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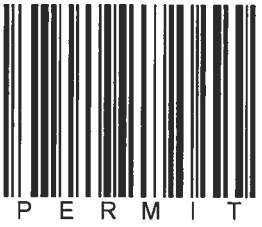

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	Document Title	NSHI SPCCP--Part 1					
Doc #	E 261-P	Revision Date	08/28/2013	Revision	3	Status	Released
Document Owner		Clark, Michael					

P-2014-014

SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN part 1 of 3

NATURAL SODA HOLDINGS, INC. (NSHI)

Completed by: MICHAEL CLARK
Completed Date: 08/06/2013

Spill Prevention, Control and Countermeasure (SPCC) Plan

I. General SPCC Plan Requirements.

I.A. General Company Policy.

I.A.1. Purpose.

The purpose of this program is to inform interested persons, including employees, that our facility, the Natural Soda Holdings, Inc. (NSHI), Oil Shale Reactor (OSR), located at 3200 County Road 31, Rifle, CO, 81650, complies with EPA requirements for preparing, implementing, and maintaining a Spill Prevention Control and Countermeasure (SPCC) Plan under the Oil Pollution Prevention regulations, Title 40 Code of Federal Regulations (CFR) Part 112, by providing a written plan that describes the equipment, manpower, procedures, and adequate countermeasures for preventing and controlling oil discharges.

The evolution of hydrocarbon fluids from the OSR **will not be similar** to conventional oil and gas operations. This is an operation designed to demonstrate a process only, and not provide continuous production. Hydrocarbon fluids in the OSR will accumulate slowly as an underground heating process slowly converts in-situ solid organic matter to fluid hydrocarbons. Evolved hydrocarbon fluids will then be pumped from the underground OSR to surface facilities on a non-continuous as-needed basis. The entire operation is expected to produce on the order of 5,000 gallons, total, of fluid hydrocarbon.

I.A.2. Applicability (§112.1(b) and §112.1(d)(2)).

This plan will apply to our facility because:

- We will have a non-transportation related facility engaged in pilot plant research, development and demonstration of extraction of hydrocarbons from oil shale ;
- Due to our facility location, our facility could be reasonably expected to discharge oil in quantities that may be harmful, as described in 40 CFR 110, into or upon the navigable waters of the

U.S. or adjoining shorelines; and

- Our facility will have an aggregate aboveground storage capacity greater than 1,320 gallons.

I.A.3. Responsibilities and Plan Location (§112.3(e)).

NSHI, the facility owner and operator, is responsible for this plan and for making sure that the plan is available to the EPA Regional Administrator for onsite review during normal working hours. Copies of the written plan will be located in the Office of Business Support and Sustainability Manager, Michael Clark, at 3200 County Road 31, Rifle CO, who is available by calling 970-878-3674, extension 25. NSHI is responsible for developing and maintaining the plan.

The facility owner name, address, and telephone is as follows:

NSHI, 3200 County Road 31, Rifle, CO, 81650, 970-878-3674, attention Michael Clark

The facility operator name, address, and telephone is as follows:

NSHI, 3200 County Road 31, Rifle, CO, 81560, 970-878-3674, attention Michael Clark

Facility contacts include the following:

Contact	SPCC Plan Role	Title:	Telephone number:	Address:
Michael Clark	**Emergency Response Coordinator-ERC**	**Business Support and Sustainability Mgr**	**970-878-3674, x25**	**3200 County Road 31, Rifle, CO 81652**
Robert Warneke	**ERC Backup #1**	**V.P. Operations**	**970-878-3674, x14**	**3200 County Road 31, Rifle, CO 81652**
Eric Simms	**ERC Backup #2**	**Technical Manager**	**970-878-3674, x13**	**3200 County Road 31, Rifle, CO 81652**
Carl Meyer	**ERC Backup #3**	**Production Supervisor**	**970-878-3674, x37**	**3200 County Road 31, Rifle, CO 81652**

I.A.4. Plan Certification (§§112.3(d) and 112.5(c)).

The undersigned Registered Professional Engineer is familiar with the requirements of 40 CFR 112 and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that:

•This SPCC Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR 112;

•Procedures for required inspections and testing have been established;

•This plan is adequate for the facility;

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR 112. This plan is valid only to the extent that the facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this plan.

Signature: 

Professional engineer registration number:

Name: Edward R. White, P.E.

Title: Project Engineer

Company: CTL-Thompson, Inc.

Date: August 27, 2013

Professional engineer's seal (provide seal here):

I.A.5. Plan Review, Evaluation, and Verification (§112.5).

The owner and operator will amend this SPCC Plan in accordance with Section 112.7, and other applicable Sections of Part 112, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge. The amendment will be prepared within six months of the change. Examples of changes that may require amendment to the Plan include, but are not limited to:

- Commissioning or decommissioning containers;
- Replacement, reconstruction, or movement of containers;
- Reconstruction, replacement, or installation of piping systems;
- Construction or demolition that might alter secondary containment structures;
- Changes of product or service; or
- Revision of standard operation or maintenance procedures at the facility.

Amendments to the plan made to address changes of this nature are referred to as "technical amendments," and must be certified by a professional engineer. "Non- technical amendments" can be done (and must be documented) by the facility owner and operator. Non-technical amendments include the following:

- Change in the name or contact information (i.e., telephone numbers) of individuals responsible for the implementation of this plan; or
- Change in the name or contact information of spill response or cleanup contractors.

The facility will make the needed revisions to the SPCC Plan as soon as possible, but no later than six months after the change occurs. The plan will be implemented as soon as possible following any technical amendment, but no later than six months from the date of the amendment. NSHI is responsible for initiating and coordinating revisions to the SPCC Plan.

NSHI will review this Plan at least every five years from the date the facility becomes subject to 40 CFR 112 and five years from the date of the last review. Amendments will be prepared within six months of the

review. As described above, any technical amendments to our SPCC Plan are certified by a professional engineer. See section I.A.4. for certification.

Both the scheduled reviews and technical and non-technical amendments described above will be recorded and found in the Appendices to this plan. This record will be completed even if no amendment is made to the plan as a result of the review.

I.A.6. Worker Attendance (§112.3(e)).

Our facility will normally be attended by workers at least four hours per day. Therefore, a complete copy of the plan will be maintained at the facility. See section I.A.3.

I.A.7. Plan Suggestions.

We encourage any suggestions that our employees, plan reviewers, professional engineers, EPA, or state agencies have for improving our written SPCC Plan, as we are committed to developing and maintaining an effective plan. We strive for clear understanding, environmentally-minded behavior, and involvement in the plan from every level of the company.

I.A.8. Management Approval (§112.7).

We are committed to the prevention of discharges of oil to navigable waters and the environment and to maintaining the highest standards for spill prevention, control, and countermeasure through the implementation and regular review and amendment to this plan. This plan has the full approval of management at a level of authority to commit the necessary resources to fully implement it.

The authorized facility representative below is our designated person accountable for oil spill prevention at the facility and has the authority to commit the necessary resources to implement this plan.

Authorized Facility Representative: Michael Clark

Title: Business Support and Sustainability Manager

Signature: _____, Date: August 28, 2013

I.A.9. Not Yet Operational Facilities, Procedures, Methods, and Equipment (§112.7).

If this SPCC Plan calls for additional facilities, procedures, methods, or equipment not yet fully operational, we discuss these items, as necessary, in separate paragraphs throughout this SPCC Plan and explain separately the details of installation and operational start-up. This facility has not yet been constructed at this time. Equipment, methods and procedures discussed herein are representative of current plans. If there are technical changes to current plans prior to construction, this plan will be subject to review, amendment and recertification prior to construction. This plan will be amended and recertified within 6 months of completion of facility construction and commencement of operations.

I.B. Discussion of Facility's Conformance with 40 CFR 112.7 (§§112.7, 112.8(a), 112.9(a), 112.10(a), 112.11(a), and 112.12(a)).

NSHI's OSR will conform with applicable SPCC regulations by fully developing and implementing this Spill Prevention Control and Countermeasures Plan.

I.C. Facility Location and Layout/Diagram (§112.7(a)(3)).

NSHI proposes to demonstrate proprietary non-traditional oil-and-gas industry technology suitable for economic production of liquid hydrocarbons from oil shale.

The proposed operation will be an oil shale research, development and demonstration project that has been permitted as such by the US Bureau of Land Management. The well in which the OSR is to be located will be first drilled by a contractor, following the same practices currently used to drill nacholite (baking soda) production wells, and operated by solution mining

processes for the production of nacholite by adjacent facilities operated by Natural Soda company under BLM sodium lease no. C-0118326. After sufficient nacholite is withdrawn, solution mining apparatus will be withdrawn from the well and replaced with OSR equipment. Because of the nature of the nacholite drilling process, it is not anticipated that the drilling operation will be subject to the requirements of 40 CFR 112.10.

The attached "Utility Map" illustrates the project's ground plan. A natural gas line is proposed to tap into the existing gas main line and provide natural gas to fuel down-hole heating operations. Oil storage facilities pertinent to this SPCC Plan are located within the area denoted as "OSR Well Pad". Centralized processing equipment is located within the OSR Well Pad.

The "Surface Facilities Layout" illustrates arrangement of the processing equipment. Hydrocarbons evolved from the OSR (Oil Shale Reactor) Well will be separated from co-produced gas and water and transferred through suitable pipe to a 5,000 gallon oil storage tank. Produced water will be transferred to a 1,000 gallon waste tank through suitable above-ground pipe. Stage 1 produced water and liquid hydrocarbons evolved from the gas scrubber will be transferred to a 10,000 gallon scrubber tank. Produced water from the scrubber tank will be transferred to the produced-water tank. All three tanks will be protected by secondary containment. Secondary containment will consist of low-permeability materials and have capacity to hold the volume of the largest tank plus sufficient freeboard for precipitation.

The table below includes a complete list of all oil storage containers with a capacity of 55 U.S. gallons or more, unless otherwise exempt from Part 112.

