EPWM - 008

GENERAL CORRESPONDENCE

2011 - Present

Jones, Brad A., EMNRD

From: Kim Flowers [kflowers@r360es.com]
Sent: Tuesday, February 01, 2011 5:09 PM
To: Jones, Brad A., EMNRD
Cc: John Barnidge
Subject: CRI
Attachments: MX-3100N_20110201_171923.pdf

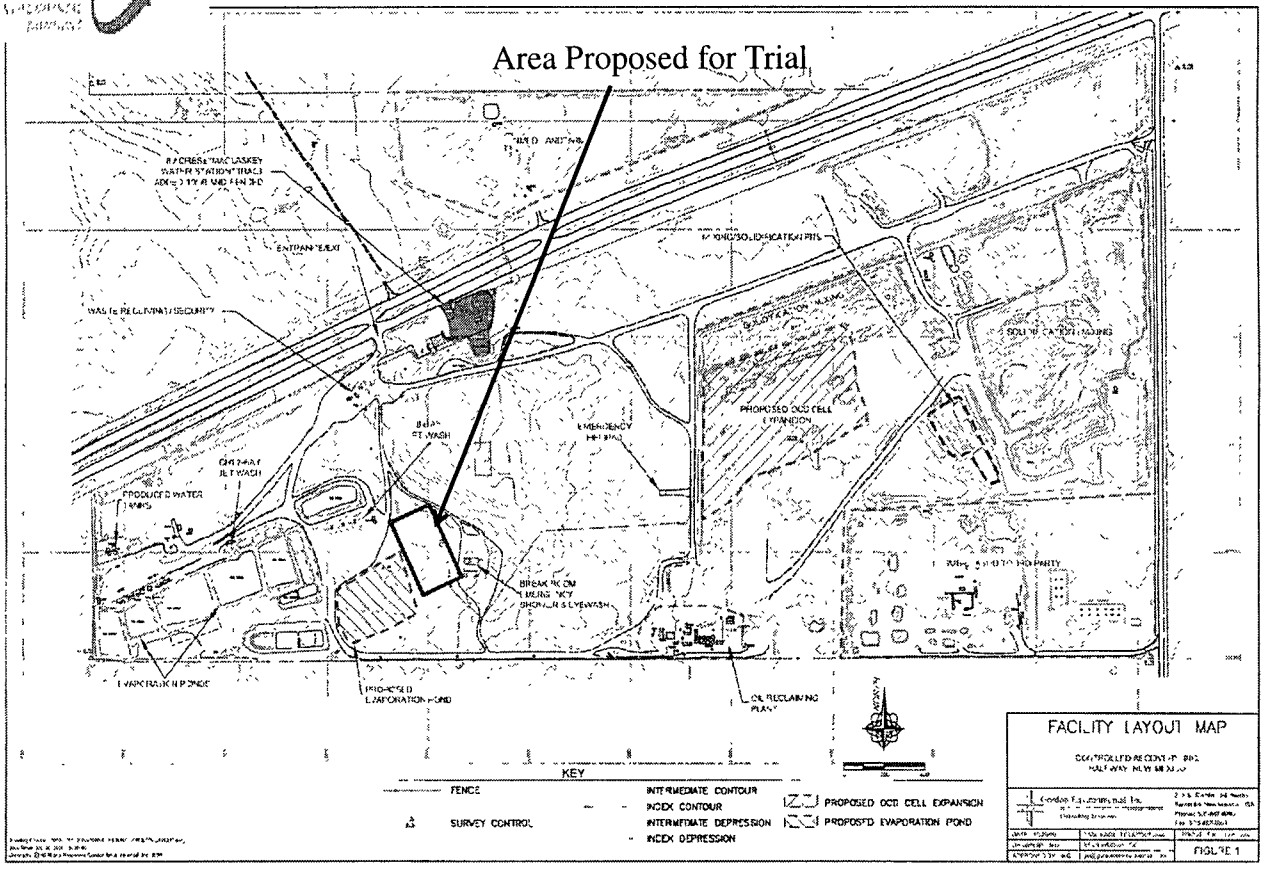
<<MX-3100N_20110201_171923.pdf>> Brad, the original will be over nighted.

MX-3100N_20110201_171923;

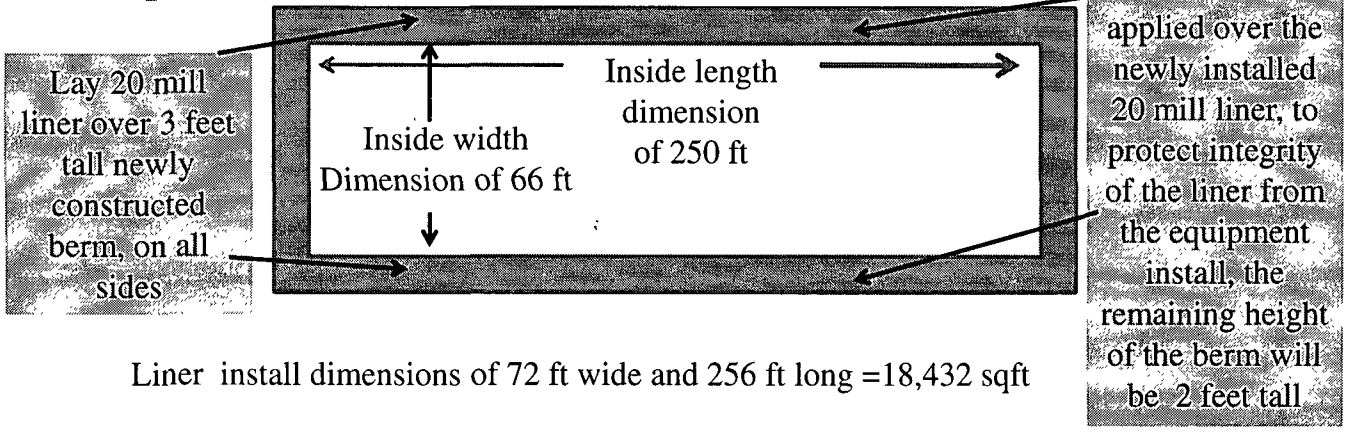
Enhanced Oil Reclamation Process Field Trial

