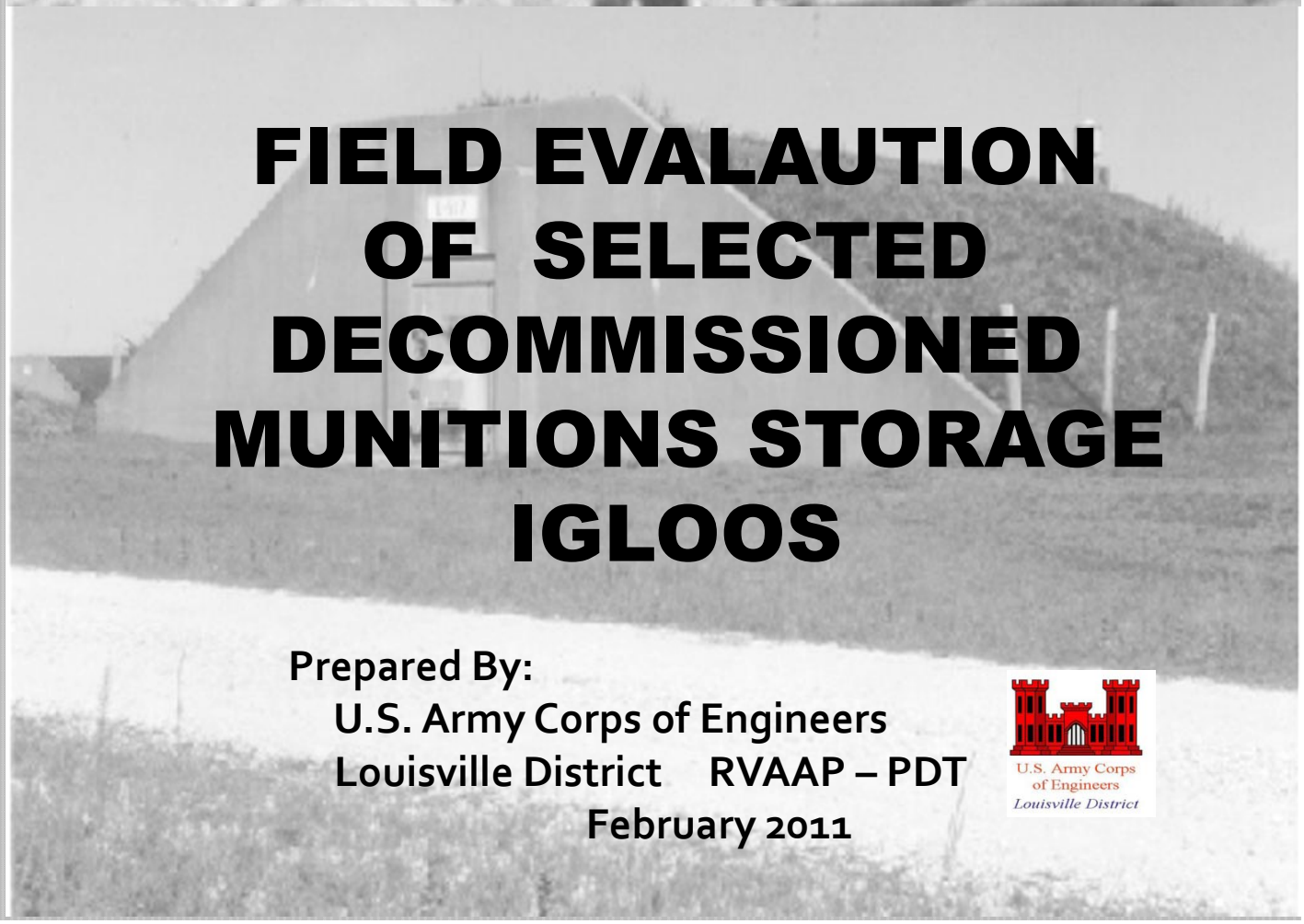


RAVENNA ARMY AMMUNITION PLANT

23 – 26 NOVEMBER 2010



FIELD EVALAUTION OF SELECTED DECOMMISSIONED MUNITIONS STORAGE IGLOOS

Prepared By:

U.S. Army Corps of Engineers

Louisville District RVAAP – PDT

February 2011

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I. RATIONALE MEMORANDUM FOR SELECTION OF HIGH PRIORITY IGLOOS FOR SAMPLING

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
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21JUNE 2011

CELRL-ED-E

MEMORANDUM FOR Commander, Ravenna Army Ammunition Plant
ATTN: Mr. Mark Patterson, Ravenna Army Ammunition Plant, 8451 State Route 5, Bldg. 1037
Ravenna, Ohio 44266

SUBJECT: Rationale for Selection of High Priority Igloos to Sample

This technical memorandum is developed to present the rationale for selection of High Priority Igloos to collect environmental samples from at the Ravenna Army Ammunition Plant. Priority igloo areas were identified as those igloos that are currently being utilized or are planned to be utilized by the OHARNG in the near future. As stated in the Technical Memorandum with Subject: Initial Assessment of High Priority Igloos (USACE 26 October 2010); the igloos were grouped together into sampling units based upon their proximity to each other. There are no more than 4 igloos in each grouping. One igloo with the highest probability of contamination from each group will be sampled. It stated the selection would be based on historical usage, documented spills or releases, documented igloo repairs, and a visual inspection of the igloos. This Technical memorandum presents the subsequent findings and selects which igloos are planned to be sampled.

Property Cards and Ammunition Transfer Records (ATR) were reviewed to find any documented spills, releases, and repairs and to find what was historically stored in the high priority igloos. Text about documented igloo spills, releases, and repairs were not found. The ATRs did however reveal some information about what was stored in some of the high priority igloos. Table 1 presents the findings from the ATRs and historical knowledge about what was or is being stored in Igloos as well as those currently being used by the in-house contractor PIKA. The ATR logs where the majority of the historical field data information was found are included as Attachment A.

A visual inspection of all high priority igloos except those that were not grouped based on proximity was completed over a period of time beginning 23 November 2010 and ending 27 April 2011. Some high priority igloos were not accessible for interior inspections. Table 2 presents a summary of the findings from these inspections. The completed inspection forms and photographs taken during inspections are included as Attachment B.

Based on the historical usage and visual inspections of the high priority igloos, the igloo with the highest probability of contamination from each group was selected for sampling. Items that may indicate a higher probability of being contaminated are; the presence of moisture in the igloo since that moisture could leak out the scuppers and onto the soil outside the igloos, the presence of wildlife since this could mean there is a conduit for the wildlife to access the igloo which could also be a pathway for contamination to spread, headwall separation from the rest of the

igloo structure which could mean contamination escaping through the separations, the presence of staining, etc. The rationale for selection is presented in Table 3.

The historical usage and visual inspections are also used to select which igloo samples will have full suite analysis and to have a blind duplicate and field duplicate sample collected as required. The three igloos selected are 1C5 due to the unique staining on the interior floor, Q133 due to the solvent smell, and 7C3 due to the excessive moisture present in the igloo.

Please review the proposed rationale for selection of High Priority Igloos for Environmental Sampling. If you have any questions or comments, please feel free to contact me at 502-315-6393.

Sincerely,

U.S. Army Corps of Engineers LRL

Derek Kinder, PE

17 June 2011

II. RECORD OF INDEPENDENT TECHNICAL REVIEW

STATEMENT OF INDEPENDENT TECHNICAL REVIEW

U.S. Army Corps of Engineers has completed the preparation of the Memorandum Subject: Rational for Selection of High Priority Igloos to Sample for the Ravenna Army Ammunition Plant. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project, as defined in the Quality Control Plan. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing Corps policy.



Study/Design Team Leader Date

Significant concerns and the explanation of the resolution are as follows: None



Independent Technical Review Team Leader Date

TABLE 1.

RVAAP – PAST & CURRENT STORAGE RECORDS

TABLE 1

RAVENNA ARMY AMMUNITION PLANT
PAST STORAGE HISTORY OF CURRENT HIGH PRIORITY IGLOOS

Site	Igloo Designations	Reported Use and Future Use	Past Storage
B Block	6B1 thru 6B4	Tornado Shelter	No Record Found
	7B1	Tornado Shelter	7B1 Nitroguanadine
	7B2, 7B3, and 7B4	Tornado Shelter	No Record Found
C Block	1C1 thru 1C7	Tornado Shelter	No Record Found
	3C7	RTI	No Record Found
	3C10 thru 3C12	BATF	No Record Found
	3C14	RTI	No Record Found
	6C1 thru 6C5	Future ASP	No Record Found
	7C1 thru 7C4	Used by PIKA	OD Initiating Materiel
D Block	6D1	Used for M19 Range	No Record Found
	7D6 thru 7D11	Temporary Unit Storage	No Record Found
	5D1	Tornado Shelter	No Record Found
	5D2	Museum storage	No Record Found
	3D1 and 3D2	Tornado Shelter	No Record Found
	7D1 thru 7D3	Tornado Shelter	No Record Found
Group 1 and 1A Magazines	F37	Scheduled for demolition FY12 for construction of modified Record Range	No Record Found
	J-66 and J-67	Potential Demo for Line - of-Sight SA Range Training	J-67 Comp A5
	K-75 and K-76	Potential Demo for Line - of-Sight SA Range Training	K-75 and K-76 Comp B
	L-84 and L-85	Potential Demo for Line - of-Sight SA Range Training	L-84 and L-85 Comp B
	Q128 and Q139	Tornado Shelter	No Record Found
	P117 thru P127	Tornado Shelter	P117, P118, P121, P122, PP125, P126 Comp B
Group 7 Igloos	HA305 and HA306	Tornado Shelter	No Record Found
	HB311 and HB312	Tornado Shelter	No Record Found

TABLE 2.

RVAAP – IGLOOS' SYNOPSIS

FIELD INSPECTION FINDINGS

RAVENNA ARMY AMMUNITION PLANT SELECT STORAGE IGLOO
SITE EVALUATION NOVEMBER -2010 THRU APRIL 2011

TABLE 2.

Storage Grp Area	Storage Igloo I.D.	Proposed Use	Mode of Access	Inspection Date	Remarks
B-BLOCK	6-B-1	Tornado Shelter	Road	26-Nov-10	Unlocked, clean/dry, ditchline flowage is south w/ culverts; both type drainage vents on ext.
	6-B-2	Tornado Shelter	Road	26-Nov-10	Unlocked, water in south interior scupper, ditchline flowage is south no culverts; interior arch & wall separation; both type drainage vents on ext.
	6-B-3	Tornado Shelter	Road	26-Nov-10	Unlocked, water in SE & NE interior scuppers, ditchline flowage is south w/ culverts; interior arch & wall minor separation; both type drainage vents on ext.
	6-B-4	Tornado Shelter	Road	26-Nov-10	Unlocked, water in SE & NE interior scuppers, ditchline flowage is south w/ culverts; interior arch & wall minor separation - Same as 6-B-3 interior conditions; both type drainage vents on ext.
	7-B-1	Tornado Shelter	Road	26-Nov-10	Unlocked, clean/dry, ditchline flowage is south - a culvert > 70ft (@85ft) downstream of igloo; both type drainage vents on ext.
	7-B-2	Tornado Shelter	Road	26-Nov-10	Unlocked, water in east interior scupper, ditchline flowage is north and no culverts; interior arch & wall separation; both type drainage vents on ext.
	7-B-3	Tornado Shelter	Road	26-Nov-10	Unlocked, water in east interior scupper; interior arch & wall separation. Ditchline flowage is south w/ culverts each 70-ft reach fm/ igloo;
	7-B-4	Tornado Shelter	Road	26-Nov-10	No lock, exterior headwall cracks; interior NE arch & headwall separation w/ rebar exposed - No culverts either side; both type drainage vents on ext.
------C-BLOCK	1C-1	Tornado Shelter	Road	23-Nov-10	Unlocked, clean/dry, ditchline flowage is south; no culverts; "Severe Weather Shelter" signage on exterior; both type drainage vents on ext.
	1C-2	Tornado Shelter	Road	23-Nov-10	Unlocked, clean/dry, ditchline flowage is south; no culverts; "Severe Weather Shelter" signage on exterior; both type drainage vents on ext.
	1C-3	Tornado Shelter	Road	10-Mar-11	Was not inspected 23NOV10 due to time constraints - Revisited 10MAR11 Exterior: Unlocked, no culverts w/ south drainage, both floor & toe drain vents present, no apparent hdwall-barrel separation. Interior: water along floor-hdwall seam, water in south scupper, hdwall-arch separated w/ concrete fallen on floor, north scupper dry
	1C-4	Tornado Shelter	Road	10-Mar-11	Was not inspected 23NOV10 due to time constraints - Revisited 10MAR11 Exterior: Unlocked, no culverts w/ north drainage, hdwall-face shows calcined cracking, both floor & toe drain vents presents, no apparent hdwall-barrel separation. Interior: N-S scuppers dry; water-moisture on hdwall originating fm/ hdwall-arch seam - NE & SE corners are wet.
	1C-5	Tornado Shelter	Road	10-Mar-11	Was not inspected 23NOV10 due to time constraints - Revisited 10MAR11 Exterior: Unlocked, no culverts, both floor & toe drain vents present, no apparent hdwall-barrel separation; hdwall-face shows calcined cracking; drainage path southerly. Interior: Hdwall-arch separation w/ fallen concrete on floor water coming fm seam to NE & SE corners collecting water; northeast corner section (see photo) of floor has a red tinge; scuppers dry except at arch-hdwall area; vent on west wall shows minor leakage down wall
	1C-6	Tornado Shelter	Road	23-NOV-10 10-Mar-11 27-APR-11	Was not inspected 23NOV10 due to time constraints - Revisited 10MAR11 EXTERIOR: Unlocked, no culverts, both floor & toe drain vents present, no apparent hdwall-barrel separation; hdwall facing shows significant crackign fm/ past patchwork. Returned 27APR11 to take exterior photos; overlooked during 10MAR11 visit INTERIOR: hdwall-arch seam shows noticeable water seepage accumulation onto floor - west wall has a significant amount of water seepage w/ same water accumulating on floor surface; all 4 inter. cornrs contain water fm leaks; midway north wall shows seam crack with minor water seepage
	1C-7	Tornado Shelter	Road	10-Mar-11	Was not inspected 23NOV10 due to time constraints - Revisited 10MAR11 Exterior: Unlocked, no culverts w/ a south and west surface drainage, both floor & toe drain vents present, no apparent hdwall-barrel separation; barrel top extensively briar covered. Interior: Definite water seepage onto floor fm/ hdwall-arch seam AND center ceiling seam opened w/ water flowing down both side walls ; west wall shows water seepage accumulating water puddles; N&S scuppers contain water; all four corners contain water & north wall mid-way showing seam leak
	3C-8	Physical Representative for 3C-10 thru 12 Being Inaccessible	Road	23-Nov-10	Inspected - Not on original list but, used to represent as interior example due to 3C-10 thru -12 inaccessible. 3C-8 located 100-ft north of MW-0022-CBL & west of AOC C-Block Quarry RVAAP-06 - Interiro clean & dry.
	3C-10	Bureau ATF	Road	23-Nov-10	Exterior inspected only; Double locked by other agency; both type drainage vents on ext. no culverts
	3C-11	Bureau ATF	Road	23-Nov-10	Exterior inspected only; Double locked by other agency; both type drainage vents on ext. no culverts
	3C-12	Bureau ATF	Road	23-Nov-10	Exterior inspected only; Double locked by other agency; both type drainage vents on ext. no culverts
	3C-14	OHARNG RTI	Road	27-Apr-11	inspected by E.S. Cheng & G. Moore - 27APR11 EXTERIOR Only due to OGA lock secured to door inaccessible with BRAC-D keys. Exterior inspection with headwall showing some minor calcine surfical cracks on the south wing. No obvious headwall - barrel seam separation.
------ C-BLOCK	6C-1	Future ASP	Road	23-Nov-10	Igloo ext. brush-hogged; culverts w/ flow south; UNDERGROUND ELECTRIC RUN TO EXT. HDWALL; both type drainage vents on ext. no culverts; interior dry; door unlocked
	6C-2	Future ASP	Road	23-Nov-10	Igloo ext. brush-hogged; culverts w/ flow south; UNDERGROUND ELECTRIC RUN TO EXT. HDWALL; both type drainage vents on ext. no culverts; interior dry w/ northeast corner stain-spots-paper & wood; found 5 small arms casings on floordoor unlocked
	6C-3	Future ASP	Road	23-Nov-10	Igloo ext. brush-hogged; culverts w/ flow south; UNDERGROUND ELECTRIC RUN TO EXT. HDWALL; only floor drainage vents on ext.; no culverts; door unlocked
	6C-4	Future ASP	Road	23-Nov-10	Igloo ext. brush-hogged; culverts w/ flow south; UNDERGROUND ELECTRIC RUN TO EXT. HDWALL; both type drainage vents on ext. no culverts; door unlocked; rodent nest blocking int. drain; standing water in south ditchline caused by hvy equipment vehicle crossing.
	6C-5	Future ASP	Road	23-Nov-10	Igloo ext. brush-hogged; culverts w/ flow south; UNDERGROUND ELECTRIC RUN TO EXT. HDWALL; both type drainage vents on ext. no culverts; door unlocked
	7C-1	PIKA/BRAC-D	Road	11/23/2010 27-APR-11	Exterior inspected only; locked secured by other agency; Barrel toe drainage vent only on ext. no culverts -- Note: BRAC-D still owns igloos - Was originally not to be included on sampling program and then change in venue now has it as part of the sampling evaluation process. Igloo revisited 27APR'11 by LRL's E.S. Cheng and G. Moore. INTERIOR: Headwall-arch seam shows some partitioning based on earlier patch-material separating from the seam; moisture found on floor in the rear part of the room believed to be coming from cracks within the arch roof and walls. Scuppers are relatively dry except around the moist floor areas. No dunnage on floor.

RAVENNA ARMY AMMUNITION PLANT SELECT STORAGE IGLOO
SITE EVALUATION NOVEMBER -2010 THRU APRIL 2011

TABLE 2.

Storage Grp Area	Storage Igloo I.D.	Proposed Use	Mode of Access	Inspection Date	Remarks
C-BLOCK	7C-2	PIKA/BRAC-D	Road	24-NOV-10 27-APR-11	Did not inspect - BRAC-D still owns igloos - Not to be included on sampling program AOF 24NOV'10. Change in venue now has it as part of the sampling evaluation process. Igloo revisited 27APR'11 by LRL's E.S. Cheng and G. Moore. EXTERIOR: Hdwall in good shape; no apparent hdwall-barrel separation; both floor & toe drain vents present; no culverts present in the ditchline with surface drainage flowing south. Vent fixture has been altered/repaired with insertion of a seal blocking any air exchange between igloo exterior and ambient air. INTERIOR: Crack along the entire headwall-barrel seam; scuppers contain water with significant moisture/water seepage quite apparent emanating fm/ floors, walls, & headwall
	7C-3	PIKA/BRAC-D	Road	24-NOV-10 27-APR-11	Did not inspect - BRAC-D still owns igloos - Not to be included on sampling program AOF 24NOV'10. Change in venue now has it as part of the sampling evaluation process. Igloo revisited 27APR'11 by LRL's E.S. Cheng and G. Moore. EXTERIOR: Hdwall in relatively good shape with some surficial patchwork; an "EXPLOSIVES 1" hexagonal placard on igloo door; 3ea. 55-gal. drums of unknown contents w/ lids and unmarked staged north of the entrance stoop; no apparent hdwall-barrel separation; both floor & toe drain vents present; no culverts present in the ditchline with surface drainage flowing south. Vent fixture has been altered/repaired with insertion of a seal and a plastic-bag completing covering the vent fixture blocking any air exchange between igloo interior and ambient air. INTERIOR: This igloo is being used by BRAC-D contractors for the storage of 105MM tracer elements palletized within Gilroy cardboard boxes; 15 boxes of tracer elements present in the igloo inclusive with 4 boxes on the north wall one of which has deteriorated from the moisture conditions caused by significant moisture/water seepage emanating fm/ floors, walls, & headwall with walls sweating with moisture (no ventilation); water in scuppers.
	7C-4	PIKA/BRAC-D	Road	24-NOV-10 27-APR-11	Did not inspect - BRAC-D still owns igloos - Not to be included on sampling program AOF 24NOV'10. Change in venue now has it as part of the sampling evaluation process. Igloo revisited 27APR'11 by LRL's E.S. Cheng and G. Moore. EXTERIOR: Hdwall in relatively good shape with some surficial patchwork; an "EXPLOSIVES 1" hexagonal placard on igloo door; wood frame partially covered in visqueen plastic; no apparent hdwall-barrel separation; both floor & toe drain vents present; no culverts present in the ditchline with surface drainage flowing south. Vent fixture has been altered/repaired with insertion of a seal and a plastic-bag completely covering (same as Igloo 7C-3) the vent fixture blocking any air exchange between igloo interior and ambient air. INTERIOR: Igloo is being used by PIKA as storage site for collected UXOs being generated from the Rocket Ridge cleanup project in ODA2. There are 33 wooden ammunition boxes of collected UXO artifacts plus one large cardboard box of 90MM brass artillery casings (primer fired sans projectile). Interior relatively dry w/ hdwall arch seam showing calcine deposition result of weeping; head wall has pronounced surface cracking but water seepage entering; scuppers are dry; numerous patch repair work from past with some calcine striation.
D-BLOCK	3D-1	Tornado Shelter	Road	26-Nov-10	"Severe Weather Shelter" signage posted on wall w/ "Tornado Shelter" stenciled on headwall - door closed but, unsecured w/ lock on hasp - Both type drains present; interior dry apparent past-use as storage for straw bales - no culverts
	3D-2	Tornado Shelter	Road	26-Nov-10	"Severe Weather Shelter" signage posted on wall w/ "Tornado Shelter" stenciled on headwall - door closed but, unsecured w/ lock on hasp - Both type drains present; interior apparent dry - no culverts
	5D-1	Tornado Shelter	Road	26-Nov-10	"Severe Weather Shelter" signage posted on headwall - door closed but, unsecured w/ lock on hasp - Both type drains present w/ north drain showing moisture - no culverts - used for finished lumber storage; interior N-wall arch crack w/ leakage & NE corner arch-hdwall show seepage into south scupper - sth scupper dry - moist spot in SE crner although no water in scupper
	5D-2	Museum Storage	Road	26-Nov-10	OGA lock on door (presume OHARNG); interior inaccessible; both type drain vents present; culverts present each side (<|= 70-ft) of igloo ditchline flowage north; no vis. ext. hdwall - barrel separation
	7D-1	Tornado Shelter	Road	26-Nov-10	Unknown OGA lock on door; interior inaccessible; both type drain vents present; culvert on east side of igloo ditchline flowage eastward
	7D-2	Tornado Shelter	Road	26-Nov-10	No ext. hdwall-barrel separation; both type drain vents present; no culverts; INTERIOR: dry w/ NE hdwall-arch seam w/ calcium deposition; storage of varied wood frames + 1-18" perforated pipe; ext. drainage towards south
	7D-3	Tornado Shelter	Road	26-Nov-10	Door unlocked; No ext. hdwall-barrel separation; only floor drain vents present; moisture apparent at bottom of drain vents; 24" culvert on n.ditchline; INTERIOR: NE & SE hdwall-arch seam w/ seepage, calcium deposition and wet spots at hdwall-floor seam; large live (non-poison) E. milksnake found in the interior.
	7D-6	Temp. Unit Storage	Road	26-Nov-10	No apparent ext. hdwall-barrel separation; only floor drain vents present; north culvert; interior dry w/ N hdwall-arch crack w/ calcification deposit;
	7D-7	Temp. Unit Storage	Road	10-Mar-11	Was not inspected 23NOV10 due to time constraints - Revisited 10MAR11 Exterior: Unlocked, no culverts w/ south drainage, both floor & toe drain vents presents, no apparent hdwall-barrel separation. Interior: Midway fm entrance N & S arch-wall seam seepage into scuppers; water seepage fm/ hdwall-arch seam w/ water collecting w/i NE and SE crnr; water in scuppers fm/ midway to where exiting into east drain.
	7D-8	Temp. Unit Storage	Road	26-Nov-10	EXTERIOR: top briar infested-no accessed; both drain vents; door unlocked; minor ext. hdwall cracks; ditchline culvert south flowage - INTERIOR: floor dry; south wall arch crack 30-ft in fm/ door w/ some water running into scupper - N. scupper dry.
	7D-9	Temp. Unit Storage	Road	26-Nov-10	Ext. top briar infested-not accessed; both type drain vents; door secured w/ BRAC lock(!!); no culverts either ditchline;drainage south; INTERIOR: clean & dry. Hdwall-arch seam intact; calcined deposit on both S.wall & N. wall but, no water seepage - scuppers dry
	7D-10	Temp. Unit Storage	Road	26-Nov-10	Ext. top briar infested-not accessed; floor drain vents only; door secured w/ BRAC lock(!!); no culverts either ditchline;drainage runs both north and south fm ext.hdwall; INTERIOR: clean & dry; south wall & NE crnr have calcined deposit but, no water seepage - scuppers dry
	7D-11	Temp. Unit Storage	Road	26-Nov-10	EXTERIOR: top briar infested-not accessed; floor drain vents only; door secured w/ BRAC lock(!!); culvert S-end ditchline;drainage runs both north and south fm ext.hdwall; only floor drain vents; INTERIOR: clean & dry;
GROUP 1	F-37	Mod. Record Range Trng	Track	26-Nov-10	EXTERIOR: No apparent ext. hdwall-barrel separation, 12-in VCT buried N to S culvert in front of igloo loading platform (stands 5-ft abve rail-bed). Ditchlines both sides hold water due to beaver activity; drainage appears N to S - both ends of ext hdwall severly deteriorated w/ rebar exposed; both drain type vents exist; INTERIOR: floor & scuppers dry but very humid; int. hdwall sweating due to no vent fixture. Executed this inspection as an alternate due to inaccessibility of J-Track igloos

TABLE 2.

Storage Grp Area	Storage Igloo I.D.	Proposed Use	Mode of Access	Inspection Date	Remarks
GROUP 1A	J-66	Line of Sight (LOS) SA Range Trng	Track	11/26/2010 08-Mar-11 27-APR-11	Was not inspected 26NOV10 due to inaccessibility w beaver pond on south end and downed trees over railroad bed on north end - Revisited 08MAR11 - trees cleared on north end. Exterior: Unlocked, trees growing on north side, both floor & toe drain vents present, no apparent hdwall-barrel separation; undrgrnd 12" vcp between loading platform rail bed w/ south flowage; atypical blast vent on north section of hdwall near door. Interior: No dunnage; floor has damp (not wet) appearance w/i concrete - closed damp environment.
	J-67	Line of Sight (LOS) SA Range Trng	Track	11/26/2010 08-Mar-11	Was not inspected 26NOV10 due to inaccessibility w beaver pond on south end and downed trees over railroad bed on north end - Revisited 08MAR11 - trees cleared on north end. Exterior: Unlocked, standing water in both trackside ditches, both floor & toe drain vents present, south flr drn vent water stained; bad deterioration face of south wing wall; no apparent hdwall-barrel separation; undrgrnd 12" vcp between loading platform rail bed w/ south flowage; atypical blast vent on north wing of hdwall near door. Interior: dunnage on floor; door weather seal deteriorated w/ water around entrance way; water seepage NE crner fm/ arch-hrdwall seam; water seepage from non-typical (round/plastic-pipe lined) vent
	K-75	Line of Sight (LOS) SA Range Trng	Track	26-Nov-10	EXTERIOR: barrel -headwall inaccessible due to heavy briar growth- Both Floor & Toe Drains exist - exter. Floor drains exhibit calcined and algae stains. No buried N-S VCT Pipe within igloo-side ditchline. Ditches on both sides hold standing water - INTERIOR: floor & south scupper dry. SE corner at arch & hdwall shows calcined deposit. 27ft in fm door, north arch crack (ceiling to floor) showing seepage approx 10-ft of scupper holding water in this arch area. No dunnage present.
	K-76	Line of Sight (LOS) SA Range Trng	Track	26-Nov-10	EXTERIOR: No lock barrel -headwall inaccessible due to heavy briar growth- Both Floor & Toe Drains exist Buried N-S VCT Pipe within igloo-side ditchline w/ southerly drainage. - INTERIOR: Door warped -difficult access Walls-Arch & scuppers dry with dunnage stacked in the southeast corner.
	L-84	Line of Sight (LOS) SA Range Trng	Track	26-Nov-10	EXTERIOR: No lock; barrel -headwall accessible w/ no apparent separation- Both Floor & Toe Drains exist with large calcined overtop north floor; north wing-wall face significantly cracked and spalded - 12-inch N-S VCT Pipe within igloo-side ditchline w/ southerly drainage. - INTERIOR: Very humid, Door warped - water on floor around entrance with interior headwall sweating; headwall-barrel arch seam secure no leakage. Dunnage stacked deep on N-S-W walls and over scuppers; what is visible floor/scuppers dry except at interior of the entranceway.
GROUP 1A	L-85	Line of Sight (LOS) SA Range Trng	Track	26-Nov-10	EXTERIOR: No lock; barrel -headwall not accessible overgrown w/ briars and locust trees- Both Floor & Toe Drains exist; north wing of hdwall face has two cracks where water seepage running down wall - 12-inch N-S VCT Pipe within igloo-side ditchline w/ southernly drainage. - INTERIOR: Very humid, Door warped - water on floor around entrance with interior headwall sweating; headwall-barrel arch seam secure no leakage. Dunnage stacked deep on N-S-W walls and over scuppers; what is visible floor/scuppers dry except at interior of the entranceway.
	P-117	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No lock; barrel -headwall accessible overgrown w/ briars and maple trees - no apparent wall to barrel seam separation; headwall fair condition with some cracks on outer extremeties - Both Floor & Toe Drains exist; - 10-inch N-S VCT Pipe within igloo-side ditchline w/ southernly drainage. INTERIOR: Very humid, Door warped - water on floor around entrance with interior headwall sweating; headwall-barrel arch seam secure no leakage. Dunnage stacked deep on N-S-W walls and over scuppers; what is visible floor/scuppers dry except at interior of the entranceway.
	P-118	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No lock; barrel -headwall accessible w/ no apparent wall to barrel seam separation; major headwall deterioration south side of entrance w/ 2-3 inch deep spald along a 4-ft run both Floor & Toe Drains exist; - 10-inch N-S VCT Pipe within igloo-side ditchline w/ southernly drainage. INTERIOR: Same as other igloos on Q-track; Door warped and leaks - weather seal completely deteriorated; damp (humidity)floor with arch okay. Dunnage stacked deep on N-S-W walls and over scuppers; what is visible floor/scuppers dry except at interior of the entranceway.
	P-119	Potential Tornado Shelter	Track	24-NOV-10 08-Mar-11	EXTERIOR: No lock; toe & floor drain vents present on both-sides; igloo roof covered with maple trees and briars; no apparent headwall-barrel separation; hdwall outer surface; ungrnd 12" culvert w/ south . INTERIOR: Arch-hdwall seam severe spalding on both sides of doorway with re-bar exposed and concrete on floor around entrance; inside relatively dry, wooden dunnage stacked on N-W-S walls covering scuppers from most observable indications are dry.
	P-120	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No lock; barrel -headwall w/ briars & weed covering but, accessible w/ no apparent wall to barrel seam separation; headwall face shows calcined cracks on outer wings; buried 10-inch N-S run VCT Pipe within igloo-side ditchline w/ southernly drainage and standing water (beaver influence). Toe & floor drains present. INTERIOR: Floor & scuppers dry; arch okay w/ historical patchwork; upper arch - headwall seam shows some calification and no water. Wood dunnage stacked on areas of the floor
	P-121	Potential Tornado Shelter	Track	24-NOV-10 08-Mar-11 27APR'11	Not inspected 24NOV'10 due to time constraints; Survey revisit 08MAR'11 w/ cell camera failure on interior photos. EXTERIOR: South wing of hdwall shows some surficial cracking; facing contains floor & toe drain vents; subsurface 12" culvert w/ a southerly drainage; top of igloo overgrown in brush. INTERIOR: Relatively dry except around doorway entrance due to failed/deteriorated weatherseal; scuppers are dry; hdwall arch seam appears water tight.

RAVENNA ARMY AMMUNITION PLANT SELECT STORAGE IGLOO
SITE EVALUATION NOVEMBER -2010 THRU APRIL 2011

TABLE 2.

Storage Grp Area	Storage Igloo I.D.	Proposed Use	Mode of Access	Inspection Date	Remarks
GROUP 1A	P-122	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No lock; barrel -headwall w/ significant growth of briars & locust tree growth within the joint between headwall and barrel/arch; calcined cracks and concrete spalding showing on face of headwall; floor and toe drains exist both sides of entrance platform; buried 10-inch N-S run VCT Pipe within igloo-side ditchline w/ an uncertain northerly or southernly drainage. Further note; many of the exterior floor drain covers (up to this point) have been removed/missing; possibility is that most covers are made of brass INTERIOR: Moist to wet floor around the door way entrance; weather seal around door completely detriorated; most of the floor shows some dampness due to humidity and door seal failure. There's major spalding - concrete deterioration in the NE corner at upper arch-headwall seam. Dunnage strewn about the floor.
	P-123	Potential Tornado Shelter	Track	24-NOV-10 08-Mar-11 27APR'11	Not inspected 24NOV'10 due to time constraints; Site survey revisit 08MAR'11 w/ cell camera failure on exterior & interior photos. EXTERIOR: No lock; no separation at hdwall-barrel seam; toe & floor drain vents present both sides; typical 12" buried VCP between loading platform & RR-bed w/ southerly ditch drainage; top cap of hdwall severely deteriorated w/ broken concrete lying about the loading platform. INTERIOR: Hdwall-arch seam over doorway badly spalded and re-bar exposure w/ concrete fallen about entranceway floor; wooden dunnage stacked along the W-N-S walls; what can be seen scuppers appear dry.
GROUP 1A	P-124	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR:No lock; barrel -headwall inaccessible due to heavy briar growth; what could be seen no apparent seam separation between headwall & barrel/arch - Both Floor & Toe Drains exist (no covers); surface cracks in the outer wing areas of the headwall; 24" culvert opened on north end with no opening found in south end; site has north drainage flow. INTERIOR: floor wet around entrance-way due to warped door and its deteriorated weatherseal. A large amount of dunnage stacked along the N-S-W walls - scuppers dry.
	P-125	Potential Tornado Shelter	Track	24-NOV-10 08-Mar-11	Not inspected 24NOV'10 due to time constraints; Site survey revisit 08MAR'11 EXTERIOR: No lock; no separation at hdwall-barrel seam; toe & floor drain vents present both sides; typical 12" buried VCP between loading platform & RR-bed w/ southerly ditch drainage; calcium crack deposition on hdwall's south wingwall. INTERIOR: Weather seal around door severely deteriorated; condensation (no wall vents) on walls and floor w/ water around entranceway due to weather elements entering around door; extensive patchwork within the hdwall-arch seam over doorway is also significant spalding w/ concrete chips on floor; most of floor section away fm/ the entranceway and scuppers are dry.
	P-126	Potential Tornado Shelter	Track	24-NOV-10 08-MAR-11 27-APR-11	Not inspected 24NOV'10 due to time constraints; Site survey revisit 08MAR'11 but, interior photos failed developement EXTERIOR: No lock; no separation at hdwall-barrel seam; toe & floor drain vents present both sides; typical 12" buried VCP between loading platform & RR-bed w/ southerly ditch drainage; significant calcined deposition on north and south hdwall lower facing w/ spalding & re-bar exposure. INTERIOR: No apparent arch-hdwall active seepage at seam but, calcined deposition indicates some type seep; wooden dunnage on west wall; scuppers dry; floor damp in room w/ no ventilation.
	P-127	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR:No lock; barrel -headwall covered heavy brush with cottonwood saplings growing along headwal - barrel joint with no evident joint separation; Both Floor & Toe Drains exist ; headwall in relatively good condition with evidence that area maintained with brush clearing around headwall face and loading platform; 10" culvert opened on north end with no opening found in south end of ditchline; site has north drainage flow. INTERIOR: Suprisingly very clean and dry; ceiling/waal arch shows patch maintenance.
	Q-128	Potential Tornado Shelter	Track	24-NOV-10 27-APR-11	EXTERIOR:No lock; barrel -headwall top inundated with briar thicket - headwall-barrel joint inaccessible for inspection; trees growing on top of igloo near headwall; both Floor & Toe Drains exist ; N-S buried culvert pipe; ditchline each side of headwall with south drainage; headwall significant surrficial calcine cracking. Standing water in south ditchline. INTERIOR:24NOV10 No access - door warped w/ latch arm seized; could not move latch pin; tried to free-up with axe handle but to no avail. 2-Man team revisited on 27-APR-11 for interior access to conduct interior inspection and photos. Headwall area around entranceway shows re-bar exposure; past surface/crack patch-work evident on headwall & north wall; dunnage covering both north and south scuppers and west wall. Floor is relatively dry. Found ammunition transfer record showing that Composition B explosive was stored in the igloo.
GROUP 1A	Q-129	Potential Tornado Shelter	Track	24-NOV-10 27-APR-11	EXTERIOR:No lock; barrel-headwall top inundated with briar thicket - headwall-barrel joint inaccessible for inspection; Both Floor & Toe Drains exist ; buried N-S VCT culvert pipe between platform and RR-bed; south drainage; standing water in south ditchline (igloo-side). INTERIOR: No access - door warped w/ latch arm seized; cannot move latch pin will take 2-people to disengage latch arm. 2-Man team revisited on 27-APR-11 for interior access to conduct interior inspection and photos. Headwall area around entranceway shows re-bar exposure; past surface/crack patch-work evident on headwall & north wall; dunnage covering both north and south scuppers and west wall. Floor is relatively dry.
	Q-130	Potential Tornado Shelter	Track	24-NOV-10 27-APR-11	EXTERIOR:No lock; barrel-headwall top inundated with briar thicket - headwall-barrel joint inaccessible for inspection; Both Floor & Toe Drains exist ; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform with south drainage. INTERIOR: No access - door warped w/ latch arm seized; cannot move latch pin will take 2-people to disengage latch arm. 2-Man team revisited on 27-APR-11 for interior access to conduct interior inspection and photos. Headwall area around entranceway shows moisture and water leakage at two locations along the arch & headwall seam; significant amount of patchwork on joints/seams/walls evident from past years; an atypical patch work material covers the N-S & W floor-wall joint speculating exterior toe drainage failure that may have forced leakage through the interior joint. Large organic debris pile/nest (rodent?) stands within scupper abutting the drain port. No vent on west wall.
	Q-131	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR:No lock; barrel-headwall top accessible for inspection w/ no apparent joint separation; both Floor & Toe Drains exist ; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform with south drainage. Headwall face showing a lot of cracks & calcium deposits INTERIOR: Accessible, moisture in concrete (no vent ceiling vent) - Scuppers are dry - Lots of wooden dunnage; w/ interior looking in good shape.
	Q-132	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR:No lock; barrel-headwall top joint area covered over within a briar thicket inaccessible for inspection ; both Floor & Toe Drains exist ; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform with south drainage; ditchline on both sides of igloo full of water. INTERIOR: Accessible and relatively dry - Scuppers are dry - Lots of wooden dunnage; w/ interior looking in good shape.

TABLE 2.

Storage Grp Area	Storage Igloo I.D.	Proposed Use	Mode of Access	Inspection Date	Remarks
GROUP 1A	Q-133	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR:No lock; barrel-headwall top joint area covered over within a briar thicket but, accessible for inspection finding no evident joint separation; southend of hdwall face manifests calicification cracks; both Floor & Toe Drains exist ; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform with south drainage; ditchline on both sides of igloo full of water as well as east side of rail bed. INTERIOR: Accessible and relatively dry; no water on floor or in scuppers; concrete moist on floor in entranceway area; Northeast headwall-arch seam shows calcined deposit - Scuppers are dry - 70% floor covered in wooden dunnage; definite odor almost like a solvent
	Q-134	Potential Tornado Shelter	Track	24-NOV-10 27-APR-11	EXTERIOR: Headwall-barrel no evidence of separation; both floor and toe drains exist with south floor manifesting a good calcine bloom around drain; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform with south drainage; ditchline on both sides of igloo full of water as well as east side of rail bed; concrete lower south edge cap of headwall showing significant deterioriation. South wing of hdwall significant calcium depostition and lower half of north wing showing surficial cracking/spaulding. INTERIOR: Door warped; inaccessible upper latch arm seized and unable to pull-out security pin -- will require two people with prybar to release latch arm. 2-Man team revisited on 27-APR-11 for interior access to conduct interior inspection and photos. No moisture on floor around entranceway --- NE crn of arch and hdwall contain streaks of calcium seepage as very minor seepage; dunnage stacked on N-S-W on floor along walls and covering scuppers; significant patchwork on arch seams (wall) with some patchwork bubbled (either gas or condensate). No vent on west wall.
	Q-135	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: Headwall-barrel no evidence of separation; both floor and toe drains exist; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform with what appears to be a south drainage away in ditchline; concrete lower south edge cap of headwall showing severe deterioriation with calcined deposits from top to bottom of headwall face. INTERIOR: Floor shows dampness; moisture entering through door seal and/or seam joint of exterior platform & headwall which appears ext. concrete loading platform & interior floor were a monolithic pour.
	Q-136	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: Headwall-barrel no evidence of separation; both floor and toe drains exis without coverst; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform uncertain about drainage direction all ditchlines full of water w/ drainage possibly going either north or south; calcined cracks/deposits sparadic along the headwall face. INTERIOR: Door operates well; typical stacked along the floor-wall junctures; historically evidence there's been a number of patch repairs on floor and arch. Much inscription from CY53-54 era; retrieved 4 ea. ATR cards saying Comp B was stored within this igloo.
	Q-137	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: Headwall-barrel no evidence of separation; outer ends of headwall show significant calcined cracking; both floor and toe drains exis without covers with the floor drains exhibiting a lot of calcium deposition; buried 10-inch VCT culvert w/ N-S run between RR-bed and platform having a south drainage . INTERIOR: Door warped difficult to open w/ a great deal of pressure on latch arms; note: care should be taken to maintain pressure on latch arm while pulling latch pin or latch arm will spring open towards arms and head. Typical wooden dunnage stacked along the W-N-S floor-wall junctures; floor has a damp looking appearance. NE corner has an arch crack but no outside seepage; the same holds true w/ a crack in the west wall.
GROUP 1A	Q-138	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No lock on door; south end of headwall face cracked due to growth of tree on backside - crack not within ext. barrel area; floor and toe drains exist; yellow arrow on rightside of entranceway pointing towards door INTERIOR: Door warped - water around entranceway due to deteriorated weather-seal -- past problems being there are welded (atypical) door SS hinges; Good cache of wood dunnage on floor; white residue (mold-fungus??) on floor near north wall - not in scupper.
	Q-139	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No lock on door; no apparent joint separation between exterior barrel & headwall; floor and toe drains exist; very flat terrain unable to determine drainage direction can be either way. INTERIOR: Upon entering noticed odor - (wood preservative on dunnage??) Water seepage between loading platform & bottom door-seal - water around entranceway; a large amount of wood dunnage on floor stacked overtop scuppers which appear to be dry; I-bean in ceiling w/o tram works.
GROUP 7	HA-305	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: No apparent separation within the headwell-barrel joint; only floor drains exiting through headwall (no toe drains); headwall face weathered but appears to be in good shape; terrain relatively flat drainage in either N or S direction; no culverts; ditchlines brush infested OHARNG RTI Unit lock (non-BRAC) securing door INTERIOR: Unaccessible (NG lock) - RTI storage area for Unit's training equipment
	HA-306	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: Barrel covered in brush/weeds w/ no apparent separation within the headwell-barrel joint; only floor drains exiting through headwall (no toe drains); terrain relatively flat drainage in either N or S direction; no culverts; ditchlines brush infested INTERIOR: Accessible w/o lock; dry w/ no leakage fm/ arch; dunnage stacked and standing against wall; floors originally painted red and with yellow/white lines delineating main aisle and numbered floor sections; dead snake (beyond recognition) in southeast corner w/i scupper
	HB-311	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: Headwall in good shape; barrel covered in brush/weeds w/ no apparent separation within the headwell-barrel joint; only floor drains exiting through headwall (no toe drains); terrain relatively flat drainage in either N or S direction; no culverts;ditchlines brush infested INTERIOR: Accessible w/o lock on closed door; dry w/ no leakage fm/ arch;floors originally painted red and with yellow/white lines delineating main aisle and numbered floor sections; No interior photos taken.
	HB-312	Potential Tornado Shelter	Track	24-Nov-10	EXTERIOR: Access door unsecured and opened to outside elements; barrel covered in brush/weeds w/ no apparent separation within the headwell-barrel joint; only floor drains exiting through headwall (no toe drains); drainage-flow in south direction; no culverts; ditchlines brush infested INTERIOR: Accessible w/o lock; dry w/ no leakage fm/ arch; dunnage stacked on floor against wall; floors originally painted red and with yellow/white lines delineating main aisle and numbered floor sections; north part of floor surface shows holding moisture but, no water in scuppers

TABLE 3.

RATIONALE DETERMINING IGLOO SAMPLING SELECTION

Table 3 - RATIONALE FOR SELECTION OF RAVENNA AAP IGLOOS WITH HIGHEST PROBABILITY OF CONTAMINATION			
Area	**Description Igloo Group**	**Selected Igloo For Sampling**	**Rational for Selection**
B Block Igloos	6-B-1 thru 6-B-4	6B4	6B4 is selected based on photographs. 6B2, 6B3, and 6B4 were in similar condition.
	7-B-1 thru 7-B-4	7B3	7B2 and 7B3 both had water present in scuppers. The drains in 7B2 had potential blockage from water exiting the scuppers. 7B3 did not have this blockage and had leakage from walls in the middle of the igloo. 7B3 was selected due to its current condition over 7B1 which has been verified to have stored Nitroguanadine in the past.
C Block Igloos	1-C-1 thru 1-C-4	1C3	Selected based on the presence of water at the head wall and scuppers.
	1-C-5 thru 1-C-7	1C5	All of these igloos had water present in the igloo with various reasons to select each one as having the highest probability of being contaminated. 1C5 was selected because of the unique red staining on the floor.
	3-C-7	3C7	C37 will be sampled since not grouped with any other igloos.
	-C-10 thru 3-C-12 and 3-C-1	3C11	3C11 is selected because it had the worst visual exterior craking.
	6-C-1	6C1	Plan to sample all igloos 6C1 thru 6C5
	6-C-2	6C2	Plan to sample all igloos 6C1 thru 6C5
	6-C-3	6C3	Plan to sample all igloos 6C1 thru 6C5
	6-C-4	6C4	Plan to sample all igloos 6C1 thru 6C5
	6-C-5	6C5	Plan to sample all igloos 6C1 thru 6C5
	7-C-1 thru 7-C-4	7C3	7C3 is selected because it has the most interior moisture.
D Block	3-D-1 thru 3-D-2	3D1	3D1 and 3D2 were both clean and dry on the interior. 3D1 had straw and twine present inside. 3D1 is selected based on the unique presence of these items in the igloo.
	5-D-1 thru 5-D-2	5D1	5D1 is selected due to the presence of moisture in the igloo. The interior of 5D2 was inaccessible.
	6-D-1	6D1	
	7-D-1 thru 7-D-3	7D3	7D3 is selected since wilde life (a snake) was found in the igloo interior.
	7-D-6 thru 7-D-8	7D7	7D7 is selected since both scuppers had water present.
	7-D-9 thru 7-D-11	7D9	7D9 had both floor and toe drains present, which may provide additional pathways for potential contaminaiton to spread from the igloo.
F Block	F-37	F37	F37 will be sampled since not grouped with any other igloos.
Group 1 and 1A	J-66 and J-67	J67	J67 is selected since there is water seepage, had dunage present in the igloo interior, and historically stored Comp A5.
	K-75 and K-76	K75	K75 is selected due to seepage and moisture presence in scuppers.
	L-84 and L-85	L84	L84 is selected due to the visual inspection of the exterior looking significantly worse than L85.
	P-117 thru P-120	P118	P118 is selected based on the presence of moisture in the igloo, and that Comp B was historically stored in it.
	P-121 thru P-124	P122	P122 is selected based on the majority of the floor being moist and that Comp B was historically stored in it.
	P-125 thru P-127	P126	P126 was selected due the the presence of calcification on the walls indicating the presence of a seep, and that Comp B was historically stored in it.
	Q-128 thru Q-131	Q131	Q131 is selected since moisture was present and historically stored Comp B.
	Q- 132 thru Q-135	Q133	Q133 is selected since moisture and dungage were present in the igloo, a strong solvent smell was present in the igloo, and Comp A5 was historically stored in it.
	Q-136 thru Q-139	Q136	Q136 is selected since ATF card was found in the igloo which showed that Comp B was stored there. The ATRs also showed that Comp B was stored in Q137 and Q138, however it is unique that the ATF card was actually found in the igloo interior during inspection.
Group 7 Igloos	HA-305 and HA-306	HA306	H306 is selected since the interior of H305 was inaccessible.
	HB-311 thru HB-312	HB312	HB312 is selected due to presenc eof moisture and dungage in igloo.

ATTACHMENT A:

HISTORICAL AMMUNITION TRANSFER RECORDS REVIEW FINDINGS

ATR LOG				ATRLOG96.XLS						
ATR	ATR	LOT	ITEM	TO NEW	ITEM	QUANITY	CCC	TO		
NUMBER	DATE	NUMBER	LOCATION	LOCATION		BOXES	FROM	CCC		
PD92-036	10/6/92	HOL-050-5895	4D3		COMP B	1	A	H	SHIPPED C1006-96	
PD92-036	10/6/92	UNKOWN	6D9		COMP B	1	A	H		
PD92-038	12/9/92	HOL-053-126	4D10		COMP B	1	A	H	1 SHIPPED C10006-9	
PD93-001	1/18/93	HOL-053-165	3B3		COMP B	1	A	E		
PD93-002	1/19/93	HOL-053-422	3E9		COMP B	1	A	E		
PD93-002	1/19/93	HOL-053-5019	3E7		COMP B	1	A	E	1SHIPPED C1006-96	
PD93-006	2/23/93	HOL-053-135	3E2		COMP B	1	A	H	1 SHIPPED C10006-9	
PD93-008	3/5/93	HOL85L130-494	4A1		COMP B	1	A	E	1SHIPPED C1006-96	
PD93-009	3/5/93	HOL85M130-511	4A3		COMP B	3	A	E		
PD93-010	3/5/93	HOL85M130-499	4A2		COMP B	13	A	E	13 SHIPPED CO1006	
PD93-011	3/5/93	HOL85M130-515	4A2		COMP B	5	A	E	1SHIPPED C1006-96	
PD93-012	3/5/93	HOL-85M130-515	4A5		COMP B	1	A	E		
PD93-013	3/5/93	HOL-86A130-520	4A5		COMP B	1	A	E		
PD93-015	3/10/93	HOL-053-64	M94		COMP B	1	A	E	1 SHIPPED c1006-96	
PD93-016	3/10/93	HOL-053-66	N100		COMP B	1	A	E	1 SHIPPED c1006-96	
PD93-021	7/26/93	HOL-053-211	2C9		COMP B	1	A	E	1 SHIPPED C1006-96	
PD93-022	8/16/93	HOL-053-5397	Q137		COMP B	34	E	A		
PD93-023	9/3/93	HOL-050-5062	4E2		COMP B	2	E	A	4 SHIPPED C1006-96	
PD93-023	9/3/93	HOL-86A130-526	4A6		COMP B	2	E	A		
PD95-003	3/10/95	HOL-85M130-511	4A3		COMP B	3	E	A		
PD95-004	5/17/96	HOL-35-9120	1E5		COMP B	4	A	H	4 SHIPPED C1006-96	
PD95-005	10/13/95	HOL-35-9120	1E5		COMP B	10	E	A		
PD96-001	2/27/96	HOL-35-9126	1E5		COMP B	1	E	A	1SHIPPED C1006-96	
PD96-002	5/13/96	HOL-053-165	3B3		COMP B	1	E	A		
PD96-003	7/30/96	HOL90B924-033	B3		cYCLOTOI	2	A	H		
PD96-004	8/27/96	HOL86F640-321	J60		COMP A5	2	A	H		
PD96-004	8/27/96	HOL86F640-323	J63		COMP A5	1	A	H		
PD96-005	10/1/96	HOL86F640-322	J63		COMP A5	46	A	H		
PD96-005	10/1/96	HOL86F640-323	J63		COMP A5	17	A	H		
PD96-006	10/15/96	HOL86H640-335	J67		COMP A5	4	A	H		
PD96-007	11/20/96	HOL86LF640-323	HG359	6D2	COMP A5	18	H	H		
PD96-007	11/20/96	HOL86LF640-321	HG359	6D2	COMP A5	2	H	H		
PD96-007	11/20/96	HOL86LF640-322	HG359	6D2	COMP A5	46	H	H		
PD96-007	11/20/96	HOL86LF640-335	HG359	6D2	COMP A5	4	H	H		
PD96-008	11/20/96	SOW88C019-202	HG359	6D2	NITRO	414	H	H		
PD96-009	11/20/96	HOL90B924-033	HG359	6D2	CYCLOT(	120	H	H		
PD96-010	11/20/96	JA-9-415	HG359	6D2	TETRYL	50	H	H		
PD96-011	11/20/96	HOL86J640-347	N96	6D2	COMPA5	60	A	H		
PD96-012	11/21/96	HOL86J640-346	N96	5A1	COMPA5	31	A	A		
PD97-001	1/8/97	HOL89F640-581	Q132	6D2	COMPA5	5	A	H		
P098001	11/11/97	DUP. 75-125	3D10	3D12	BLACK P/W	1	A	H		
"	"	OMF90E049563	3D13	3D12	PROPELLANT	1	H	H	ONLY 80 LBS	
		GOE-63-9	3D13	3D12	BLACK P/W	1	H	H		

ATR LOG										
				ATRLOG96.XLS						
ATR	ATR	LOT	ITEM	TO NEW	ITEM	QUANITY	CCC	TO		
NUMBER	DATE	NUMBER	LOCATION	LOCATION		BOXES	FROM	CCC		
PD92-025	6/12/92	HOL-050-5044	7E6		COMP B	1	A	E		
PD92-025	6/12/92	HOL-053-231	L85		COMP B	3	A	E		
PD92-026	6/12/92	HOL-053-42	P125		COMP B	135	A	E		
PD92-026	6/12/92	HOL-053-43	P125		COMP B	1	A	E		
PD92-028	7/31/92	HOL-053-137	1B3		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-143	3B12		COMP B	3	E	A		
PD92-028	7/31/92	HOL-053-144	3B12		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-149	2B3		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-150	2B3		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-150	2B3		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-189	1B1		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-227	K72		COMP B	2	E	A		
PD92-028	7/31/92	HOL-053-227	L80		COMP B	2	E	A		
PD92-028	7/31/92	HOL-053-227	L84		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-237	Q138		COMP B	4	E	A		
PD92-028	7/31/92	HOL-053-345	P126		COMP B	2	E	A		
PD92-028	7/31/92	HOL-053-49	M89		COMP B	1	E	A		
PD92-028	7/31/92	HOL-053-5397	Q135		COMP B	1	E	A	HG359	
PD92-028	7/31/92	HOL-053-5398	Q134		COMP B	2	E	A	HG359	
PD92-028	7/31/92	HOL-053-58	M90		COMP B	2	E	A	HG359	
PD92-028	7/31/92	HOL-053-82	M93		COMP B	2	E	A		
PD92-029	7/31/92	HOL-053-231	L85		COMP B	3	E	A		
PD92-029	7/31/92	HOL-053-5044	7E6		COMP B	1	E	A		
PD92-030	7/31/92	HOL-050-5076	2E1		COMP B	1	E	A		
PD92-030	10/22/92	HOL-053-125	7D4		COMP B	3	A	H	1 SHIPPED C10006-9	
PD92-031	10/22/92	HOL-053-125	7D4		COMP B	8	A	E		
PD92-031	7/31/92	HOL-053-5077	2E1		COMP B	1	E	A		
PD92-032	7/31/92	HOL-053-187	1B2		COMP B	2	E	A		
PD92-033	7/31/92	HOL-053-42	P125		COMP B	135	E	A		
PD92-033	7/31/92	HOL-053-43	P125		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-151	2B2		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-180	4B9		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-189	1B2		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-227	L81		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-46	N101		COMP B	1	E	A		
PD92-034	7/31/02	HOL-053-5397	Q134		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-57	M93		COMP B	1	E	A		
PD92-034	7/31/92	HOL-053-83	O111		COMP B	6	E	A		
PD92-034	7/31/92	HOL-053-87	K76		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-143	1B5		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-151	3B13		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-187	1B2		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-192	1B1		COMP B	5	E	A		
PD92-035	8/19/92	HOL-053-5398	Q134		COMP B	2	E	A		
PD92-035	8/19/92	HOL-053-63	P122		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-64	M94		COMP B	3	E	A		
PD92-035	8/10/92	HOL-053-68	M95		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-69	P118		COMP B	1	E	A		
PD92-035	8/10/92	HOL-053-77	P117		COMP B	1	E	A	HG359	
PD92-035	8/10/92	HOL-O53-142	1B5		COMP B	1	E	A	HG359	

ATR LOG										
				ATRLOG96.XLS						
ATR	ATR	LOT	ITEM	TO NEW	ITEM	QUANITY	CCC	TO		
NUMBER	DATE	NUMBER	LOCATION	LOCATION		BOXES	FROM	CCC		
PD92-013	5/7/92	HOL-35-9119	1E3		COMP B	1	E	A		
PD92-014	5/7/92	HOL-050-5015	7E1		COMP B	1	A	E		
PD92-014	5/7/92	HOL-053-5022	6E7		COMP B	30	A	E		
PD92-014	5/7/92	HOL-053-5026	7E3		COMP B	10	A	E		
PD92-015	5/29/92	HOL-050-5015	7E1		COMP B	1	E	A		
PD92-015	5/29/92	HOL-050-5022	6E7		COMP B	30	E	A		
PD92-015	5/29/92	HOL-050-5026	7E3		COMP B	10	E	A		
PD92-016	5/29/92	HOL-053-5397	Q137		COMP B	34	A	E		
PD92-017	6/1/96	HOL-053-57	M93		COMP B	1	E	A		
PD92-018	6/1/96	HOL-053-165	M87		COMP B	*	A	E		
PD92-018	6/1/96	HOL-053-226	M87		COMP B	*	E	A		
PD92-019	6/11/92	HOL-053-137	1B3		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-143	3B12		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-144	3B12		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-149	2B3		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-150	2B3		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-150	2B3		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-189	1B1		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-227	K72		COMP B	2	A	E		
PD92-019	6/11/92	HOL-053-227	L80		COMP B	2	A	E		
PD92-019	6/11/92	HOL-053-227	L84		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-237	Q138		COMP B	4	A	E		
PD92-019	6/11/92	HOL-053-345	P126		COMP B	2	A	E		
PD92-019	6/11/92	HOL-053-49	M89		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-5397	Q135		COMP B	1	A	E		
PD92-019	6/11/92	HOL-053-5398	Q134		COMP B	2	A	E		
PD92-019	6/11/92	HOL-053-58	M90		COMP B	2	A	E		
PD92-019	6/11/92	HOL-053-82	M93		COMP B	2	A	E		
PD92-020	6/11/92	HOL-053-46	N101		COMP B	1	A	H		
PD92-022	6/11/92	HOL-053-151	2B2		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-180	4B9		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-189	1B2		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-227	L81		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-46	N101		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-5397	Q135		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-57	M93		COMP B	1	A	E		
PD92-022	6/11/92	HOL-053-83	O111		COMP B	6	A	E		
PD92-022	6/11/92	HOL-053-87	K76		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-142	1B5		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-143	1B5		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-151	3B13		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-187	1B2		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-192	1B1		COMP B	5	A	E		
PD92-023	6/11/92	HOL-053-5398	Q134		COMP B	2	A	E		
PD92-023	6/11/92	HOL-053-63	P122		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-64	M94		COMP B	3	A	E		
PD92-023	6/11/92	HOL-053-68	M95		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-69	P118		COMP B	1	A	E		
PD92-023	6/11/92	HOL-053-77	P117		COMP B	1	A	E		
PD92-024	6/11/92	HOL-053-187	1B2		COMP B	2	A	E		

ATR LOG										
				ATRLOG96.XLS						
ATR NUMBER	ATR DATE	LOT NUMBER	ITEM LOCATION	TO NEW LOCATION	ITEM	QUANITY BOXES	CCC FROM	TO CCC		
PD90-011	9/27/90	HOL89F640-584	Q133		COMP A5	1980	D	A		
PD90-011	9/27/90	HOL89G640-585	1D1		COMP A5	437	D	A		
PD90-011	9/27/90	HOL89G640-585	N103		COMP A5	2070	D	A		
PD90-011	9/27/90	HOL89G640-586	N103		COMP A5	2030	D	A		
PD90-011	9/27/90	HOL89G640-586	N104		COMP A5	12	D	A		
PD90-011	9/27/90	HOL89G640-587	N104		COMP A5	2094	E	A		
PD90-011	9/27/90	HOL89G640-588	N104		COMP A5	1998	D	A		
PD90-011	9/27/90	HOL89G640-589	N105		COMP A5	1524	D	A		
PD90-011	9/27/90	HOL89G640-590	N105		COMP A5	890	D	A		
PD90-012	9/27/90	HOL89H640-591	N105		COMP A5	1686	D	A		
PD90-012	9/27/90	HOL89H640-591	O113		COMP A5	60	D	A		
PD90-012	9/27/90	HOL89H640-592	O113		COMP A5	1990	D	A		
PD90-015	10/17/90	HOL89G640-587	N104		COMP A5	2094	A	E		
PD90-019	12/14/90	SOW86H013-223	7B1		NITRO	1	A	E	DESTROYED	2/7/92
PD90-020	12/14/90	SOW87A017-135				1	E	A		
PD91-001	1/2/91	SOW87B017-164	7A1		NITRO	1	A	E	DESTROYED	10/10/91
PD91-002	1/11/91	HOL86A130-526	4A6		COMP B	2	A	E		
PD91-003	1/18/91	HOL-053-81	Q131		COMP B	1	A	E		
PD91-004	1/30/91	HOL-053-5375	HE340		COMP B	1	A	H		
PD91-005	2/8/91	HOL-053-357	P121		COMP B	1	A	H		
PD91-008	3/27/91	HOL-053-33	M91		COMP B	4	A	E	3SHIPPED C1006-96	
PD91-008	3/27/91	HOL-053-33	M91		COMP B	2	A	H		
PD91-009	3/27/91	HOL-053-413	K75		COMP B	2	A	H		
PD91-009	3/27/91	HOL-053-413	K75		COMP B	1	A	E		
PD91-009	3/27/91	HOL-053-417	K75		COMP B	1	A	H		
PD91-010	9/30/91	HOL-053-180	4B9		COMP B	5	A	H		
PD91-010	9/30/91	HOL-053-181	4B9		COMP B	2	A	H		
PD91-011	10/30/91	HOL-053-421	J62		COMP B	1	A	H		
PD91-011	10/30/91	HOL-053-437	J62		COMP B	1	A	H		
PD91-012	10/30/01	HOL-053-421	J62		COMP B	2	A	E	2 SHIPPED C1006-96	
PD91-013	11/7/91	SOW88L020-124	1A2		NITRO	600	A	E		
PD91-013	11/7/91	SOW88L020-125	1A2		NITRO	573	A	E		
PD91-014	11/7/91	HOL-50-50569	4E8		COMP B	1	A	E		
PD91-015	11/19/91	HOL-50-50569	4E8		COMP B	1	E	A		
PD92-003	3/23/92	HOL-35-9119	1E3		COMP B	1	A	E		
PD92-004	3/30/92	HOL-053-231	5C7		COMP B	3	A	E		
PD92-005	3/14/92	HOL-053-231	5C7		COMP B	4	E	A		
PD92-007	4/14/92	HOL-050-5076	2E1		COMP B	1	A	E		
PD92-007	4/14/92	HOL-050-5077	2E1		COMP B	1	A	E		
PD92-008	4/23/92	HOL-050-5060	4E2		COMP B	3	A	E	3 SHIPPED C1006-96	
PD92-009	5/7/92	HOL-35-9120	1E5		COMP B	10	A	E		
PD92-010	4/24/92	HOL-053-57	M93		COMP B	1	A	E		
PD92-011	4/24/92	HOL-053-165	M87		COMP B	*	A	E	1 SHIPPED C-1006-96	
PD92-011	4/24/92	HOL-053-226	M87		COMP B	*	A	E		
PD92-012	4/24/92	HOL-050-5004	2E4		COMP B	2	A	E		
PD92-012	4/24/92	HOL-050-5034	3E9		COMP B	2	A	E		
PD92-012	4/24/92	HOL-050-5062	4E2		COMP B	8	A	E		
PD92-012	4/24/92	HOL-050-5069	4E8		COMP B	3	A	E	3 SHIPPED C1006-96	
PD92-013	5/7/92	HOL-050-5004	2E4		COMP B	2	E	A		
PD92-013	5/7/92	HOL-050-5034	3E9		COMP B	2	E	A		

ATR LOG										
				ATRLOG96.XLS						
ATR	ATR	LOT	ITEM	TO NEW	ITEM	QUANITY	CCC	TO		
NUMBER	DATE	NUMBER	LOCATION	LOCATION		BOXES	FROM	CCC		
PD88-004	7/31/87	SOW87C018-009	7A2		NITRO	1	A	H		
PD89-011	3/9/89	HOL-35-9120	1E5		COMP B	1	A	H		
PD89-012	6/13/89	SOW89D020-250	5C3		NITRO	425	A	D		
PD89-012	6/13/89	SOW89D020-250	5C3		NITRO	328	A	D		
PD89-012	6/13/89	SOW89D020-250	5C4		NITRO	175	A	D		
PD89-013	11/21/89	HOL89F640-579	Q129		COMPA5	2083	A	D		
PD89-013	11/21/89	HOL89F640-580	Q129		COMPA5	2017	A	D		
PD89-013	11/21/89	HOL89F640-580	Q132		COMPA5	60	A	D		
PD89-013	11/21/89	HOL89F640-581	Q132		COMPA5	2024	A	D		
PD89-013	11/21/89	HOL89F640-582	Q132		COMPA5	2010	A	D		
PD89-013	11/21/89	HOL89F640-582	Q133		COMPA5	18	A	D		
PD89-013	11/21/89	HOL89F640-583	Q133		COMPA5	2102	A	D		
PD89-013	11/21/89	HOL89F640-584	1D1		COMPA5	271	A	D		
PD89-013	11/21/89	HOL89F640-584	Q133		COMPA5	1980	A	D		
PD89-013	11/21/89	HOL89G640-585	1D1		COMPA5	437	A	D		
PD89-013	11/21/89	HOL89G640-585	N103		COMPA5	2070	A	D		
PD89-013	11/21/89	HOL89G640-586	N103		COMPA5	2030	A	D		
PD89-013	11/21/89	HOL89G640-586	N104		COMPA5	12	A	D		
PD89-013	11/21/89	HOL89G640-587	N104		COMPA5	2094	A	D		
PD89-013	11/21/89	HOL89G640-589	N105		COMPA5	1524	A	D		
PD89-013	11/21/89	HOL89GF640-588	N104		COMPA5	1998	A	D		
PD89-013	11/21/89	HOL89H640-591	N105		COMPA5	1686	A	D		
PD89-013	11/21/89	HOL89H640-591	O113		COMPA5	61	A	D		
PD89-013	11/21/89	HOL89H640-592	Q113		COMPA5	1990	A	D		
PD89-013	11/21/89	HOL89HF640-590	N105		COMPA5	890	A	D		
PD89-014	12/13/89	SOW89D020-250	5C3		NITRO	599	D	A		
PD89-014	12/13/89	SOW89D020-251	5C3		NITRO	327	D	A		
PD90-001	4/30/90	HOL86J640-346	N96		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL86K640-349	N96		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL87K641-429	5D4		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL88A641-452	5D5		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL88B641-457	5D12		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL88B641-458	5D8		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL88C641-464	5D13		COMP A5	LOT	A	E		
PD90-001	4/30/90	HOL89G640-587	5D12		COMP A5	LOT	A	E		
PD90-002	4/30/90	HOL89J767-028	1D2		PBX	58	A	E		
PD90-003	8/14/90	HOL-052-20	HG359		COMP B	1	A	H		
PD90-003	8/14/90	HOL-052-22	HG359		COMP B	2	A	H		
PD90-004	8/20/90	SOW90E021-262	2E2		NITRO	311	A	D		
PD90-004	8/20/90	SOW90E021-262	2E3		NITRO	287	A	D		
PD90-004	8/20/90	SOW90E021-263	1E4		NITRO	154	A	D		
PD90-004	8/20/90	SOW90E021-263	2E2		NITRO	446	A	D		
PD90-004	8/20/90	SOW90E021-263	2E3		NITRO	2	A	D		
PD90-005	8/20/90	HOL-053-5386	HH369		COMP B	1	A	H		
PD90-011	9/27/90	HOL89F640-579	Q129		COMP A5	2083	D	A		
PD90-011	9/27/90	HOL89F640-580	Q129		COMP A5	2017	D	A		
PD90-011	9/27/90	HOL89F640-580	Q132		COMP A5	66	D	A		
PD90-011	9/27/90	HOL89F640-581	Q132		COMP A5	2024	D	A		
PD90-011	9/27/90	HOL89F640-583	Q133		COMP A5	2102	D	A		
PD90-011	9/27/90	HOL89F640-584	1D1		COMP A5	271	D	A		

ATR LOG										
				ATRLOG96.XLS						
ATR NUMBER	ATR DATE	LOT NUMBER	ITEM LOCATION	ITEM	QUANITY BOXES	CCC FROM	TO CCC			
PD92-012	4/24/92	HOL-050-5004	2E4	COMP B	2	A	E			
PD92-013	5/7/92	HOL-050-5004	2E4	COMP B	2	E	A			
PD92-014	5/7/92	HOL-050-5015	7E1	COMP B	1	A	E			
PD92-015	5/29/92	HOL-050-5015	7E1	COMP B	1	E	A			
PD92-015	5/29/92	HOL-050-5022	6E7	COMP B	30	E	A			
PD92-015	5/29/92	HOL-050-5026	7E3	COMP B	10	E	A			
PD92-012	4/24/92	HOL-050-5034	3E9	COMP B	2	A	E			
PD92-013	5/7/92	HOL-050-5034	3E9	COMP B	2	E	A			
PD92-025	6/12/92	HOL-050-5044	7E6	COMP B	1	A	E			
PD92-008	4/23/92	HOL-050-5060	4E2	COMP B	3	A	E	3 SHIPPED C1006-96		
PD92-012	4/24/92	HOL-050-5062	4E2	COMP B	8	A	E			
PD93-023	9/3/93	HOL-050-5062	4E2	COMP B	2	E	A	4 SHIPPED C1006-96		
PD92-012	4/24/92	HOL-050-5069	4E8	COMP B	3	A	E	3 SHIPPED C1006-96		
PD92-007	4/14/92	HOL-050-5076	2E1	COMP B	1	A	E			
PD92-030	7/31/92	HOL-050-5076	2E1	COMP B	1	E	A			
PD86-003	7/29/86	HOL-050-5077	2E1	COMP B	1	A	H			
PD92-007	4/14/92	HOL-050-5077	2E1	COMP B	1	A	E			
PD92-036	10/6/92	HOL-050-5895	4D3	COMP B	1	A	H	SHIPPED C1006-96		
PD90-003	8/14/90	HOL-052-20	HG359	COMP B	1	A	H			
PD90-003	8/14/90	HOL-052-22	HG359	COMP B	2	A	H			
PD92-030	10/22/92	HOL-053-125	7D4	COMP B	3	A	H	1 SHIPPED C10006-96		
PD92-031	10/22/92	HOL-053-125	7D4	COMP B	8	A	E			
PD92-038	12/9/92	HOL-053-126	4D10	COMP B	1	A	H	1 SHIPPED C10006-96		
PD93-006	2/23/93	HOL-053-135	3E2	COMP B	1	A	H	1 SHIPPED C10006-96		
PD92-019	6/11/92	HOL-053-137	1B3	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-137	1B3	COMP B	1	E	A			
PD92-023	6/11/92	HOL-053-142	1B5	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-143	1B5	COMP B	1	A	E			
PD92-035	8/10/92	HOL-053-143	1B5	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-143	3B12	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-143	3B12	COMP B	3	E	A			
PD92-019	6/11/92	HOL-053-144	3B12	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-144	3B12	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-149	2B3	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-149	2B3	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-150	2B3	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-150	2B3	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-150	2B3	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-150	2B3	COMP B	1	E	A			
PD92-022	6/11/92	HOL-053-151	2B2	COMP B	1	A	E			
PD92-034	7/31/92	HOL-053-151	2B2	COMP B	1	E	A			
PD92-023	6/11/92	HOL-053-151	3B13	COMP B	1	A	E			
PD92-035	8/10/92	HOL-053-151	3B13	COMP B	1	E	A			
PD93-001	1/18/93	HOL-053-165	3B3	COMP B	1	A	E			
PD96-002	5/13/96	HOL-053-165	3B3	COMP B	1	E	A			
PD92-011	4/24/92	HOL-053-165	M87	COMP B	*	A	E	1 SHIPPED C-1006-96		
PD92-018	6/1/96	HOL-053-165	M87	COMP B	*	A	E			
PD91-010	9/30/91	HOL-053-180	4B9	COMP B	5	A	H			
PD92-022	6/11/92	HOL-053-180	4B9	COMP B	1	A	E			

