

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-147
Revised April 3, 2017

Recycling Facility Only

Type of action: ☒ Permit ☒ Registration ☐ Modification ☐ Closure ☒ Other (explain) Pilot Test

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1. Operator: BCED operating Inc. (For multiple operators attach page with information) OGRID #: 025670
Address: P.O. Box 302, Hobbs, NM 88241
Facility or well name (include API# if associated with a well): West JAL DEEP API # 30-025-25046
OCD Permit Number: 1RF-449 (For new facilities the permit number will be assigned by the district office)
U/L or Qtr/Qtr H Section 17 Township 25S Range 36E County: LEA
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

2. ☒ **Recycling Facility:**
Location of recycling facility (if applicable): Latitude 32 07' 54.21"N Longitude 103 16' 50.98"W NAD83
Proposed Use: ☐ Drilling* ☐ Completion* ☐ Production* ☐ Plugging *
*The re-use of produced water may NOT be used until fresh water zones are cased and cemented
☒ Other, requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.
☒ Fluid Storage
☒ Above ground tanks ☐ Activity permitted under 19.15.17 NMAC explain type _____
☐ Activity permitted under 19.15.36 NMAC explain type: _____ ☐ Other explain _____
☐ Closure Report (required within 60 days of closure completion): ☐ Recycling Facility Closure Completion Date: _____

3. **Variances:**
Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.
Check the below box only if a variance is requested:
☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.
If a Variance is requested, it must be approved prior to implementation.

4. **Operator Application Certification:**
I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.
Name (Print): Donnie Hill Title: President
Signature: Donnie Hill Date: 2/6/2020
e-mail address: dhill@wellconsultant.com Telephone: 575-390-7626

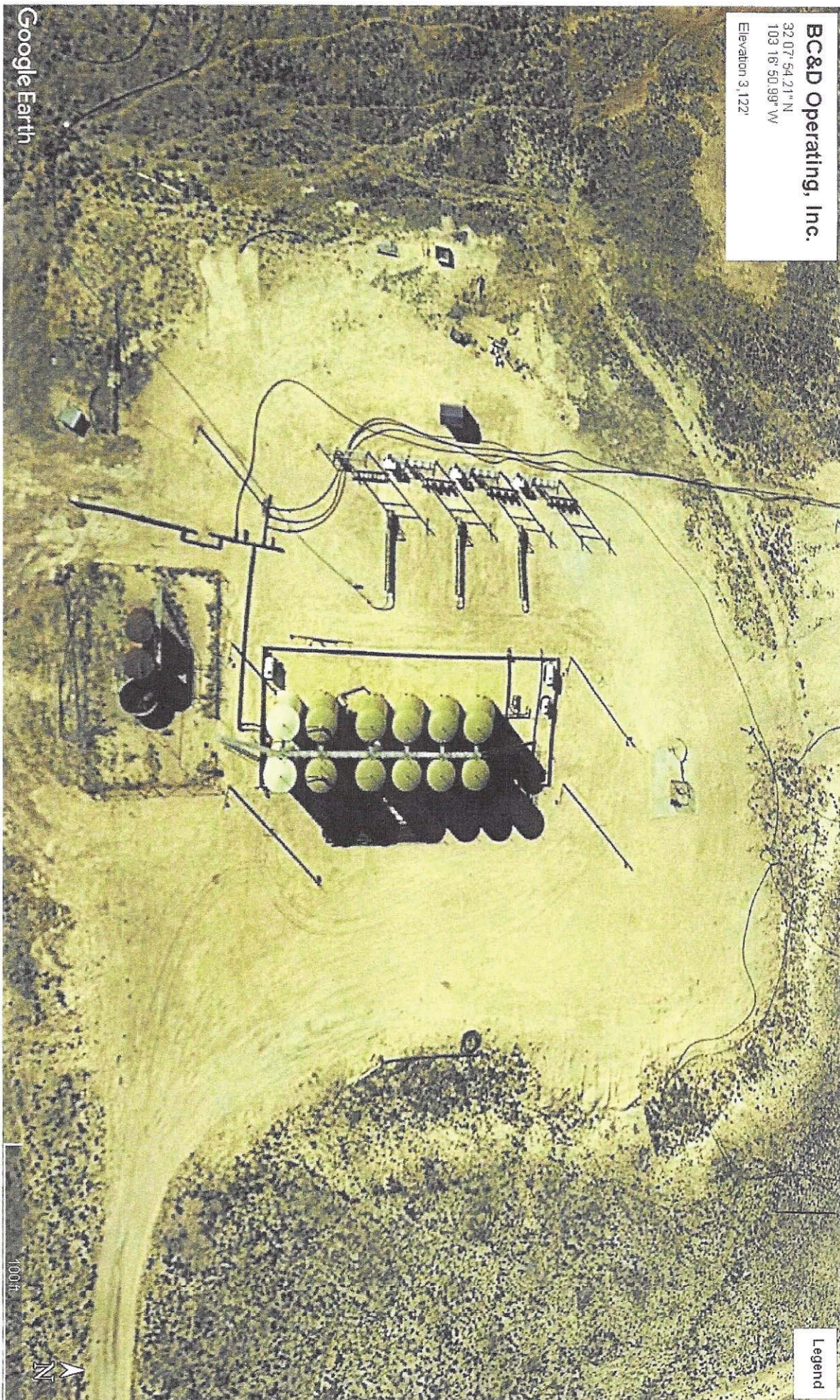
5. **OCD Representative Signature:** _____ **Approval/Registration Date:** _____
Title: _____ **OCD Permit Number:** 1RF-449
☐ OCD Conditions _____
☐ Additional OCD Conditions on Attachment _____

