Filed: 2/20/2014 10:25:25 AM WEQC

DEQ EXHIBIT 1A

Table of Contents

LIST	OF EXH	HIBITS	
1.0	GENE		
	1.1	Application Form	>
	1.2	Operator Information	
		Waste Facility Permit Application Form	and the second
	1.3	Manager Information	NECE
	1.4	Legal Description	i nos 👯
	1.5	General Facility Description	152
	1,6	Surface and Mineral Ownership	RECEIL OCT 15 2013
	T.0	Surface and Minieral Ownership	SU AMPRESA
2.0	LOCA	TION STANDARDS EXISTING FACILITIES	SAMDEN-
		Local Land Use and Zoning6	
		Areas Susceptible to Groundwater or Surface Impacts	
		100-Year Floodplains6	
		Areas Susceptible to Dust, Oder or Nuisance Problems	
		Chapter 6 and Chapter 8 Location Standards	
3.0	GEOL	OGY, GROUNDWATER, SOILS, AND UNSTABLE AREAS	
	3.1	Solls	
	3.2	Geology7	
	3.3	Groundwater Occurrence7	
	3.4	Groundwater Quality7	
	3.5	Potential Impacts to Surface Water and Ground Water8	
	3.6	Site Suitability8	
4,0	DEGIO	SN, CONSTRUCTION, AND OPERATION	
4.0	4,1	Service Area	
	4.2	Access Control	
	4.3	Waste Screening	
	4.3	Waste Management Units	
	4.5	Secondary Containment and Leak Detection Systems	
	4.6	Surface Water Structures	
	4.0 4.7	On-Site Traffic Control	
	4.8 4.9	Firefighting and Emergency Procedures	
	4.9	Facility Signs	
		Litter Control	
	4.11	Vector, Odor, Dust and Noise Control	
	4.12	Process Waste Management	
	4.13	Wastewater Management	
	4.14	Confirmation Sampling and Analysis	
	4.15	Other Design, Construction and Operation Information	

October 10, 2013

Ĺ

.

÷

ł

(÷

DEQ Exhibit 1A EQC No. 13-5802

ì

Table of Contents, Continued

5.0	ENVI	RONMENTAL MONITORING 14
	5.1	Groundwater Monitoring System14
	5.2	Groundwater Monitoring Program14
	5.3	Other Monitoring Information14
6.0	CLOS	SURE AND POST-CLOSURE
	6.1	Post-Closure Land Use15
	6.2	Closure Procedures15
	6.3	Public Notice of Closure15
	6.4	Environmental Monitoring Program15
	6.5	Access Controls15
	6.6	Other Closure and Post-Closure Information16
7.0	EXHI	BITS
	7.1	USGS Topographic Map17
	7.2	General Facility Plot Plan(s)17
	7.3	Cross Sections and Design Details
	7.4	Recordkeeping Log
8.0	FINA	ANCIAL ASSURANCE
	8.1	Cost Estimates
	8.2	Mechanlsm
9,0	REN	EWAL APPLICATION REQUIREMENTS 19
	9.1	Previously Approved Amendments and Revisions
	9.2	New Amendments and Revisions19
	9,3	Proposed Construction and Operation Specifications
	9,4	Correction of Operational Deficiencies19
	9,5	Updated Financial Assurance Requirements
10.0) APP	ENDICES

ł

۴ ,

•

i

. ;;

1

List of Exhibits

Exhibit 1	Deeds and Site Maps		
Exhibit 2	Surface and Mineral Ownership		
Exhibit 3	Natrona Zoning Information and Resolutions		
Exhibit 4	1 mile Radius Map		
Exhibit 5	Floodplains Information		
Exhibit 6	Facility Plans (Revised 8/16/2013)Sheet 1Drying Beds Grading PlanSheet 2Drying Beds – Section ASheet 3Drying Beds Section's B & CSheet 4Drying Beds Waterline ProfileSheet 5Mixing Bed Details		
Exhibit 7	Excerpt from Wyoming Climate Atlas, 2004, Wind and Precipitation Data		
Exhibit 8	USGS Topographic Map		
Exhibit 9	Recordkeeping Logs		
Exhibit 10	Cost Estimate for Closure of Facility (Revised 8/16/2013)		
Exhibit 11	Paint Filter Test		
Exhibit 12	Acceptance Letters from Solid Waste Facilities		
Exhibit 13	Boring Logs		
Exhibit 14	Geologic Map of Wyoming		
Exhibit 15	Constituents for Detection and Assessment Monitoring		
Exhibit 16	State Engineers Office (SEO) Report of Water Wells		
Exhibit 17	Construction Quality Assurance Plan		
Exhibit 18	Letter of Acceptance Natrona County Fire		
Exhibit 19	Process Flow Charts (Revised 8/16/2013)		
Exhibit 20	Methods for Organic Chemical Analysis of Municipal And		
	Industrial Wastewater - Method 624-Purgeables		
Exhlbit 21	Other Design, Construction and Operation Information		

ţ

!

