APPENDIX E

COPIES OF FIELD NOTES

Arvenicto Powers - Newtok

June 23, 2015

- travelled to Newtok → RAIN AIR ANCH → Bethel → Newtok
Long - 3hr - delay in Bethel due to weather.

- Arrived Newtok around 4:00. Ramon met us at airstrip and took our bags to the school where we are staying.

Dropped off bags and then went to meet the council who were having a meeting.

Kenny
Paul
Bernice
Tom
Lisa
Kathleen
George

Joe
Steve } IGAP

- Introduced ourselves and the project. Most of the concern was over eventual cost of clean-up.

- Discussed contaminated soil removal - winter excavation and stockpile till summer for haul-out.
- Asbestos most likely in floor tiles of older buildings, lead paint in older homes, possible for local labor to do work, Hazwoper training.

Agreed to meet with Tom John at the NVC office tomorrow at 9:00. Try to visit some homes

- Meeting Steve & Joe at high tide this evening - take to landfill. Will get u at the school.

Jeff & I walked around -

Rite in the Rain

identified tank farms on northern end of village.
- Armory - no sign of excavation
- checked out the BIA school - boarded up, has been broken into in the past. looks to be in rough condition.

- there is a dumpsite with bags of garbage in yellow bags near BIA school.

Met Grant Kashatok principal of school. He opened the library for us to sleep in. let me use his computer for emails. Our phones don't work here.

Grant's # 237-6012

8:00 pm - Steve came to get us and he & Joe took us to the landfill by boat.

frieda.carl@yahoo.com 237-2818

6/24/2015 Newtok

Checked out the school building, outbuildings, appliance/skidoo dump behind lagoon, Hay, Hat shed. BIA school, Tom's Stood tanks, Frieda
- Met Tom at 9:00. He took us to the tank farms - UPC & NVC - explained tank configuration and contents.
NVC red tank - 2 heating oil, 1 gas for vertical tanks. Horizontal - large 2 - gas, small - heating oil.
- UPC - all diesel. Tall tank on right not used.
- gas man → individual tanks
- Fuel delivery was on Newtok R until barge got stuck in early 2000s
- Settling of pipe - washeteria discharge to lagoon - no more.
- BIA & residents burned waste until 1980s. Ash buried near where trash bags are - behind BIA school.

Rite in the Rain

BIA school - 60's to mid 80's
New school burnt down 1994
used BIA school - New school
rebuilt - 2000

- Old dump eroded into N. Inglik R.
1960s - 1980s. Then used current
landfill.

- Depth to permafrost approx 1'.

Stanley Tom came by as we
were looking at tank farms.
He said his white tank not used
anymore / empty - heating oil.
10,000 gallon. Other tanks 1000
gallon? also heating oil. Only
tank in use. All tanks behind
Tom's Store empty - have been for
several years.

Visited Tom's Mom's house. BIA
home built in 1970s. Oldest
homes in village the BIA
built ones.

- Generator shed
- Transformers - 4 of them.
Could not read labels for identifying
information. Too high, even with the
zoom lens.
- Started at North end of
village and worked our way
south -
  - UPC tank farm
  - NTC tank
  - NVC tank farms
  - bagged waste
  - Washateria pipeline / building

6/25/2015

- Newtok school tank farm
- generator corner
- HVAC
- Storage shed

- Lagoon

- Missed our plane as came 2
hours earlier and we didn't know.
Was able to catch afternoon plane.
Nice chat with Grant.

Rite in the Rain

Newtok - 6/23-25 J.P.