The type of oil in each container and its storage capacity is listed in the table below:

Container type and age:	Type of oil stored and storage capacity:	Description of discharge	Container location:
Hot Oil Expansion Tank (V-008), new	Heat transfer fluid, 1,000 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Hot Oil Catch Tank (V-009), new	Heat transfer fluid, 500 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Gas/Liquid Separator (V-002), new	Hydrogen and nitrogen with hydrocarbons, 30 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Overheads Gas / Oil / Water Separator (V-003), new	Sour hydrocarbons with hydrogen chloride and water, 100 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Bottoms Gas / Oil / Water Separator (V-004), new	Sour hydrocarbons with hydrogen chloride and water, 100 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Hydrocarbon Storage Tank (V- 005), new	Sour hydrocarbons with traces of HCL, 5,000 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Produced Water Storage Tank (V- 006), new	Processed produced water with sodium hydroxide, sodium sulfate, and sodium carbonate, 1,000 gal	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Waste Seal Tank (V-007), new	Processed produced water with trace amounts of ammonia, 50 gal nominal, 75 gal capacity	Gate valve and blank-off cap	refer to Surface Facilities Layout diagram
Oil Totes	Temporary storage of up to 5 265-gallon totes. To be disposed by Clean Harbors. Total storage is 1,325 gallons	6" diameter top opening with screw cap	refer to Surface Facilities Layout diagram
Drums of Oil	Temporary storage of up to 42 55-gallon drums. Oil to be put into heat transfer system. Total storage is up to 2,310 gallons. Bulk will be put into the heat transfer system for duration of the project.	3" diameter top opening with re-sealable cap	refer to Surface Facilities Layout diagram

Our discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.) are as follows:

Oil handling at the facility involves the loading, unloading, and transfer of oil in quantities and container sizes that range from less than 55 gallons up to several thousand gallons. Procedures are developed for oil handling operations that are designed to prevent releases.

Fluid Transfer Associated with Facility Processing

- Fluid movement from the wellhead to points down the process stream is to be driven by a down-hole pump. Fluids will consist of a mixture of gas, hydrocarbons and produced water.

- Fluid transfer from the wellhead to downstream processes will not be continuous.

- Down-stream processes include separation of gas, water and hydrocarbon phases, storage of water and hydrocarbon phases, and transfer of water and hydrocarbon phases away from the facility.

- Should transfer lines fail, flow will be discontinued by shutting off the down hole pump, minimizing the amount of fluids not contained within lines and minimizing potential spill of fluids.

- Fluid transfer and associated processes are protected entirely by secondary containment from the wellhead to final discharge of water and hydrocarbons into tank trucks for transport off site. Secondary containment is sized to accommodate loss from the largest vessel plus sufficient free-board to allow for potential precipitation.

Drum and Tote Handling

- Only approved drums (tight head with bung caps installed or open top with properly secured lids and rings) or properly sealed totes are to be used during internal transfer of oil.

- Oil drums and totes containing liquid will be stored only in designated areas equipped with necessary secondary containment.

- Container caps and lids will be secured in place during transport of containers within the facility. All containers will be properly labeled.

- Dispensing activities will occur only within secondary containment of the systems being serviced.

- Transfer lines will be securely connected and inspected against leaks and damage before, during, and after transfer operations.

- Spill containment equipment and materials (such as absorbent pads, containment booms, etc.) will be maintained in close proximity to oil containment vessels.

- Damaged (corroded, cracked, non-sealing, etc.) drums or totes will not be used.

- All spills are to be contained, reported, and immediately cleaned up.

- Out-of-service drums and totes will be emptied and stored within secondary containment until properly retrieved and removed by supplier for recycle.

Bulk Loading and Unloading

NSHI operations involving bulk loading and unloading primarily include transfer of fluids to and from the Hot Oil Heater system, transfer of produced hydrocarbons to an offsite distillation plant, and transfer of produced waters to an evaporative pond associated with adjacent Natural Soda operations. Following are guidelines for bulk oil transfer operations.

- All loading and unloading operations will be conducted within the same secondary containment system used for facility containers and

processing equipment.

- NSHI personnel must be present during all loading and unloading operations.
- Tank truck operators must remain with their respective vehicles at all times when transfer hoses are connected.
- Transfer line connections will be checked prior to beginning transfer operations.
- The wheels of tank trucks will be chocked to prevent runaway.
- Transfer hoses will be emptied of their contents prior to disconnection.
- Connection points on tanks will be checked prior to departure from the site.
- Facility piping connection points for bulk loading / unloading will be capped or blank flanged and locked when not in service.
- Appropriate spill containment equipment and materials (e.g. pads, absorbent booms, etc.) shall be maintained at all times adjacent to bulk transfer location. No bulk transfer activities will be conducted in the absence of a sufficient quantity of appropriate spill containment equipment and materials.
- All spills are to be contained, reported, and immediately cleaned up.

I.D. Discharge Response Procedures and Notifications (§§112.4 and 112.7(a)(3)(iv)-(vi), and (a)(4).

Discharges would typically be discovered during the inspections conducted at the facility in accordance with this plan. However, should a discharge to navigable waters or adjoining shorelines be discovered,

facility personnel must take immediate actions.

Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor) include:

- Employee discovering an incident assesses immediate safety risks.
- Employee immediately secures the area, including preventing others from entering a harmful situation and, if no imminent safety concerns, shutting down mechanical source of discharge.
- Employee immediately reports incident to the ERC. If the ERC is not immediately available, employee notifies Natural Soda supervision in accordance with the call-down list on Appendix A.
- The ERC or supervisor backup will conduct hazard assessment to evaluate safety risks.
- The ERC, or backup, and immediately available management team will determine, through hazard assessment, whether containment and cleanup measures can be performed safely by appropriately trained facility personnel.
- If safe and appropriate to proceed, site personnel will immediately begin containment using available materials (including spill kits, bulk sorbents, soils, etc.) and cleanup.
- If the spill cannot be contained by facility personnel due to safety concerns or spill magnitude, Clean Harbors will be requested to respond for containment and cleanup on an emergency basis.
- Local fire, rescue, and hazardous materials crews (911 call) will be contacted to provide emergency support for all spills where the hazard assessment indicates fire or life safety concerns.
- ERC will determine if external notification to Federal, State or local authorities is required; and make internal notifications to company management.

The immediate priority for all incident response is the protection of workers. A hazard analysis will be performed, which takes into account the type of incident, the characteristics of the material released, the location of the release relative to potential receptors (including environmental receptors) and the magnitude of the release. The goal of all incident response is to clean up any adverse discharge of oil to the environment so that no significant deleterious effects are left behind.

Following incident response and associated hazard analysis, root-cause investigation will be conducted to determine the mechanism of release and

to determine corrective actions necessary to prevent recurrence.

The ERC will perform the full release assessment, hazard analysis and root-cause investigation.

The general response procedures include

- Stopping the release;
- Containing released materials;
- Cleanup of released materials; and
- Decontamination of the incident area.

The type of personal protective equipment (PPE), response equipment, cleanup procedures, and decontamination procedures will vary depending upon the specific nature of the release and will be specified by either the supervisors or ERC. Free oil recovered from secondary containment structures may be placed in the Used Oil containers for future recycling. Absorbent material (i.e., oil dry, pigs, socks, etc.) will be recovered using a non-sparking shovel and placed in an appropriate Department of Transportation (DOT) approved shipping container for disposal by a licensed waste hauler (Clean Harbors).

Certain incidents may necessitate the need for sustained actions. Examples of this include cleanup and repair following a major oil release to the environment. In such cases, NSHI may retain outside parties, such as Clean Harbors, as needed to conduct or assist in performing the sustained response actions. The ERC will be responsible for initiating sustained actions, when appropriate. In addition, the ERC will also be responsible for ensuring that any recovered oil material is disposed in accordance with all applicable regulations.

Termination of release response actions will be the responsibility of the management team. Follow-up actions typically include: post-action review of the incident, critique of the response actions, review of the SPCC plan, and preparation of follow-up report(s), e.g. to agencies. The ERC will initiate appropriate follow-up actions.

Per 40 CFR 112.4, whenever there is a discharge of more than 1,000 U.S. gallons of oil in a single discharge, or more than two discharges each

of more than 42 U.S. gallons of oil occurring within any twelve month period, that reach navigable waters of the United States, or otherwise harmful as described in 40 CFR 110, the ERC will submit the appropriate report to the EPA Regional Administrator within 60 days from the time of discharge.

If an oil discharge results in contamination of a navigable waterway of the US, the ERC will provide immediate notification to local, state, and federal authorities.

Our methods of disposal of recovered materials are:

- Accumulation of cleanup materials (e.g. absorbent pads and booms) and contaminated media (soils, etc.) in containers legally compliant for shipping; engaging hazardous waste contractor; Clean Harbors, to remove and properly dispose of accumulated cleanup materials and contaminated media.

- As necessary for disposal, samples of contaminated materials and media may be collected and submitted to a qualified laboratory to be analyzed for hazardous waste characteristics.

A list of important contacts, in the event of a discharge are provided in Appendix A, Release Response Procedure.

Our procedures and information for reporting a discharge are listed below:

In the event of an unauthorized discharge of oil or oil-containing fluids, personnel operating the facility will--if it is safe to do so--attempt to stop the discharge by closing appropriate valves, pipes, or hoses by mechanical controls available. All oil-containing vessels and flow lines are located within secondary containment. Spills should therefore be contained. Spills within secondary containment must be locally contained as much as possible to facilitate cleanup.

Personnel responding to a spill will record the following:

- Date and Time of discharge
- Type of material discharged
- Location and source within the facility of discharge
- Estimate of total quantity discharged
- Description of all affected media
- Cause of discharge
- Any damages or injuries caused by the discharge
- Actions used to stop the discharge
- Actions used to remove and mitigate the effects of the discharge
- Whether an evacuation may be needed
- Names of individuals and organizations contacted

Appendix B provides criteria for reporting information and incident record.

I.E. Emergency Procedures (§112.7(a)(5)).

Our procedures to use when a discharge occurs include the following:

Appendix A illustrates appropriate release response procedures, including contact information of appropriate personnel.

Appendix B is the form to be used for on-scene recording of release-reporting information.

I.F. Fault Analysis (§112.7(b)).

We have considered the most likely failure scenarios and summarized in Appendix C: Release Scenarios.

Appendix C considers the equipment, failure type, discharge rate, total potential discharge quantity, direction of flow from potential release, and potential down-flow effects.