ï

Wyoming Department of Environmental Quality Solid & Hazardous Waste Division

SOLID WASTE PERMIT APPLICATION

Anchor Environmental Transfer, Storage and Treatment Facility

APPLICATION SUMMARY

In accordance with the Wyoming Department of Environmental Quality – Solid and Hazardous Waste Division (WDEQ-SHWD) Chapter 6, Sanitary Landfill Regulations, the Anchor Environmental Treatment, Transfer, Storage and Drilling Fluid Recycling facility permit application and supporting information is being submitted for approval. This facility will be accepting used drilling fluids from oil and gas exploration activities for recycling and shop sump waste for mechanical drying and recycling or disposal at either the City of Casper landfill or the TDS landfill near Torrington Wyoming. Exhibits are included in this permit application.

1.0 GENERAL INFORMATION

1.1 Application Form	Section 2.b.i-ii

The completed Solid Waste Permit Application Form is included as pages 2 and 3 of this application.

1.2 Operator Information	Section 2.b.iii.A

The operator of the Anchor Environmental – Transfer Storage and Treatment Facility Jim Skovgard Anchor Environmental, Inc. P.O. Box 2513 Mills, Wyoming 82644 307-265-4047

Anchor Environmental, knows of no administrative order, civil, or administrative penalty assessment, bond forfeiture, civil, misdemeanor or felony conviction or court proceeding for any local, state, or Federal law occurring within a minimum of five (5) years relating to environmental quality or criminal racketeering of the manager, operator, partners, and/or executive officers.

See Separate PDF File for Pages 2 & 3

This page left blank for formatting. Insert PDF file

Solid Waste Facility Permit Application Form

For SHWD Use Only		"	• •	ب ۳	
	•				1.13

Bacility Name: Anchor Environmental SHWD File No.: 50.022

1.

- -----

.

2

• •

Applicant Information

• • •

the second s				
Name:	Anchor Environmental - AAA Services, inc.	Phone:	307-265-4047	
Address:	P.O. Box 2513			
City, State	, Zip: Mills, Wyoming 82644		4	

Landowner Information

Name:	Anchor Environmental - AAA Services, inc.	Phone:	307-265-4047
Address:	P.O. Box 2513	1	
City, State	e, Zip: Mills, Wyoming 82644		

Lienholder Information

Name:	N/A	Phone:
Address:		
City, State, Zip:		

Facility Information

Facility Type: Transfer, treatment, or storage facility					
Section: 2					
Total Acreage: 5					
Service Area: States of Wyoming, Colorado, Montana, North and South Dakota, Idaho, Nebraska					
Total Disposal Capacity: N/A					
Oll and Gas Used Drilling Fhild/Sump Waste = 22,000 GAL Mixing Storage Pad = 8550 (15231) Reclaimed Drilling Fluid 22,000 GAL Recovered Oll = 21,000 GAL Recycled Water = 21,000 GAL					
Oli and Gas Used Driiling Fluid Sump Waste					

Date/SHWD File #_____

Landowner Approval

	I have read this application and consent to the land use restrictions and any deed notice which find the structure of the str	operations which are described herein. I understand the h are part of this application. $\frac{10/10/13}{Date}$	
	1 signature		
Lienhold	ler Approval		
	I have read this application and consent to the land use restrictions and deed notice which are	operations which are described herein. I understand the e part of this application.	
	Signature	Date	
Professi	onal Engineer Certification	Stepanal Engines	
	I am a registered professional engineer in the Wyoming and am qualified to design solid wa	State of use	******

Professional Engineer Certification

I am a registered professional geologist in the State of Wyoming. I certify that the geologic services and work contained in this application were prepared by me or under my direct supervision. 1. Qí (Stamp, sign and date) 2 Signature *PREPARTING

Applicant Oath

I (we) have prepared or reviewed this application and swear that the information contained in it is accurate and represents actual site conditions. I (we) understand that submission of false information subjects me (us) to a penalty for perjury in accord with W.S. 35-11-506. I (we) shall allow the administrator or an authorized representative, upon the presentation of credentials and other documents as may be required by law to enter upon the premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; inspect at reasonable times any facilities, equipment (including including and control equipment), practices, or operations regulated or required under this permit; and sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate rules and regulations of the department, any substances or parameters at any location.				
Applicant signature	President title	10/10/2013 date		
Applicant signature The forgoing permit application form w	title as acknowledged before n	ie by JNM Skovaard		
in May Mike_County, State of 1/4		Applicans(s) day of <u>October</u> 2013.		
Witness my hand and official seal.	v 1	A CONCIA C. SMITH GEORGIA C. SMITH A expires: Nationa County		
		My Commission Expires 0		

Date/SHWD File #____

This page left blank for formatting. Insert PDF file.

