

SWD Facility
East Blanco Field
Rio Arriba County, NM

Mallon Oil Company
Summary Of Events

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OIL CON. DIV.
DIST. 3

Summary Of Spill Events

Case One:

- Spill occurred at approximately 2:40 AM on 7/22/99.
- Cause of spill was due to failed gasket on the water filter housing.
- Volume was estimated at 25 bbls of water w/ oily iron sulfide black slim.
- Spill was reported on 7/22/99.
- Water ran down injection line ROW and reached a fresh water stock pond which left a black iron sulfide residue on the ROW & pond.
- Mallon brought in a backhoe, vac truck, & oil absorbent pads/booms. The ROW was cleaned up and contaminated soil was stock piled. The pond was cleaned with the vac truck & oil absorbent pads/booms.
- Blagg Engineering sampled the stock pile of contaminated soil for analysis which yielded Total Petroleum Hydrocarbons of 223 PPM.
- Water samples were taken at the contaminated pond and at a non-contaminated pond for comparison which yielded similar results. These samples indicate no significant contamination of the fresh water stock pond.
- Approximately 75 yards of stock piled soil was removed from location & hauled off the Jicarilla Apache Reservation.

Case Two:

- Spill occurred at approximately 8:00 AM on 8/2/99.
- Cause of spill was due to failed plunger on the water injection pump.
- Volume was estimated at less than one barrel of water.
- Water barely ran off the injection plant skid.
- Spill was not reported.
- Water was mopped up off the skid & the plunger was replaced.
- An earth dyke was placed around the water injection plant.

Case Three:

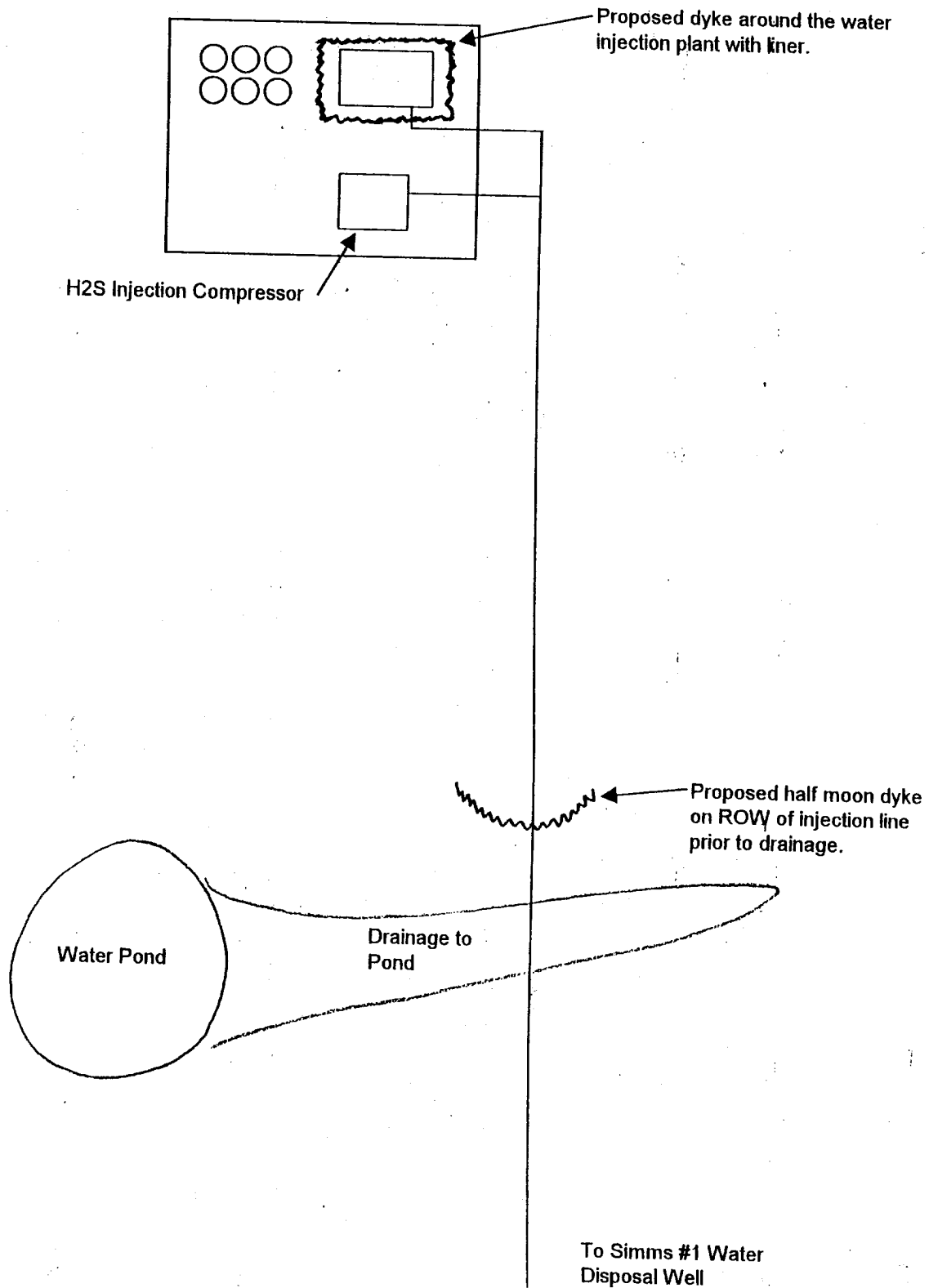
- Spill occurred at approximately 5:00 PM on 10/6/99.
- Cause of spill was due to failure on the high pressure water injection line to the Simms #1 disposal well.
- Volume was estimated at 17 bbls of water.
- Spill was reported on 10/7/99.
- Water ran down injection line ROW and did not reach the fresh water stock pond.
- Mallon brought in a backhoe to clean up the ROW & contaminated soil was stock piled.
- The water injection line was repaired and a 20 foot section of line was replaced just off the injection plant.
- Blagg Engineering sampled the stock pile of contaminated soil for analysis which yielded Total Petroleum Hydrocarbons of 15.3 PPM.
- Due to the low TPH, Mallon has submitted a request to the EPO to utilize this stock piled soil for dyke construction.