I.G. Secondary Containment, Diversionary Structures, and/or Alternative (§§112.7(a)(3)(iii), 112.7(c), 112.7(k)).

1.G.1. Secondary Containment, Diversionary Structures, and/or Alternative (§112.7(a)(3)(iii) and (c)).

Our facility is configured to minimize the likelihood of a discharge reaching navigable waters. The following measures are provided:

Secondary containment will be constructed of walls sufficiently impervious to contain oil and be of sufficient capacity to contain the volume of the largest container plus freeboard to account for precipitation.

The entire operation, from OSR wellhead to hydrocarbon storage vessel and produced-water storage vessel, including all flow lines and flow-through equipment, drums and totes, will be located within secondary containment.

Calculations for secondary containment capacity, considering volume and footprint requirements, are presented in Appendix H.

Spill kits equipped with materials sufficient to contain most spills are located appropriately within the facility. Though all oil-containing equipment is to be located within secondary containment, spills will be isolated and cleaned up.

Because we will install containment into which all oil-bearing equipment will be located, we are not required to have an oil spill contingency plan nor a written commitment of manpower, equipment, and materials to control and remove discharged oil. Refer to Section I.G. for more information about our preventive measures.

I.H. Facility Inspections, Tests, and Records

The Business Support and Sustainability Manager, Technical Manager, or competent designee is responsible for conducting facility inspections and tests and maintaining inspection records (signed by the appropriate

supervisor or inspector) with the SPCC Plan for a period of three years.

I.I Personnel, Training, and Spill Prevention Procedures (§112.7(f)).

All oil-handling personnel in the operation and maintenance of equipment to prevent discharges of oil will receive initial and refresher training on discharge procedures protocols, general facility operations, and the contents of the facility SPCC Plan. The Business Support and Sustainability Manager is responsible for providing all oil-handling personnel with a copy of NSHI's SPCC Plan, obtaining written acknowledgement that oil-handling personnel understand, will abide by and will be accountable to the SPCC Plan.

Oil-handling personnel who deliver and take away bulk quantities of oil will complete and oil-handling checklist with each transaction.

Appendix D includes the bulk-petroleum handling checklist.

In addition, we are committed to providing proper and regular instruction of oil- handling personnel in applicable pollution control laws, rules, and regulations. Applicable pollution control laws, rules and regulations pertinent to tasks involving oil-handling personnel are embodied in NSHI's SPCC Plan. Oil-handling personnel sign an acknowledgement of understanding of NSHI's SPCC Plan.

The Business Support and Sustainability Manager is responsible for ensuring that oil-handling employees are properly instructed.

The Business Support and Sustainability Manager is designated and accountable for overseeing discharge prevention activities

The Business Support and Sustainability Manager is responsible for reporting on the progress of discharge prevention activities to facility management.

The Business Support and Sustainability Manager is responsible for conducting discharge prevention briefings at least once a year for oil-handling personnel to ensure adequate understanding of the facility SPCC Plan. Such briefings highlight and describe any known discharges or failures, malfunctioning components, and any recently developed precautionary measures.

I.J. Facility Security (Excluding Oil Production Facilities) (§112.7(g)).

The facility will be an oil-production facility, but we intend to meet requirements of 112.7(g) regardless. To prevent unauthorized access to oil handling, processing, and storage areas, our facility has established several security measures.

- Any unauthorized visitation to the facilities is prohibited.
- Appropriate fencing will be installed on the facility perimeter to inhibit access.
- Signage will be installed on approach to the facilities and on perimeter fencing that warns against trespass.
- Any personnel not directly involved with the operation of the facility must sign in at the Natural Soda plant office prior to access and must be accompanied by personnel involved with operation of the facility.

We employ the following procedures to secure master flow and drain valves:

- Master flow and drain valves that may expose vessels to adverse discharge are provided with locking mechanisms.
- Keys to the locking mechanisms are controlled in a lockbox in the facility office.
- Access to the lock box will be restricted to authorized personnel.

We employ the following procedures to prevent unauthorized access to starter controls on oil pumps:

- Start controls on pumps are accessed only by personnel authorized to operate the facility.

- Only personnel authorized to operate the facility are allowed access to the facility.

The following are the procedures to secure out-of-service and loading/unloading connections of oil pipelines:

- The facility is to be newly constructed. Out-of-service connections to oil pipelines is not within the scope of this new facility.
- All connections to piping that pose a risk of adverse discharge will be installed with locking mechanisms to prevent discharge. Keys to those locking mechanisms will be controlled in a lock box in the facility office.

We maintain sufficient security lighting that is appropriate for preventing acts of vandalism and assisting in the discovery of oil discharges.

Lighting is to be maintained sufficient to illuminate all grounds within the perimeter fencing as well as all areas within the vessel installation sites and containment structures.

I.K. Facility Tank Car and Tank Truck Loading/Unloading (Excluding Offshore Facilities) (§112.7(h)).

Tank truck loading and unloading will occur within the secondary containment structure.

Appendix D includes checklist items to help ensure bulk loading and unloading precautions are taken.

I.L Brittle Fracture Evaluation Requirements (§112.7(i)).

If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a

discharge or failure due to brittle fracture or other catastrophe, or the container has discharged oil or failed due to brittle fracture failure or other catastrophe, the project engineer will evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

I.M. Conformance with General Federal and State Requirements for SPCC Plans (§112.7(a)(1) and (j)).

The State of Colorado and Rio Blanco County do not have additional SPCC Plan requirements.

	Document Title	NSHI SPCCP--Part 2					
Doc #	E 262-P	Revision Date	08/27/2013	Revision	3	Status	Released
Document Owner		Clark, Michael					

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN (SPCCP) part 2 of 3

NATURAL SODA HOLDINGS INC

Completed by: MICHAEL CLARK Completed Date: 08/09/2013

II. Requirements for Petroleum and Non-Petroleum Oils, Except Animal and Vegetable Oils (40 CFR 112 Subpart B).

II.A. Requirements for Onshore Facility Drainage (Excluding Production Facilities) (§112.8).

Our facility is not an onshore, non-production facility; therefore, we are not required to comply with Section 112.8.

II.B Requirements for Onshore Production Facilities (Excluding Drilling or Workover Facilities) (§112.9).

II.B.1 Conformance with Specific Requirements (§112.9(a)).

NSHI's OSR facility operates in conformance with all applicable regulations that are designed to reduce the risk of adverse discharge, as described in this SPCC Plan.

II.B.2 Oil Production Facility Drainage (§112.9(b)).

Drains of secondary containment structures are closed and sealed at all times, except when draining containment systems as described below. Locking mechanisms are installed on secondary containment drains. Keys to locking mechanisms are controlled in a key box in the facility office accessible only by authorized oil-handling personnel.

Rainwater may accumulate in secondary containment structures. Uncontaminated rainwater may be released from containment drains directly to ground, if the quantity of water and rate of release does not cause adverse impact to the grounds or adversely affect safety of other activities. When accumulated precipitation will be released to the ground, the team member performing the drainage will first inspect the accumulated water for sheens or other evidence of oil contamination and will only release the precipitation after verifying no oil contamination is

present.

The Precipitation Drainage Form, in Appendix F, will be used to document inspection for accumulated oil prior to releasing accumulated precipitation from the secondary containment structure to the ground.

If the quantity of uncontaminated rainwater is too large for release direct to ground, then that water is to be transferred by vacuum truck for discharge into the nearby Natural Soda evaporation pond.

Any accumulated oil on the rainwater will be eliminated by removal or in-situ decomposition, depending on size and scope of accumulation. Removal will consist of entrapment within absorbent materials in the form of booms, pads or granular media. Used absorbent material will be placed in containers suitable for shipping. Containers of used absorbent materials will be collected and properly disposed by a properly licensed contractor (Clean Harbors). Alternatively, accumulated oil may be decomposed in place by application of commercially available products that utilize hydrocarbon-consuming microbes. In-situ decomposition practices will be monitored for effectiveness, and if not effective, accumulated oil will be removed with absorbent materials.

Roadways accessing the OSR will be monitored by observation of personnel attending the operation for spills. Vehicle operators servicing the OSR will be required to report any spill along roadways. Spills along roadways will be cleaned up by removal of contaminated soils and road base, placing in containers suitable for transport and contracting with Clean Harbors for proper disposal. Spills too large for cleanup by NSHI personnel will be contracted for cleanup with Clean Harbors.

In general, all areas of NSHI operation are subject to informal inspections on a daily basis by personnel operating the facility. Accumulation of oil from any small discharge is reported to the Business Support and Sustainability Manager or the V.P. of Operations within 24 hours and plans made for timely clean up.

Documented inspections are performed monthly and annually as prescribed by the inspection forms adopted from the Steel Tank Institute SP001 Standard for Inspection of Aboveground Storage Tanks by personnel operating the facility. Inspection documents are verified and maintained by the Business Support and Sustainability Manager.

Appendices E1 through E4 include inspection criteria and provides record of monthly and annual inspections. Records are maintained for at least 3 years.

II.B.3 Oil Production Facility Bulk Storage Containers (§112.9(c)).

II.B.3.i. Bulk Storage Container Material (§112.9(c)(1)).

At our facility, the material and construction of bulk containers will be compatible with the material stored in them and the conditions of storage. Specifically, our bulk containers that store oil are constructed of various corrosion-preventative materials depending on the nature and application of the container (see Appendix E1). Construction materials include carbon steel, stainless steel and polytetrafluoroethylene-lined carbon steel and are designated on specification sheets for each container.

II.B.3.ii. Secondary Containment for Bulk Storage Containers (§112.9(c)(2)).

We will construct secondary containment to hold all hydrocarbon-containing apparatus: vessels, pipes, flow-through equipment, drums and totes. Secondary containment will also provide for spill control for bulk loading and unloading by allowing mobile equipment access to and location within the secondary containment structure while loading and unloading.

The secondary containment structure will be built on the slope of the

OSR area and consist of a U-shaped earthen berm configuration open to the upslope side. The down-slope end berm will be of sufficient height, with the side berms merging from a zero-height at the open end to the height of the down-slope end berm, to contain at least the volume of the largest tank plus sufficient free-board to contain precipitation from a 25-year, 24-hour storm event. Determination of volume of the secondary containment structure are presented in Appendix H. Material used to construct the berm will be sufficiently impervious so as to retain material spilled from the largest vessel until cleanup can be completed.