1.3 Manager Information	Section 2.b.iii.B
	_

The facility Manger is:

Jim Skovgard P.O. Box 2513 Mills, Wyoming 82644 307-265-4047

Personnel records of training and examinations completed by the solid waste manager and staff shall be maintained at the facility or an approved alternative location and available for inspection and copying as specified by Chapter 1, Section 1 (g).

1.4 Legal Description	Section 2.b.iii.C

The facility lies within Section 2, T33N, R80W 6th PM, Natrona County, Wyoming. Additional site boundary information is contained in Exhibit 1.

Langer	
1.5 General Facility Description	Section 2.b.iii.D

This facility is a transfer treatment storage and recycling facility. It manages shop sump waste and reduces, recycles, and reuses drilling fluid an oilfield exempt waste. EPA states that to be considered exempt wastes must be:

• Uniquely Associated with Exploration & Production Operations, and

• Derived from Primary Field Operations. Drilling fluid is within this classification.

The facility will mechanically separate drilling fluid to remove impurities and recover reusable drilling fluid, transfer the recovered drilling fluid to storage in a tank battery and ultimately return it to our oil and gas exploration customers. Also collected and managed will be nonhazardous shop sump wastes. The sump waste will be mechanically reduced and the dried solids will be disposed of in either the Casper Regional Solid Waste Facility or in TDS's Facility in Torrington. Mechanical reduction will be completed using tanks, shakers, and centrifuges to separate the materials received at the facility. Drilling fluid will be cleaned and the reusable material will be transferred to the tank battery. The impurities cleaned from the drilling fluid consisting mainly of sand, silt and gravel will be further processed through a vertical centrifuge (dryer or Vortex) and the resulting dried material will be landfilled. Shop sump waste will be managed separately. It will be reduced mechanically by passing it over shakers and processed mechanically in the centrifuge resulting in a dry material which will be landfilled. Water will be recovered in the mechanical process and will be reused in this facility and/or returned to our oil and gas customers. Excess water may also be disposed of in an injection disposal well operated by Mel's Water Service provided the water meets the conditions of organic chemical analysis of municipal and industrial wastewater method 624-purgeables (See Exhibit 20 for Method). The facility will have a 100 foot by 200 food building enclosing a vertical centrifuge dryer, a centrifuge an 8,600 CY depressed bed for mixing semi-dry solids with drying agents and a mixing tank for reconditioning recovered drilling fluid. This building will also house a truck wash bay. Next to the building will be one 21,000 gallon receiving tanks, one 21,000 gallon tank for storage of recycled drilling fluids, one 21,000 gallon recovered oil tank and one 21,000 gallon tank for reused water storage for a total of (4) 21,000 gallon storage tanks. Recovered oil will be re-incorporated with the recycled drilling fluid or sold to oil recycling companies such as Safety Kleen or Tri-State oil. This facility's parcel of land is 5 +/- acres in size, which is located in Natrona County just out the City of Mills. Used drilling fluids will be accepted for recycling from oil and gas exploration clients, Shop sump waste will be profiled by sampling for the constituents listed in Exhibit 15, non-hazardous shop waste will be managed by mechanical drying and/or mixing in this facility. The reused water generated in these processes will be collected and pumped into the onsite tank. The maximum capacity of the facility for recycled drilling fluid is 84,000 gallons; the storage of the receiving tanks 21,000 gallons combined with the 21,000 gallons drilling fluid tank battery and 21,000 gallons used oil tank. The facility will accept material for batch process treatment at the rate at which it can process it, which is estimated to be approximately 2,000 gallon/min. No material will be accepted at the facility once the receiving tanks reach 19,000 gallons, the mixing/storage pad reaches 35 cubic yards, the drilling fluid tanks reach 19,000 gallons or the recovered Oil tank reaches 19,000 gallons until the material is transported back to our customers or for disposal. This facility will be designed for a capacity of 537,600 gallons of drilling fluid in the future but is currently being permitted to process up to 84,000 gallons. Any permit revision will be submitted to WDEQ for determination if proposed changes will constitute minor or major permit modifications.

-		 · · · · · · · · · · · · · · · · · · ·
	1.6 Surface & Mineral Ownership	Section 2.b.iii.E

All surface rights are in Jim Skovgard's name. See deeds included in Exhibit 1.

2.0 LOCATION STANDARDS

All New Facilities...

	1
2.1.1 Local Land Use and Zoning	Section 2.b.iii.F
L Z.I.I LUCAI LANU USC ANU ZUNNg	

The Anchor Environmental site was re-zoned Light Industrial with a Conditional Use Permit issued by the Natrona County Commissioners on June 5, 2012. A copy of the zoning map for this site is in Exhibit 3 as well as resolutions for the Zone Change and Continual Use Permit.