PD92-034	7/31/92	HOL-053-180	4B9	COMP B	1	E	A			
PD91-010	9/30/91	HOL-053-181	4B9	COMP B	2	A	H			
PD92-023	6/11/92	HOL-053-187	1B2	COMP B	1	A	E			
PD92-024	6/11/92	HOL-053-187	1B2	COMP B	2	A	E			
PD92-032	7/31/92	HOL-053-187	1B2	COMP B	2	E	A			
PD92-035	8/10/92	HOL-053-187	1B2	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-189	1B1	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-189	1B1	COMP B	1	E	A			
PD92-022	6/11/92	HOL-053-189	1B2	COMP B	1	A	E			
PD92-034	7/31/92	HOL-053-189	1B2	COMP B	1	E	A			
PD92-023	6/11/92	HOL-053-192	1B1	COMP B	5	A	E			
PD92-035	8/10/92	HOL-053-192	1B1	COMP B	5	E	A			
PD93-021	7/26/93	HOL-053-211	2C9	COMP B	1	A	E	1 SHIPPED C1006-96		
PD92-011	4/24/92	HOL-053-226	M87	COMP B	*	A	E			
PD92-018	6/1/96	HOL-053-226	M87	COMP B	*	E	A			
PD92-019	6/11/92	HOL-053-227	K72	COMP B	2	A	E			
PD92-028	7/31/92	HOL-053-227	K72	COMP B	2	E	A			
PD92-019	6/11/92	HOL-053-227	L80	COMP B	2	A	E			
PD92-028	7/31/92	HOL-053-227	L80	COMP B	2	E	A			
PD92-022	6/11/92	HOL-053-227	L81	COMP B	1	A	E			
PD92-034	7/31/92	HOL-053-227	L81	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-227	L84	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-227	L84	COMP B	1	E	A			
PD92-004	3/30/92	HOL-053-231	5C7	COMP B	3	A	E			
PD92-005	3/14/92	HOL-053-231	5C7	COMP B	4	E	A			
PD92-025	6/12/92	HOL-053-231	L85	COMP B	3	A	E			
PD92-029	7/31/92	HOL-053-231	L85	COMP B	3	E	A			
PD92-019	6/11/92	HOL-053-237	Q138	COMP B	4	A	E			
PD92-028	7/31/92	HOL-053-237	Q138	COMP B	4	E	A			
PD91-008	3/27/91	HOL-053-33	M91	COMP B	4	A	E	3SHIPPED C1006-96		
PD91-008	3/27/91	HOL-053-33	M91	COMP B	2	A	H			
PD92-019	6/11/92	HOL-053-345	P126	COMP B	2	A	E			
PD92-028	7/31/92	HOL-053-345	P126	COMP B	2	E	A			
PD91-005	2/8/91	HOL-053-357	P121	COMP B	1	A	H			
PD91-009	3/27/91	HOL-053-413	K75	COMP B	2	A	H			
PD91-009	3/27/91	HOL-053-413	K75	COMP B	1	A	E			
PD91-009	3/27/91	HOL-053-417	K75	COMP B	1	A	H			
PD92-026	6/12/92	HOL-053-42	P125	COMP B	135	A	E			
PD92-033	7/31/92	HOL-053-42	P125	COMP B	135	E	A			
PD91-011	10/30/91	HOL-053-421	J62	COMP B	1	A	H			
PD91-012	10/30/01	HOL-053-421	J62	COMP B	2	A	E	2 SHIPPED C1006-96		
PD93-002	1/19/93	HOL-053-422	3E9	COMP B	1	A	E			
PD92-026	6/12/92	HOL-053-43	P125	COMP B	1	A	E			
PD92-033	7/31/92	HOL-053-43	P125	COMP B	1	E	A			
PD91-011	10/30/91	HOL-053-437	J62	COMP B	1	A	H			
PD92-020	6/11/92	HOL-053-46	N101	COMP B	1	A	H			
PD92-022	6/11/92	HOL-053-46	N101	COMP B	1	A	E			
PD92-034	7/31/92	HOL-053-46	N101	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-49	M89	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-49	M89	COMP B	1	E	A			
PD93-002	1/19/93	HOL-053-5019	3E7	COMP B	1	A	E	1SHIPPED C1006-96		
PD92-014	5/7/92	HOL-053-5022	6E7	COMP B	30	A	E			
PD92-014	5/7/92	HOL-053-5026	7E3	COMP B	10	A	E			
PD92-029	7/31/92	HOL-053-5044	7E6	COMP B	1	E	A			
PD92-031	7/31/92	HOL-053-5077	2E1	COMP B	1	E	A			
PD91-004	1/30/91	HOL-053-5375	HE340	COMP B	1	A	H			
PD90-005	8/20/90	HOL-053-5386	HH369	COMP B	1	A	H			

PD92-034	7/31/02	HOL-053-5397	Q134	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-5397	Q135	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-5397	Q135	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-5397	Q135	COMP B	1	E	A	HG359		
PD92-016	5/29/92	HOL-053-5397	Q137	COMP B	34	A	E			
PD93-022	8/16/93	HOL-053-5397	Q137	COMP B	34	E	A			
PD92-019	6/11/92	HOL-053-5398	Q134	COMP B	2	A	E			
PD92-023	6/11/92	HOL-053-5398	Q134	COMP B	2	A	E			
PD92-028	7/31/92	HOL-053-5398	Q134	COMP B	2	E	A	HG359		
PD92-035	8/19/92	HOL-053-5398	Q134	COMP B	2	E	A			
PD92-010	4/24/92	HOL-053-57	M93	COMP B	1	A	E			
PD92-017	6/1/96	HOL-053-57	M93	COMP B	1	E	A			
PD92-022	6/11/92	HOL-053-57	M93	COMP B	1	A	E			
PD92-034	7/31/92	HOL-053-57	M93	COMP B	1	E	A			
PD92-019	6/11/92	HOL-053-58	M90	COMP B	2	A	E			
PD92-028	7/31/92	HOL-053-58	M90	COMP B	2	E	A	HG359		
PD92-023	6/11/92	HOL-053-63	P122	COMP B	1	A	E			
PD92-035	8/19/92	HOL-053-63	P122	COMP B	1	E	A			
PD92-023	6/11/92	HOL-053-64	M94	COMP B	3	A	E			
PD92-035	8/10/92	HOL-053-64	M94	COMP B	3	E	A			
PD93-015	3/10/93	HOL-053-64	M94	COMP B	1	A	E	1 SHIPPED c1006-96		
PD93-016	3/10/93	HOL-053-66	N100	COMP B	1	A	E	1 SHIPPED c1006-96		
PD92-023	6/11/92	HOL-053-68	M95	COMP B	1	A	E			
PD92-035	8/10/92	HOL-053-68	M95	COMP B	1	E	A			
PD92-023	6/11/92	HOL-053-69	P118	COMP B	1	A	E			
PD92-035	8/10/92	HOL-053-69	P118	COMP B	1	E	A			
PD92-023	6/11/92	HOL-053-77	P117	COMP B	1	A	E			
PD92-035	8/10/92	HOL-053-77	P117	COMP B	1	E	A	HG359		
PD91-003	1/18/91	HOL-053-81	Q131	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-82	M93	COMP B	2	A	E			
PD92-028	7/31/92	HOL-053-82	M93	COMP B	2	E	A			
PD92-022	6/11/92	HOL-053-83	O111	COMP B	6	A	E			
PD92-034	7/31/92	HOL-053-83	O111	COMP B	6	E	A			
PD92-022	6/11/92	HOL-053-87	K76	COMP B	1	A	E			
PD92-034	7/31/92	HOL-053-87	K76	COMP B	1	E	A			
PD87-005	8/4/88	HOL-35-1925	HE312	COMP B	127	B	H			
PD92-003	3/23/92	HOL-35-9119	1E3	COMP B	1	A	E			
PD92-013	5/7/92	HOL-35-9119	1E3	COMP B	1	E	A			
PD92-009	5/7/92	HOL-35-9120	1E5	COMP B	10	A	E			
PD89-011	3/9/89	HOL-35-9120	1E5	COMP B	1	A	H			
PD95-004	5/17/96	HOL-35-9120	1E5	COMP B	4	A	H	4 SHIPPED C1006-96		
PD95-005	10/13/95	HOL-35-9120	1E5	COMP B	10	E	A			
PD96-001	2/27/96	HOL-35-9126	1E5	COMP B	1	E	A	1SHIPPED C1006-96 CCH		
PD91-014	11/7/91	HOL-50-50569	4E8	COMP B	1	A	E			
PD91-015	11/19/91	HOL-50-50569	4E8	COMP B	1	E	A			
PD95-003	3/10/95	HOL-85M130-511	4A3	COMP B	3	E	A			
PD93-012	3/5/93	HOL-85M130-515	4A5	COMP B	1	A	E			
PD93-013	3/5/93	HOL-86A130-520	4A5	COMP B	1	A	E			
PD93-023	9/3/93	HOL-86A130-526	4A6	COMP B	2	E	A			
PD92-035	8/10/92	HOL-O53-142	1B5	COMP B	1	E	A	HG359		
PD93-008	3/5/93	HOL85L130-494	4A1	COMP B	1	A	E	1SHIPPED C1006-96		
PD93-010	3/5/93	HOL85M130-499	4A2	COMP B	13	A	E	13 SHIPPED CO1006-96		
PD93-009	3/5/93	HOL85M130-511	4A3	COMP B	3	A	E			
PD93-011	3/5/93	HOL85M130-515	4A2	COMP B	5	A	E	1SHIPPED C1006-96		
PD91-002	1/11/91	HOL86A130-526	4A6	COMP B	2	A	E			
PD96-004	8/27/96	HOL86F640-321	J60	COMP A5	2	A	H			
PD96-004	8/27/96	HOL86F640-323	J63	COMP A5	1	A	H			

PD90-001	4/30/90	HOL86J640-346	N96	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL86K640-349	N96	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL87K641-429	5D4	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88A641-452	5D5	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88B641-457	5D12	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88B641-458	5D8	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88C641-464	5D13	COMP A5	LOT	A	E			
PD90-011	9/27/90	HOL89F640-579	Q129	COMP A5	2083	D	A			
PD89-013	11/21/89	HOL89F640-579	Q129	COMPA5	2083	A	D			
PD90-011	9/27/90	HOL89F640-580	Q129	COMP A5	2017	D	A			
PD89-013	11/21/89	HOL89F640-580	Q129	COMPA5	2017	A	D			
PD90-011	9/27/90	HOL89F640-580	Q132	COMP A5	66	D	A			
PD89-013	11/21/89	HOL89F640-580	Q132	COMPA5	60	A	D			
PD90-011	9/27/90	HOL89F640-581	Q132	COMP A5	2024	D	A			
PD89-013	11/21/89	HOL89F640-581	Q132	COMPA5	2024	A	D			
PD89-013	11/21/89	HOL89F640-582	Q132	COMPA5	2010	A	D			
PD89-013	11/21/89	HOL89F640-582	Q133	COMPA5	18	A	D			
PD90-011	9/27/90	HOL89F640-583	Q133	COMP A5	2102	D	A			
PD89-013	11/21/89	HOL89F640-583	Q133	COMPA5	2102	A	D			
PD90-011	9/27/90	HOL89F640-584	1D1	COMP A5	271	D	A			
PD89-013	11/21/89	HOL89F640-584	1D1	COMPA5	271	A	D			
PD90-011	9/27/90	HOL89F640-584	Q133	COMP A5	1980	D	A			
PD89-013	11/21/89	HOL89F640-584	Q133	COMPA5	1980	A	D			
PD90-011	9/27/90	HOL89G640-585	1D1	COMP A5	437	D	A			
PD89-013	11/21/89	HOL89G640-585	1D1	COMPA5	437	A	D			
PD90-011	9/27/90	HOL89G640-585	N103	COMP A5	2070	D	A			
PD89-013	11/21/89	HOL89G640-585	N103	COMPA5	2070	A	D			
PD90-011	9/27/90	HOL89G640-586	N103	COMP A5	2030	D	A			
PD89-013	11/21/89	HOL89G640-586	N103	COMPA5	2030	A	D			
PD90-011	9/27/90	HOL89G640-586	N104	COMP A5	12	D	A			
PD89-013	11/21/89	HOL89G640-586	N104	COMPA5	12	A	D			
PD90-001	4/30/90	HOL89G640-587	5D12	COMP A5	LOT	A	E			
PD90-011	9/27/90	HOL89G640-587	N104	COMP A5	2094	E	A			
PD90-015	10/17/90	HOL89G640-587	N104	COMP A5	2094	A	E			
PD89-013	11/21/89	HOL89G640-587	N104	COMPA5	2094	A	D			
PD90-011	9/27/90	HOL89G640-588	N104	COMP A5	1998	D	A			
PD90-011	9/27/90	HOL89G640-589	N105	COMP A5	1524	D	A			
PD89-013	11/21/89	HOL89G640-589	N105	COMPA5	1524	A	D			
PD90-011	9/27/90	HOL89G640-590	N105	COMP A5	890	D	A			
PD89-013	11/21/89	HOL89GF640-588	N104	COMPA5	1998	A	D			
PD90-012	9/27/90	HOL89H640-591	N105	COMP A5	1686	D	A			
PD89-013	11/21/89	HOL89H640-591	N105	COMPA5	1686	A	D			
PD90-012	9/27/90	HOL89H640-591	O113	COMP A5	60	D	A			
PD89-013	11/21/89	HOL89H640-591	O113	COMPA5	61	A	D			
PD90-012	9/27/90	HOL89H640-592	O113	COMP A5	1990	D	A			
PD89-013	11/21/89	HOL89H640-592	Q113	COMPA5	1990	A	D			
PD89-013	11/21/89	HOL89HF640-590	N105	COMPA5	890	A	D			
PD90-002	4/30/90	HOL89J767-028	1D2	PBX	58	A	E			
PD96-003	7/30/96	HOL90B924-033	B3	YCLOTOI	2	A	H			
PD90-019	12/14/90	SOW86H013-223	7B1	NITRO	1	A	E			
PD90-020	12/14/90	SOW87A017-135			1	E	A			
PD91-001	1/2/91	SOW87B017-164	7A1	NITRO	1	A	E			
PD88-004	7/31/87	SOW87C018-009	7A2	NITRO	1	A	H			
PD91-013	11/7/91	SOW88L020-124	1A2	NITRO	600	A	E			
PD91-013	11/7/91	SOW88L020-125	1A2	NITRO	573	A	E			
PD89-012	6/13/89	SOW89D020-250	5C3	NITRO	425	A	D			
PD89-012	6/13/89	SOW89D020-250	5C3	NITRO	328	A	D			

PD89-014	12/13/89	SOW89D020-250	5C3	NITRO	599	D	A			
PD89-012	6/13/89	SOW89D020-250	5C4	NITRO	175	A	D			
PD89-014	12/13/89	SOW89D020-251	5C3	NITRO	327	D	A			
PD90-004	8/20/90	SOW90E021-262	2E2	NITRO	311	A	D			
PD90-004	8/20/90	SOW90E021-262	2E3	NITRO	287	A	D			
PD90-004	8/20/90	SOW90E021-263	1E4	NITRO	154	A	D			
PD90-004	8/20/90	SOW90E021-263	2E2	NITRO	446	A	D			
PD90-004	8/20/90	SOW90E021-263	2E3	NITRO	2	A	D			
PD92-036	10/6/92	UNKOWN	6D9	COMP B	1	A	H			

ATR LOG										
				ATRLOG96.XLS						
ATR NUMBER	ATR DATE	LOT NUMBER	ITEM LOCATION	ITEM	QUANITY BOXES	CCC FROM	TO CCC			
PD86-003	7/29/86	HOL-050-5077	2E1	COMP B	1	A	H			
PD87-005	8/4/88	HOL-35-1925	HE312	COMP B	127	B	H			
PD88-004	7/31/87	SOW87C018-009	7A2	NITRO	1	A	H			
PD89-011	3/9/89	HOL-35-9120	1E5	COMP B	1	A	H			
PD89-012	6/13/89	SOW89D020-250	5C3	NITRO	425	A	D			
PD89-012	6/13/89	SOW89D020-250	5C3	NITRO	328	A	D			
PD89-012	6/13/89	SOW89D020-250	5C4	NITRO	175	A	D			
PD89-013	11/21/89	HOL89F640-579	Q129	COMPA5	2083	A	D			
PD89-013	11/21/89	HOL89F640-580	Q129	COMPA5	2017	A	D			
PD89-013	11/21/89	HOL89F640-580	Q132	COMPA5	60	A	D			
PD89-013	11/21/89	HOL89F640-581	Q132	COMPA5	2024	A	D			
PD89-013	11/21/89	HOL89F640-582	Q132	COMPA5	2010	A	D			
PD89-013	11/21/89	HOL89F640-582	Q133	COMPA5	18	A	D			
PD89-013	11/21/89	HOL89F640-583	Q133	COMPA5	2102	A	D			
PD89-013	11/21/89	HOL89F640-584	1D1	COMPA5	271	A	D			
PD89-013	11/21/89	HOL89F640-584	Q133	COMPA5	1980	A	D			
PD89-013	11/21/89	HOL89G640-585	1D1	COMPA5	437	A	D			
PD89-013	11/21/89	HOL89G640-585	N103	COMPA5	2070	A	D			
PD89-013	11/21/89	HOL89G640-586	N103	COMPA5	2030	A	D			
PD89-013	11/21/89	HOL89G640-586	N104	COMPA5	12	A	D			
PD89-013	11/21/89	HOL89G640-587	N104	COMPA5	2094	A	D			
PD89-013	11/21/89	HOL89G640-589	N105	COMPA5	1524	A	D			
PD89-013	11/21/89	HOL89GF640-588	N104	COMPA5	1998	A	D			
PD89-013	11/21/89	HOL89H640-591	N105	COMPA5	1686	A	D			
PD89-013	11/21/89	HOL89H640-591	O113	COMPA5	61	A	D			
PD89-013	11/21/89	HOL89H640-592	Q113	COMPA5	1990	A	D			
PD89-013	11/21/89	HOL89HF640-590	N105	COMPA5	890	A	D			
PD89-014	12/13/89	SOW89D020-250	5C3	NITRO	599	D	A			
PD89-014	12/13/89	SOW89D020-251	5C3	NITRO	327	D	A			
PD90-001	4/30/90	HOL86J640-346	N96	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL86K640-349	N96	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL87K641-429	5D4	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88A641-452	5D5	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88B641-457	5D12	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88B641-458	5D8	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL88C641-464	5D13	COMP A5	LOT	A	E			
PD90-001	4/30/90	HOL89G640-587	5D12	COMP A5	LOT	A	E			
PD90-002	4/30/90	HOL89J767-028	1D2	PBX	58	A	E			
PD90-003	8/14/90	HOL-052-20	HG359	COMP B	1	A	H			
PD90-003	8/14/90	HOL-052-22	HG359	COMP B	2	A	H			
PD90-004	8/20/90	SOW90E021-262	2E2	NITRO	311	A	D			
PD90-004	8/20/90	SOW90E021-262	2E3	NITRO	287	A	D			
PD90-004	8/20/90	SOW90E021-263	1E4	NITRO	154	A	D			
PD90-004	8/20/90	SOW90E021-263	2E2	NITRO	446	A	D			
PD90-004	8/20/90	SOW90E021-263	2E3	NITRO	2	A	D			
PD90-005	8/20/90	HOL-053-5386	HH369	COMP B	1	A	H			
PD90-011	9/27/90	HOL89F640-579	Q129	COMP A5	2083	D	A			
PD90-011	9/27/90	HOL89F640-580	Q129	COMP A5	2017	D	A			
PD90-011	9/27/90	HOL89F640-580	Q132	COMP A5	66	D	A			

PD90-011	9/27/90	HOL89F640-581	Q132	COMP A5	2024	D	A			
PD90-011	9/27/90	HOL89F640-583	Q133	COMP A5	2102	D	A			
PD90-011	9/27/90	HOL89F640-584	1D1	COMP A5	437	D	A			
PD90-011	9/27/90	HOL89F640-584	Q133	COMP A5	1980	D	A			
PD90-011	9/27/90	HOL89G640-585	1D1	COMP A5	437	D	A			
PD90-011	9/27/90	HOL89G640-585	N103	COMP A5	2070	D	A			
PD90-011	9/27/90	HOL89G640-586	N103	COMP A5	2030	D	A			
PD90-011	9/27/90	HOL89G640-586	N104	COMP A5	12	D	A			
PD90-011	9/27/90	HOL89G640-587	N104	COMP A5	2094	E	A			
PD90-011	9/27/90	HOL89G640-588	N104	COMP A5	1998	D	A			
PD90-011	9/27/90	HOL89G640-589	N105	COMP A5	1524	D	A			
PD90-011	9/27/90	HOL89G640-590	N105	COMP A5	890	D	A			
PD90-012	9/27/90	HOL89H640-591	N105	COMP A5	1686	D	A			
PD90-012	9/27/90	HOL89H640-591	O113	COMP A5	60	D	A			
PD90-012	9/27/90	HOL89H640-592	O113	COMP A5	1990	D	A			
PD90-015	10/17/90	HOL89G640-587	N104	COMP A5	2094	A	E			
PD90-019	12/14/90	SOW86H013-223	7B1	NITRO	1	A	E			
PD90-020	12/14/90	SOW87A017-135			1	E	A			
PD91-001	1/2/91	SOW87B017-164	7A1	NITRO	1	A	E			
PD91-002	1/11/91	HOL86A130-526	4A6	COMP B	2	A	E			
PD91-003	1/18/91	HOL-053-81	Q131	COMP B	1	A	E			
PD91-004	1/30/91	HOL-053-5375	HE340	COMP B	1	A	H			
PD91-005	2/8/91	HOL-053-357	P121	COMP B	1	A	H			
PD91-008	3/27/91	HOL-053-33	M91	COMP B	4	A	E	3SHIPPED C1006-96		
PD91-008	3/27/91	HOL-053-33	M91	COMP B	2	A	H			
PD91-009	3/27/91	HOL-053-413	K75	COMP B	2	A	H			
PD91-009	3/27/91	HOL-053-413	K75	COMP B	1	A	E			
PD91-009	3/27/91	HOL-053-417	K75	COMP B	1	A	H			
PD91-010	9/30/91	HOL-053-180	4B9	COMP B	5	A	H			
PD91-010	9/30/91	HOL-053-181	4B9	COMP B	2	A	H			
PD91-011	10/30/91	HOL-053-421	J62	COMP B	1	A	H			
PD91-011	10/30/91	HOL-053-437	J62	COMP B	1	A	H			
PD91-012	10/30/01	HOL-053-421	J62	COMP B	2	A	E	2 SHIPPED C1006-96		
PD91-013	11/7/91	SOW88L020-124	1A2	NITRO	600	A	E			
PD91-013	11/7/91	SOW88L020-125	1A2	NITRO	573	A	E			
PD91-014	11/7/91	HOL-50-50569	4E8	COMP B	1	A	E			
PD91-015	11/19/91	HOL-50-50569	4E8	COMP B	1	E	A			
PD92-003	3/23/92	HOL-35-9119	1E3	COMP B	1	A	E			
PD92-004	3/30/92	HOL-053-231	5C7	COMP B	3	A	E			
PD92-005	3/14/92	HOL-053-231	5C7	COMP B	4	E	A			
PD92-007	4/14/92	HOL-050-5076	2E1	COMP B	1	A	E			
PD92-007	4/14/92	HOL-050-5077	2E1	COMP B	1	A	E			
PD92-008	4/23/92	HOL-050-5060	4E2	COMP B	3	A	E	3 SHIPPED C1006-96		
PD92-009	5/7/92	HOL-35-9120	1E5	COMP B	10	A	E			
PD92-010	4/24/92	HOL-053-57	M93	COMP B	1	A	E			
PD92-011	4/24/92	HOL-053-165	M87	COMP B	*	A	E	1 SHIPPED C-1006-96		
PD92-011	4/24/92	HOL-053-226	M87	COMP B	*	A	E			
PD92-012	4/24/92	HOL-050-5004	2E4	COMP B	2	A	E			
PD92-012	4/24/92	HOL-050-5034	3E9	COMP B	2	A	E			
PD92-012	4/24/92	HOL-050-5062	4E2	COMP B	8	A	E			
PD92-012	4/24/92	HOL-050-5069	4E8	COMP B	3	A	E	3 SHIPPED C1006-96		
PD92-013	5/7/92	HOL-050-5004	2E4	COMP B	2	E	A			
PD92-013	5/7/92	HOL-050-5034	3E9	COMP B	2	E	A			
PD92-013	5/7/92	HOL-35-9119	1E3	COMP B	1	E	A			
PD92-014	5/7/92	HOL-050-5015	7E1	COMP B	1	A	E			
PD92-014	5/7/92	HOL-053-5022	6E7	COMP B	30	A	E			
PD92-014	5/7/92	HOL-053-5026	7E3	COMP B	10	A	E			

PD92-015	5/29/92	HOL-050-5015	7E1	COMP B	1	E	A			
PD92-015	5/29/92	HOL-050-5022	6E7	COMP B	30	E	A			
PD92-015	5/29/92	HOL-050-5026	7E3	COMP B	19	E	A			
PD92-016	5/29/92	HOL-053-5397	Q137	COMP B	34	A	E			
PD92-017	6/1/96	HOL-053-57	M93	COMP B	1	E	A			
PD92-018	6/1/96	HOL-053-165	M87	COMP B	*	A	E			
PD92-018	6/1/96	HOL-053-226	M87	COMP B	*	E	A			
PD92-019	6/11/92	HOL-053-137	1B3	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-143	3B12	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-144	3B12	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-149	2B3	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-150	2B3	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-150	2B3	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-189	1B1	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-227	K72	COMP B	2	A	E			
PD92-019	6/11/92	HOL-053-227	L80	COMP B	2	A	E			
PD92-019	6/11/92	HOL-053-227	L84	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-237	Q138	COMP B	4	A	E			
PD92-019	6/11/92	HOL-053-345	P126	COMP B	2	A	E			
PD92-019	6/11/92	HOL-053-49	M89	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-5397	Q135	COMP B	1	A	E			
PD92-019	6/11/92	HOL-053-5398	Q134	COMP B	2	A	E			
PD92-019	6/11/92	HOL-053-58	M90	COMP B	2	A	E			
PD92-019	6/11/92	HOL-053-82	M93	COMP B	2	A	E			
PD92-020	6/11/92	HOL-053-46	N101	COMP B	1	A	H			
PD92-022	6/11/92	HOL-053-151	2B2	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-180	4B9	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-189	1B2	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-227	L81	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-46	N101	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-5397	Q135	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-57	M93	COMP B	1	A	E			
PD92-022	6/11/92	HOL-053-83	O111	COMP B	6	A	E			
PD92-022	6/11/92	HOL-053-87	K76	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-142	1B5	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-143	1B5	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-151	3B13	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-187	1B2	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-192	1B1	COMP B	5	A	E			
PD92-023	6/11/92	HOL-053-5398	Q134	COMP B	2	A	E			
PD92-023	6/11/92	HOL-053-63	P122	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-64	M94	COMP B	3	A	E			
PD92-023	6/11/92	HOL-053-68	M95	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-69	P118	COMP B	1	A	E			
PD92-023	6/11/92	HOL-053-77	P117	COMP B	1	A	E			
PD92-024	6/11/92	HOL-053-187	1B2	COMP B	2	A	E			
PD92-025	6/12/92	HOL-050-5044	7E6	COMP B	1	A	E			
PD92-025	6/12/92	HOL-053-231	L85	COMP B	3	A	E			
PD92-026	6/12/92	HOL-053-42	P125	COMP B	135	A	E			
PD92-026	6/12/92	HOL-053-43	P125	COMP B	1	A	E			
PD92-028	7/31/92	HOL-053-137	1B3	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-143	3B12	COMP B	3	E	A			
PD92-028	7/31/92	HOL-053-144	3B12	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-149	2B3	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-150	2B3	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-150	2B3	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-189	1B1	COMP B	1	E	A			

PD92-028	7/31/92	HOL-053-227	K72	COMP B	2	E	A			
PD92-028	7/31/92	HOL-053-227	L80	COMP B	2	E	A			
PD92-028	7/31/92	HOL-053-227	L84	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-237	Q138	COMP B	4	E	A			
PD92-028	7/31/92	HOL-053-345	P126	COMP B	2	E	A			
PD92-028	7/31/92	HOL-053-49	M89	COMP B	1	E	A			
PD92-028	7/31/92	HOL-053-5397	Q135	COMP B	1	E	A	HG359		
PD92-028	7/31/92	HOL-053-5398	Q134	COMP B	2	E	A	HG359		
PD92-028	7/31/92	HOL-053-58	M90	COMP B	2	E	A	HG359		
PD92-028	7/31/92	HOL-053-82	M93	COMP B	2	E	A			
PD92-029	7/31/92	HOL-053-231	L85	COMP B	3	E	A			
PD92-029	7/31/92	HOL-053-5044	7E6	COMP B	1	E	A			
PD92-030	7/31/92	HOL-050-5076	2E1	COMP B	1	E	A			
PD92-030	10/22/92	HOL-053-125	7D4	COMP B	3	A	H	1 SHIPPED C10006-96		
PD92-031	10/22/92	HOL-053-125	7D4	COMP B	8	A	E			
PD92-031	7/31/92	HOL-053-5077	2E1	COMP B	1	E	A			
PD92-032	7/31/92	HOL-053-187	1B2	COMP B	2	E	A			
PD92-033	7/31/92	HOL-053-42	P125	COMP B	135	E	A			
PD92-033	7/31/92	HOL-053-43	P125	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-151	2B2	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-180	4B9	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-189	1B2	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-227	L81	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-46	N101	COMP B	1	E	A			
PD92-034	7/31/02	HOL-053-5397	Q134	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-57	M93	COMP B	1	E	A			
PD92-034	7/31/92	HOL-053-83	O111	COMP B	6	E	A			
PD92-034	7/31/92	HOL-053-87	K76	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-143	1B5	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-151	3B13	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-187	1B2	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-192	1B1	COMP B	5	E	A			
PD92-035	8/19/92	HOL-053-5398	Q134	COMP B	2	E	A			
PD92-035	8/19/92	HOL-053-63	P122	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-64	M94	COMP B	3	E	A			
PD92-035	8/10/92	HOL-053-68	M95	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-69	P118	COMP B	1	E	A			
PD92-035	8/10/92	HOL-053-77	P117	COMP B	1	E	A	HG359		
PD92-035	8/10/92	HOL-O53-142	1B5	COMP B	1	E	A	HG359		
PD92-036	10/6/92	HOL-050-5895	4D3	COMP B	1	A	H	SHIPPED C1006-96		
PD92-036	10/6/92	UNKOWN	6D9	COMP B	1	A	H			
PD92-038	12/9/92	HOL-053-126	4D10	COMP B	1	A	H	1 SHIPPED C10006-96		
PD93-001	1/18/93	HOL-053-165	3B3	COMP B	1	A	E			
PD93-002	1/19/93	HOL-053-422	3E9	COMP B	1	A	E			
PD93-002	1/19/93	HOL-053-5019	3E7	COMP B	1	A	E	1SHIPPED C1006-96		
PD93-006	2/23/93	HOL-053-135	3E2	COMP B	1	A	H	1 SHIPPED C10006-96		
PD93-008	3/5/93	HOL85L130-494	4A1	COMP B	1	A	E	1SHIPPED C1006-96		
PD93-009	3/5/93	HOL85M130-511	4A3	COMP B	3	A	E			
PD93-010	3/5/93	HOL85M130-499	4A2	COMP B	13	A	E	13 SHIPPED CO1006-96		
PD93-011	3/5/93	HOL85M130-515	4A2	COMP B	5	A	E	1SHIPPED C1006-96		
PD93-012	3/5/93	HOL-85M130-515	4A5	COMP B	1	A	E			
PD93-013	3/5/93	HOL-86A130-520	4A5	COMP B	1	A	E			
PD93-015	3/10/93	HOL-053-64	M94	COMP B	1	A	E	1 SHIPPED c1006-96		
PD93-016	3/10/93	HOL-053-66	N100	COMP B	1	A	E	1 SHIPPED c1006-96		
PD93-021	7/26/93	HOL-053-211	2C9	COMP B	1	A	E	1 SHIPPED C1006-96		
PD93-022	8/16/93	HOL-053-5397	Q137	COMP B	34	E	A			
PD93-023	9/3/93	HOL-050-5062	4E2	COMP B	2	E	A	4 SHIPPED C1006-96		

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PD93-023	9/3/93	HOL-86A130-526	4A6	COMP B	2	E	A			
PD95-003	3/10/95	HOL-85M130-511	4A3	COMP B	3	E	A			
PD95-004	5/17/96	HOL-35-9120	1E5	COMP B	4	A	H	4 SHIPPED C1006-96		
PD95-005	10/13/95	HOL-35-9120	1E5	COMP B	10	E	A			
PD96-001	2/27/96	HOL-35-9126	1E5	COMP B	1	E	A	1SHIPPED C1006-96 CCH		
PD96-002	5/13/96	HOL-053-165	3B3	COMP B	1	E	A			
PD96-003	7/30/96	HOL90B924-033	B3	YCLOTOI	2	A	H			
PD96-004	8/27/96	HOL86F640-321	J60	COMP A5	2	A	H			
PD96-004	8/27/96	HOL86F640-323	J63	COMP A5	1	A	H			
PD96-005	10/1/96	HOL86F640-322	J63	COMP A5	46	A	H			

ATTACHMENT B:

RVAAP IGLOO FIELD INSPECTION FORMS AND PHOTOS

PAGE NO.

IGLOO BLOCK-B INSPECTION FORMS & PHOTOS AB-2
Igloo Lane 6B AB-3
Igloo Lane 7B AB-21

IGLOO BLOCK-C INSPECTION FORMS & PHOTOS AB-39
Igloo Lane 1C AB-40
Igloo Lane 3C AB-78
Igloo Lane 6C AB-96
Igloo Lane 7C AB-119
IGLOO BLOCK-D INSPECTION FORMS & PHOTOS AB-134
Igloo Lane 3D AB-135
Igloo Lane 5D AB-143
Igloo Lane 7D AB-153
IGLOO AREA GROUP-1 INSPECTION FORMS and PHOTOS AB-191
Railroad Track –F Igloos AB-192
IGLOO AREA GROUP-1A INSPECTION FORMS and PHOTOS AB-196
Railroad Track –J Igloos AB-197
Railroad Track –K Igloos AB-206
Railroad Track –L Igloos AB-215
Railroad Track –P Igloos AB-224
Railroad Track –Q Igloos AB-273
IGLOO AREA GROUP-7 INSPECTION FORMS and PHOTOS AB-338
Railroad Track –HA Igloos AB-339
Railroad Track –HB Igloos AB-347

IV. IGLOO BLOCK-B

A. IGLOO LANE 6B

IGLOO INSPECTION FORM

Igloo #: **6B1 Prospective Tornado Shelter**

Date: 26 Nov 10 Time: 0838 Hrs Weather: Calm - Sunny - 28° F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #6B-1 & 2 Ext -

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Briar Infested - Some Trees Growing on Igloo - Both Floor + Toe Drain Vents Present Some Moisture Retention on North Wing Face - Moss Growing - Lock Secured to Hasp N of Door Flowage South - ~~Yes~~ Culverts 70' (12" Galvanized) Also One To North ≅ 40' - a 12" Galvanized Pipe

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry - A spot of dampness on Floor at SE. corner Drain But Appears To Be Condensation More than Anything Else

Obvious downstream surface water pathway available to sample sediment? Y - to South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? ~~No~~, Y -

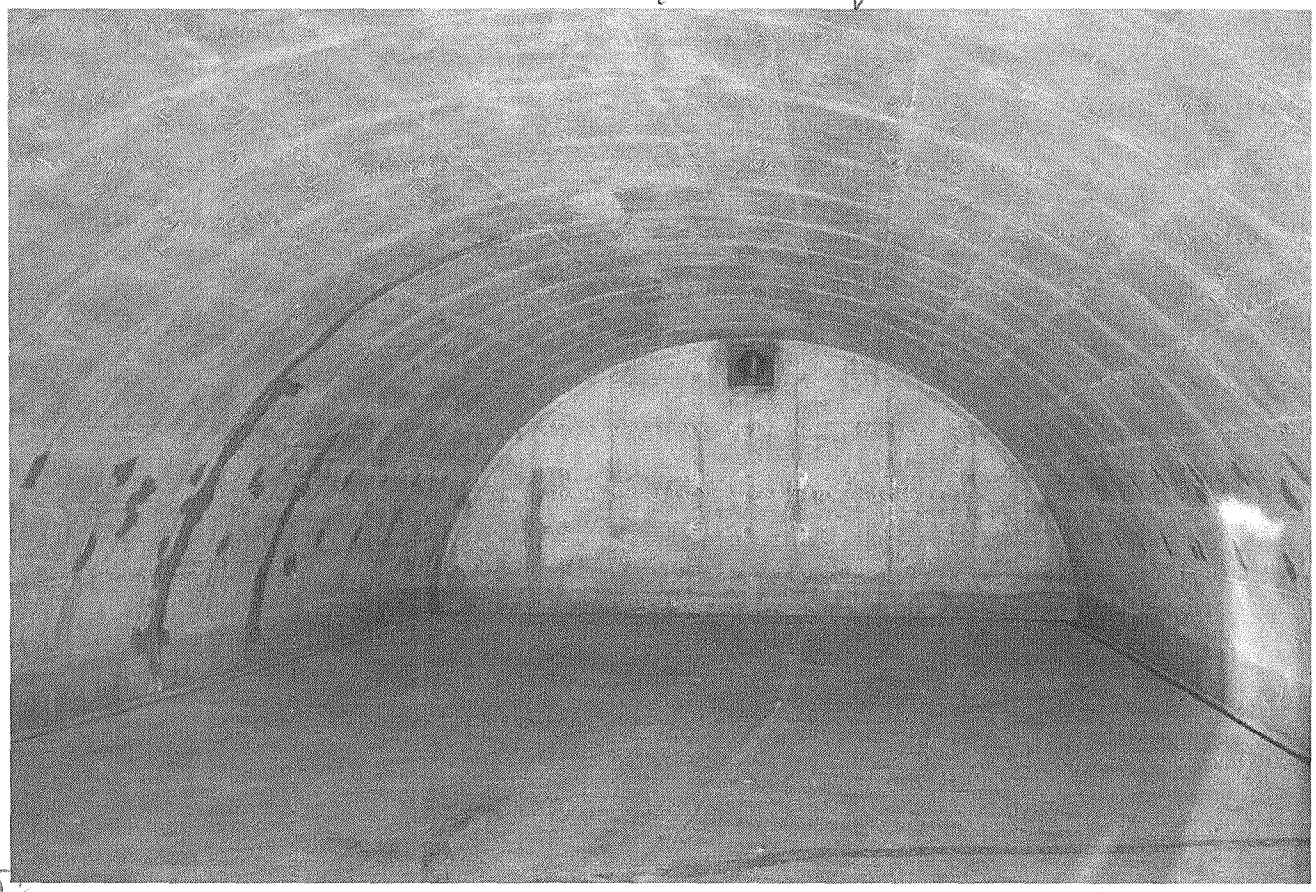
If yes what type? 12" Galvanized Pip

Other Notes:

Igloo #: 6B1 Prospective Tornado Shelter

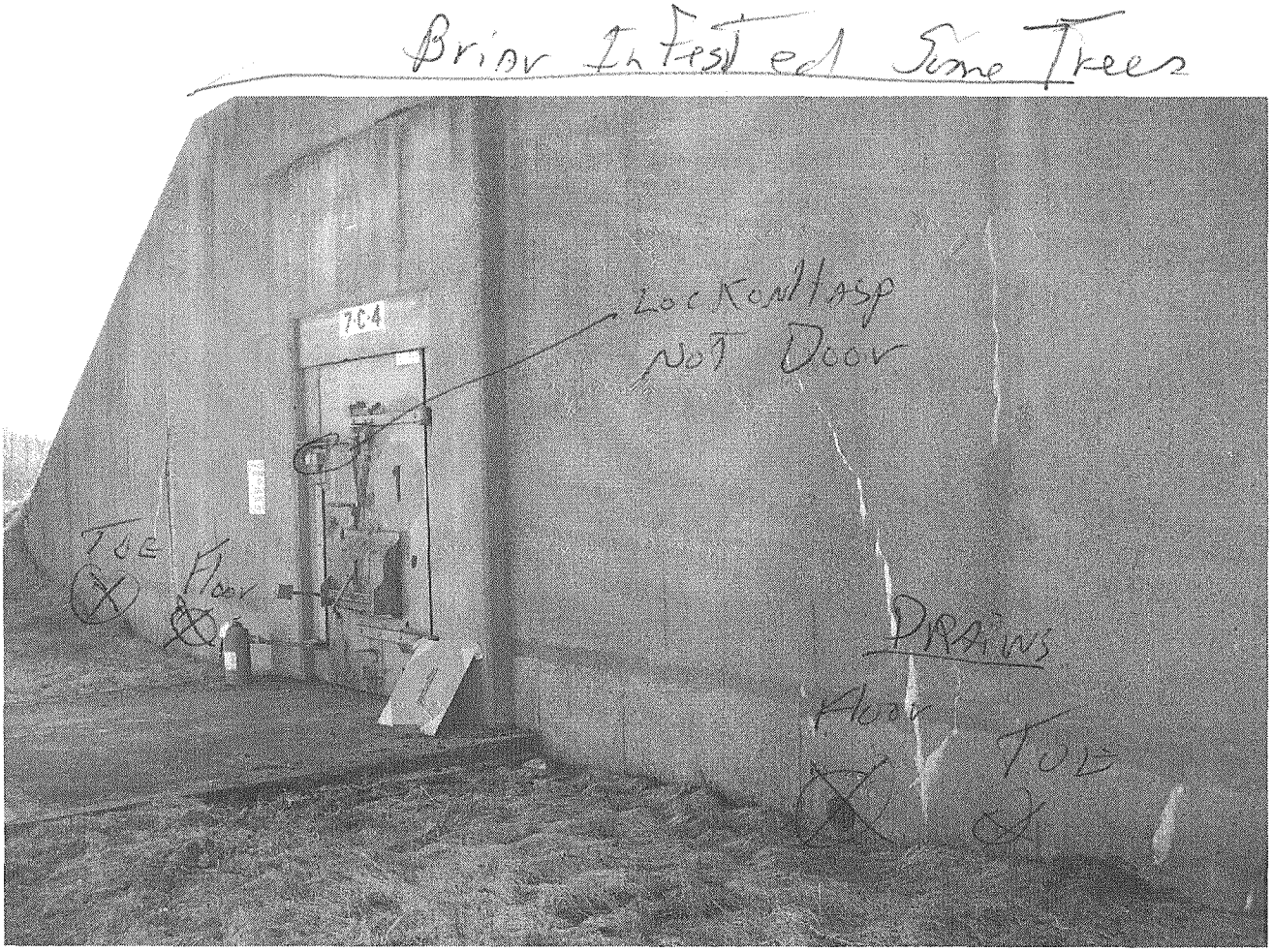
26 Nov '14

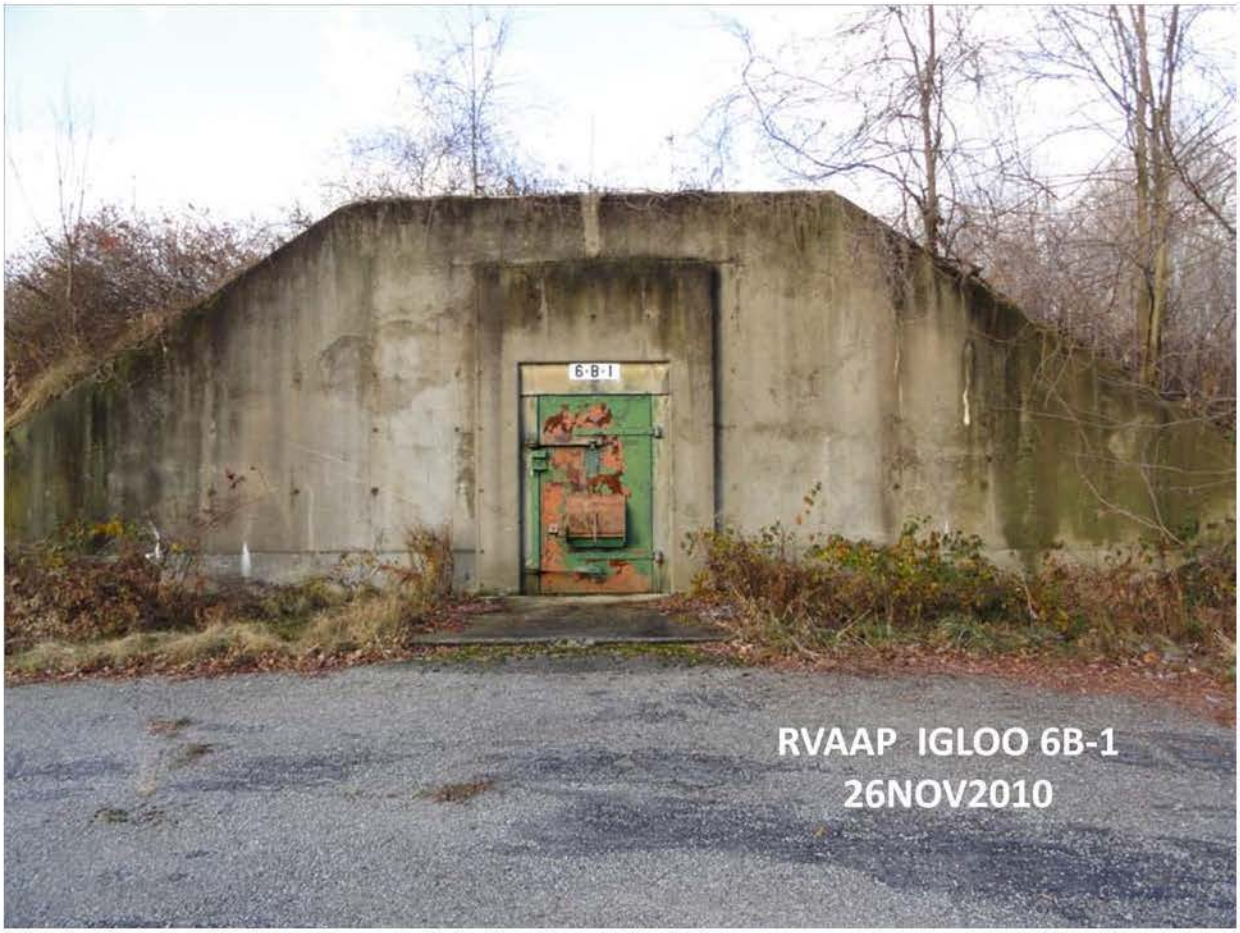
Clean & Dry



Condensation spot @ Drain Hole

Igloo #: **6B1 Prospective Tornado Shelter**




6·B·1
RVAAP IGLOO 6B-1
26NOV2010

Radio Check @ 0904 Hrs
To Post #1

IGLOO INSPECTION FORM

Igloo #: **6B2 Prospective Tornado Shelter+B40**

Date: 26 Nov '10 Time: 0852 Hs Weather: Cloudy - Calm 28°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6B2-#1 EXT #2 NE Cm Water #3 Headwall separation

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Completely Brian Infested - ~~Hac~~ Wall Facing in Good Shape - Lock Secured To Hasp Not Door - (Large Hornets' Nest - Previous Occupied) - No Culverts North or South - Drainage South - Toe + Floor Drain Vents - Note: 2ea Toe drains on North Wing Face

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

First Reported in 1988

Headwall - Arch Separation - NiEast Corner & East Wall - Wet - Water on Corner - Scupper Holding Water About 16' ft ~~to~~ ~~up~~ West in Trench - ≅ 1/8" Deep. - South Scupper Dry

2 Photos - Remaining interior Dry

~~Head~~ H

Obvious downstream surface water pathway available to sample sediment? Y - South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type?

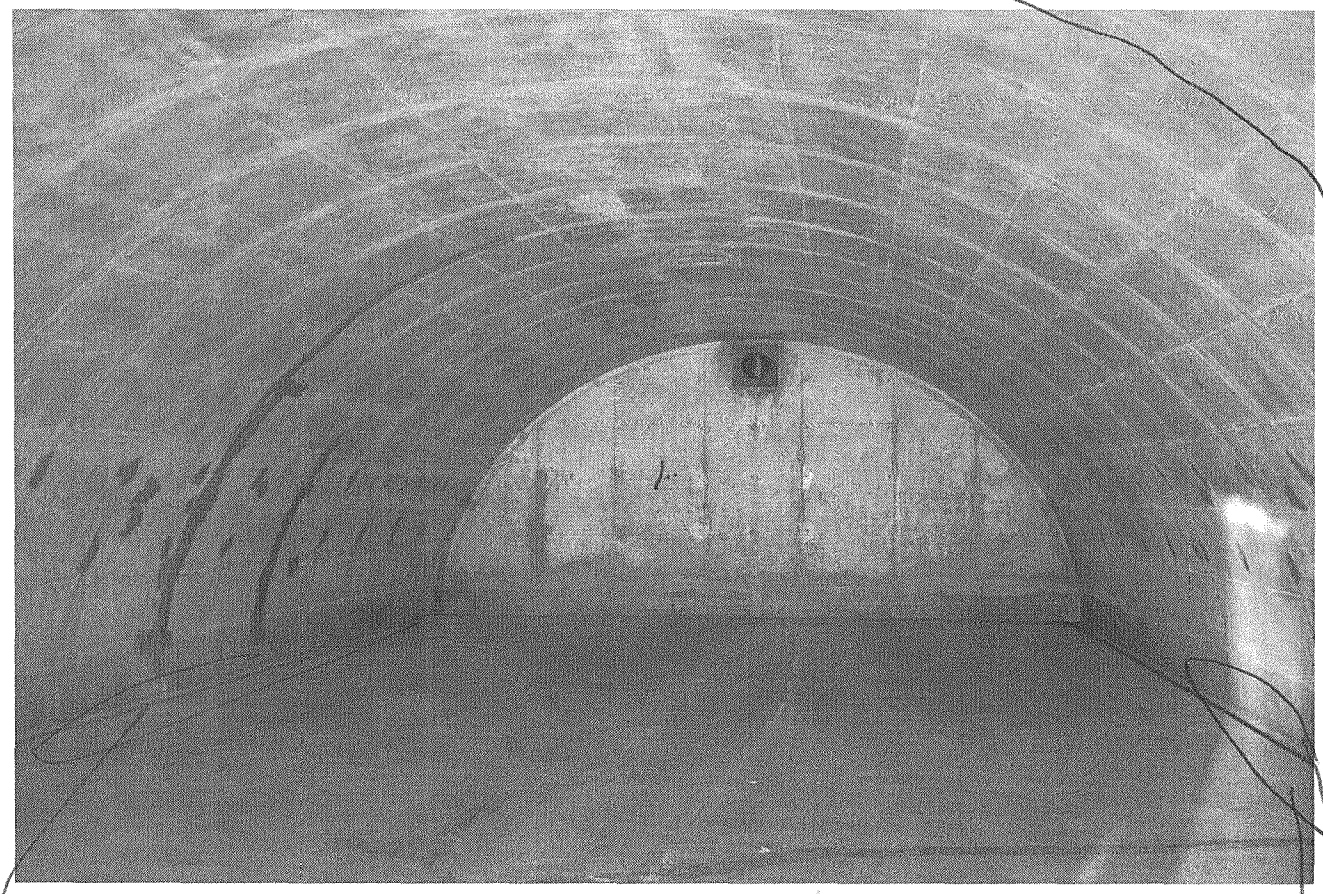
Other Notes:

Igloo #: 6B2 Prospective Tornado Shelter

26 Nov '10

No Debris inside

Headwall Arch separation w/ Water Seepage



Scupper Dry

S ⟷ N

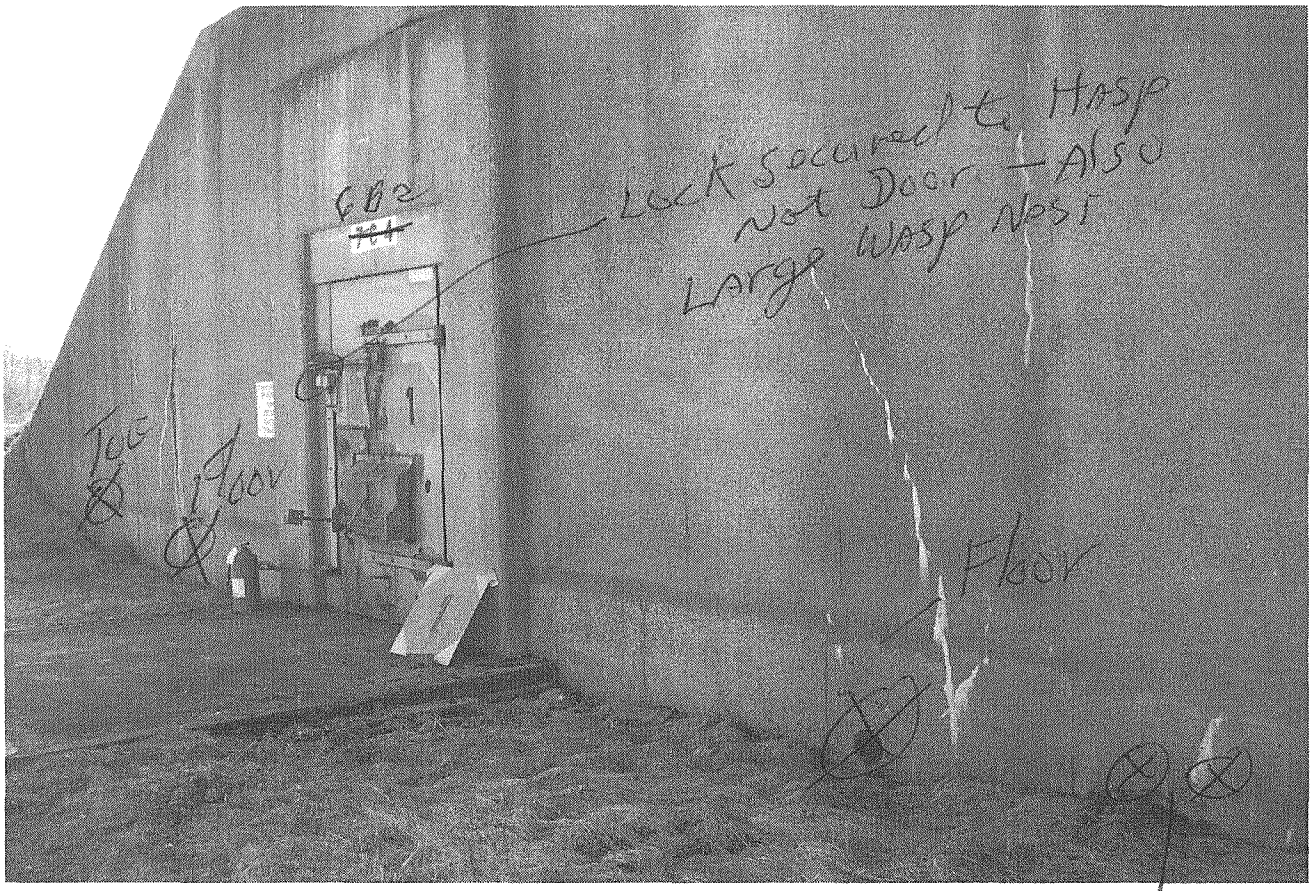
W

E

1/8" Water in Scupper

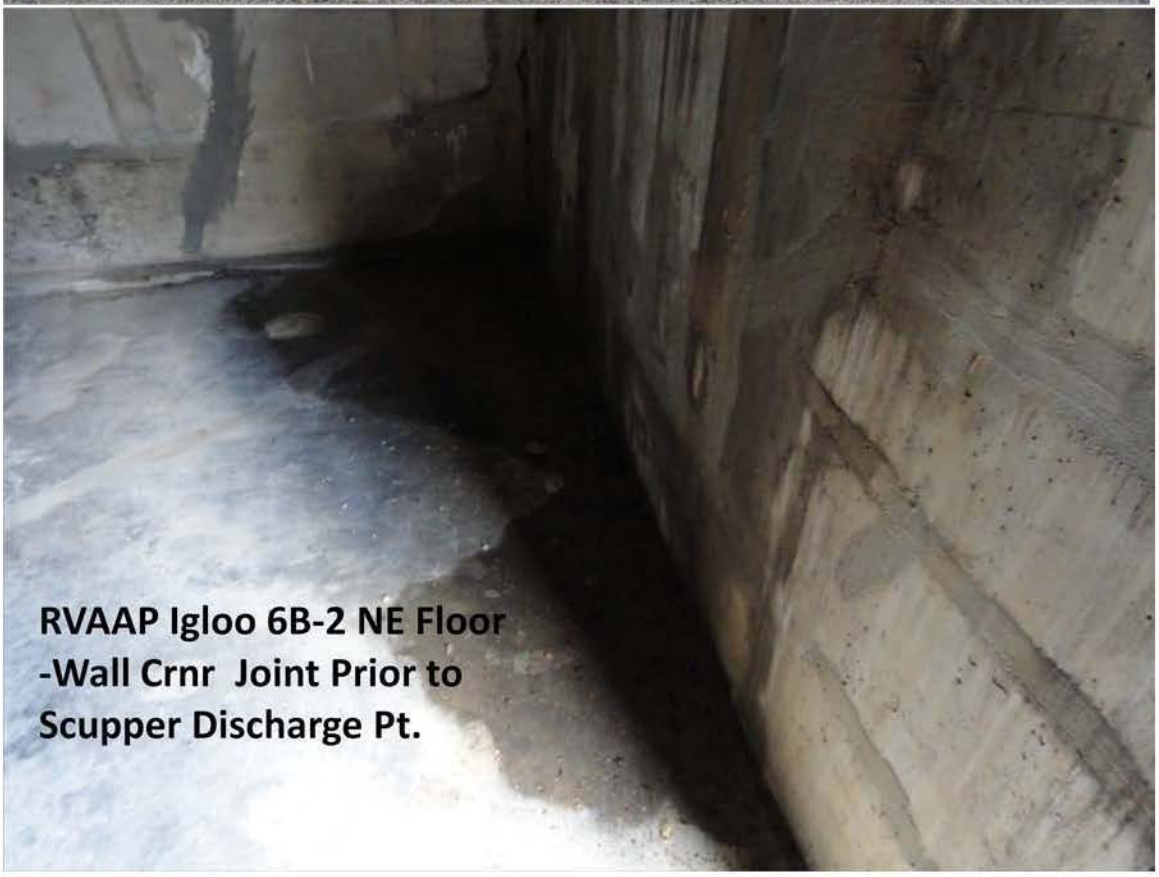
Igloo #: 6B2 Prospective Tornado Shelter

26 Nov '10



2 ea.
Toe Drains

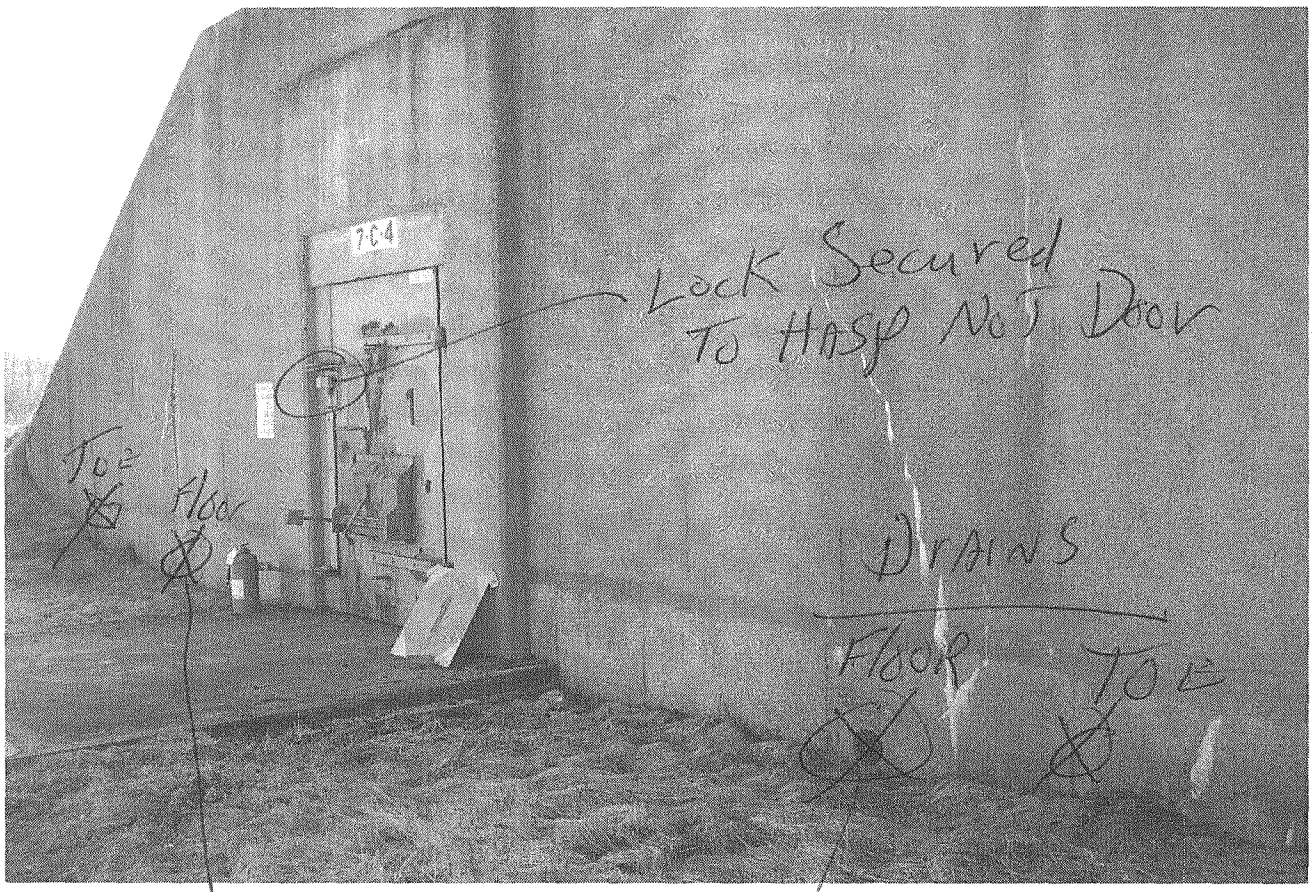

6-B-2
RVAAP Igloo 6B-2
26NOV2010-


RVAAP Igloo 6B-2 NE Floor
-Wall Crnr Joint Prior to
Scupper Discharge Pt.


RVAAP Igloo 6B-2 NE Arch-
Hdwall joint separation

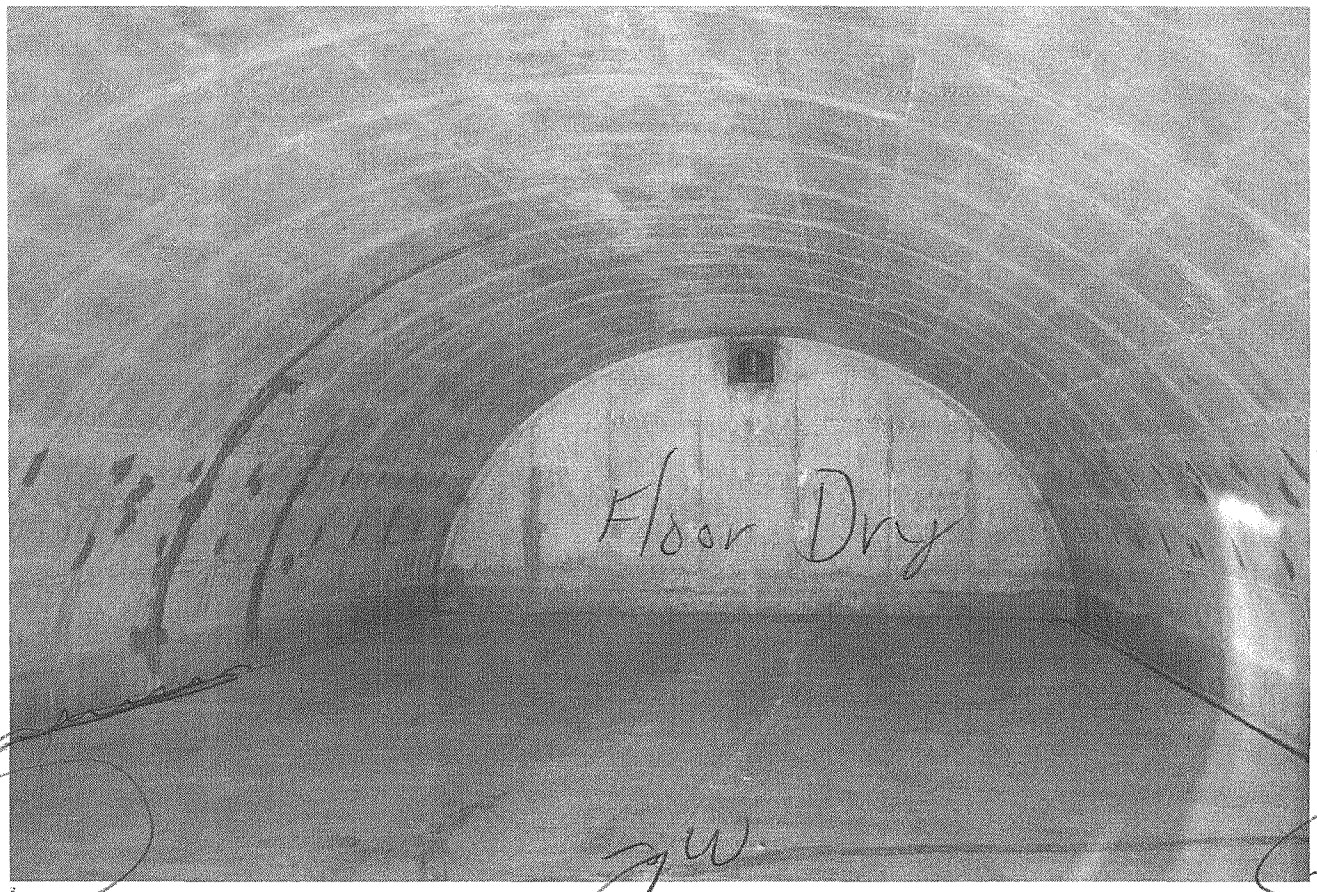
Igloo #: 6B3 Prospective Tornado Shelter

26 Nov '10



Igloo #: 6B3 Prospective Tornado Shelter

26 Nov '10



W

S N

E

Water on Wall, Corner & in Scupper ~~contains~~ water appears in scupper 16' fm/ corner

Water on East wall - draining into cleanout box - No water in Scuppe

IGLOO INSPECTION FORM

Igloo #: **6B3 Prospective Tornado Shelter**

Date: 26 Nov '10 Time: 0915 Hrs Weather: Sunny - Light Breeze 25°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #6B3-#1 Ext #2 NE Corner Int Seepage

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

24" Culvert to South - Top is Briar Infested - Facing shows some Cracks - Both Floor Drain Vents Are Wet - Toe drains present - Lock Secured To Hasp Not Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Both SE & N. East Corners & Walls Wet Water in 1st 1/4 RUN of ~~Scupper~~ South Scupper Mouse Nest Blocking Drainage - NE. Corner Has Water But Appears To Be Draining via the Cleanout Trap Being there's no water in the Scupper - Floor dry & Clean - All moisture Problems @ NE & SE Corners - ~~flow app~~ Seepage Origins Appears Halfway up @ Wall and Arch joint Probably Minor Separation

Obvious downstream surface water pathway available to sample sediment? Y - South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes - 24" Galvanized

If yes what type? ~~Gal~~ Corrugated Galvanized

Other Notes:


6-B-3
RVAAP IGLOO 6B-3
26NOV2010


RVAAP IGLOO 6B-3 NE
Arch-Hdwall Joint
Separation w/ significant
patch & seal

IGLOO INSPECTION FORM

Igloo #: **6B4 Prospective Tornado Shelter**

Date: 26 Nov '10 Time: 0938 Weather: Sunny - Slight Breeze -28°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6B4 #1 EXT. #2 N.E. Int Corner #3 SE Corner #4 Back Wall Vent & Leak Previously Noted

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top of Igloo Covered w/ Briars - No attempt made To Hdwall - Barrell ~~Expan~~ Joint Condition - No Culverts Either side ≤ 70ft. - TREE Growing Center Top (see photo) on Barrel - Headwall Joint - Lock on Hasp Not Door "Severe Weather Shelter" Sign Posted - Flowage in Both N & S direction - Toe & Floor Drains Vents Present - Bottom Part of Floor Drains Covered By Ground Surface

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Same Situation As 6B3 - EAST - Wall & Corners Seeping Water into Scuppers - Water present in Scupper 16 ft fm East Wall - ~~1955~~ West Wall that Contains Blast Vent there was a Inscription 1957 Identify water seepage which apparently was repaired sometime after Being no seepage @ this inspection

Obvious downstream surface water pathway available to sample sediment? Yes Both N. & S. - Igloo on A Topo crest

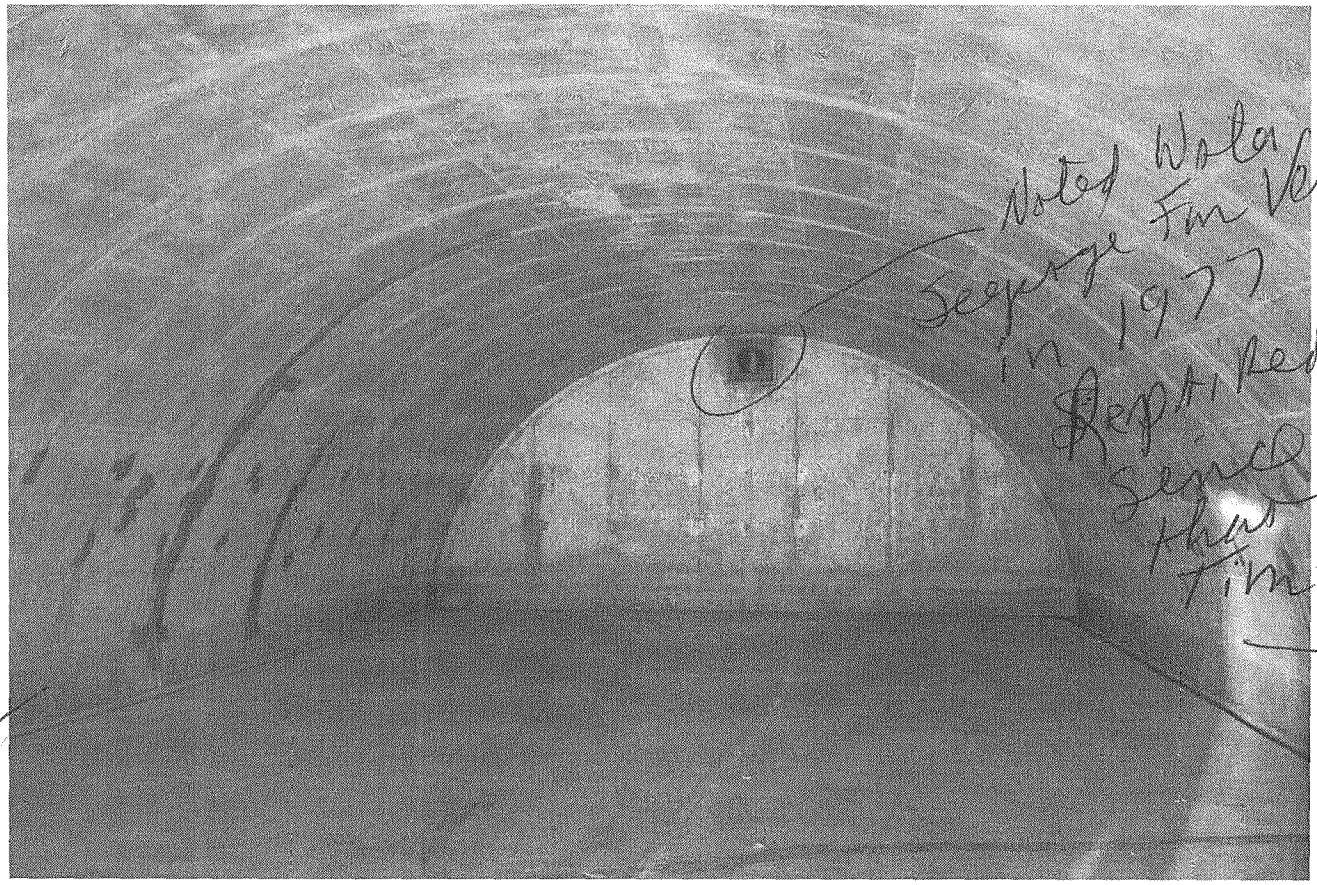
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? N

If yes what type?