C-137 received 02/07/2020.

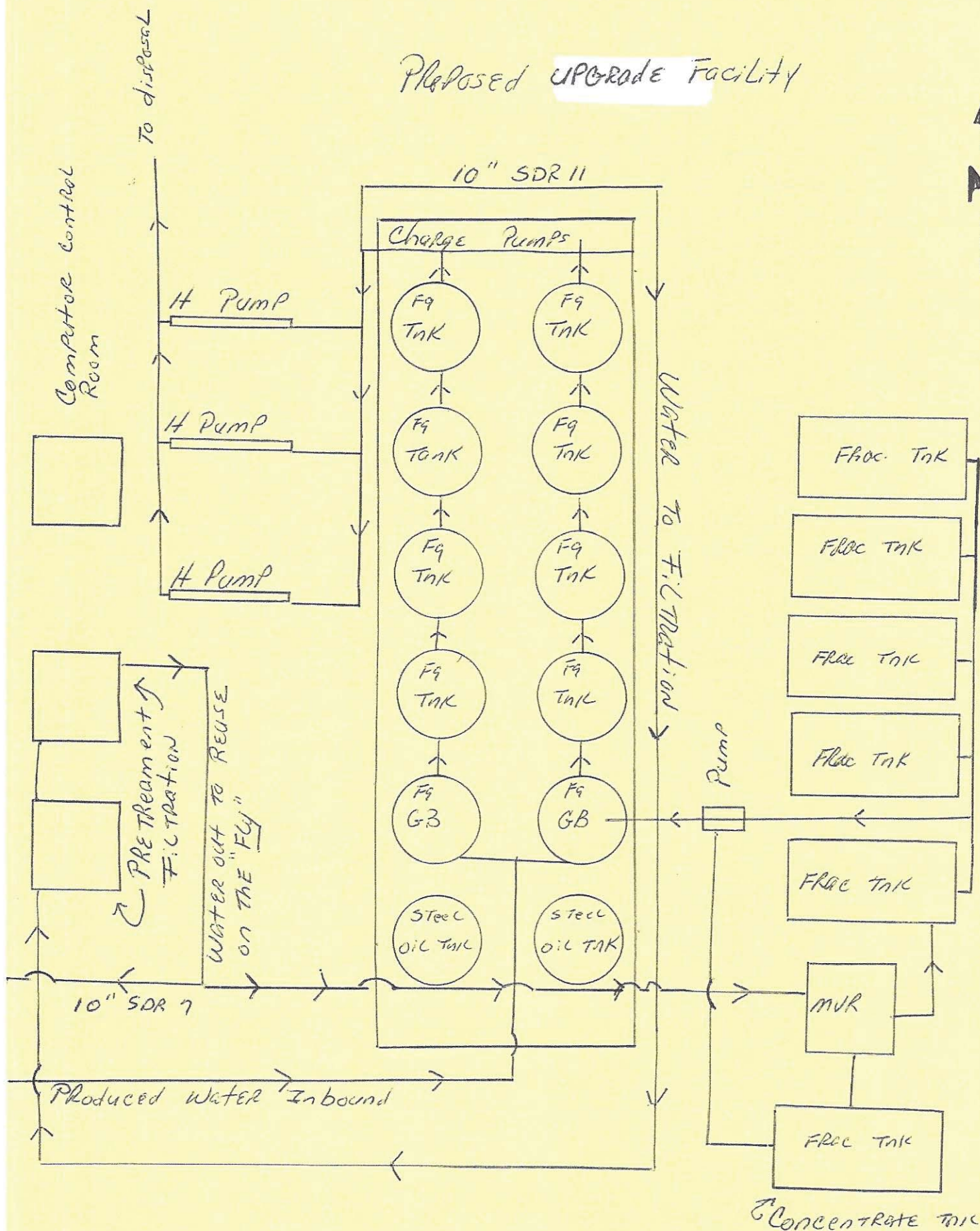
Oil Conservation Division

Page 1 of 1

OCD order # 1RF-449. Request # pSL2005241074. Facility # fSL2005255808



Proposed Upgrade Facility



Pilot Test

General Info:

The current SWD Facility has (2) 1000 bbl. Fiberglass desanders, (8) 1000 bbls Fiberglass water tanks, (2) 1000 bbl oil tanks, (3) 700 hp H pumps currently disposing of produced water into 2 commercially permitted disposal wells. All tanks are inside a fiber glass containment. The facility is totally automated with security cameras and manned 24/7.

Objective:

Will be to set (6) 500 bbl frac tanks inside a containment. No open pits or open containments will be utilized. Install a 500 bbl per day MVR unit. Filtered water will then be cleaned thru the MVR and held in the 500 bbl frac tanks. MVR will be shut down while water samples are