Halfway, New Mexico

Halfway Facility



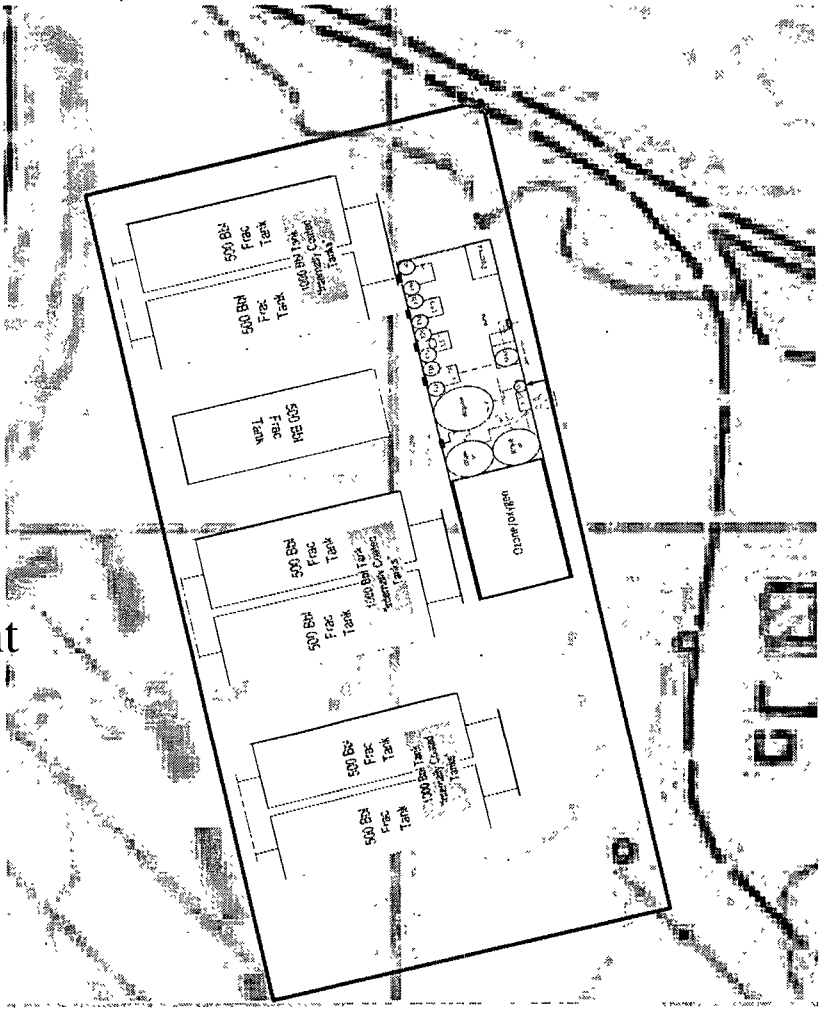
Half Way Trial Site



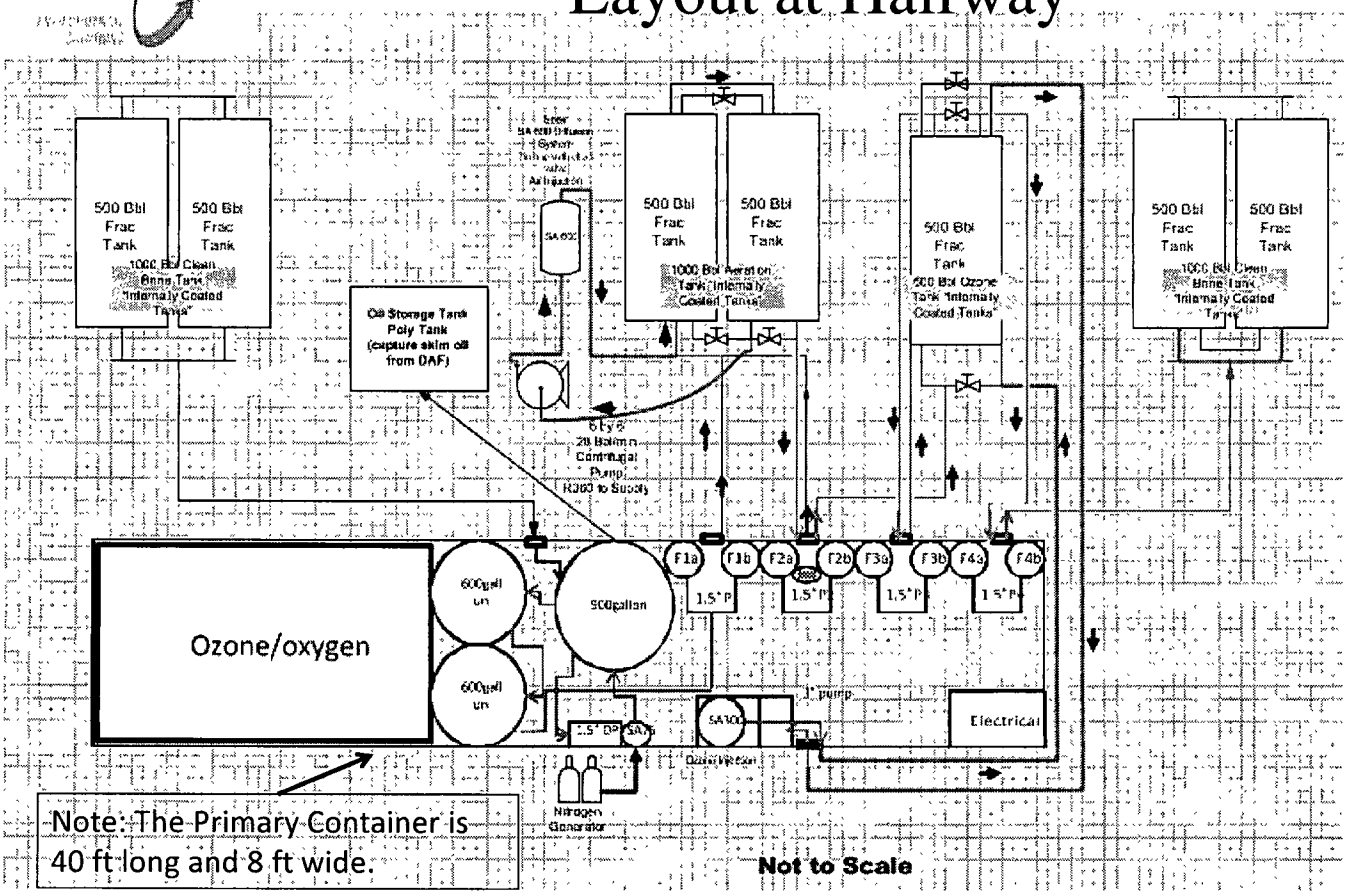
Liner install dimensions of 72 ft wide and 256 ft long =18,432 sqft

