NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

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Director
Oil Conservation Division

November 9, 2005

Bass Enterprises Production Company
901 North Canal, Suite 704
Carlsbad, NM 88220

30-015-22229

REMEDIATION WORK PLAN CONDITIONS OF APPROVAL - Indian Flats Bass Federal #4

Dear Operator:
A review of the remediation work plan submitted on November 8, 2005 for the Indian Flats Bass Federal #4 has been completed by this office. Conditions for approval are as follows:

- Highly Contaminated/Saturated Soils must be remediated by excavating to the maximum depth and horizontal extent practicable until a representative sample from the walls and bottom of the excavation is below the contaminant specific remediation level. Upon reaching this limit a sample should be taken from the walls and bottom of the excavation to determine the remaining levels of soil contaminants. All soils removed from the location must be documented as to contaminants in the soils, contaminant levels, method of determining contaminant levels and disposition of the soils (OCD approved landfarm, centralized site, etc.).
    - Highly contaminated/saturated soils are defined as those soils which contain a free liquid phase or exhibit gross staining.
- Unsaturated Contaminated Soils may be excavated or may be remediated by treatment of soil in place, until a representative sample is below the contaminant specific remediation level. One time applications of contaminated soils may be landfarmed on location by spreading the soil in an approximately six inch lift within a bermed area. Only soils which do not contain free liquids can be landfarmed. The soils should be disced regularly to enhance biodegradation of the contaminants. If necessary and upon approval by OCD, moisture and nutrients may be added to the soil to enhance aerobic biodegradation. In some high risk areas an impermeable liner may be required to prevent leaching of contaminants into the underlying soil. Landfarming sites that will receive soils from more than one location are considered centralized sites and must be approved separately by the OCD prior to operation. All soils removed from the location must be documented as to contaminants in the soils, contaminant levels, method of determining contaminant levels and disposition of the soils (OCD approved landfarm, centralized site, etc.).
    - Unsaturated contaminated soils are defined as soils which are not highly contaminated/saturated but contain benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH) or other potential fresh water contaminants unique to the leak, spill or release.
- Contaminated soils requiring remediation should be remediated so that residual contaminant concentrations are below the recommended soil remediation action level. If soil action levels cannot practicably be attained, a detailed evaluation of risk may be performed and provided in writing to OCD for approval showing that the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, public health and the environment.

- If alternate methods of remediation are to be used, prior approval from the OCD District 2 Office is required prior to beginning any work using these alternate methods. A specific proposal outlining the alternate methods must be submitted in writing.

- If ground water is encountered during the soil/waste characterization, excavation or remediation of the impacted soils, a sample should be obtained to assess the incidents potential impact on ground water quality and the OCD District 2 Office should be notified immediately.

- Notify OCD District 2 Office 24 hours prior to commencement of operations.

- Notify OCD District 2 Office 24 hours prior to obtaining samples where analysis of samples will be submitted to OCD.

- Upon termination of any required remedial actions, the area of a leak, spill or release may be closed, after 24 hour notice to OCD District 2 office, by backfilling any excavated areas, contouring to provide drainage, revegetating the area or other OCD approved methods. Upon completion of remedial activities a final report summarizing all actions taken to mitigate environmental damage related to the leak, spill or release will be provided to OCD for approval.

- For all Federal Lease wells, a "Like Approval" by the United States Bureau of Land Management may be required. It is the operators responsibility to obtain this approval and the approval of any other surface owner that may be required by law, regulation or contractual obligation of the operator and surface owner.

Further discussion of remediation techniques, site ranking criteria, required remediation action levels and alternative methods for remediation may be found on our website. You are encouraged to use the OCD publication entitled "Remediation of Leaks, Spills and Releases" as a guide during your remediation of this location. This guide may be found on our web site at: http://www.emnrd.state.nm.us/emnrd/ocd/EH-MiscGuidelines.htm .

Acceptance of the remediation work plan does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of reports and work plans does not relieve the operator of responsibility for compliance with any other federal, state or local laws and/or regulations.

NMOCD District 2 Contact Person: Chris Beadle, Office: (505) 748-1283 x107 / Cell: (505) 626-0831 / Fax: (505) 748-9720 / E-mail: *Chris.Beadle@state.nm.us*

Thank you for your prompt attention to this matter and your efforts in helping to protect our environment and the infrastructure of the oil and gas industry.