being secured by a third party lab Tech. A chain of custody will be secured and the samples will be taken to the lab for analysis. All results will be documented. We will then reintroduce the treated water and concentrate back into the disposal cycle. We will repeat this process until a cost per bbl to treat can be established to determine economic feasibility and water quality can be considered sustainable. NO water will be allowed to be placed on the ground at any time during this pilot test. This is a Pilot Test only.

MVR – Mechanical Vapor Recompression

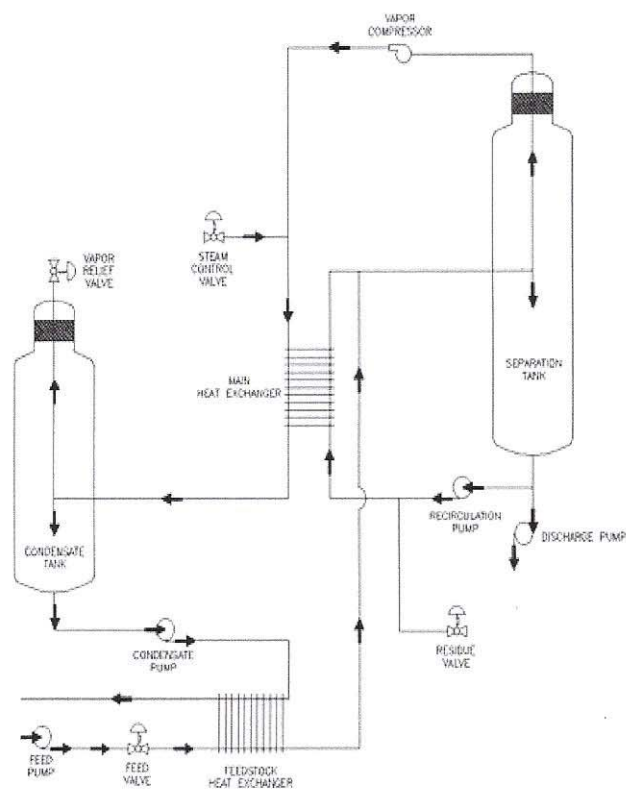
Principles of Operation:

Mechanical Vapor Recompression (MVR) evaporation process involves forced circulation flash evaporator utilizing mechanical vapor compression. By using this design, the MVR Evaporator allows for minimal scaling, maximum uptime, and low operating costs.