- Build a berm height equal to a minimum height of 3 ft around the circumference of the area (above **Blue** area)
- Lay liner inside **Blue** area, allowing overlap on all (4) sides to 3 feet
- Cover liner with 1 ft **of clean fill (no rocks)**, leaving the sides exposed to show the liner exists for at least 2 feet to contain any fluid losses within the area.
- The calculations for this final contained volume equal 5877 bbls: (66*250*2*)*.1781= 5877 bbls (enough volume if all 7 tanks were filled to capacity and 1.33% overage requirement for that hypothetical volume: (7 tanks *500 bbl tanks *1.33 Safety Factor= 4655 bbls)

Blown up view of general layout within Containment Area



Proposed Enhanced Oil Reclamation Layout at Halfway



Field Trial Process

- Introduce Diffused Gas into a Wastewater stream (Produced water, Frac Flow-back water and or Brine Based Drilling Fluids) to enhance the separation and reclamation of 100% of the recoverable oil within the waste stream. The process is further designed to entrain or eliminate contaminants; thus cleaning (scrubbing) the fluid to remove any dissolved oil remaining in solution, producing a hydrocarbon free waste stream.
- Introduce an "EC" Process (Electro Coagulation Process) to the waste water, to aide in cleaning the fluid for the total elimination of hydrocarbons and or to potential reuse standards
- Combining these two processes to optimize a cleaning process for 100% oil capture/recovery and or to an acceptable or potential reuse standard

Controlled Recovery, Inc.

P.O. Box 388

4507 W. Carlsbad Hwy.

Hobbs, New Mexico 88240

575-393-1079

January 31, 2011

Mr. Brad A. Jones

Environmental Engineer

Environmental Bureau

NM Oil Conservation Division

1220 S. St. Francis Drive

Santa Fe, New Mexico 87505

RE: Permission for temporary trial testing of enhanced oil reclamation equipment and process

Dear Mr. Jones:

Controlled Recovery, Inc. ("CRI") respectfully requests permission to run a temporary field trial to test an enhanced oil reclamation process at CRI's Halfway Disposal Facility ("HW") in Lea County, New Mexico. This temporary field trial is a research and development ("R&D") effort for potential use at another site to be developed and permitted in the near future.

I have enclosed a file that includes the following documentation:

1. A site map of HW with the proposed location of the R&D trial site.
2. Schematic of the R&D trial site with complete measurements, dimensions and construct description.
   a. The site will be lined with a 20 mil welded polyethylene liner, covering the ground and the 36" berms that will provide perimeter containment for the entire trial area.
   b. The capacity of this secondary containment (5,877 bbls.) far exceeds the maximum volume of liquid capacity of the tanks within the secondary containment area plus a safety factor (4,655 bbls).

3. Schematic of the equipment layout **within** the secondary containment berms.
4. Schematic of the proposed enhanced oil reclamation equipment showing process flows, etc.
5. A description of the R&D field trial process and tests.

The fluids submitted for testing will be analyzed before testing and after having been run through the system as described herein so that we can evaluate the efficacy and level of improvement resulting from the enhanced system. Once tested and analyzed, all fluids will be disposed of and processed in the usual and customary manner (discharged, via an OCD approved C-133 closed loop transport, into evaporation ponds). No resale or other reuse of the tested fluids will occur.

All reclaimed hydrocarbons will be processed in CRI's permitted Oil Reclamation Plant, again, in the usual and customary manner and processes that are currently deployed.

Any filters or other non-liquid waste will be disposed of in the solids material disposal cells. Any transport from the test site to the ultimate disposal cells will be done via an OCD approved C-133 transport, using fully enclosed steel containers.

CRI requests permission to run this R&D trial for six months beginning February 15, 2011 and ending no later than July 31, 2011. Once the trial is completed, CRI will dismantle the R & D trial site. Any contaminated soil will be disposed of in the solids material disposal cells via closed loop transport. CRI intends to reuse the secondary containment liner after cleaning, etc. Finally, the berms will be deconstructed once all tested materials, equipment, contaminated soil and liner have been removed.

It is CRI's intention to utilize this process and technology at another site, depending upon the efficacy of the process and tests results. CRI is not requesting a new permit or a modification to its existing permit (s). CRI is only requesting approval to conduct the temporary R&D test as described herein. CRI will submit a summary report of all findings (e.g., before and after analyticals) to the Oil Conservation Division once the R & D tests are concluded, as well as documentation and photos of the site cleanup and closure.