The secondary containment structure, vessels and associated components within are subject to documented monthly and annual inspections that are intended to identify degradation of components and prevent system failures. Corrective actions are determined and suitable repairs are made if component or system degradation is identified.

II.B.3.iii. Inspections, Tests, and Records (§112.9(c)(3)).

At our facility, bulk storage containers that contain oil are visually inspected informally on a daily basis, and formally monthly and annually by a competent, qualified individual for condition and need for maintenance.

Appendices E1-E4 include criteria for container inspections and provides record of those inspections.

III.B.3.iv. Bulk Storage Container Overflow Prevention (§112.9(c)(4)).

Bulk storage tank installations will be engineered or updated in accordance with good engineering practice to prevent discharges. All vessels pertinent to the operation, including bulk storage vessels, are outlined in SPCC Plan Part 1, section I.C.--Facility Location and Layout.

As appropriate to the specific container, each container will be engineered to capacity adequate to prevent overflow or other unintended discharge.

Additionally, depending on the nature of the container, spill prevention measures will include:

- overflow equalization lines between containers.
- vacuum protection adequate to prevent container collapse.
- high-level sensors that generate and transmit an alarm signal to controlling computer system, which will shut the system down upon high-level alarm.
- Outflow from the OSR well driven by a 50 gpm down-hole pump, from which flow and rate will drive downstream processes and flow-through vessels. Shutdown of this pump will shut down process between the wellhead and the storage tanks.
- Outflow from the OSR well on an as-needed basis, engaging the down-hole pump only often enough to evacuate the chamber in which liquid hydrocarbons slowly accumulate. The down-hole pump will be manually turned on and off by a facility operator; it is not automatically engaged.
- Offloading of bulk storage to mobile equipment for transport off site accomplished only while the bulk transfer operation is attended by a competent operator.
- Loading of oil-storing equipment, e.g. the heat-transfer system, accomplished by a competent operator.

The engineering design is still in progress for vessel configurations, and the exact prevention measures to be used for each vessel has not been determined at this time. This SPCC will be amended and re-certified after final vessel design is completed.

II.B.3.v. Flow-Through Process Vessels (§112.9(c)(5)).

We have chosen not to implement the alternate requirements for flow-through process vessels as described at §112.9(c)(5). Therefore, we provide sized secondary containment as required in §112.9(c)(2) and (c)(3). See section II.B.3.ii. to II.B.3.iii. for more information. All flow-through equipment will be located within the secondary containment

structure.

II.B.3.vi. Produced Water Containers (§112.9(c)(6)).

All produced-water vessels will be located within the secondary containment structure.

II.B.4. Facility Transfer Operations for an Oil Production Facility (§112.9 (d)).

II.B.4.i. Inspection of Aboveground Valves and Piping (§112.9(d)(1)).

All aboveground valves and piping associated with transfer operations are subject to undocumented daily inspections by personnel operating the facility as well as documented inspections on a monthly basis and each time bulk transfer operations are performed. Bulk transfer operators are responsible for completing a checklist for criteria prior to, during, and after transfer.

Appendix D includes checklist criteria for bulk transfers and provides record of inspection.

II.B.4.ii. Inspection of Saltwater Disposal Facilities (§112.9(d)(2)).

Components of the saltwater (oil field brine) disposal facilities are inspected after a sudden change in atmospheric temperature and monthly by field operation personnel as described in section I.H. This includes the pumps and motors for working condition and leaks, hoses, valves, flowlines, and the saltwater injection wellhead.

II.B.4.iii. Flowlines/Intra-Facility Gathering Lines (§112.9(d)(3) and (d)(4)).

All flowlines and intra-facility gathering lines will be located entirely within the secondary containment structure.

Flowlines and intra-facility gathering lines, associated valves, vessels, and equipment will be compatible with the type of production fluids; their corrosive potential, volume, and pressure; and other conditions expected in the operational environment.

Formal monthly and annual inspections will monitor flowlines and gathering lines for signs of potential failure, such as leaks and loose couplings. Formal monthly and annual inspections will be documented on the checklists in Appendix E.

Facility personnel will visually monitor the operations daily. Personnel will monitor temperature, pressure, and flow rates of components to ensure the system functions within expected parameters. Operation outside of expected parameters indicate possible system upset which would be cause for system shutdown to prevent failure and unwanted discharge. Facility personnel will provide informal visual inspection of flow lines and gathering lines daily for leaks and loose couplings during normal operations.

Upon selection of suppliers and manufacturers for flow line systems, a complete flow line maintenance program will be developed based on manufacturer specifications and operating recommendations. The flow line maintenance program will include corrective actions based on the findings of the regular monthly inspection program, as well as regularly scheduled replacement of components as recommended by the manufacturer. In addition, automated control systems connected to flowlines will be tested periodically in accordance with manufacturer recommendations.

II.C. Requirements for Onshore Oil Drilling and Workover Facilities (§112.10).

Our facility does not have any onshore oil drilling or workover facilities; therefore, we are not required to comply with Section 112.10.

The OSR will utilize the well hole and down-hole cavity that is developed from withdrawal of nacholite by the adjacent Natural Soda solution mining operation.

II.D Requirements for Offshore Oil Drilling, Production, or Workover Facilities (§112.11).

Our facility is not an offshore oil drilling, production, or workover facility; therefore, we are not required to meet the requirements of Section 112.11.

	Document Title	NSHI SPCCP--Part 3					
Doc #	E 263-P	Revision Date	08/27/2013	Revision	2	Status	Released
Document Owner		Clark, Michael					

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN (SPCCP) part 3 of 3

NATURAL SODA HOLDINGS, INC

Completed by: MICHAEL CLARK
Completed Date: 08/07/2013

III. Requirements for Animal Fats, Oils, Greases; Fish and Marine Mammal Oils; and Vegetable Oils.

Our facility does not handle animal fats, oils and greases; fish and marine mammal oils; or vegetable oils including oils from seeds, nuts, fruits, or kernels, applicable to Sections 112.12; therefore, we are not required to comply with Sections 112.12.

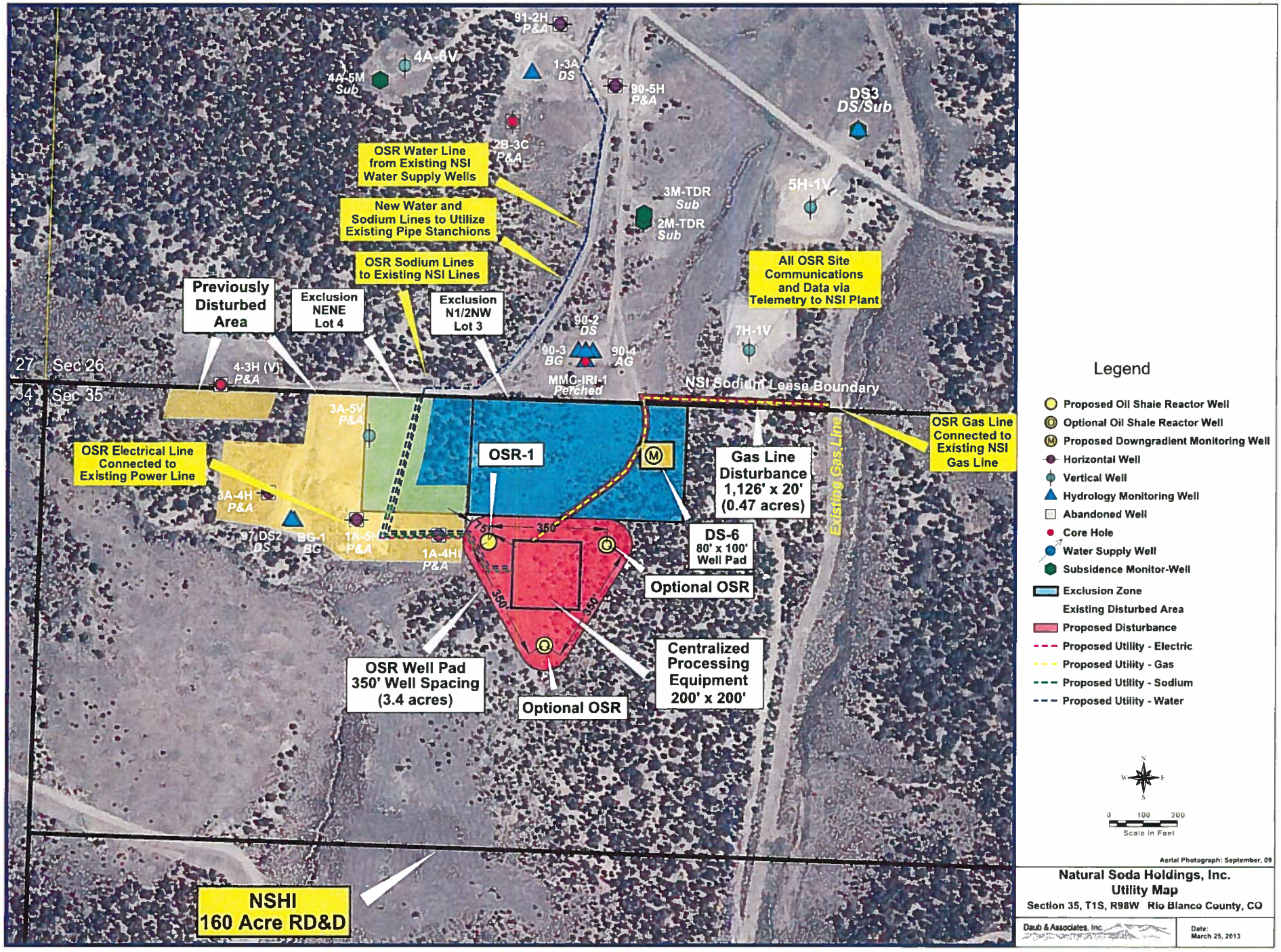
IV. Appendices.