UTC Tanks Photo 1

72m NE SW x 170 E-W (S N) x 6'
Fire of dump day before we arrived burned much of the dump residues are mixture of cans (tin & aluminum) drums, ski-doos, appliances, flourescent bulbs, aerosol cans, motor oil, automotive cleaners, solvents.
Joe & Steve IGAP Reps in Village who took us to the dump

School has 2 - 30K gallon tanks and separate power generation conex
Tanks are steel in fair/good condition
secondary containment, SW corner of containment in substandard condition
Kitchen vent may have ACM
Tiles in Bathroom
Kitchen tiles
False Ceiling Panels
} should sample to verify
Wooden Piles underneath school have 1-2" and 1-3/4" PVC Pipe on each Pile for permafrost retention
Photo 3254 1500 gallon steel AST on SW corner of school. Has fuel dispensing hose

School bldg on 96 wooden Piles
Non Treated/Untreated
fuel storage containment area has ≈50 barrels in poor, fair, good? condition. Barrels contain waste oil/drain oil and waste glycol. Joe & Steven IGAP said waste oil burned @ school from time to time

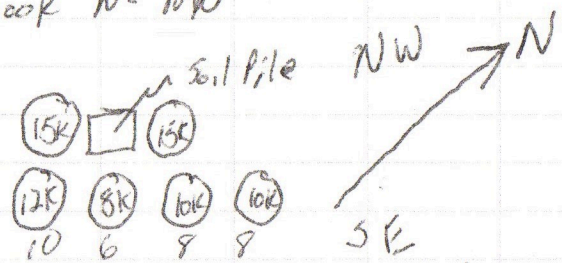
Old BIA School 1959? - mid 80's
New School mid 80's to 1994
New School burned down 1994
Old BIA School used 1994 - 2000
Current School Built 2000
Frieda told us when BIA school in operation 1959 - mid 80's Village trash incinerated ash buried by lake
Current dump used since ?
Eroded dump used between ?
Current & eroded at the same time?
Ash burial locations of incinerated material

Generator for village power: heavily stained w/oil beneath footprint of shack 20' x 30'
old genset motor east of shack 6 x 15' stained area

Big Blue Storage Tank W of Washeterin 211,000 gallon. 5' foam insulated 20K tanks (white) north of 211K gallon tank. None in use.

Old BIA school on 45 creosote treated piles. Water Supply well in approximate center of Bldg.

Generator for Old BIA on 24', 32' creosote treated piles
Old BIA tank farm on wood beam platform w/ creosote treated beams that are subsiding 42' N-S by 64 E-W
Look N-NW



Storage in BIA tanks gas & diesel

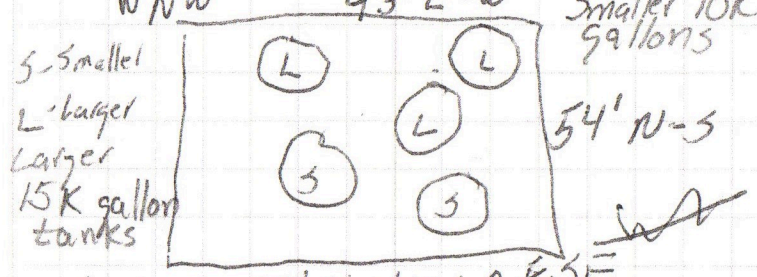
Tom's Store Tank
2x 6.3 X 13.1' = 3K gallon
2 - 10K gallon heating oil ? tanks
Between 2 - 10K tanks ponded water w/ Sheen approximately 10m²

2 - 500 gallon } good condition
1 - 1000 gallon } AST For Gas
fair condition

1,000 gallon heating oil fuel
'rest in disuse'
Marathon Electric
Generator KW 100
KVa 125
Volts 440
Amps 150 60Hz 3 phase

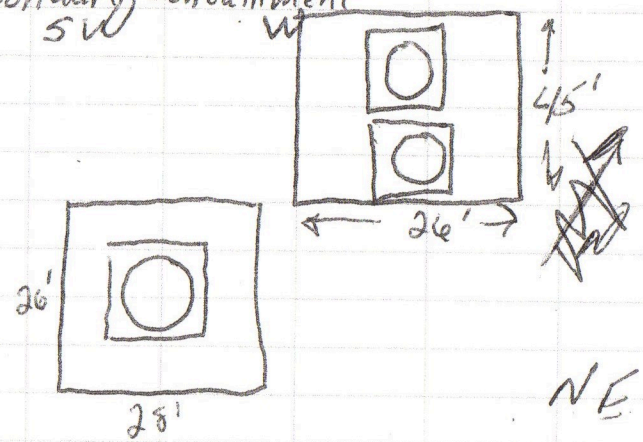
John Deere 5E6068T356006

Power Generation AST's
Smaller Tanks 2 - 12'H X 12'W
WNW 43' E-W
Smaller 10K gallons