Other Notes:

Igloo #: 6B4 Prospective Tornado Shelter

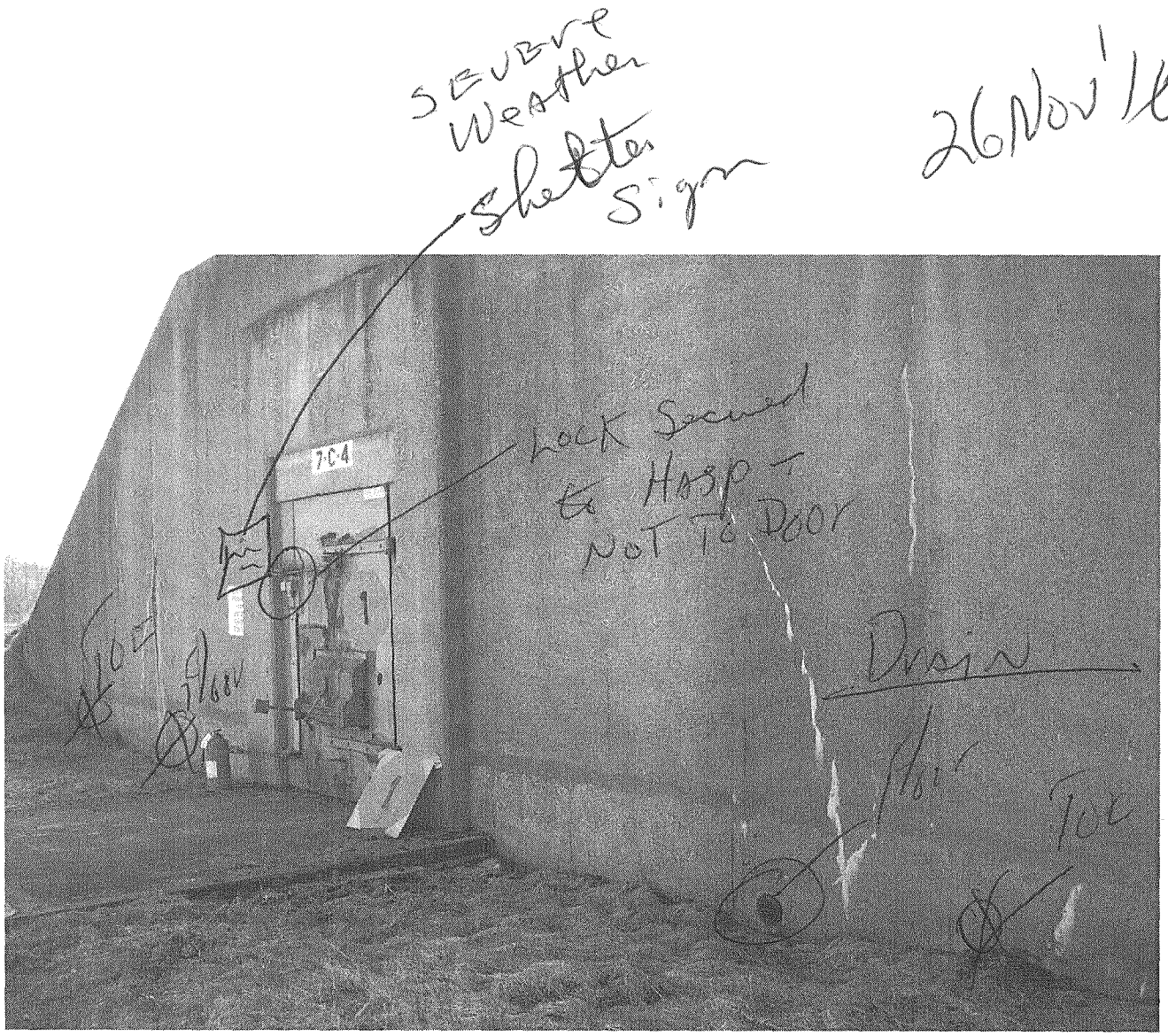
26 Nov '10



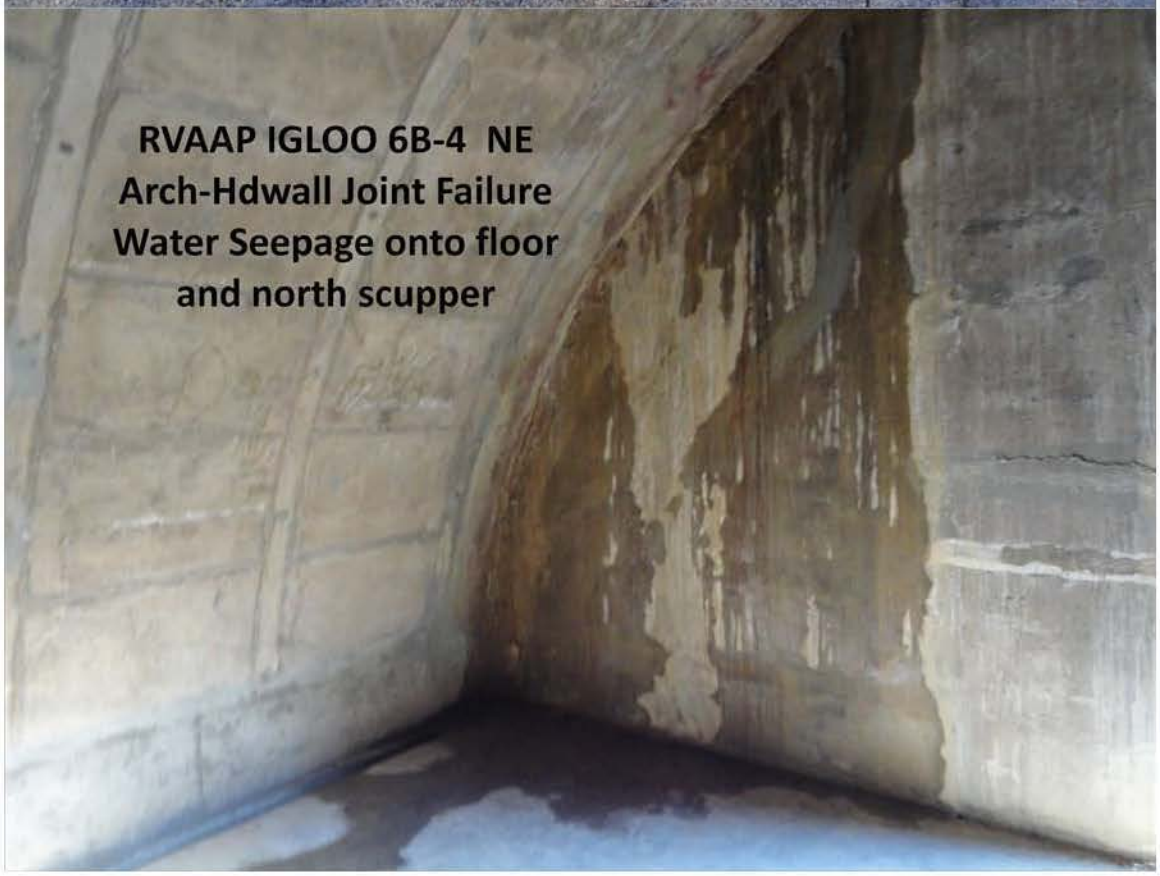
Noted Water Seepage From Vent in 1977 Reported Serviced that Time

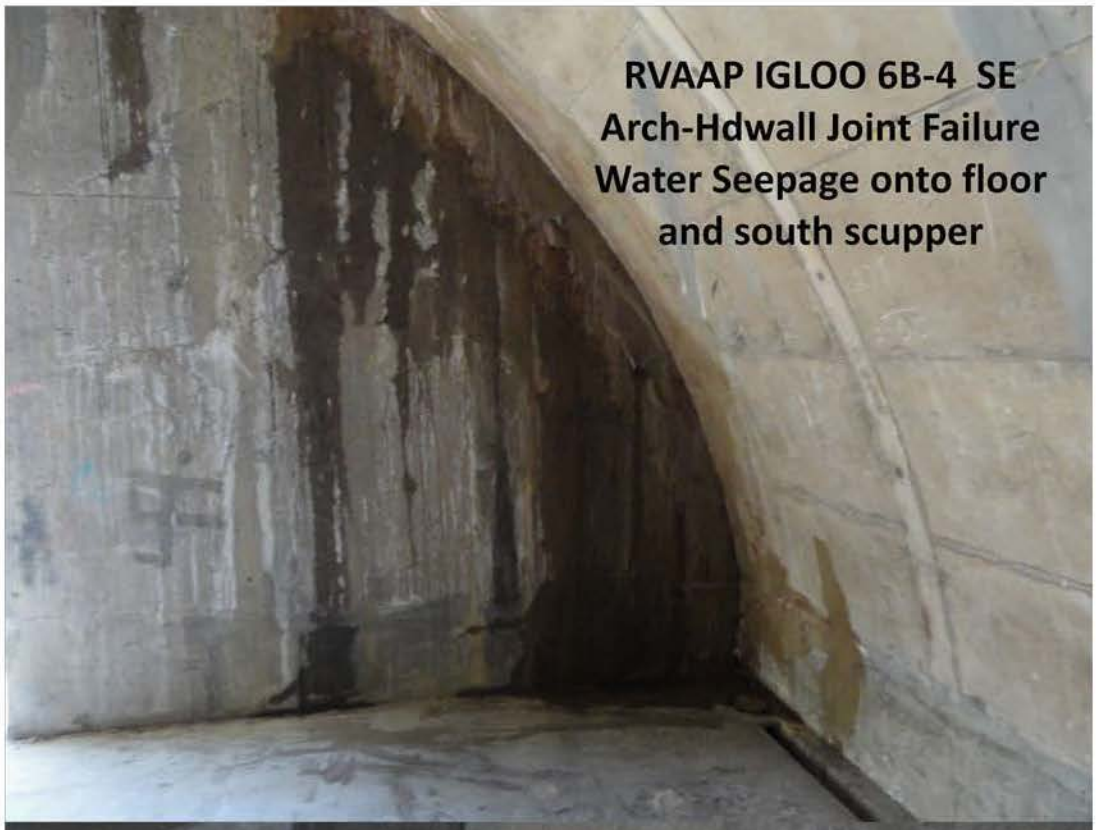
Both Corners Headwall - Arch seepage of Water onto Floor and into Scuppers Water Slow To drain due to Rodent Nest in Each drain Exit

Igloo #: 6B4 Prospective Tornado Shelter

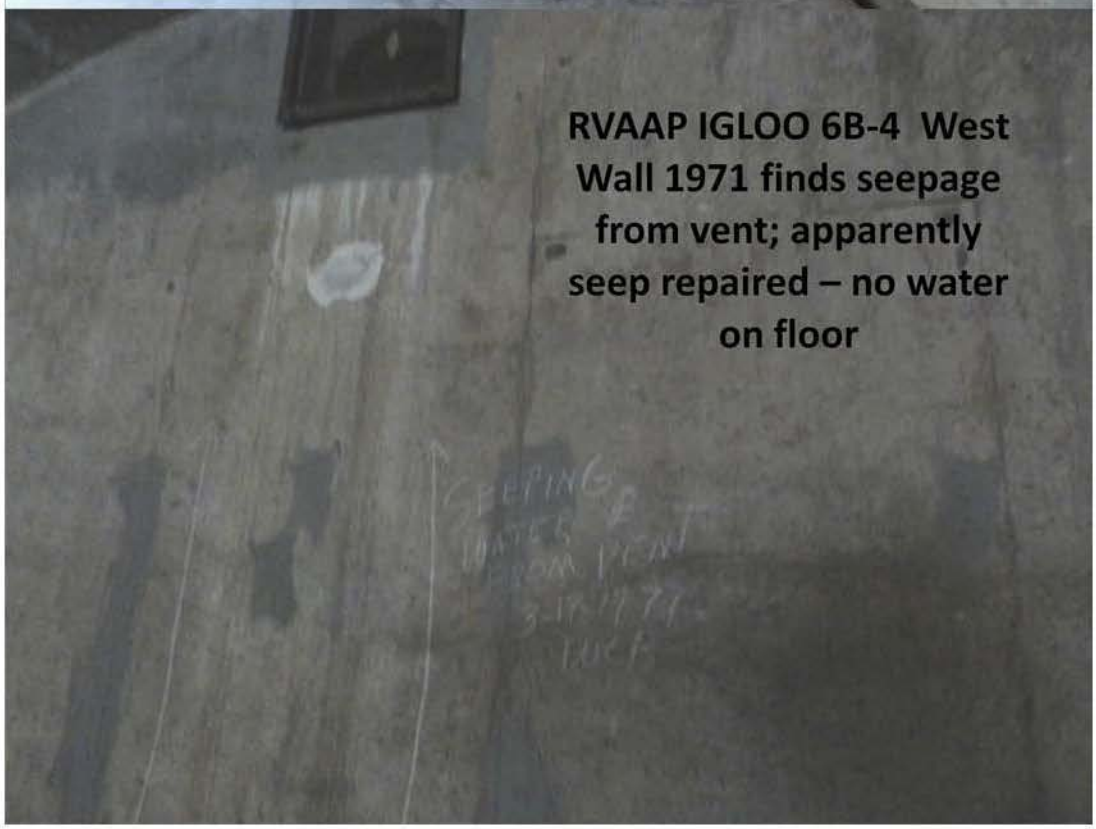



6-B-4
RVAAP IGLOO 6B-4
26NOV2010


RVAAP IGLOO 6B-4 NE
Arch-Hdwall Joint Failure
Water Seepage onto floor
and north scupper



RVAAP IGLOO 6B-4 SE
Arch-Hdwall Joint Failure
Water Seepage onto floor
and south scupper



RVAAP IGLOO 6B-4 West
Wall 1971 finds seepage
from vent; apparently
seep repaired – no water
on floor

IV. IGLOO BLOCK-B

B. IGLOO LANE 7B

IGLOO INSPECTION FORM

Igloo #: 7B-1 Prospective Tornado Shelter

Date: 26 Nov '10 Time: 0816 Weather: Cloudy - Calm - 29°

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 7B-1 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top is Briar Infested — Toe & Floor Drains Present — Lock secured To Hasp But not To Door

Culvert 85' to South & None To North

↓ 24"

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Interior Clean & Dry — No Wall-Arch Separation

Scuppers Dry — Past Patch on Walls-Floors

Joints — Everything intact

Obvious downstream surface water pathway available to sample sediment? y - Ditchline Flow South

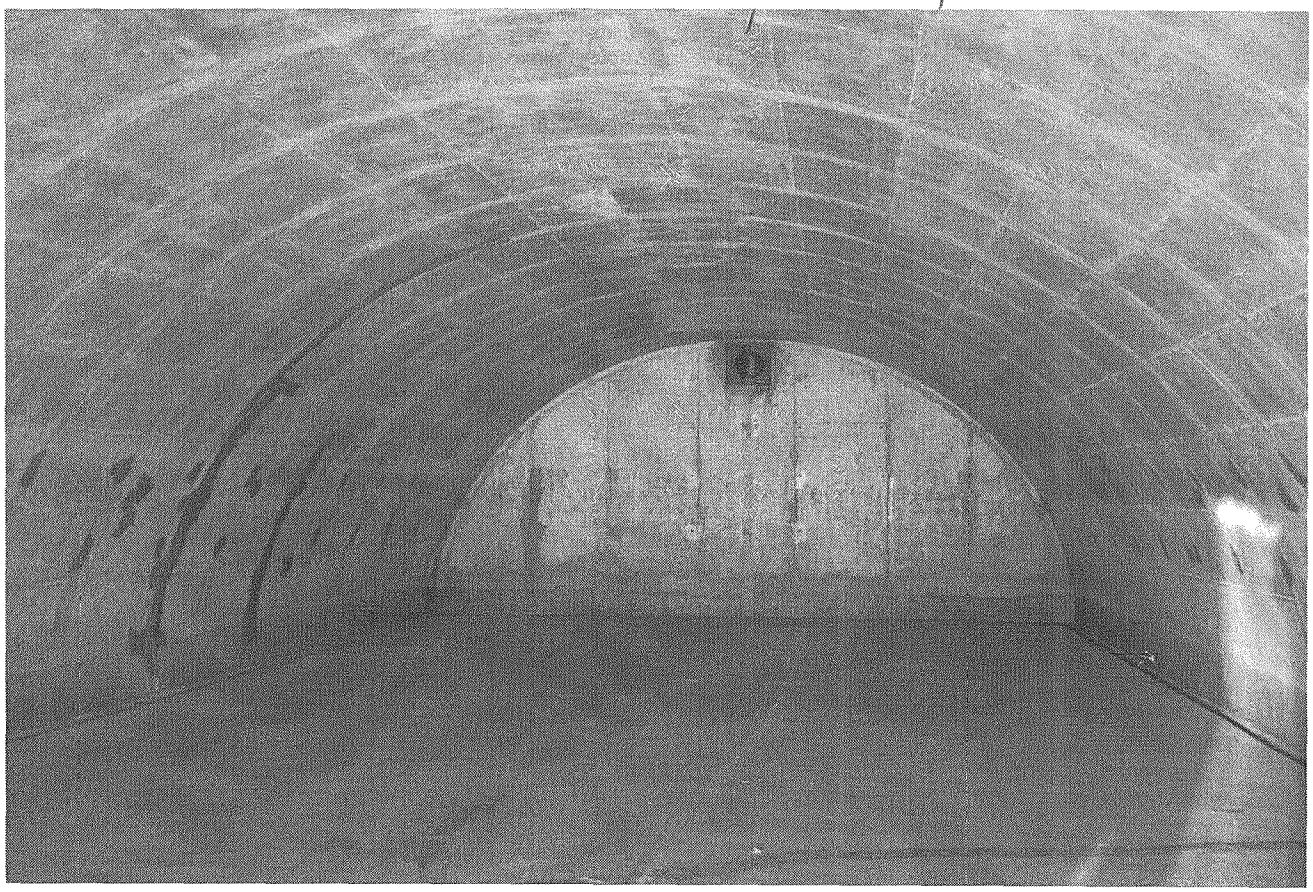
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No - ~~Yes~~ yes

If yes what type? See Exterior Note

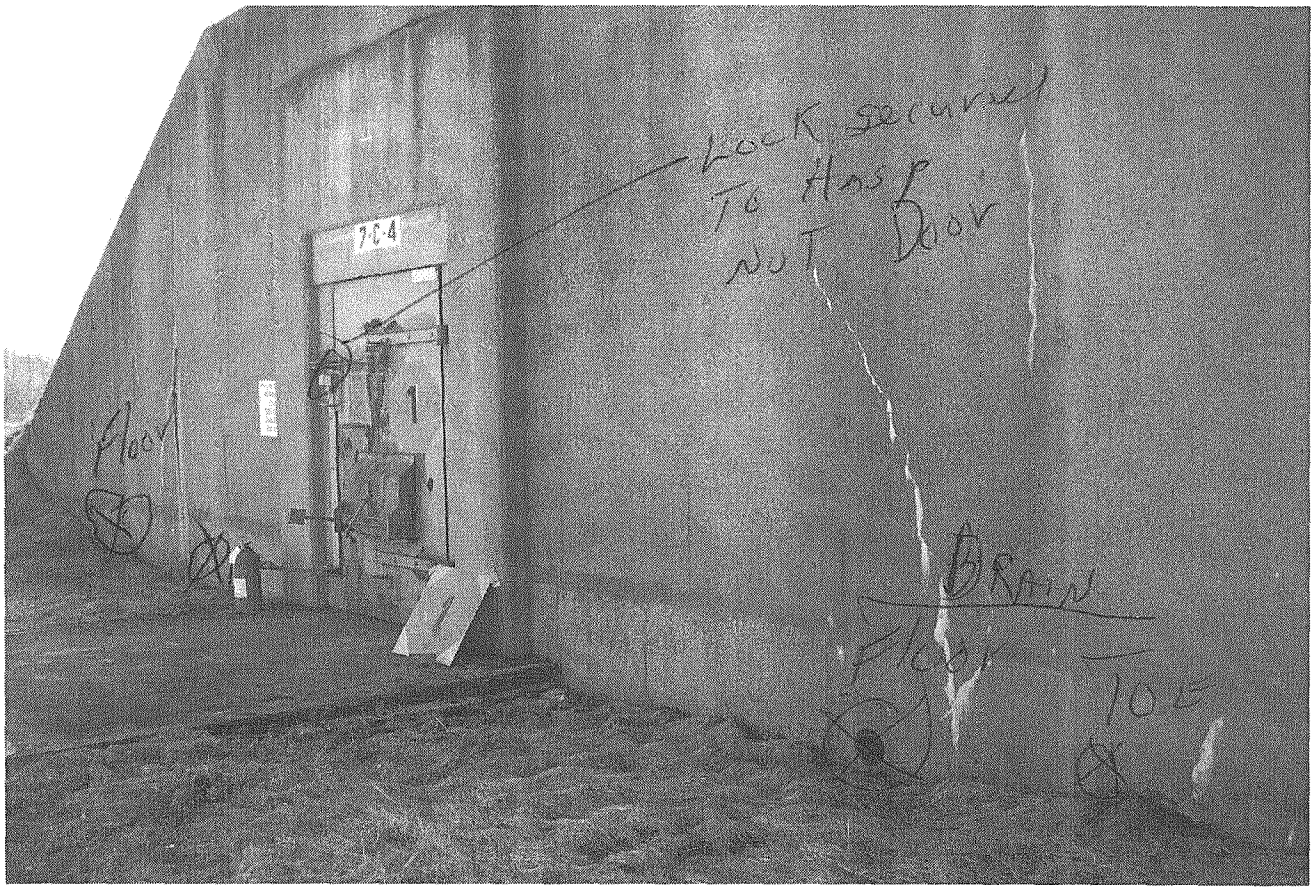
Other Notes:

Igloo #: 7B-1

Clean & Dry



Igloo #: 7B-1 Perspective Tornado Shelter



Facing Looks Good —
Weeds Growing up & Around
Wall


7-B-1
RVAAP 7B-1
26NOV2010

IGLOO INSPECTION FORM

Igloo #: **7B2 Prospective Tornado Shelter**

Date: 26 Nov '10 Time: 0800 Hrs Weather: Calm - Cloudy - 29° F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 7B2-#1/EXT #2 ~~EAST~~ NE Corner W/ Arch WATER

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Thick Briars overtop - Impassable to inspect
Wall Face Wet - Moss growing - Both Toe & Floor
Drains Present - Lock Secure To Hasp Not Door
No Culverts North or South. —
No Culverts North of igloo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Water Present - Arch - Head Wall Separation (East side)
Water on Walls And in Scuppers About ¼ of the
way into interior — Appears water can't drain
Rapidly due To Blockage (e.g. dirt, debris, moss)
Drain Vent outside Does Not show Wetness

Obvious downstream surface water pathway available to sample sediment? Yes - Northward

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type?

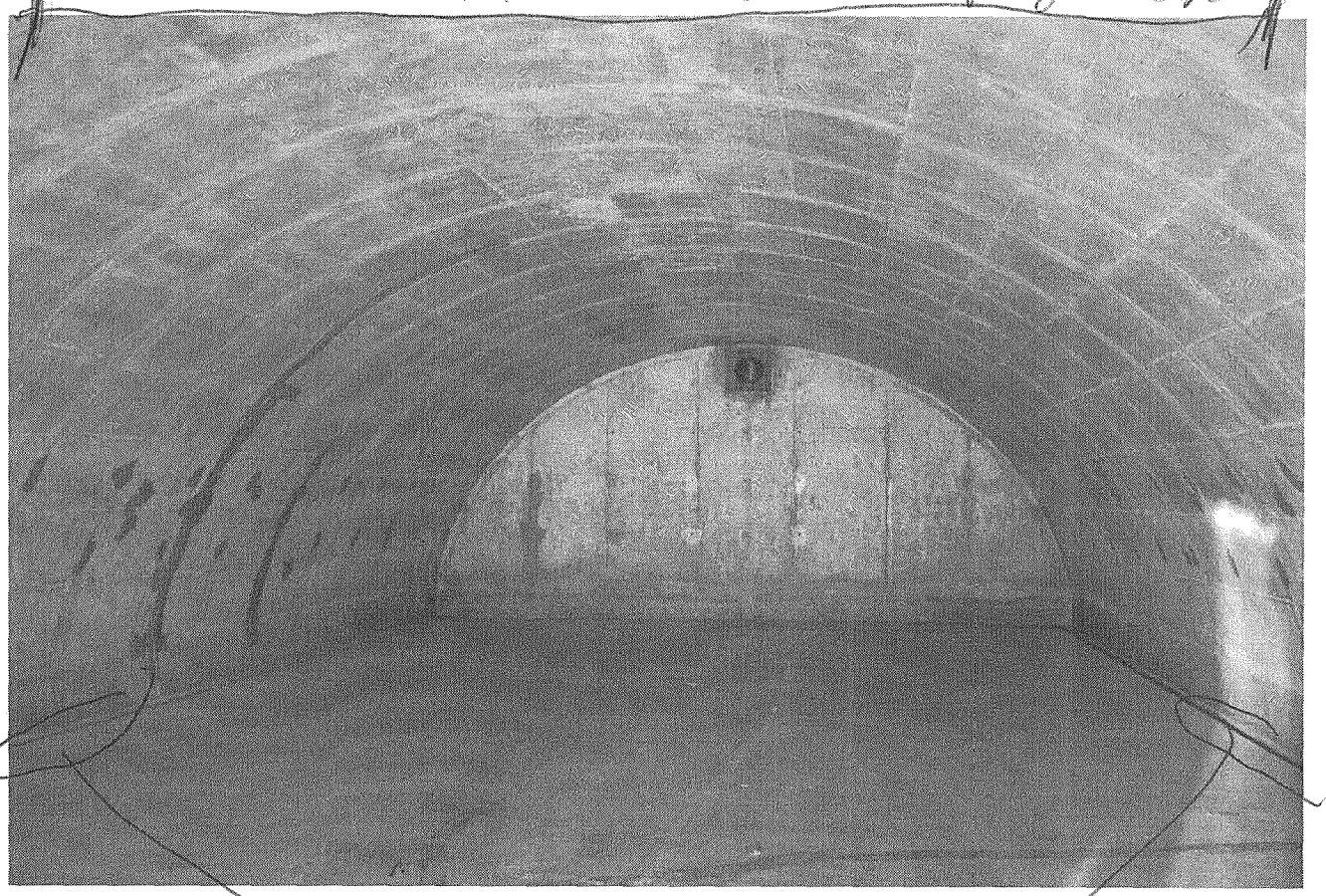
Other Notes:

Igloo #: **7B2 -- Prospective Tornado Shelter**

26 Nov '10

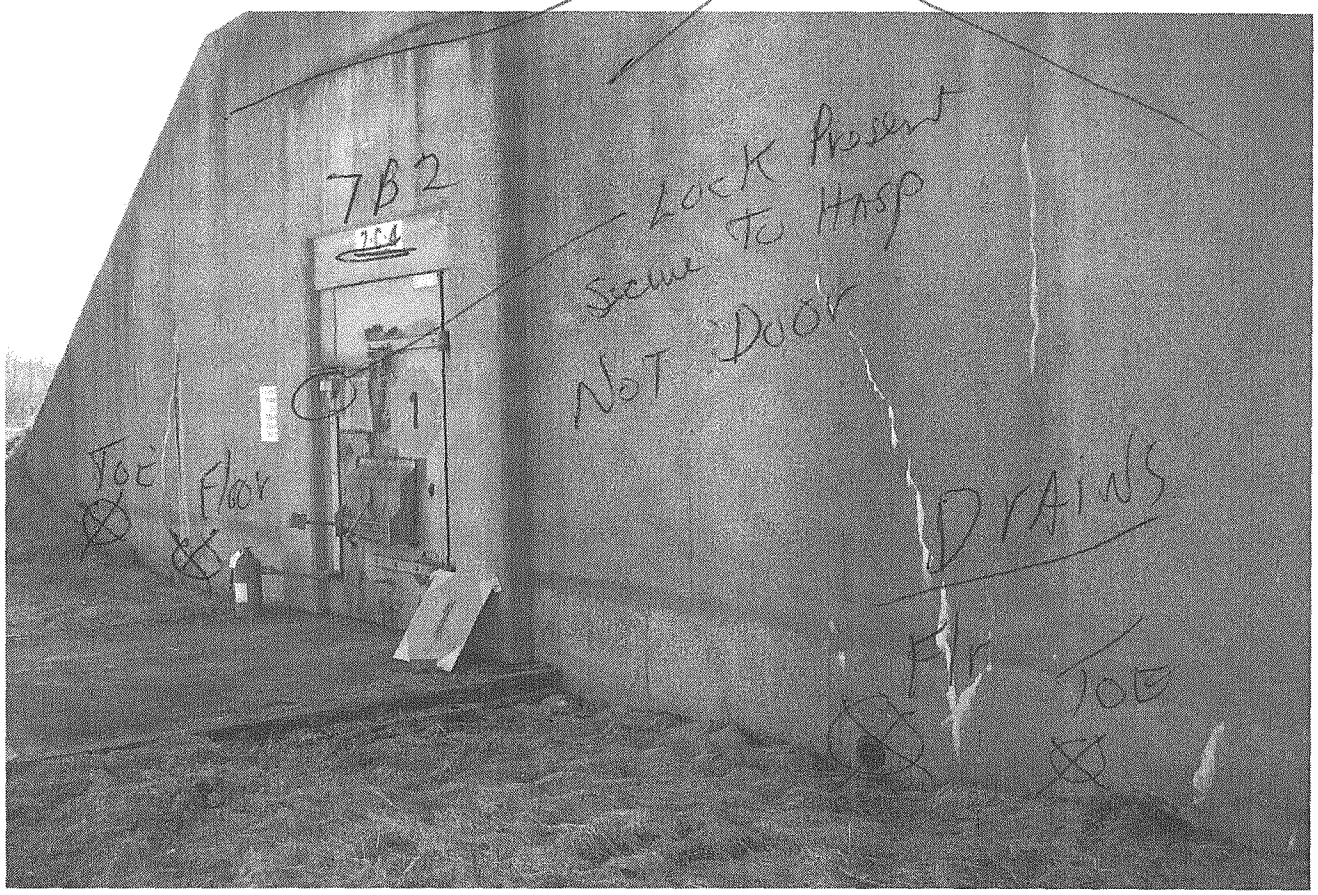
Rain the day Before

Head wall - Arch Joint Seeping Water

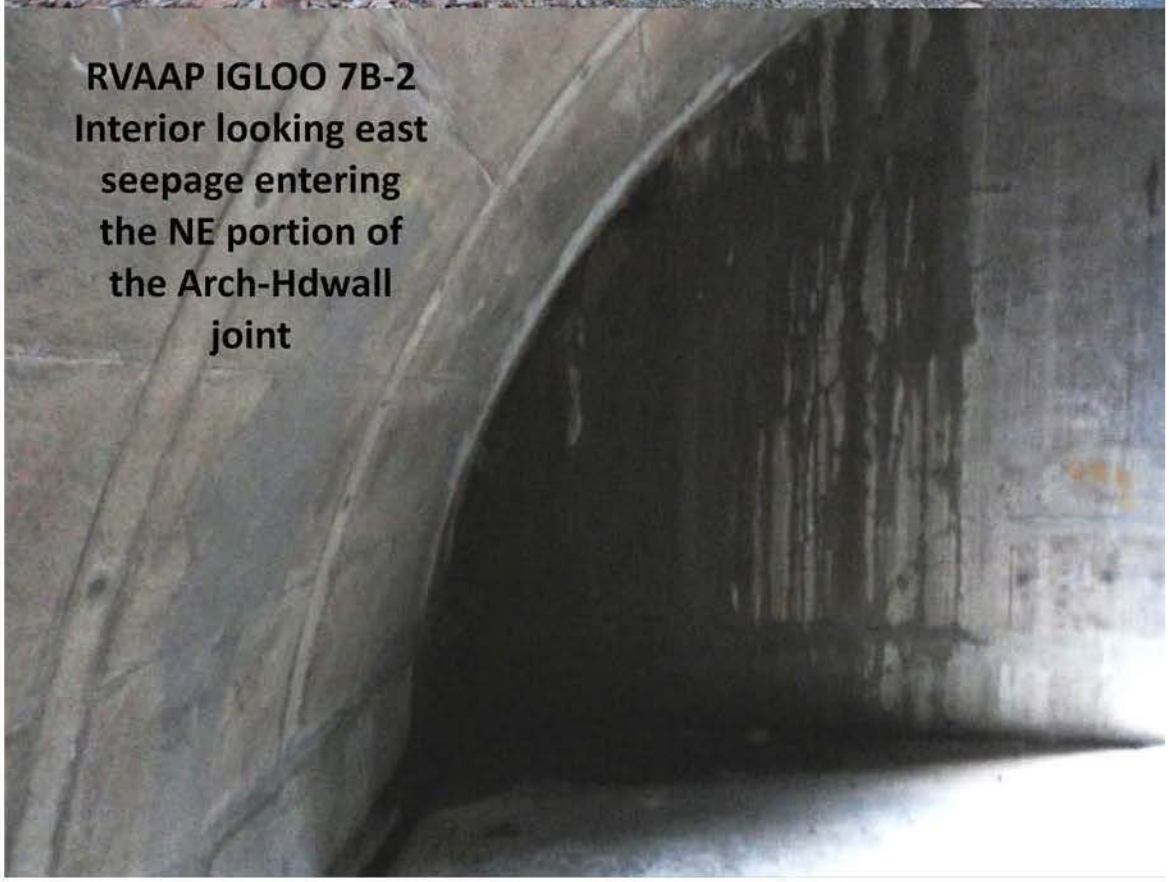


Water in Scuppers @ 16' into Room
Water Backing Due To Apparent Blockage

Igloo #: **7B2 Prospective Tornado Shelter**




7B-2
RVAAP IGLOO 7B-2
26NOV2010


RVAAP IGLOO 7B-2
Interior looking east
seepage entering
the NE portion of
the Arch-Hdwall
joint

IGLOO INSPECTION FORM

Note: all Day Rain & Night ~~Rai~~ Yesterday

Igloo #: **7B3 Prospective Tornado Shelter**

Date: 26 Nov '10 Time: 0735 Weather: Calm - Cloudy 30°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #B3 #1 Ext #2 Hdwall Water #3 Arch - South Wall Water

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top is Briar Infested — Difficult Traverse — Outside Hdwll Face w/ Calcined Cracks — Lock present But Not Secured To Door — Culverts Present on Both N & S ditchline ~~No~~ Both Barrel Toe & Floor Drain Vents No Sign of moisture Coming Fm/ South Floor Drain

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Water Entering thru door — HdWll & Arch Apparently Seperate to Elements — Water Coming Down Wall — South Arch (≈ 16-ft Fm Door) Near Floor Showing water leakage — Water in south scupper To drain 16 ft To Hd Wall. ~~Barrel~~ Arch & Headwall Joint Show Much Repair Taken Place

Obvious downstream surface water pathway available to sample sediment? yes — South Flow

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

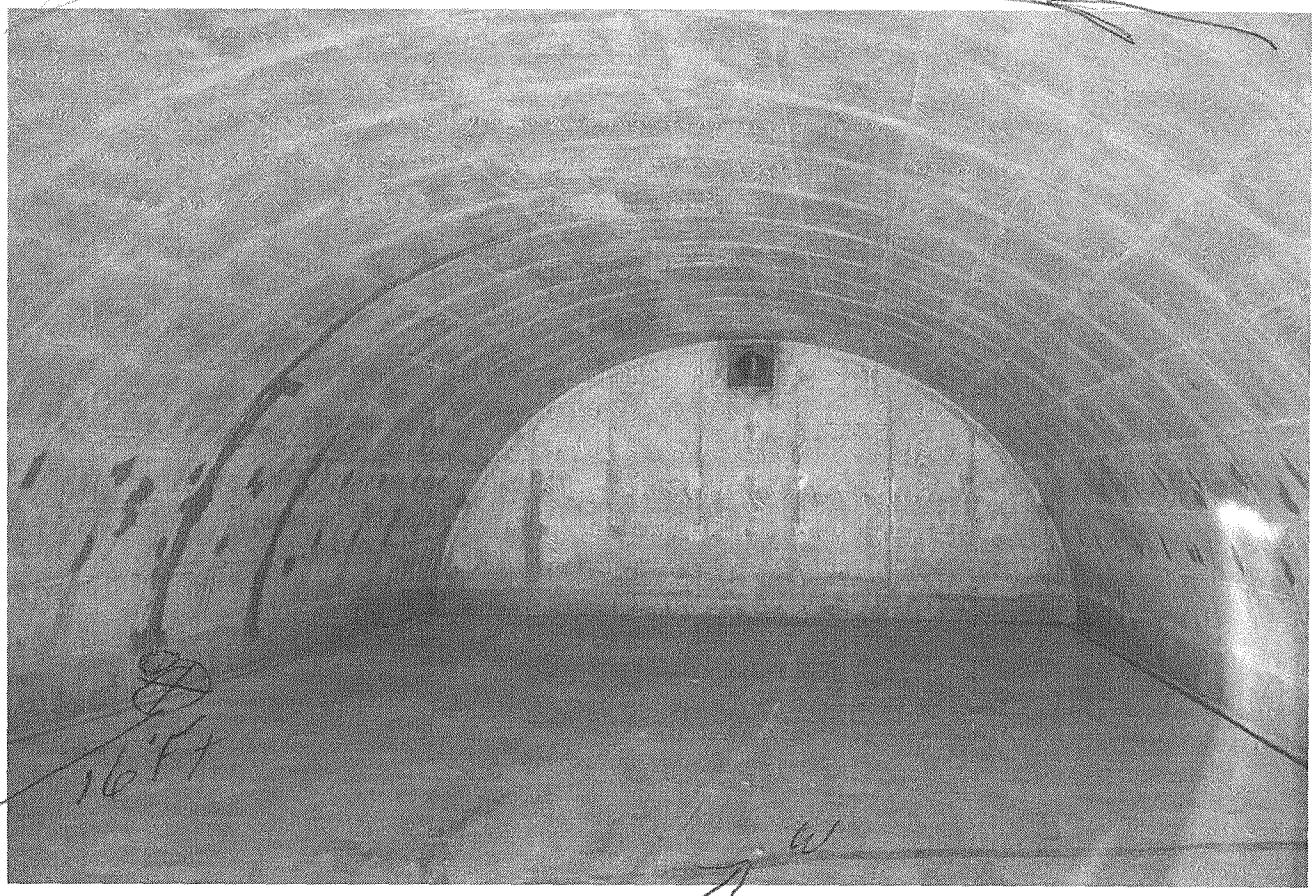
If yes what type? Galvanized 24" Culvert Pip

Other Notes:

Igloo #: 7B3 Prospective Tornado Shelter

26 Nov '10

Wall-Arch - Joint water seeping through



W

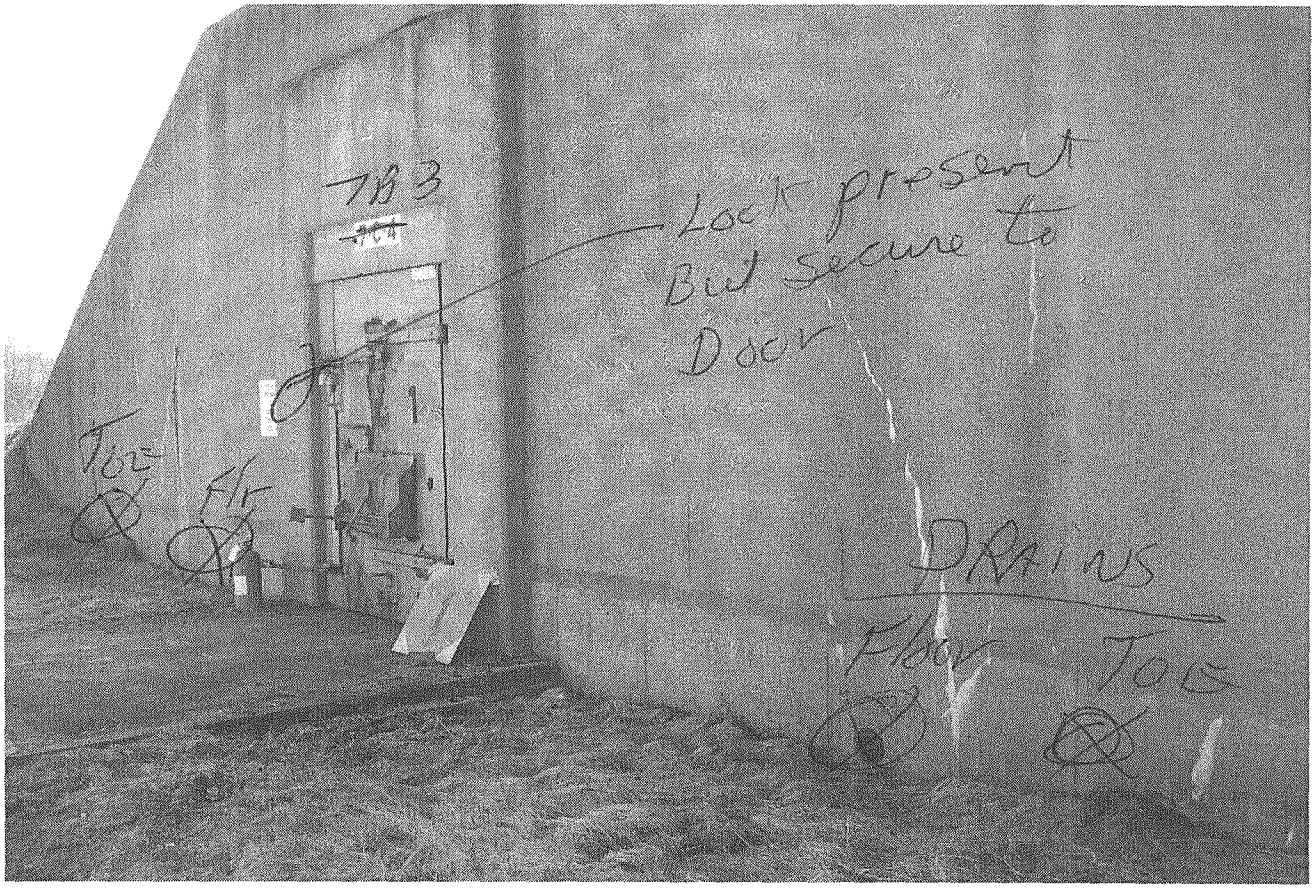
S N

E

Water leak water in scupper

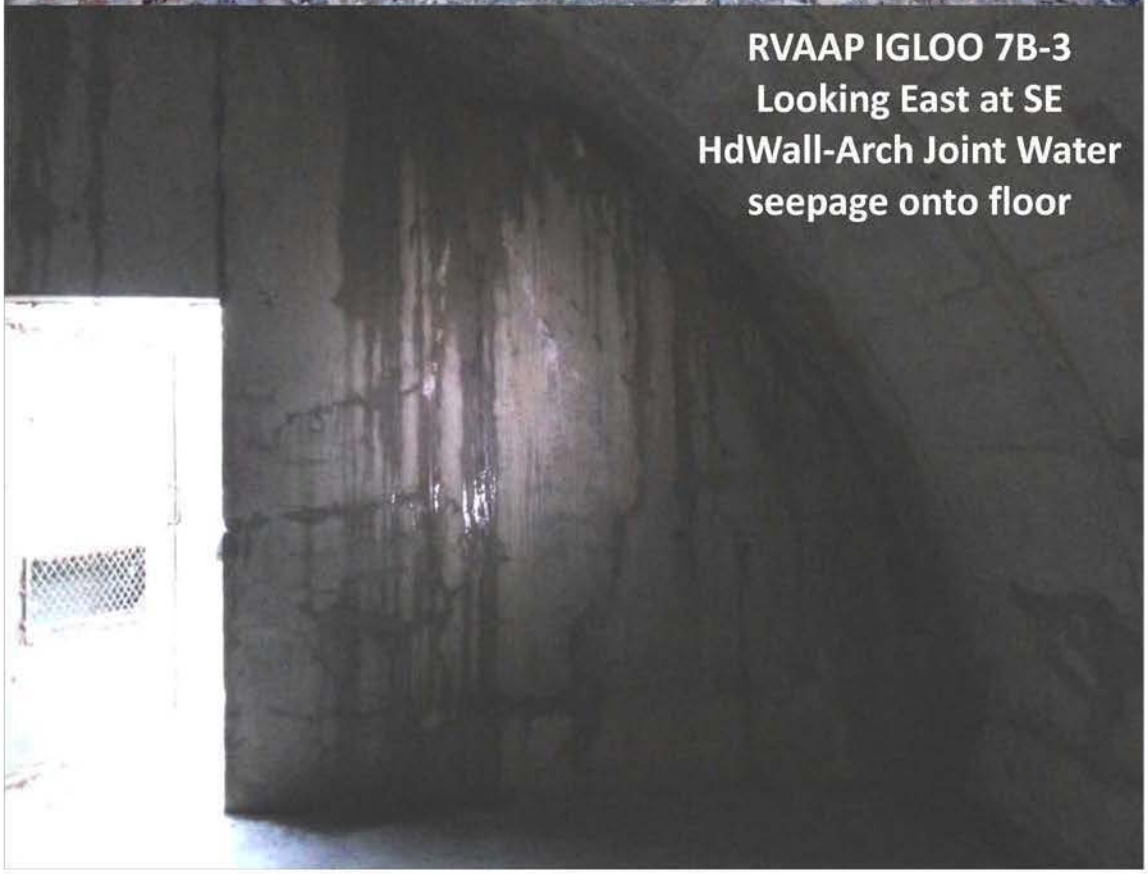
Igloo #: 7B3 Prospective Tornado Shelter

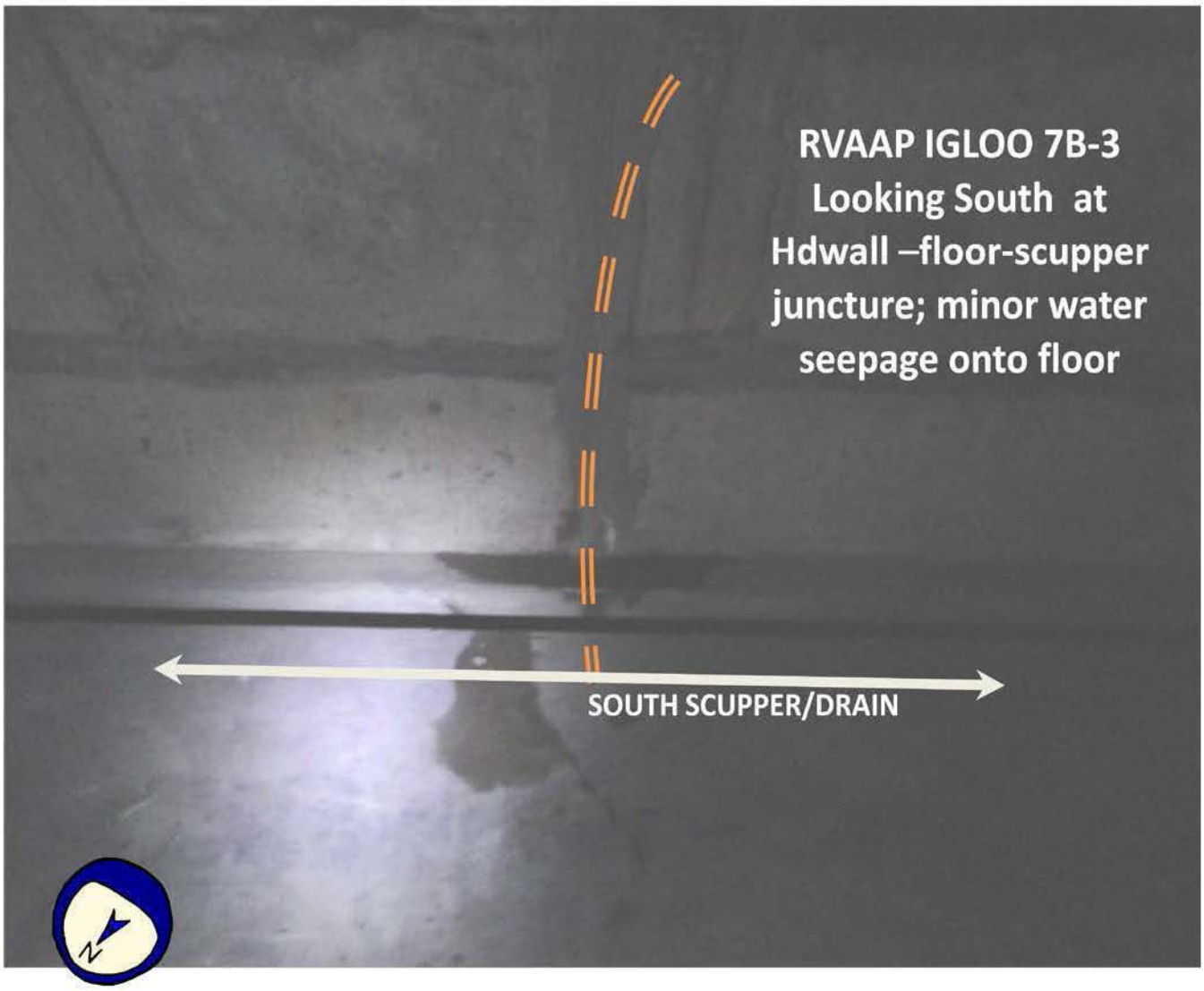
26 Nov '14



Calcined Cracks


7B-3
RVAAP IGLOO 7B-3
26NOV2010


RVAAP IGLOO 7B-3
Looking East at SE
HdWall-Arch Joint Water
seepage onto floor


RVAAP IGLOO 7B-3
Looking South at
Hdwall –floor-scupper
juncture; minor water
seepage onto floor
SOUTH SCUPPER/DRAIN
N

IGLOO INSPECTION FORM

Igloo #: **7B-4 Prospective Tornado Shelter**

Date: 26Nov10 Time: 0713 Weather: Calm - Cloudy - 30°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 7B-4 #1 Ext #2 NE Crn Headwall Separat #3 NE Separation w/ Rebar

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Highly Brushed OVER Top w/ Briars Very inaccessible — Hdwall Face Shows Calcined cracks Both Sides — No Lock — No Culverts Near By — "Severe Weather Shelter" Signage

Barrel Toe & Floor Drain Vents Present

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Scuppers Dry — Nor. East Arch & Headwall Have Separation - ReBar Exposed - Wall Shows Moisture - Floor-wall joint (N. East) are wet - No Standing Water - No debris except F/ mouse NEST in N.W. Corner

Obvious downstream surface water pathway available to sample sediment? Y - Southward

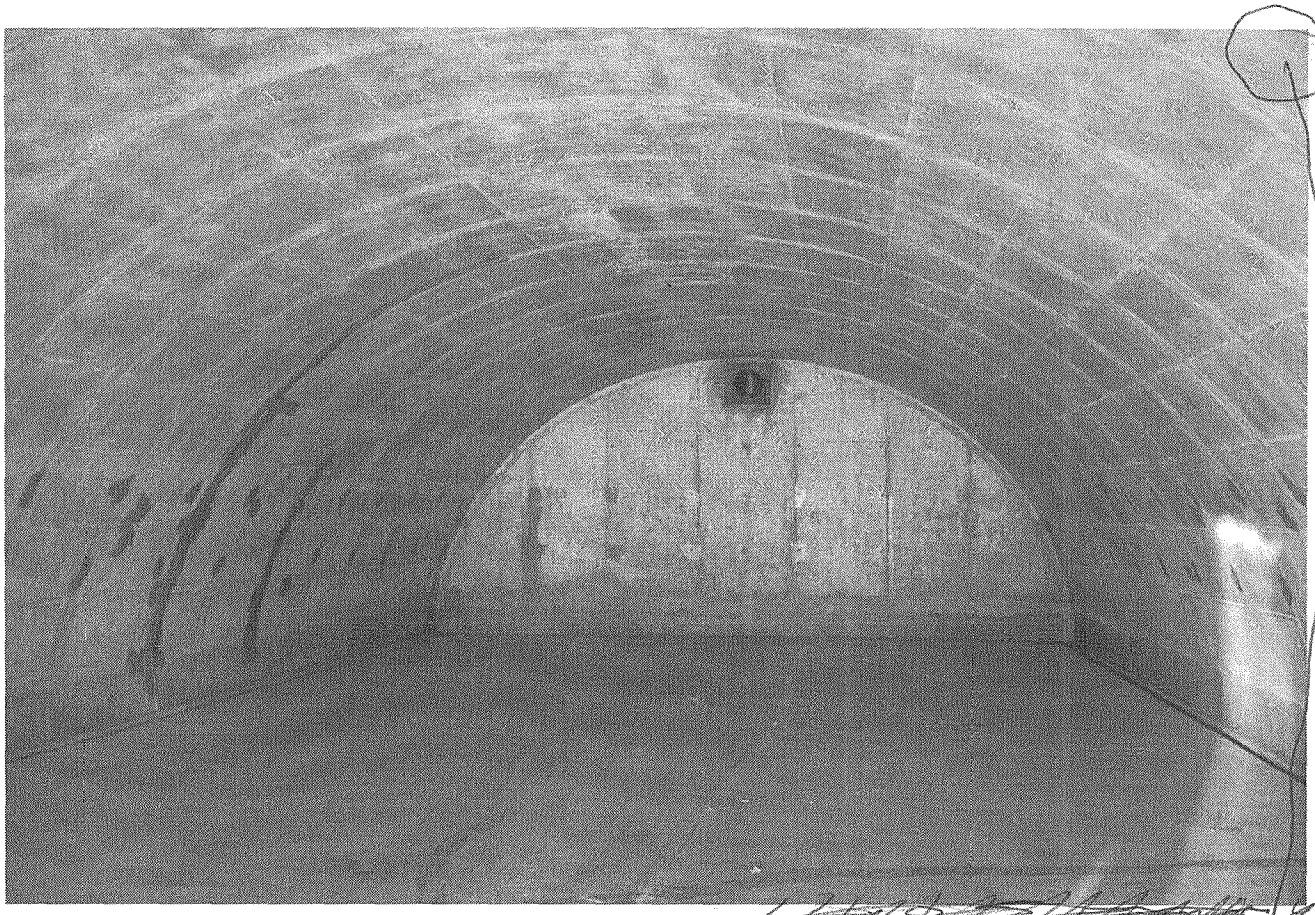
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? No

Other Notes:

Igloo #: 7B-4 Prospective Tornado Shelter+C123

26 Nov '10

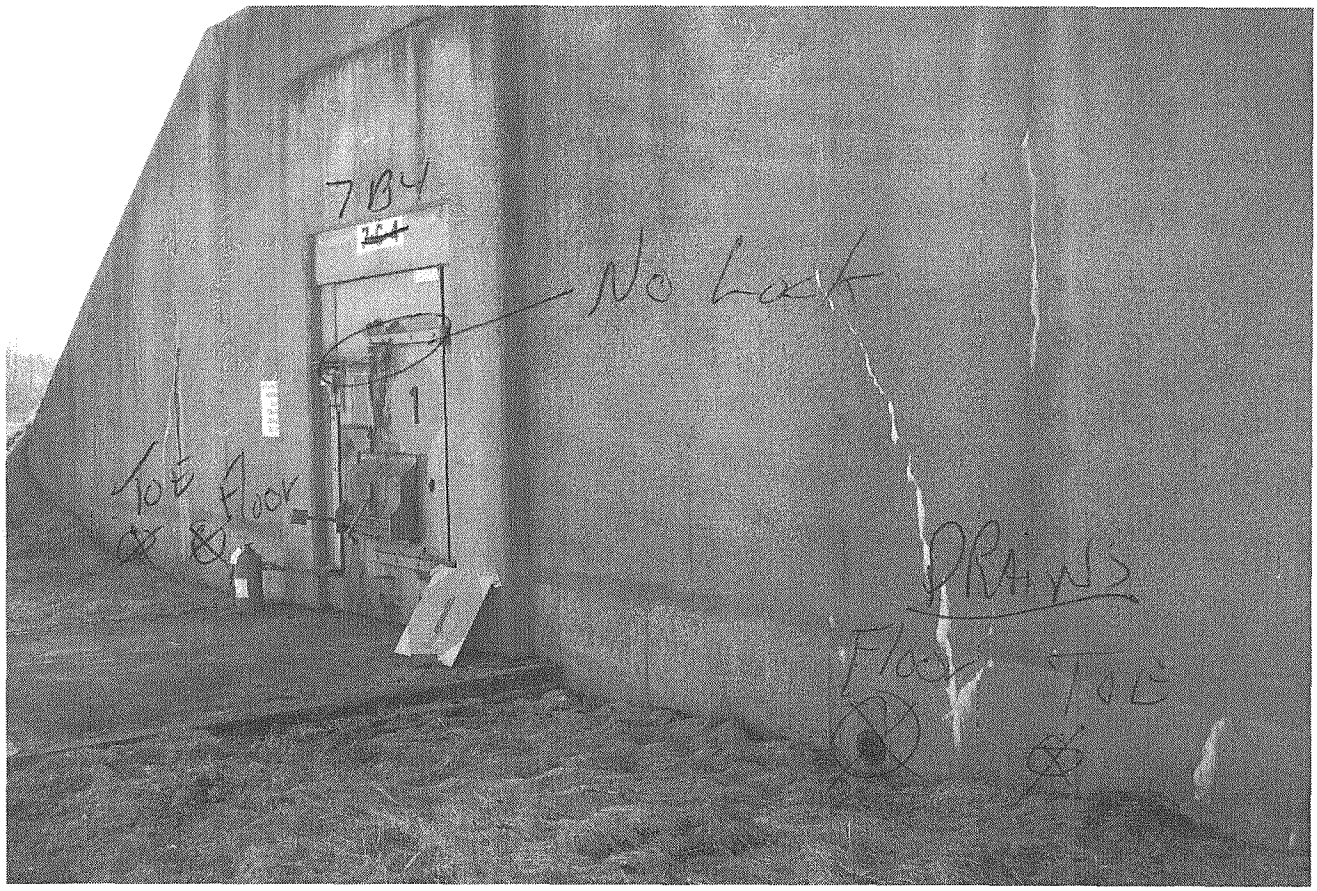


wet area Fin/ wall-Arch Separation

Arch & wall Seperation Exposed Rebar

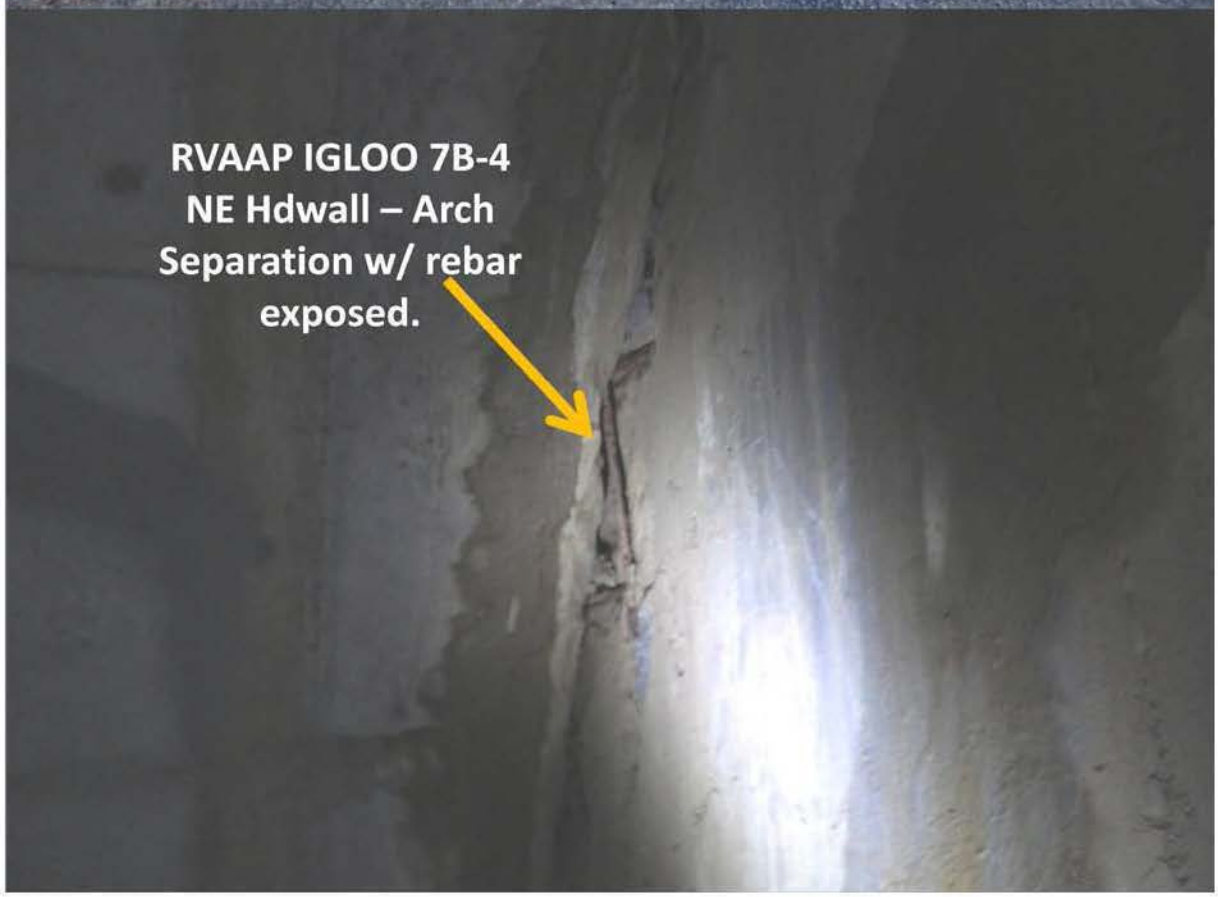
Igloo #: 7B-4 Prospective Tornado Shelter

25 Nov '14



Calcified Cracks on Wall Face


7-B-4
RVAAP IGLOO 7B-4
26NOV2010


RVAAP IGLOO 7B-4
NE Hdwall – Arch
Separation w/ rebar
exposed.

V. IGLOO BLOCK-C

A. IGLOO LANE 1C

IGLOO INSPECTION FORM

Igloo #: **1C-1 Prospective Tornado Shelter**

Date: 23 Nov '10 Time: 1700 Hrs Weather: NEAR DUSK - 50°F - Breezy

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 1C-1 #1 EXT #2 F/r STAIN ~~West~~ INTer #3 F/r STAIN ~~North~~ EAS INTerior

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Headwall & Barrel Joint Separat. or
Access Door Unsecured w/ Lock Secured To Hasp
Ditch Drainage North To South - ~~Tornado~~ severe weather Shelter"
Signage on Left side of Door -
Interior + Barrel Toe Drains on Both Sides of Access
Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry - Bits of Joint Compound Flaked off
onTo Floor - S.E. & N.E. Corners Have Canister Lids
which Appeared To Have Rodent Bait Poison AT
ONE Time - Stains (appears To Be A Coating)
on Floor on Backside near West Wall & North
Wall - Unsure of Coating Doesn't Appear To Be
Floor Crack - ~~Body~~

Obvious downstream surface water pathway available to sample sediment? yes - Drainage N to S

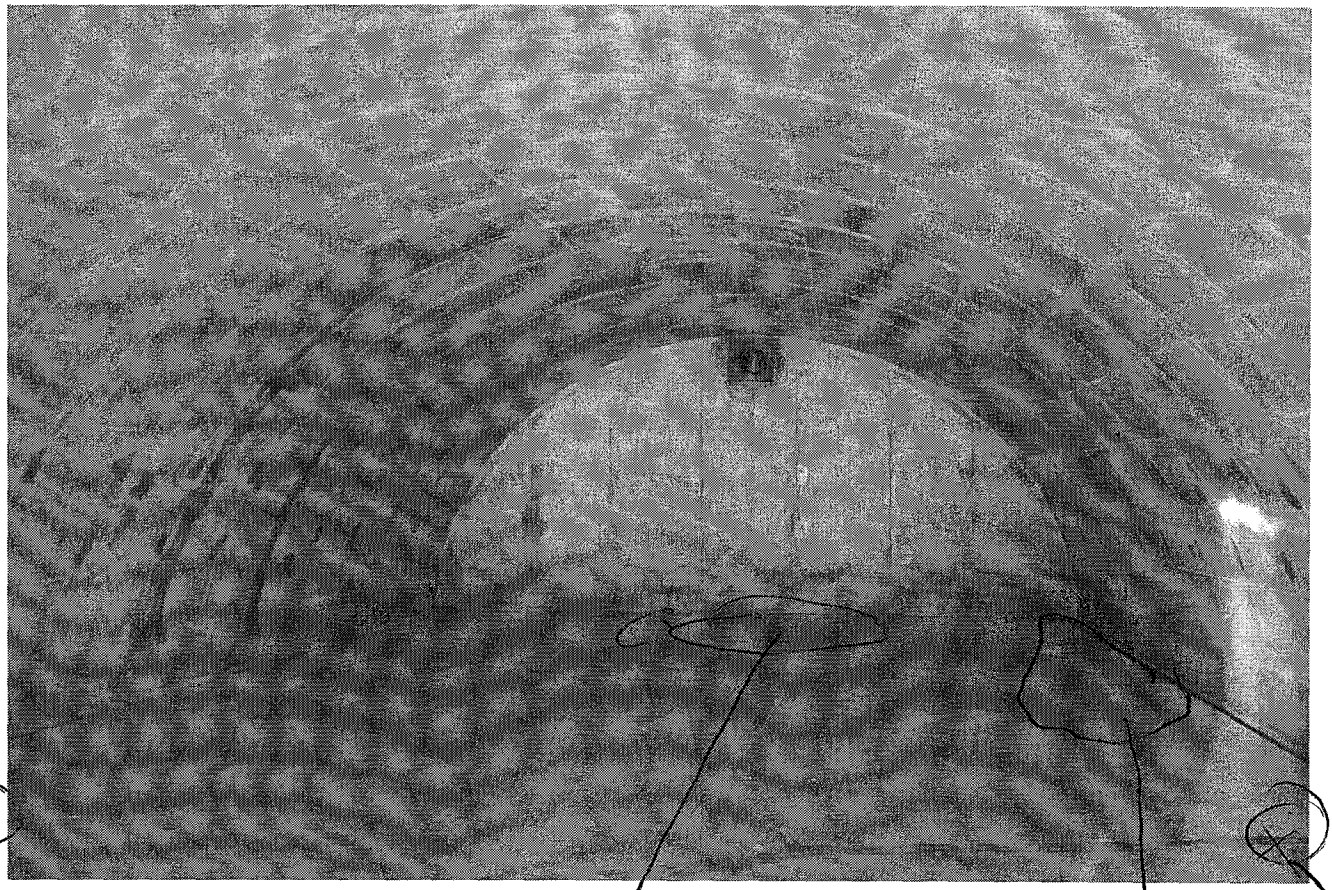
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? X

Other Notes:

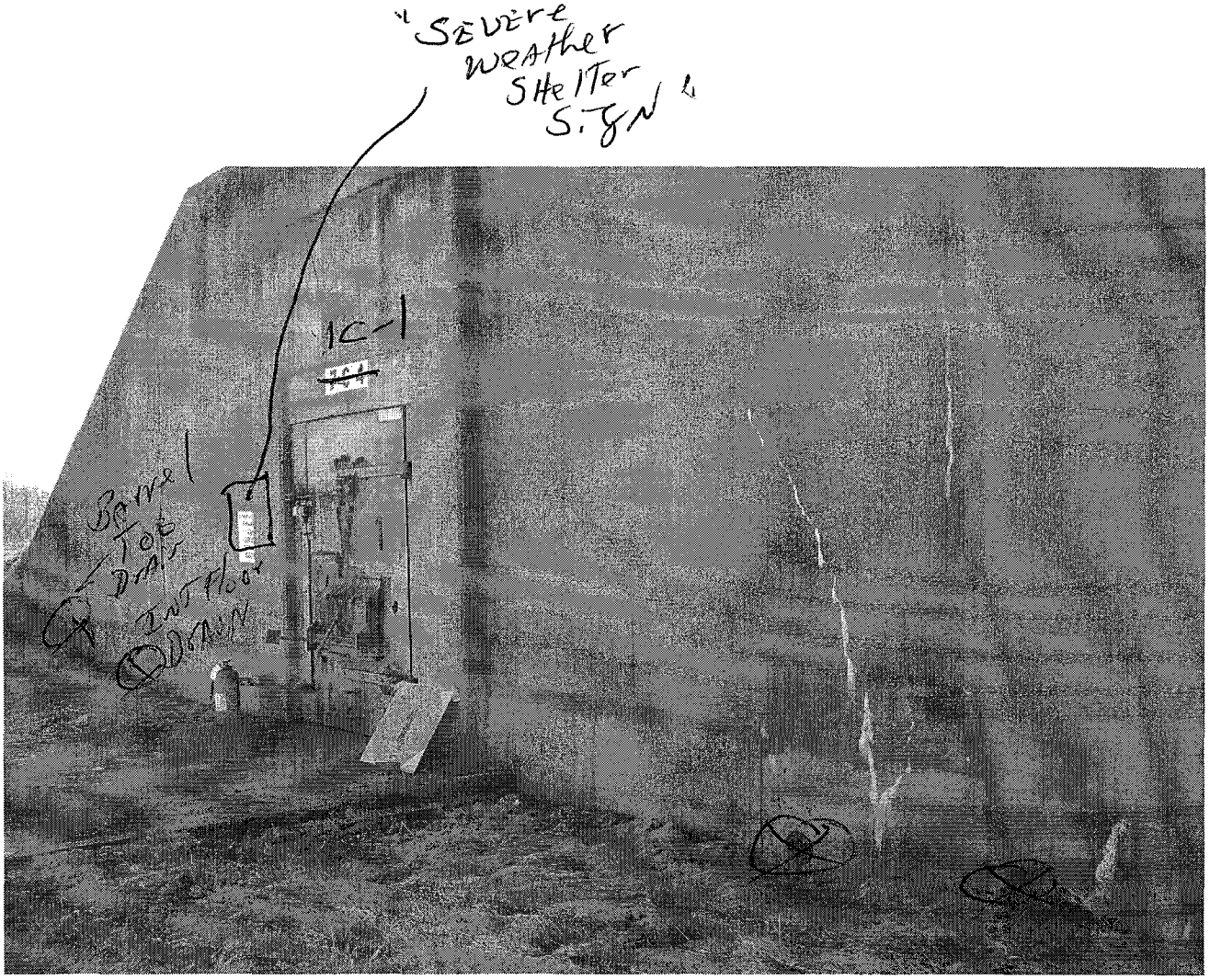
Igloo #: 1C-1 Prospective Tornado Shelter

23 Nov '10



Igloo #: 1C-1 Prospective Tornado Shelter

23 Nov '10




1-C-1
RVAAP Igloo 1C-1
23NOV2010


RVAAP Igloo 1C-1
Coating Stain on
Floor


RVAAP Igloo 1C-1
Coating Stain East
Wall-Floor Joint

IGLOO INSPECTION FORM

Igloo #: **1C-2 Prospective Tornado Shelter**

Date: 23 Nov '16 Time: 1715 Hrs Weather: Near DARK - 50°F - Slight Breeze

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 1C-2 #1 EXT — #2 Arch Wall Crack Inscribed #3 — Iron Deposit on Arch Wall Crack.

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Seam/Joint Separation Between Barrel & Headwall — Access Door Unsecured Except for Linchpin — A Lock was Secured Hasp Hole Ditch Drainage North to South "Severe Weather Shelter" Signage Right Side of Access Door — Drainage Holes at Hdwall EXT. Face on Each Side of Door & Barrel TOE Drain & Interior Floor Dra.