2.1.2 Areas Susceptible to Groundwater or Surface Impacts	Section 2.b.iii.F

If there is a leak or spill at this facility there is no immediate groundwater or surface water impacts. The map in Exhibit 4 shows that all rivers and streams are more than a mile away and there are no reservoirs downstream from this site. Groundwater was not found at 11.5 feet below the surface see section 3.3 of this permit for more details.

2.1.3 100 Year Floodplain	Section 2.b.iii.F

Using the Federal Emergency Management Agency's FEMAette map #56025c1985D updated last July 16, 2004 this property is in the Other Areas - Zone X, which is areas of 0.2% annual chance of flooding. See Exhibit 5 for the FEMAette maps showing this zone.

2.1.4 Areas Susceptible to Dust, Odor or Nuisance Problems	Section 2.b.iii.F

The predominant wind direction is to the north east. The facility will be within a building which will contain dust and odors. All soil shall be damp enough to prevent dust from being made during unloading. Dry soils which may produce dust will be removed from the site once able to pass a paint filter test. The road dust shall be controlled by spraying with water purchased from the city of Mills.

There should not be excessive noise pollution on site. There will be some truck traffic noise and a front end loader running on site for loading dried material every couple days. If there is any predicable extra noise that will take place on the site the operator shall do the work between 8 am and 5 pm to limit the disturbance to any residences nearby.

· · · · · · · · · · · · · · · · · · ·	
2.1.5 Chapter 6 and Chapter 8 Location Standards	Section 2.b.iii.F

This site will be handling used drilling fluids an EPA exempt oil field waste and the in process of reducing/recycling the drilling fluid a small fraction may need to be disposed of as Petroleum-Contaminated Soils and therefore the facility will need to comply with Chapter 8 Section 5 rules. Enclosed in Exhibit 18 is a letter of acceptance from David Baker Natrona County Fire Inspector for the location.

New Outdoor Facilities...(2.2.1-9NOT APPLICABLE DUE TO THE FACILITY BEING ENCLOSED)

3.0 GEOLOGY, GROUNDWATER, SOILS

3.1 Soils	Section 2.b.iii.G
3.1 30113	Section 2.0.111.0

The proposed facility and immediate vicinity are comprised of Cody Shale and Cody Shale derived clayey overburden sediments. Six (6) test borings performed at the site encountered clay overlying claystone (shale) bedrock through 11.5 feet. USCS Classification of CL. Test boring logs have been included in Exhibit 13.

3.2 Geology Section 2.b.iii.G

Area geology consists of Cretaceous Cody Shale. Cody shale is described as "Gray soft shale and lenticular sandstone beds; gray limy shale at base, (WGS, 1980). The Cody Shale in central Wyoming is estimated to be 1,500 feet to 3,000 feet thick in the vicinity. Based upon geologic map, the shale strikes northwest-southeast and dips to the northeast. Samples collected at the site were highly weathered and fractured. However, there were no indications of secondary mineralization along fractured surfaces indication past movement of water within the fractures. A regional geologic map has been attached in Exhibit 14.

3.3 Groundwater Occurrence	Section 2.b.iii.G

Groundwater is produced in small quantities from fractures within the Cody Shale. Water within the sandstone layers can produce up to 20 gallons per minute, but Cody Shale is not generally considered a viable source of water for even stock watering (Christ and Lowery, 1972). Test borings drilled at the site indicate that groundwater is more than 11.5 feet. There are no permitted water well is located within ½ mile of the subject property, which is an indication of the lack of water found in the Cody Shale in this area.

3.4 Groundwater Quality Section 2.b.iii.G		
	3.4 Groundwater Quality	Section 2.b.iii.G

"The quality of water in the Cody Shale and its equivalents is more uniform than the quality of water in other formations in the marine and continental rock unit: however, water from the Cody and its equivalents is considered to be of inferior quality because it is too highly mineralized for most uses." (Christ and Lowery, 1972). The following table illustrates some water quality data from the Cody Shale.

Location (T.R.S)	Well Depth (ft)	Calcium (mg/i)	Magnesium	Sodium (mg/l)	Potassium (mg/l)	Bicarbonate (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Fluoride (mg/l)	Nitrate (mg/l)	TDS (mg/l)	Hardness (mg/l)	SAR	Conductance (uohms/cm)	На
33-79-33	100	145	80	600	3,3	481	1470	75	4	6.6	2720	690	9.9	3470	7.8
34-79-17	405	14	3.8	1260	54	509	2130	46	1	0.3	3590	50	77	4840	7.8

Based on this data, groundwater would be classified as Type III due to high TDS and Sulfate concentrations.