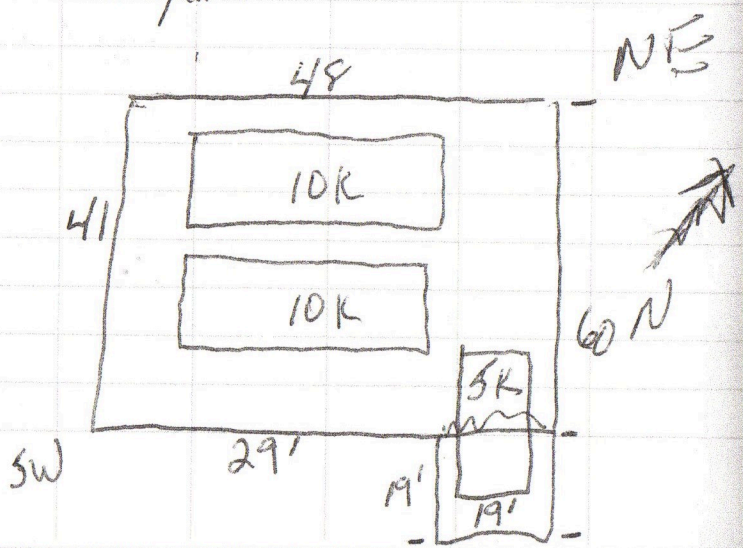


Larger 18' H X 12' Diameter
Secondary Containment has ORP Liner on wall containment. Geotextile on ground

3 - Vertical PVC Tanks
13.5' H x 10.6' Diameter 9K gallon tank
Secondary Containment



Horizontal PVC Tanks
2 - 10K gallon
1 - 5K gallon

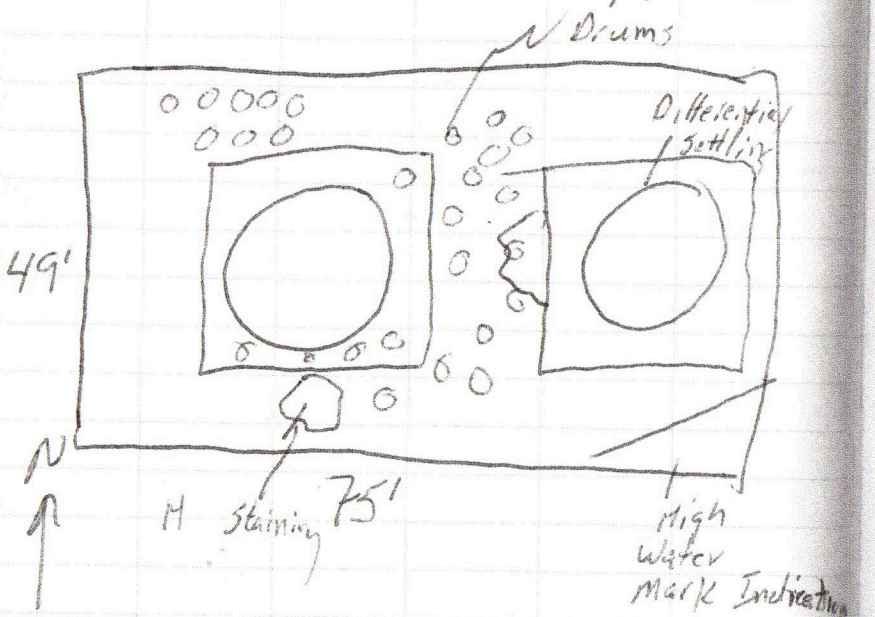


BIA School Incinerator Ashes buried from 1963 to mid 1980's, In addition to BIA materials burned villagers garbage burned as well. The number and frequency of villagers burn of garbage not known. Dump that eroded in 1995 was primary location of refuse disposal from early-mid 1960's to mid 1980's. Current dump site mid 1980's? to Present.
BIA school 1st, Followed by some residents until previous village location vacated.