Very truly yours,

John Q. Barnidge

John Q. Barnidge, President

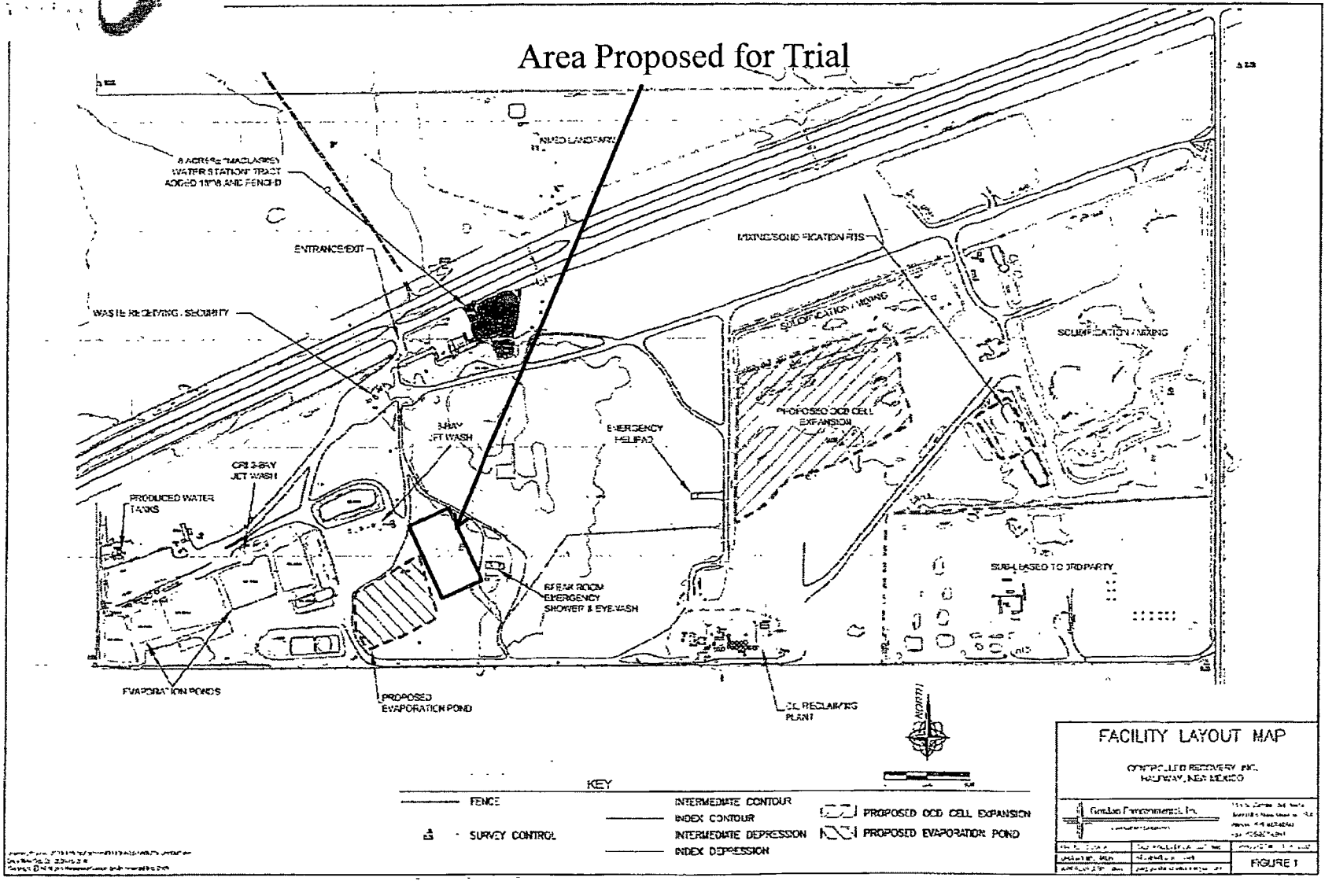
Enclosures

R360

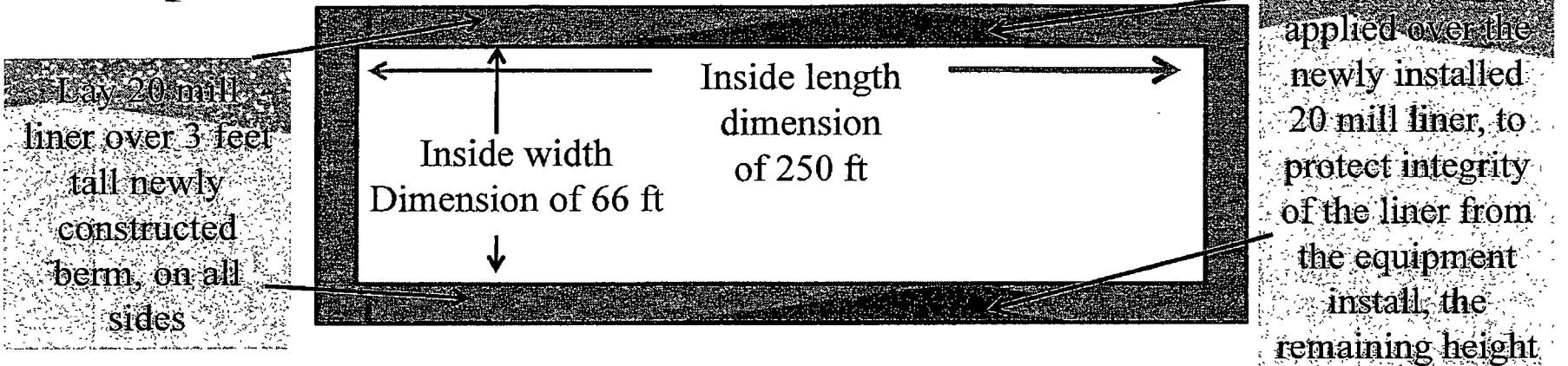
Enhanced Oil Reclamation Process Field Trial