Summary Of Steps Taken To Prevent Future Spills

- 1) A procedure has been established to more closely inspect existing equipment for fatigue on a daily basis. Mallon Oil is implementing a check list for the operators which will focus on areas of potential failure (i.e. water filter gaskets, injection pump packing, etc.).

- 2) Mallon is in the process of installing dykes in strategic locations to prevent any spills from migrating to the fresh water stock pond (See diagram).
- 3) During the repair of the high pressure water injection line leak, Baker Petrolite was brought in to evaluate the cause of the corrosion observed. A 20 foot section of the four inch steel line was replaced just outside the water injection plant which indicated corrosion in the upper half of the pipe.
- 4) The produced water from the water storage tanks contains approximately 1 PPM of oxygen, which in most injection systems causes no problem. However, with the presence of the hydrogen sulfide gas, it is creating a corrosive environment. It is believed that the oxygen was being spent within the 20 foot length of pipe that was replaced. The pipe was found to be competent down stream of the 20 foot section of pipe replaced. Also corrosion coupons located at the Simms #1 disposal well indicated minimum corrosion.
- 5) In accordance with the Baker Petrolite recommendation, the injection line was acidized to remove scale deposits which could allow sulfate reducing bacteria to hide and cause corrosion. A chemical pump was set up to inject a filming biocide (XC-370) which will kill the bacteria and also set up a protective film against corrosion.
- 6) In accordance with a request from the EPO, on 10/19/99 the water injection line was pressure tested to 800 psig & held for one hour (Pressures were recorded on a 24 hour chart recorder).
- 7) It is proposed to clean the water storage tanks at the injection facility and batch treat the tanks with biocide on a scheduled basis to kill bacteria entering the system from the field. When the tanks have been cleaned & sterilized we will implement the injection of an oxygen scavenger to reduce the oxygen content. A corrosion inhibitor & scale inhibitor will also be injected.
- 8) Corrosion coupons will be monitored at the water injection plant and at the Simms #1 disposal well to evaluate future corrosion rates.

**Mallon Oil Company
East Blanco Water / H₂S Disposal Plant
Rio Arriba County, NM
Proposed Containment Dykes**



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Rio Arriba County, NM**

