is approximately 1500 ft below the release point (Figure 1). According to Mark Hesla, there was no visible sign of contamination in the water flowing out of the siphon. Creek conditions at the time were very low flow, estimated to be approximately 3 to 5 gpm. During the site visit conducted by Montana DEQ in March 2004, Mark Hesla estimated the flow to be approximately 15 gpm. The siphon dam was reconstructed on March 1, 2004, increasing the siphon diameter to 24 inches. Fred & George Creek was dry one mile east of the release point on March 4, 2004.

Mr. Steve Sasaki and Mr. Bill Halverson of Montana Board of Oil and Gas Conservation (MBOGC), Department of Natural Resources (DNRC), were contacted on March 1, 2004. Mr. Halverson visited the release site with FFC personnel. Both Mr. Sasaki and Mr. Halverson recommended a controlled burn help mitigate the release site. Mr. Dan Kenny of Montana DEQ was contacted and told of the recommendation to burn. DEQ Air Quality, Toole County Conservation District and North Toole County Fire Department were contacted regarding a controlled burn permit. FFC obtained a burn permit for the release affected area from Ron Lowney (DEQ Air Quality Board Permit #E-131, North Toole County Fire Department Permit #TC-04316). The controlled burn was carefully monitored and hot spots extinguished. Burned plant debris was removed from the creek bed the following day.

Shortly after the release, and during the coarse of initial response, absorbent pads were used to line the creek bed. Containment booms were placed at 5 locations along the creek. Additional absorbent pads were used at points where there was any visible crude accumulation. Absorbent pads have been consistently removed and replaced since the inception of their use on the area affected by the release.

The release point and creek bed were rinsed with fresh, hot water. Bighty barrel vac trucks were used to haul the water. Flushing occurred on three consecutive days, from March 3 to March 5, 2004. Contaminated ice and snow were removed from the creek bed. Both ends of the siphon were temporarily capped off to prevent the release from moving downstream.

On March 9, 2004 an oil trap was built and installed on the siphon.

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Previous Assessment

Montana DEQ visited the site on March 3, 2004. Two soil samples and four water samples were collected from the vicinity of the release. Montana DEQ results from this sampling will be incorporated into the RI Report.

HSI was retained by FFC and its attorney on June 9, 2004. A reconnaissance field trip was performed on June 17, 2004. Background samples were collected from points upstream (SS-1, WS-1), and points downstream of the release (SS-2 through SS-5 and WS-2 through WS-4), (Figure 1). EPH analysis of soil samples (EPA Method 8270) is summarized in Table 2. A value of 53 ppm was reported in the soil sample from SS-1, the background (upstream) sample point. This value exceeds the 50 ppm limit cited in the Tier 1 RBCA Guidance document. All sample points downstream of the release point, are over the 50 ppm limit for TEH. Results of surface water sampling at the release point and downstream indicate low levels of contamination downstream of the release point up to the containment pond. Total Xylenes at WS-1 and WS-4 are below the human health standard limits and the required reporting values (Circular WQB-7, January 2004). There was no benzene detected in any of these water samples.

SCOPE OF WORK

The purpose of this proposed Remedial Investigation is to respond to the DEQ NOV letter of April 29, 2004 regarding the crude oil release site at Fred and George Creck. Specific objectives of the investigation described herein are to:

- Perform a visual inspection of surface water bodies at the release site, including at least a one mile extent downstream from the spill point.
- Characterize 5 cross-sectional sampling locations along the creek's banks to determine the magnitude and extent of residual creek bank soil and creek bed sediment contamination;
- Characterize and sample up to 6 additional individual sites with soll test probes downstream of the containment dam and one site upstream to evaluate residual contamination. These samples will be taken at potential worst case locations;
- Perform a survey of potential receptors of surface water and groundwater contamination and collect water samples, if appropriate; and
- Use information from the investigation to assess the necessity and options for source area (soil) removal/treatment and groundwater monitoring.

The following scope of work describes the activities to be performed to meet the above project objectives.

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Source Area Soli Characterization, Extent & Magnitude

Siphon Dam Assessment

The siphon dam approximately 1500 feet downstream of the release point will be assessed for proper construction and effectiveness. Assessments of viability and reconstruction, if necessary, will be provided in the RI report.

Released Product Properties

The light, sweet crude released from the fiberglass pipeline will be assessed to determine physical, chemical and biological attenuation properties. Evaluation will be provided in the RI Report.

Source Area Characterization

In conjunction with the sediment and soil analyses processes outlined below, the source area (release area) will be assessed and characterized. Additional soil and sediment sampling will be conducted as indicated by field observations. HSI may make recommendations for proper soil removal and disposal if necessary.

Soil and Sediment Transcets

Five soil and sediment transect sample locations (ST-1 through ST-5) (Figure 1) along the 0.25 mile length of stream from the release point to the containment pond will be sampled to evaluate the extent and magnitude of soil and sediment contamination. In addition, five single-hole, potential worst case locations will be selected below the siphon dam up to the one stream mile below the release point. Considering that no visible signs of contamination were present below the containment pond during the June 17, 2004 field reconnaissance, locations will be selected based on geomorphic characters that are likely to be 'Worst case locations' for such contamination. Three sediment samples from the stream bed will be gathered as part of each transect. From three to five duplicate soil and sediment samples will be collected.