Halfway, New Mexico

Halfway Facility



Half Way Trial Site



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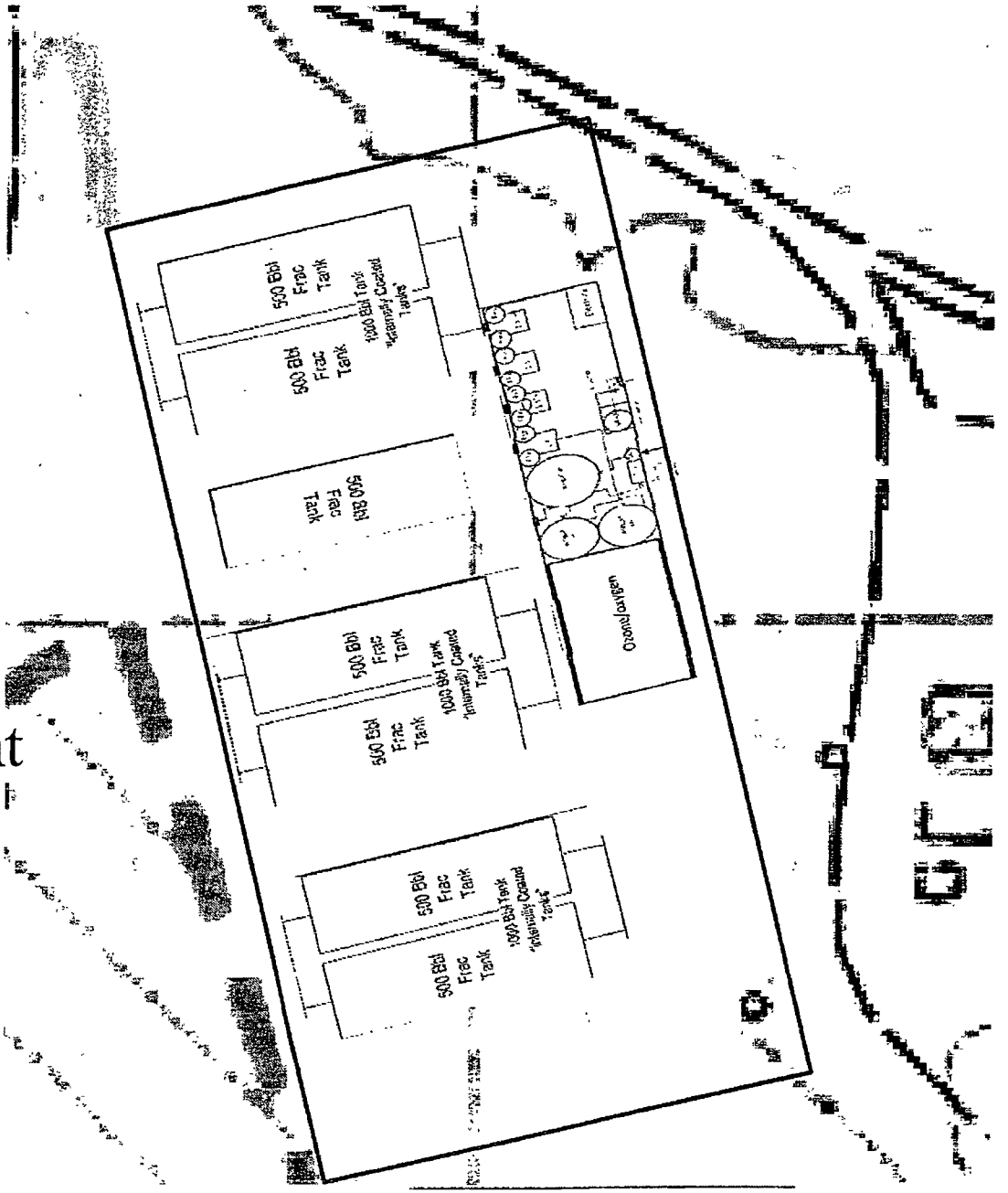
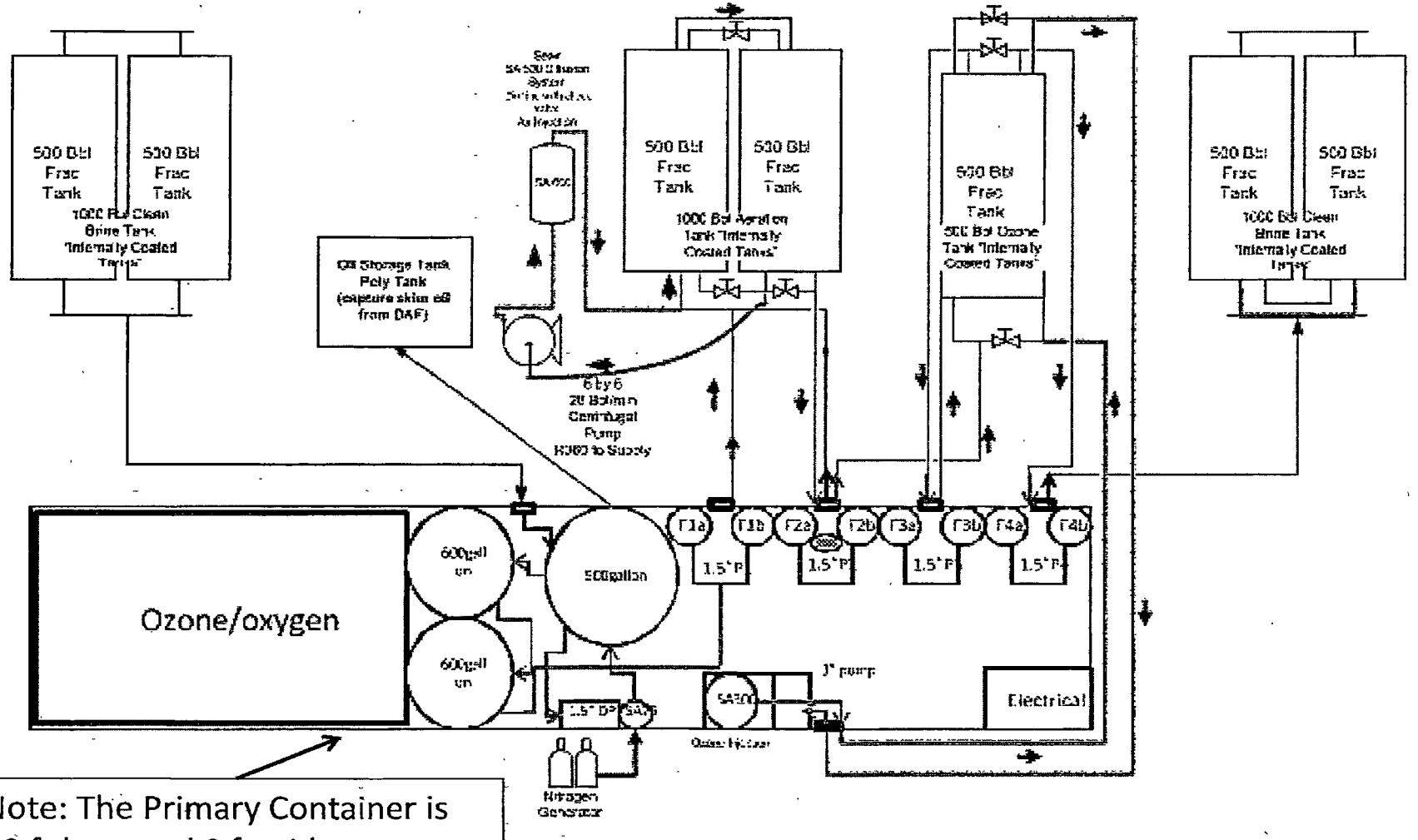
- The calculations for this final contained volume equal 5877 bbls: (66*250*2*)*.1781= 5877 bbls (enough volume if all 7 tanks were filled to capacity and 133% overage requirement for that hypothetical volume: (7 tanks *500 bbl tanks plus 50 bbls internal to the equipment skid *1.33 Safety Factor= 4722 bbls)