Sincerely,

Artesia OCD District Office

Attachment (1) Simplified Site Assessment Form

Simplified Site Assessment Form

LOCATION : **API:**

SITE RANKING SCORE

GW + WPA + SWB =

Remediation Action Levels	Total Ranking Score >19	10 – 19	0 – 9
Benzene (ppm)	10	10	10
BTEX (ppm)	50	50	50
TPH (ppm)	100	1000	5000

Contaminated soils must be remediated until the contaminants are to the parts per million listed above.

Other contaminants, not listed, must be remediated to WQCC, EPA, RCRA or other standards for those specific contaminants.

DEPTH TO GROUND WATER (*GW*)

Less Than 50 feet	50-99 feet	Greater Than 100 feet
20	**10**	**0**

WELLHEAD PROTECTION AREA (*WPA*)

Less Than 1000 feet from a water source, or;
Less Than 200 feet from private domestic water source

Yes		No
20		**0**

DISTANCE TO NEAREST SURFACE WATER BODY (*SWB*)

Less Than 200 Horizontal Feet	200-1000 Horizontal Feet	Greater Than 1000 Horizontal Feet
20	**10**	**0**

CONTAMINANT DILENEATION BY OBSERVATION

Provide brief label for each area (i.e. wellhead, SE corner, inside berm, pasture, etc.)

Length times Width = Square Feet

		Highly Contaminated / Saturated Soils	Unsaturated Contaminated Soils
Area 1 _____	Approximate area:	L W SQ FT	L W SQ FT
Area 2 _____	Approximate area:	L W SQ FT	L W SQ FT
Area 3 _____	Approximate area:	L W SQ FT	L W SQ FT
Area 4 _____	Approximate area:	L W SQ FT	L W SQ FT

ESTIMATE OF VOLUME OF IMPACTED SOILS AND LIQUID VOLUME

Provide total square feet for each area, multiply by average detph and fill in cubic feet

Square Feet times Average Depth = Cubic Feet
1 inch = 0.12 feet

				Highly Contaminated / Saturated Soils	Unsaturated Contaminated Soils
Area 1:	_____	Square Feet _____	Feet Average Depth.	CUBIC FEET	CUBIC FEET
Area 2:	_____	Square Feet _____	Feet Average Depth.	CUBIC FEET	CUBIC FEET
Area 3:	_____	Square Feet _____	Feet Average Depth.	CUBIC FEET	CUBIC FEET
Area 4:	_____	Square Feet _____	Feet Average Depth.	CUBIC FEET	CUBIC FEET

To calculate an estimate of liquid volume released use the following formula

(Note: This formula does not calculate free-standing liquids and is based on unsaturated, contaminated soils. Highly saturated soils may be higher volumes. However, use the sum of all soils that are visibly contaminated, whether saturated or unsaturated to obtain the low-end estimate.)

Square Feet times Average Depth equals Cubic Feet times Porosity divided by 5.61 equals estimated volume (bbl) of spill.

Area No.	Square Feet	X Average Depth =	Cubic Feet	X Porosity /	5.61 =	Volume (bbl)
1					5.61	bbl
2					5.61	bbl
3					5.61	bbl
4					5.61	bbl
(Note: Releases greater than 5 bbl must be reported using Form C-141)					***Total Estimated Volume =***	
Example	***30***	***0.12 (1 inch)***	***54***	***0.2***	***5.61***	***1.93 bbl***

Soil Types & Porosity Values:

High Clay Content Soils = 0.15 | Silty Soils and Fine Sand = 0.2 | Sand/Sandy Soils = 0.25 | Gravel = 0.3 | Rocky Soils = 0.4

Areas on a well maintained, hard packed caliche location should use porosity value of 0.18.

Use only one value for the predominate soil type in each area.

You are encouraged to use the OCD publication entitled "Remediation of Leaks, Spills and Releases" as a guide during remediation operations. This guide contains a full discussion of site assessment and required remediation action levels and can be found on the OCD website at http://www.emnrd.state.nm.us/emnrd/ocd/EH-MiscGuidelines.htm

Completed on _____ at _____ AM / PM By _____

This form is not an official State of New Mexico form but is provided solely to assist the operator in determining site remediation action levels and document initial site assessment activities.