Process Description: (refer to diagram below)

- Process wastewater is fed by the feed pump through the feedstock heat exchanger and into the circulating stream. The feedstock heat exchanger is used to heat the wastewater by transferring sensible heat from the hot condensate to the cooler feed.
- The recirculation pump circulates wastewater from the separation tank through the main heat exchanger, to the orifice plate, and back into the separation tank. The latent heat from the compressed vapor is transferred to the wastewater via the main heat exchanger.
- An orifice plate is used to reduce the pressure of the circulating stream. The downstream pressure is low enough to allow flashing of the circulating stream into liquid and vapor components.

- The liquid and vapor then flow to the separation tank where they are separated. The liquid stream exits the tank at the bottom and flows back to the recirculation pump. The vapor stream exits the tank at the top and flows to the vapor compressor(s).
- A mist pad is provided at the top of the separation tank to remove small droplets of liquid from the vapor.
- The vapor compressor compresses the vapor (raising the temperature and pressure), and sends the vapor to the main heat exchanger, where it transfers its latent heat to the wastewater in the recirculation loop.
- High temperature condensate exits the main heat exchanger and flows to the condensate tank, where any remaining vapor is separated. The hot condensate is then pumped to the feedstock heat exchanger, where it transfers sensible heat to the incoming feed wastewater.
- Upon reaching steady-state at the target concentration, the concentrated wastewater is purged from the recirculation loop, using the residue valve. Depending on the energy balance, energy can be added to the system by electric heaters / process steam or excess energy can be removed from the system.

14.6 gpm Totally Enclosed Trailer Mounted - Prototype

Pretreatment water quality will be as follows:

Ph	6 – 8 su
Iron	<3 mg/l
Turbidity	<25 NTU
ORP	>300 mv
H ₂ S	-0-
ATP	<25 Pg/ml
TSS	<25 mg/L
TPH	<10 PPM

Pilot Test Targeted Water Quality will be as follows:

Ph	6.5 – 8.0
Alkalinity	30 mg/l
Salinity	<250 mg/l
Nitrogen – Ammonia	<0.05 mg/l
Nitrates	<10 mg/l
Phosphorus	.01 mg/l
Sulfates	<250 mg/l
Aluminum	<200 mg/l
Antimony	<10 mg/l
Barium	<1.0 mg/l
Beryllium	<1.0 mg/l
Flouride	<1.0 mg/l
Conductivity	<800 mv
TSS	-0-
Fecal Bacteria	<200 colonies/100ml
Metals	<100 mg/l
Calcium	<2.0 grams
Chromium	<0.05 mg/l
Cobalt	<few micrograms/liter
Lead	<0.05 mg/l
Lithium	<60 mg/l
Magnesium	<100 mg/l
Nickel	<13.4 mg/l
Potassium	No requirements
Selenium	<10mg/l
Silicon	No requirements
Silver	<4 mg/l
Sodium	No requirements
Strontium	No requirements

Thallium	<48 mg/l
Vanadium	<6 mg/l
Zinc	No requirements

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e-mail address: dhill@wellconsultant.com Telephone: 575-390-7626