R360

Blown up view of general layout within Containment Area



Proposed Enhanced Oil Reclamation Layout at Halfway



Note: The Primary Container is 40 ft long and 8 ft wide.

Not to Scale

Field Trial Process

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- Combining these two processes to optimize a cleaning process for 100% oil capture/recovery and or to an acceptable or potential reuse standard

Jones, Brad A., EMNRD

From: John Barnidge [jbarnidge@r360es.com]
Sent: Tuesday, February 01, 2011 4:29 PM
To: Jones, Brad A., EMNRD
Attachments: Beta Site Enhanced Oil Reclamation Process1a.ppt

Brad:

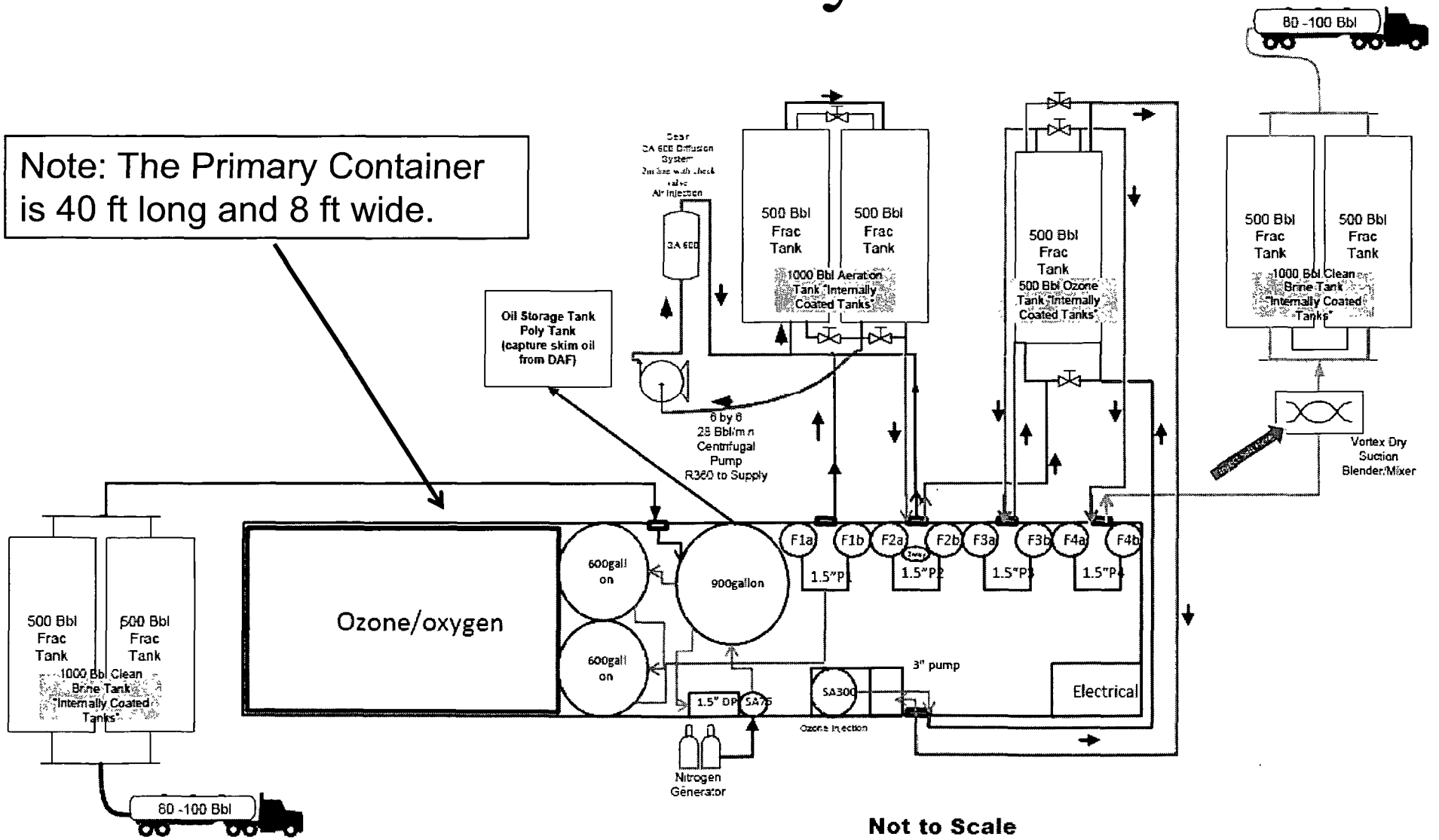
This is a PDF file in Power Point. Out of an abundance of caution, I am going to scan a copy as well from Kim Flowers, who works for me.