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry inside — Did Find a Barrel Crack on North INT. WALL @ 39' fm Access Door Runs fm/ Floor Halfway up Wall — Inscription on Wall Identifies the Crack dated ~~Nov~~ 2/10/92 Noted As Arch Crack — Arch/Barrel Crack shows Iron Deposition — Likely minor seepage Fm/ Exterior — Not Enough to create wet spot. Took Two Photos of Arch Crack.

Obvious downstream surface water pathway available to sample sediment? yes — North to South Drainage

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

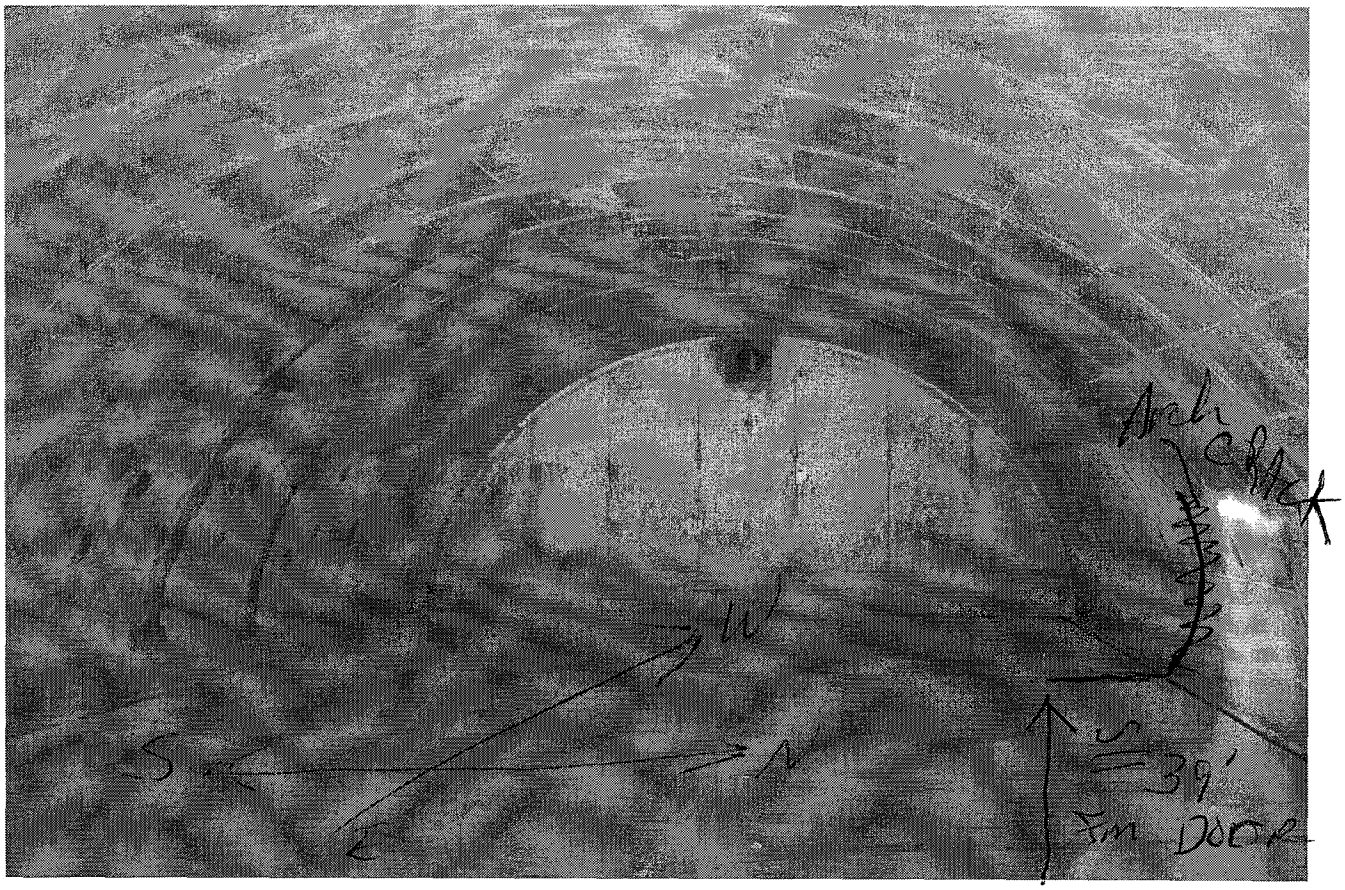
If yes what type?

Other Notes:

Igloo #: **1C-2 Prospective Tornado Shelter**

23 Nov '10

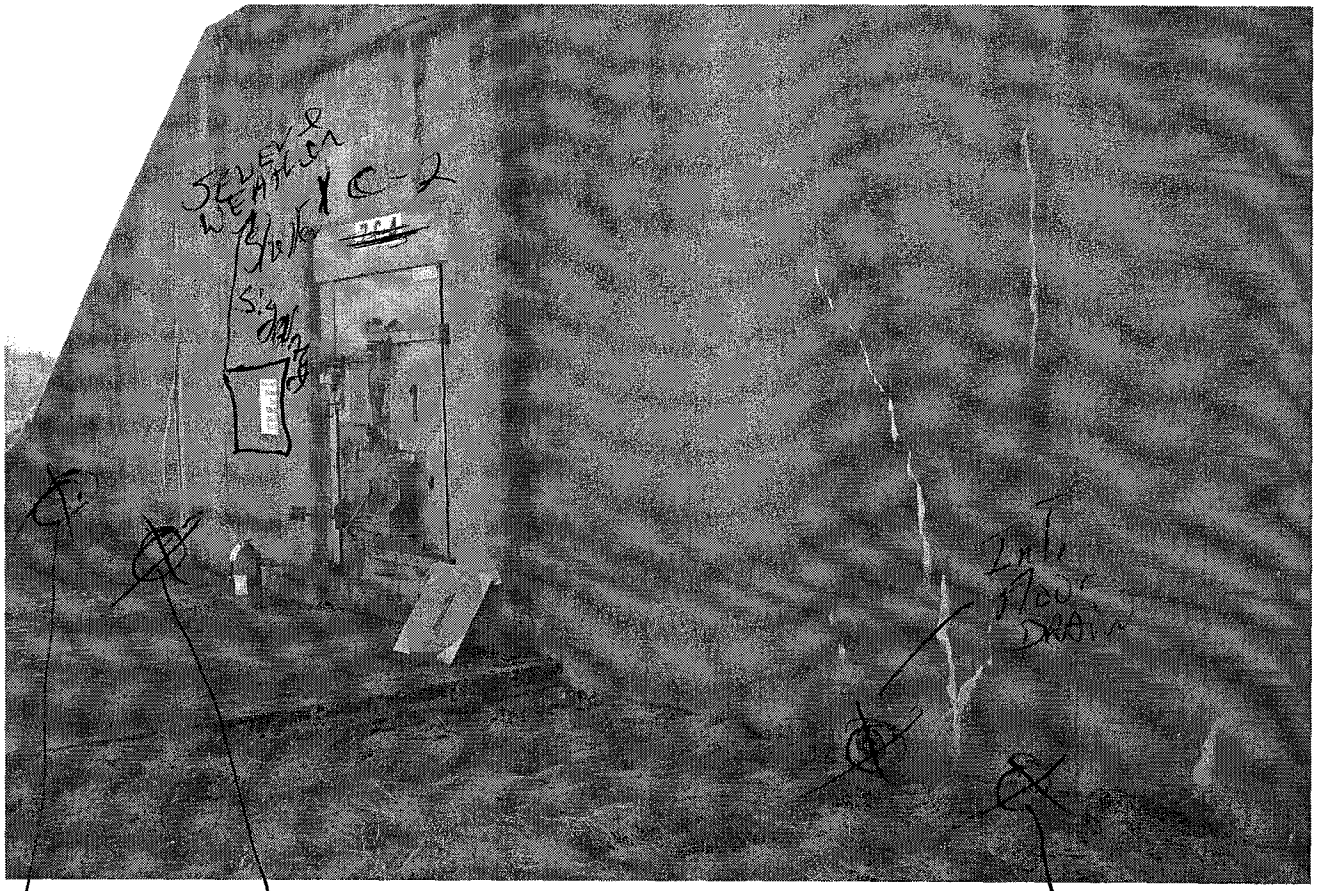
Jne



Igloo #: 1C-2 Prospective Tornado Shelter

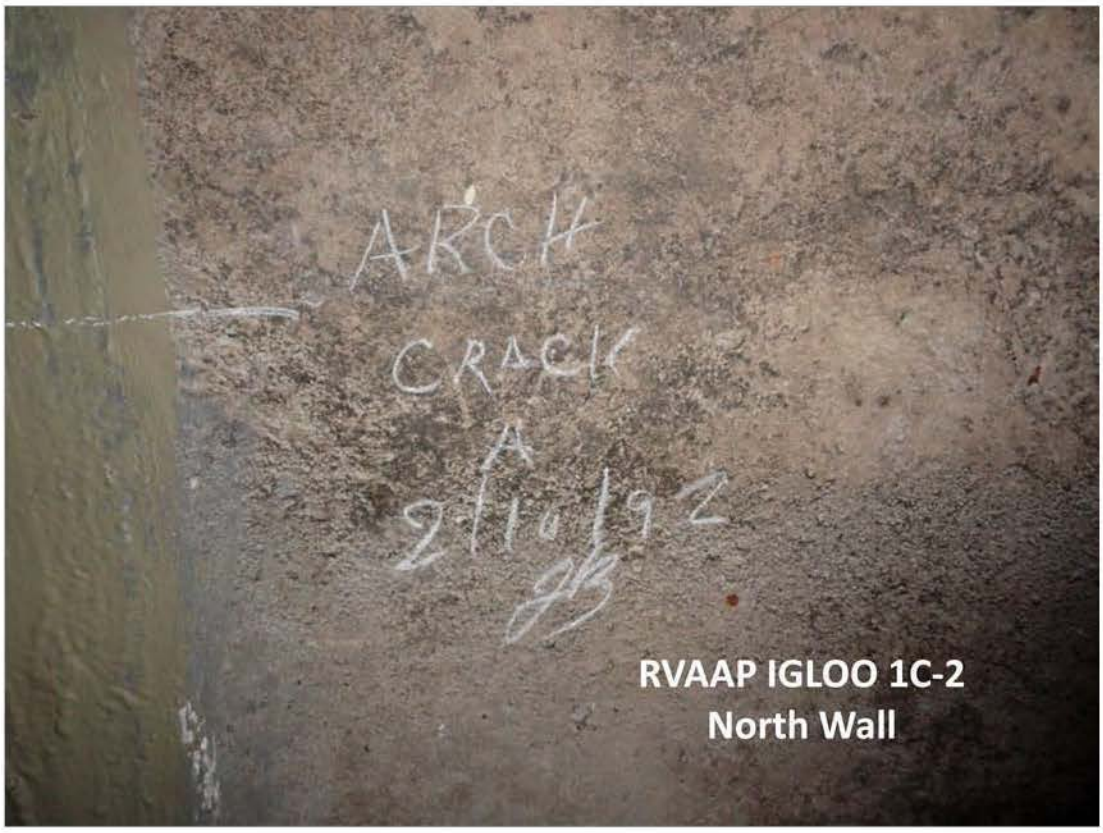
23 Nov '10

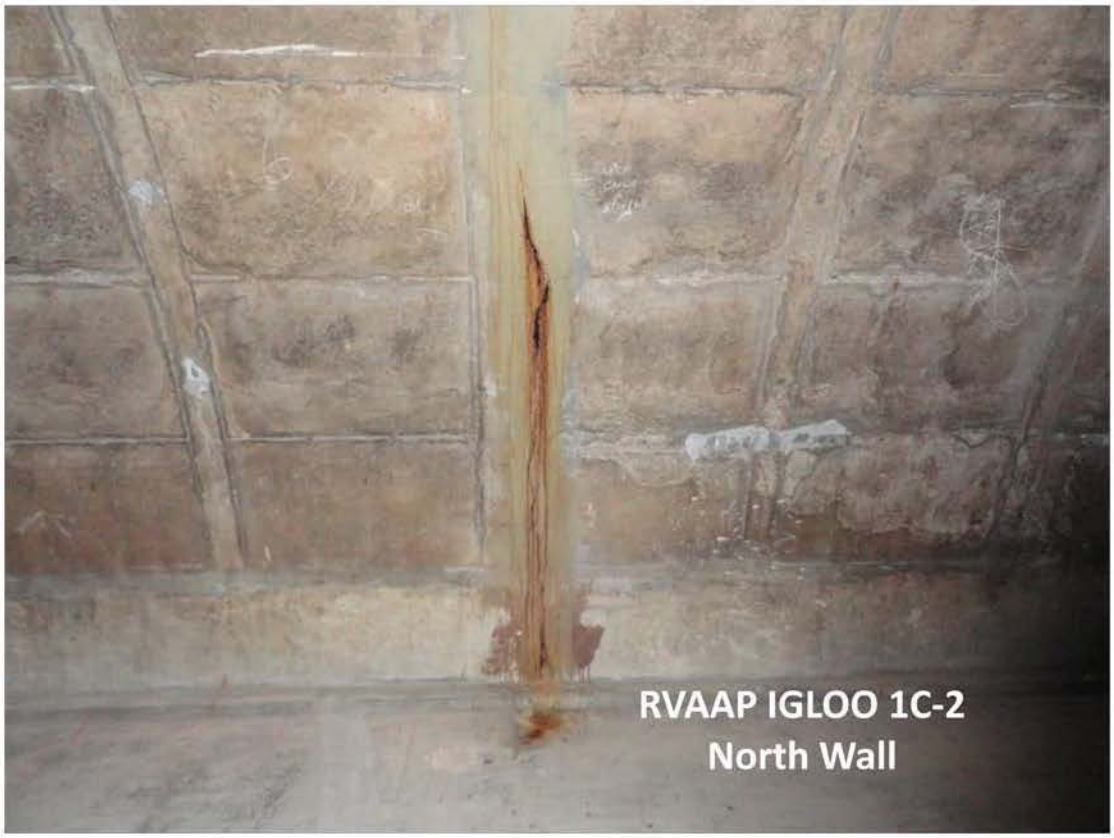
Jne




1-C-2
RVAAP IGLOO 1C-2
23NOV2010


SEVERE
WEATHER
SHELTER
RVAAP IGLOO 1C-2
23NOV2010


ARCH
CRACK
A
2-10-92
RVAAP IGLOO 1C-2
North Wall


RVAAP IGLOO 1C-2
North Wall

IGLOO INSPECTION FORM

Extra Copy

Igloo #: ~~HB-312~~ IC-3 Potential Tornado Shelter

Date: 10 Mar '11 Time: 0852 Weather: Wet - Overcast - Drizzle 45°

Inspector: USACE - LRL - T.M. Chanda + D. Kinder Picture Numbers: yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Headwall seperation @ Top — North side over grown brush on igloo — Headwall Face - No apparent Structure Defects — Lock present But Not Secured to Door Hasp — No Culverts w/ 70' - ~~Flow~~ Surface Drainage South Toe & Floor Drain Each Side

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Water along Floor + Hdwall seam - South Scupper Holding water - 1/2 rem from Hdwall to Midway — Headwall + Arch Seam shows Seperation — North Scupper Dry Concrete from Hdwall - Arch Crack/separation on Floor @ Entrance Way —

Obvious downstream surface water pathway available to sample sediment? Yes — South

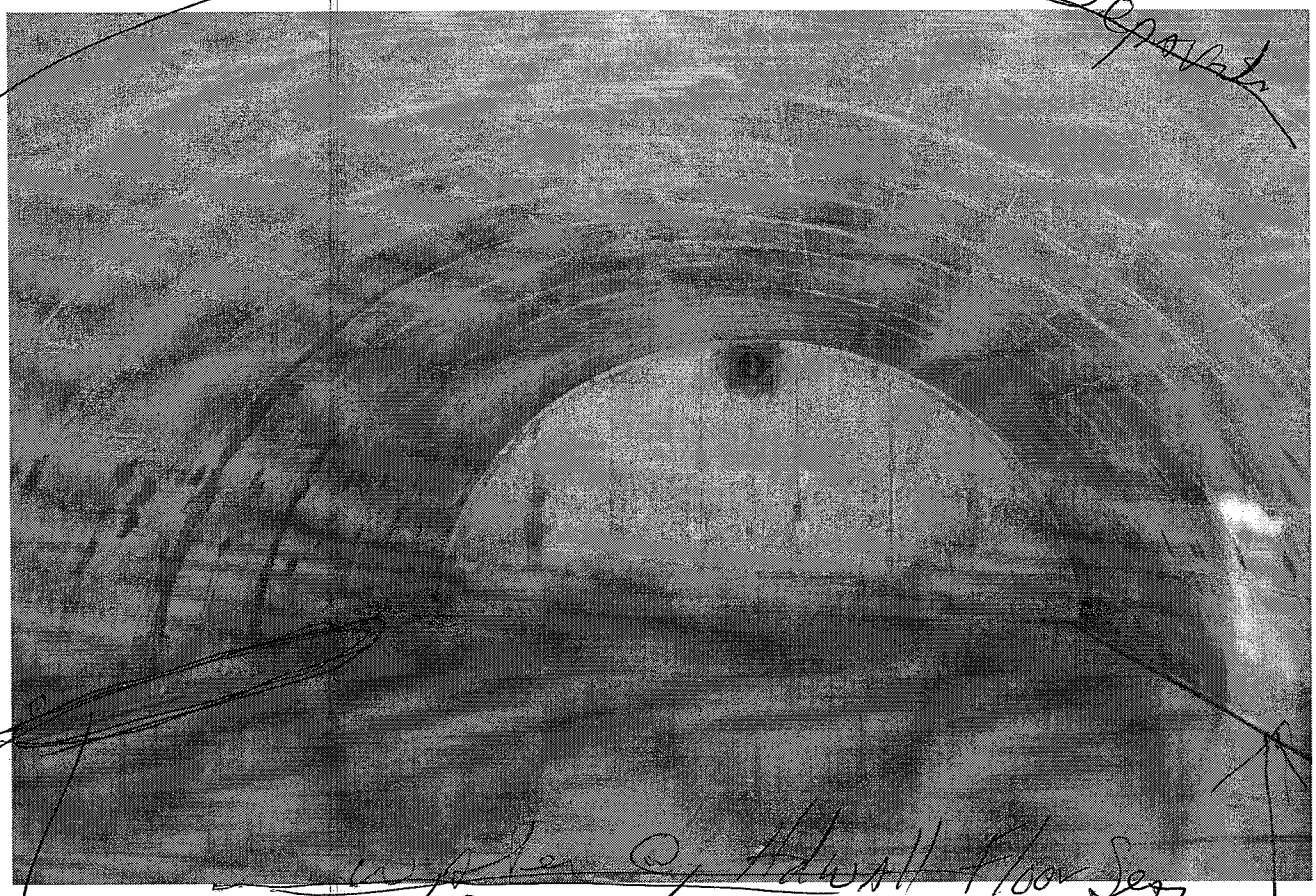
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No Culvert

If yes what type? ——

Other Notes: ——

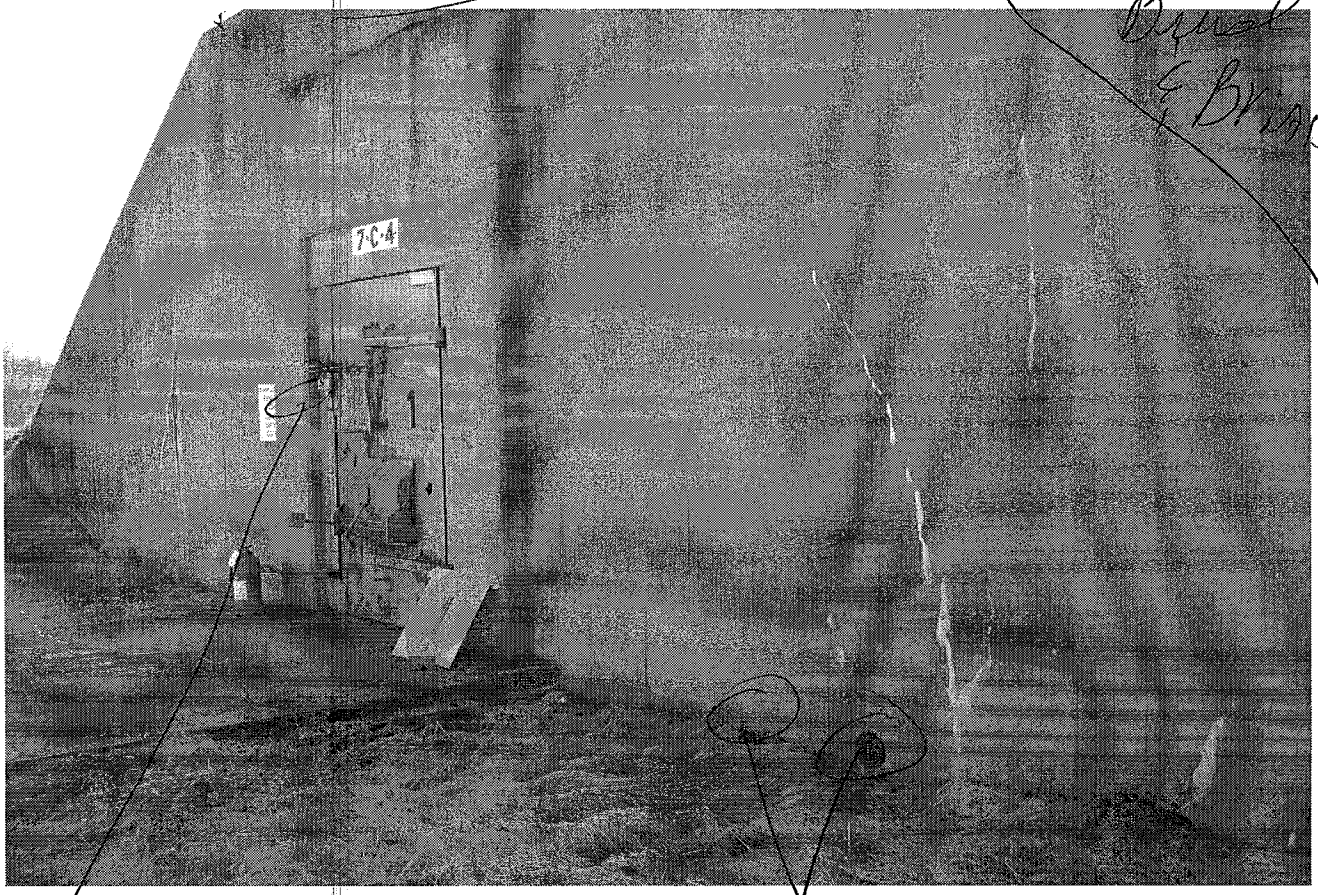
IC-3 10 Mar '11

Igloo #: ~~HB-312~~ Potential Tornado Shelter



Igloo #: ~~HB-312~~ 1C-3 Potential Tornado Shelter 10 Mar '11

Heavily Bured & Brings



Lock on Door But Not Not Secured in HASP

Floor & Toe Drains Present Ea. Sed

→ N

IGLOO INSPECTION FORM

1st Visit 2nd Visit 14 Mar '11

Igloo #: 1C-3 Prospective Tornado Shelter

Date: 23 Nov-10 Time: Weather:

Inspector: USACE - LRL - T.M. Chanda Picture Numbers: 0

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

N.O.T. Inspected
Due To Time
Constraints

TM Chanda

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

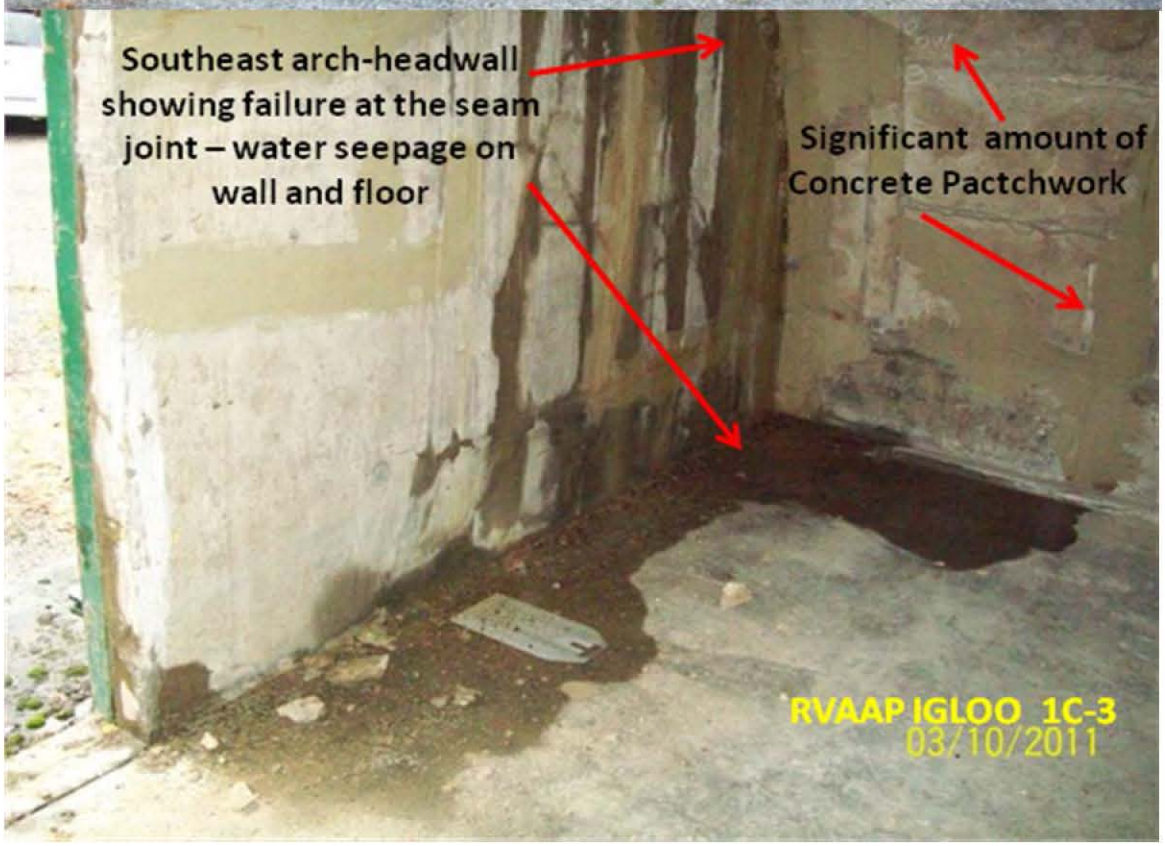
Obvious downstream surface water pathway available to sample sediment?

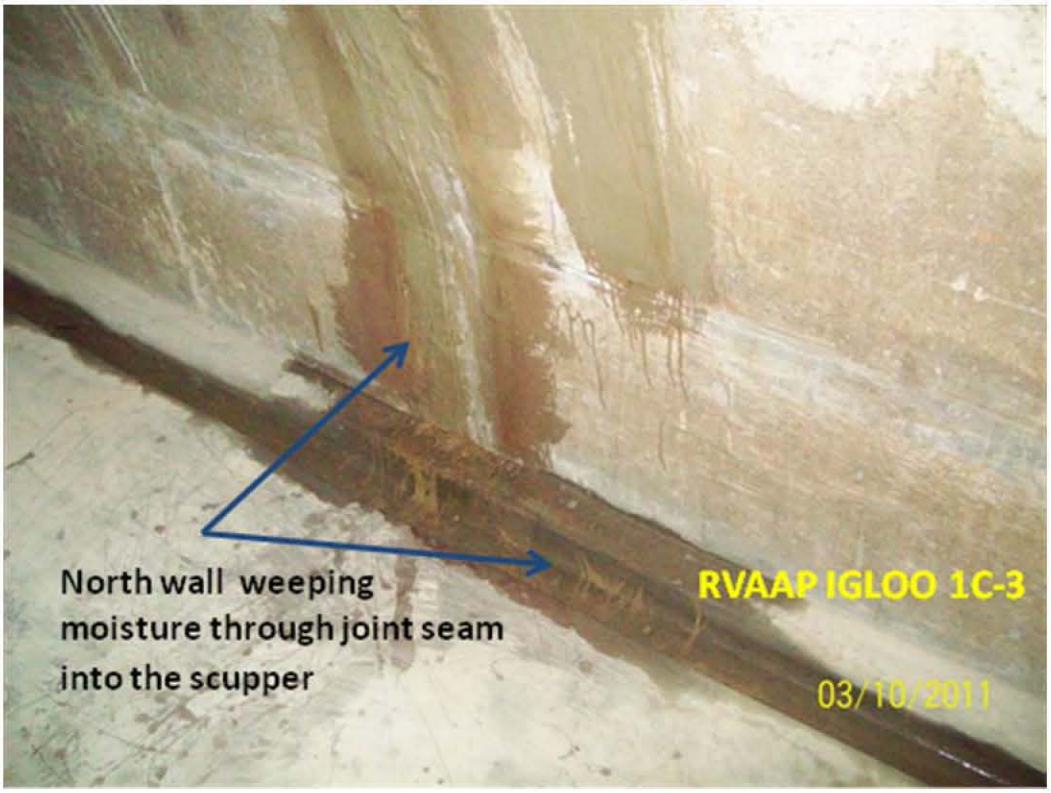
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

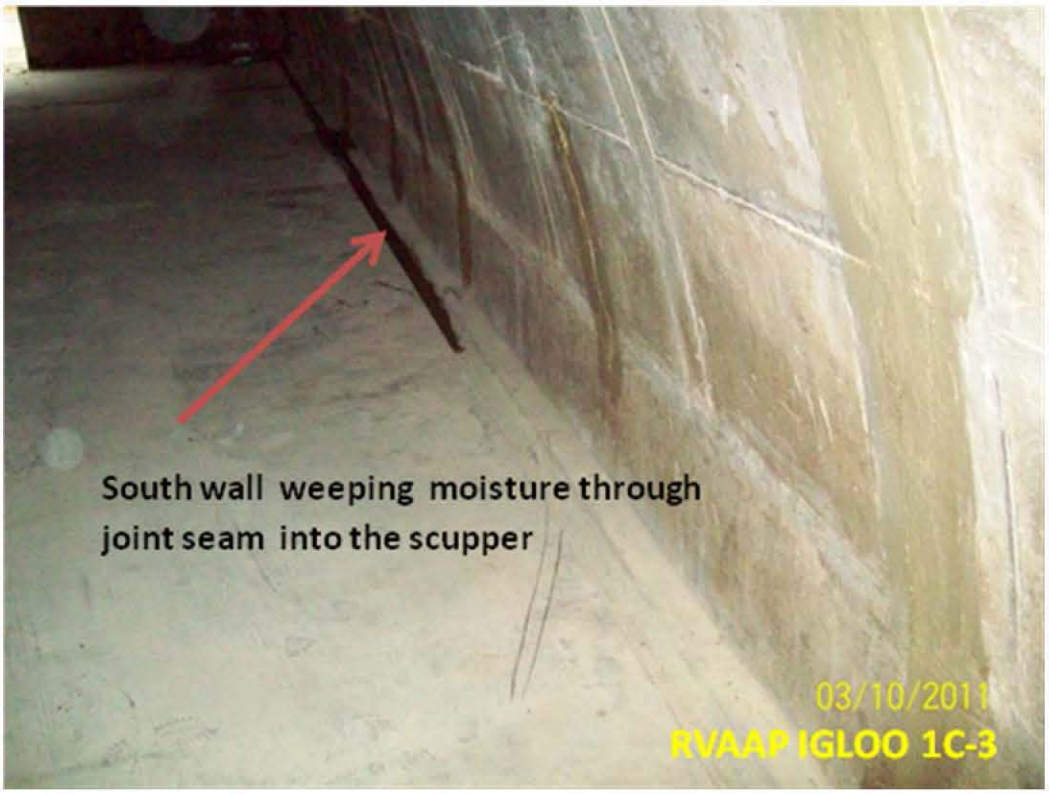
If yes what type?

Other Notes:


RVAAP IGLOO 1C-3
03/10/2011


Southeast arch-headwall showing failure at the seam joint – water seepage on wall and floor
Significant amount of Concrete Pactchwork
RVAAP IGLOO 1C-3
03/10/2011


North wall weeping
moisture through joint seam
into the scupper
RVAAP IGLOO 1C-3
03/10/2011


South wall weeping moisture through
joint seam into the scupper
03/10/2011
RVAAP IGLOO 1C-3

IGLOO INSPECTION FORM

Blue Copy

Igloo #: ~~HB-312~~ IC-4 Potential Tornado Shelter

Date: 10 Mar '11 Time: 0986 Weather: Drizzle - 45° - Overcast

Inspector: USACE - LRL - T.M. Chanda Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Lock on Door Not Secured to Door Hasp
Some Superficial Cracking on Hdwall w/
Calcine Deposition - Floor & Toe Drains on
Both sides of Hdwall -
Brush Covered w/ Tree, shrubs, Briars
No Apparent Headwall Borrel Separation or
Culvert South > 70' Feet - ~~North~~ Surface
Drainage

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Relatively Dry - Seepage Dry - Some
Wales/Moisture @ Coming down from Hdwall
Arch Seam - Both Northeast & South EAST
Corners wet

Obvious downstream surface water pathway available to sample sediment? Yes - Footage ~~Hdwall~~

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? - No

If yes what type?

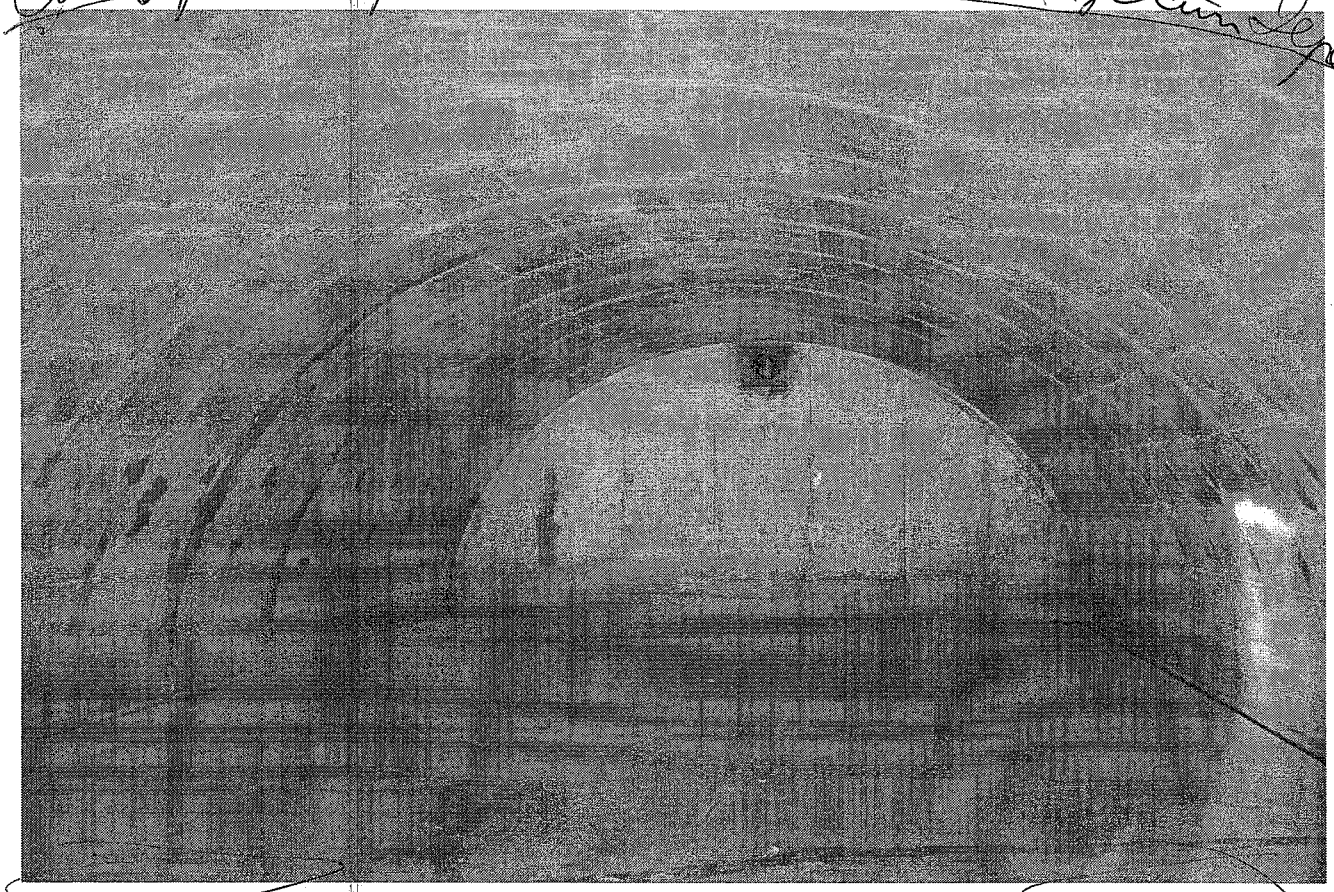
Other Notes:

IC-4 10 Marc '11

Igloo #: ~~HB-312~~ Potential Tornado Shelter

Calcium Deposition @ Top Seam

Calcium Deposit

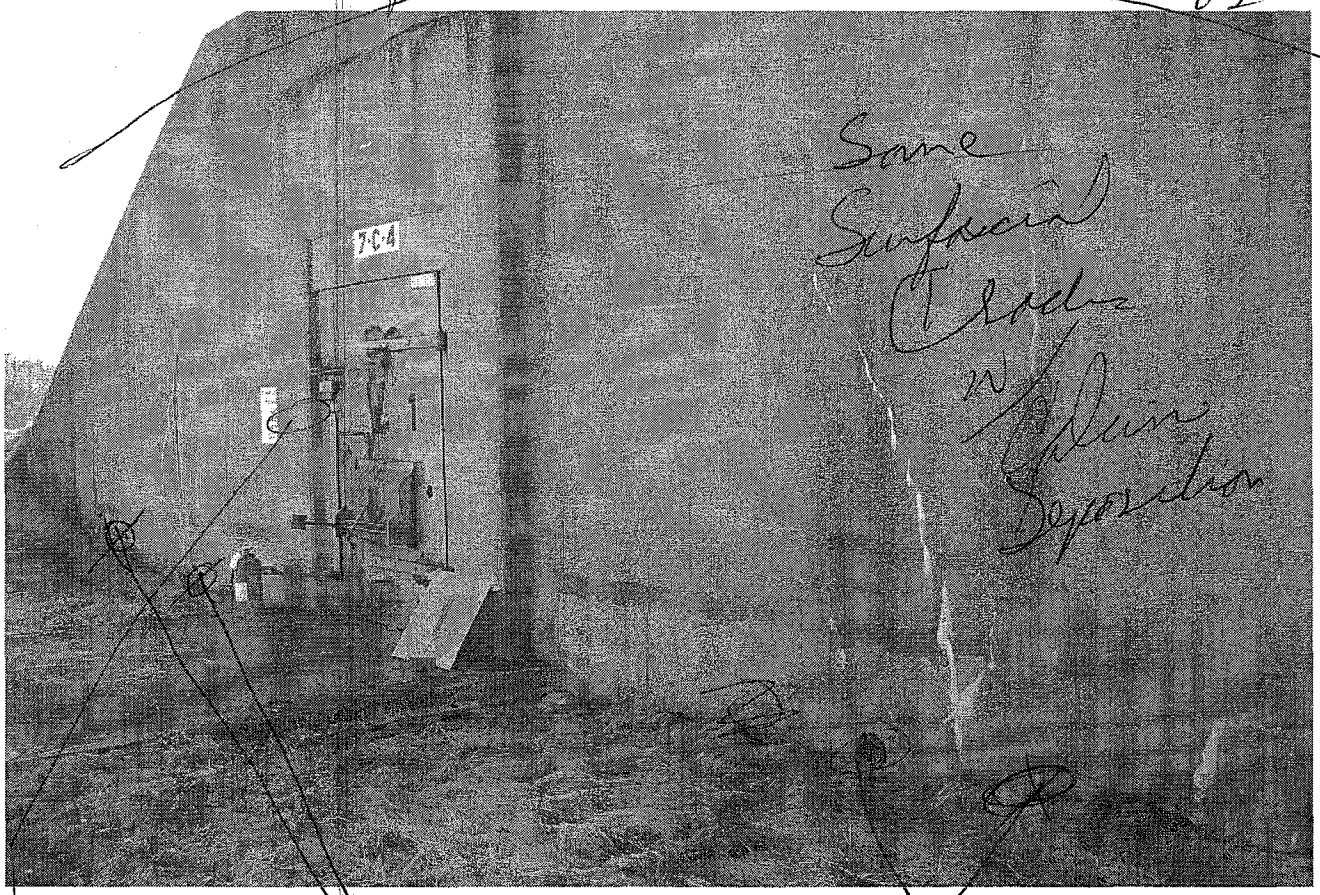


wstes on Hd wall to floor fm / Upper Seam

N

IC-4

Igloo #: ~~HB512~~ Potential Tornado Shelter



Covered w/ Bushes — Trees — Shrubs

Some Surface Cracks w/ Slight Depression

Unsecured Door

Floor & Toe Drains Both Sides

N

IGLOO INSPECTION FORM

23 Nov 10

Igloo #: **1C-4 Prospective Tornado Shelter**

Date: 23 Nov 10 Time: Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Not Inspected Due To Time Constraints

Returned 10 Mar '11 to perform Inspection by Kinder-CH2M Hill

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


RVAAP IGLOO 1C-4
03/10/2011


Northeast headwall weeping
moisture through floor joint seam
RVAAP IGLOO 1C-4
03/10/2011

IGLOO INSPECTION FORM

Igloo #: IC-5 ~~HB-312~~ Potential Tornado Shelter

Date: 10 MAR '11 Time: 0920 Weather: Overcast – Rain 45°

Inspector: USACE - LRL - T.M. Chanda, D. Kirby Picture ~~Numbers~~: Yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Lock on Door But Not Secured to Hasp – No Apparent Hdwall Separation Each Side Has Floor & Toe Drains – Culvert (Galvanized) in North Ditch ≈ 70' away From Igloo – Drainage Path is South Minor Caking Cracks on Hdwall Face

Igloo Interior:
(items to note: cracks in walls/floor, moisture present, staining, etc)

Headwall-Arch Separation – Concrete on floor Most of Hdwall-Arch Seam shows some water leakage down to floor – Scuppers dry except @ Arch-Hdwall NE & SE Corners – Vent shaft shows a little water leakage down wall

Obvious downstream surface water pathway available to sample sediment? Yes South

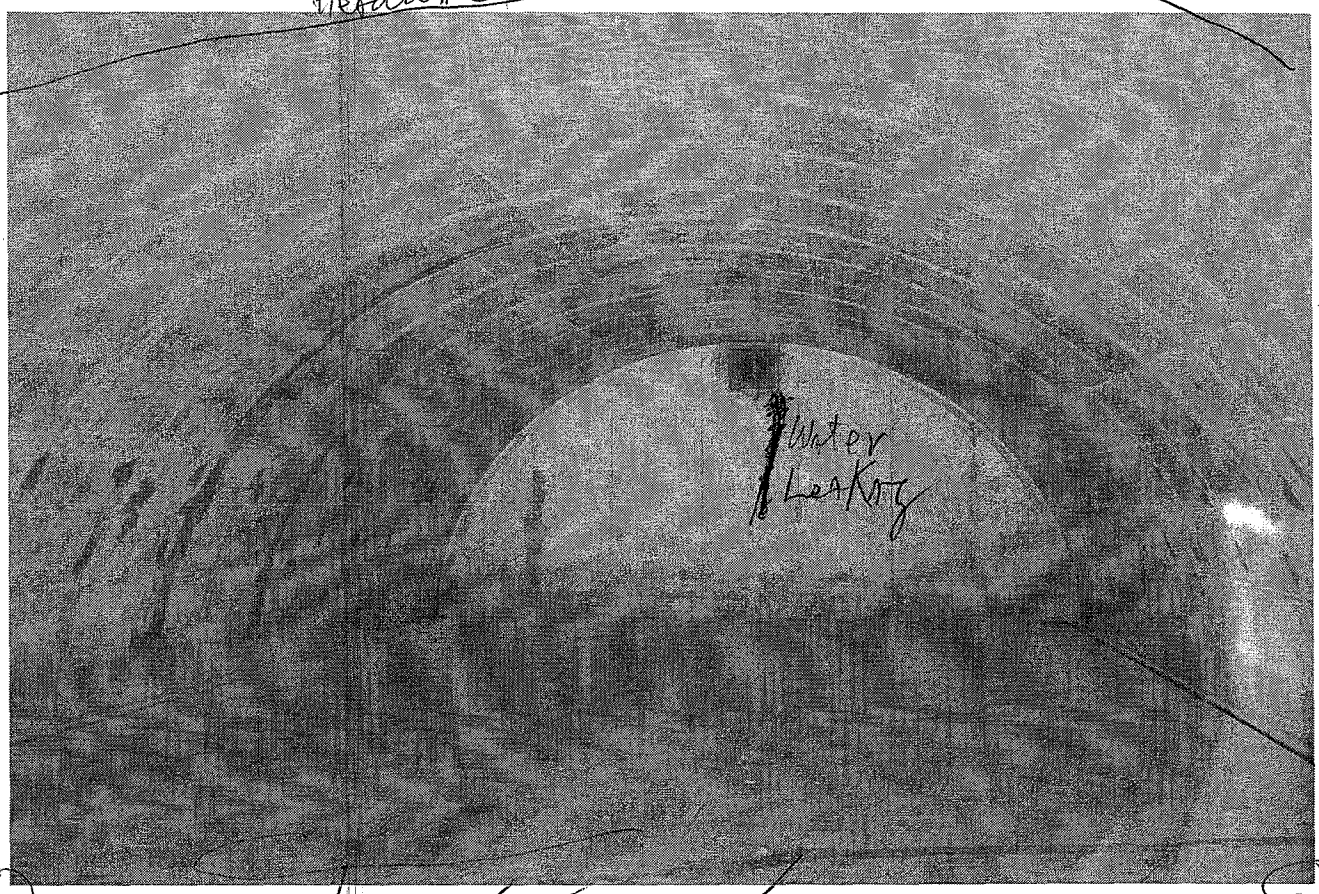
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type?

Other Notes:

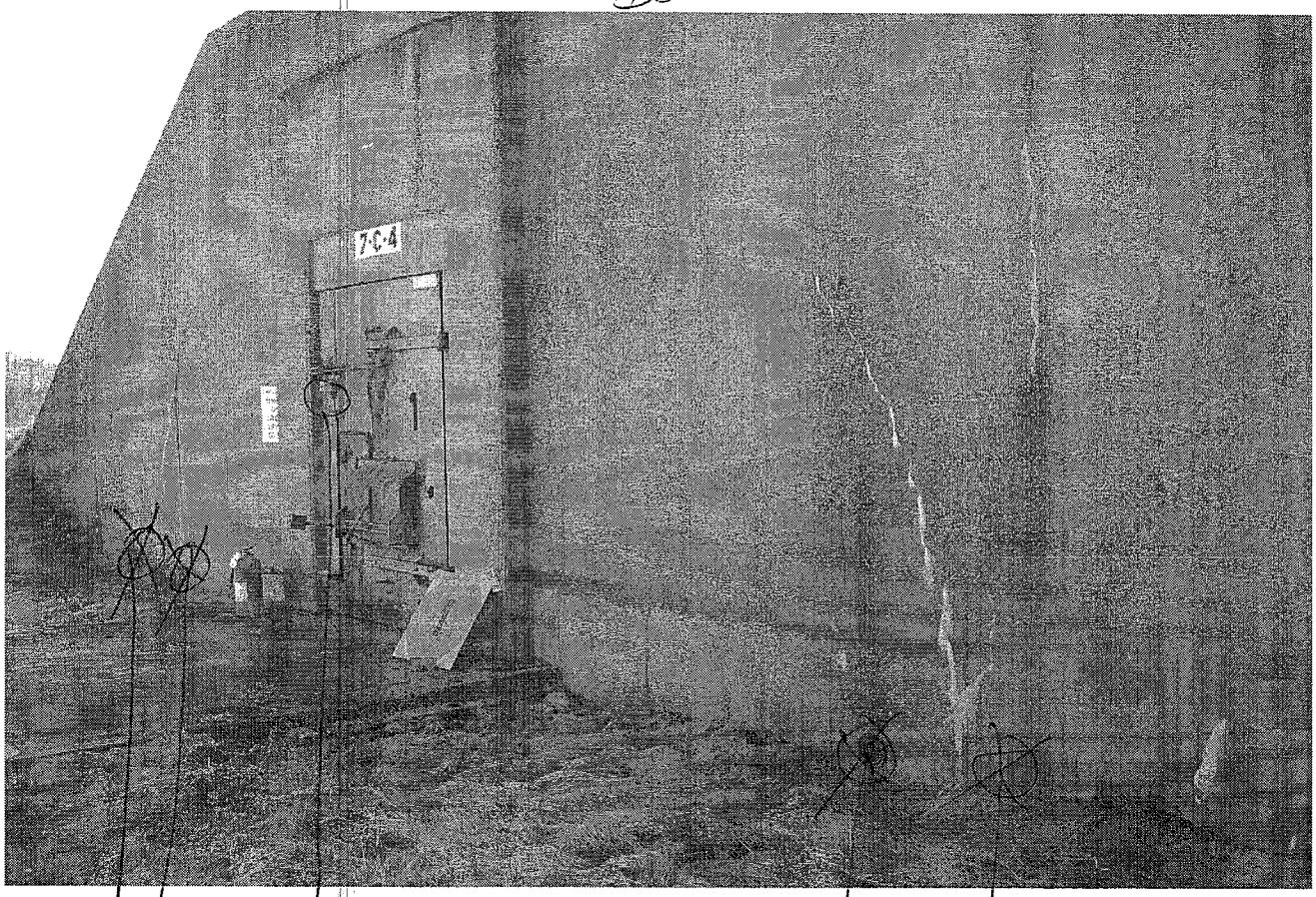
IC-5

Igloo #: ~~IB-312~~ Potential Tornado Shelter



IC-5

Igloo #: ~~HB-342~~ Potential Tornado Shelter



Brush Covered

Lock unsecured

N

Floor & Tool Drawer

IGLOO INSPECTION FORM

Igloo #: **1C-5 Prospective Tornado Shelter**

Date: 23 Nov '10 Time: Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Not Inspected Due to Time Constraints

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Site Revisited 10 Mar '11 5/ Survey by Chandler & Kinder LRL PMT

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


RVAAP IGLOO 1C-5
03/10/2011


Headwall looking east at seepage from arch-hdwall seam water weeping and floor joint seepage
North arch-wall with calcine deposition on wall, scupper and floor; red/orange stain some type paint/patch material.
RVAAP IGLOO 1C-5
03/10/2011

IGLOO INSPECTION FORM

Two Copy

Igloo #: IC-6 ~~HB-312~~ Potential Tornado Shelter

Date: 10 March 11 Time: 0939 Weather: Rain-Overcast 45°

DK. Wade

Inspector: USACE - LRL - T.M. Chanda Picture Numbers: Yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

A LOT of Patchwork over Superficial Cracks Trees, Briars, Brush covered Top — Drainage North To Large Culvert on North Ditch ditch greater than 70' away from igloo Lock present unsecured to Door Hasp — Floor; Toe Drain EA. side of Headwall

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Headwall - Arch Seam Leaking Noticeable Amount of water onto Floor — Backwall Shows noticeable amount of Water coming down wall onto floor that is accumulating water — Scupper partially dry — NE-SE-SW & NW Corner contain water from Leaks — One small Seam Leak midway NW wall Near Floor - Not enough to drain Water in Scupper

Obvious downstream surface water pathway available to sample sediment? — Yes — South —

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type?

Other Notes:

IC-6

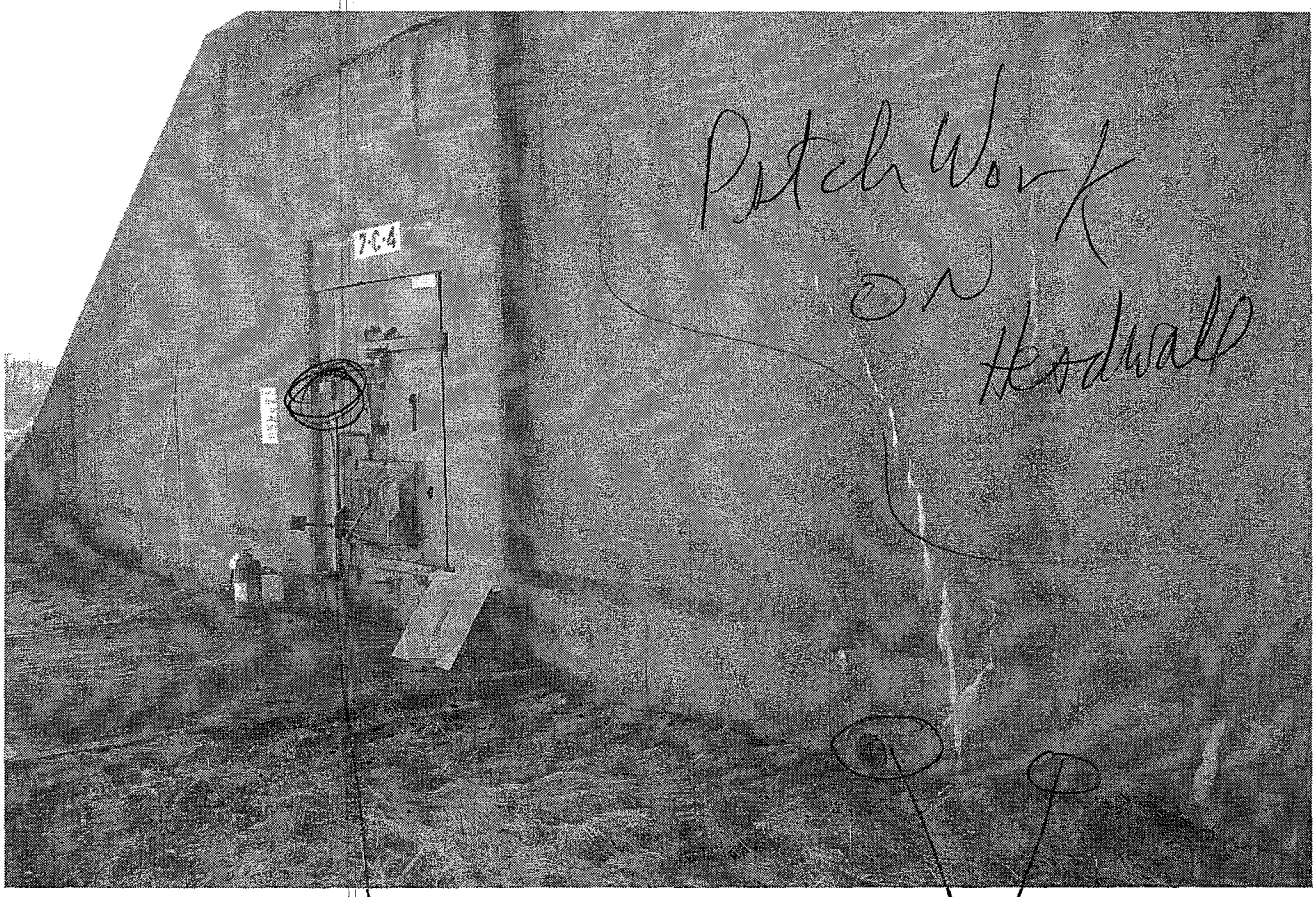
Igloo #: [redacted] Potential Tornado Shelter

10 March Kinder-Chandler



Igloo #: IC-6 ~~HB-302~~ Potential Tornado Shelter

10 MARCH '11
Chords - Kinder



IGLOO INSPECTION FORM

Igloo #: **1C-6 Prospective Tornado Shelter**

Date: 23 Nov '10 Time: Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Not Inspected
Due to time
Constraints

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Return Visit
for Site inspection
10 MAr '11 by
Kinder - Chanda
USACE - LRL

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


I-C-6
RVAAP IGLOO 1C-6
3/10/2011


Headwall southeast side with significant patchwork water seepage down wall onto floor
RVAAP IGLOO 1C-6
03/10/2011


West wall with significant water seepage from air vent
RVAAP IGLOO 1C-6
03/10/2011

IGLOO INSPECTION FORM

Igloo #: ~~HB-32~~ 1C-7 Potential Tornado Shelter

Date: 10 March '11 Time: 0958 Weather: Rain - Overcast 45°F

Inspector: USACE - LRL - T.M. Chanda + D. Kinder Picture Numbers: Yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Accessible - No Apparent Seperation @ Barrel & Hdwall Joint - Overgrown in Grass & Brush - Floor & Toe Drains Present Both Sides - Drainage S & West fm Igloo - No Culvert w/i 70' of Igloo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Typical Headwall - Arch Seam Leakage on floor - Water in Both Scuppers Midway Midway Arch Seam Both sides Leaking No Leaks around Vent - Arch Leak Actually Leaking fm Ceiling & onto Floor (very Rare Presence of Occurrence) - Hdwall - Arch Seam - Very Less than 1C-6

Obvious downstream surface water pathway available to sample sediment? Yes - South then West

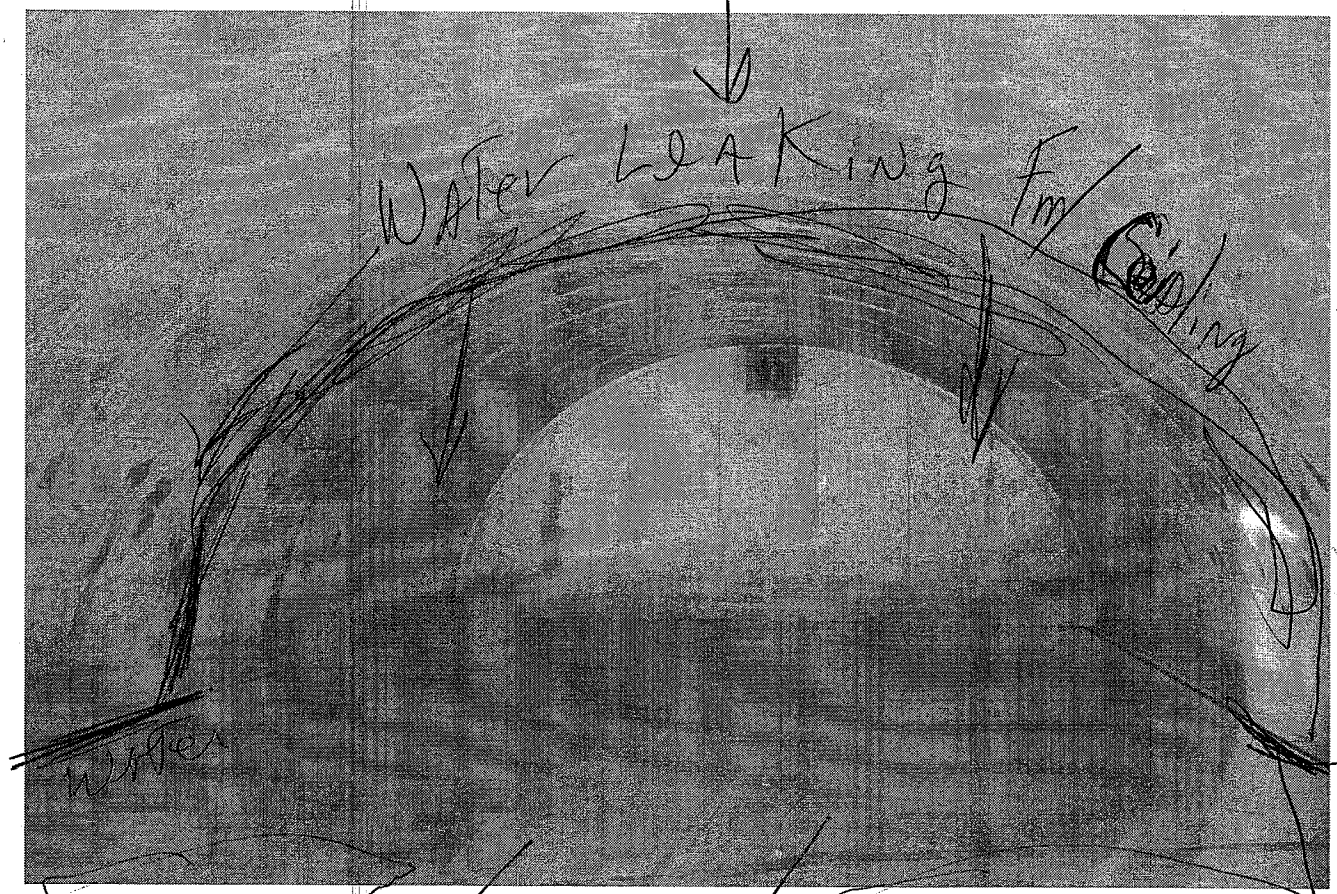
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type?

Other Notes:

IC-7

Igloo #: ~~IC-12~~ Potential Tornado Shelter

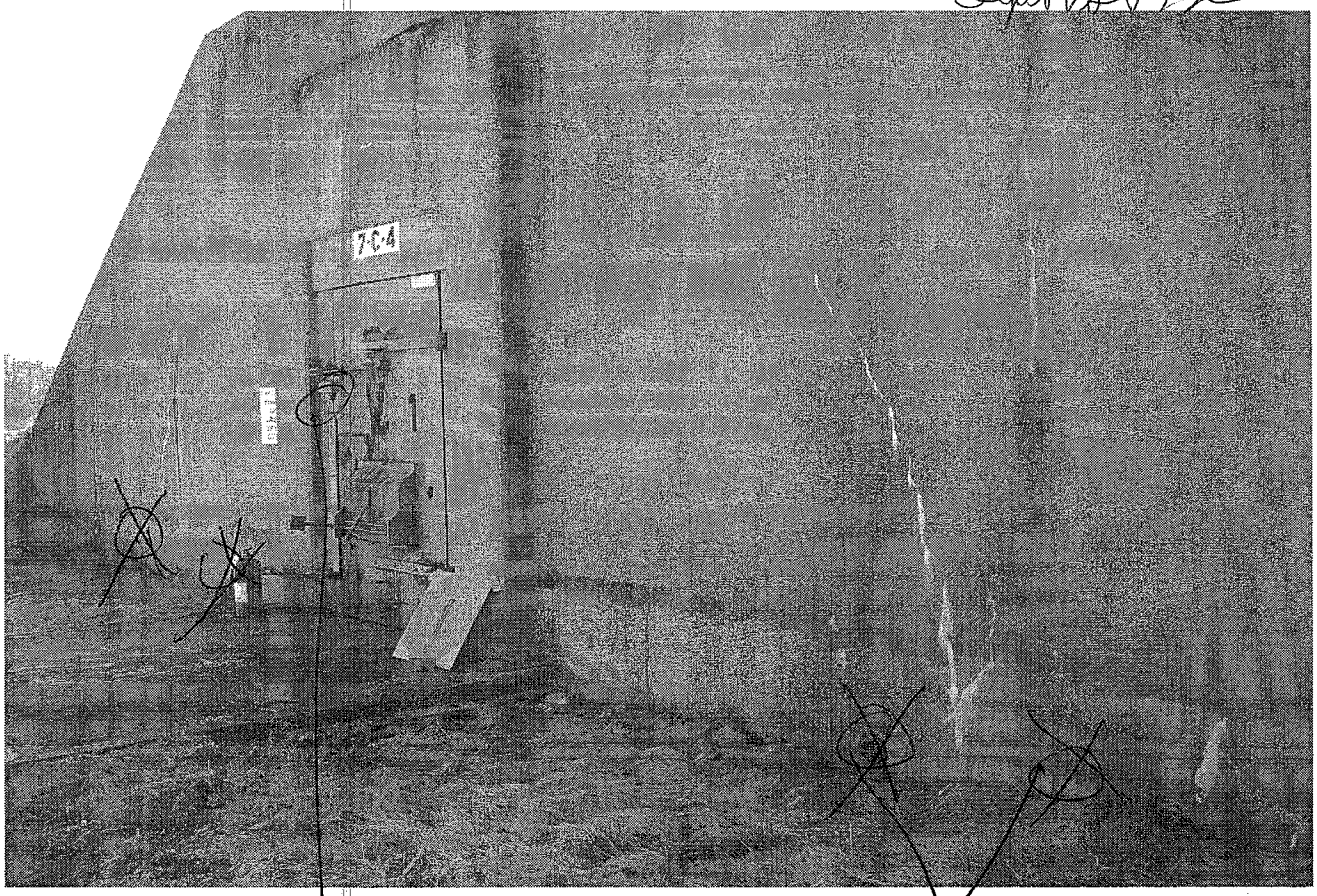


IC-7

Igloo #: ~~[redacted]~~ Potential Tornado Shelter

10 MARCH '11 CHANDA & KINDER

No Apparent Arch & Wall Separation



Lock Unsecured

Floor & Toe Plate Vent Both Side

→ N

IGLOO INSPECTION FORM

Igloo #: **1C-7 Prospective Tornado Shelter**

Date: 23 Nov '10 Time: Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Not Inspected Due to Time Constraints TMC

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Obvious downstream surface water pathway available to sample sediment?

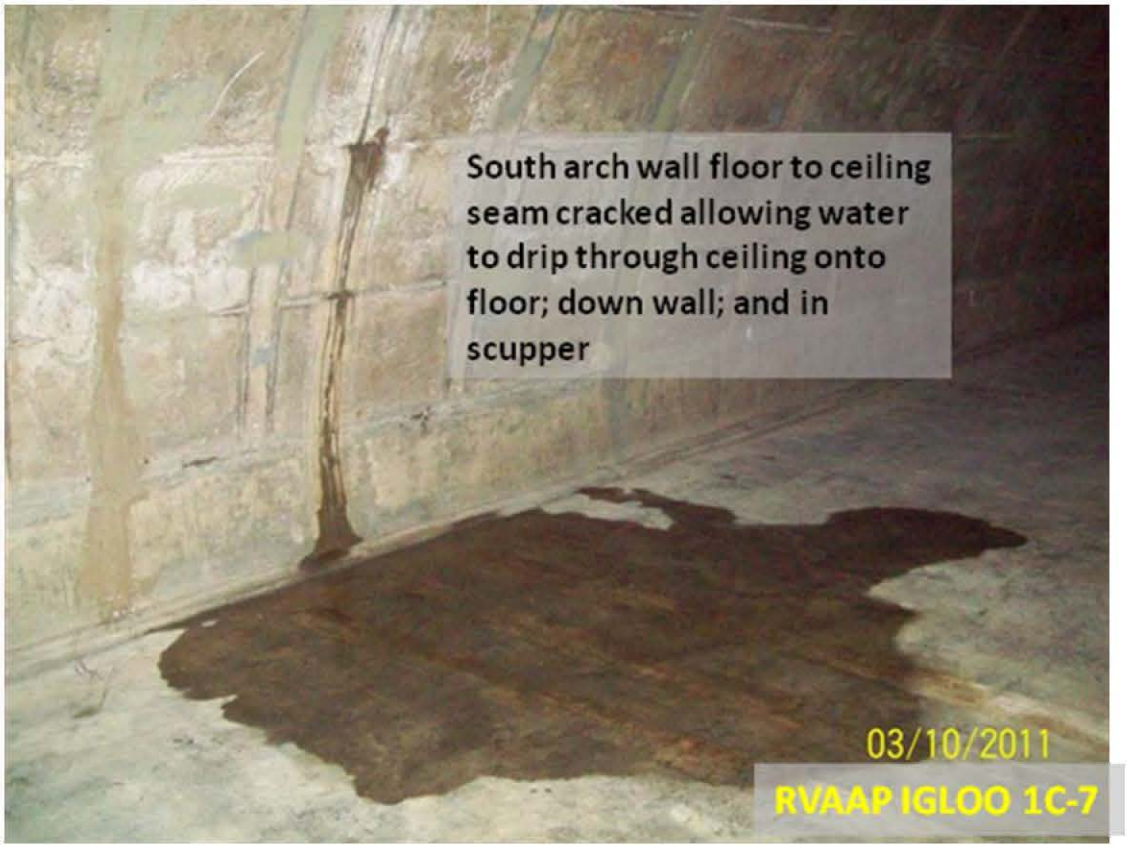
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

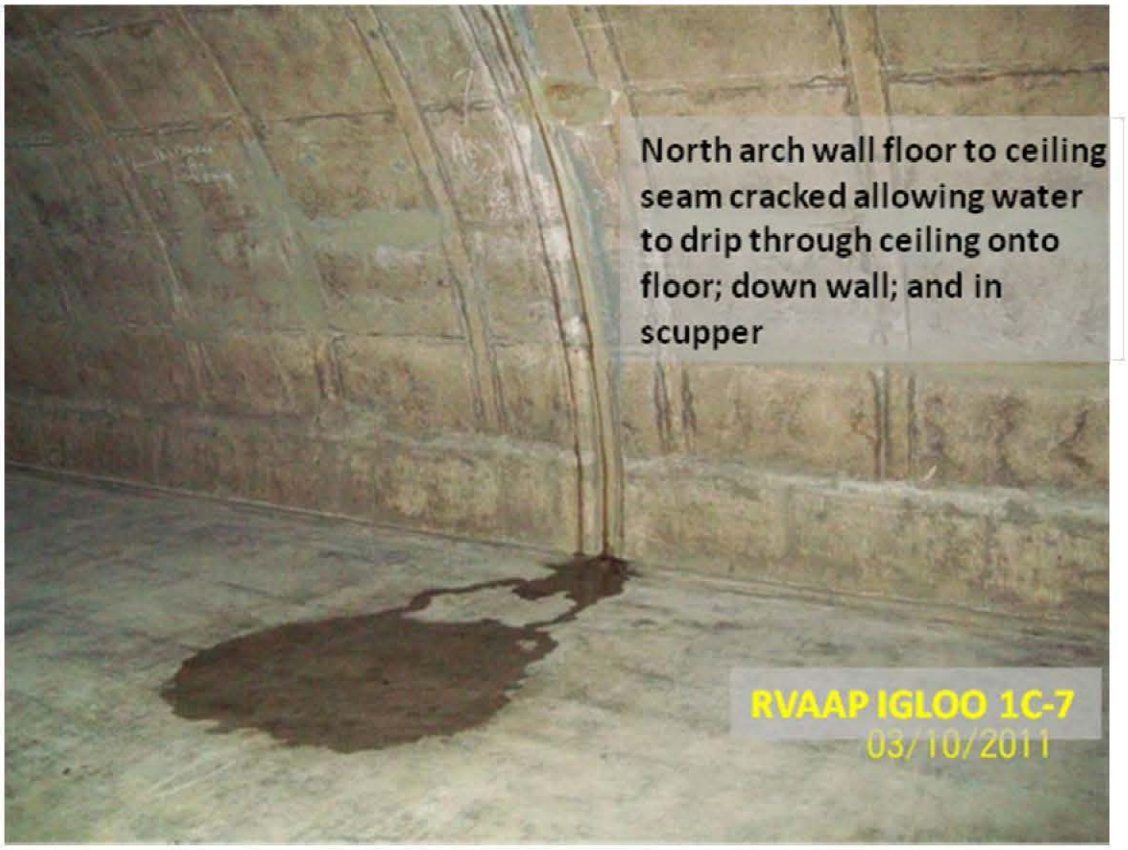
If yes what type?