Where access permits, three holes will be constructed in the bank soils on one side of the stream channel at each transect location. In transect locations that can be reasonably characterized with samples from one side of the stream channel, including straight stretches of stream and portions that are deeply incised, only three holes will be constructed on the side of the channel most likely to be contaminated. At other locations three holes may be constructed on each side of the stream channel. The holes will be placed at the water line, approximately 1 foot up-bank of the water line, and approximately 2 feet up-bank of the water line. Physical characteristics (including color, texture, observable moisture content, etc.) of the soil encountered in each hole will be

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documented based on field observations. Soil will be visually inspected for indications of staining and odors.

Each hole will be sampled at two to three depths, depending on field conditions (Figure 2). Care will be taken that soil samples are retrieved from the column above, at, and below a projection of the stream's water line (Figure 2). Samples will be collected, generally, for the 0 to 1 foot interval and the 1 to 2 feet interval. If necessary and reasonable, a third interval from 2 to 3 feet will also be sampled. Additional probe holes may be added as deemed necessary by field observations. In the source area, approximately three soil samples will be taken and submitted for analyses of grain size distribution, porosity, and total organic carbon.

Stream bed sediment samples will be collected in line with each transect. Three samples will be collected across the width of the stream (Figure 2). A 6 to 12 inch diameter PVC casing will be used temporarily to isolate and contain the sediment on the stream bed. A clean hand trowel or suger will be used to collect approximately 1 inch or more of sediment from the stream bed, depending on field observations. If analysis results from the release point transect (ST-1) samples and the 10 foot (ST-2) transect samples exceed standards, the 100 foot (ST-3) and 1000 foot (ST-4) transect sediment samples will be analyzed. Samples from ST-5 will be analyzed independent of results from upstream transects.

Decontaminated push probes will be used to construct the soil sample holes at each transect location. The soil samples collected at the water line will be protected from infiltration of surface water by a temporary piece of 6 to 12 inch PVC casing. This will help isolate sample collection from surface water. A new, clean, piece of PVC pipe will be used at each. The same procedure for isolation will be used for the 'worst-case' locations below the containment pond.

Soil and sediment samples will be submitted to Energy Laboratory for analyses. The laboratory will perform any compositing, as directed by HSI. Each soil sample will be extracted for EPH Screen and VPH. Samples that result in a TEH of 50 ppm or greater will be run through EPH fractionation. They will also be run for polynuclear aromatic hydrocarbons (PAH), using EPA method 8270. If the water line sample does not result in a TEH of 50 ppm or greater, samples further from the bank will not be analyzed. If the TEH result is greater than 50 ppm, the next proximal sample will be analyzed. Analysis of the distal bank soil samples will be dependent on the TEH results from proximal samples.

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Surface Water Evaluation

One surface water sample will be collected concurrently with each soil/sediment transect location and each soil sample location downstream of the containment pond. Additional surface water samples may be collected based on field observations of worst case conditions. A background surface water sample will be collected approximately 500 feet upstream of the release point. A downstream sample will also be collected at a reasonable distance from the containment pond, likely to be taken concurrent with the furthest downstream soil sample location. A duplicate surface water sample will be collected at one location. Field measurements of temperature, pH, specific conductivity, alkalinity and dissolved oxygen will be made and recorded.

Groundwater Contamination Characterization

Review of groundwater conditions and potential for contamination will be addressed in the evaluation.

Evaluation

Information from the source area characterization will be used to evaluate the extent and magnitude of contaminated soil and water, and to determine the appropriate response. If further soil removal is recommended, the corrective action plan will provide for the collection and analysis of confirmation samples as specified in the DEQ NOV letter. The excavated soil will be managed in accordance with the guidelines in the DEQ NOV letter, and other accepted standards of practice.

Quality Assurance/Quality Control

The main objective of field quality control samples is to determine the quality of reported data and to ensure that it is adequate for its intended use. Quality control samples are designed to help identify potential sources of sample contamination and evaluate potential error introduced by sample collection and handling.

Field duplicate samples provide information on the natural variance of the sample matrix and consistency of field techniques. Samples will be recorded as duplicate <u>only</u> in the field logbook. Chain-of-Custody Records, sample labels, and other documentation submitted to the laboratory will <u>not</u> indicate that the sample is a duplicate. The duplicate sample will be handled in the same manner as the primary sample. Duplicate samples are independent

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samples collected in such a manner that they are equally representative of the parameter(s) of interest at a given point in space and time

Potential Receptor Survey

HSI will perform a survey of potential receptors of impacted surface or groundwater in conjunction with the RI. The survey will evaluate potential receptors within one mile downgradient of the release point. The records from the Montana Groundwater Information Center (GWIC) will be searched for water wells in the area. In addition, a visual survey of the area will be made to identify additional receptors.

If potential receptors are identified, water samples will be collected from these receptor points and analyzed for VPH.