O. P. Dasharakal Juning starts C.	unforen 18fokou aus d. Ouerun d.Mistoren	Constant O In 1911
3.5 Potential impacts to S	urface Water and Ground Water	Section 2.b.iii.H

Groundwater was not encountered within the test borings drilled at the site. Because the facility is designed with a secondary containment system and overlies Cody Shale groundwater monitoring is not proposed. Additionally, the secondary containment will lie on re-compacted clay from on-site Cody Shale which will have a coefficient of permeability of more the 10^{-7} cm/sec. Groundwater wells will be installed if water is detected in the secondary containment.

······································	
3.6 Site Suitability	Section 2.b.iii.l

Site topography, geology, and geography are suitable for the proposed facility. The site has already been graded and has some slope has been utilized in the facility design. Please refer to the site map in Exhibit 6. As previously discussed in sections 3.1 through 3.4, the site is underlain by low permeable Cody Shale. Along with controls proposed in the design, the facility has little chance of impacting the groundwater or the environment. Site location standards are addressed in section 2.

4.0 DESIGN, CONSTRUCTION AND OPERATION

4.1 Service Area	Section 2.b.iii.J.I

This facility will accept EPA exempt oil field waste predominantly drilling fluid. It will also accept non-hazardous sump waste from clients anywhere in Wyoming, Montana, Idaho, Utah, North and South Dakota, Nebraska, and Colorado. The material accepted at this facility will be reduced, and recycled drilling fluids returned to customers, water will be reused on site or in the oil fields or disposed of by deep disposal well and dried material transported to the Casper Landfill or TDS in Torrington for disposal.

	· · · · · · · · · · · · · · · · · · ·
4.2 Access Control	Section 2.b.iii.J. II

Access to the facility is provided by a gravel road off of Hanley Street. The point of access shall be identified by a sign, which shall be easily readable and maintained in good condition and contain the following information: facility name, name and phone number of a responsible person to contact in the event of emergencies, the hours of operation, the wastes that are prohibited from disposal at the facility, and a requirement to notify the facility operator of any asbestos wastes. There shall be a sign posted at the front gate which reads that scavenging is prohibited. Access shall be prohibited at any time other than the facility's posted operational hours.

The facility is fenced to prevent unauthorized access by the public, livestock, and wildlife, and to contain litter within the facility. The facility is completely enclosed by fences. The fences are currently constructed of barbed wire with plans in the future to enclose the faculty with chain link fences. The access road shall be equipped with a gate which can be locked when the facility is unattended, and all access road shall be constructed to enable use under inclement weather conditions.

The open tank on site will be checked daily to ensure the pH of the water is between 5 and 10 and that there are no visible hydrocarbons on the water. All open top tanks will be covered in a tank netting meeting WDEQ, USFWS and USEPA requirements whichever is more stringent. The netting shall be fastened to the side of the tank on small tanks or suspended 4 to 5 feet above the tank, utilize a steel support structure and cables for large diameter tanks to allow for snow load sagging. Mesh size will be less than 1.5 inches. The netting will be inspected daily and after any storm event for sagging or damage. Any damaged netting will be replaced as soon as possible and sagging netting will be re strung.

4.3 Waste Screening	Section 2.b.iii.J.III

Inspection of material will be performed as it is received at the facility. A profile sheet documenting the material meets required testing protocols will be submitted to the operator before any material is transported to the facility. A copy of the profile sheet and waste tracking manifest is included in Exhibit 9. If any illegal dumping were to occur, it would be contained in the receiving tank and be immediately removed from the receiving tanks and reloaded onto the

transports which delivered it. Prohibited wastes include any material(s) generated during the refining of oil and regulated quantities of hazardous waste, Asbestos containing material (friable and non- friable), Materials with Naturally Occurring Radioactive Material (NORM) in excess of OSHA standards and PCBs and are noted on a sign posted at the facility entrance. The WDEQ-SHWD will be notified if any prohibited wastes are discovered.

The recordkeeping that Anchor Environmental will use includes profiles of all material received, manifest of all loads accepted and certificates of management or disposal. Copies of completed profiles manifests and certificates of management/disposal will be maintained in electronic format at the facility. See Exhibit 9 for standard forms.

4.4 Waste Management Units	Section 2.b.iii.J.IV

The facility will consist of five distinct management units. These units are:

- 1. Unit 1, Receiving Tanks, Consists of a 21,000 gallon tank and Mechanical Shakers located on the western edge of the process building set inside a slightly sloping concrete berm. Unit 1's capacity is 21,000 gallons. The facility will accept material until unit 1 accumulates 19,000 gallons of unprocessed material.
- 2. Unit 2, Mechanical Separation will be achieved using both a Horizontal Centrifuge and a Vertical Centrifuge to remove sand, silt and gravel from the liquids. The material first passes through the shakers and receiving tanks in Unit 1 then it passes through the horizontal centrifuge. The semi-liquid solids effluent (sand and gravel and some liquids) from the shakers in Unit 1 above and the solids effluent of the centrifuge pass into the Vertical Centrifuge where all remaining liquid is removed. Recovered Sand Silt and Gravel is passed to unit 3 the mixing bed/dry material storage pad. Recovered drilling fluid passes to Unit 4 the Tank battery and recovered water passes to Unit 5 the water storage tank.
- 3. Unit 3, Mixing/Storage pad. The mechanically dried solids will be stored on Unit 3 the mixing pad. The capacity of the mixing pad is 8,600 cubic yards. Unit 3 will also be used to manage material which may cause Unit 2 to foul. If the mixing pad is used for solidification, a drying agent such as bentonite, fly ash, clean fill soil or other drying agent will be mixed with the semi-liquid material being treated. No liquid or semi-liquids will be stored on the mixing pad for more than 24 hours. The facility will not accept new material in Unit 1 if the pad has more than 35 cubic yards in storage. Dried material will be transported to the City of Casper Landfill or the TDS Landfill in Torrington Wyoming.
- 4. Unit 4, 21,000 gallon tank and drilling fluid mixing tank, a tank battery will be located on the Northern side of the facility. Up to 19,000 gallons of recovered/recycled drilling fluid will be stored and the remaining 21,000 gallons storage will consist of a separate tank for recovered oil. Recovered/Recycled drilling fluid will be returned to the customer who sent it to the facility. Recovered oil maybe incorporated into the recycled drilling fluid in the mixing tank and/or sold to an oil recycler.
- 5. Unit 5 is a 21,000 gallon water tank which will receive recycled water from facility operations. The open tank will hold 21,000 gallons completely full but there will be a pump shut off sensor at 2.5 ft full for freeboard from wind across the tank. (Exhibit 6)

The water from this tank is expected to evaporate as means of disposal but may be recycled and returned to our oil and gas drilling customers. It may also be pumped out and transported to a disposal well owned and operated by Mel's Water Service following EPA 624 testing (Exhibit 20) to classify the water as non hazardous.

Process Flow Charts are included in Exhibit 19 to illustrate this process.

45	Secondary	Containment and Leak I	Detection Systems	Section 2.b.iii.J.V
4.5	Secondary	containment and Leak i	Detection systems	Section Z.D.III.J.V

The secondary containment for the onsite above ground tank will be an earthen berm 120 feet by 180 feet, 4 ft deep with 3:1 slopes on the inside. The bermed containment area will hold 538,524 gallons and the secondary containment is required to hold 110% of the tank size which is 23,100 gallons. The inside of the berm and the bottom of the bed secondary containment will be lined with 30 ml PVC and then a 6" layer of sand with no aggregate greater than 1" will cover the PVC liner for protection from the tank and UV rays. The secondary containment for the 21,000 gallon receiving tank will consist of a V shaped reinforced concrete pad 6 inches thick. This pad has a top width of 76 feet, length of 100 feet, and a depth of 2 feet. The containment volume is 56,784 gallons which is 270% of the largest tank capacity. The secondary containment for the 21,000 gallon drilling fluid tank is a reinforced concrete pad 4 inches thick which is 141 feet by 40 feet and 1 foot deep. The containment volume is 42,168 gallons which is 144% of the largest tank capacity. The building itself will also be designed as a secondary containment for the mechanical equipment and any storage inside of the building. The size of the containment will be 100 feet by 100 feet and 6 inches deep which is 5,000 cubic feet plus the mixing bed volume of 8,640 cubic feet.

The leak detection system for the mixing bed will be a 6" layer of sand with no aggregate greater than 1" over a 30 ml PVC liner. The PVC liner will follow the slope of the bed and collect any leakage on the north side of the bed then drain to the sampling pipe (see detail on Sheet 5 of Exhibit 6) where a 6" PVC slotted pipe will be installed to check for leakage. Below the PVC liner, the existing shale shall be compacted to a permeability of 10⁻⁷. All above mentioned items will be installed in accordance with the Construction Quality Assurance Plan which can be found in Exhibit 17. The leak detection riser will be inspected for any leakage on a daily basis. If any leakage is found the WDEQ shall be notified and there shall be water wells installed according to sections 3 and 5 of this permit. Any fluids found in the leak detection system will be sent to a laboratory and tested for TPH, DRO and GRO. If detected additional sampling for RCRA metals and VOC's (EPA 8260) will be required. Records will be maintained and up dated with results of all inspections and testing (if needed). All above mentioned items will be installed in accordance with the Construction Quality Assurance Plan which can be found in Exhibit 17.

4.6 Surface Water Structures	Section 2.b.iii.J.VI

There are small ditches on the uphill side of each area to help drain off the precipitation before it runs into the tanks secondary containment or the drying beds. Using the SCS TR-55 method the for a 100 yr 24 hr storm there will be 3.9 cfs coming off the hill. The diversion ditches are 1 ft deep with 2:1 side slopes, manning n=0.03 and sloped at 2% to 20%. At this slope with all the

flow in one ditch it will be flowing 0.76 feet deep. This flow is actually split between 3-1 ft deep.