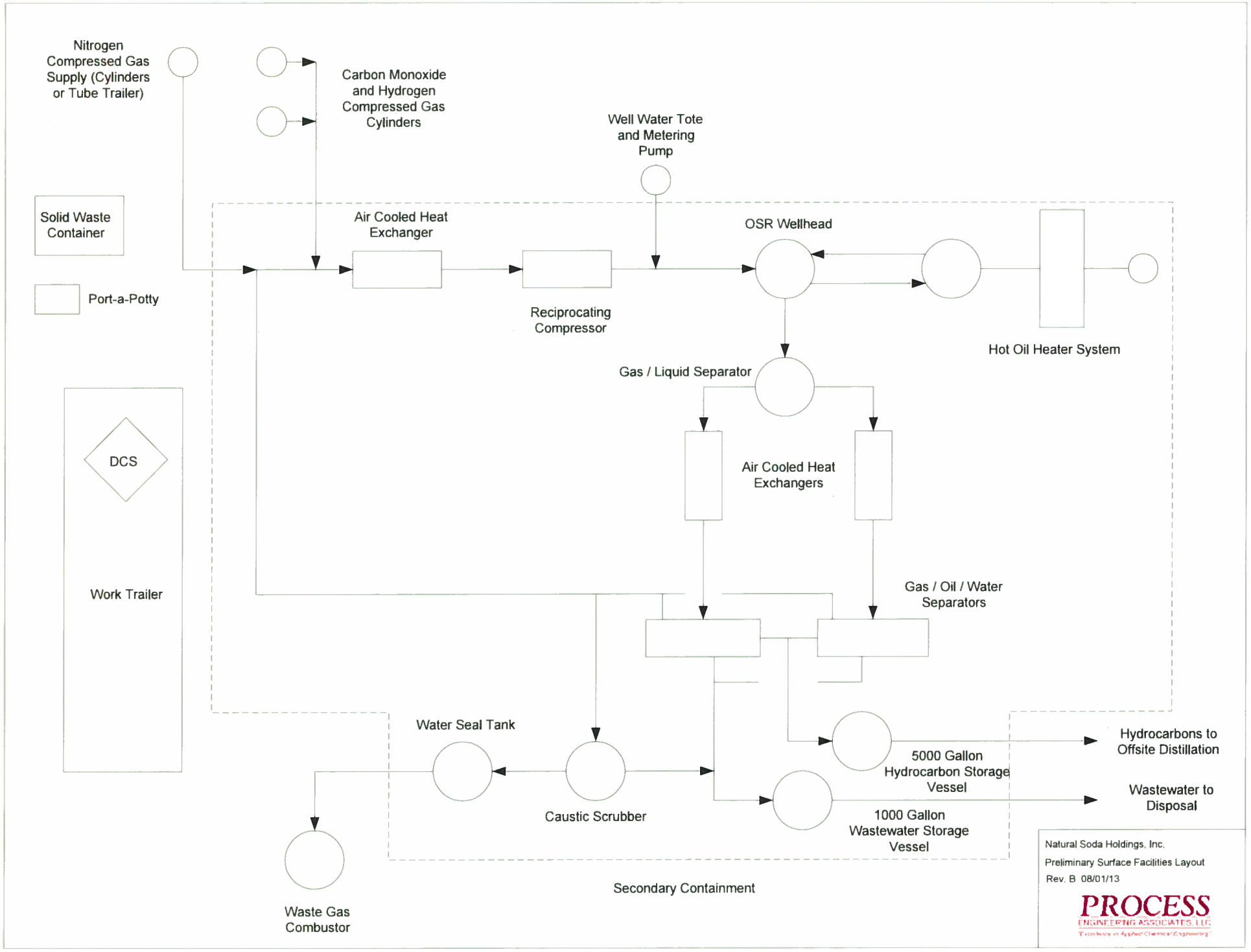
We have attached the following documents to this plan to help ensure better understanding of our written plan:

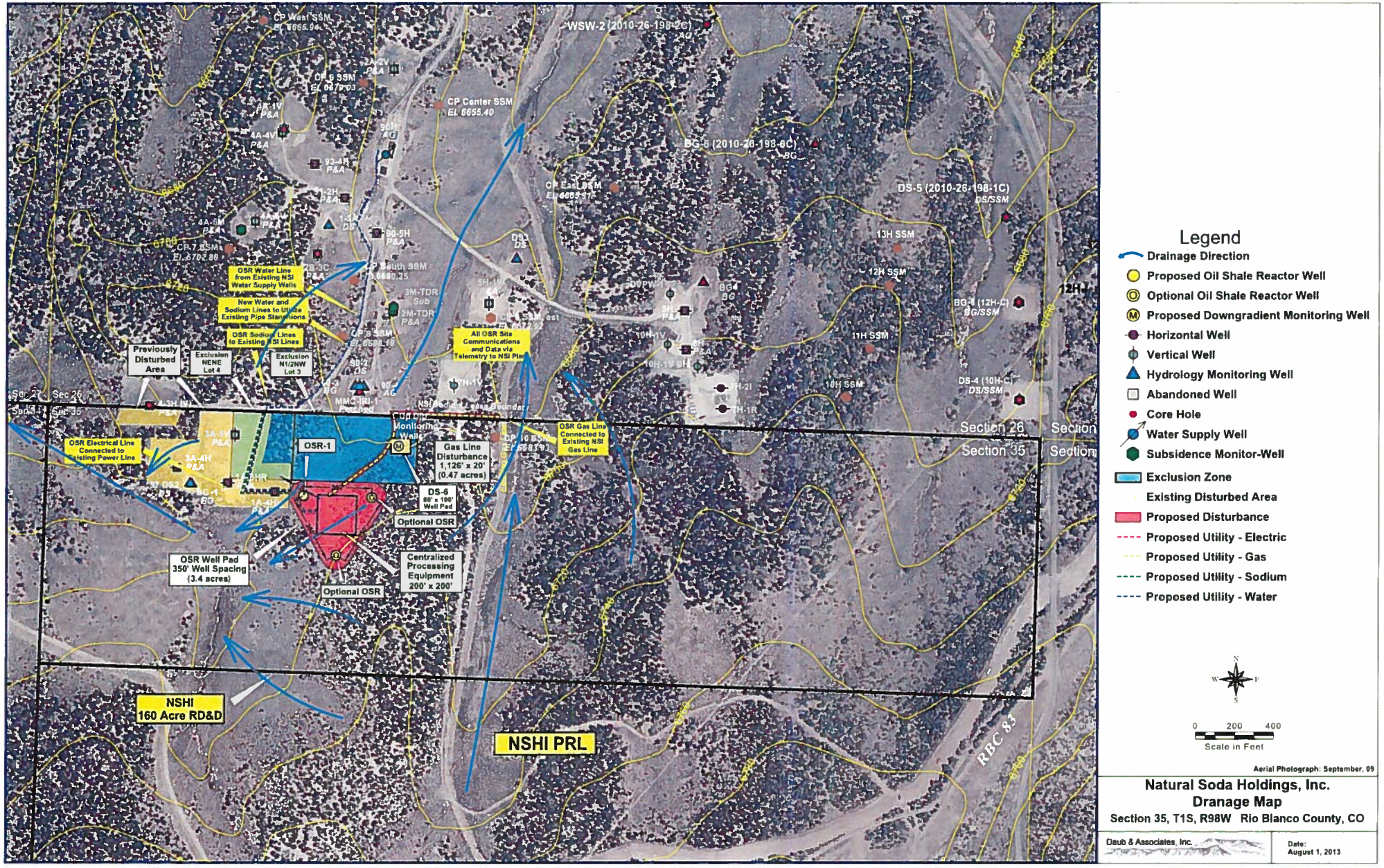
A -- Release Response Procedure and call-down information
B -- Release Reporting Information and record
C -- Release Scenarios
D -- Bulk Handling Checklist
E1 -- STI SP001 AST Record
E2 -- STI SP001 Monthly Inspection Checklist
E3 -- STI SP001 Annual Inspection Checklist
E4 -- STI SP001 Portable Container Monthly Inspection Checklist
F -- Drainage Inspection Form
G -- Substantial Harm Determination
H -- Calculations for Secondary Containment Capacity
I -- Review and Amendment Log

Attachments

Attachment 1: Utility Map
Attachment 2: Preliminary Surface Facilities Layout
Attachment 3: NSHI Drainage Map


91-2H P&A
4A-6V
4A-5M Sub
1-3A DS
90-5H P&A
DS3 DS/Sub
2B-3C P&A
OSR Water Line from Existing NSI Water Supply Wells
New Water and Sodium Lines to Utilize Existing Pipe Stanchions
OSR Sodium Lines to Existing NSI Lines
3M-TDR Sub
2M-TDR Sub
5H-1V
All OSR Site Communications and Data via Telemetry to NSI Plant
Previously Disturbed Area
Exclusion NENE Lot 4
Exclusion N1/2NW Lot 3
90-2 DS
90-3 BG
90-4 AG
MMC-IRI-1 Perched
7H-1V
27
Sec 26
34
Sec 35
4-3H (V) P&A
NSI Sodium Lease Boundary
3A-5V P&A
OSR Gas Line Connected to Existing NSI Gas Line
OSR Electrical Line Connected to Existing Power Line
OSR-1
Gas Line Disturbance 1,126' x 20' (0.47 acres)
Existing Gas Line
3A-4H P&A
97 DS2 DS
BG-1 BG
1A-5H P&A
1A-4H P&A
350'
DS-6 80' x 100' Well Pad
Optional OSR
OSR Well Pad 350' Well Spacing (3.4 acres)
Optional OSR
Centralized Processing Equipment 200' x 200'
NSHI 160 Acre RD&D
Legend
Proposed Oil Shale Reactor Well
Optional Oil Shale Reactor Well
Proposed Downgradient Monitoring Well
Horizontal Well
Vertical Well
Hydrology Monitoring Well
Abandoned Well
Core Hole
Water Supply Well
Subsidence Monitor-Well
Exclusion Zone
Existing Disturbed Area
Proposed Disturbance
Proposed Utility - Electric
Proposed Utility - Gas
Proposed Utility - Sodium
Proposed Utility - Water
N
W
E
S
0
100
200
Scale in Feet
Aerial Photograph: September, 09
Natural Soda Holdings, Inc.
Utility Map
Section 35, T1S, R98W Rio Blanco County, CO
Daub & Associates, Inc.
Date:
March 25, 2013