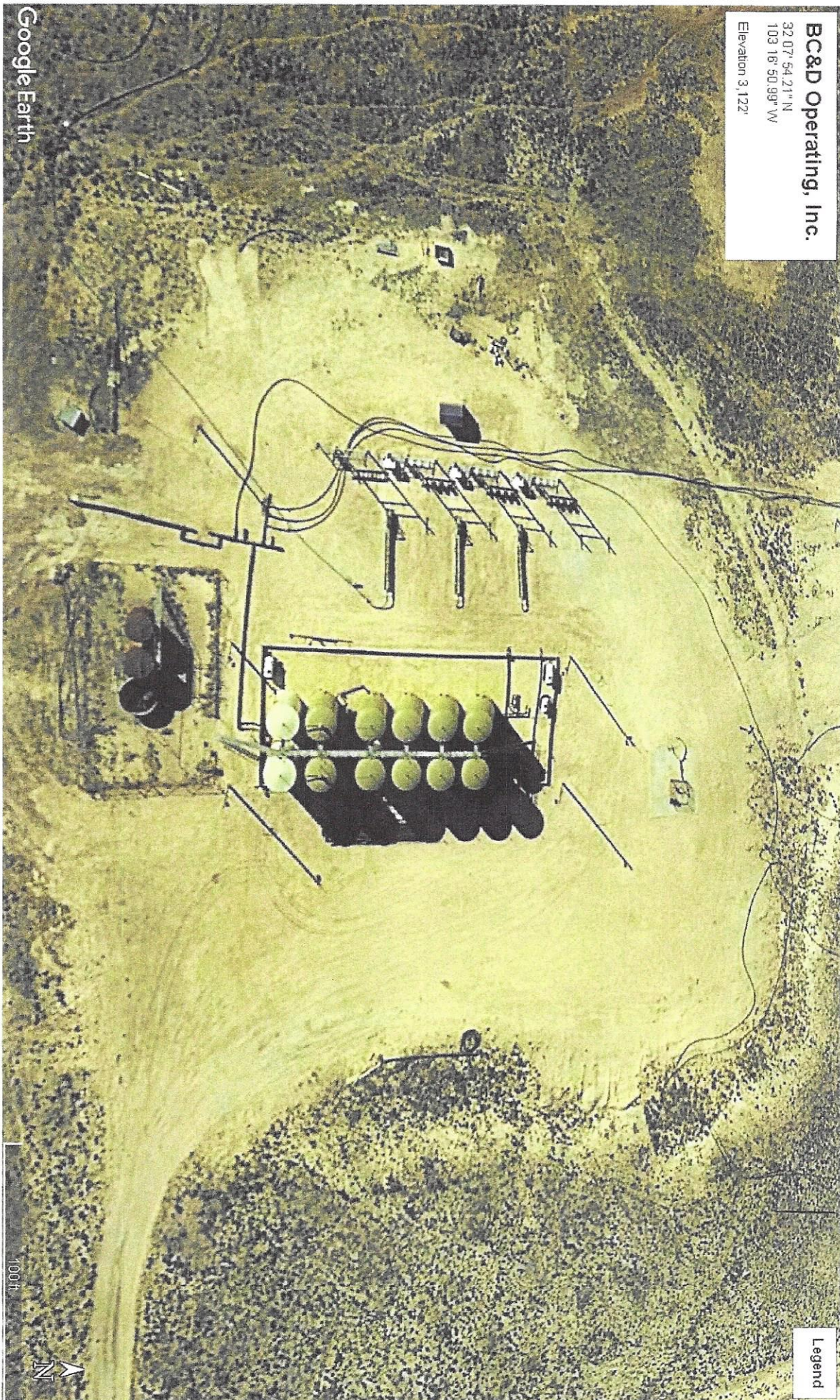
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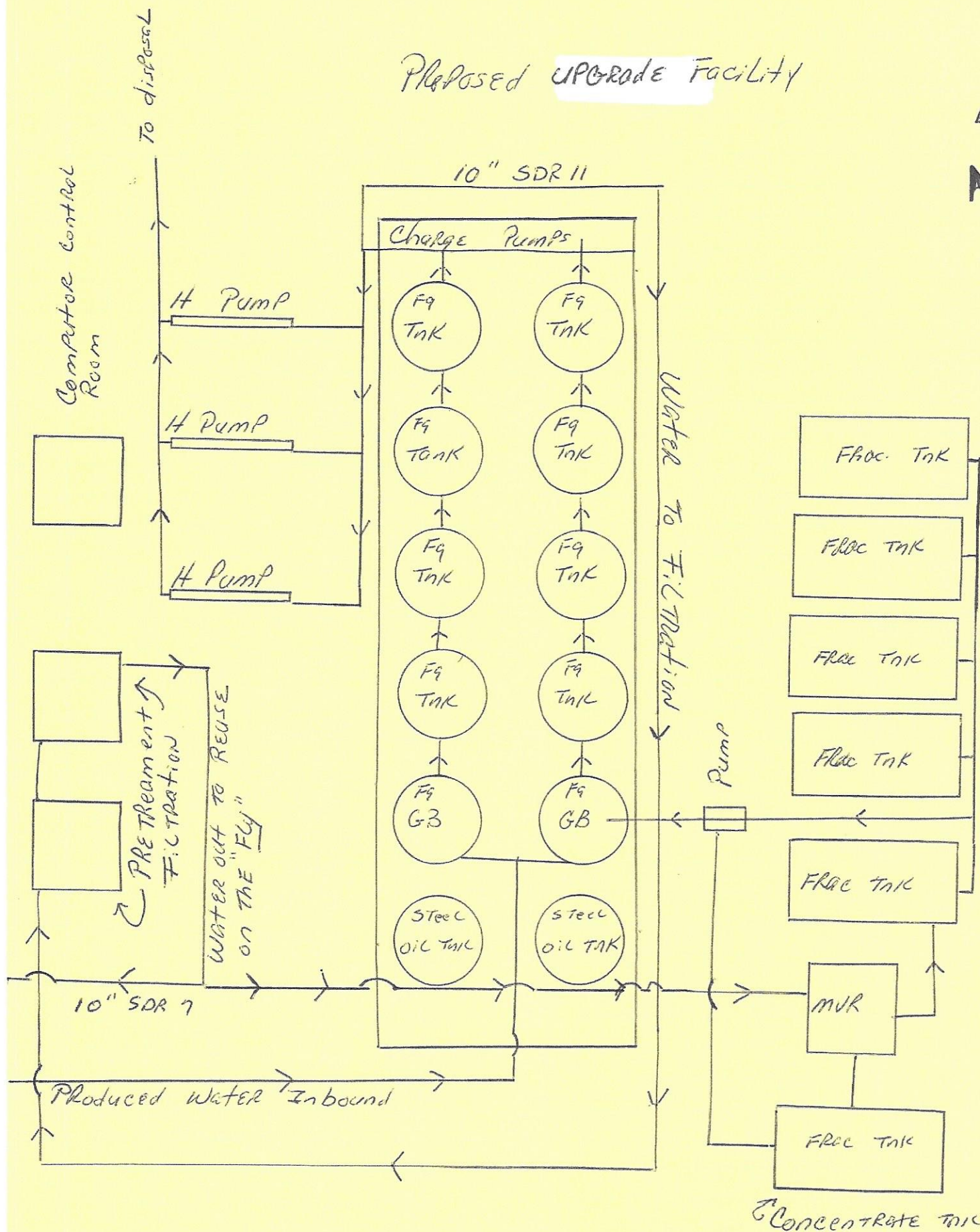
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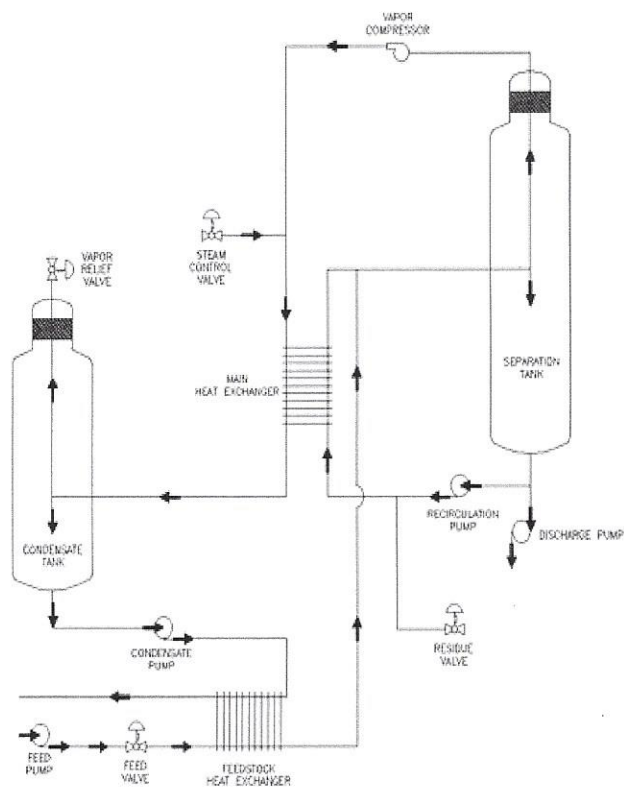
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Aluminum	<200 mg/l
Antimony	<10 mg/l
Barium	<1.0 mg/l
Beryllium	<1.0 mg/l
Flouride	<1.0 mg/l
Conductivity	<800 mv
TSS	-0-
Fecal Bacteria	<200 colonies/100ml
Metals	<100 mg/l
Calcium	<2.0 grams
Chromium	<0.05 mg/l
Cobalt	<few micrograms/liter
Lead	<0.05 mg/l
Lithium	<60 mg/l
Magnesium	<100 mg/l
Nickel	<13.4 mg/l
Potassium	No requirements
Selenium	<10mg/l
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Silver	<4 mg/l
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 71344

CONDITIONS

Operator: BC & D OPERATING INC. 1008 West Broadway Hobbs, NM 88240	OGRID: 25670
	Action Number: 71344
	Action Type: [C-147] Water Recycle Short (C-147S)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	None	1/10/2022