Other Notes:


RVAAP IGLOO 1C-7


Headwall northeast wing
with obvious water seepage
down wall onto floor
03/10/2011
RVAAP IGLOO 1C-7


South arch wall floor to ceiling seam cracked allowing water to drip through ceiling onto floor; down wall; and in scupper
03/10/2011
RVAAP IGLOO 1C-7


North arch wall floor to ceiling seam cracked allowing water to drip through ceiling onto floor; down wall; and in scupper
RVAAP IGLOO 1C-7
03/10/2011

V. IGLOO BLOCK-C

B. IGLOO LANE 3C

IGLOO INSPECTION FORM

ERROR WASN'T on LRL Sheet To Be Inspected

Igloo #: 3C-~~10~~ 8 ~~Bured ATT~~

Date: 23 NOV Time: 1605 Weather: Sunny - 51°F - Windy

Inspector: USACE - LRL - T.M. Chanda Picture Numbers: 3C-8 #1 Ext - #2 NE Cnr Int Barrel - Hdwll Joint - #3 Joint Compound Pieces in SE Cnr #4 S.E. Cnr Hdw-Bar Joint #5 Joint Compound flag on Floor SE Cnr

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Monitoring Well 002 CBL ≅ 100' south of Igloo
Igloo is just West of C-Block Quarry AOC RVAAP
Interior + Toe Drain on Each Side of Door Headwall Face
Some Minor Calcification Cracks on Headwall
No Apparent Hdwl to Barrel separation —
Minor Calcined Cracks on Headwall
Hornet Nests in Lock Boxes - Beware in Warm Months —

Sawed Logs Around 3C-10

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry a few joint compounds pieces in NE & SE Corners fell away from Barrel-Headwall See Photos

Obvious downstream surface water pathway available to sample sediment? Drainage Ditch w/ N to S Flow

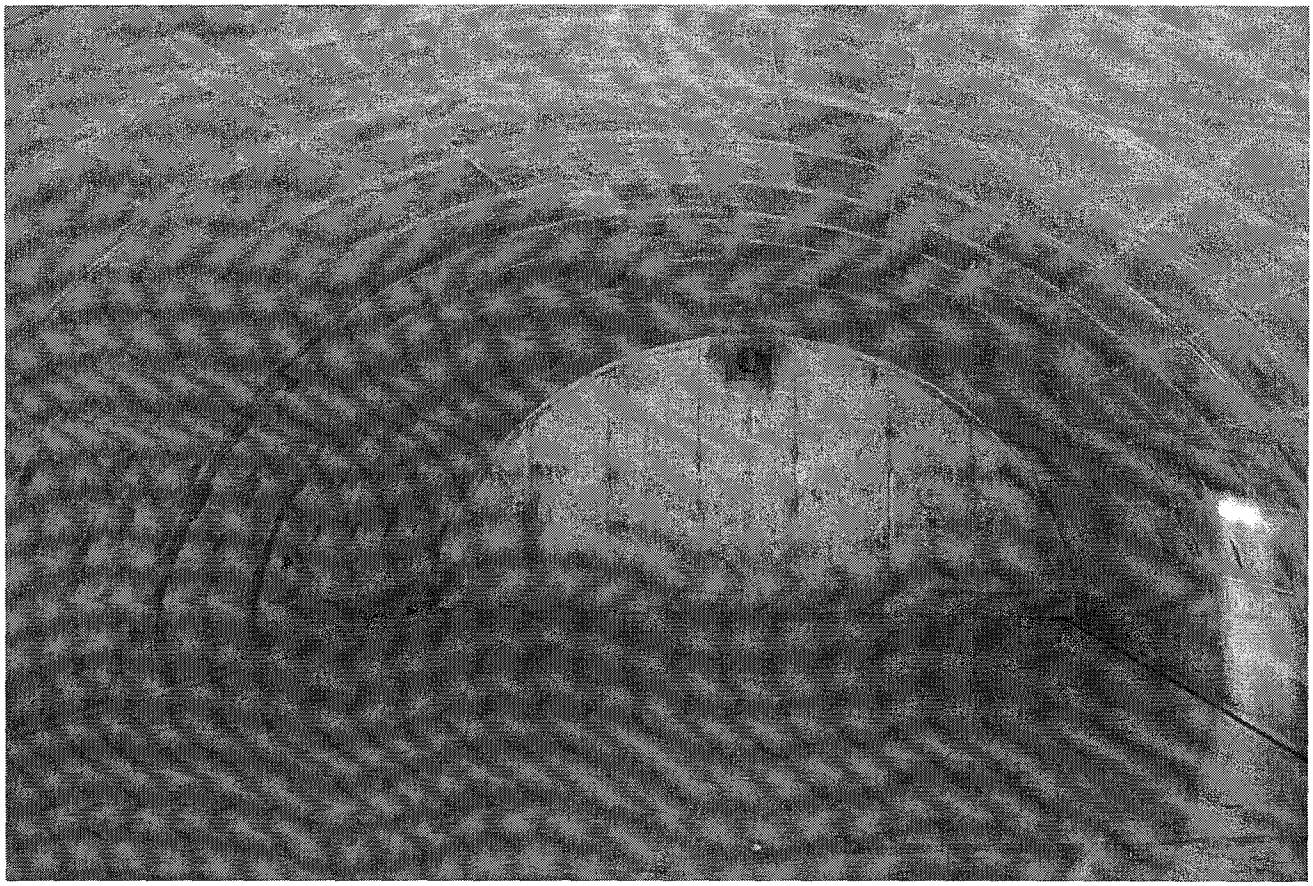
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? X

Other Notes: NOTE - Lock Hasp HAS HORNETS NEST If sampling + Access Done WARM - May Require Spraying NEST Before Activities

8

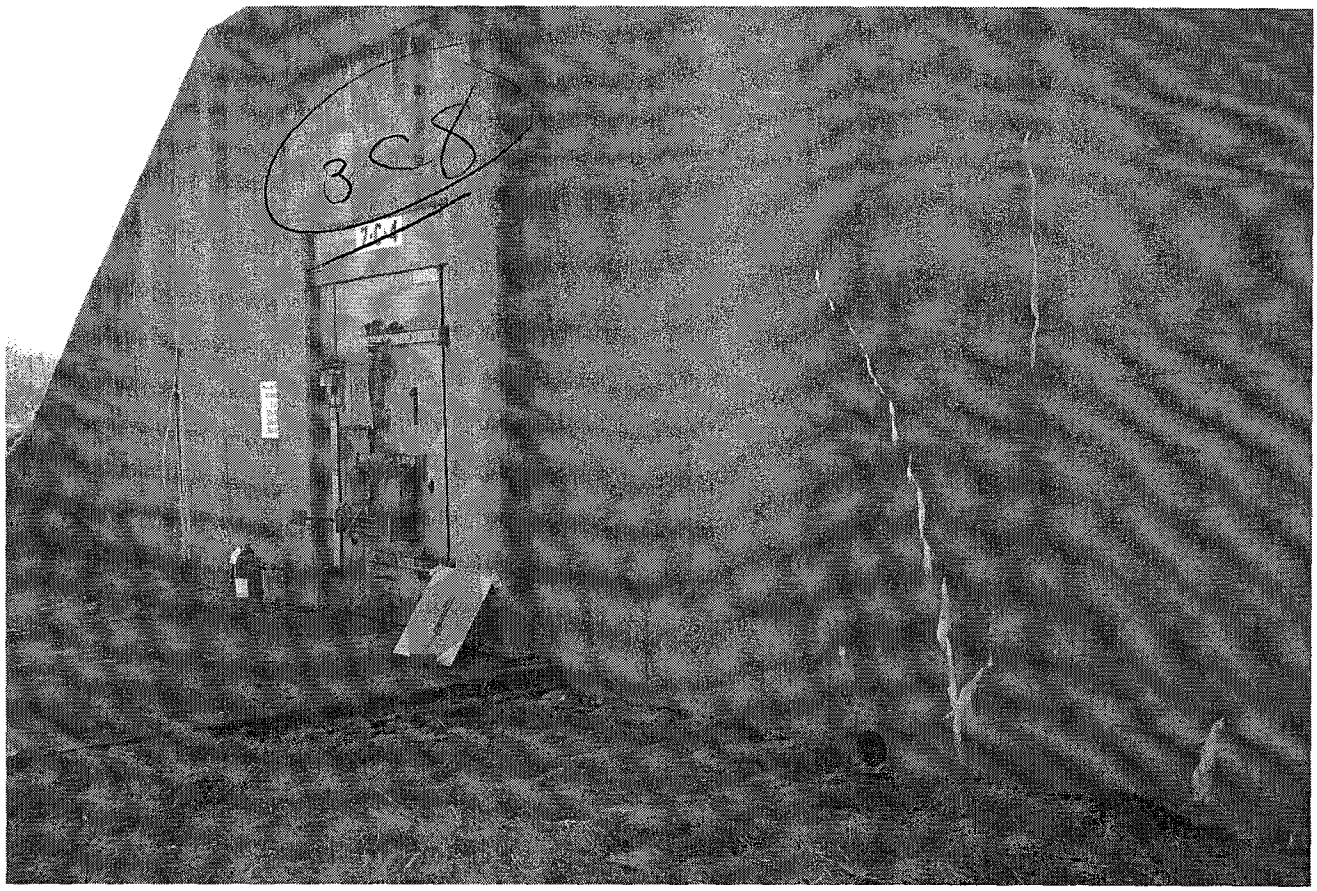
Igloo #: 3C-10 Bureau ATF



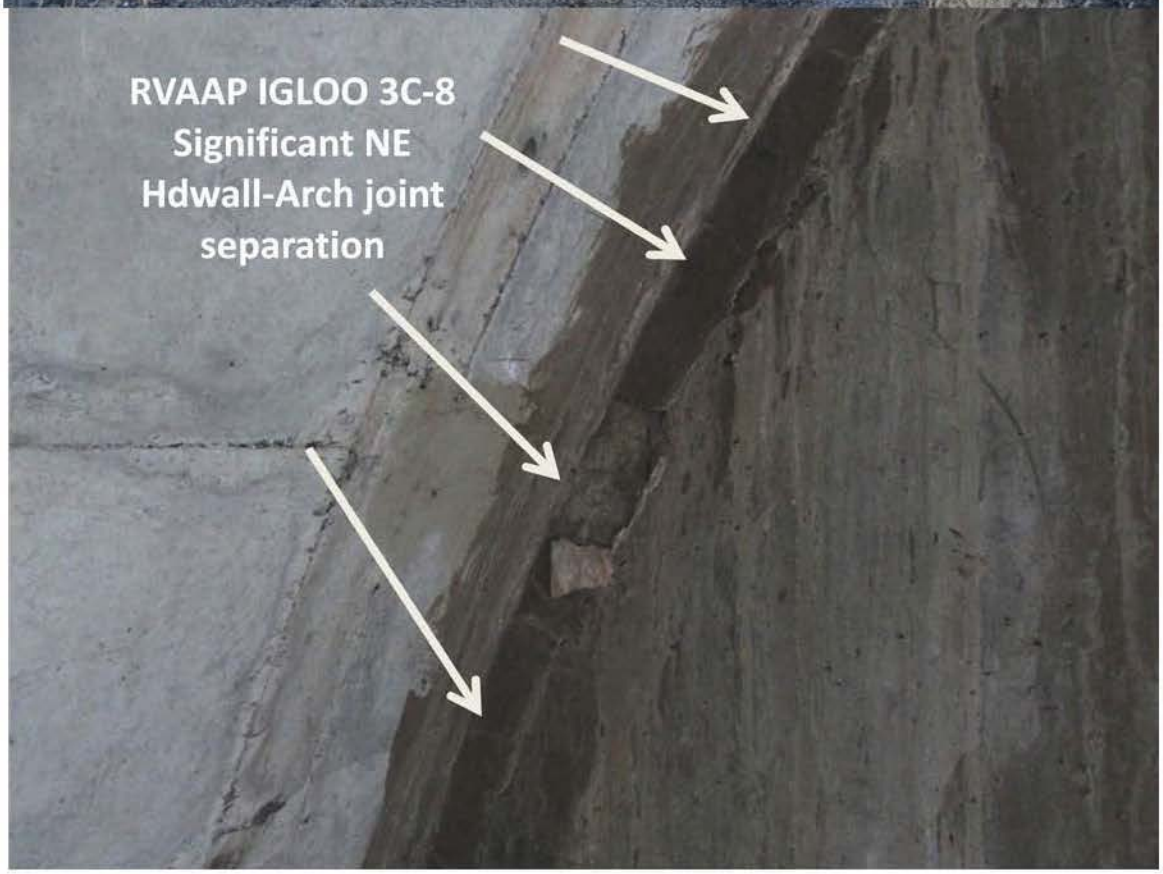
Not To Be Inspected But Did

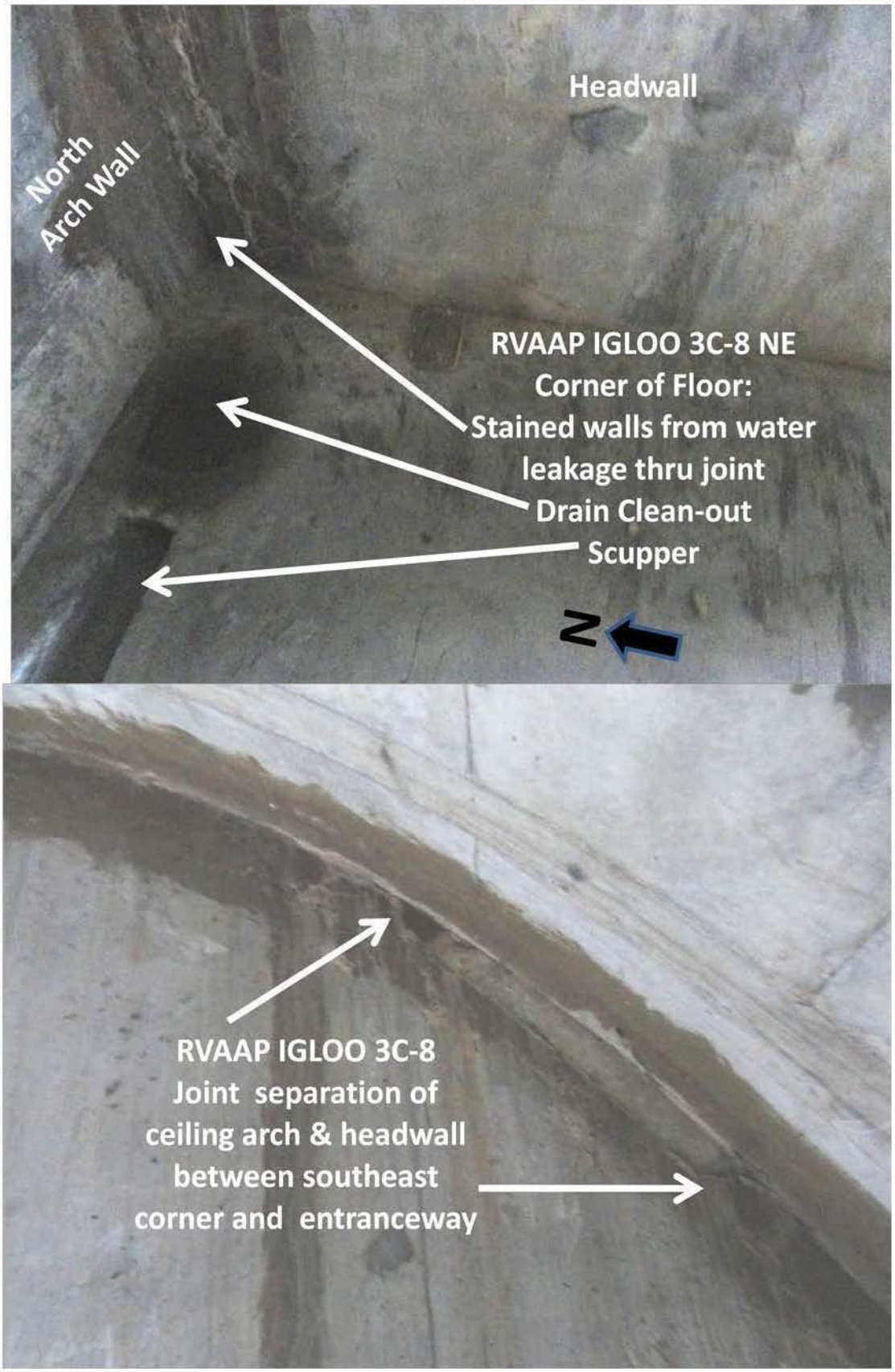
Igloo #: 3C-10 Bureau ATF

Inspected Wrong Igloo




3-C-8
RVAAP IGLOO 3C-8
23NOV2010


RVAAP IGLOO 3C-8
Significant NE
Hdwall-Arch joint
separation


Headwall
North Arch Wall
RVAAP IGLOO 3C-8 NE
Corner of Floor:
Stained walls from water leakage thru joint
Drain Clean-out
Scupper
N
RVAAP IGLOO 3C-8
Joint separation of ceiling arch & headwall between southeast corner and entranceway

IGLOO INSPECTION FORM

Igloo #: 3C-48 Bureau ATF

Date: Time: 1627 Weather: Sunny - 51°F - Slight Breeze

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Both Interior + Barrel Toe Drain on Each Side of Entrance Door —
No Apparent Ext. Hdwl - Barrel Separat'n
Flowage South To North — Igloo Door Different Configuration — 2 Locks on Door - Inaccessible w/ given BRAC Key

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

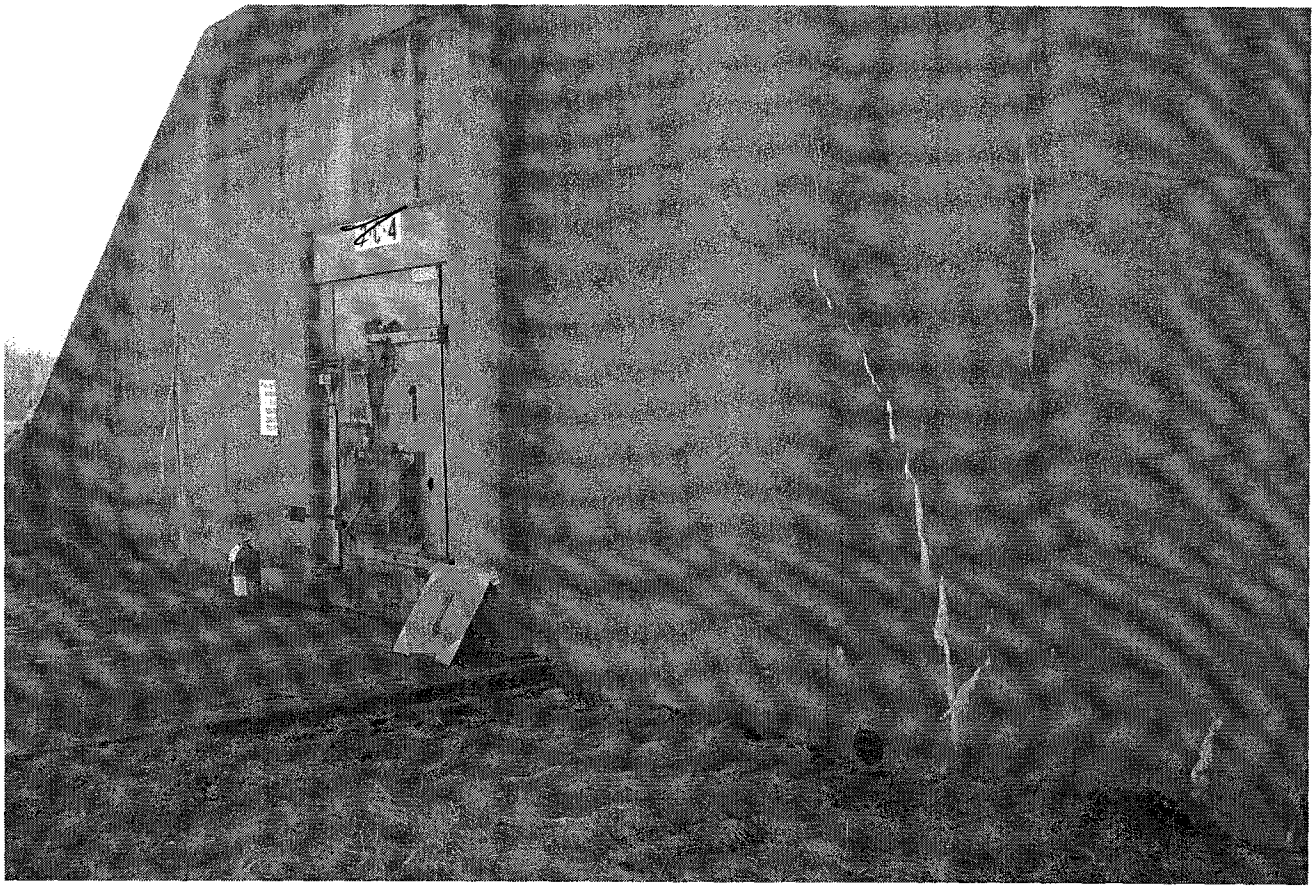
Obvious downstream surface water pathway available to sample sediment? Yes South to North

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? —

Other Notes: Different Type Locks - Inaccessible w/ Key given Today - May Return 24 Nov '16

Igloo #: 3C-10



IGLOO INSPECTION FORM

Igloo #: **3C-11 Burea ATF**

Date: 23 Nov 10 Time: 1640 Weather: Near Dusk - Clear 50°

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 3C-11 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Same Description As 3C-10 Ext/ Exterior
Different Configured Door - INT + Barrel Toe Drains
Each Side of Doorway - 2 Locks on Door
Not Accessible w/ Key given Today -
Minor To Moderate Calcined Cracks on Headwall Face

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Not inspect - Key made Available is not Matched to/
the 2 Locks.

Obvious downstream surface water pathway available to sample sediment? yes - Drainage S to N

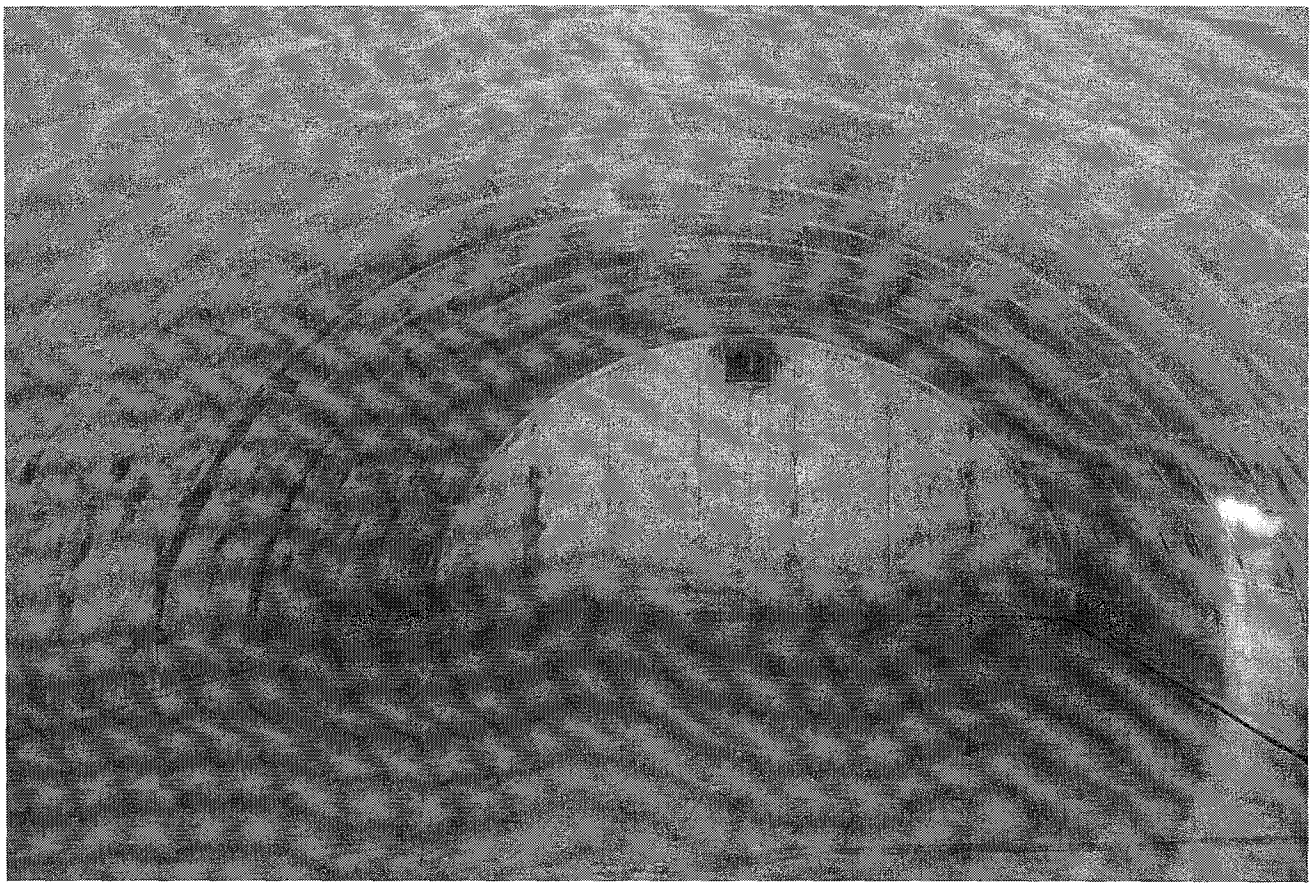
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? —

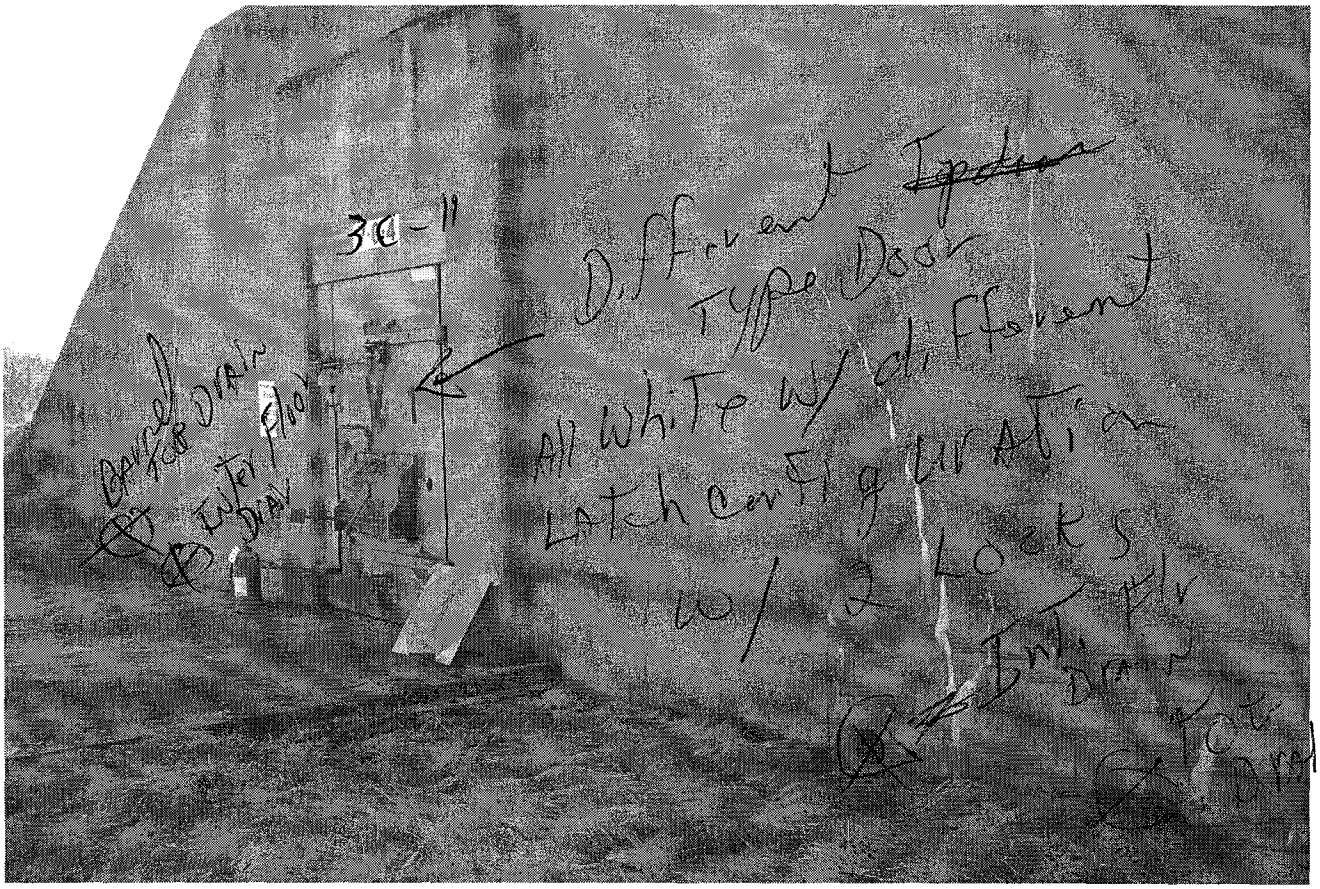
Other Notes: Need other Agency Key

Igloo #: **3C-11 Bureau ATF**

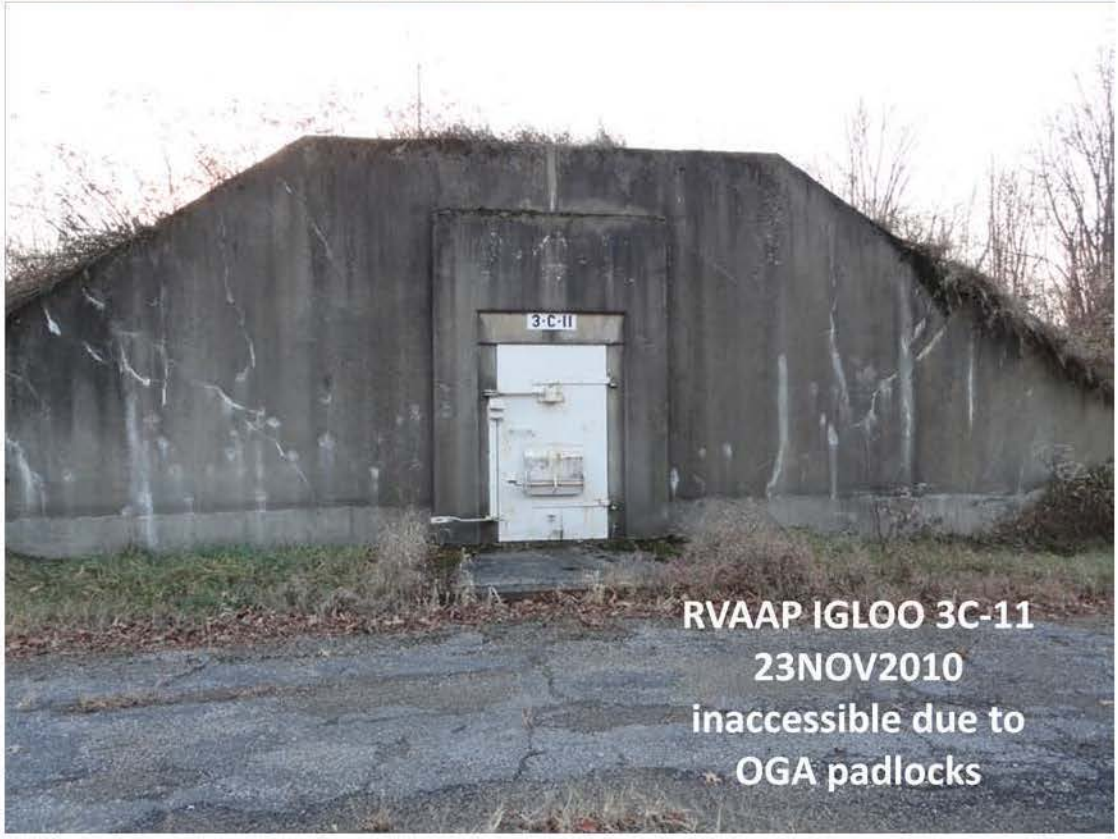
23 Nov 14
Not Accessible w/ BRAC Key



Igloo #: 3C-11 Bureau ATF




3-C-10
RVAAP IGLOO 3C-10
23NOV2010
inaccessible due to
OGA padlocks


3-C-11
RVAAP IGLOO 3C-11
23NOV2010
inaccessible due to
OGA padlocks

IGLOO INSPECTION FORM

Igloo #: **3C-12 Bureau ATF**

Date: 23 Nov '10 Time: 1649 Weather: Near Dusk, 50°F - Slight Breeze

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 3C-12 #

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Same Descript As 3C-10 & -11 —
Exterior Only - No Apparent Headwall
Separation — 2 port drains (Floor & Barrel)
Each side of Ent. Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Inaccessible w/ BRAC Key

Obvious downstream surface water pathway available to sample sediment? Yes

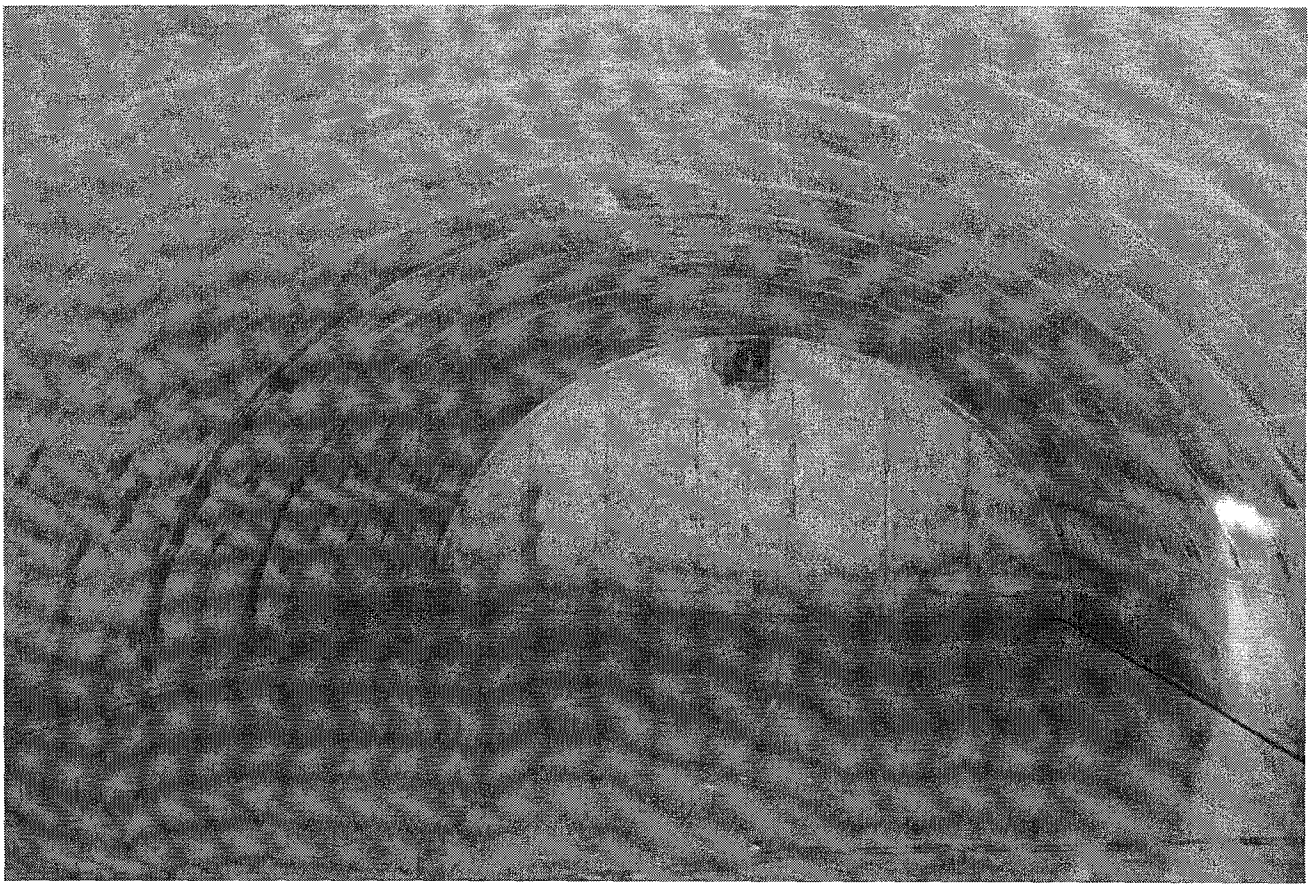
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? —

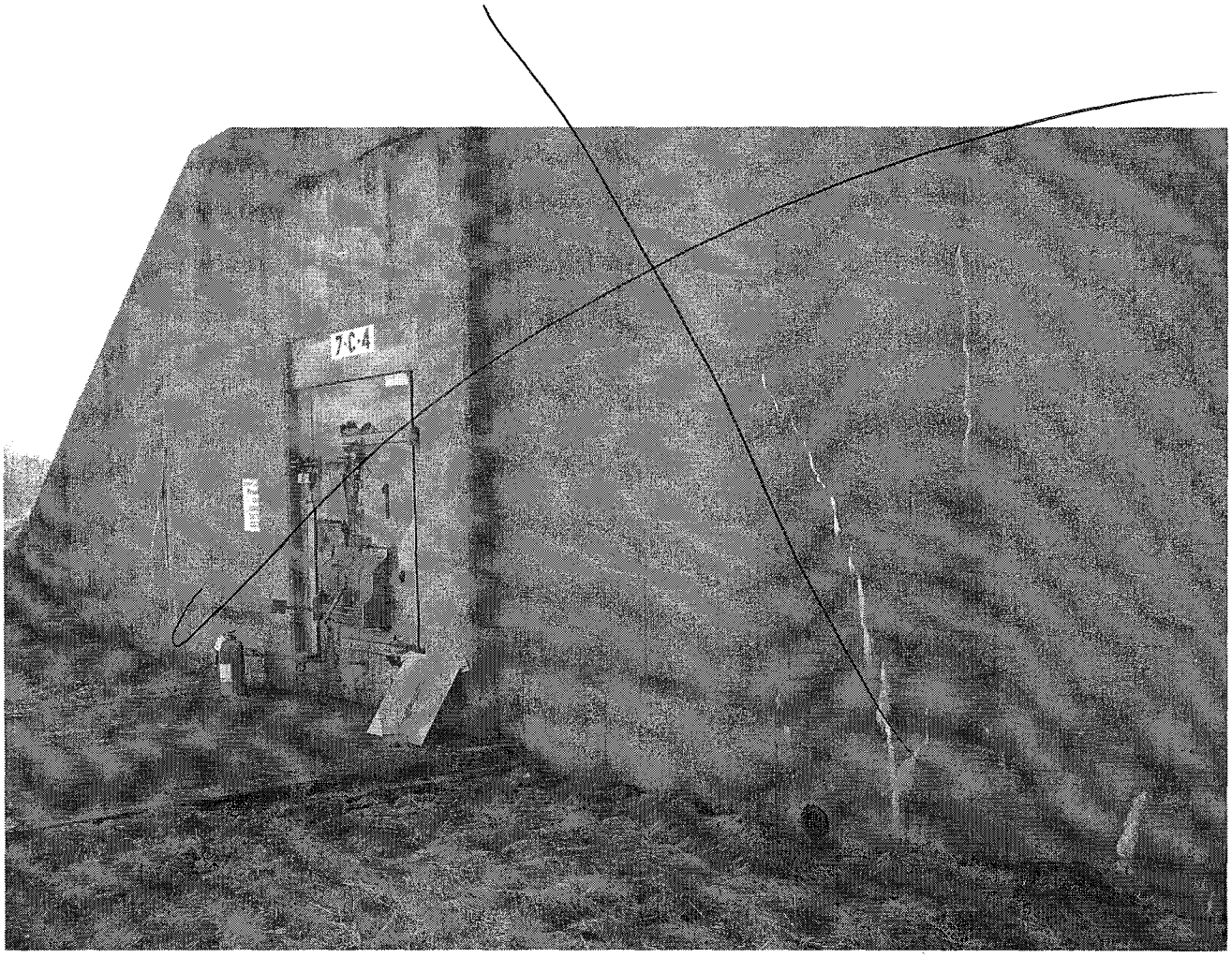
Other Notes:

Igloo #: 3C-12 Bureau ATF

23NOV'10 - Inaccessible Today
Need Different Key



Igloo #: 3C-12 Bureau ATF




3-C-12
RVAAP IGLOO 3C-12
23NOV2010
inaccessible due to
OGA padlocks

RVAAP IGLOO INSPECTION FORM

Igloo #: **3C-14** **NG Regional Training Institute (RTI)**

Date: APR 2011 4/27/11 Time: 1411 Weather: cloudy, overcast, 70°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

- minor cracks on headwall
- no visible separation of headwall from barrel
-

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

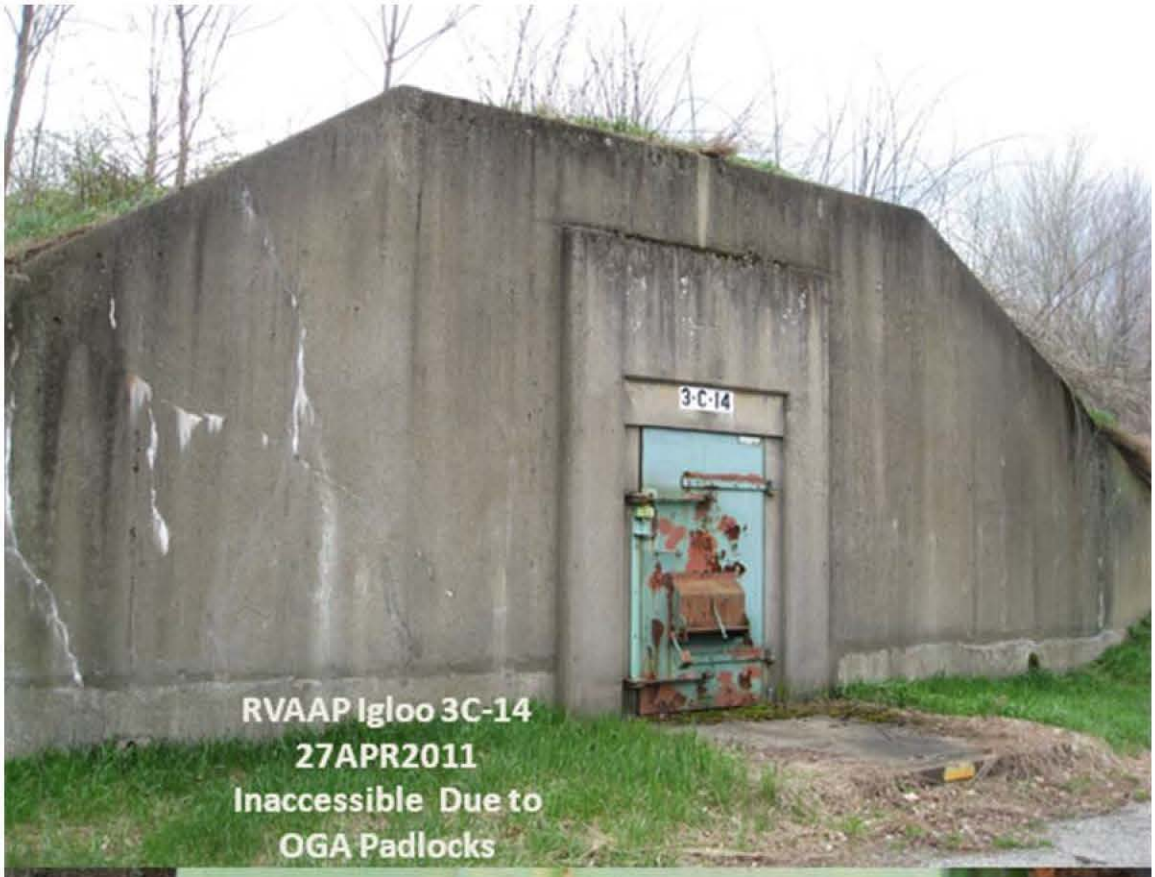
- igloo secured with American lock, did not have access at the time of survey.

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


3-C-14
RVAAP Igloo 3C-14
27APR2011
Inaccessible Due to
OGA Padlocks


NAPEC
0957-2
NAPEC
0957-1
RVAAP Igloo 3C-14
27APR2011
Inaccessible Due to
OGA Padlocks

V. IGLOO BLOCK-C

C. IGLOO LANE 6C

IGLOO INSPECTION FORM

Igloo #: **6C-1 Future ASP**

Date: 23 Nov 10 Time: 1414 Weather: Sunny 50s °F - Sunny

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6C-1# 1E + 1INT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Igloo thoroughly Brush Hogged - No Apparent Hdwl & Barrel Separation - Both Barrel Toe + Interior Effluent Drains

Drainage N to S

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Scuppers Dry - small (3"x5") moist spot on Floor - INT Hdwl NE, corner (photo) @ joint Between Floor & Hdwall

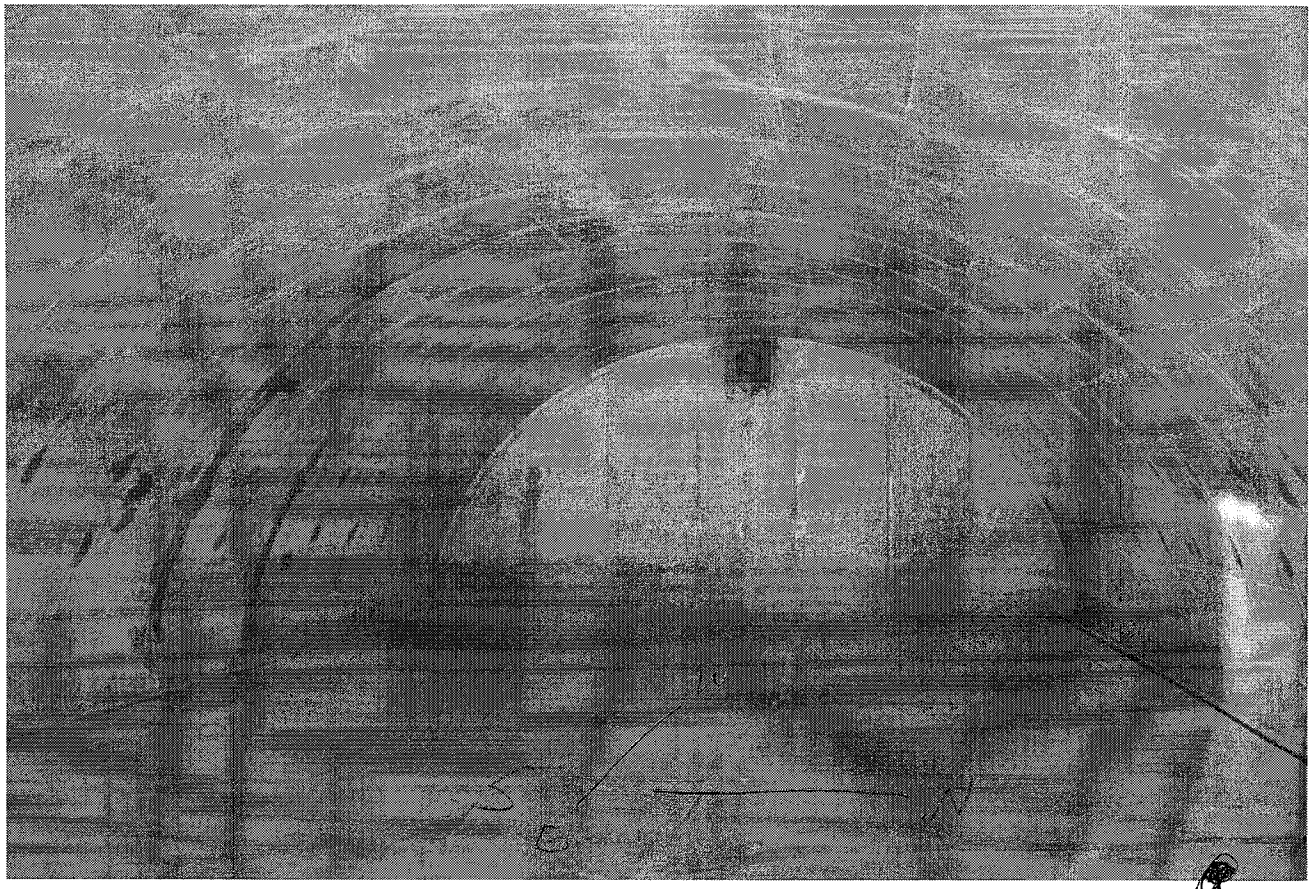
Obvious downstream surface water pathway available to sample sediment? Yes - Flow South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? Galvanized

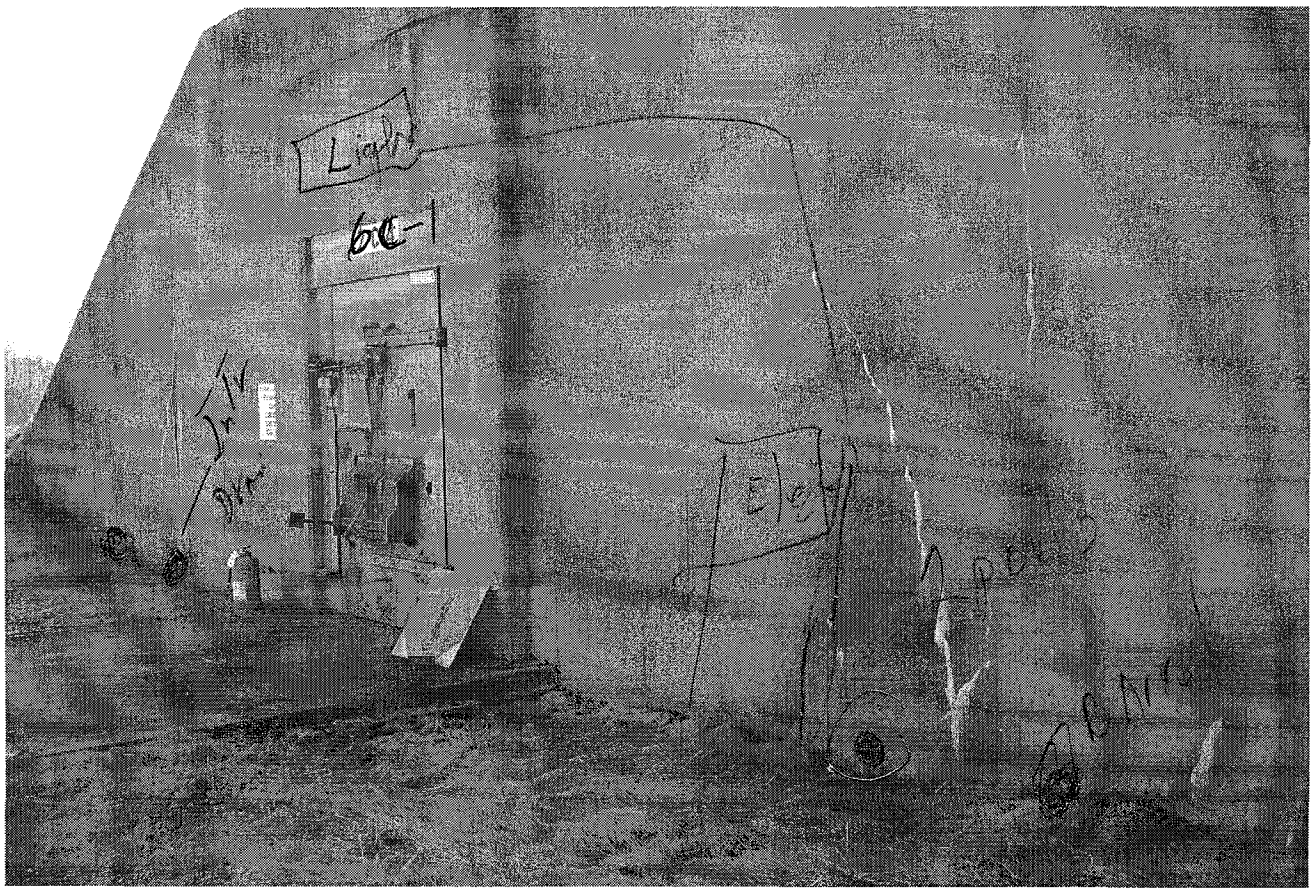
Other Notes: Bldg w/ Electric Ext & INT. See Sensa Door unsecured w/ lock secured To Hasp

Igloo #: 6C-1 Future ASP



Wet Spot
@ Wall-Floor
Join

Igloo #: 6C-1 Future ASP



2 Drng Pts Each Side


RVAAP IGLOO 6C-1
23NOV2010


RVAAP IGLOO 6C-1
Small moist spot at headwall-
floor joint near NE corner

IGLOO INSPECTION FORM

Igloo #: **6C-2 Future ASP**

Date: 23 Nov '10 Time: 1434 Weather: Sunny 50s - Light Wind

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6-C-2 #1 Door #2 Rnds 3 Stains NE Cr #4 NE Cr Moist #5 Sand Debris, #6 Paper Bag w/ Sand #7 Dirt/Sand on Floor Lkng East

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Area Around & on Igloo Brush-Hogged - No Apparent Separation Electrical Lines Underground To Headwall up North Side of wall f/Lighting + Sensor. - Headwall Ext Showing No extreme cracking - J. McGee on-Site To Discuss 7C Lane igloos required different Type Key Due Security Locks To/Test Working in 7C-3 - Will Do inspection 24 Nov w/ other keys - Headwall Face Minor Calcification Lines Igloo Unlock - w/ non-sec lock secured to ASP

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Interior - Not Cleaned effectively upon last group Exit 6 photos taken of interior - Northeast Corner has 3 stains on Floor, Southeast corner joint has small Moisture Spot & SPIDERS (Nest Around moisture Spot) - Interior Drains Dry - Dirt/Sand/Wood/Paper on Floor - Found 5 spent small arms Round on Floor

Obvious downstream surface water pathway available to sample sediment? Yes - Drainage N to S

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

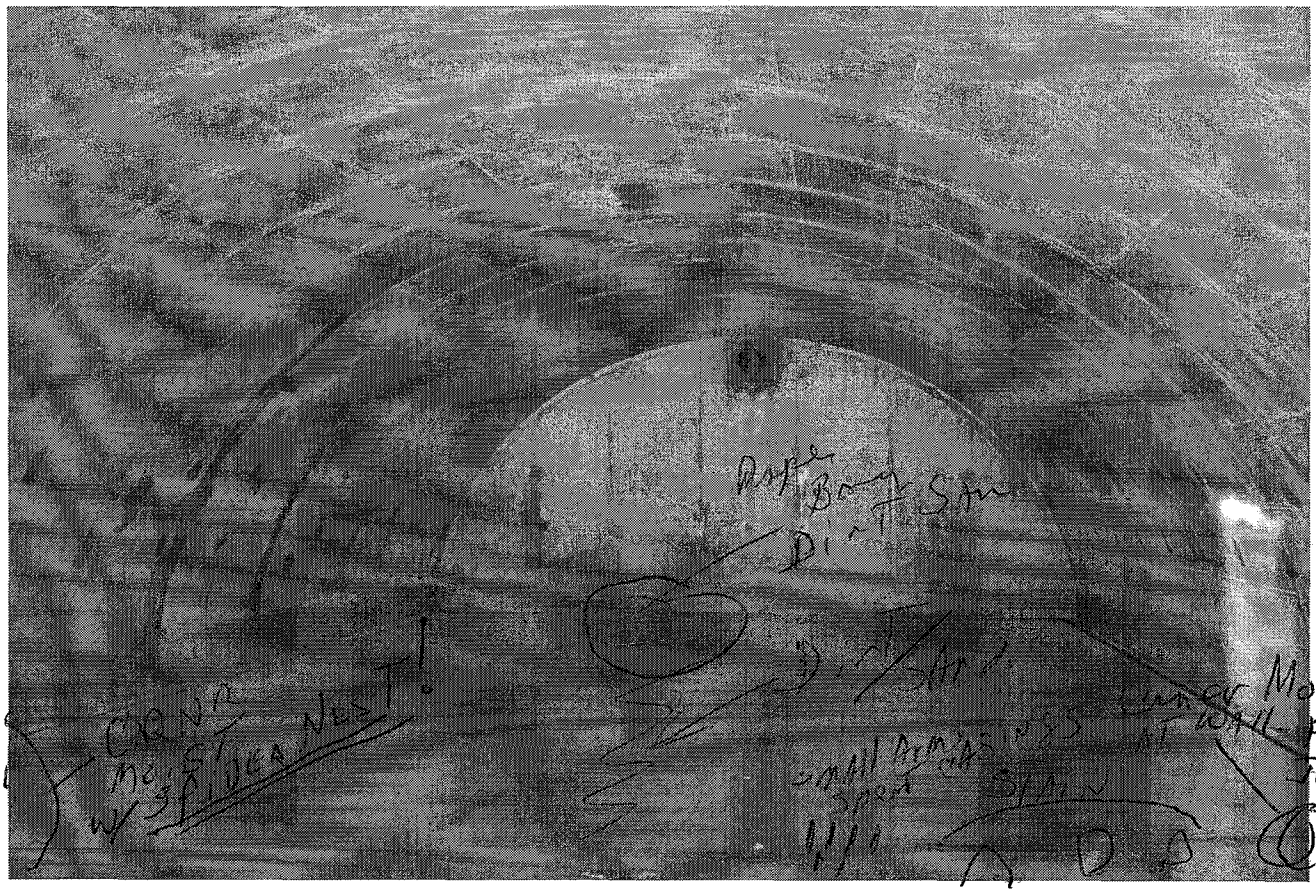
If yes what type? —

Other Notes: Fence Enclosed 6-C ~~South~~ Land South of NF Rd

1500 Hrs PST #1 Ck-In

Igloo #: 6C-2 Future ASP

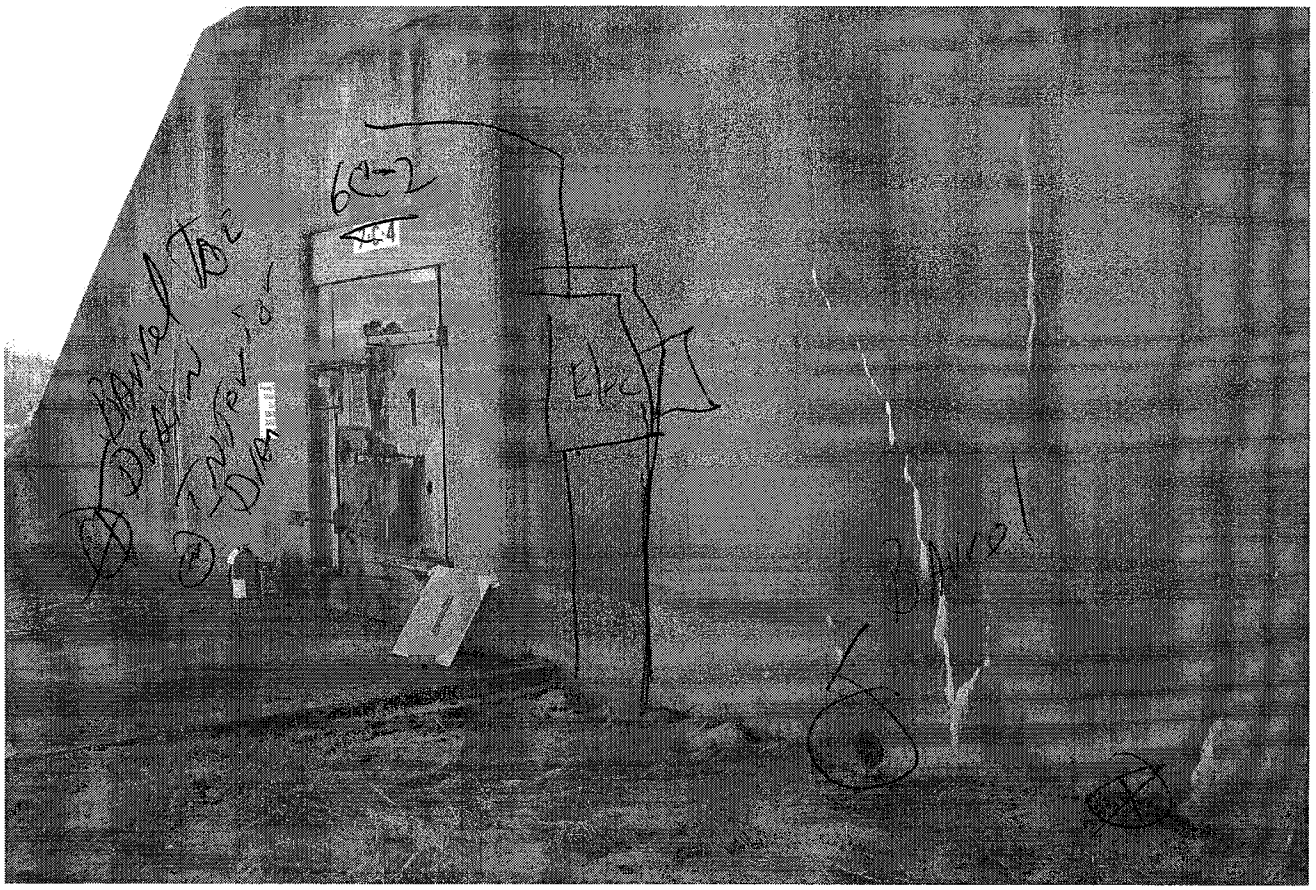
23 Nov



Igloo #: 6C-2 Future ASP

23 Nov '10

Igloo Unlocked

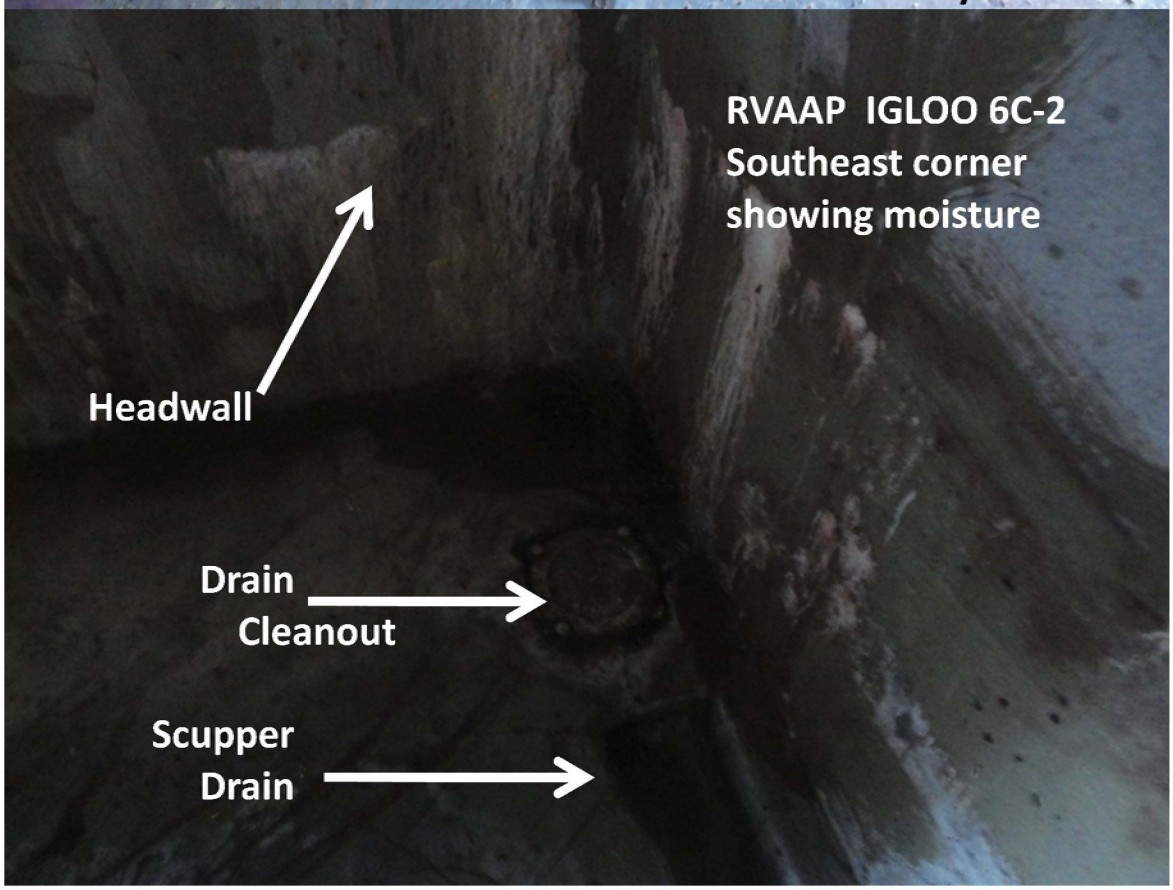


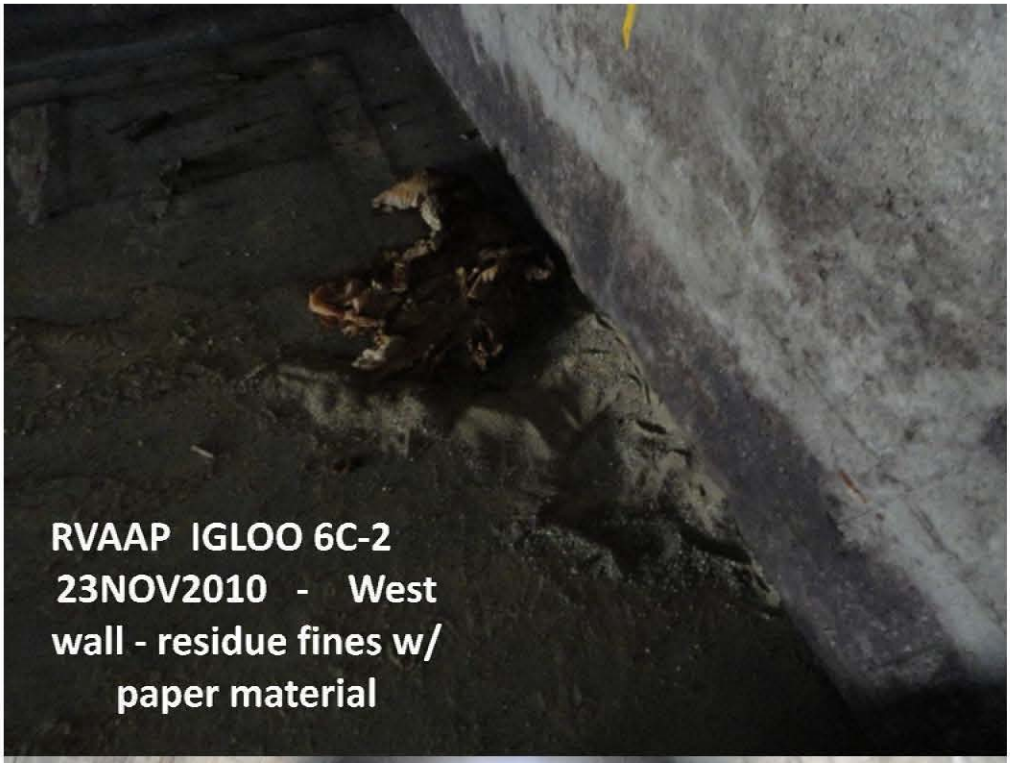
Underground - Elect To Igloo


RVAAP IGLOO 6C-2
23NOV 2010


RVAAP IGLOO 6C-2
Small Caliber Rounds


RVAAP IGLOO 6C-2 23NOV 2010
Moisture spots at NE Section of headwall –floor joint near entranceway


RVAAP IGLOO 6C-2
Southeast corner showing moisture
Headwall
Drain Cleanout
Scupper Drain


RVAAP IGLOO 6C-2
23NOV2010 - West
wall - residue fines w/
paper material


RVAAP IGLOO 6C-2
Detritus found on the west part
of igloo floor

IGLOO INSPECTION FORM

Igloo #: **6C-3 Future ASP**

Date: 23Nov10 Time: 1511 Weather: Sunny - Windy - 50°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6C-3 #1 EXT.