Nitrogen Compressed Gas Supply (Cylinders or Tube Trailer)
Carbon Monoxide and Hydrogen Compressed Gas Cylinders
Well Water Tote and Metering Pump
Solid Waste Container
Port-a-Potty
Air Cooled Heat Exchanger
OSR Wellhead
Reciprocating Compressor
Hot Oil Heater System
Gas / Liquid Separator
Air Cooled Heat Exchangers
DCS
Work Trailer
Gas / Oil / Water Separators
Water Seal Tank
Caustic Scrubber
5000 Gallon Hydrocarbon Storage Vessel
Hydrocarbons to Offsite Distillation
1000 Gallon Wastewater Storage Vessel
Wastewater to Disposal
Waste Gas Combustor
Secondary Containment
Natural Soda Holdings, Inc.
Preliminary Surface Facilities Layout
Rev. B 08/01/13
PROCESS ENGINEERING ASSOCIATES, LLC


WSW-2 (2010-26-198-2C)
CP West SSM
CP Center SSM
EL 6655.40
CP East SSM
CP South SSM
BG-6 (2010-26-198-6C)
DS-5 (2010-26-198-1C)
DS/SSM
13H SSM
12H SSM
11H SSM
10H SSM
BG-1 (12H-C)
BG/SSM
DS-4 (10H-C)
DS/SSM
OSR Water Line from Existing NSI Water Supply Wells
New Water and Sodium Lines to Utilize Existing Pipe Stanchions
OSR Sodium Lines to Existing NSI Lines
All OSR Site Communications and Data via Telemetry to NSI Plant
Previously Disturbed Area
Exclusion NENE Lot 4
Exclusion N1/2NW Lot 3
Sec 27
Sec 26
Sec 35
OSR Electrical Line Connected to Existing Power Line
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OSR Gas Line Connected to Existing NSI Gas Line
DS-6 66' x 100' Well Pad
Optional OSR
OSR Well Pad 350' Well Spacing (3.4 acres)
Centralized Processing Equipment 200' x 200'
Optional OSR
NSHI 160 Acre RD&D
NSHI PRL
RBC 83
Section 26
Section 35
Section
Legend
Drainage Direction
Proposed Oil Shale Reactor Well
Optional Oil Shale Reactor Well
Proposed Downgradient Monitoring Well
Horizontal Well
Vertical Well
Hydrology Monitoring Well
Abandoned Well
Core Hole
Water Supply Well
Subsidence Monitor-Well
Exclusion Zone
Existing Disturbed Area
Proposed Disturbance
Proposed Utility - Electric
Proposed Utility - Gas
Proposed Utility - Sodium
Proposed Utility - Water
N
W
E
S
0
200
400
Scale in Feet
Aerial Photograph: September, 09
Natural Soda Holdings, Inc.
Dranage Map
Section 35, T1S, R98W Rio Blanco County, CO
Daub & Associates, Inc.
Date:
August 1, 2013

Appendix A: RELEASE RESPONSE PROCEDURE

DISCOVERY
Determine:
- Type of Material; Quantity of Release
- Location of Release; Injuries or Exposure
- Time of Release; Release Conditions

PPE: Gloves, Boots, Eye Protection, Hardhat
Equipment: Absorbant booms, shovels, 55-gal drums
Hazards: skin and inhalation irritant, slip-trip-fall, fire

RELEASE RESPONSE
- Ensure No Immediate Danger to Live or Health--If so, evacuate immediately.
- Take Immediate Measures to Stop or Control Release

STOP OR CONTROL
- Turn off or close off source
- Contain with absorbant booms, earth berms and ditches
- Secure perimeter

- Make **INTERNAL** notification to supervisor, ERC, operations director, or other on call-down list
- ERC or designee notifies Enirgi Group ASAP

Call Down until Contact:
ERC: Mike Clark: 830-613-0435
Bob Warneke: 760-382-3531
Carl Meyer: 970-274-4440
Kevin Posey: 970-942-3113
Mike Payton: 970-218-3572
Lenny Reck: 970-620-1241

MINOR RELEASE?
--Less than 42 gal--

NO

Emergency Response Coordinator --ERC--
Determines further action

YES

RESPONSE OBJECTIVES
- Determine Cleanup Plan (how to clean up, where to contain, etc.)
- Assemble Team and Brief

Release Response Contractor
If sustained actions are beyond facilities capability engage contactor

RESPONSE ACTIONS
- Stop Release if not done prior
- Clean up and containerize or isolate contaminated materials
- Decontaminate relase area

RESPONSE OBJECTIVES AND ACTIONS
- Determine best means for cleanup and containment
- Engage actions
- Monitor cleanup to ensure completeness
- Decontaminate release area

INVESTIGATE AND DOCUMENT
- Determine root cause
- Implement actions to prevent recurrence
- Ensure no residual effects
- Share Learnings

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RELEASE REPORTING INFORMATION

Date and time of discharge	
Material discharged	
Source of discharge	
Estimate of quantity	
Cause of discharge	
Effects of the discharge	
Damages or Injuries	
Actions to stop discharge	
Actions to remove effects	
Evacuation needed?	
Contacts made	
(outside contact, other than first responders, must be made by management)	

****

Reported by: _____ Date/Time of Report: _____

Reported to: _____

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Appendix C: NSHI SPCCPlan -- Summary of potential release scenarios

Equipment	Failure Type	Discharge Rate	Total Potential Discharge	Direction of flow from potential release	Potential down-flow effects
Hot Oil Expansion Tank (V-008)	a) Failure of couplings b) Full rupture of tank c) Failure at delivery truck during fill	a) 120 gpm b) 500 gpm c) 30 gpm	a) 1,000 gal b) 1,000 gal c) 60 gal (shutoff within 2 min. by attendant)	a) Within containment b) Within containment c) Within containment	a) none-contained b) none-contained c) none-contained
Hot Oil Catch Tank (V-009)	a) Failure of couplings b) Rupture of tank	a) 120 gpm b) 500 gpm	a) 500 gal b) 500 gal	a) Within containment b) Within containment	a) none-contained b) none-contained
Gas/Liquid Separator (V-002)	a) Failure of couplings b) Rupture of tank	a) 50 gpm b) 50 gpm	a) 30 gal b) 30 gal	a) Within containment b) Within containment	a) none-contained b) none-contained
Overheads Gas / Oil / Water Separator (V-003)	a) Failure of couplings b) Rupture of tank	a) 50 gpm b) 50 gpm	a) 100 gal b) 100 gal	a) Within containment b) Within containment	a) none-contained b) none-contained
Bottoms Gas / Oil / Water Separator (V-004)	a) Failure of couplings b) Rupture of tank	a) 50 gpm b) 50 gpm	a) 100 gal b) 100 gal	a) Within containment b) Within containment	a) none-contained b) none-contained
Hydrocarbon Storage Tank (V-005)	a) Failure of couplings b) Rupture of tank c) Failure during off-loading to tank truck	a) 120 gpm b) 500 gpm c) 30 gpm	a) 5,000 gal b) 5,000 gal c) 60 gal (shutoff within 2 min by attendant	a) Within containment b) Within containment c) Within containment	a) none-contained b) none-contained c) none-contained
Waste Water Storage Tank (V-006)	a) Failure of couplings b) Rupture of tank c) Failure during off-loading to tank truck	a) 120 gpm b) 500 gpm c) 30 gpm	a) 1,000 gal b) 1,000 gal c) 60 gal (shutoff within 2 min by attendant	a) Within containment b) Within containment c) Within containment	a) none-contained b) none-contained c) none-contained
Water Seal Tank (V-007)	a) Failure of couplings b) Rupture of tank	a) 50 gpm b) 50 gpm	75 gal	Within containment	None-contained
Flow Lines	a) Failure of couplings or pipe	50 gpm	100 gal (shutoff within 2 min by attendant)	Within containment	None-contained
OSR Well Head	a) Failure of couplings or pipe	50 gpm	100 gal (shutoff within 2 min by attendant)	Within containment	None-contained

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Bulk Petroleum Products Vendor Delivery Checklist

Invoice #:_____ Vendor Name:_____

P. O. #:_____ Driver Name: _____ Signature*: _____
*By signing this form the Driver is acknowledging that he/she will comply with best-practice spill control protocols and guidelines on the Vendor Disclosure Notice.

Date:_____ Check In Time:_____ a.m./p.m. Check Out Time:_____ a.m./p.m.

Substance Delivering: _____ Delivery Location: _____

- ☐ Checked area for recently spilled oil or fuel before, during, and after the transfer operations.
- ☐ Checked transfer line connections prior to beginning transfer operations.
- ☐ Checked liquid level in each tank prior to beginning transfer operations.
- ☐ Ensured the brakes of the tank truck are set and the wheels are blocked to avoid movement.
- ☐ Attached grounding equipment.
- ☐ Ensure spill containment equipment is present.
- ☐ Checked secondary containment structure is sealed.

Indicate which of the following methods were used to prevent tank overfill (check ALL that apply):

- ☐ High level shut-off to prevent further filling of the tank.
- ☐ High level alarm or signal to warn of rising liquid level in tank (e.g., audible siren).
- ☐ Continuous manual tank gauging.

- ☐ Ensured the transfer hoses are empty prior to disconnection.
- ☐ Sealed all facility piping connection points with cap or blank/flanged.
- ☐ Checked connection points on the tanker truck prior to departure from site.

Did a release occur? _____**

IF A RELEASE OCCURS, NOTIFY NHSI PERSONNEL IMMEDIATELY.

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VENDOR DISCLOSURE NOTICE

While on the NHSI property, all petroleum transferring operations should be conducted in a manner that would prevent a release of oil to the environment. It is the responsibility of the vendor to follow and complete the provided checklist during each visit to the NHSI facility. It is the responsibility of the vendor to obtain the spill kit location nearest to their area of operation from NHSI personnel prior to performing any oil transferring operations. In the event a release to the environment should occur, the vendor must immediately notify NHSI personnel and wait for further instruction before implementing any spill response actions.