- Current fuel delivery and terminal set up installed in early 2000's (2005?) set up after barge got stuck in Kealavik channel NE of Village.

- Washeteria Discharge Line into Lagoon not function due to differential settlement of steel piles.
- Tom Paul estimated depth to permafrost @ 1' below surface

School Tanks 40K gallon tanks
12' H x 24' Diameter Fair Condition
Secondary containment wall in poor condition. Differential Settlement
Tanks on preserved wood platform at grade
Inner Portion of containment has waste oil storage drums. Staining associated w/ minor spillage / releases evident on vegetation inside containment and on wood platforms



Eastern tank has differential settling
Exposed portions of liner on ground
Should be assessed further

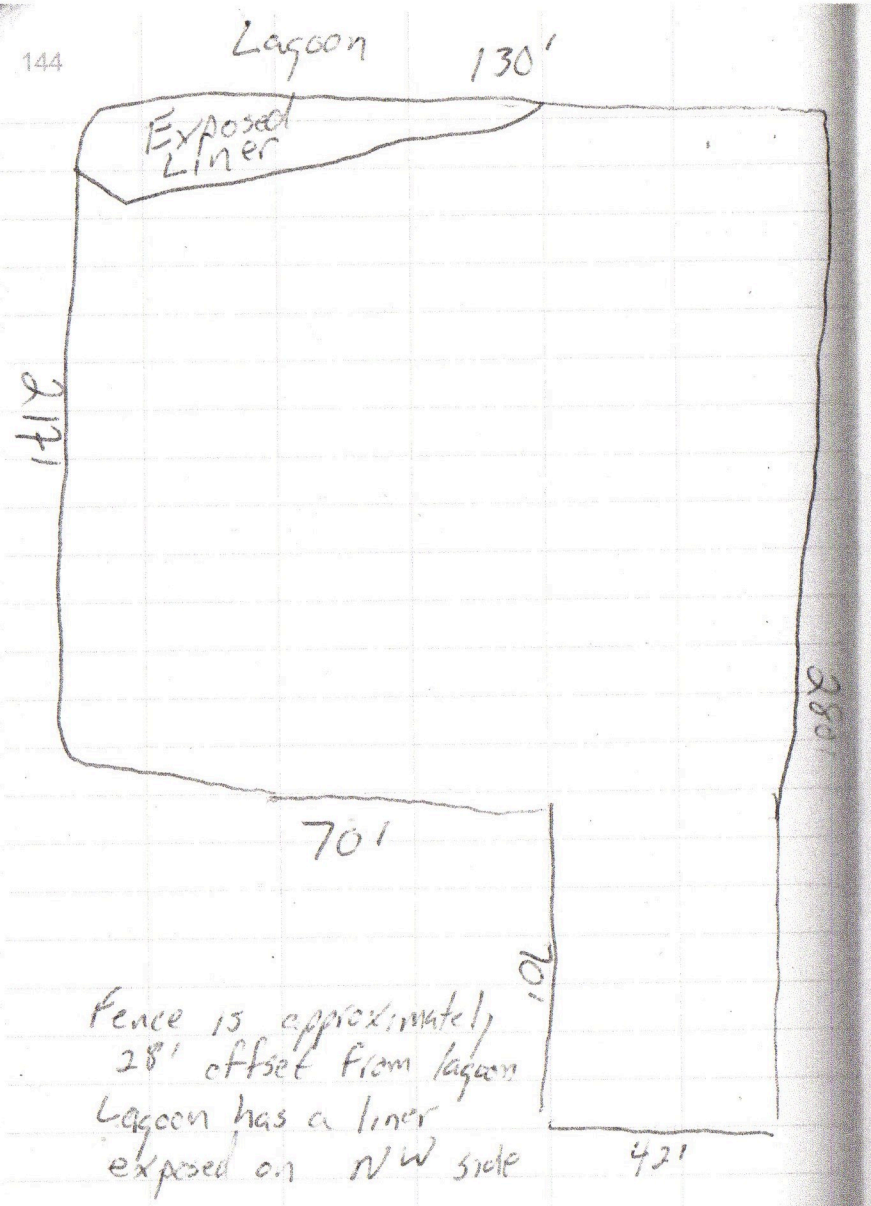
BACKUP
Cummins Diesel
Generator Engine serial # 60275265
Model QSB
Mfg Date 12/19/13
Power Model # DSGAB-6470644
Serial # A110181465
KVa Base Rate 178.8
KW " " 143
60 Hz
1800 RPM
480 Volts
3 Phase