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Hdwl - Barrel Separation — Underground Elect To East Facing Headwall — Minor Calcification Cracks — Drainage North & South — Electric Only Interior drain Ports on face - Appears No Barrel Toe Drainage - ALL Brush-Hogged on & Around Igloo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Interior = Clean & Dry — found small snake skin

Obvious downstream surface water pathway available to sample sediment? yes North To South Ditch

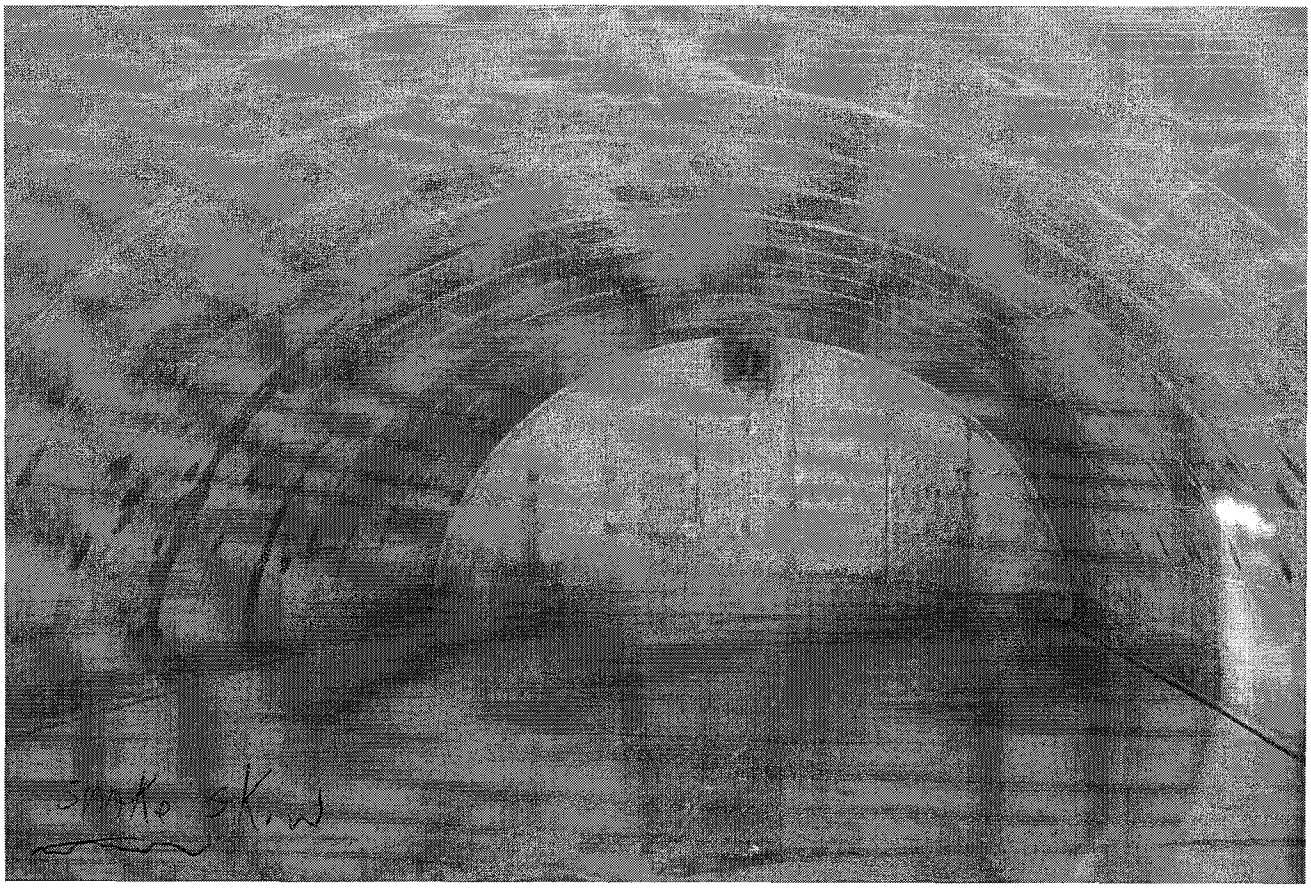
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? —

Other Notes: Door Unsecured - w/ Lock Attached to Hasp

Igloo #: 6C-3 Future ASP

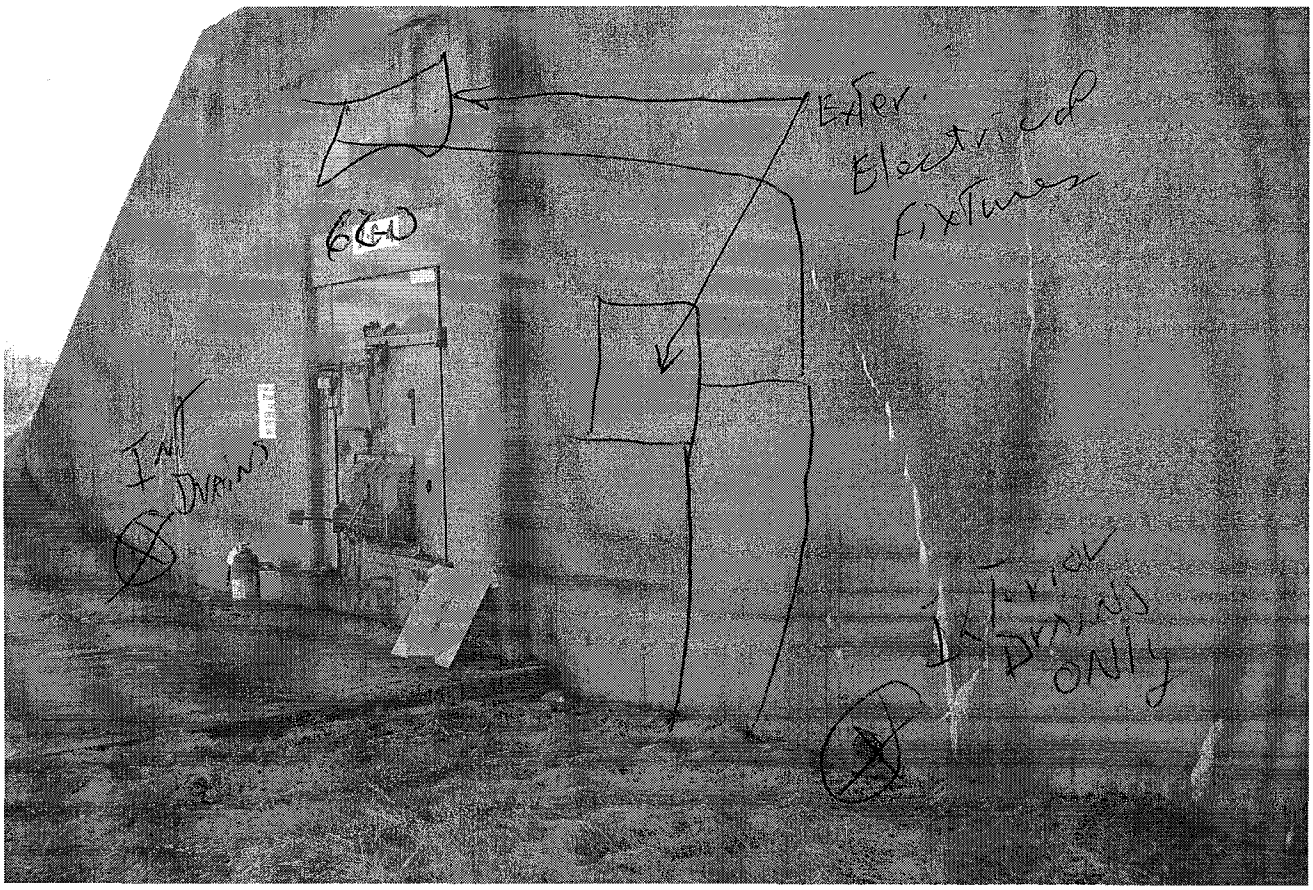
23 Nov '10



Clean & Dry

Igloo #: 6C-3 Future ASP

23 Nov '10



No Barrel Toe Drains


RVAAP IGLOO 6C-3
23NOV2010

IGLOO INSPECTION FORM

6C South Fenced-In

Igloo #: **6C-4 Future ASP**

Date: 23 Nov 16 Time: 1525 Weather: Sunny - Windy 51°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6C4 #1 (EXT) #2 INTER WEST CTR #3 INTER S.E. CORNER

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Brush Hogged over & Around Igloo - Underground Elec. - Door Unsecured - Lock attached To Hasp Drainage North to South - Standing Water in ditch south of Igloo caused by Brush Cutting Equip

No Apparent Headwall To Barrel Separation

Has Both Interior & Barrel Toe Drainage Ports Both Sides of Headwall Face

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry — Apparent Small Rodents Living @ one Time - Dung in the South West, Northeast, & Southeast

Obvious downstream surface water pathway available to sample sediment? Yes

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

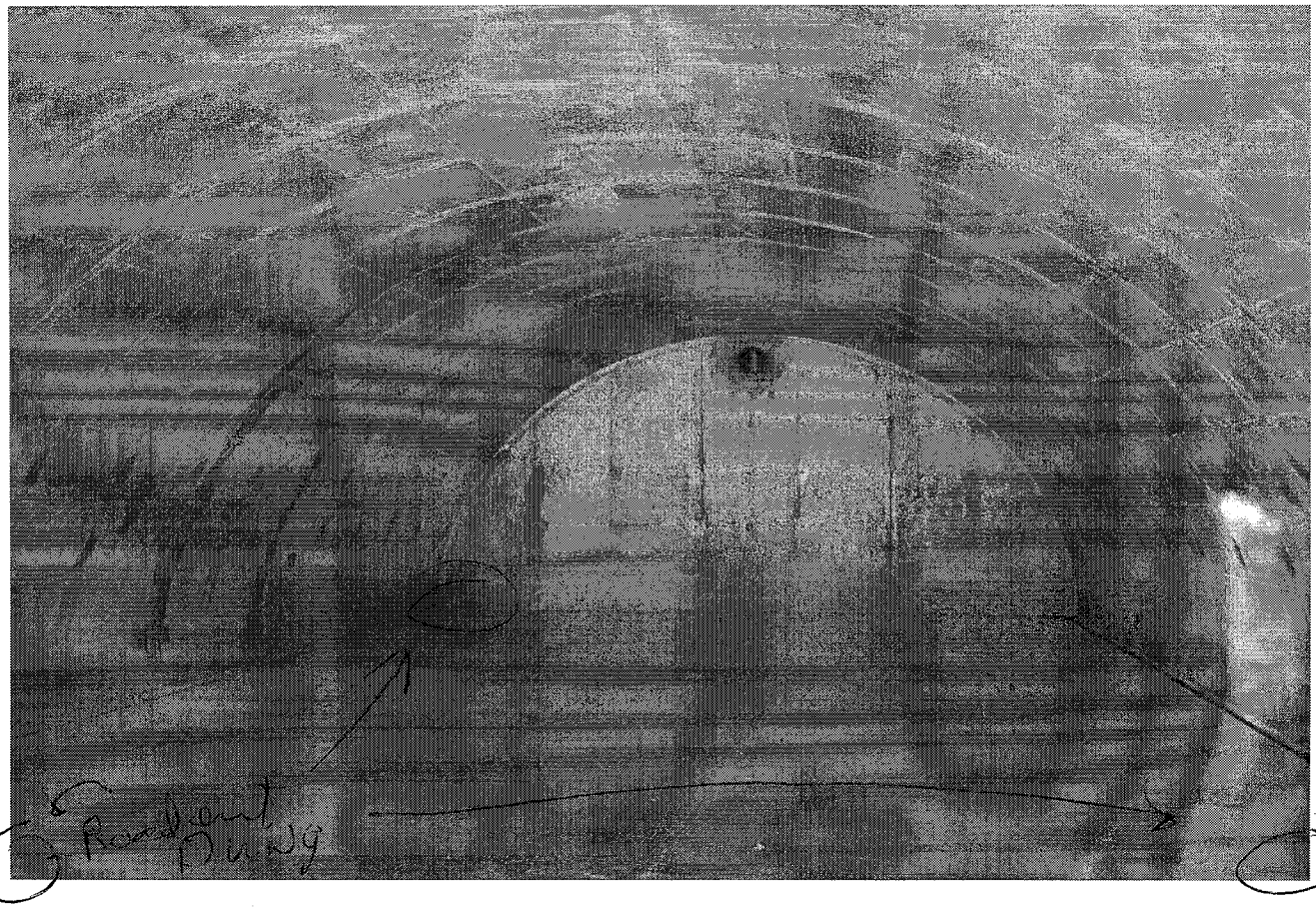
If yes what type? —

Other Notes: Rodent Inhabitation —

Igloo #: 6C-4 Future ASP

23 Nov '10

TMC



Clean & Dry

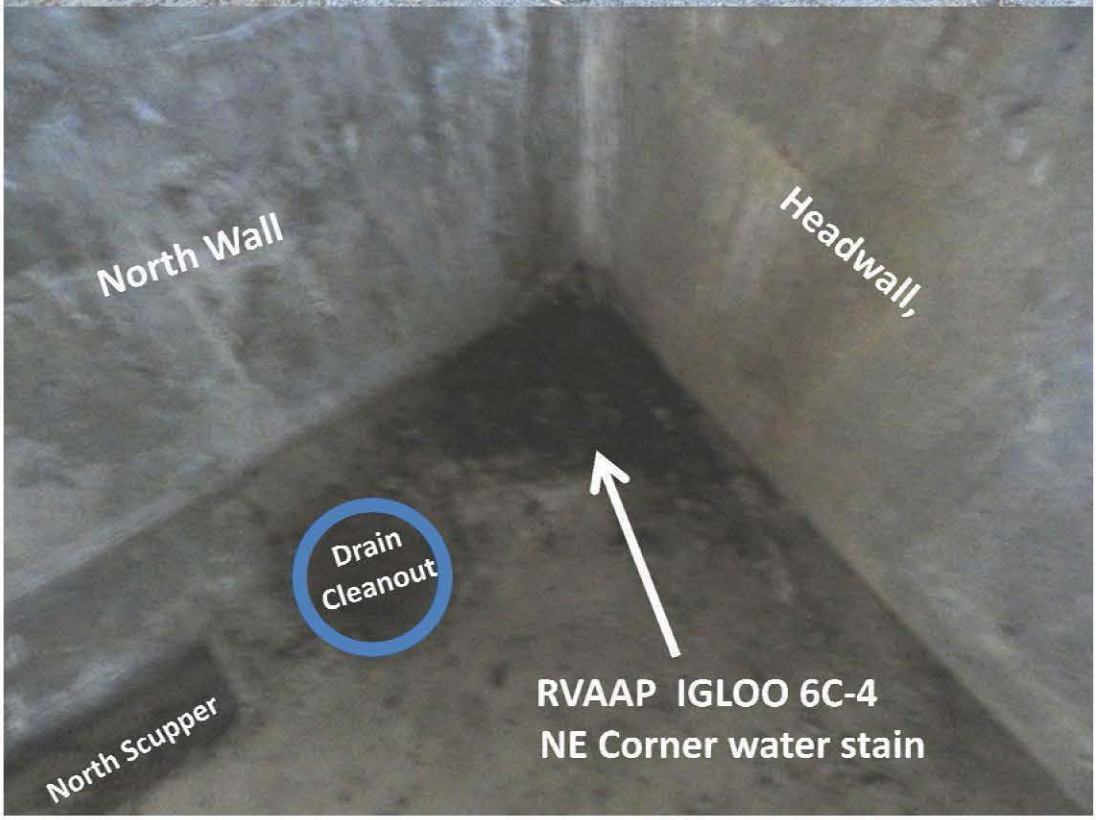
Igloo #: **6C-4 Future ASP**

23 Nov '16



Underground Electric
Both Interior & Barrel Toe Drains


6-C-4
RVAAP IGLOO 6C-4
23NOV2010


North Wall
Headwall
Drain Cleanout
North Scupper
RVAAP IGLOO 6C-4
NE Corner water stain

IGLOO INSPECTION FORM

Igloo #: **6C-5 Future ASP**

Date: 23 Nov '10 Time: 1542 Weather: Sunny 51°F - Windy

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 6C-5 #1 - #2 Headwall/Barrel Joint NE CW #3 - 2 Pieces of Joint Compound on North East Corn.

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Underground Electric to Headwall -
Brush-Clean Around & Over Igloo
Very Minor Calcined cracks on face of Headwall
~~2~~ Inter. & Barrel Toe Drains on Each side
Doorway Headwall Face - No Apparent Hdwall-Barrel
Separation on Ext - Igloo Unlocked -
C6 Lane Fenced-In

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry Except For 2 pieces of concrete patching material on Floor in North - Photos Taken

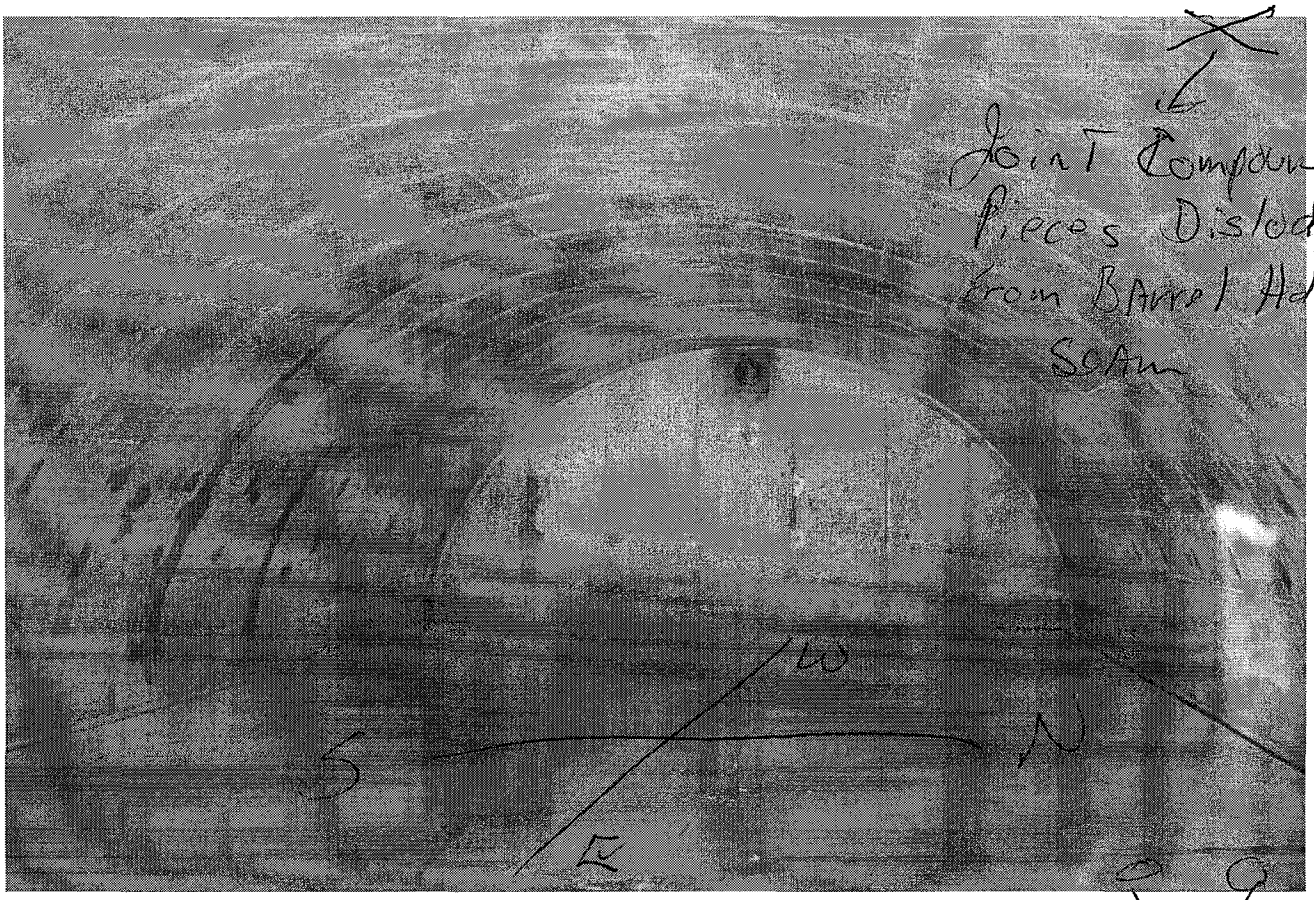
Obvious downstream surface water pathway available to sample sediment? yes - Drainage North to South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

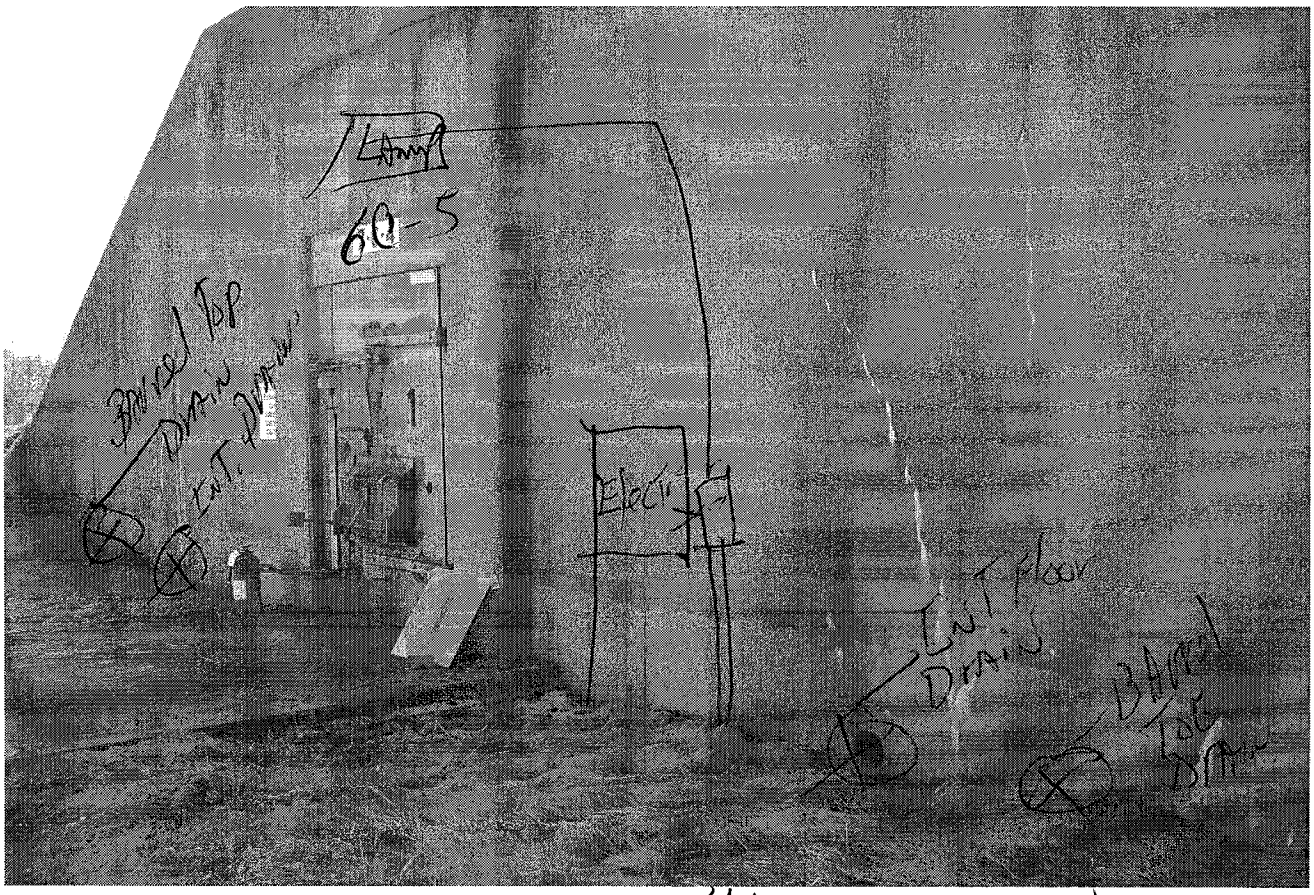
If yes what type? -

Other Notes: None

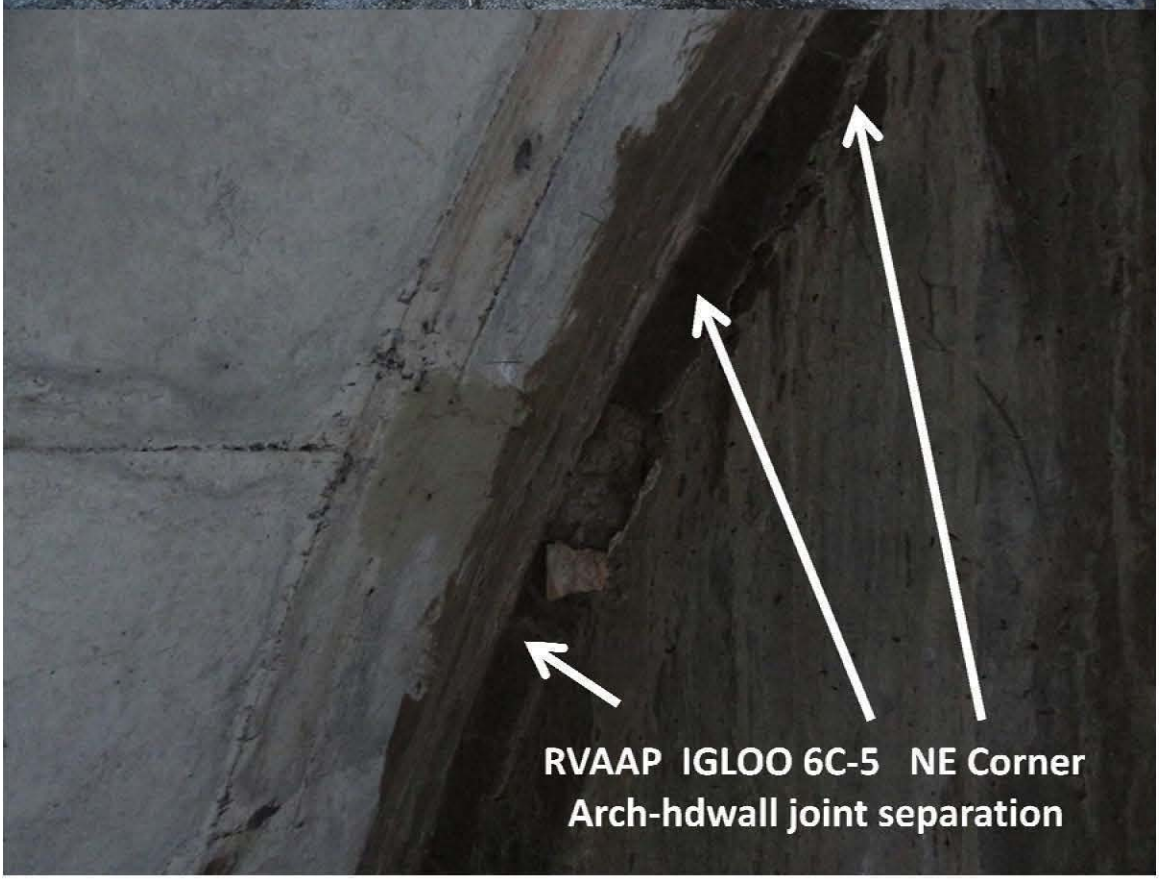
Igloo #: 6C-5 Future ASP



Igloo #: 6C-5 Future ASP




6-C-5
RVAAP IGLOO 6C-5
23NOV2010


RVAAP IGLOO 6C-5 NE Corner
Arch-hdwall joint separation

V. IGLOO BLOCK-C

D. IGLOO LANE 7C

IGLOO INSPECTION FORM

Igloo #: **7C-1 Use By PIKA (contractor)**

Date: 23 Nov 10 Time: 1343 Hrs Weather: Sunny - Windy - 50s °F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 7C-1 #1 (Ext)

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No visible Headwall Separation fm Barrel
Hdwl Face - Some old Patching - Small Amount
Barrel Top drainage Port + Interior Scupper Port
N. & S sides Both - No Staining - Barrel Toe Drngo
Moist - No Interior Drngo Apparent fm Scupper Port

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc) Inaccessible w/ Key Provided
called McGee @ 1400 Hrs

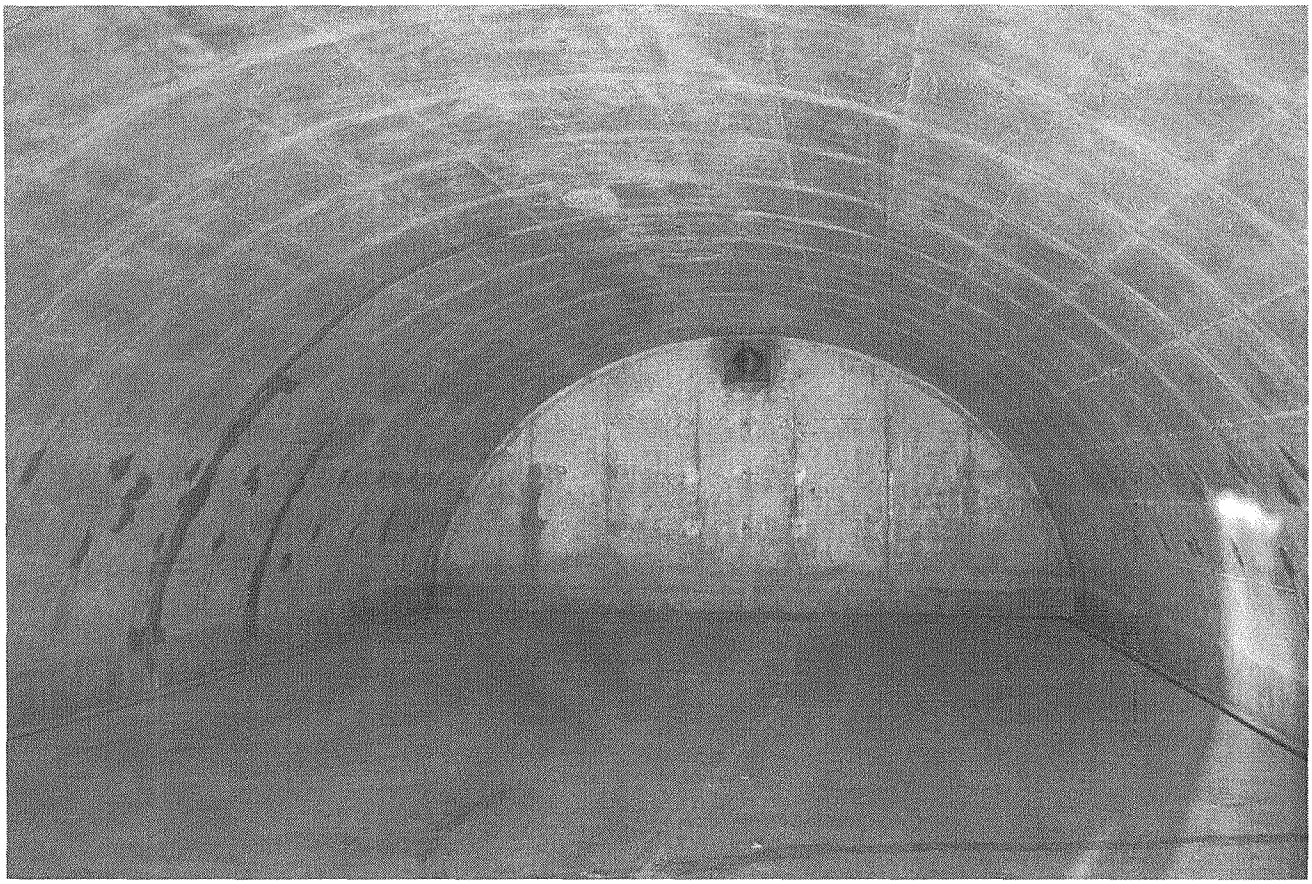
Obvious downstream surface water pathway available to sample sediment? yes

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

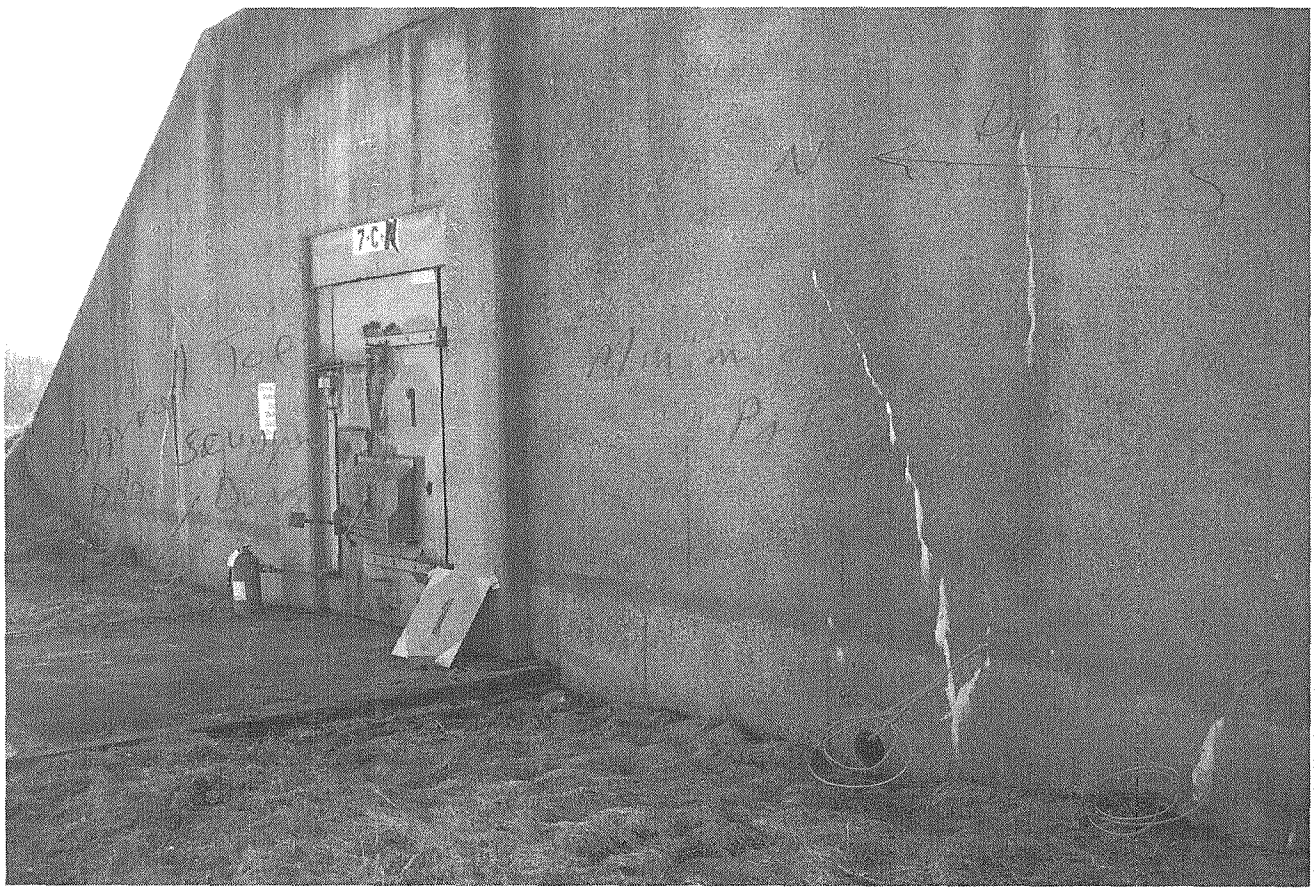
If yes what type?

Other Notes: Drainage N to South

Igloo #: 7C-1 Use By PIKA (contractor)



Igloo #: 7C-1 Use By PIKA (contractor)



Door Inaccessible w/ key

RVAAP IGLOO INSPECTION FORM

Igloo #: **7C-1** **BRAC-D & PIKA CONTROLLED**

Date: APR 2011 4/27/11 Time: 1402 Weather: cloudy, overcast, 70°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

EXTERIOR INSPECTED 23NOV'10 by T.M. CHANDA PER THE FOLLOWING: NO VISIBLE HEADWALL SEPARATION FM/ BARREL; OLD PATCHWORK ON HDWALL FACING; BOTH TOE & FLOOR DRAIN VENTS PRESENT; NO CULVERT PRESENT W/ DITCHLINE DRAINAGE FLOWING SOUTH

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- consistent crack along the headwall-barrel seam patchwork suggests slight headwall separation or improper application of patchwork.
- moisture observed in several areas of the floor along the back of the igloo.
- rodent's nest observed.

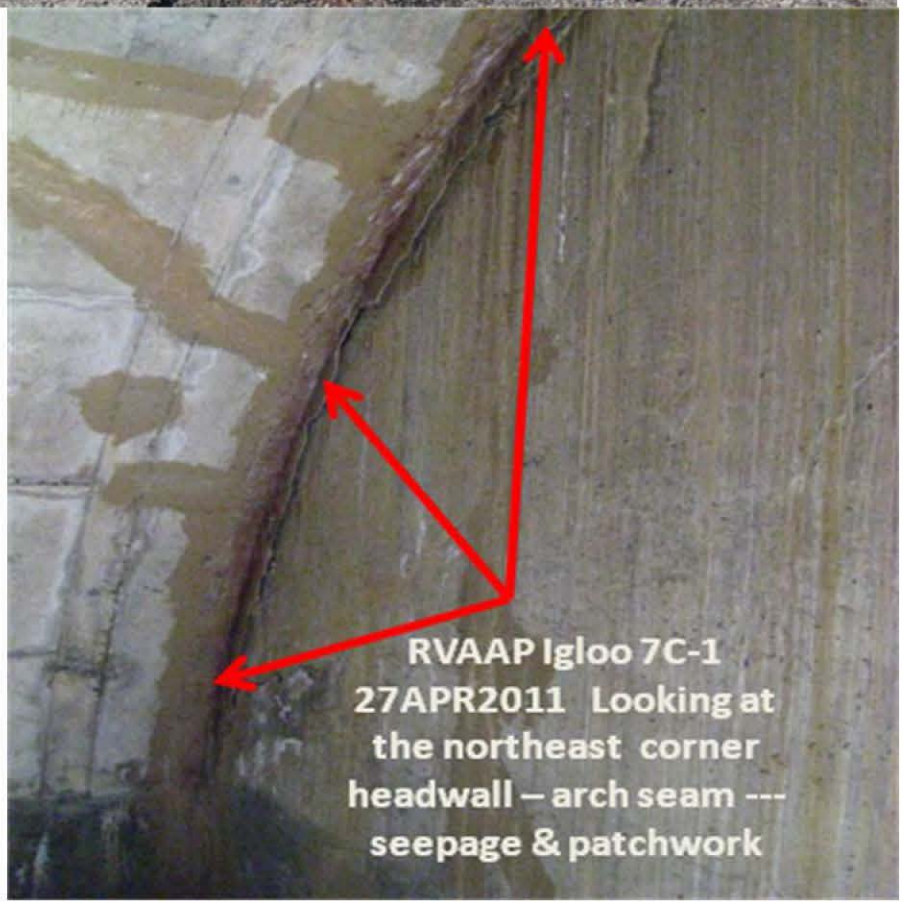
Obvious downstream surface water pathway available to sample sediment? **Ditch Drainage Southward**

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? **NO**

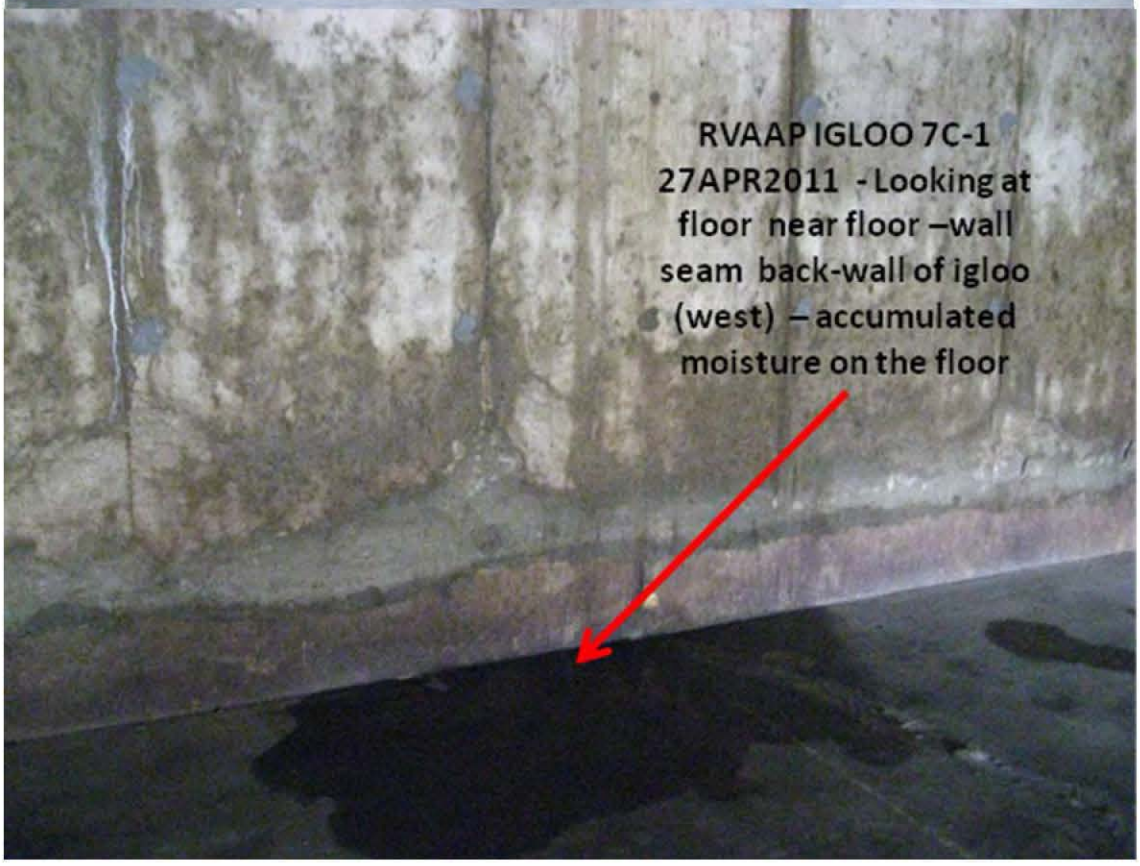
If yes what type?

Other Notes:


RVAAP Igloo 7C-1
24NOV10


RVAAP Igloo 7C-1
27APR2011 Looking at
the northeast corner
headwall – arch seam ---
seepage & patchwork


RVAAP IGLOO 7C-1
27APR2011 - Looking west towards rear of igloo – accumulated moisture on floor near floor –wall seam


RVAAP IGLOO 7C-1
27APR2011 - Looking at floor near floor –wall seam back-wall of igloo (west) – accumulated moisture on the floor

RVAAP IGLOO INSPECTION FORM

Igloo #: **7C-2** **BRAC-D & PIKA CONTROLLED**

Date: APR 2011 4/27/11 Time: 1354 Weather: cloudy, overcast, 70°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

EXTERIOR INSPECTED 23NOV'10 by T.M. CHANDA PER THE FOLLOWING: NO VISIBLE HEADWALL SEPARATION FM/ BARREL; OLD PATCHWORK ON HDWALL FACING; BOTH TOE & FLOOR DRAIN VENTS PRESENT; NO CULVERT PRESENT W/ DITCHLINE DRAINAGE FLOWING SOUTH

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- crack along the entire headwall-barrel seam.
- moisture along the sides, floors, and footwall.
- mildew odor
- patchwork along headwall, sidewalls, floor, and footwall.

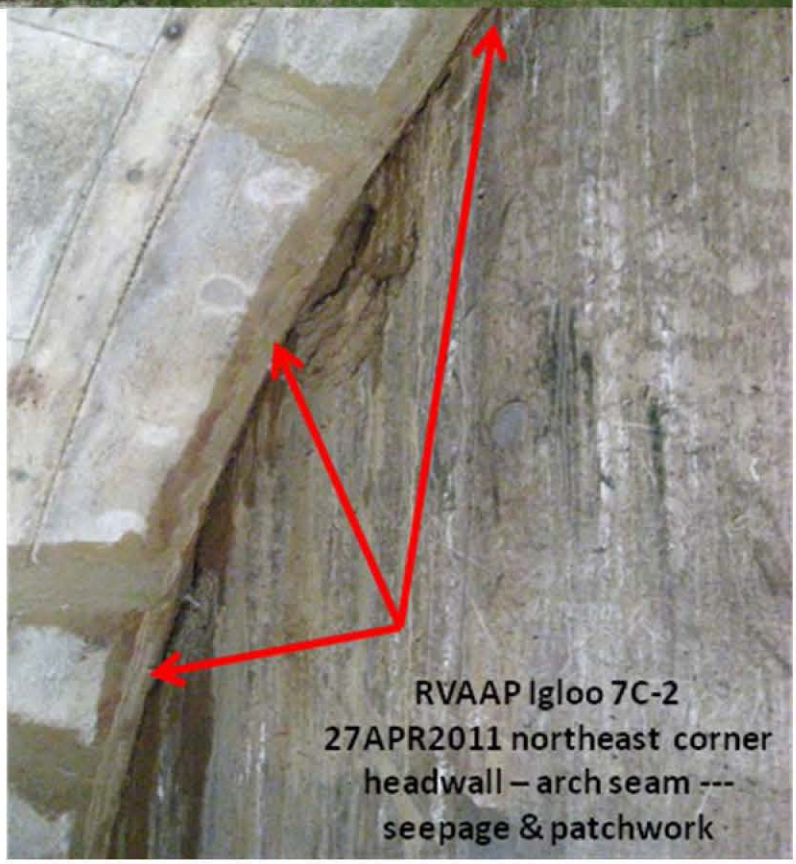
Obvious downstream surface water pathway available to sample sediment? **Ditch Drainage Southward**

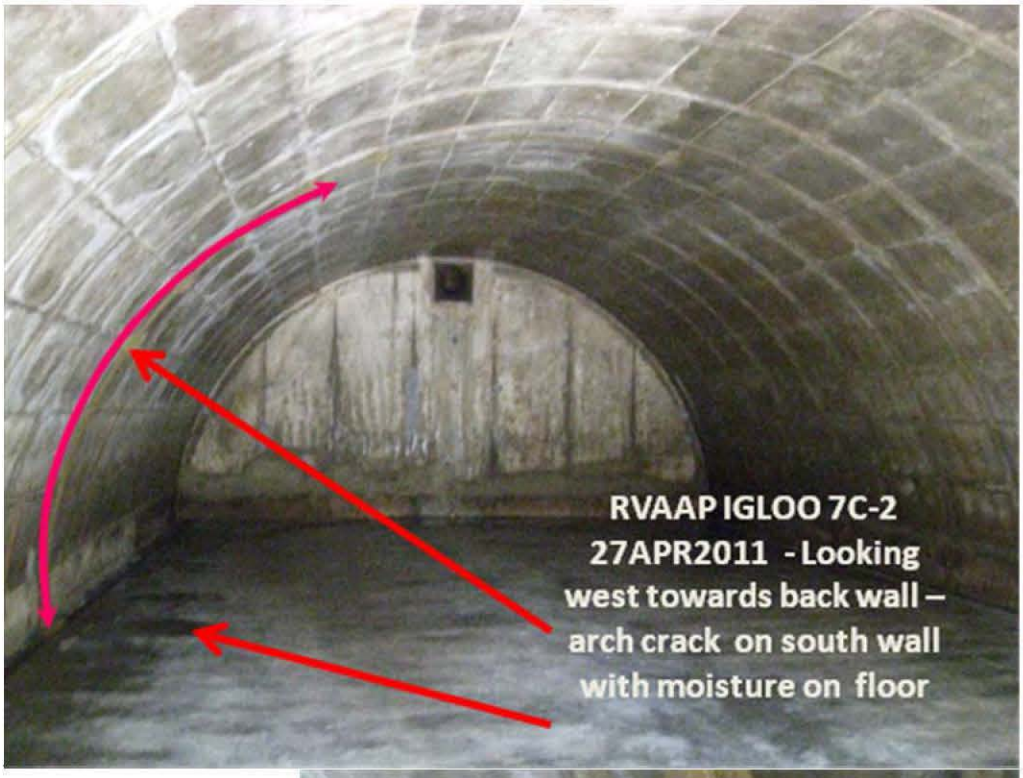
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? **NO**

If yes what type?

Other Notes:


7-C-2
RVAAP Igloo 7C-2
27APR 2011
N


RVAAP Igloo 7C-2
27APR2011 northeast corner
headwall – arch seam ---
seepage & patchwork


RVAAP IGLOO 7C-2
27APR2011 - Looking west towards back wall – arch crack on south wall with moisture on floor


RVAAP IGLOO 7C-2
27APR2011 - Looking at south wall with arch crack with apparent seepage on floor and scupper
Scupper

RVAAP IGLOO INSPECTION FORM

Igloo #: **7C-3** **BRAC-D & PIKA CONTROLLED**

Date: APR 2011 4/27/11 Time: ~~1345~~ EC 1345 Weather: cloudy, overcast, 70°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

EXTERIOR INSPECTED 23NOV'10 by T.M. CHANDA PER THE FOLLOWING: NO VISIBLE HEADWALL SEPARATION FM/ BARREL; OLD PATCHWORK ON HDWALL FACING; BOTH TOE & FLOOR DRAIN VENTS PRESENT; NO CULVERT PRESENT W/ DITCHLINE DRAINAGE FLOWING SOUTH

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

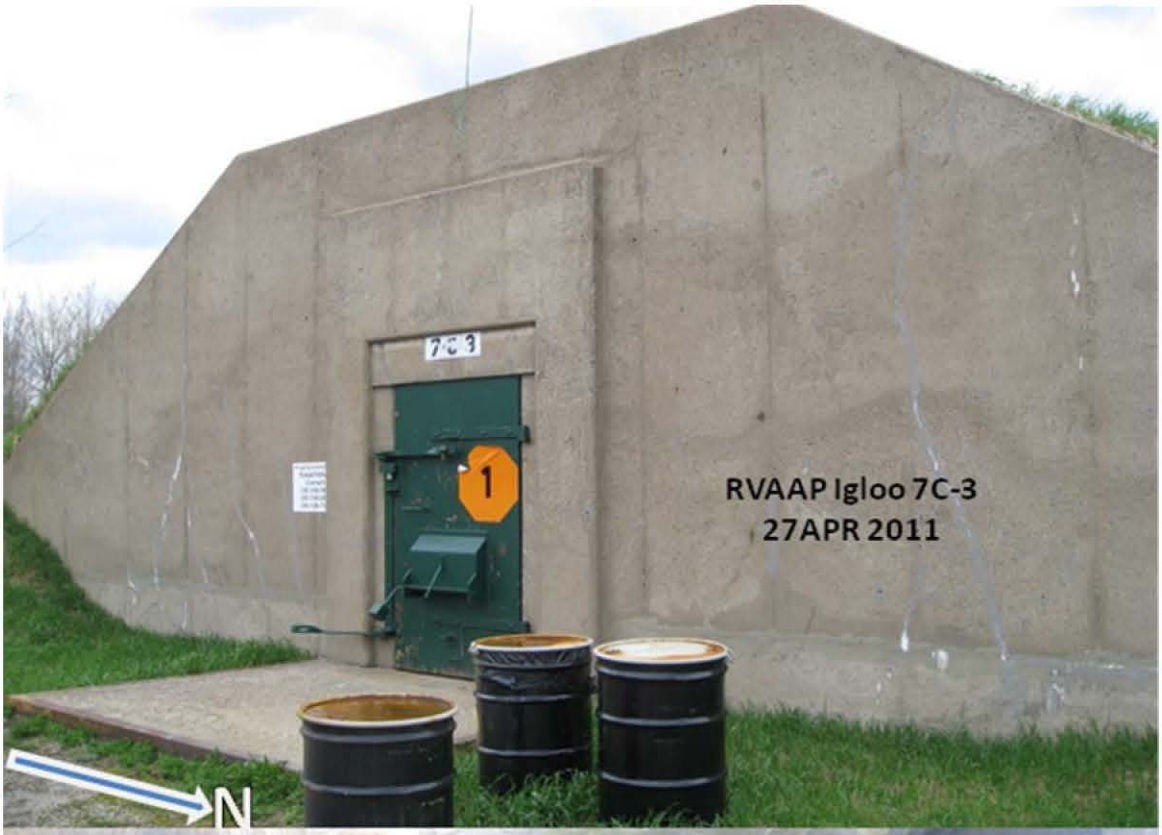
- very strong mildewy/moldy odor
- moisture and condensation of footwall and sidewalls
- moisture staining on floor.
- some cardboard containers were wet to the touch
- crack along the headwall-barrel seam
- patchwork on headwall, footwall, sidewalls, and floor.

Obvious downstream surface water pathway available to sample sediment? **Ditch Drainage Southward**

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? **NO**

If yes what type?

Other Notes:


7C 3
1
RVAAP Igloo 7C-3
27APR 2011
N


HEADWALL – ARCH CRACK
RVAAP Igloo 7C-3 27APR2011
northeast corner headwall – arch
seam --- seepage & patchwork


RVAAP IGLOO 7C-3
27APR2011 - North arch wall showing condensation running down wall into scupper


RVAAP IGLOO 7C-3
27APR2011 - Igloo being utilized for storage of 1990s spent tracer elements from RVAAP past demil activities
1-800-CUBIC-YD
LE

RVAAP IGLOO INSPECTION FORM

7-C-4 (EC 5/25/11)

Igloo #: ~~7C3~~ **BRAC-D & PIKA CONTROLLED**

Date: APR 2011 4/27/11 Time: ~~1345~~ (EC, 5/25/11) 1332 Weather: cloudy, overcast, 70°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

EXTERIOR INSPECTED 23NOV'10 by T.M. CHANDA PER THE FOLLOWING: NO VISIBLE HEADWALL SEPARATION FM/ BARREL; OLD PATCHWORK ON HDWALL FACING; BOTH TOE & FLOOR DRAIN VENTS PRESENT; NO CULVERT PRESENT W/ DITCHLINE DRAINAGE FLOWING SOUTH

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- mildewy odor
- patchwork on sidewalls, floor, headwall, and headwall-barrel seam
- cracks observed on interior of headwall, not patched.

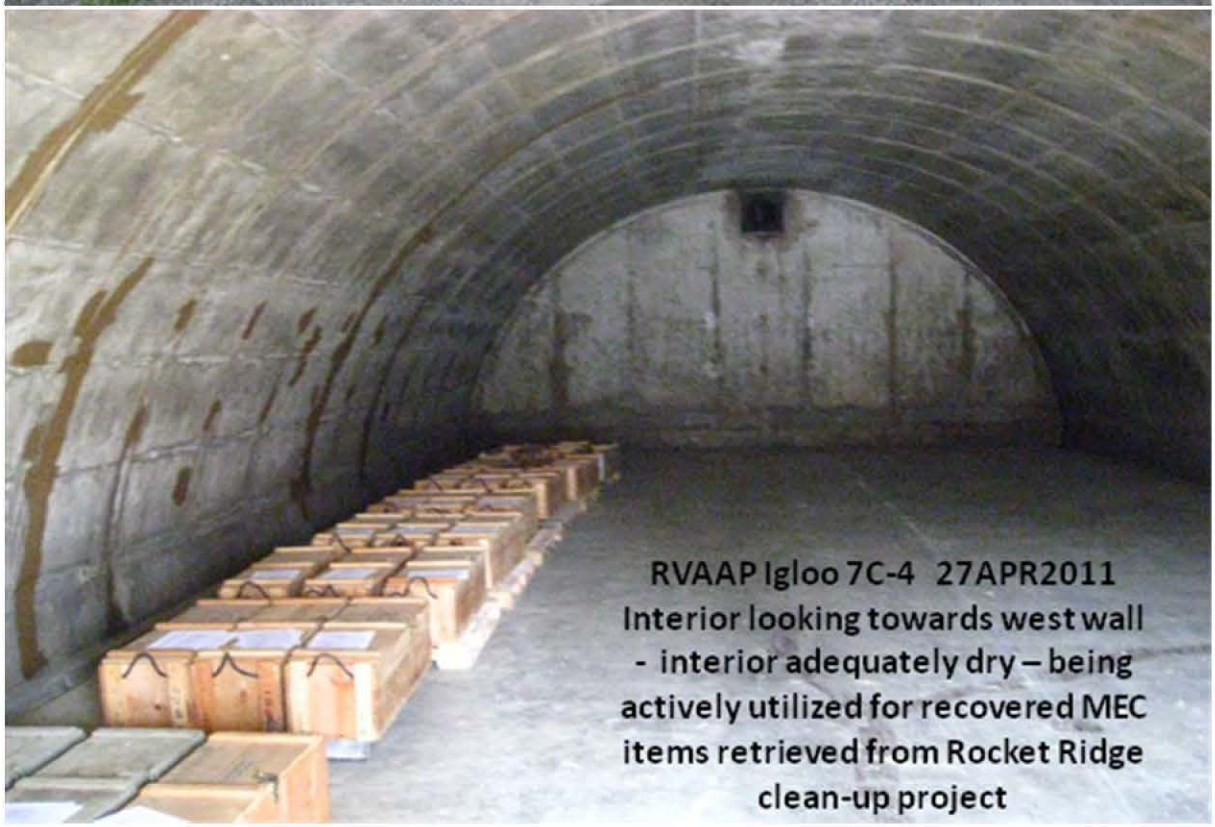
Obvious downstream surface water pathway available to sample sediment? **Ditch Drainage Southward**

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? **NO**

If yes what type?

Other Notes:


7C-4
1
N
RVAAP Igloo 7C-4
27APR 2011


RVAAP Igloo 7C-4 27APR2011
Interior looking towards west wall - interior adequately dry – being actively utilized for recovered MEC items retrieved from Rocket Ridge clean-up project

VI. IGLOO BLOCK-D

A. IGLOO LANE 3D

IGLOO INSPECTION FORM

Igloo #: **3D-1 Potential Tornado Shelter**

Date: 26 Nov 10 Time: 1058 Weather: Breezy - Sunny - 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 3D-1 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Headwall separation - Brush & Briars growing along the north face of joint - No Culvert "Severe Weather Shelter" Sign on left side of Door & Stenciled "Tornado Shelter" on Right Side of Door - Lock Secured to Hasp NOT To Door - Toe & Floor Drain Vents on each side of Door - No ~~signs~~ signs of moisture from Floor Drains

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dry - Interior Headwall completely Done at some Time in Past - Remnants of Straw Bales on Floor

Obvious downstream surface water pathway available to sample sediment? Y - Can Go Either Way w/ Contour

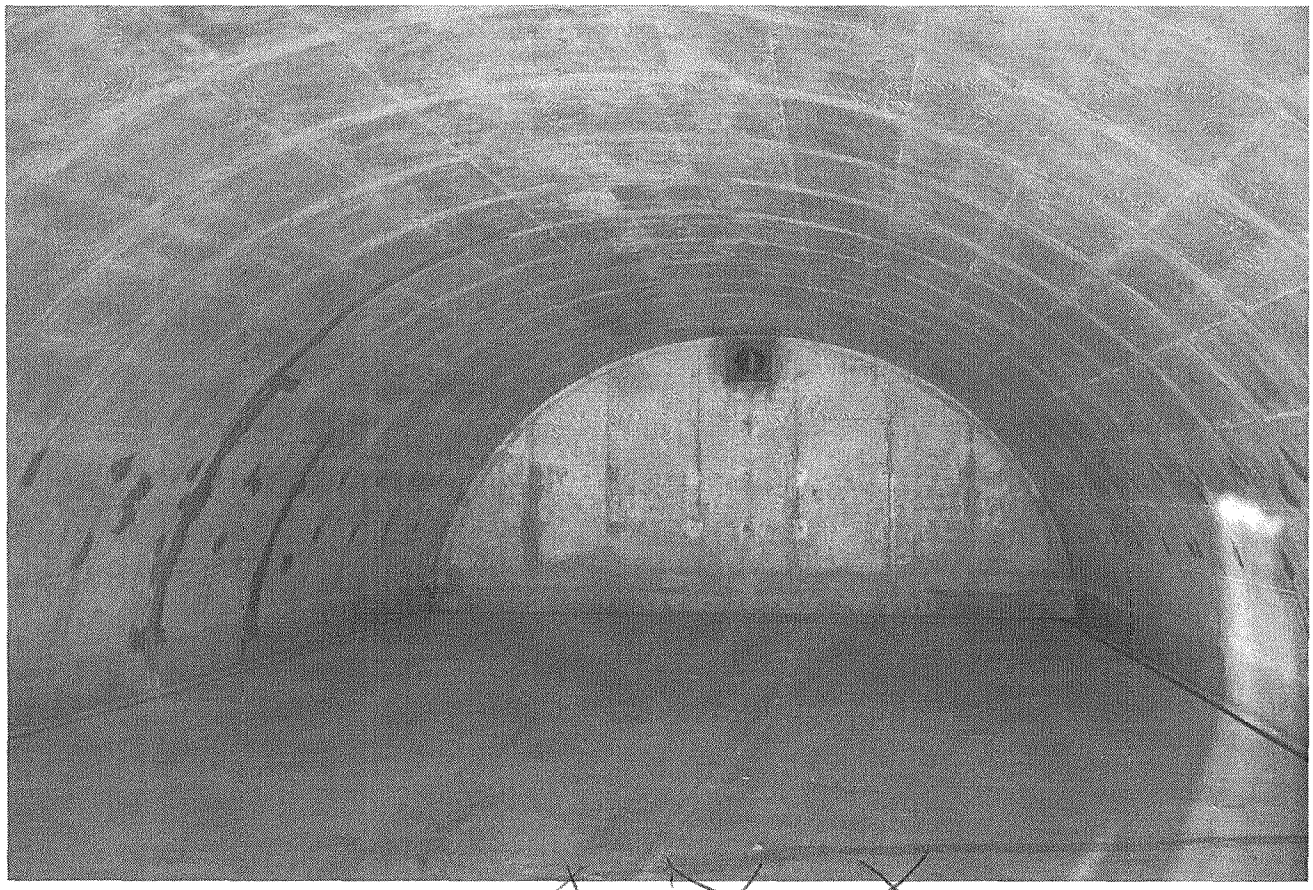
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? N

If yes what type?

Other Notes:

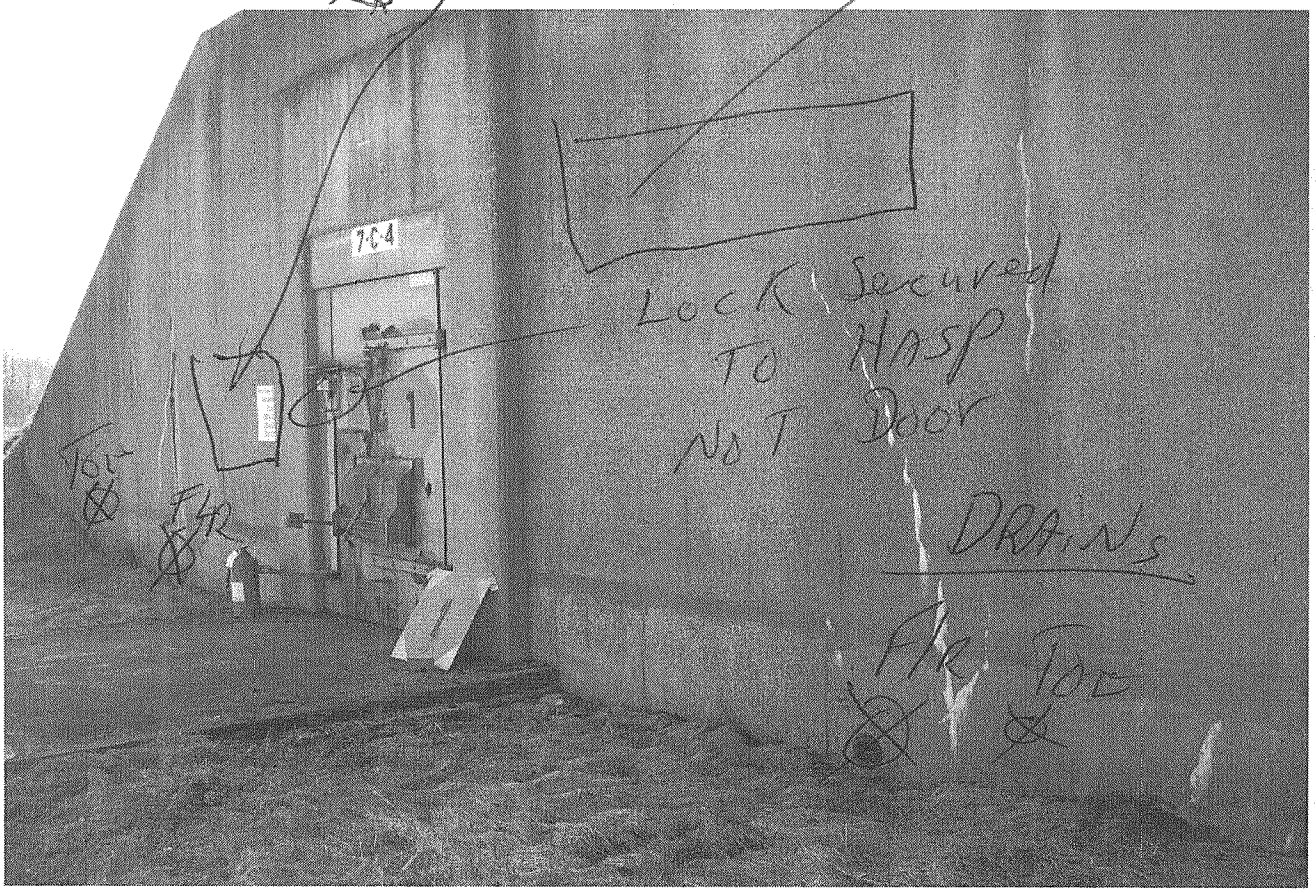
Igloo #: 3D-1 Potential Tornado Shelter

26 Nov '10



Dry — Straw Bale Remnants (Straw & Twine) @ Door Entrance

Igloo #: **3D-1 Potential Tornado Shelter**




3-D-1
TORNADO
SHELTER
RVAAP IGLOO 3D-1
26NOV2010

IGLOO INSPECTION FORM

Igloo #: **3D-2 Potential Tornado Shelter**

Date: 26 Nov '10 Time: 1120 Weather: Breezy - Sunny - 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 EXT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Same Description as 3D-1
No Culverts
Both Drains Present

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry

Obvious downstream surface water pathway available to sample sediment? Y - Either Direction N/S

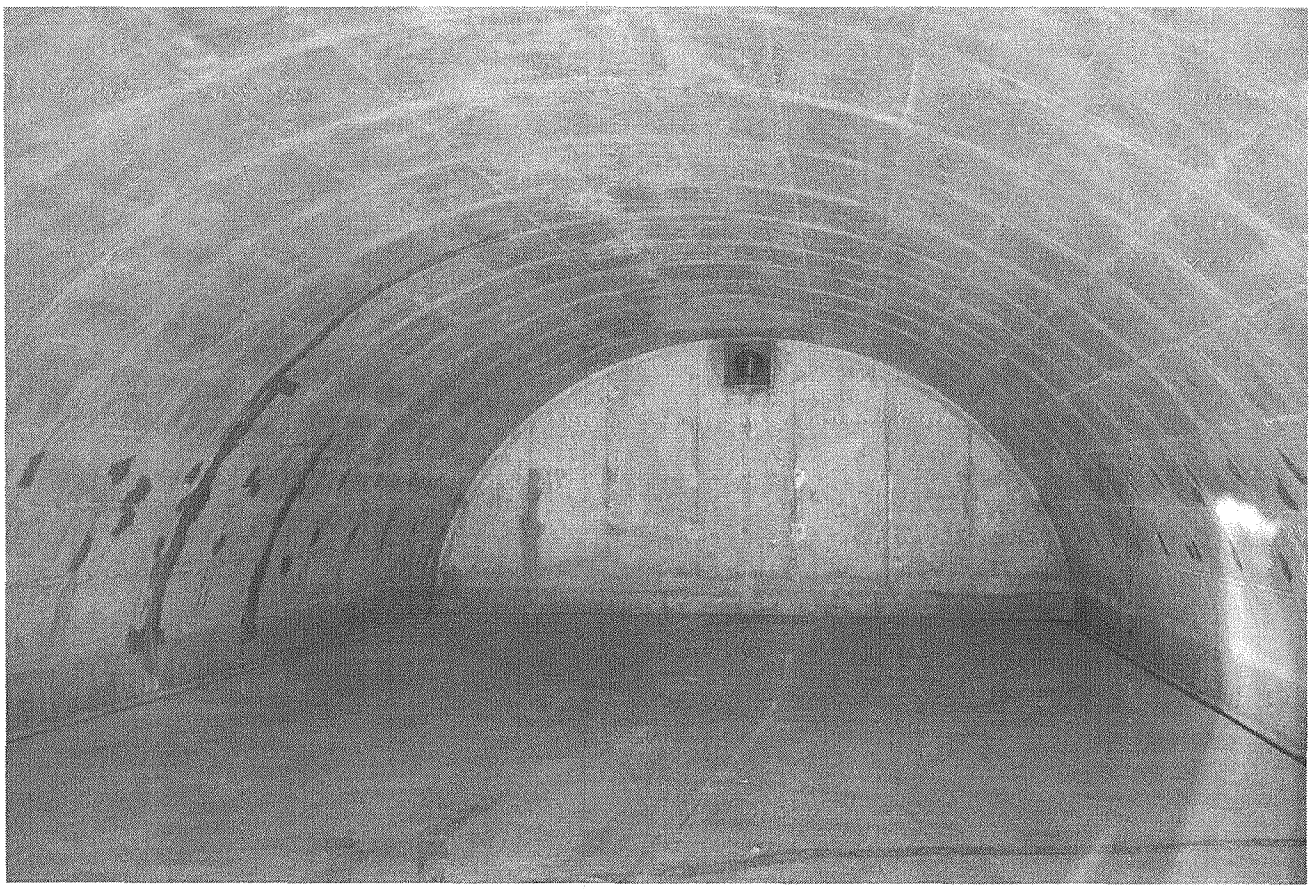
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? NO

If yes what type?