Please contact: Michael Clark 970-878-3674, 25 (office)

830-613-0435 (cell)

-or- Main Office 830-693-3574

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Appendix E1: STI SP001 AST Record

OWNER INFORMATION	FACILITY INFORMATION	INSTALLERINFORMATION
Name	Name	Name
Number and Street	Number and Street	Number and Street
City, State, Zip Code	City, State, Zip Code	City, State, Zip Code

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____ ☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current)Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: _____ Type: _____

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

	Document Title	NSHI SPCCP--Appendix E1--STI-SP001 AST Record					
Doc #	E 260 E1-R	Revision Date	08/09/2013	Revision	1	Status	Released
Document Owner		Clark, Michael					

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____ ☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current)Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____ ☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current)Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

	Document Title	NSHI SPCCP--Appendix E1--STI-SP001 AST Record					
Doc #	E 260 E1-R	Revision Date	08/09/2013	Revision	1	Status	Released
Document Owner		Clark, Michael					

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____ ☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____ ☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current) Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

	Document Title	NSHI SPCCP--Appendix E1--STI-SP001 AST Record					
Doc #	E 260 E1-R	Revision Date	08/09/2013	Revision	1	Status	Released
Document Owner		Clark, Michael					

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
☐ API _____ ☐ Other _____ ☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (Check one: A. ☐ Galvanic or B. ☐ Impressed Current)Date Installed: _____
☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass☐ Other
☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

TANK ID _____

SPECIFICATION:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular
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Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other _____

CRDM: ☐ Date Installed: Type:

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

Appendix E2: STI SP001 Monthly Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Tanks Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Upon discovery of water in the primary tank, secondary containment area, interstice, or spill container, remove promptly or take other corrective action. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- **In the event of severe weather (snow, ice, wind storms) or maintenance (such as painting) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.**

Item	Task	Status	Comments
1.0 Tank Containment			
1.1 Containment structure	Check for water, debris, cracks or fire hazard	☐Yes* ☐No ☐N/A	
1.2 Primary tank	Check for water	☐Yes* ☐No	
1.3 Containment drain valves	Operable and in a closed position	☐Yes ☐No* ☐N/A	
1.4 Pathways and entry	Clear and gates/doors operable	☐Yes ☐No* ☐N/A	
2.0 Leak Detection			
2.1 Tank	Visible signs of leakage	☐Yes* ☐No	

Item	Task	Status	Comments
2.2 Secondary Containment	Visible signs of leakage from tank into secondary containment	Yes* No	
2.3 Surrounding soil	Visible signs of leakage	Yes* No N/A	
2.4 Interstice	Visible signs of leakage	Yes* No N/A	
3.0 Tank Equipment			
3.1 Valves	a. Check for leaks.	Yes* No N/A	
	b. Tank drain valves must be kept locked.	Yes* No N/A	
3.2 Spill containment boxes on fill pipe	a. Inspect for debris, residue, and water in the box and remove.	Yes* No N/A	
	b. Drain valves must be operable and closed.	Yes* No N/A	
3.3 Liquid level equipment	a. Both visual and mechanical devices must be inspected for physical damage.	Yes No* N/A	
	b. Check that the device is easily readable	Yes No* N/A	
3.4Overfill equipment	a. If equipped with a "test" button, activate the audible horn or light to confirm operation. This could be battery powered. Replace the battery if needed	Yes No* N/A	
	b. If overfill valve is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.	Yes No* N/A	

	Document Title	NSHI SPCCP--Appendix E2--STI-SP001 Monthly Inspection Checklist					
Doc #	E 260 E2-R	Revision Date	08/09/2013	Revision	1	Status	Released
Document Owner		Clark, Michael					

Item	Task	Status	Comments
3.5 Piping, valve, seals, flanges, gaskets, joints, and fittings	Check for leaks, corrosion and damage	Yes* ☐ No	
3.6 Piping supports	Check for corrosion or damage	☐ Yes* No	
3.7 Vehicle Protection	Signs or barriers present?	Yes* ☐ No	
3.8 Out of service piping	Capped or blank-flanged?	☐ Yes* ☐ No	
4.0 Tank Attachments and Appurtenances			
4.1 Ladder and platform structure	Secure with no sign of severe corrosion or damage?	Yes ☐ No* ☐ N/A	
5.0 Other Conditions			
5.1 Are there other conditions that should be addressed for continued safe operation or that may affect the site spill prevention plan?		Yes* No	

Additional Comments:

Appendix E3: STI SP001 Annual Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Tanks Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Remove promptly upon discovery standing water or liquid in the primary tank, secondary containment area, interstice, or spill container. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- In order to comply with EPA SPCC (Spill Prevention, Control and Countermeasure) rules, a facility must regularly test liquid level sensing devices to ensure proper operation (40 CFR 112.8(c)(8)(v)).
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- Complete this checklist on an annual basis supplemental to the owner monthly-performed inspection checklists.
- **Note: If a change has occurred to the tank system or containment that may affect the SPCC plan, the condition should be evaluated against the current plan requirement by a Professional Engineer knowledgeable in SPCC development and implementation.**

Item	Task	Status	Comments
1.0 Tank Containment			
1.1 Containment structure	Check for: • Holes or cracks in containment wall or floor • Washout • Liner degradation • Corrosion • Leakage • Paint failure • Tank settling	☐Yes* ☐No ☐N/A	

Item	Task	Status	Comments
2.0 Tank Foundation and Supports			
2.1 Foundation	Settlement or foundation washout?	Yes* No	
2.2 Concrete pad or ring wall	Cracking or spalling?	Yes* No N/A	
2.3 Supports	Check for corrosion, paint failure, etc.	Yes* No N/A	
2.4 Water drainage	Water drains away from tank?	Yes No* N/A	
2.5 Tank grounding	Strap secured and in good condition?	Yes No* N/A	
3.0 Cathodic Protection			
3.1 Gavlvanic cathodic protection system	Confirm system is functional, includes the wire connections for galvanic systems	Yes No* N/A	
3.2 Impressed current system	a. Inspect the operational components (power switch, meters, and alarms).	Yes No* N/A	
	b. Record hour meter, ammeter and voltmeter readings.	Yes No* N/A	
4.0 Tank Shell, Heads, Roof			
4.1 Coating	Check for coating failure	Yes* No	
4.2Steel condition	Check for: • Dents • Buckling • Bulging • Corrosion • Cracking	Yes* No	
4.3 Roof slope	Check for low points and standing water	Yes* No N/A	

Item	Task	Status	Comments
5.0 Tank Equipment			
5.1 Vents	Verify that components are moving freely and vent passageways are not obstructed for: • Emergency vent covers • Pressure/vacuum vent poppets • Other moving vent components	Yes* No	
5.2 Valves	Check thecondition of all valves for leaks, corrosion and damage.	Yes* No	
5.2.1 Anti-siphon, check and gate valves	Cycle the valve open and closed and check for proper operation.	Yes No* N/A	
5.2.2 Pressure regulator valve	Check for proper operation. (Note that there may be small, 1/4 inch drain plugs in the bottom of the valve that are not visible by looking from above only)	Yes No* N/A	
5.2.3 Expansion relief valve	Check that the valve is in the proper orientation. (Note that fuel must be discharged back to the tank via a separate pipe or tubing.)	Yes No* N/A	
5.2.4 Solenoid valves	Cycle power to valve to check operation. (Electrical solenoids can be verified by listening to the plunger opening and closing. If no audible	Yes No* N/A	

Item	Task	Status	Comments
	confirmation, the valve should be inspected for the presence and operation of the plunger.)		
5.2.5 Fire and shear valves	a. Manually cycle the valve to ensure components are moving freely and that the valve handle or lever has clearance to allow valve to close completely.	☐Yes ☐No* ☐N/A	
	b. Valves must not be wired in open position.	☐Yes ☐No* ☐N/A	
	c. Make sure fusible element is in place and correctly positioned.	☐Yes ☐No* ☐N/A	
	d. Be sure test ports are sealed with plug after testing is complete and no temporary test fixture or component remains connected to valve.	☐Yes ☐No* ☐N/A	
5.3 Interstitial leak detection equipment	Check condition of equipment, including: • The window is clean and clear in sight leak gauges. • The wire connections of electronic gauges for tightness and corrosion • Activate the test button, if applicable.	☐Yes ☐No*☐N/A	

Item	Task	Status	Comments
5.4 Spill containment boxes on fill pipe	a. If corrosion, damage, or wear has compromised the ability of the unit to perform spill containment functions, replace the unit.	Yes* No N/A	
	b. Inspect the connections to the AST for tightness, as well as the bolts, nuts, washers for condition and replace if necessary.	Yes* No N/A	
	c. Drain valves must be operable and closed	Yes* No N/A	
5.5 Strainer	a. Check that the strainer is clean and in good condition.	Yes No* N/A	
5.5 Strainer	b. Access strainer basket and check cap and gasket seal as well as bolts.	Yes No* N/A	
5.6 Filter	a. Check that the filter is in good condition and is within the manufacturer's expected service life. Replace, if necessary.	Yes No* N/A	
	b. Check for leaks and decreased fuel flow	Yes No* N/A	
5.7 Flame arrestors	Follow manufacturer's instructions. Check for corrosion and blockage of air passages.	Yes* No N/A	

Item	Task	Status	Comments
5.8 Leak detector for submersible pump systems	Test according to manufacturer's instructions and authority having jurisdiction (AHJ). Verify leak detectors are suited and properly installed for aboveground use.	☐ Yes ☐ No* ☐ N/A	
5.9 Liquid level equipment	a. Has equipment been tested to ensure proper operation?	☐ Yes ☐ No* ☐ N/A	
	b. Does equipment operate as required?	☐ Yes ☐ No* ☐ N/A	
	c. Follow manufacturer's instructions	☐ Yes ☐ No* ☐ N/A	
5.10 Overfill equipment	a. Follow manufacturer's instructions and regulatory requirements for inspection and functionality verification.	☐ Yes ☐ No* ☐ N/A	
	b. Confirm device is suited for above ground use by the manufacturer	☐ Yes ☐ No* ☐ N/A	
6.0 Insulated Tanks			
6.1 Insulation	Check condition of insulation for: • Missing sections • Areas of moisture • Mold • Damage	☐ Yes* ☐ No ☐ N/A	
6.2 Insulation cover or jacket	Check for damage that will allow water intrusion	☐ Yes* ☐ No ☐ N/A	

Item	Task	Status	Comments
7.0 Miscellaneous			
7.1 Electrical wiring and boxes	Are they in good condition?	☐Yes ☐No* ☐N/A	
7.2 Labels and tags	Ensure that all labels and tags are intact and readable.	☐Yes ☐No* ☐N/A	

Additional Comments:

Appendix E4: STI SP001 Portable Container Monthly Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Containers Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.