John Q. Barnidge
EVP & President-Western Division
CRI an R360 Environmental Solutions Company
Greenspoint Plaza 4, 16945 Northchase Drive, Suite 2200, Houston, TX 77060
O: 281.873.3203 | F: 281.873.3265 | C: 512.289.4080
jbarnidge@r360es.com

Proposed Waste Water Treatment Field Trial

Halfway Facility

Proposed Equipment Layout at Halfway



Field Trial Process

- Introduce Diffused Gas into a Wastewater stream (Produced water, Frac Flow-back water and or Brine Based Drilling Fluids) to cause a precipitation reaction and or oxidation process of the entrained contaminants; thus cleaning (scrubbing) the fluid to a reuse quality.
- Introduce an "EC" Process (Electro Coagulation Process) to the waste water, to aid in cleaning the fluid for reuse standards
- Combining these two processes to optimize a cleaning process to a cost effective and acceptable reuse standard

Jones, Brad A., EMNRD

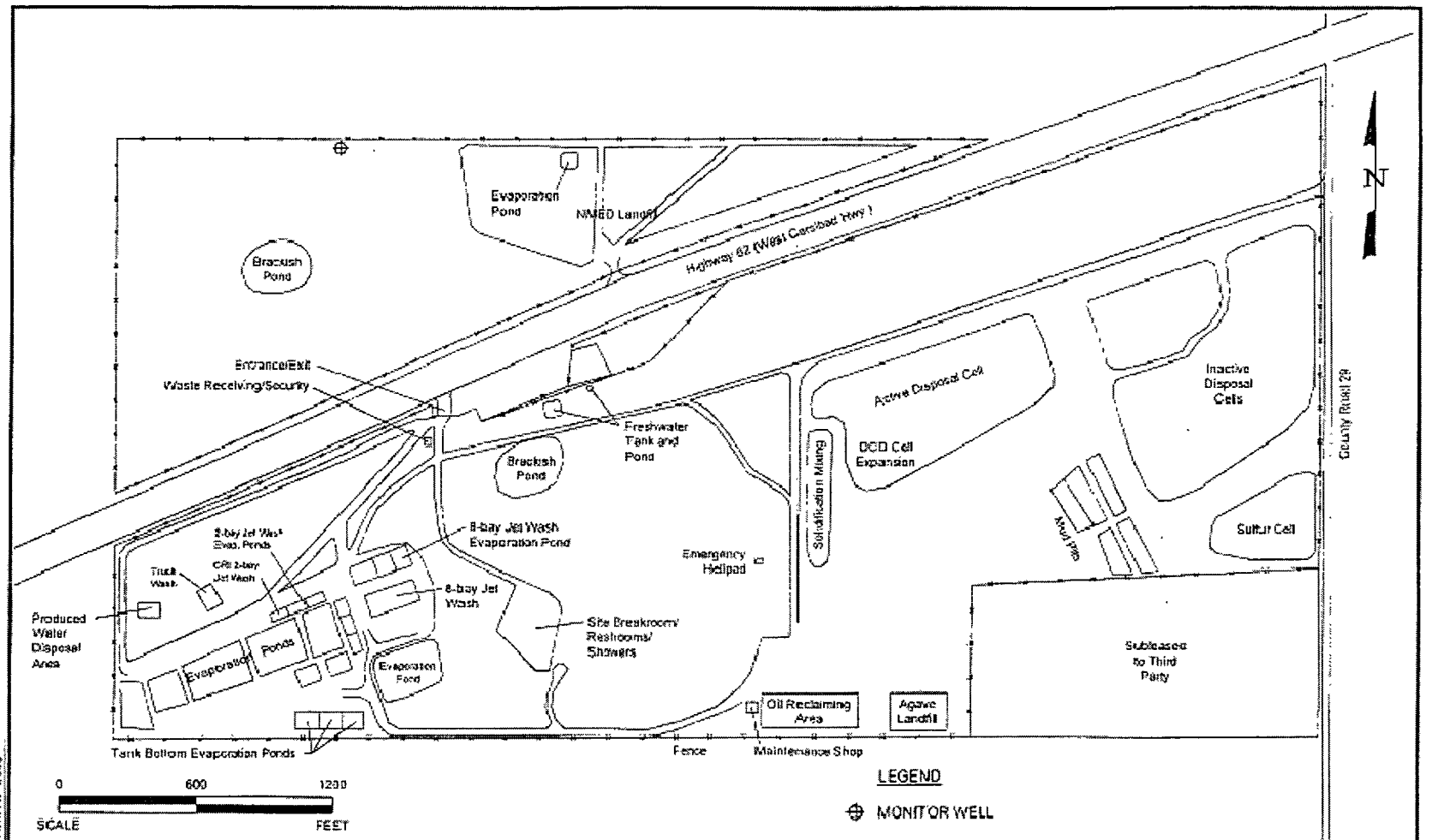
From: John Barnidge [jbarnidge@r360es.com]
Sent: Monday, January 24, 2011 10:36 AM
To: Jones, Brad A., EMNRD
Attachments: SeAir Beta Site Halfway.pdf

Brad:
The proposed location for the water treatment equipment described in the attached diagram/memo is a 2 acre footprint located in the southwest quadrant of the site diagram below, between the areas noted as "Evaporation Pond" and "Site Breakroom/Restrooms/Showers".