Other Notes:

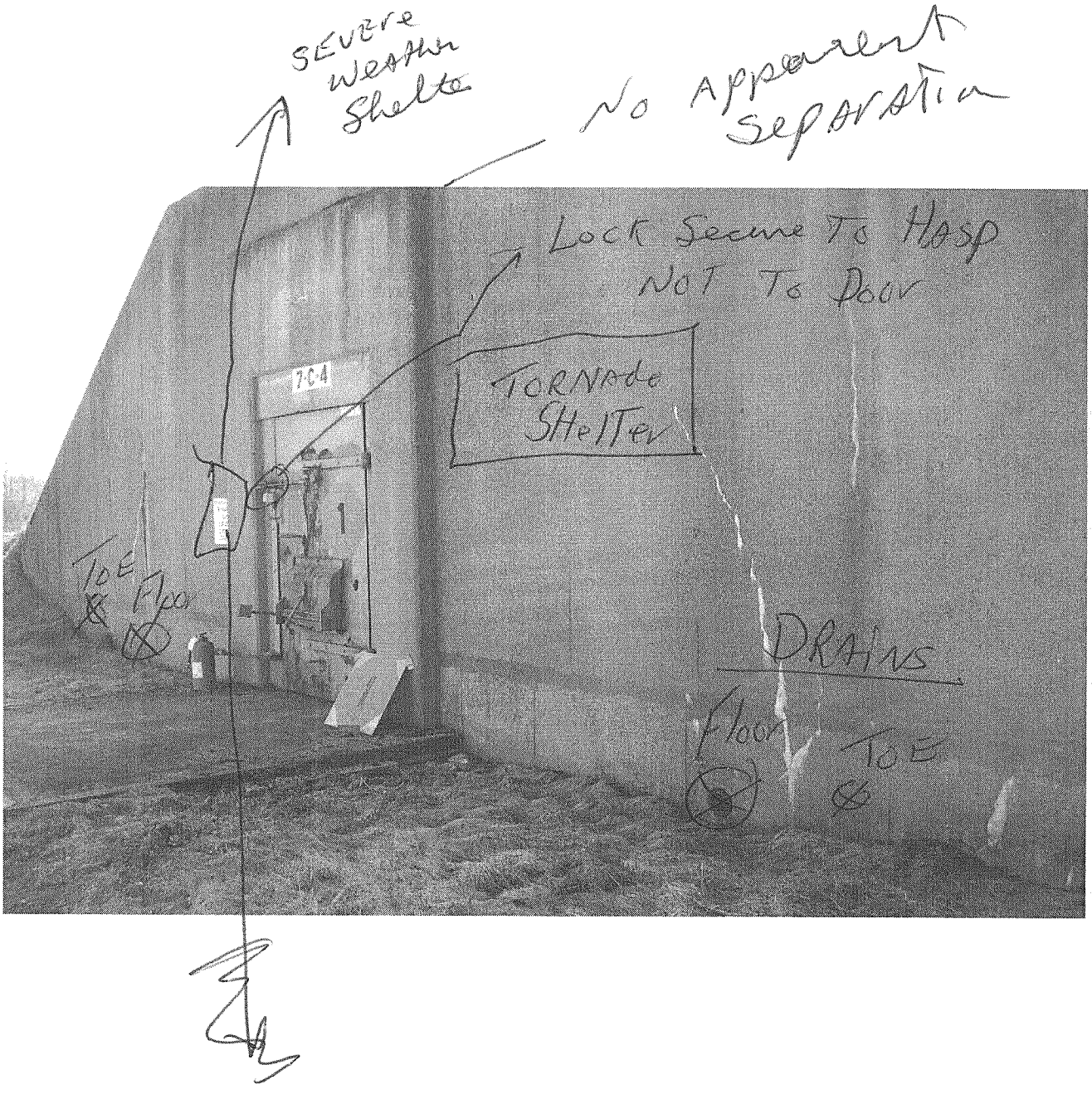
Igloo #: 3D-2 Potential Tornado Shelter

26 Nov 90



Clean & Dry

Igloo #: **3D-2 Potential Tornado Shelter**




3-D-2
TORNADO
SHELTER
RVAAP IGLOO 3D-2
26NOV2010

VI. IGLOO BLOCK-D

B. IGLOO LANE 5D

IGLOO INSPECTION FORM

Igloo #: 5D-1 – Tornado Shelter

Date: 26Nov'10 Time: 1020 Hrs Weather: Sunny-Breezy – 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 EXT – #2 N. Arch Crack Seepage #3 NE Corner Water Seepage

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Briar Laden – Not able To Walk through To inspect Ext. HdwAll – Barrel Seam – No Culverts – Lock secured To ~~Hasp~~ Not To Door "Severe Weather Shelter" Sign Left of Door. Both Sides of Door Have Toe & Floor Drains Vents N. VENT is wet,

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Finished Lumber (e.g. Trusses + Framing) Present – Arch Cracks on North Wall w/ seepage into Scupper Northeast corner & Arch & Headwall joint seeping water – South Scupper Dry – Damp spot in Southeast corner But No water in Scupper

Obvious downstream surface water pathway available to sample sediment? Y – Southward

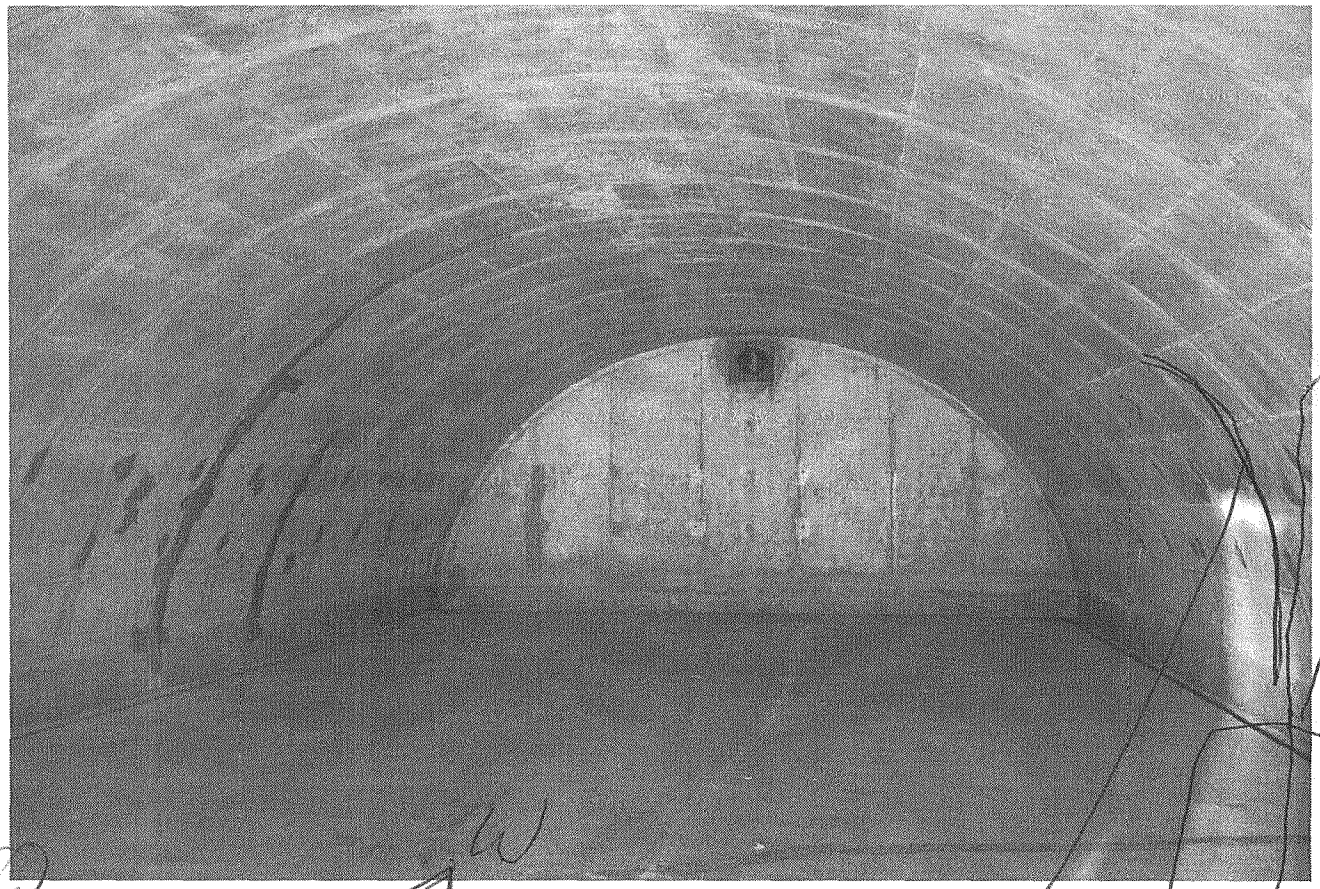
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? None

If yes what type? /

Other Notes:

Igloo #: 5D-1 Tornado Shelter

26 Nov '10



W

S ← → N

E

Moist spot on floor in S.E. corner But Appearances of water

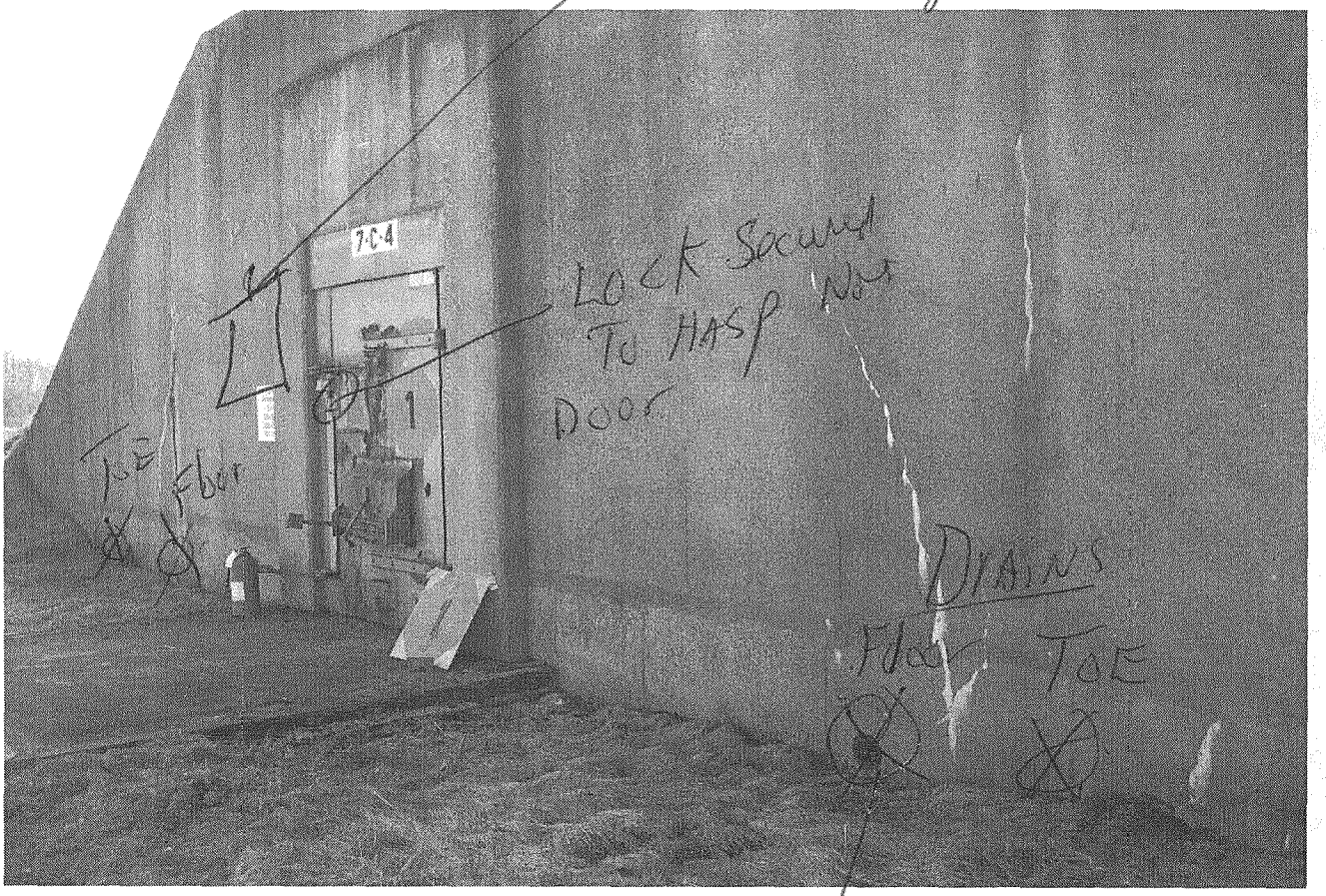
Arch Crack w/ water seeping down wall into Scupper

Arch & Headwall Joint Seeping water into Scupper

Report in 1989 w/ Inscription on wall

Igloo #: 5D-1 - Tornado Shelter

26 Nov '10




5-D-1
RVAAP IGLOO 5D-1
26NOV2010


RVAAP IGLOO 5D-1 Arch
Crack – North Wall


RVAAP IGLOO 5D-1 NE
Arch-Hdwall joint
seepage - water on
floor leading towards
scupper drain

IGLOO INSPECTION FORM

Igloo #: ~~5D-7~~ 5D-2 Museum Storage

Date: 26 Nov '10 Time: 1042 Hrs Weather: Sunny Breezy 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Briar Infested Top - Unable To Walk through To inspect Hdwall - Barrel Joint - Trees Culverts Both sides in ditchline (≤70ft)
Floor Drain + Toe Drains Present Both sides Access Door - No apparent Moisture from Floor Drains

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Ohio ARG Lock on Door
Cannot Access interior ~~of~~ using BRAC KEY - No Interior Inspection

Obvious downstream surface water pathway available to sample sediment? Y - Northward

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? 12" Corrugated Galvanized Pipe

Other Notes:

Igloo #: SD-2 Museum Storage

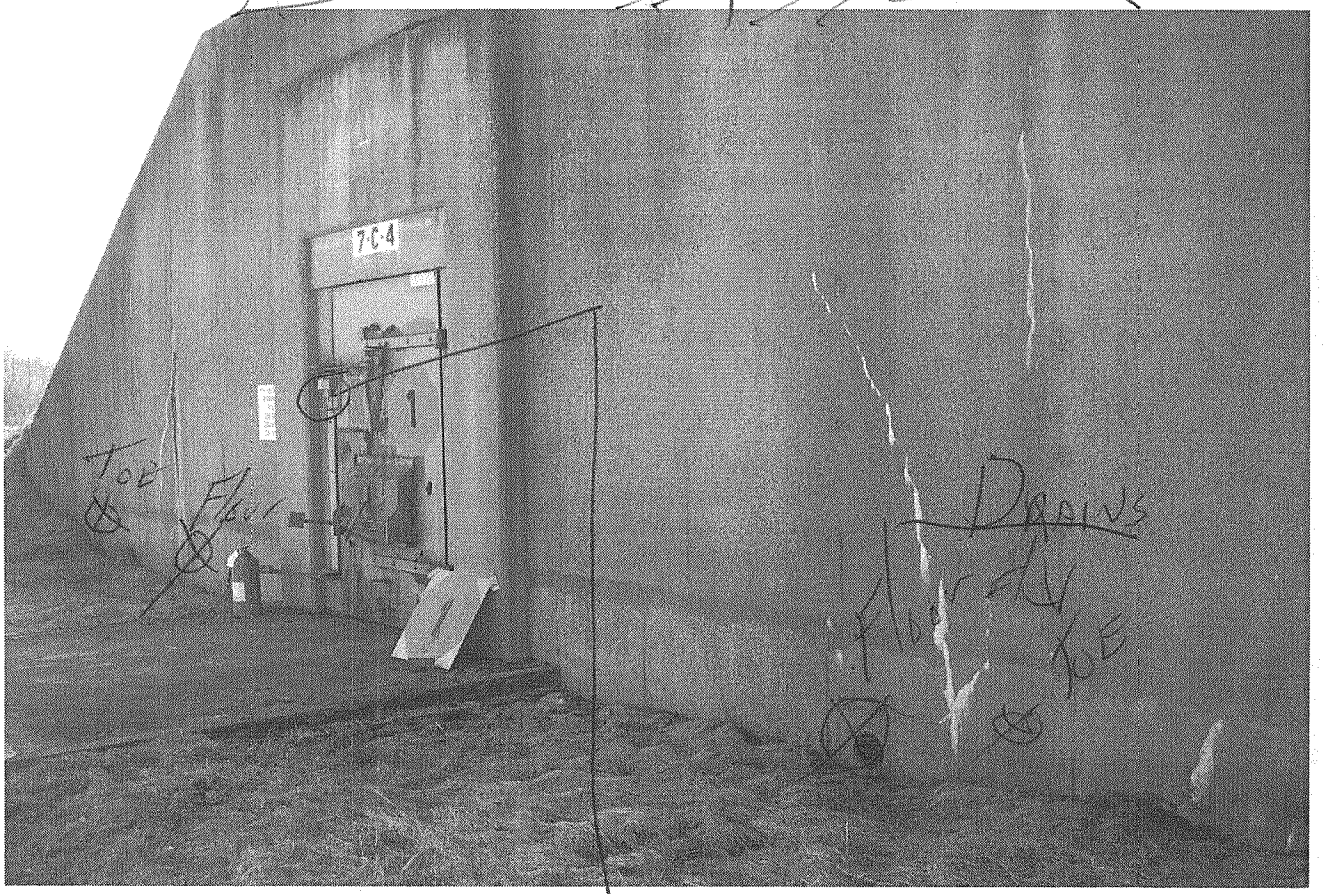
26 Nov 10



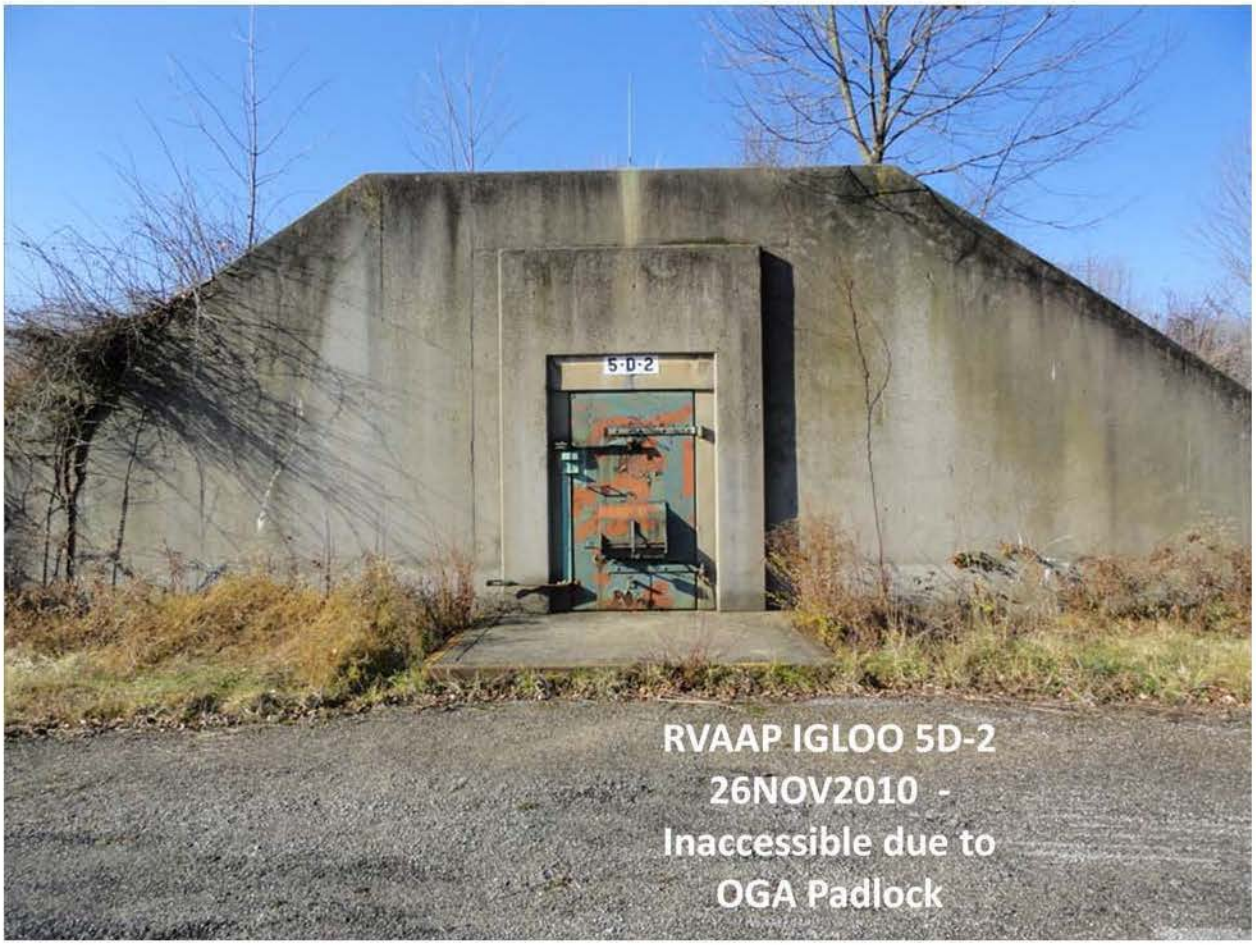
No Inspection – BRAC Key Provided ~~will~~ will not unlock Security lock – Other Agency Lock on Door

Igloo #: SD-2 Museum Storage

26 Nov '10



Door Secured
w/ other Agency
Lock — No Access
w/ BRAC Key Provided


5-D-2
RVAAP IGLOO 5D-2
26NOV2010 -
Inaccessible due to
OGA Padlock

VI. IGLOO BLOCK-D

C. IGLOO LANE 7D

IGLOO INSPECTION FORM

Igloo #: **7D-1 Potential Tornado Shelter**

Date: 26 Nov 10 Time: 1134 Weather: Breezy Sunny 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: 7D-1 #1 E

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent of Hdwall & Barrel @ Joint
Both Types Present on EACH Side of Door
Facing Good Shape
Floor Drains Show some signs of moisture @ Bottom
Culvert to the EAST

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No Inspection
Other Agency
Lock on Door
No Access W/ provided BRAC Key

Obvious downstream surface water pathway available to sample sediment? y - EASTward

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? yes - To EAST

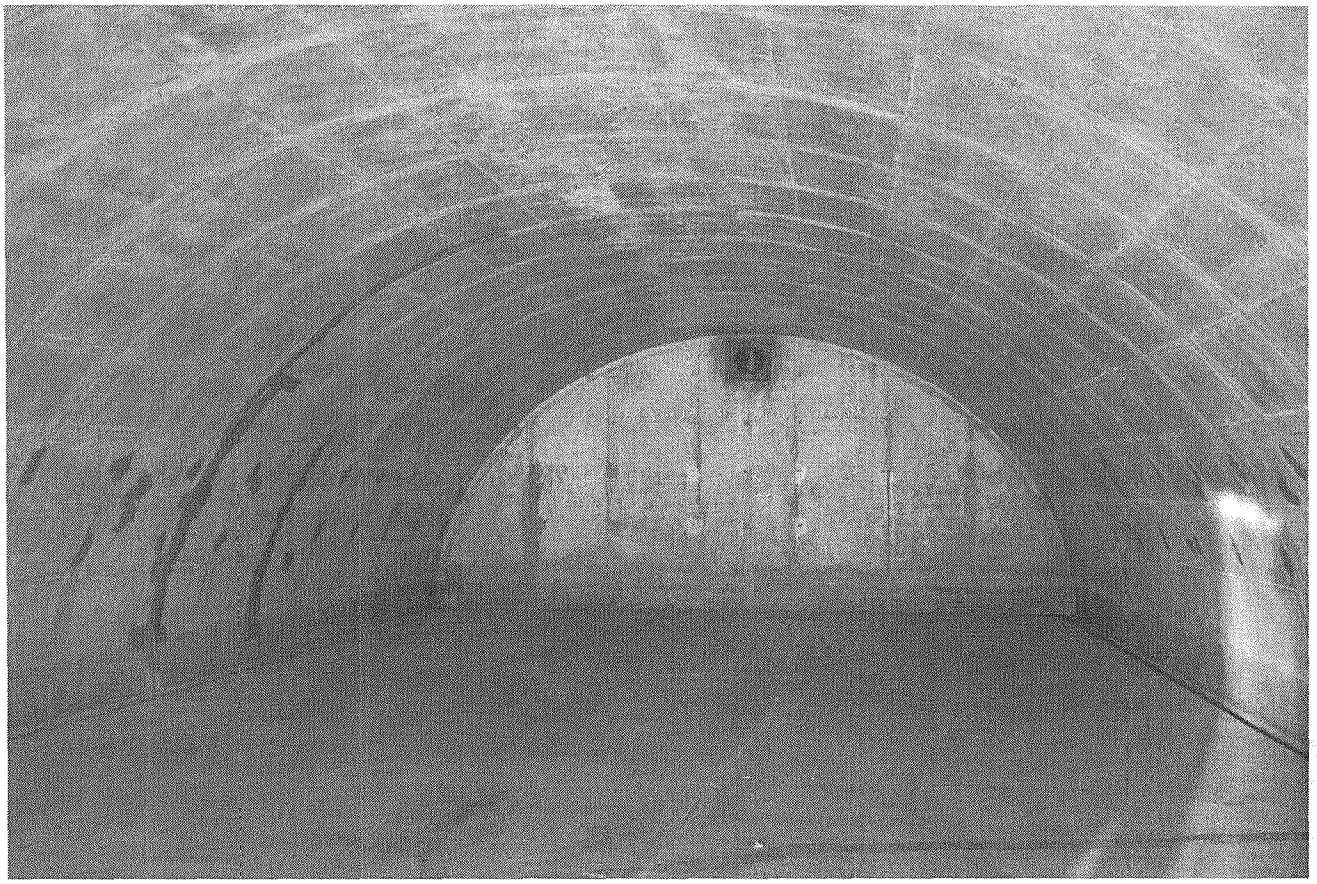
If yes what type? 24" Corrugated Galvanized

Other Notes: No Interior Inspection

Igloo #: 7D-1 Potential Tornado Shelter

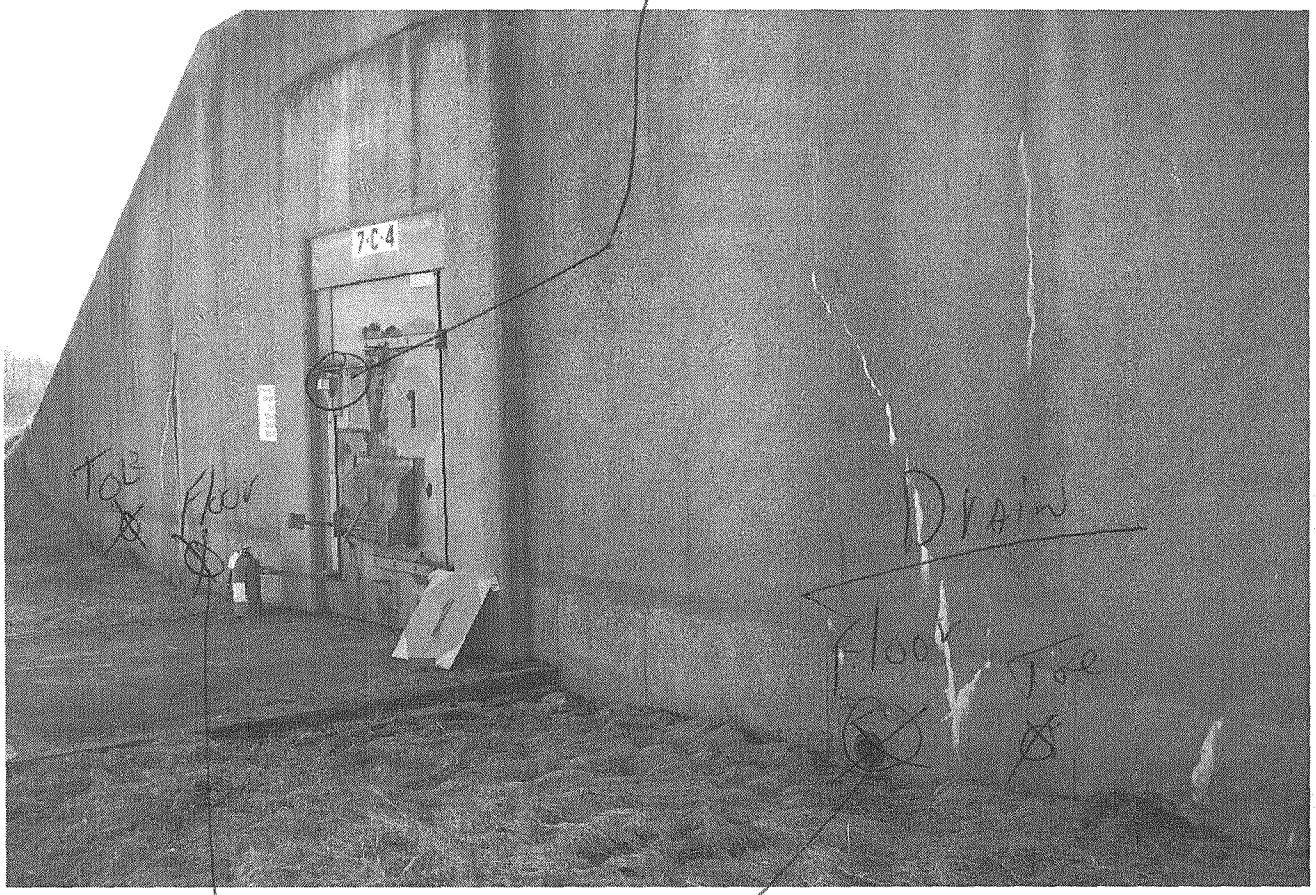
26 Nov '10

JRL



other Agency Lock on Door
Unable To Access

Igloo #: 7D-1 Potential Tornado Shelter



Both Floor Drain Vents show Some moisture on Concrete Below Vent cover


7-D-1
RVAAP IGLOO 7D-1
26NOV2010 -
Inaccessible due to
OGA Padlock

IGLOO INSPECTION FORM

Igloo #: **7D-2 Potential Tornado Shelter**

Date: 26 Nov 10' Time: 1142 Hrs Weather: Breezy - Sun - 27° F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent seperation @ Barrel-Hdwall Joints
Both Type Vent Drains Present (No Moist Present)
No Culverts

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dry - w/ ~~AAA~~ ~~BB~~ Lumber Framing ~~(Targets)~~
Stacked - Various - Made f/ Targets(?)
Scappers Dry - N.E. Arch Headwall Seam
of Calcium deposits But No Moisture
Also 3ea - 3" PVC Perforated Pipe ≅ 18" long

Obvious downstream surface water pathway available to sample sediment? yes - Southward

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

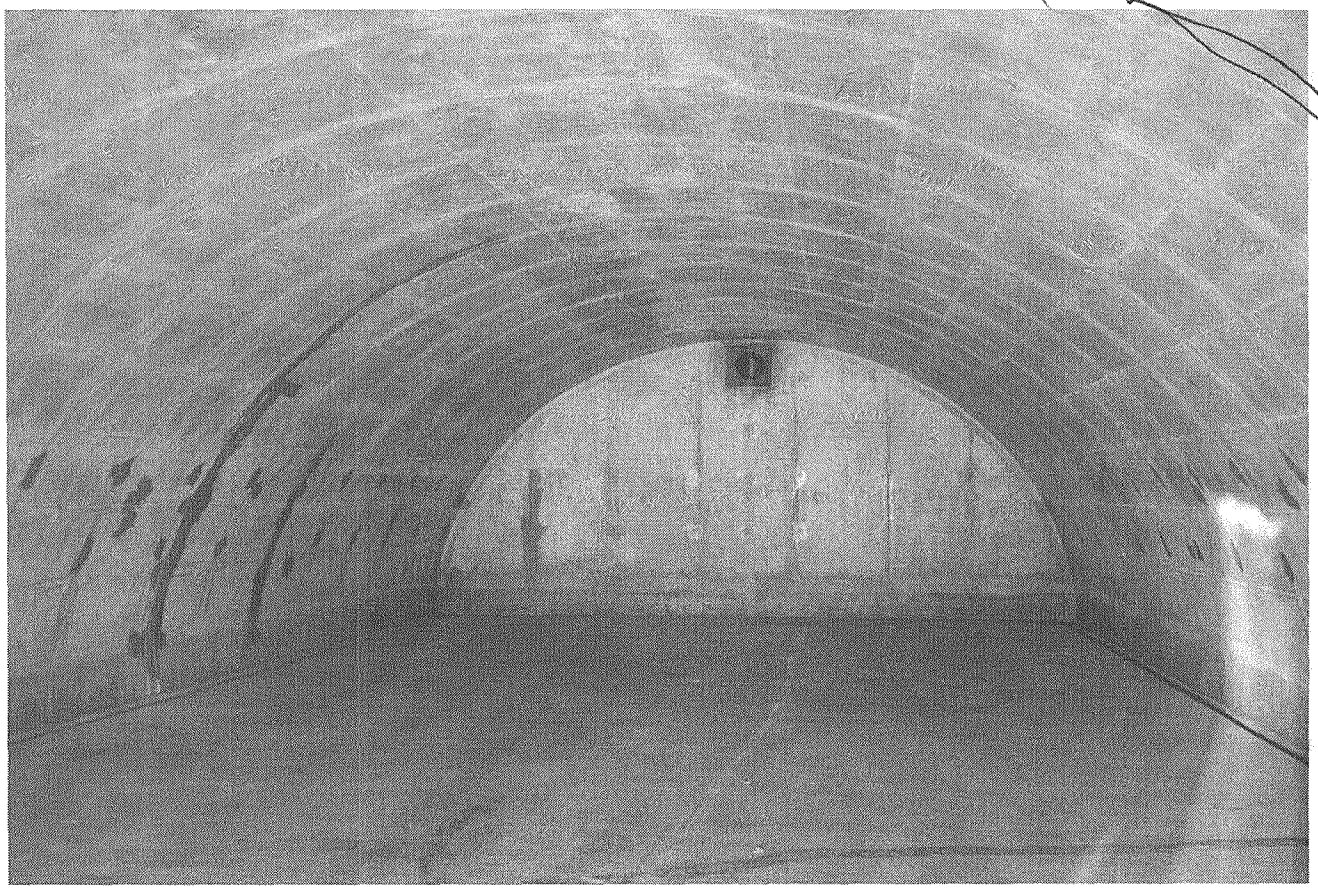
If yes what type?

Other Notes:

Igloo #: 7D-2 Potential Tornado Shelter

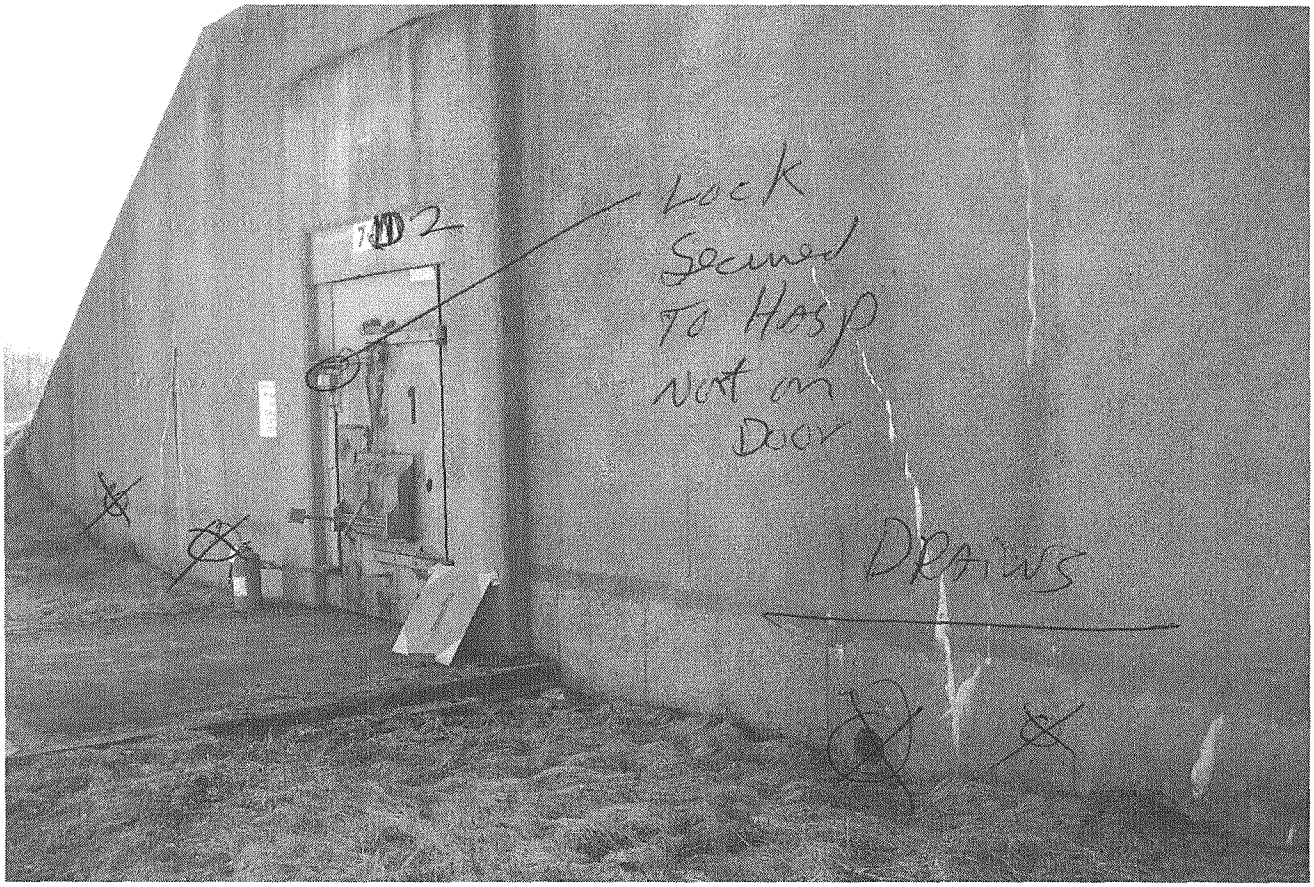
Nov 26 2010

Calcium Deposits on Arch-Hdwall Joint



Dry w/ ~~Lumber~~ Manufactured Wooden Frames Stacked + 3 - 3" PVC Perf Pipe ≈ 18" Long

Igloo #: 7D-2 Potential Tornado Shelter




7-D-2
RVAAP IGLOO
7D-2
26NOV2010 -


RVAAP IGLOO 7D-2
NE Arch-Headwall
joint – water
seepage on wall &
floor

IGLOO INSPECTION FORM

Igloo #: **7D-3 Potential Tornado Shelter**

Date: 26 Nov '10 Time: 1155 Hrs Weather: Sun-Breeze 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 Ext #2 NE Cm Arch & Hd Wall #3 SE Arch & Hd Wall

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Separation Vegetative Growth
NO TOE Drains Located — Floor Drains only Present — w/ some moisture on Bottom of Vent
Culvert 24" to North Igloo side of Road

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

2 photos of Floor & Scuppers ~~Alm Dry But~~ Apparent Corner ~~Seepage~~ Dry Except f/ NE & SE Corners Apparent Seepage on the Headwall & Arch joint Running Down Wall — wet spots A Floor Seam
Found Live Snake — ~~Coloration Mimics Venomous But Not Certain~~ — Took Photos — Eastern Milk Snake 4-5 long
(Not Gardner Type)
L MC 11/28/10

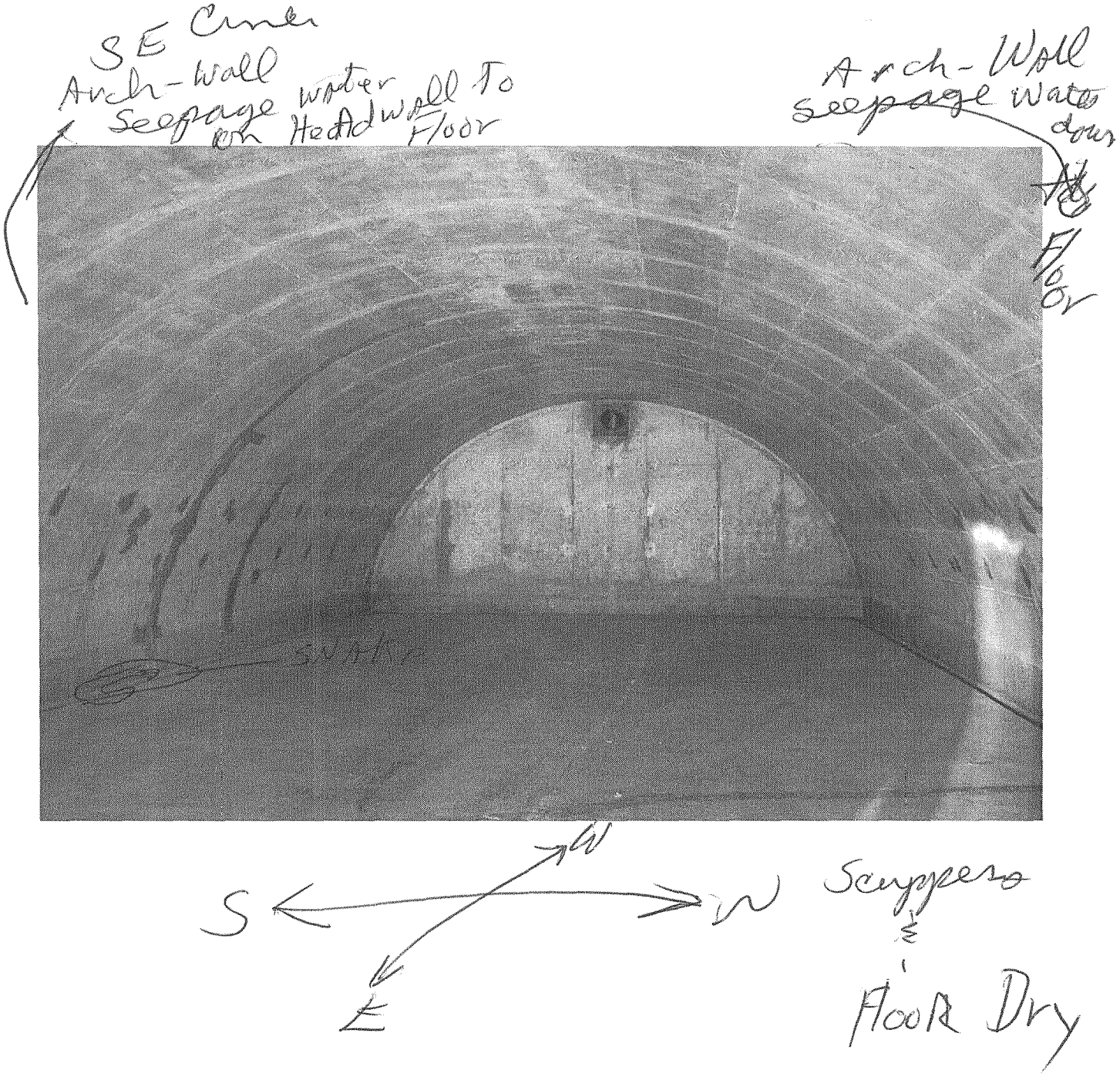
Obvious downstream surface water pathway available to sample sediment? Y — Northward

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y - N from Igloo Ditchline

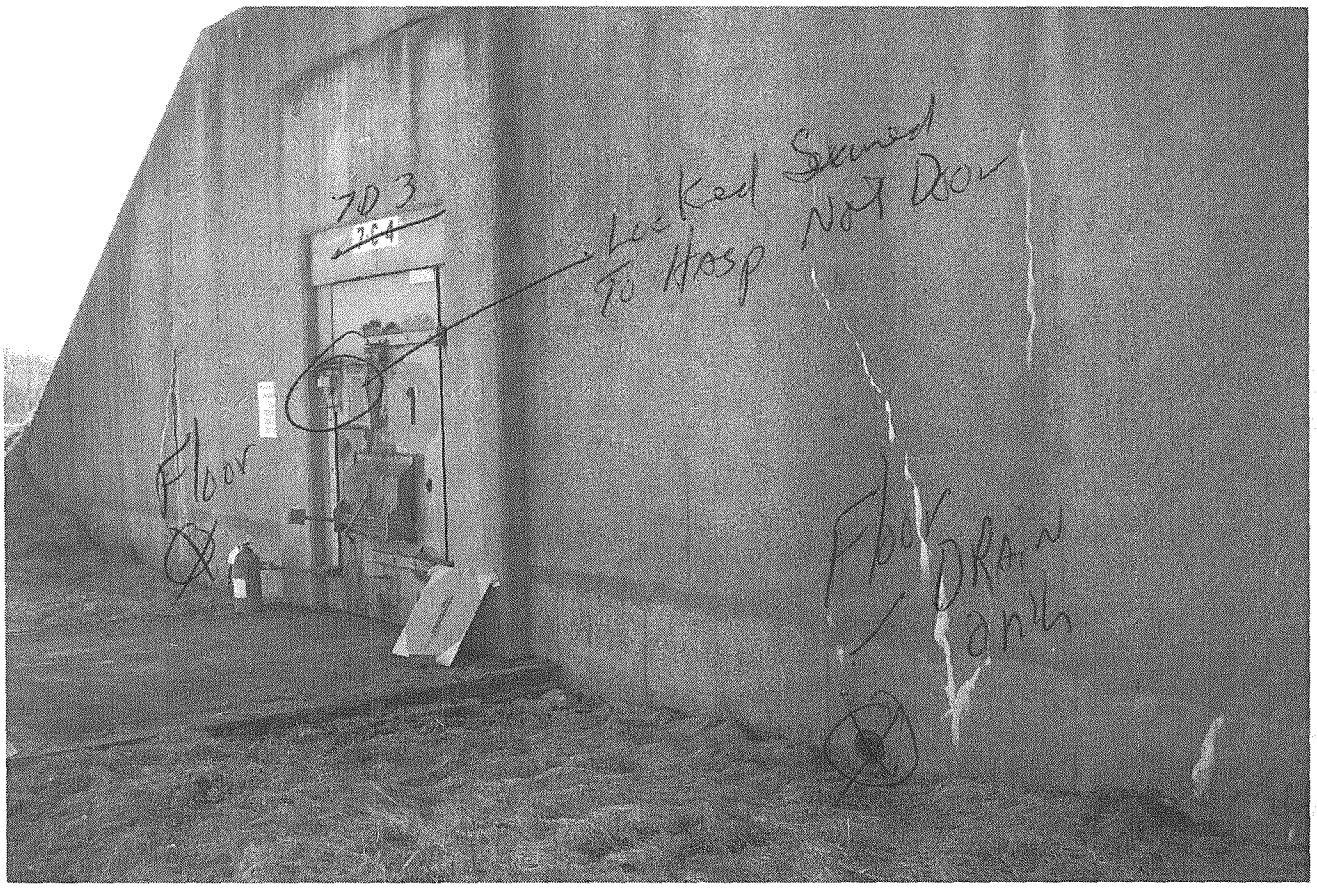
If yes what type? 24" Corrugated Galvanized

Other Notes:

Igloo #: 7D-3 Potential Tornado Shelter



Igloo #: **7D-3 Potential Tornado Shelter**





RVAAP IGLOO 7D-3
26NOV2010 -



RVAAP IGLOO 7D-3
Breach SE Corner
within arch-hdwall
joint

IGLOO INSPECTION FORM

Igloo #: **7D-6 Temporary Unit Storage**

Date: 26 Nov 18 Time: 1220 Hrs Weather: Sun Breeze 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Separation Between Wall & Barrel - Trees Growing on Top
Drainage Goes Both Ways
12" Culvert To The North
Lock Secured To Hasp No Door
Only Floor Drain Vents No Toe Drains

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Floor & Scuppers Dry - East wall Tight - No Moisture - North Arch ≅ 4' up @ center of Rein (E & W) Calcification crack w/ very minor seepage But So small of Leak - water is going thru Floor-wall joint & NOT Scupper

Obvious downstream surface water pathway available to sample sediment? Yes Both N & S

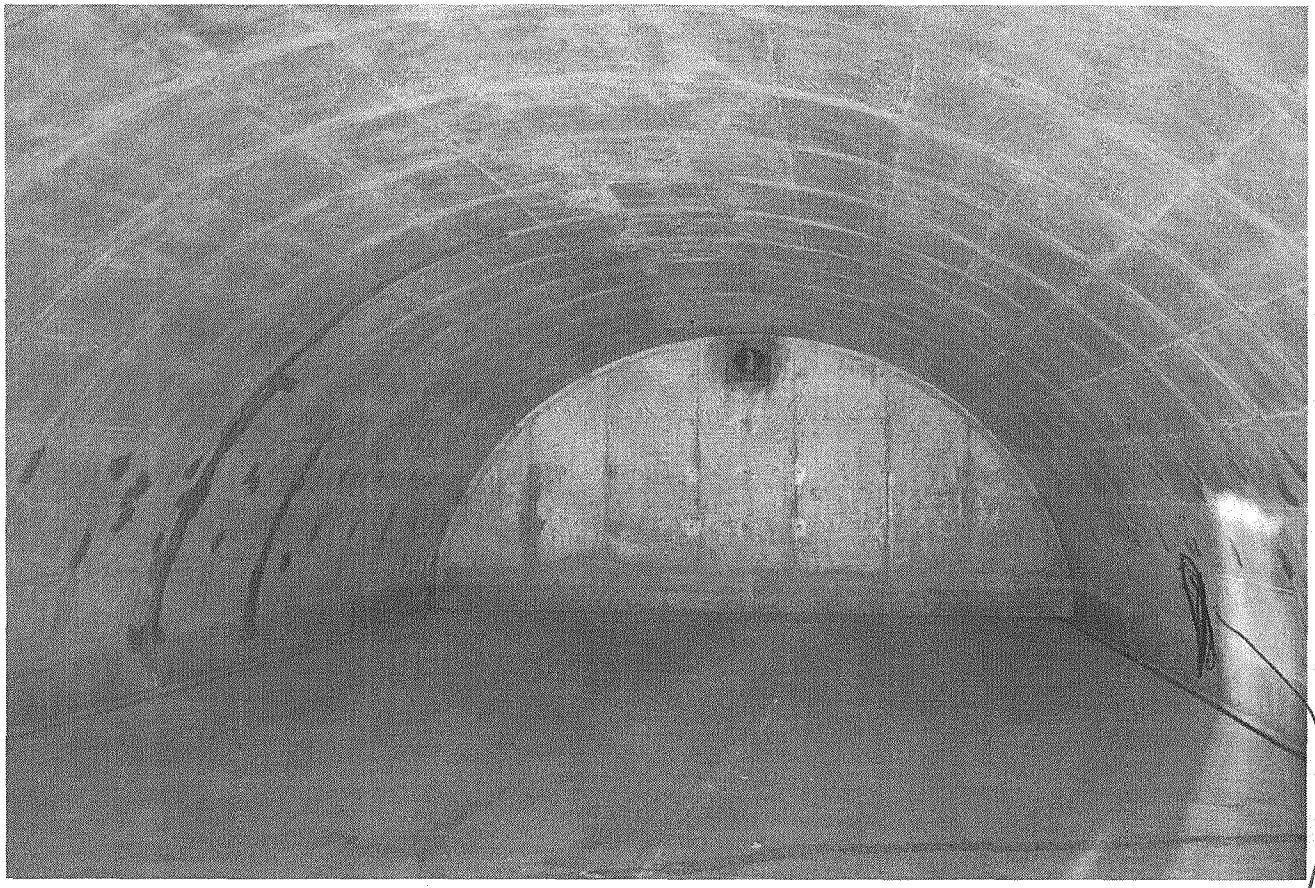
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y - Both & North

If yes what type? 12" Corrugated Galvinize

Other Notes:

Igloo #: 7D-6 Temporary Unit Storage

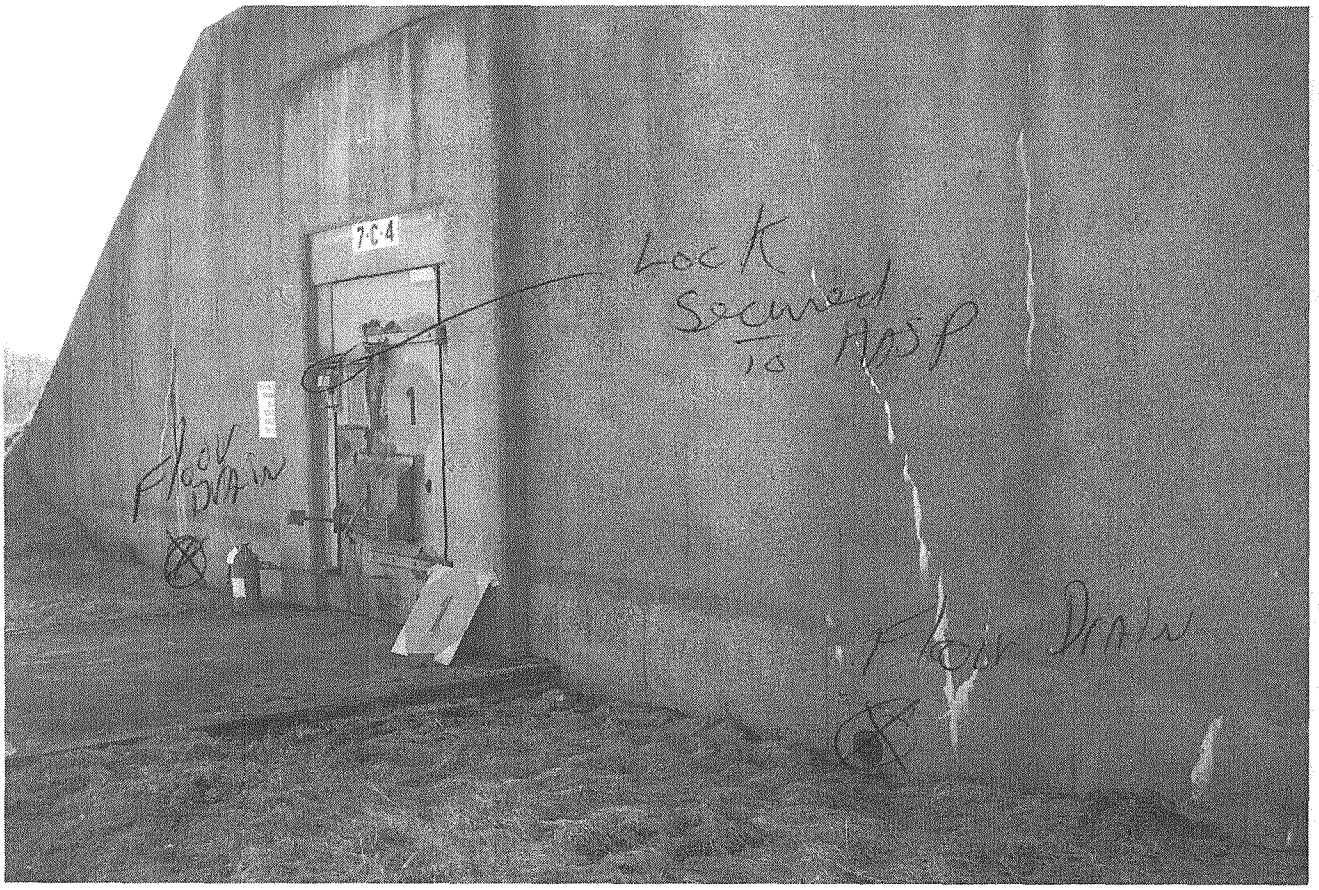
26 Nov '14



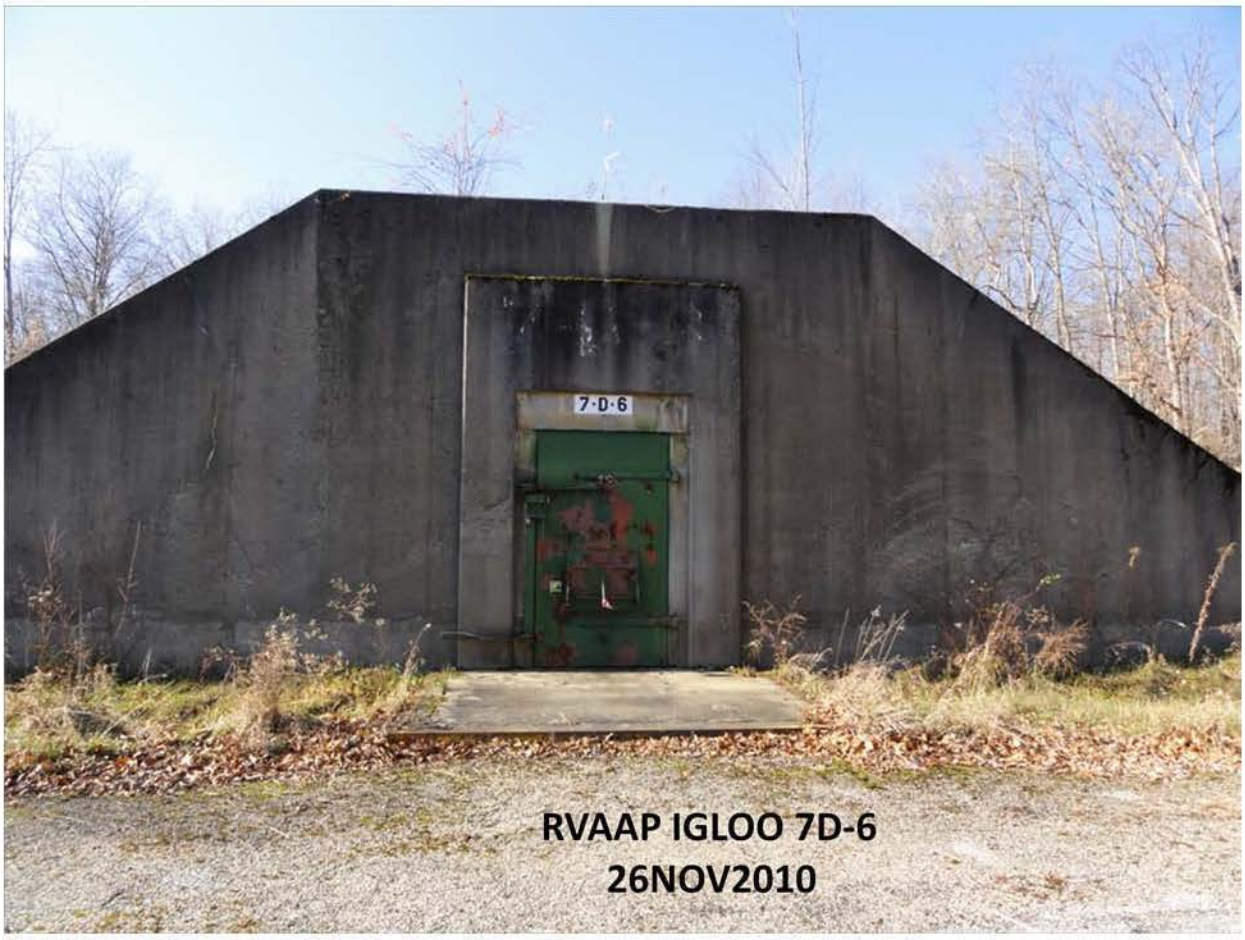
Dry & Clean

small seep down WALL & EMPTying joint BeTween WALL & Scuppa

Igloo #: 7D-6 Temporary Unit Storage



No Toe Drain Vents
only Vents & Floor Scuppers


7·D·6
RVAAP IGLOO 7D-6
26NOV2010

IGLOO INSPECTION FORM

Igloo #: 70-7 = Temporary Unit Storage ~~HB212 Potential Tornado Shelter~~ amc

Date: 10 Mar 2011 Time: 1016 Weather: Rain - Overcast - 45° F

Inspector: USACE - LRL - T.M. Chanda D. Kinder & Picture Numbers: Yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Some Surficial Cracks on Hdwall Face
Drainage North & Large Culvert > 70' away
fm/ Igloo — No Apparent Hdwall-Barrel
Seperation Lock unsecured to Door Latch
Floor & Toe Drain Vents Both Sides
No Culverts < 70' fm/ Igloo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Some Water Seepage Down Wall onto
Floor fm/ Hdwall - Arch Seam - NE & SE
Corners Small Water Collection —
Midway fm/ Entrance Arch Seam Showing
Water Seepage Down N & South Wall into
Scupper - Water in Scuppers fm/ that
point To Headwall East

Obvious downstream surface water pathway available to sample sediment? Yes - Surface Flow is North

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

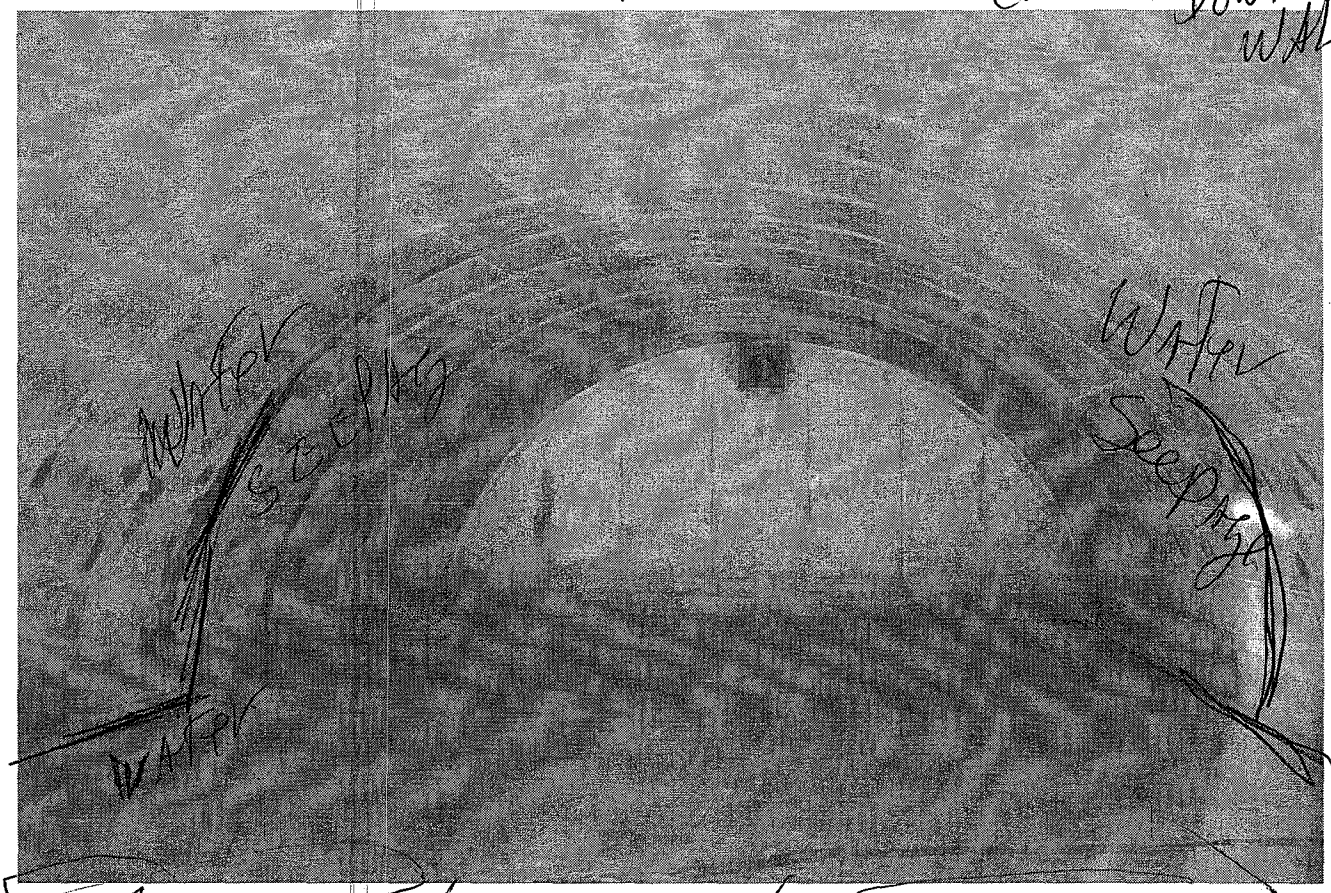
If yes what type?

Other Notes:

7D-7 Temporary Unit Storage Inc

Igloo #: ~~KD-302 Potential Tornado Shelter~~

10 MARCH 2011

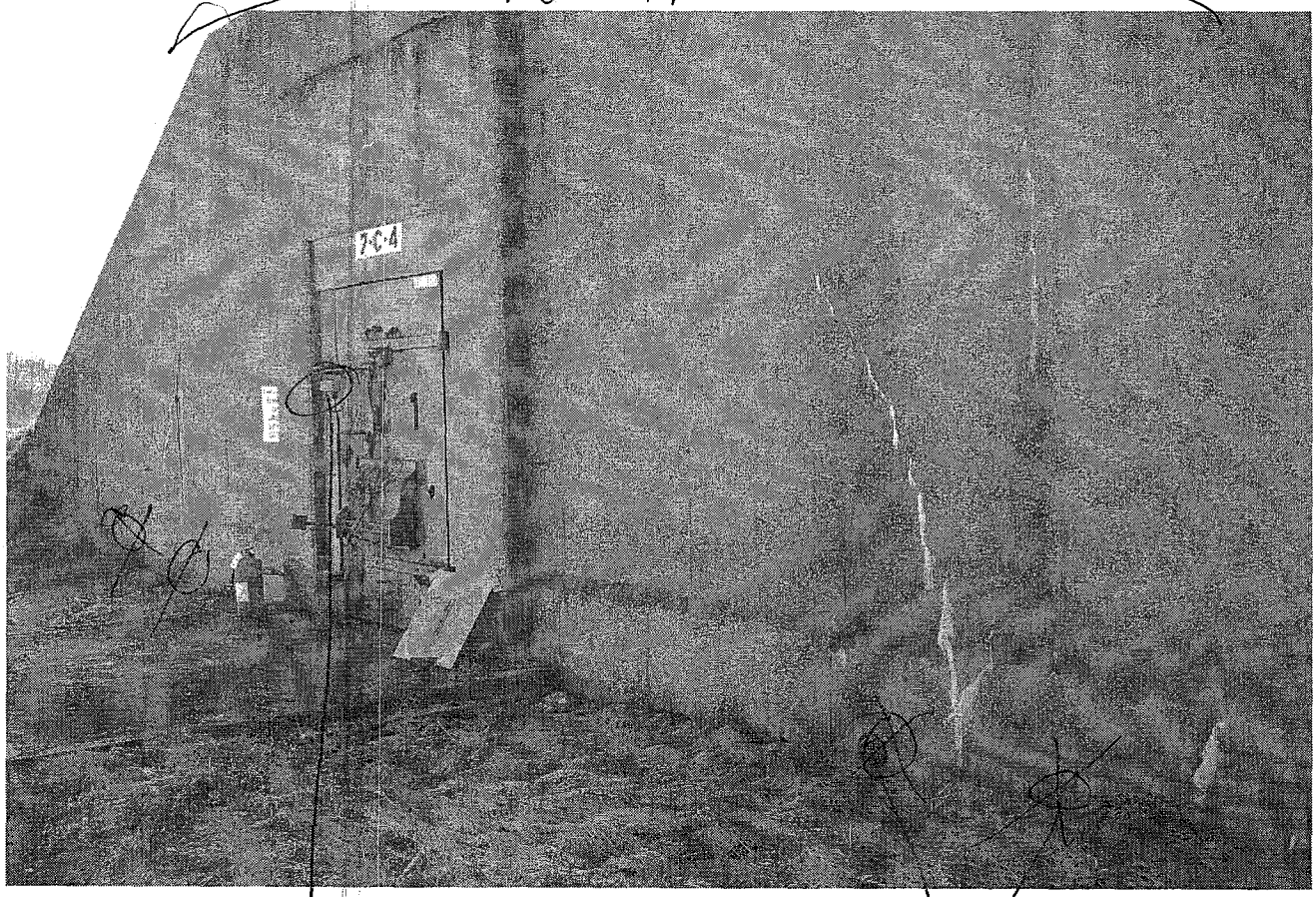


7D-7 Temporary Unit Storage Inc

Igloo #: [redacted]

10 Mar 2011 Kinder Chands

Top Glass Covered & Clear
No Appr



Lock
Unsecured
To Door

Toe & Floor Drain
Vents Both Sides

IGLOO INSPECTION FORM

Igloo #: **7D-7 Temporary Unit Storage**

Date: Time: Weather: 26 Nov 10

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Time Constraints

Skipped - Did Not Inspect 7D-7

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

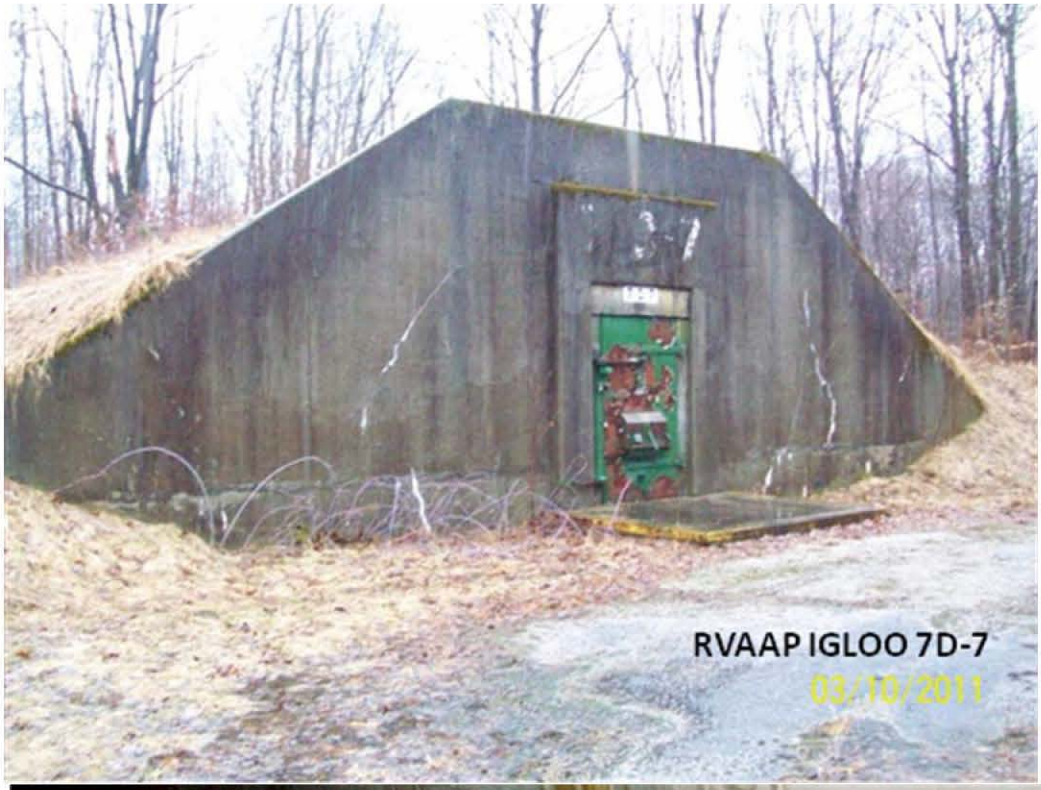
If

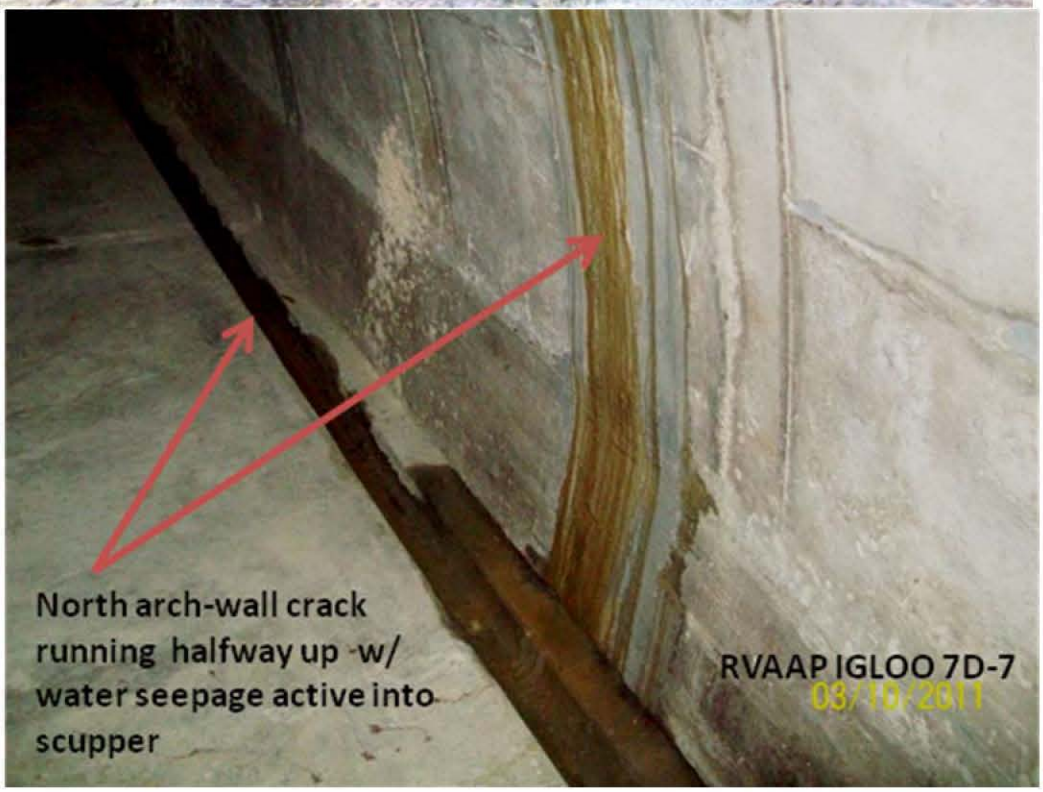
Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


RVAAP IGLOO 7D-7
03/10/2011


North arch-wall crack running halfway up -w/ water seepage active into scupper
RVAAP IGLOO 7D-7
03/10/2011

IGLOO INSPECTION FORM

Igloo #: **7D-8 Temporary Unit Storage**

Date: 26 NOV '10 Time: 1235 Weather: Sun Breezy ~ 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 ExT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Briar Infested Top - Could pass through to inspect Exterior Hdwll - Barrel Joint
Have Both Type Drain Vents - Toe & Floor
Lock Secured & Hasp Not To Door
Minor Cracking on Exterior Hdwll Facing
36" Culvert ditchline Igloo Side

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Floor Dry - No Seepage Between Headwall
Found a Seam crack 30ft in from Door on South Wall Running into Scupper - water ~~does~~ not make its way to drain Being Absorbed By Mouse Nesting material Lying in the Scupper.
North ~~Scup~~ Scupper Dry

S-N Run

Obvious downstream surface water pathway available to sample sediment? Y - Ditchline To Culvert

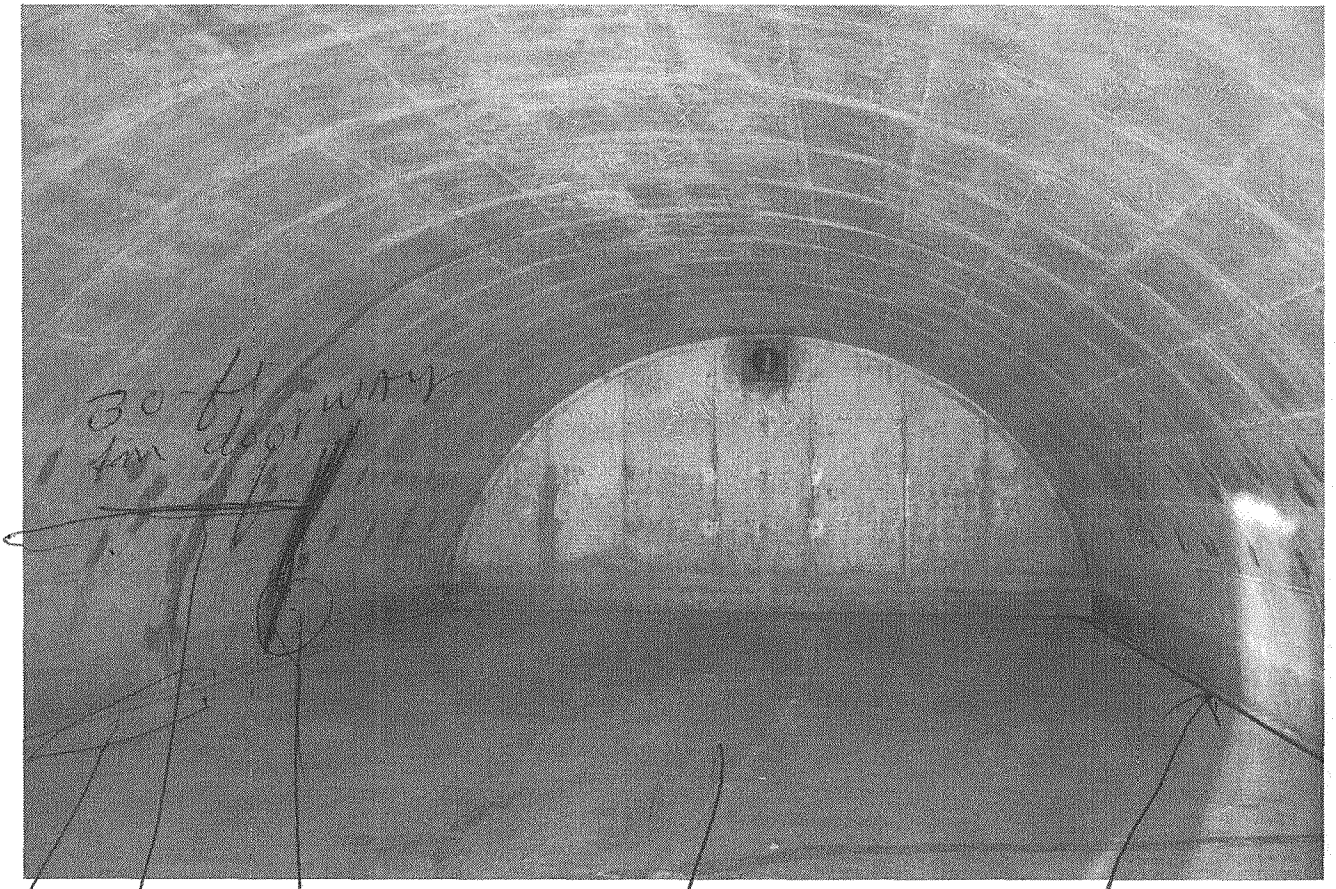
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

If yes what type? 3-ft dia - Corrugated Galvanized Pipe

Other Notes:

Igloo #: 7D-8 Temporary Unit Storage

26 Nov '10



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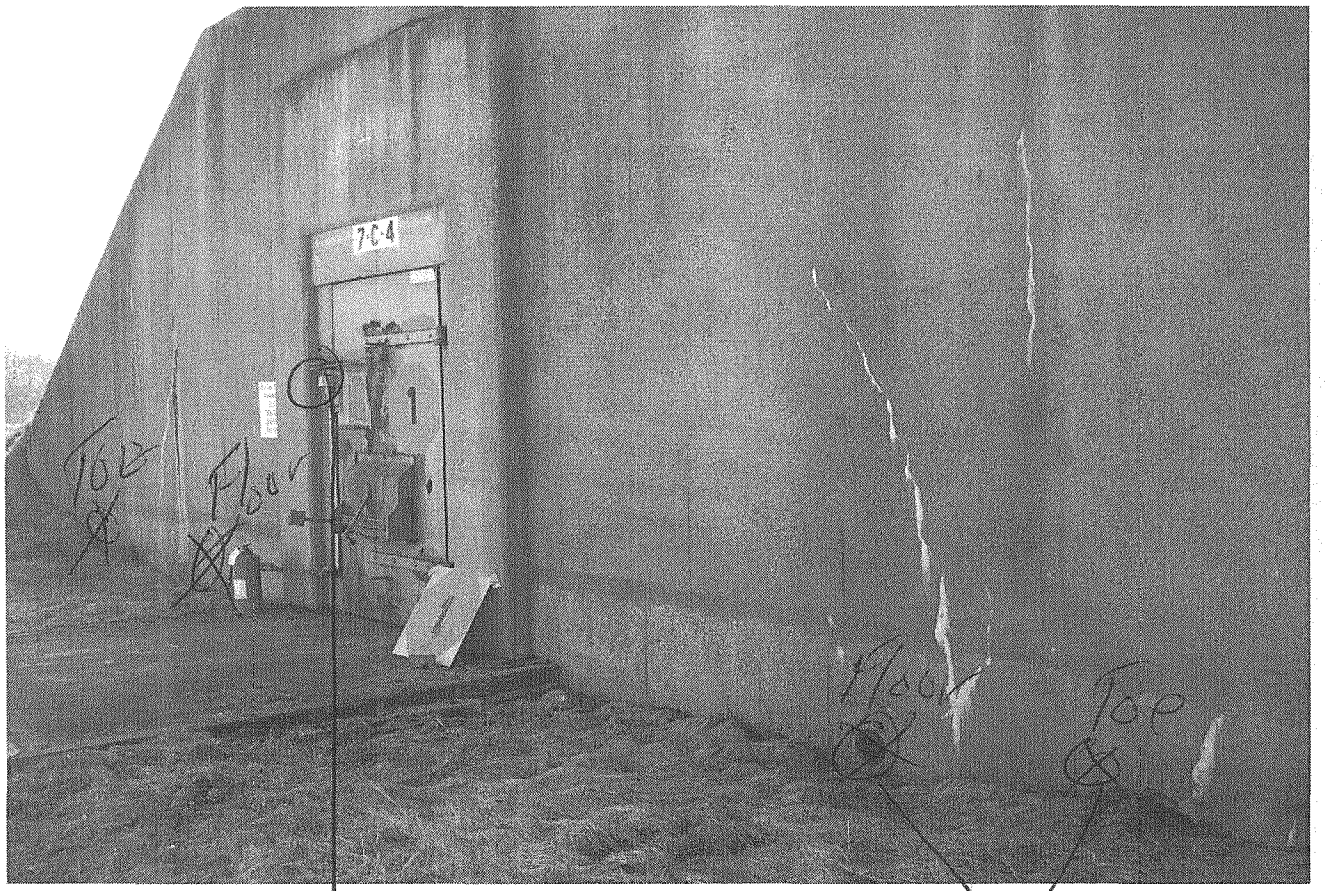



7-D-8
RVAAP IGLOO 7D-8
26NOV2010

IGLOO INSPECTION FORM

Igloo #: **7D-9 Temporary Unit Storage**

Date: 26 Nov '10 Time: 16 44 Weather: Breezy - Dusk ~ 28°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 EXT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Igloo Top Inundated W/ Briar Patch - impassable To Inspect Hdwall - Barrel Joint Integrity - Inspector should Tell if there's Separation - Both Types Floor & Toe Drain Vents Present Each side of Access Door - Headwall Exterior in good Condition ~~BFAC~~ Door Secured w/ BRAC Lock No Culverts w/i the ≤ 70ft.