Standard

Running

Onan
KVa
125 Standby
112.5 Prime
KW
100 Standby
90 Prime
60 Hz
480 Volt

Generator on Wooden Pile Platform, Generator contained w/in Conex. Floor is clean operation inside looks clean



Fence is approximately 28' offset from lagoon
Lagoon has a liner exposed on NW side

Date: 6/23/2015 Auditor: AP/JP Facility or Location: LANDFILL

Description of Facility/Location: Boardwalk from river to dump. Some fencing but mostly open. Grasslands/wetlands surrounding. No infrastructure near by

Photographs (number and description):
55-78

Storage

Hazardous Materials Present: Metal cans, plastic bottles w cooking oil, e-waste, oil drums, appliances, stoves, refrigerators, metal frames, vehicle parts, trash in plastic bags, furniture, construction materials, snow machines, ATVs, fluorescent bulbs, tires, aerosol cans, oil cans, auto cleaners, solvents

Storage Container(s) description (steel thickness, residual sludge): N/A

Condition of storage container(s): N/A

Size/volume of storage container(s): N/A Full/partial/empty? N/A

Labeling: N/A

Secondary Containment? N/A In Use? N/A

Notes:

- garbage piled 4-6' high
- Recent fire burned through landfill & surroundings. Don't know who started it but burned for several days before our arrival.

Steve & Joe - IGAP -

- Used since 1990s. Former dump eroded into Nyglick R. Used to dump used oil in old dump, discouraged at landfill.
- Collect used oil at school - school has oil burning unit. Some Ind'ls. use oil as lubricant.
- Landfill not closed off in any way. No control over who dumps what, wind blows stuff away.

Evidence of leaks or spills? Description and size of impacted area.

~~Staining on floor:~~

Condition of Vegetation: burnt from fire - immediately next to landfill - otherwise healthy grasslands.

Soil staining:

Sheen on Standing Water: No water

Notes:

Buildings

Age: Building Material:

Use:

Fluorescent Lights/Ballasts? Heating oil tank? Paint?

ACM?

Electrical Transformer: Serial Number:

Notes:

Steve & Joe Cont.

- Burn box not used much
- Clinic handles own medical waste. Only non medical waste to landfill.
- wanted to collect e-waste for haul to Anchorage - stored at side of landfill. Burned and damaged?

Interviews:

- Freon / oil removal from appliances, snow machine. Stored in hay material shed behind NTC building. Freon → Total Reclaim, Anchorage. Oil shipped out when possible.
- Had contest for school kids to gather trash, paid per volume, from around village. Put in yellow trash bags stored across river. Waiting to haul it all to landfill. Some other trash bags mixed in as well.

Date: 6/24/2015 Auditor: AP/JP Facility or Location: Old BIA School.

Description of Facility/Location: Buildings: School, warehouse, well house, outdoor basketball court. Tank Farm. Abandoned above ground piping leadies to Tom's Store tanks? North.

Photographs (number and description):
123-134 142 159

Storage

Hazardous Materials Present: Tanks empty. Creosote on wood pilings and on wood in tank farm. Contaminated soil in tank farm.