	· · · · ·
4.7 On-site Traffic Control	Section 2.b.iii.J.VII

Traffic will enter the site from the north driving past the offices and checking in with the operator. They will proceed to designated unloading pad unload their soils material into one of the 5-holding tanks. They will then continue in a counter clockwise direction around the beds until they come out near the office again or can pull into the washout bay and wash their truck. There will be a sign posted at the gate clearly stating the speed limit to be followed while on site. The beds shall be identified by a sign, which shall be easily readable and maintained in good condition.

4.8 Fire Fighting and Emergency Procedures Section 2.b.iii.J.VIII

A minimum 10-foot wide fire lane is constructed around the area and within the working area or perimeter fence. Portable fire extinguishers are present in all on-site vehicles and operating equipment. Cell phones are used by operators to call the local fire department for emergency protection measures. Soils for firefighting will come from the closest soil stockpiles on-site. Removal of burning materials will not be done because of personnel and equipment safety issues. Every attempt will be made to extinguish the fires in-place, except that no water will be used to fight fires unless approved by WDEQ-SHWD. The WDEQ-SHWD will be notified within 24 hours of the occurrence of any fire, with a written report placed in the operating record for each fire.

		· · · · · · · · · · · · · · · · · · ·
4.9 Facility Signs	5	Section 2.b.iii.J.IX

Each point of access shall be identified by a sign, which shall be easily readable and maintained in good condition and contain the following information: Facility name, name and phone number of responsible person to contact in the event of emergencies, the hours of operation, the wastes that are prohibited from disposal at the facility and a requirement to notify the landfill operator or any asbestos wastes. Access shall be prohibited at any time other than the facility's posted operational hours. All access roads shall be equipped with a gate which can be locked when the facility is unattended, and all access roads shall be constructed to enable use under inclement weather conditions.

4.10 Litter Control	Section 2.b.iii.J.X

This site will not be accepting general refuse material but will need to control any incidental litter (paper that blew out of truck or dropped plastic bottle). To control litter, the facility shall maintain an effective routine litter collection program. This routine program shall take place both within the facility perimeter and along access roads. The routine program will consist of cleaning internal fences weekly and perimeter roads monthly or will occur as necessary when fences contain excessive litter.

The prevailing wind direction in the area of the facility is from the southwest. See the enclosed wind speed information, in Exhibit 6, as published in the <u>Wyoming Climate Atlas</u>, dated 2004,

for wind speed and direction data available for the local area.

4.11 Vector, Odor, Dust, Noise Control	Sect	ion 2.b.iii.J.XI
	0000	

See section 2.1.4 of this permit.

4.12 Proc	cess Waste Management	Section 2.b.iii.J.XII

This section is not applicable due to this facility not generating any waste material.

4.13 Wastewater Management	Section 2.b.iii.J.XIII

This section is not applicable due to this facility not generating any waste material.

- 1			
	4.14 Confirmation Sampling and Analysis	Section 2.b.iii.J.XIV	

The facility shall test for the following before sending the waste soil to the landfill: all materials to be tested non hazardous according to WDEQ Solid Waste Guideline #8 Sump Waste Management prior to being accepted at the facility, and Paint Filter Test. The test results shall be provided to the Landfill Staff at the time of disposal. Letters of acceptance of the material by the Casper Regional Solid Waste Facility and TDS are included in Exhibit 12.

4.15 Other Design, Construction and Operation Information	Section 2.b.iii.J.XV

See Exhibit 17

5.0 ENVIRONMENTAL MONITORING

5.1 Groundwater Monitoring System	Section 2.b.iii.K
-----------------------------------	-------------------

Groundwater monitoring will be performed if breakthrough into the secondary liner system occurs. If breakthrough occurs 4 groundwater monitoring wells will be installed to the first water or a maximum or 200 feet below ground surface. Four monitoring wells would be installed. If saturated conditions are encountered, then the wells would be screened across that water bearing zone. Otherwise the wells will be screen from 10 to 50 feet and completed in accordance with WDEQ rules and regulations.

5.2 Groundwater Monitoring Program	Section 2.b.iji.K

If monitoring wells are necessary to be installed an appropriate monitoring plan will be developed and tailored to the circumstances of the action requiring well installation.

	5.3 Other Monitoring Information	Section 2.b.ii.K
--	----------------------------------	------------------

See above sections.