Item	Area: _____	Area: _____	Area: _____	Area: _____
1.0 AST Containment/Storage Area				
1.1 ASTs within designated storage area?	☐Yes ☐No*	☐Yes ☐No*	☐Yes ☐No*	☐Yes ☐No*
1.2 Debris, spills, or other fire hazards in containment or storage area?	☐Yes* ☐No	☐Yes* ☐No	☐Yes* ☐No	☐Yes* ☐No
1.3 Water in outdoor secondary containment?	☐Yes* ☐No	☐Yes* ☐No	☐Yes* ☐No	☐Yes* ☐No
1.4 Drain valves operable and in a closed position?	☐Yes ☐No*	☐Yes* ☐No	☐Yes* ☐No	☐Yes* ☐No
1.5 Egress pathways clear and gates/doors operable?	☐Yes ☐No*	☐Yes* ☐No	☐Yes* ☐No	☐Yes* ☐No

	Document Title	NSHI SPCCP--Appendix E4--STI-SP001 Portable Container Monthly Inspection Checklist					
Doc #	E 260 E4-R	Revision Date	08/09/2013	Revision	1	Status	Released
Document Owner		Clark, Michael					

Item	Area: _____	Area: _____	Area: _____	Area: _____
2.0 Leak Detection				
2.1 Visible signs of leakage around the container or storage area?	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No
3.0 Container				
3.0 Noticeable container distortions, buckling, denting or bulging?	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No

Comments:

	Document Title	NSHI SPCCP--Appendix F--Drainage Release Form					
Doc #	E 260 F-R	Revision Date	08/09/2013	Revision	1	Status	Released
Document Owner		Clark, Michael					

Appendix F: Record of Secondary Containment Drainage

This record must be completed when rainwater is pumped or discharged from secondary containment **to the ground**.

Date	Time	Oil Present (Y or N)	Quantity Removed (gal)	Comments (weather, activity, etc.)	Signature

Appendix G: Substantial Harm Determination

Facility Name: _____

Facility Address: _____

_____

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ☐ No ☐

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?

Yes ☐ No ☐

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes ☐ No ☐

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

Yes ☐ No ☐

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes ☐ No ☐

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Name:_____ Title:_____

_____ Date:_____

Signature

Appendix H: Secondary Containment Structure Volume Determination

The Secondary Containment structure is designed to enclose all operating equipment, including all flow and gathering pipes, storage tanks, and process flow-through equipment. The structure is also designed to provide storage for totes and barrels of oils and operating fluids. The structure will also fully accommodate bulk loading and unloading.

PROCESS
ENGINEERING INTERNATIONAL, LLC
Excellence in Applied Chemical Engineering

Calculation of Natural Soda, Inc. OSR Secondary Containment Sump Volume

Basis:

1. Outisde dimensions of Secondary Containment are 100 feet wide by 100 feet long (reference sketch titled "Secondary Containment Layout," Rev. A, 08/10/13.

2. Requirement for sump volume is that it must be sufficiently large to contain the rainfall from a 25 year, 24 hour rainfall event PLUS the volume of the largest vessel (either permanent or temporary) inside the containment. The rainfall from a 25 year, 24 hour rainfall event for the site location is 2.2 inches (reference information provided by Natural Soda, Inc. in email dated 08/05/13). A rainfall total of 3.0 inches will be used as the basis for this calculation.

3. For the purposes of this calculation, the largest vessel expected inside this containment is assumed to be a 6,500 gallon tanker trailer. This is larger than the maximum process vessel size of 5,000 gallons (reference the Preliminary Equipment List, Rev. 2 for V-005 Hydrocarbon Storage Tank dimensions giving 5,000 gallons volume for this vessel).

Calculations:

1. Sump volume required for rainfall event:

(100 feet) x (100 feet) x (3.0/12 feet) x (7.48 gallons/cubic foot) = 18,700 gallons for precipitation

2. Actual sump volume as shown in Secondary Containment Layout:

(92 feet) x (16 feet) x (2.5 feet) x (7.48 gallons/cubic foot) = 27,526 gallons actual sump volume

3. Volume of sump available for holding contents of largest vessel inside containment:

(27,526 gallons) – (18,700 gallons) =8,826 gallons

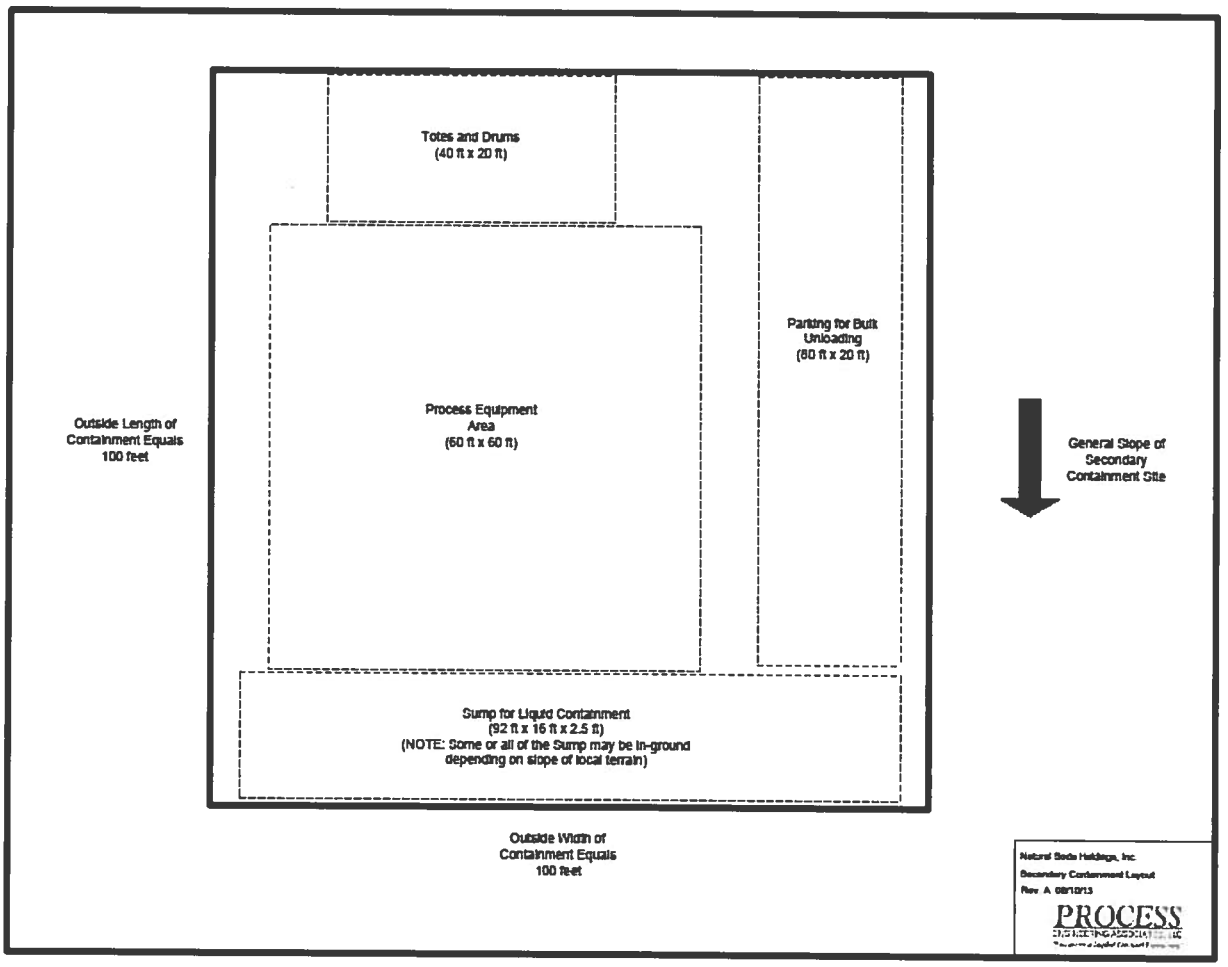
4. 8,826 gallons (sump volume available after rainfall event) > 6,500 gallons (size of largest vessel)

Conclusion:

The sump dimensions shown on the Secondary Containment Layout meet the volume requirement.

Secondary Containment Structure

- Sump designed to contain spill from largest mobile vessel (bulk loading truck, 6500 gal) which will also contain largest fixed vessel (5,000 gal oil storage).
- Process Equipment Area is located upslope from Sump
- Totes and Drum storage located upslope from Sump
- Bulk Loading and Unloading is located upslope from Sump
- Upslope end of structure has no berm, allowing access to operations by mobile equipment
- Sides of structure will be of sufficient height to provide diversion of potential spill to Sump
- Sides of structure will be of earthen materials sufficient to contain spill until cleanup
- Down-slope end of structure will be of earthen materials sufficient to contain spill until cleanup



Appendix I: SPCCP REVIEW AND AMENDMENT LOG

As mandated by 40 CFR 112.5, amendments to the NSHI SPCCP will occur "when there is a change in facility design, construction, operation, or maintenance that materially affects its potential for a discharge." In addition, a complete review of the NHSI SPCCP will occur at least once every five years. Review and revision of the SPCCP will be completed by the Business Support and Sustainability Manager.

Any modifications deemed necessary to the SPCC plan will be implemented within six months of the review. Technical amendments to the SPCC plan (i.e., storage equipment modifications, procedural or operational changes, etc.) will necessitate recertification by a licensed Professional Engineer. Documentation of reviews completed, amendments made and Professional Engineer recertification shall be recorded in the following log:

Date	Reviewer Name and Title	Changes (if any)	Actions needed (if any)	PE Cert./Date or n/a