Storage Container(s) description (steel thickness, residual sludge):
6 AGST - vertical, on wooden pallets.

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?
2x15,000, 2x10,000 1x12,000 1-8000

Labeling: On berm, sign referring to gasoline & diesel

Secondary Containment? Wood berm lined with sheet metal on inside In Use?

Notes: Fenced.

Wellhouse - possible fiberglass insulation around pipes. Strong chlorine smell. Treatment system, holding tank.

Tank farm - soil on pallet of NW tank, approx. 6'x12'x1' thick. Grass growing on top, sits on plastic, cont soil referred to in SLR report?

- size - 42' North to S x 64' East to W.
- overgrown with grass, healthy veg.

Date: 6/24/2015 Auditor: AP. Facility or Location: Appliances / skidoos Staging area

Description of Facility/Location: Between lagoon & river - behind school - Open dump, no controls.

Photographs (number and description): 113-117, 270

Storage

~~Hazardous~~ Materials Present: Old skidoos, stoves, washing machines, freezers, school desks, chairs, furniture, oil drums

Storage Container(s) description (steel thickness, residual sludge):

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? None ~~In Use?~~

Notes:

- 60' long by 20' wide at greatest width.
- According to Steve, freon & oil removed from appliances/skidoos before dumping.
- Surroundings a mix of grass & mud. Healthy veg. No sheen on surface water.

Date: 6/24/2015 Auditor: AP/JP Facility or Location: Tom's Store Tanks

Description of Facility/Location:
Located between Tom's Store and Newfoll R - close to river banks.

Photographs (number and description):
135-140 143-144

Storage

Hazardous Materials Present:

Storage Container(s) description (steel thickness, residual sludge): 7 AGST -
2 x 10,000 - 1 says stove oil, 1 says diesel written in spray paint. double walled.

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? None In Use?

Notes:

→ 2 x 3000 gallon tanks - one on wooden cradle. black plastic - liquid collected under spout could drain to veg. Surrounded by cut up oil drum.

2 x 500 gallon - 1 x 1000 gallon.

- All tanks now empty per Stanley Tom - out of service for several years.
- between 10,000 gallon tank ponded water with sheen about 10 sq. ft. in area. Some stressed veg near standing water. Rest of veg tall, healthy.

Date: 6/24/2015 Auditor: AVP. Facility or Location: BIA House -

Description of Facility/Location:
~~[illegible]~~ Family house built in 1970s by BIA.
Tom John's mother's house.

Photographs (number and description):
153 - 158 outside: 287

Storage

Hazardous Materials Present:
Possible ACM, lead

Storage Container(s) description (steel thickness, residual sludge):

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? In Use?

Notes:
- Flooring a mixture of old and new tile. Could be ACM.
- Entryway extended by Tom's father in 1980s. Paint peeling from ceiling. Possible lead paint?

Date: 6/23/2015 Auditor: A.P. Facility or Location: Bagged waste holding area

Description of Facility/Location:
Behind old BIA school.

Photographs (number and description): 59, 161, 162

Storage

Hazardous Materials Present: unknown, S/B mostly household items.

Storage Container(s) description (steel thickness, residual sludge):
Plastic garbage bags

Condition of storage container(s):
~~Most good a some~~ Most material in bags, some spilling out or dumped alongside pile

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? None In Use?

Notes:

School kids gathered trash from around the village in the spring. Stored in yellow trash bags along with other trash bags on Nentok side of river near old BIA school. Needs to be hauled across the river to the dump.

- Vegetation healthy, no standing water.
- General area where old trash burning occurred. according to Tom John.

Date: 6/23/2015 Auditor: AP. Facility or Location: Armory

Description of Facility/Location:

Building / Storage tank.

Photographs (number and description):

50-52, 285

Storage

Hazardous Materials Present: Heating oil tank - 1500 gallons

Storage Container(s) description (steel thickness, residual sludge): Double walled?

Condition of storage container(s): Good

Size/volume of storage container(s): Full/partial/empty?

Labeling: Labeled.