The entire site will utilize seven 500 bbl. frac tanks and a 40'X8' coated metal tank for primary containment. We will construct a 36" high berm around the perimeter of the test site for secondary containment. No earthen ponds or pits will be utilized. All drilling fluids being tested will be completely contained in various storage tanks.

Once tested and analyzed, all drilling fluids will be disposed of and processed in the usual manner via evaporation ponds. No resale or other reuse of the fluids is contemplated. All reclaimed hydrocarbons will be processed in the Oil Reclamation Plant. Any filters or other non-liquid waste material will be disposed of in the solids material disposal cells.

Please let me know if you have any questions or modifications.



Environmental Resources Management

DESIGN: SBF	DRAWN: EFC	CHKD.: GS
DATE: 3/9/2010	SCALE: AS SHOWN	REV.:

W.O. NO.: H:\DWG\0100112176_Hobbs_NM.dwg, 3/9/2010 10:34:27 AM

FIGURE 2
SITE LAYOUT MAP
CRI Halfway Facility
Hobbs, New Mexico

ERM

g:\2010\0112176\14701H(figs).pdf

ERM-Southwest, Inc. TX PE Firm No. 2393

2

John Q. Barnidge
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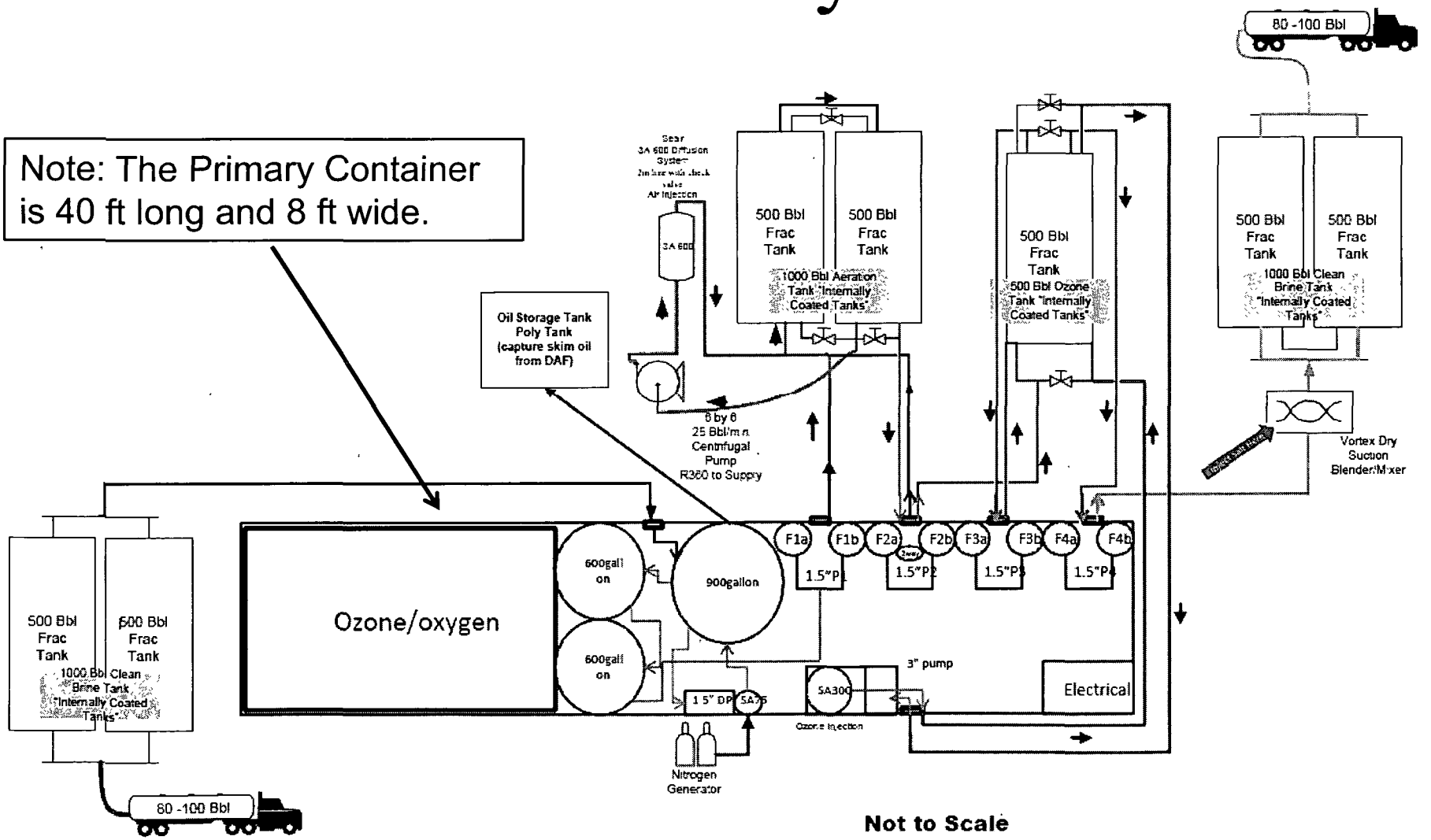
Proposed Waste Water Treatment Field Trial

Halfway Facility

Proposed Equipment Layout at Halfway



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