6.0 CLOSURE

na har an	· · · · · · · · · · · · · · · · · · ·
6.1 Post-Closure Land Use**	Section 2.b.iii.L.i

It is anticipated that the land will be used for other light industrial work or remain unused once the facility has been adequately stabilized in a manner protective of human health and the environment. The owner/operator, or its successors, shall assure that post-closure use of the property will be restricted to prevent any disturbance to the facility's containment system including caps and liners, or the functioning of the facility's monitoring system.

provide and the second s	
6.2 Closure Procedures**	Section 2.b.iii.L.II

Upon closure the owner will have all remaining soils removed from site and disposed of at the proper facility. The water in the tank will be tested for any residual petroleum contamination, using a DRO-GRO ASTM method, it will then be emptied, filtered or used in accordance with WDEQ regulations based on the test results. The soil around the building will be inspected to insure that the soil is - permissible to leave on site. All contaminated soil will be removed and sent to the proper facility. The owner shall decontaminate the bed and piping then either leave them in place, or remove the bed by breaking it up into small concrete pieces and taking to the local landfill as construction waste. If any monitoring wells have been installed they will continue to be maintained and sampled until the facility has been satisfactorily closed, as determined by the Administrator, at which time the wells shall be properly abandoned.. The owner will make semiannual visits to the site for 3 years to check on the grading and erosion on site. They will check for signs of unwanted ponding.

* ·* #/· *· ····························	
6.3 Public Notice of Closure**	Section 2.b.iii.L.III

Notice will be filed with the County Clerk of Natrona County, in Casper, Wyoming and published in an area newspaper 3 times in 4 weeks on different days of the week and posted at all points of access.

6.4 Environmental Monitoring Program**	Section 2.b.iii.L.IV

After closure detection monitoring shall continue to be maintained and sampled until the facility has been satisfactorily closed, as determined by the Administrator, at which time the wells shall be properly abandoned.

6.5 Access Controls**	Section 2.b.iii.L.V
-----------------------	---------------------

Access to the site will be controlled at the gate to the north of the office. During operating hours there will be an employee on site to check in loads. During closed hours the gate will be shut and locked. The perimeter fence will be checked regularly and maintained so the only access is from the north gate. If another entrance is started in the future it will also follow these controls

6.6 Other Closure & Post-Closure Information**	Section 2.b.iii.L.VI

Once closure is initiated closure activities shall be completes within one year. During the closure and post-closure periods, the Anchor Environmental personnel will make periodic inspections to observe if there are any erosion or water ponding problems, or any disturbance to the facilities cover cap. These inspections shall occur no less than twice a year, typically in April and October, after the spring runoff season and before the winter freeze up and snow cover. Additional inspections will be made after there are occurrences of high precipitation events that may cause erosion and ponding problems. Other features to be inspected include, but are not limited to, access controls, waste containment systems, surface water diversion systems, and environmental monitoring systems. Anchor Environmental will have closure certified by a Licensed Professional Engineer.

7.0 EXHIBITS

7.1 USGS Topographic Map or Aerial Photograph**	Section 2.b.iv

A USGS Topographic map dated 1961, photo-inspected 1984, named Goose Egg, Wyoming, Natrona County covering the Anchor Environmental Facility can be found in Exhibit 8.

7.2 General Facility Plot Plan(s)	Section 2.b.v

See Exhibit 6 Sheet 2.

7.3 Cross Sections and Design Details	Section 2.b.vi
rio eleberetario ana peolon pedano	

See Exhibit 6 Sheets 3 and 4.

7.4 Record Keeping Log	Section 2.b.vii

See Exhibit 9.

Remainder of This Page Intentionally Left Blank

.

8.0 FINANCIAL ASSURANCE

8.1 Cost Estimates**	Section 2.b.vili

Cost estimate calculations for closure and post-closure costs are included as Exhibit 10 of this permit application.

8.2 Mechanism**	Section 2.b.viii

Bonding will be done through a surety bond in accordance with Chapter 7 regulations once the financial assurance has been found to be adequate.

Remainder of This Page Intentionally Left Blank

.

9.0 RENEWAL APPLICATION REQUIREMENTS

9.1	Previously Approved Amendments	and Revisions	Section 2.e.i.

There is no previously approved permit or revisions for this facility.

9.2 New Amendments and Revisions Section 2.e.ii		
	9.2 New Amendments and Revisions	Section 2.e.ii

There are no new Amendments and revisions.

9.3 Proposed Construction and Operation Specifications Section
--

There are no previously approved permits or revision for this facility.

9.4 Correction of Operational Deficiencies	Section 2.e.iv
bit conceach of operational benefatieres	00000112.0.11

There are no previously approved permits or revision for this facility. If any operational deficiencies are found they shall be fixed and documentation shall be put with the site and operators copy of this permit.

9.5 Updated Financial Assurance Requirements	Section 2.h
--	-------------

This is a new facility so there are no updates to the financial assurance requirements.

10.0 APPENDICES

······	· · · · · · · · · · · · · · · · · · ·	
10.1 Appendices		

There are no Appendices in the submittal. There are however Exhibits providing detailed information supporting this renewal permit application are listed in the Table of Contents and referenced appropriately in the application narrative. Each Exhibit is delineated by a tabbed divider.