Decontamination

All monitoring and non-disposable sampling equipment will be washed with Liquinox detergent followed by a potable water rinse and a final rinse with distilled water prior to the initiation of work and between sample locations to prevent cross-contamination. Prior to commencing push-probe activities at the site, all down-hole equipment will be decontaminated using acceptable decontamination procedures. HSI has submitted Standard Operating Procedures to DEQ on previous occasions.

Evaluation and Reporting

Following receipt of laboratory results, the field and laboratory data will be reviewed for quality assurance and summarized in spreadsheet formats. An aerial photograph of the area has been obtained for use and will be used in conjunction with topographic, geologic and other mapping data. The locations of the soil/sediment transects will be plotted on the base map.

Our field observations, analytical results and a discussion of our findings and conclusions will be included in a RI Report that will be forwarded to the DEQ. Options for treatment/disposal of contaminated soil will be presented. The report will include data tables, geologic data, and copies of laboratory reports. Recommendations for continued monitoring, and remediation, if warranted, along with proposed schedules, will be included in the RI Report.

SCHEDULE

Field activities will commence following approval of this RI work plan by FFC and the

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DEQ. The field work is tentatively scheduled for August, assuming availability of personnel and equipment. The visual reconnaissance, surface water sampling, source area and soil characterization and sampling are expected to be completed within three weeks of commencement. Normal laboratory turn-around is approximately three weeks. The staged analysis of proximal and distal samples will add some amount of analysis time. The RI report will be submitted within three weeks following receipt of laboratory analyzeal reports.

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NOV	Description of Work	Approximate Schedule	
1	Surface water and sediment samples will be collected if visual impacts are observed.	August 2004	
2	Compare the results of surface water sampling to WQB-7 Numeric Water Quality Standards. Aquatic Life or Human Health standards will be used, scienting the more conservative of the two.	August 2004	
3	Soil sample results will be compared to appropriate RBSLs.	August 2004	
4	Compare sediment sample results to the Washington State Dept of Ecology Preshwater Sediment Quality (WSDEFSQ) standards.	August 2004	
4	A risk assessment may need to be performed for generation of site specific cleanup levels, based on the results of sediment sampling in comparison with WSDEFSQ standards.	Unscheduled/Dependent on RI Results	
5	Determination of the vertical and lateral extent of contamination will be performed in accordance with the attached RI Work Plan.	August 2004	
6	The possible use of remedial excavation of contaroinated soils at the site will be based on results of the RI. If excavation is planned, we will follow the guidelines of the MDBO as stated in the NOV.	Pending RI Results	
6	Collect confirmation samples during remedial excavation (if necessary).	As Above	
6	Compare results of confirmation samples with previously referenced sediment standards to dotermine necessity of Site-Specific Risk Assessment.	As Above	
7	Review and consider any alternative remediation strategies that may be suggested by FFC.	As Above	
8	If contaminated soils are excavated, they will be handled in accordance with the guidelines in the NOV, and other accepted standards of practice.	As Above	
9	Assess necessity for groundwater monitoring wells installation using standard practices, in accordance with the attached RI Work Plan.	August 2004	
10	Conduct a survey of potential receptors within one half mile downgmadient of the release site and collect water samples, if appropriate, in accordance with the stached Work Plan.	August 2004	
11	Assess functionality of siphon dam, and recommend any necessary changes or reconstruction.	August 2004	
11	Conduct a one-time sampling of surface waters at siphon dam, in accordance with the atlached Work Plan	August 2004	
12	Communication with the landowner regarding fencing	Ongoing by FFC	

Table 1. Summary of Responses to NOV letter of April 29, 2004, Crude Oil Release at Fred and George Creek, Toole County, Montana.

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	issues and cattle usage of the affected area will be the responsibility of FPC.	
13	HSI will obtain and complete any necessary permits prior to conducting work in the streambed or stream banks.	Pending RI Reults
14	HSI will aid FFC in compiling information on the uses of the creek as outlined by DEQ and in accordance with the RI Work Flan	August 2004
13	HSI will prepare an RI report containing the methods, findings and conclusions of the work described above and in the RI work plan.	RI Report September - October 2004

Notes: Some of the NOV Items have more than one task; schedule assumes Work Plan is reviewed and approved by FFC and DEQ by July 30, 2004.

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Table 2 Laboratory Analyses Results from June 17, 2004 Field Reconnelssance

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		% Recoverable			
Location	TEH (ppm)	Sun: o-Terphenyl			
5 5-1	53	98.4			
55-2	432	121			
SS-3	87	91.4			
SS-4	74300	767			
98-5	119	95.5			
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Red Test - Unisonly mat & Recoverable

Water

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Location	TPH (ppb)	Benzene (ppb)	Toluene (opb)	Ethylbenzens (ppb)	Xylenes, Total (ppb)
W8-1	· ND	ND	ND	ND	ND
WS-2	39	ND	ĞИ	ND	2.1
W45-3	43	ND	ND	ND	2.4
W\$-4	18	ND	NØ	ND	0,76

ND = Han Delect





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