Secondary Containment? In Use?

Notes:

- check for signs of former excavation of contaminated soil.
- No evidence - not exactly clear where excavation took place.
- vegetation healthy

Date: 6/24/2005 Auditor: AP/JP Facility or Location: Power Generation Building

Description of Facility/Location:
Marathon Electric generator - diesel
wood building on wood pilings

Photographs (number and description):
96-97 163-164
100-106

Storage

Hazardous Materials Present:
Oil, diesel

Storage Container(s) description (steel thickness, residual sludge): N/A

Condition of storage container(s):
N/A

Size/volume of storage container(s): N/A Full/partial/empty?

Labeling: N/A

Secondary Containment? N/A In Use?

Notes:
- lots of oil staining below building 20'x30'
- Stressed veg at building
- Old gen set motor - 6'x15' area soil staining.
- debris in yard: empty oil drums, siding, construction materials, electrical conduits
- electrical generation for village except for the school.

Date: 6/24/2005 Auditor: AP Facility or Location: Newtok Traditional Council Building -

Description of Facility/Location:
Storage shed in back. Frieda Carl showed me where it was.

Photographs (number and description): 107, 108

Storage

Hazardous Materials Present: engine batteries, old paints, fire extiguishers, degreasers, soda cans, cardboard, insulation, gas containers, metering equipment, insulation wrap in foil, kerosene, solvents, oily rag container.

Storage Container(s) description (steel thickness, residual sludge):
Shed - 15x15 wood/plywood. Door off, some materials close to/alongside out doorway.

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? partial - shed walls, no door. In Use?

Notes:

- Waste stored haphazardly in shed - combo of recyclable & hazardous, some on shelves, some piled on floor
- Vegetation surrounding shed healthy. No standing water.
- Frieda Carl: - collected these material to transport out of village for disposal but costs too high.
  - garbage burning at old BIA school and buried where trash bags now stockpiled. May have also buried trash and ash near a lake in the past. Near airport?
  - Drinking water: washeteria - piped from pond and treated. Some from Mertarvik. Some from snow & ice. School well.

Date: 6/24/2015 Auditor: AI/JP Facility or Location: WPC Tank Farm

Description of Facility/Location: Tank farm

Photographs (number and description):
45 146 150 171-178

Storage

Hazardous Materials Present:
Diesel fuel

Storage Container(s) description (steel thickness, residual sludge):
5 ASST - 1 NOT IN USE - picture of Jeff touching it.
15,000

Condition of storage container(s):
Top 2/3 of 10,000 gall. tanks rusted.

Size/volume of storage container(s): Full/partial/empty?
2x10,000, 3x15,000 - all diesel

Labeling:
Signage for tank farm - Safety

Secondary Containment? wood berm 3' high covered with black plastic liner In Use?
Liner torn in some places.

Notes:

- Sat on wooden boards - Some broken - Not treated
- Standing below fill spout
- vegetation good
- tank farm on a rise about 5' higher than river.

Date: 6/24/2015 Auditor: AP/JP Facility or Location: Newtok Village Council

Description of Facility/Location:
Tank Farm in 3 separately bermed areas..

Photographs (number and description):
47, 49 147-149 185-205

Storage

Hazardous Materials Present:
Diesel, unleaded gas, heating oil, creosote treated platforms

Storage Container(s) description (steel thickness, residual sludge):
6 ABST

Condition of storage container(s):
Good

Size/volume of storage container(s): Full/partial/empty?
Vertical Area 1 - 2x9000 gal - heating oil
Area 2 - 1x9000 gal - gas - unleaded

Labeling:

Secondary Containment? - 3' high wood berm, covered with heavy plastic
In Use?
good condition

Notes:

horizontal - Area 3 - 2x10,000 gas
1x5000 fuel oil
3 oil drums
empty plastic containers

- Vertical tanks sitting on creosote treated wooden platforms.
- healthy veg.

Date: 6/24/2015 Auditor: AP/JP Facility or Location: NTC Tanks - Starky Town

Description of Facility/Location:

2 tanks

Photographs (number and description):

46, 48 179-184

Storage

Hazardous Materials Present:

Heating Oil

Storage Container(s) description (steel thickness, residual sludge):

2 AGST

Condition of storage container(s):

Good

Size/volume of storage container(s): Full/partial/empty?

10,000 gallon double walled - no longer used, heating oil in past.
1000 gallon heating oil

Labeling:

Secondary Containment? None In Use?

Notes:

1000 gallon on wooden cradle covered by black plastic.

10,000 gallon sitting on ground.

healthy veg.

Date: 6/24/2015 Auditor: AP Facility or Location: Washteria

Description of Facility/Location:
Inactive washing facilities - ~~[illegible]~~
Water treatment facility. Building approx. 30 years old.

Photographs (number and description):
280

Storage

Hazardous Materials Present:
Chloride, propylene glycol stored in labelled containers

Storage Container(s) description (steel thickness, residual sludge):

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? N/A In Use?

Notes:

About 30 years old. 6 washers, 4 dryers, Not in use as pipeline to lagoon broken, dryers do not work with transformer.

30 gallon plastic drum - ~~glycol~~ propylene glycol.
- uses chloride in water treatment.
- water treatment Center - pump in water from ponds near airport, filter, Treat, - fill spout outside for use by village.

- blue storage tank 211,000 gallons. 5 New white tanks - 10,000 gallons each - foam insulated, not in use.

Date: 6/25/2015 Auditor: AP/JP Facility or Location: Newtok School Tanks.

Description of Facility/Location:

Tank farm
Individual tanks, drums in tank farm

Photographs (number and description):

82-84, 87-94, 209-210, 212-213, 220-239, 243-245
249-250, 264-266,

Storage

Hazardous Materials Present:

~~[illegible]~~. diesel, heating oil, creosote treated wood platforms,

Storage Container(s) description (steel thickness, residual sludge):

50+ drums - labelled: paint thinner, mixed waste, waste oil, dirty water waste, used glycol. Some

Condition of storage container(s): empty? some partial, some full.

Size/volume of storage container(s): Full/partial/empty?

Tank farm - 2x 40,000 gallon - heating oil
- Sat on treated wood pallets

Labeling:

- Above ground fuel line just sewage lagoon then goes underground.

Secondary Containment? wood berm covered by plastic liner and sheet metal. In Use?

Notes:

SW corner needs repair
Sheet metal damaged, liner exposed.

Tank Farm
- chain link surrounds tank farm, needs repair.
- staining on and below platforms.
- soil staining / stressed veg 6'x36' area in SW corner
- SE corner - rust stained water, stressed veg.

Tanks
3-250 gal tanks, on cradles, metal containment boxes. Heating oil
1 - 2000 gal. tank by Lorex - diesel - stressed veg 6'x12'
1 - 1500 gal tank at south end of school building

Date: 6/25/2015 Auditor: AP/JP Facility or Location: Newtok School

Description of Facility/Location:
School building, power generation conex, HVAC building, storage & mechanical sheds.

Photographs (number and description):
79-80, 85-86, 145, 214-219, 240-242, 248, 251-254, 271-279

Storage

Hazardous Materials Present:
ACM, fluorescent lights,
Storage shed - gas & oil containers / propane cannisters, insulation

Storage Container(s) description (steel thickness, residual sludge):
Storage shed - bad waste oil burning unit.
- 10ish "empty" drums outside

Condition of storage container(s):

Size/volume of storage container(s): Full/partial/empty?

Labeling:

Secondary Containment? In Use?

Notes:
- Main building - ACM in bathroom tiles, kitchen tiles, false ceiling, kitchen vents possible. Fluorescent lights
- building on pile, pvc piping for permafrost retention
- water treatment and water well. Running water in school. Wastewater / sewage to lagoon.
- Power gen. Conex - 2 diesel generators, clean, no staining
- HVAC - clean - discharges to river bank.
- lots of construction debris alongside storage shed and between shed and conex.