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry Headwall - Arch Seam intact & Dry - Calcium deposit on South Wall 27' From Access Door - deposit was fm/ Scupper up wall F/ 2-3 feet North Wall Had a calcined seam 30 feet in fm Access Door But No Moisture in Scupper Deposit Ran 3ft. fm/ scupper up the wall Both Scuppers were dry

Obvious downstream surface water pathway available to sample sediment? Y — Southward

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

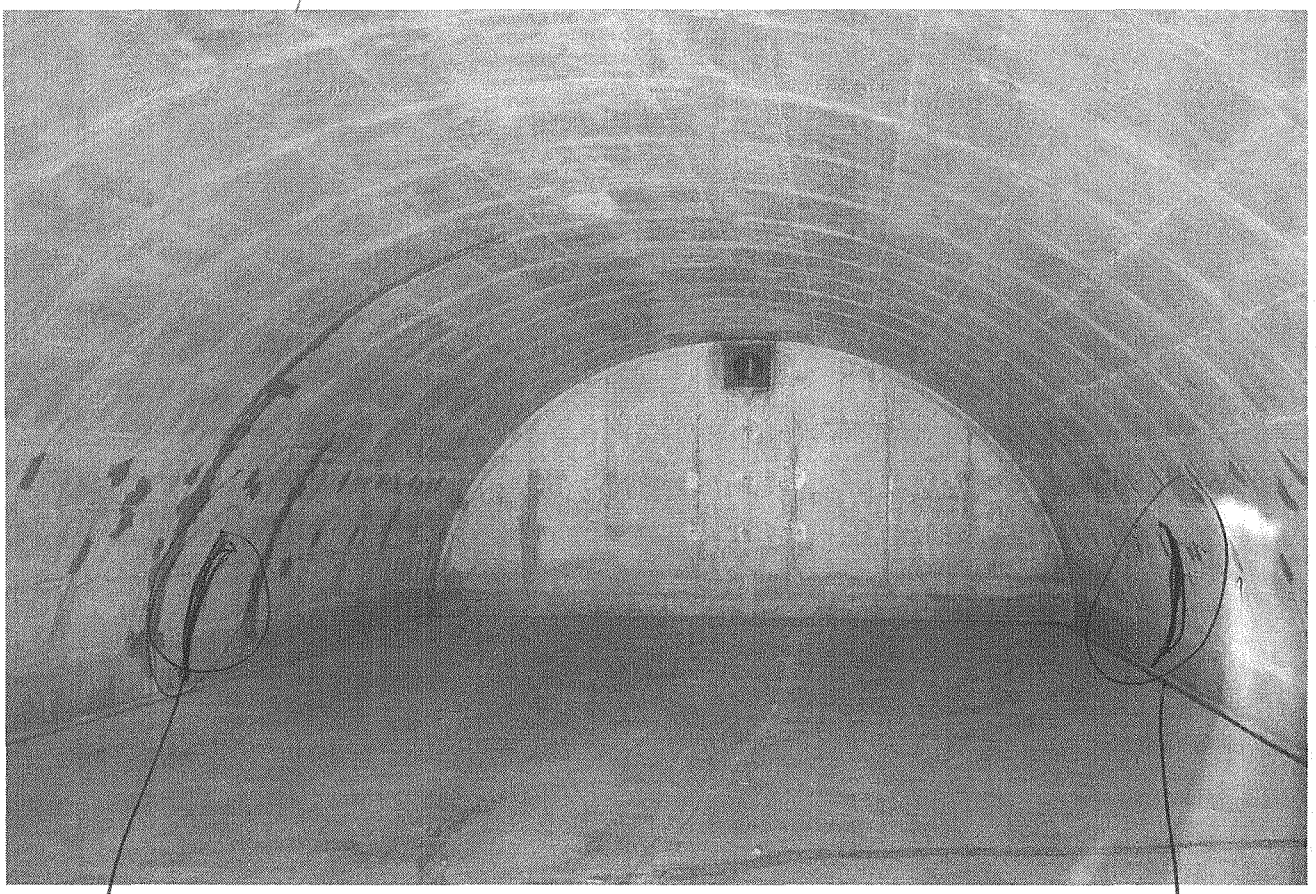
If yes what type?

Other Notes:

Igloo #: 7D-9 Temporary Unit Storage

26 Nov '18

JMC



W

S N

E

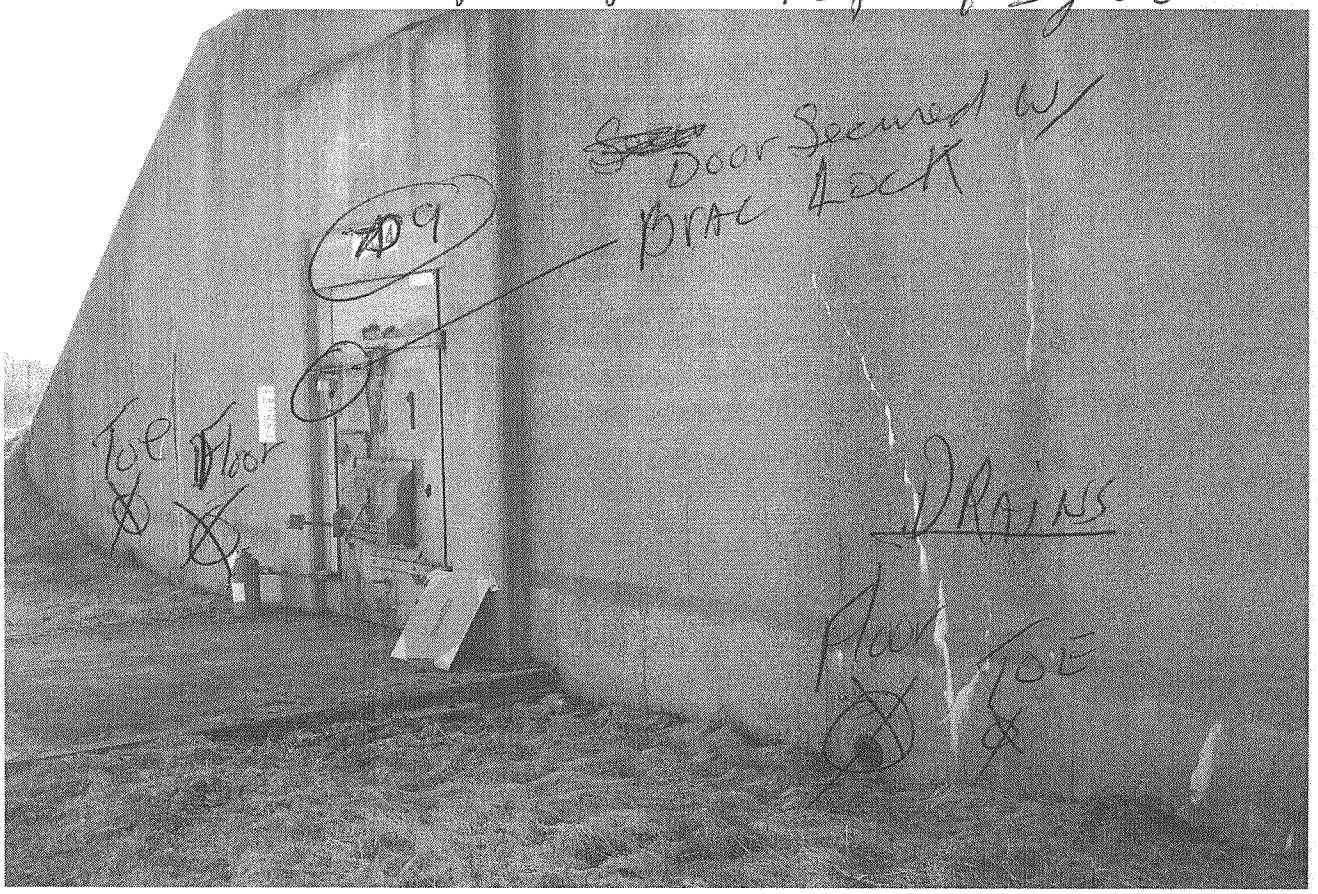
Calcium Deposit on Wall To Floor 27' In fm/ Door

Clean & Dry Head wall & Scuppers

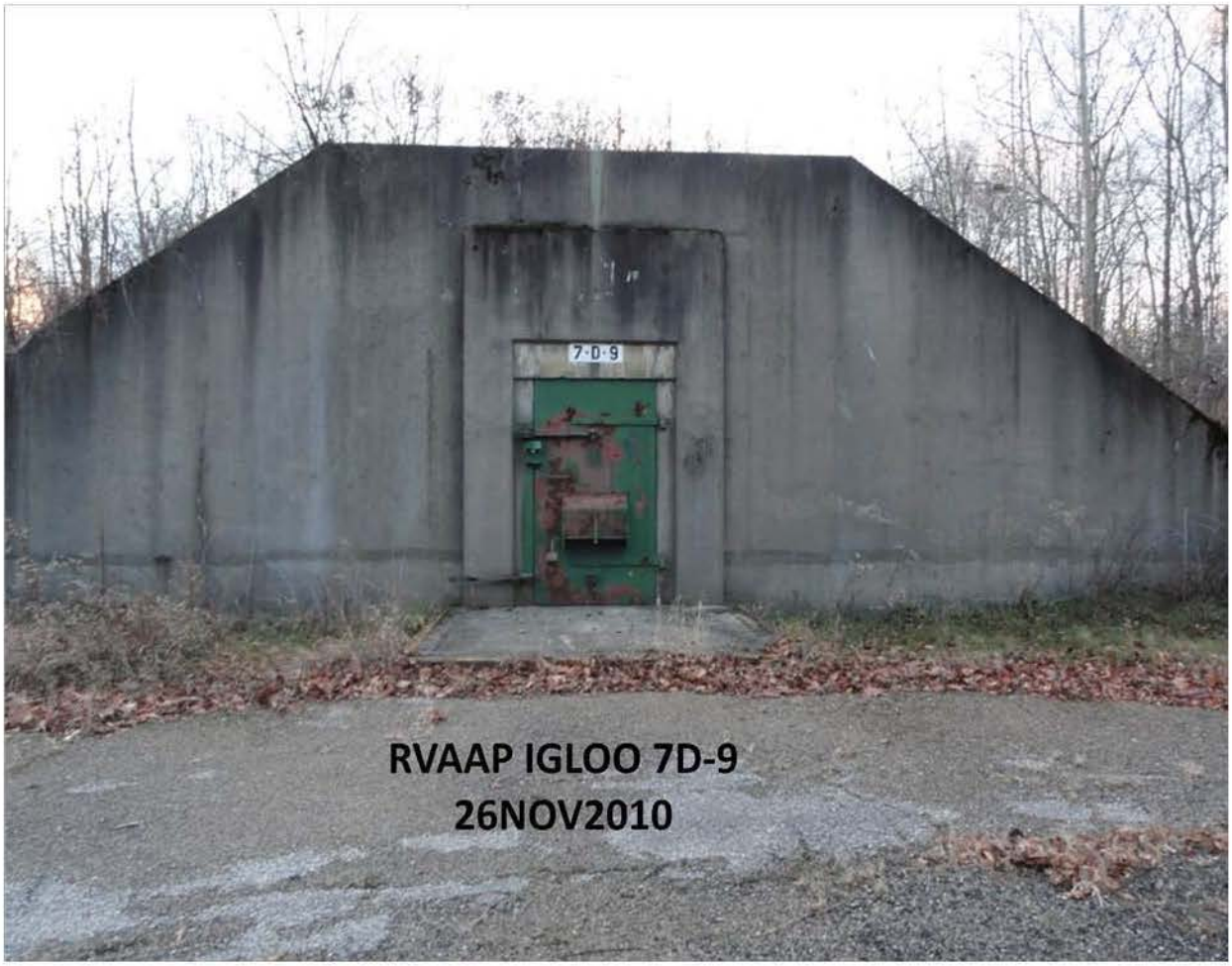
Calcium Deposit on Wall 30' fm Door No Moisture

Igloo #: 7D-9 Temporary Unit Storage

26 Nov 10
JMC



Headwall in Good Condition
No Suspicious Stains around Floor Drain Vents


7-D-9
RVAAP IGLOO 7D-9
26NOV2010

IGLOO INSPECTION FORM

Igloo #: **7D-10 Temporary Unit Storage**

Date: 26Nov10 Time: 1616 Hrs Weather: Sun/clouds - Breezy - 28°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 Ext #2 South Wall Calcification

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

TREES & Briar Thickets ~~Made~~ Inaccessible
Few Some Calcined Cracks Outer Face - Drainage is Both
Ways N & So Floor Drain Vents only on Each side
of Door — BRAC Lock Secured To Door - Made
use of Key

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry inside - Large NESTs of
Field Mice - ≈ 30 ft. in From Door ~~Calcification~~
South Wall Calcification deposit about 4' fm/
Scupper & Up Arch - Bat, no water in Scupper
N.E. Corner - Arch - Hdwall Has Calcined appearance
@ joint fm Floor to Ceiling of Arch - again No
Water

Obvious downstream surface water pathway available to sample sediment? Y - N Flow can go Both N or S

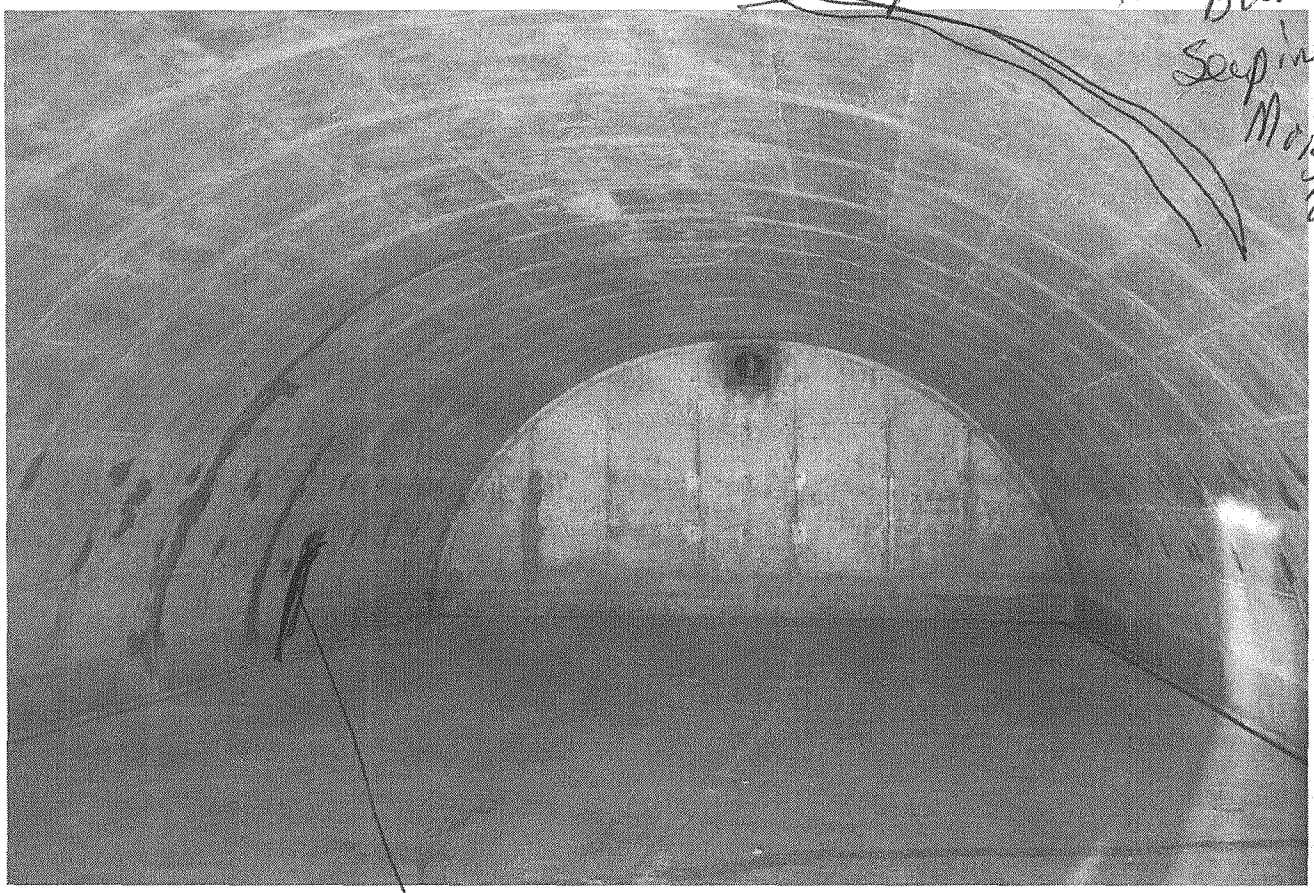
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? N

If yes what type?

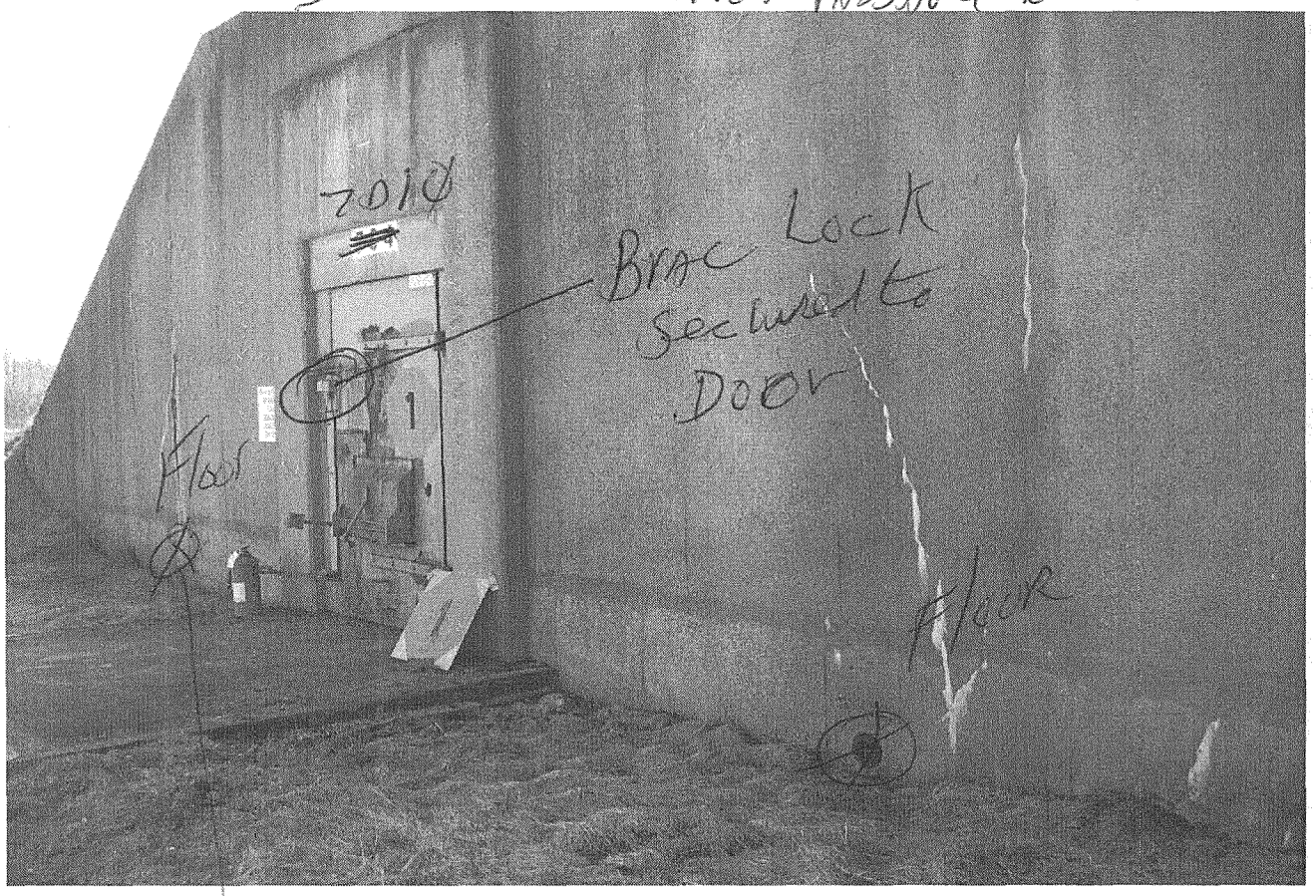
Other Notes:

Igloo #: 7D-10 Temporary Unit Storage

26 Nov '10



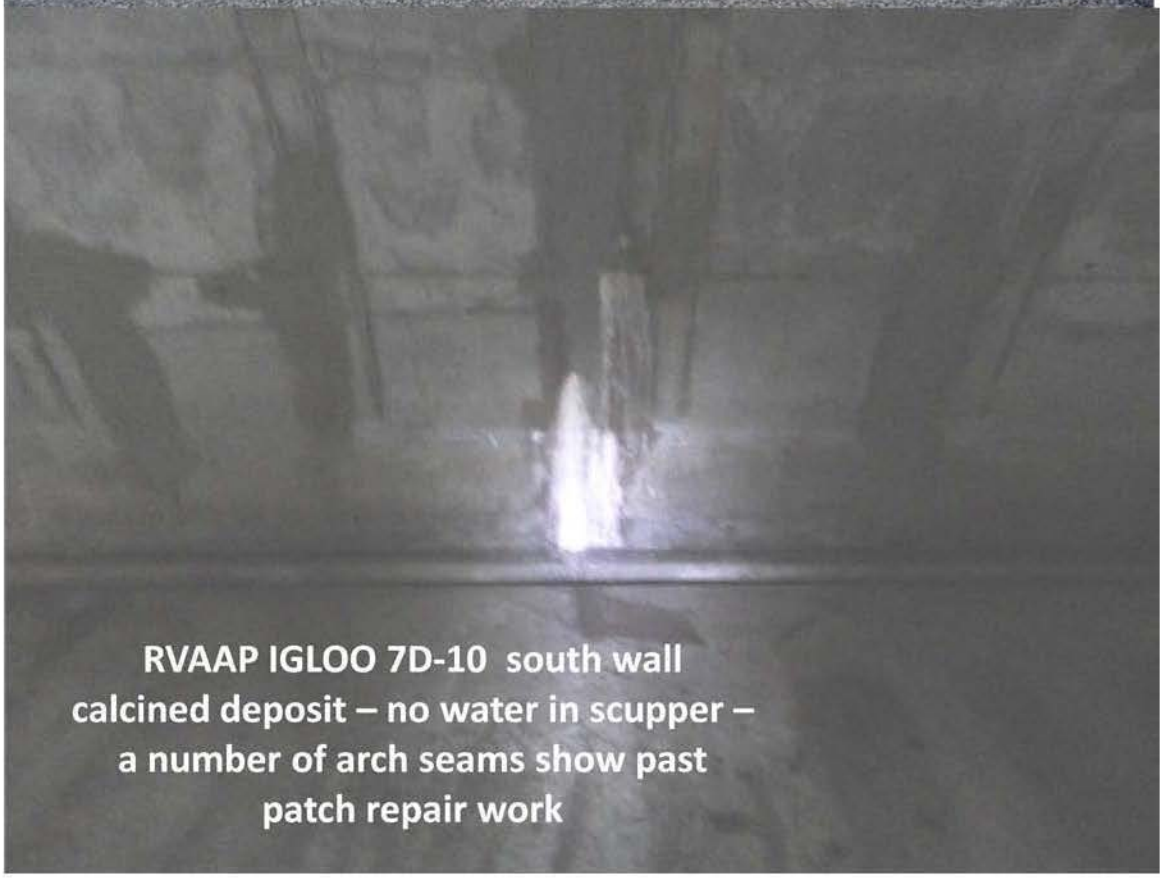
Igloo #: 7D-10 Temporary Unit Storage



Floor Drain Vents Only
A Few Calcined Cracks



RVAAP IGLOO 7D-10
26NOV2010



RVAAP IGLOO 7D-10 south wall
calcined deposit – no water in scupper –
a number of arch seams show past
patch repair work

IGLOO INSPECTION FORM

Igloo #: **7D-11 Temporary Unit Storage**

Date: 26 Nov 10 Time: 1251 Hrs Weather: Sun Breeze 27°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 Ext.

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top & Sides of Igloo Overgrown w/ Brier Bushes
Did Not Inspect Hdwll-Barrel Joint
Lock Secured To Door & Key Accessible
Flowage/Drainage N & S - Culvert on South
Ditchline - Floor ~~Door~~ Drains Vents on Both Sides
of Door - No Toe Drains

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry

Obvious downstream surface water pathway available to sample sediment? Y - To South & North

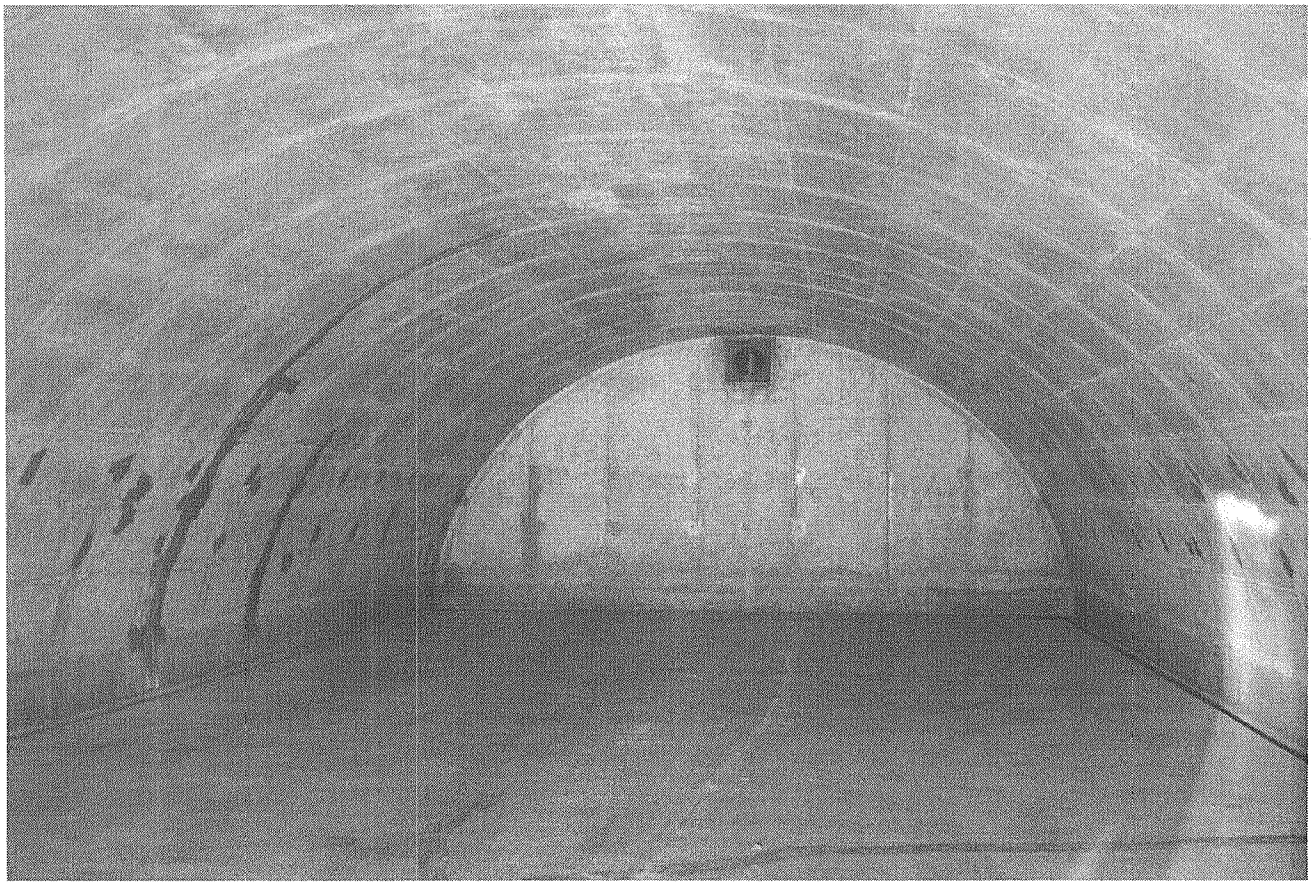
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? To South Yes

If yes what type? 12 in. Corrugated Galvanized

Other Notes:

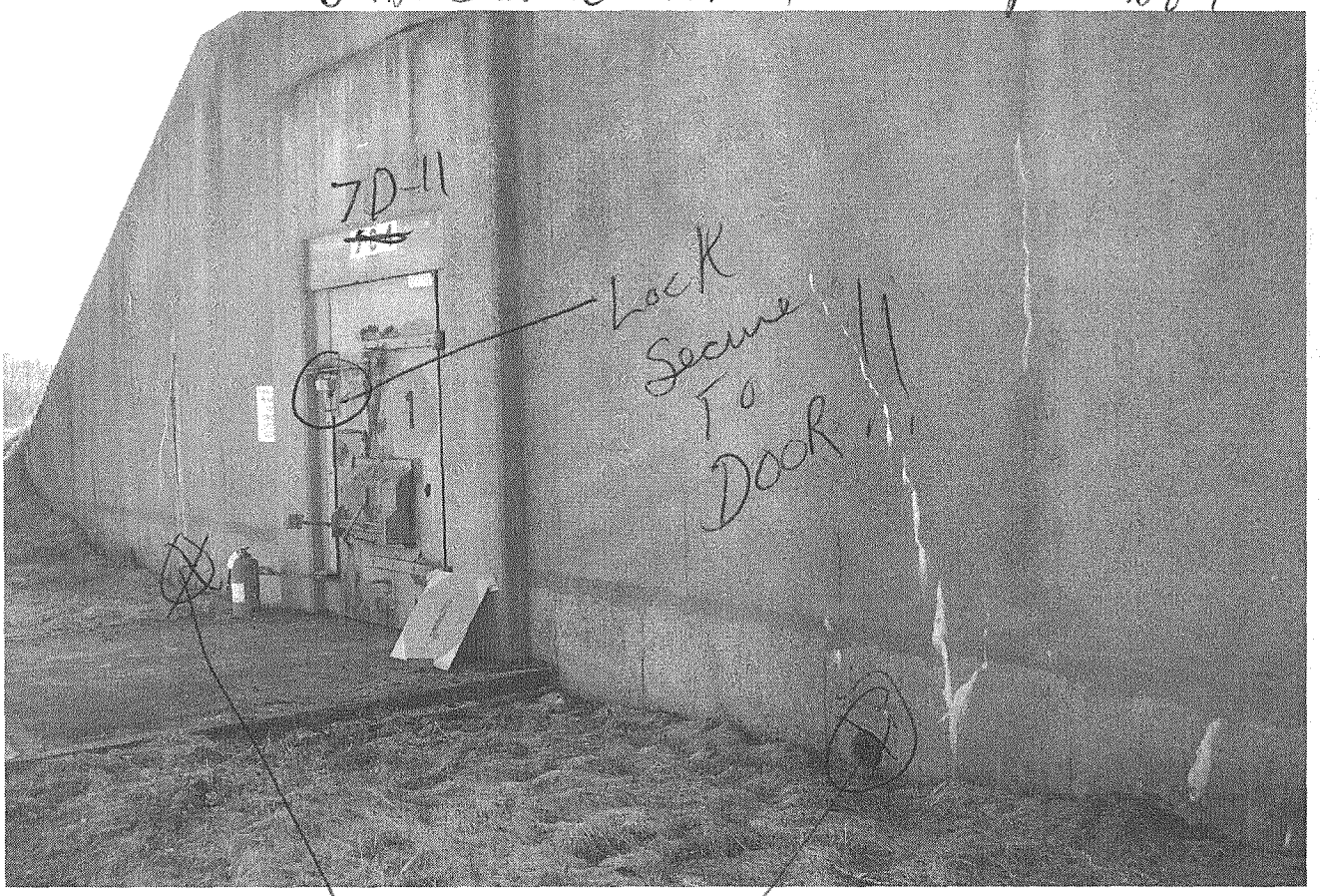
Igloo #: 7D-11 Temporary Unit Storage

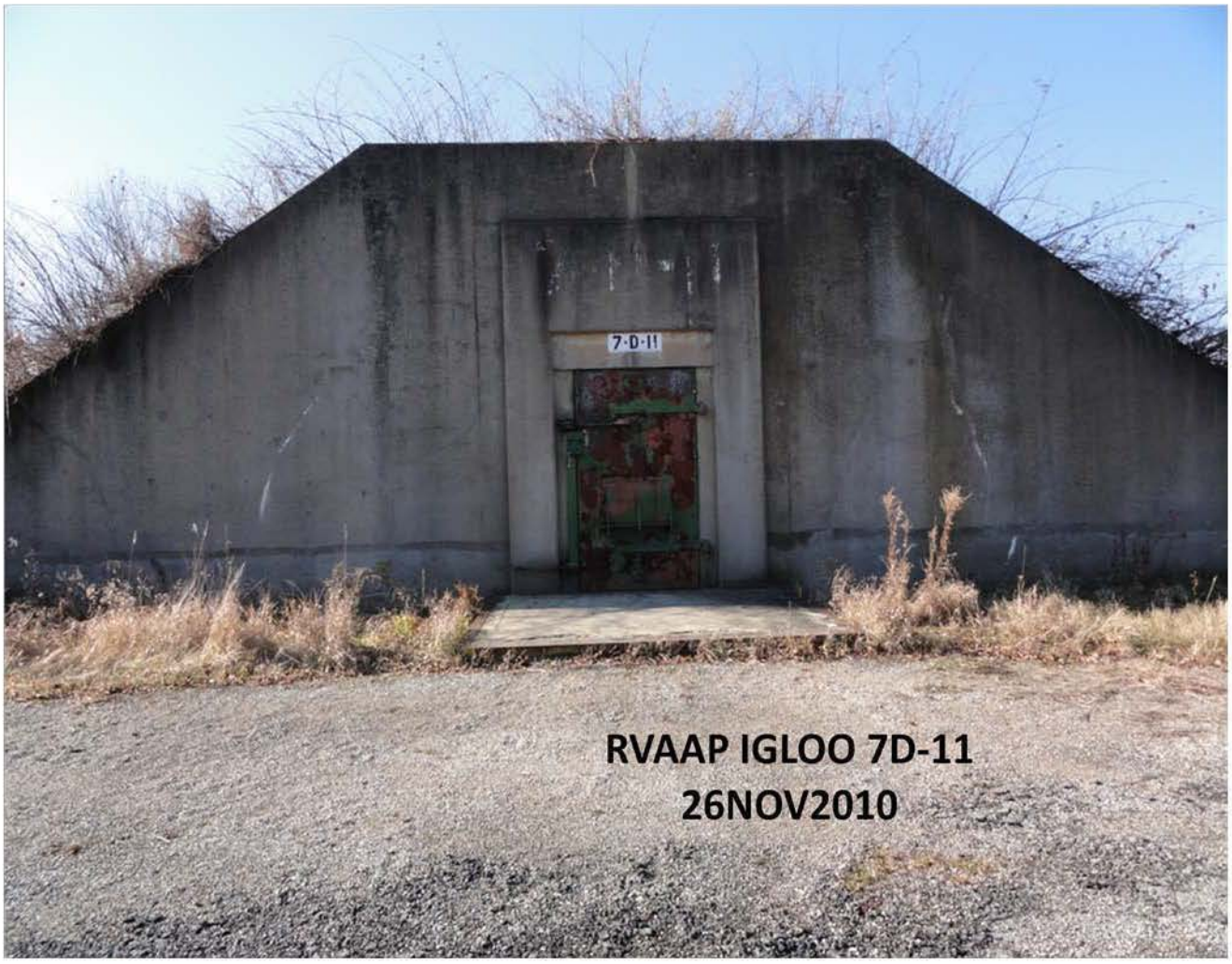
26 Nov '14



Floor Scuppers Dry & Clean

Igloo #: 7D-11 Temporary Unit Storage




7-D-11
RVAAP IGLOO 7D-11
26NOV2010

VII. IGLOO AREA GROUP-1

A. TRACK - F

IGLOO INSPECTION FORM

Igloo #: ~~I-67~~ F-37 Potential Demo f/ ~~Line-of-Sight SA~~ Modified Record Range Training

Date: 26 Nov '10 Time: 1536 Weather: Sun/Clouds - Calm - 29°F

Inspector: USACE - LRL - T.M. Chanda Picture Numbers: #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Accessible - Heavy weeded vegetation - No Apparent Noticeable Hdwll separation - 12" VCT Pipe Run Not S - Flowage Appears to Be South - Both Ditchlines Full of Water Due To Beaver Activity Both Ends of Ext Hdwall Completely Gone/Deteriorated ReBar Exposed - Platform ≅ 5 ft elevated fm/ RR Bed Toe & Floor Drain Vents on Both Sides of Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Floor Dry - Scuppers Dry - No Vent in Igloo - Headwall Sweating - Humid ~~Z~~ Several Mouse Nests - Headwall - Arch Seam Not Leaking - Presume Exposed Headwall Ext. to Elements may Be Causing interior Wall To Sweat

Obvious downstream surface water pathway available to sample sediment? Y - South - Ditchline Immediate

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

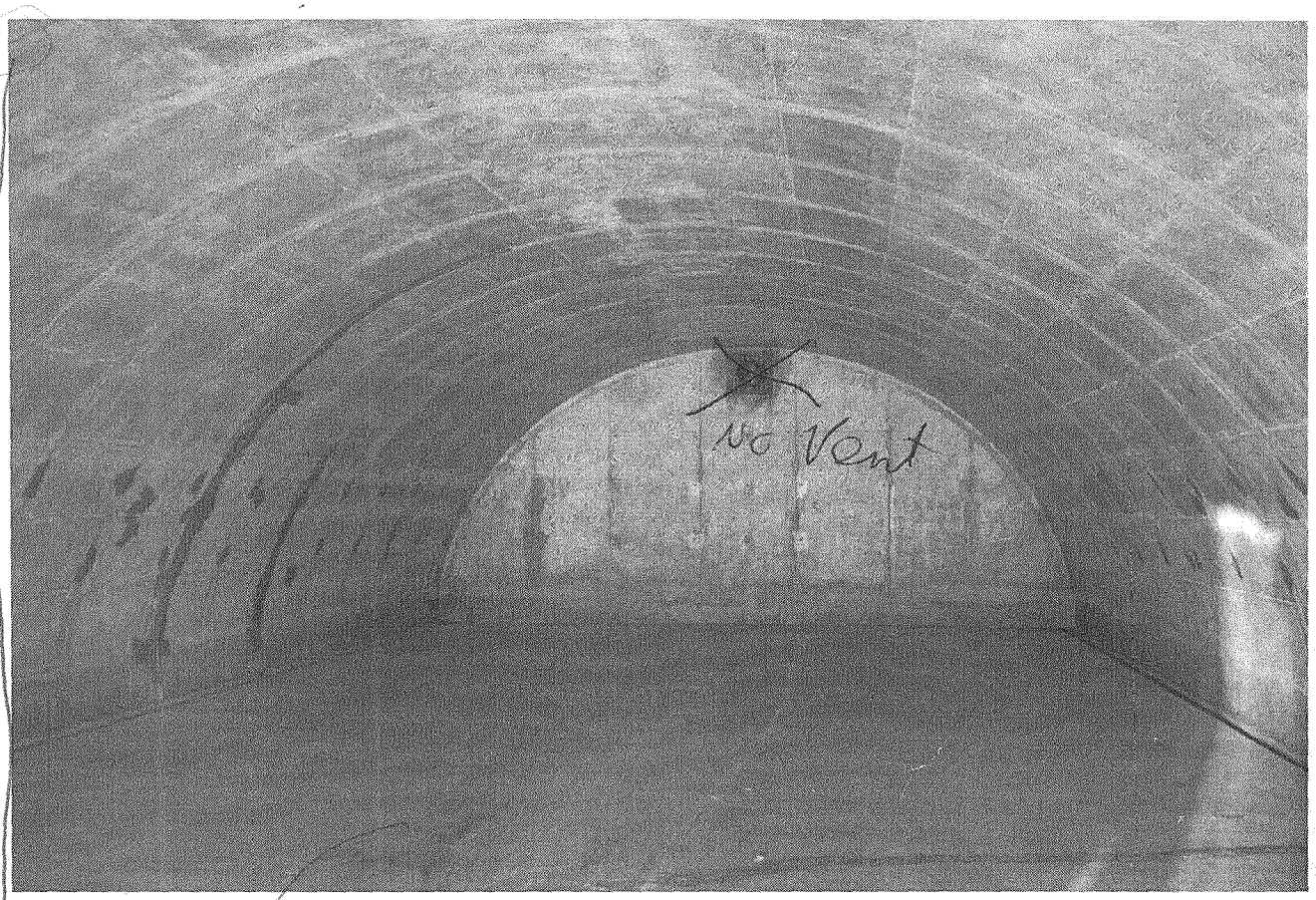
If yes what type? 12" Bell & Spigot VCT

Other Notes: 1-2 years May not Be Accessible Due To Beaver Activity Same F/ ~~I~~ J-K & L Tracks

Did this Inspection Due To Inaccessibility of L-Track

F-37 modified Record

Igloo #: ~~J-67~~ Potential Demo ~~f/ Line-of-Sight SA~~ Range Training



Humid - Scuppens Dry w/ Mouse Nests

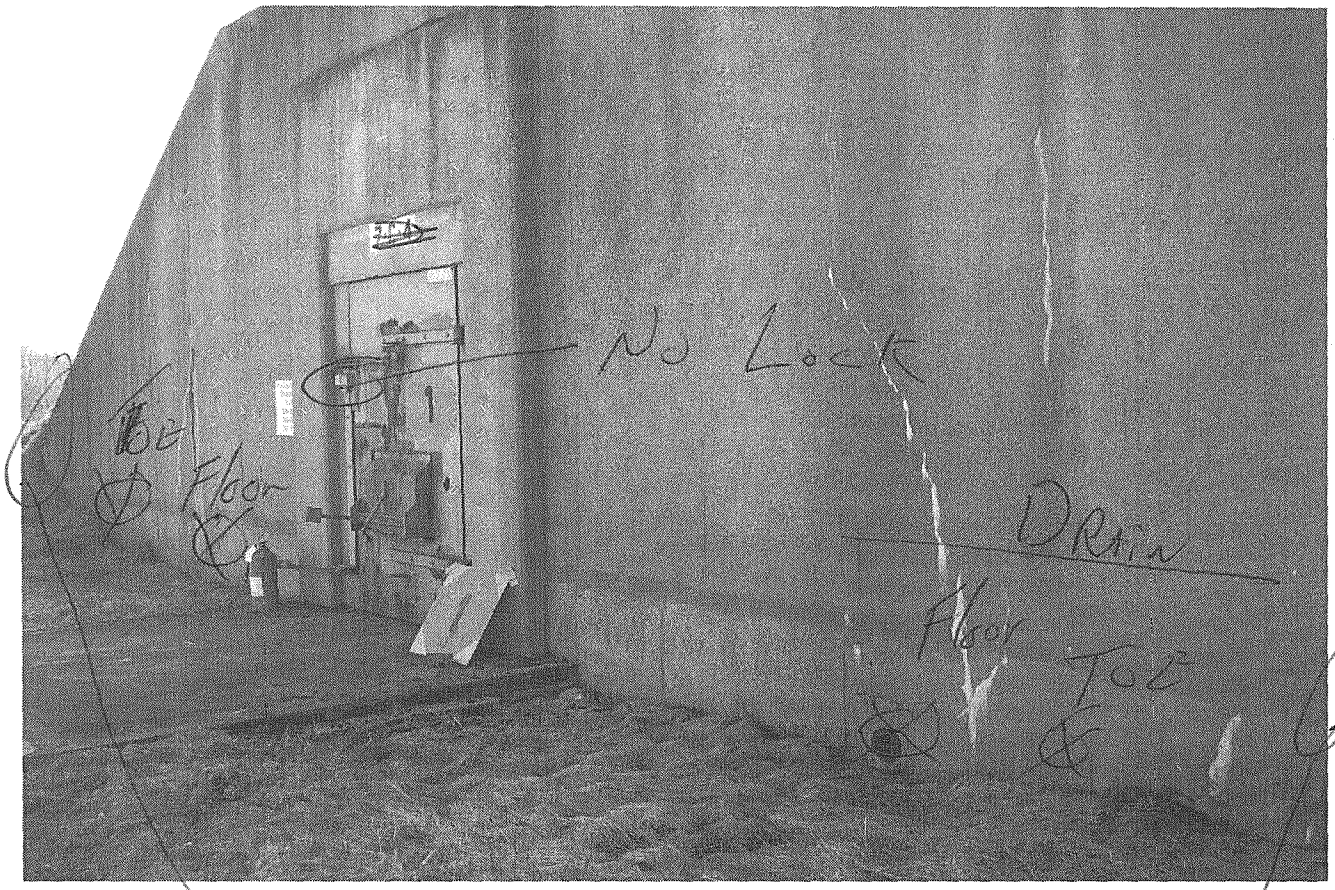
Headwall Sweating

Floor Dry
Igloo Empty

F37 Modified Record

Igloo #: ~~1-67~~ Potential Demo f/ ~~Line-of-Sight~~ SA Range Training

26 Nov '10



Ends Missing / Deteriorated - Rebar Exposed


RVAAP IGLOO F-37
GRP-1 26NOV2010
F37

VIII. IGLOO AREA GROUP-1A

A. TRACK - J

IGLOO INSPECTION FORM

Igloo #: RR-TRACK J-~~0~~ J-66

Date: 08 Mar '11 Time: 1710 Weather: 38°F Overcast

Inspector: TM CHANDA / E.S. Change Picture ~~Numbers~~: Yes EXT + INT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Floor & Toe Drains Present — No Apparent Headwall Separation — Trees growing on the North side adjacent to headwall — Water in Ditches — Flow South 12" VCP Underground Following Ditch line past Igloo — No Lock on door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No Damage — No Vent — floor shows moist composition w/ the concrete probably ORIGINating from a Closed — Non-ventilated — Subterranine (?) Environment

Obvious downstream surface water pathway available to sample sediment? yes — South Flowage

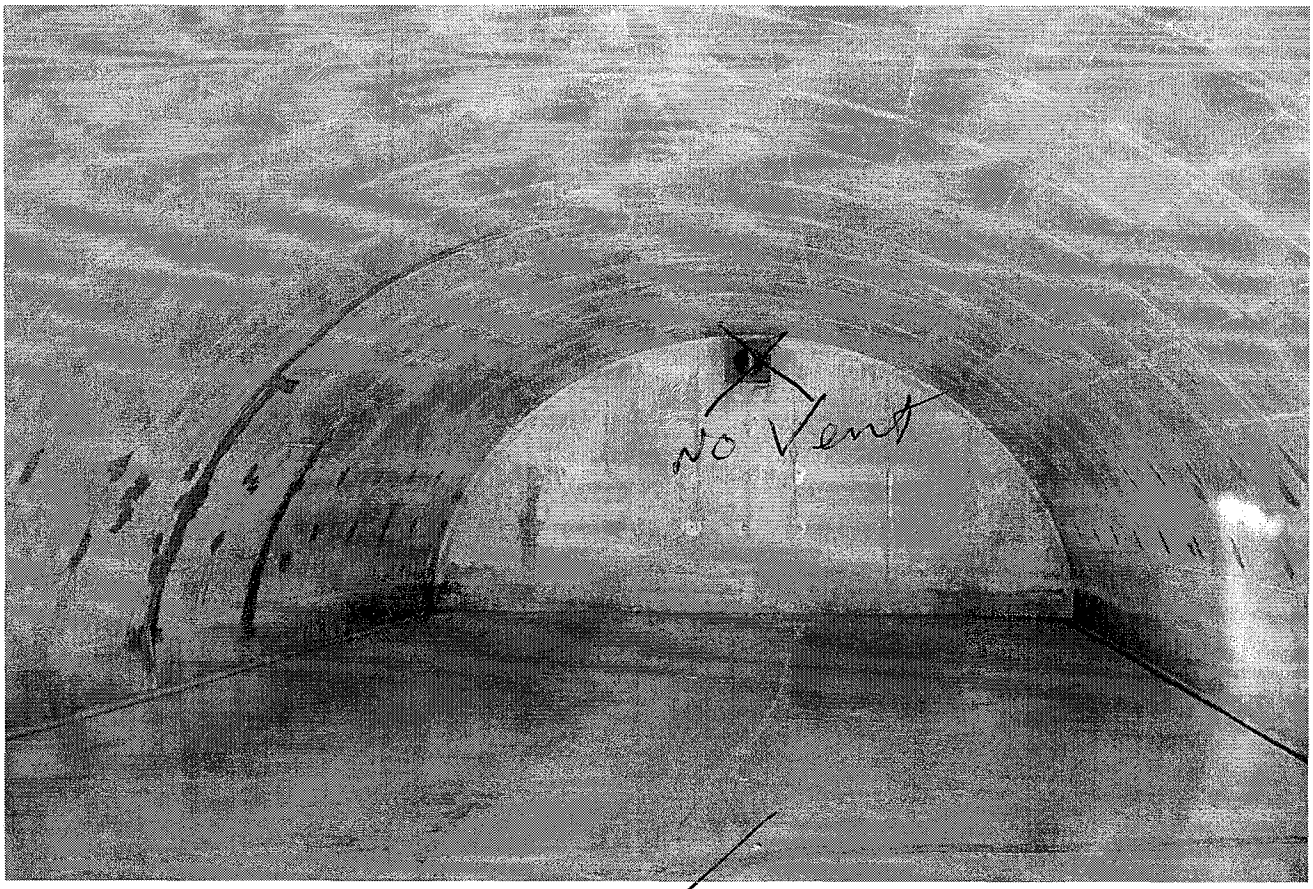
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? Vitreous Clay Pipe (GLAZED)

Other Notes:

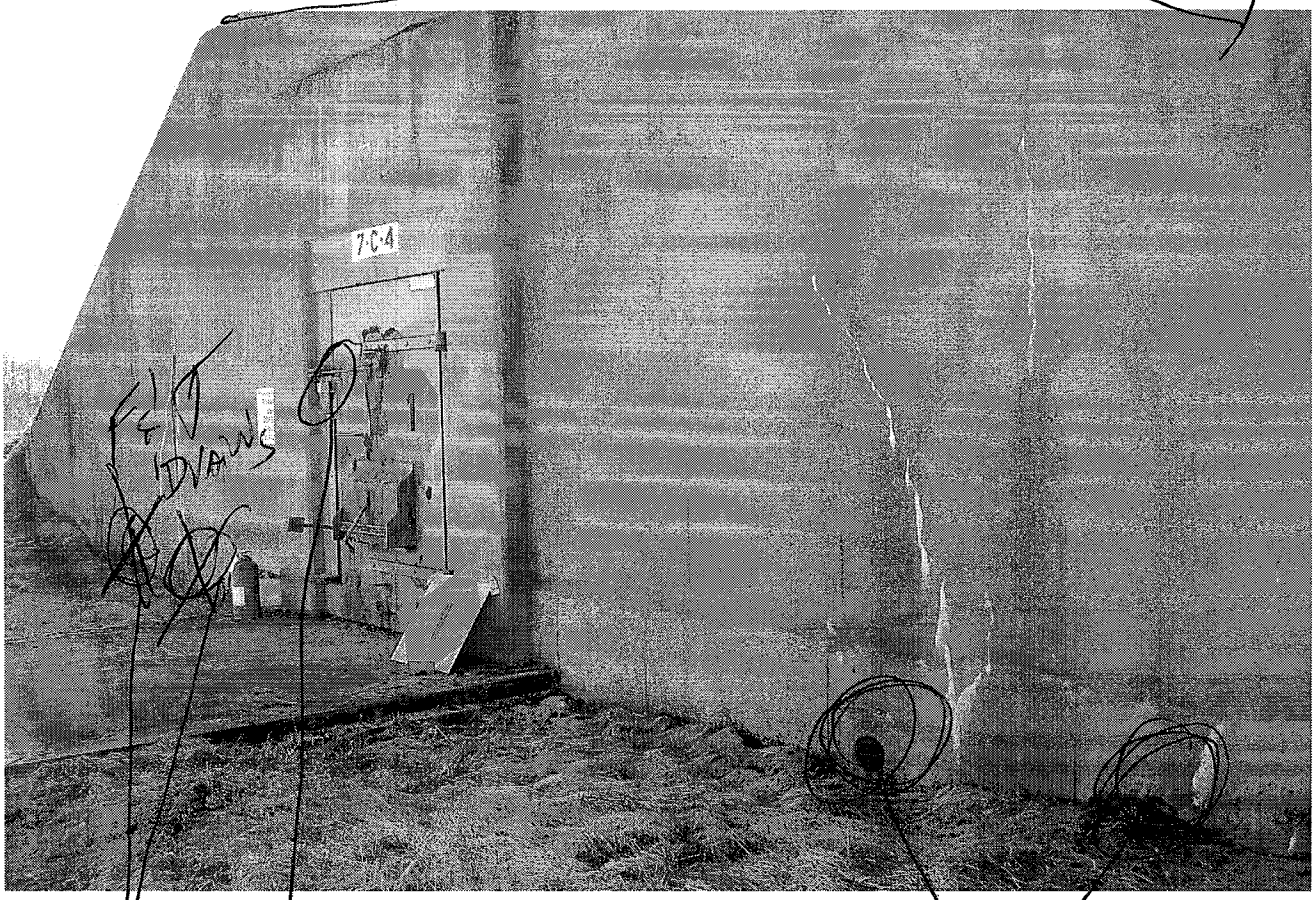
Igloo #: RR-TRACK J-66

08 Mar '11 By Cheng & Chanh



Floor Appears As Wetted Concrete — Dark & Light Areas Probably due to Nearly Sealed Environment Condensation

Igloo #: RR-TRACK ~~1~~ 6 J-66



Trees

FLOOR DRAINS

No Locks on Door

Floor & Tot Drain Vents

N

IGLOO INSPECTION FORM ~~Modified Record~~

Igloo #: ~~J66~~ F37 Potential Demo f/ Line-of-Sight ~~SA~~ Range Training

Date: ~~26 Nov 10~~ Time: ~~[illegible]~~ Weather: ~~Calm - Sunny/Cloudy~~ 29°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

26 Nov '10

Returned in March See 08 Mar '11 Inspection F/ J66 & 67 inspection

J66 & J67

Cannot Access w/ Access 4 wheeler North End Blocked By Large Locust Tree - South End Blocked By

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Large Beaver Pond Between J60 & J61 Igloo

Going To Do~~ing~~ Igloo F-37

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


J-66
27 ARP 2011


RVAAP IGLOO J-66
27 ARP 2011


RVAAP IGLOO J-66
27 ARP 2011

IGLOO INSPECTION FORM

Igloo #: RR-TRACK ~~1&6~~ J-67

Date: 08 MAR '11 Time: 1348 Weather: 38°F OVERCAST

Inspector: E.S. Cheng & T.M. CHANG Picture ~~Numbers~~: Yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

WATER in Ditches BAD deterioration on face of South Wing Wall; Floor & TOE Drains present on side of entranceway — No Headwall separation — Drainage South of Igloo — 12" VCP underground running N to South in Front of Loading Platform No Headwall separation Apparent, Typical BLAST Venting Wall no Lock on door — South Floor Drain has WATER STAIN w/ DAMPNESS

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Door's weatherstrip deteriorated — Door Warped Water Leakage around door & floor of ENTRANCEWAY — WATER seepage is Apparent NE corner for/ Arch & Headwall seam — Water in SE uppers — Dunnage on Floor — Rear Wall Vent (Not typical) Leaking — See Photo

Obvious downstream surface water pathway available to sample sediment? Yes — South

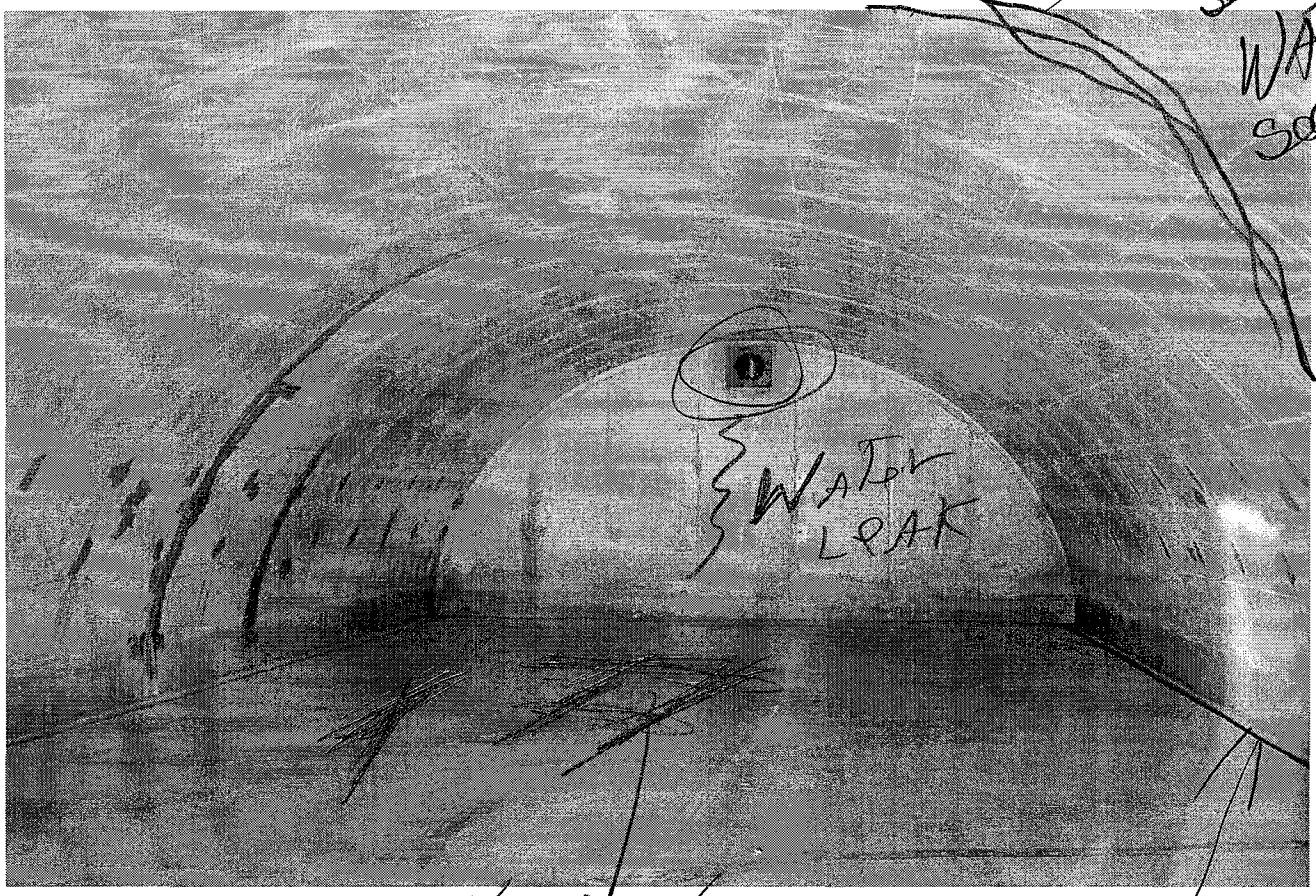
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? — Yes Buried 12" VCP

If yes what type? Vitreous Clay Pipe — Glazed

Other Notes: None

Igloo #: RR-TRACK J-67 - 28 MAR '11

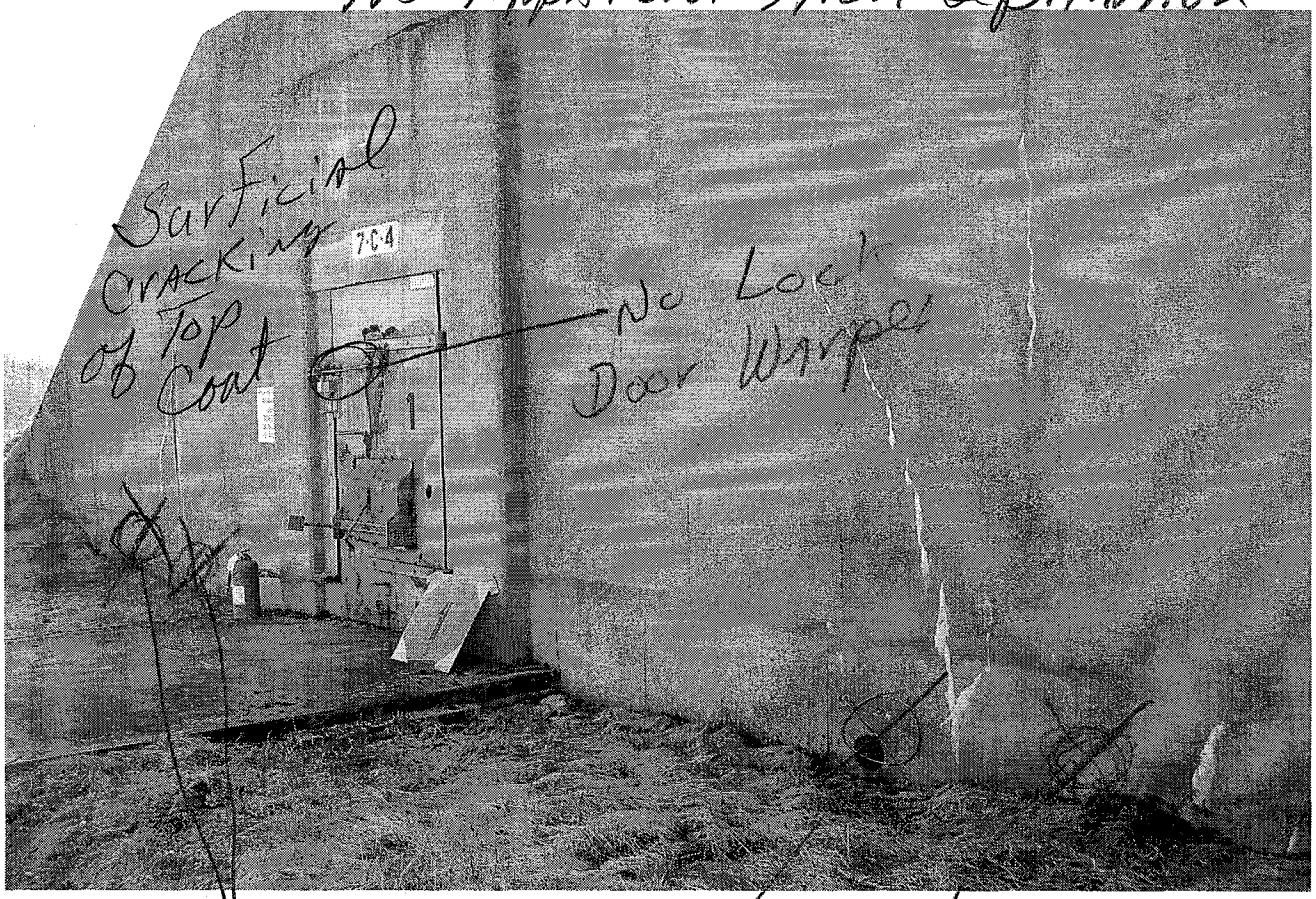
Chanda - Cheng



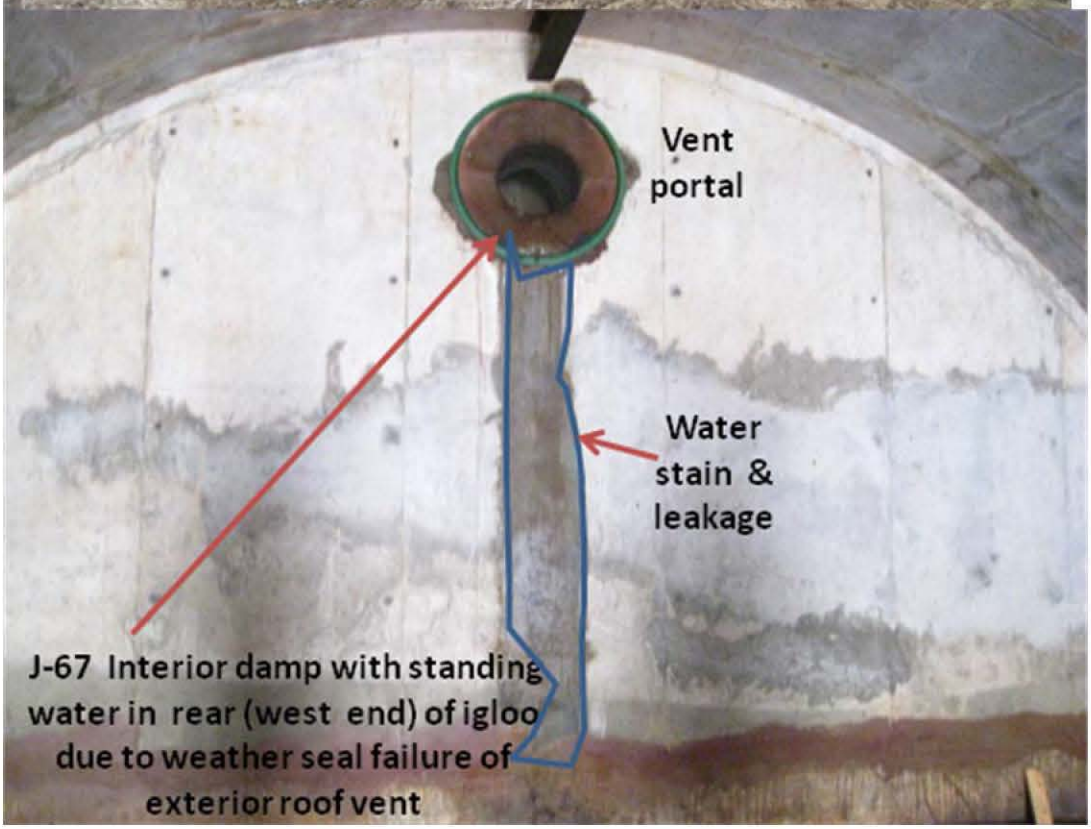
J-67

Igloo #: RR-TRACK ~~J~~ 08 MAR-'11

Cheng & Chang




RVAAP IGLOO J-67
GRP-1A 08MAR 2011


Vent portal
Water stain & leakage
J-67 Interior damp with standing water in rear (west end) of igloo due to weather seal failure of exterior roof vent

VIII. IGLOO AREA GROUP-1A

B. TRACK – K

IGLOO INSPECTION FORM

Igloo #: **K-75 Potential Demo f/ Line-of-Sight SA Range Training**

Date: 26 Nov '10 Time: 1345 Weather: Breeze - Sun 28° F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Briar thickets cover top entire Igloo Top - Inaccessible w/o brush cutter
Both Types - Floor & Toe Drain Vents - Floor Drains HAVE stained concrete below w/ white/cream color - Could Not Locate drainage Pipe - Both sides ~~RR~~ Ditches Have Standing Water

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Floor & South Scupper Dry -
Arch & Hdwall joint in SE corner w/ calcium Deposit ~ 27Ft in fm/ Door Arch fm Ceiling & Floor Shows water seepage - ≅ 10 ft length of scupper Under seepage holding a little water
Igloo clean - No Dunnage

Obvious downstream surface water pathway available to sample sediment? Yes - Southward

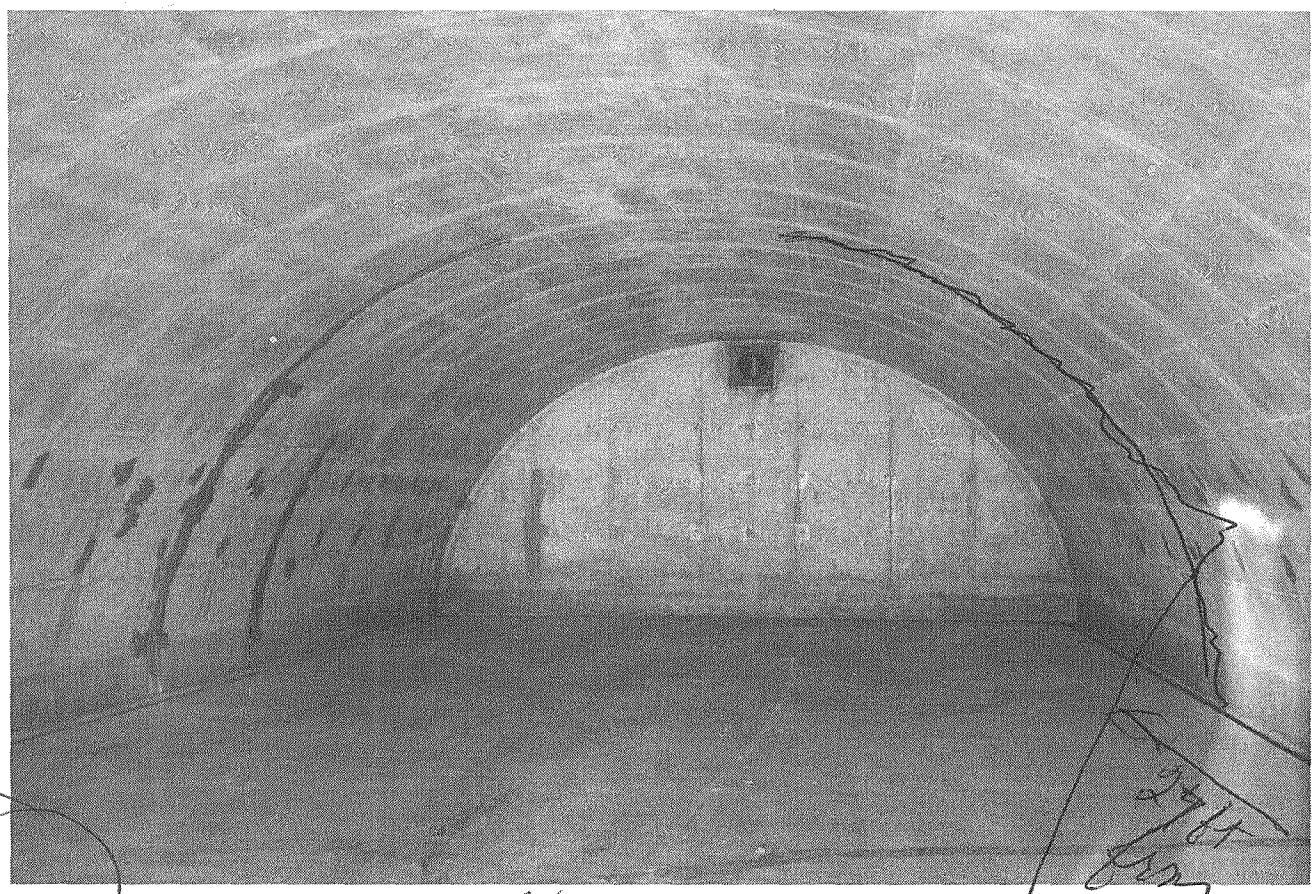
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? None Visible

If yes what type?

Other Notes:

Igloo #: K-75 Potential Demo f/ Line-of-Sight SA Range Training

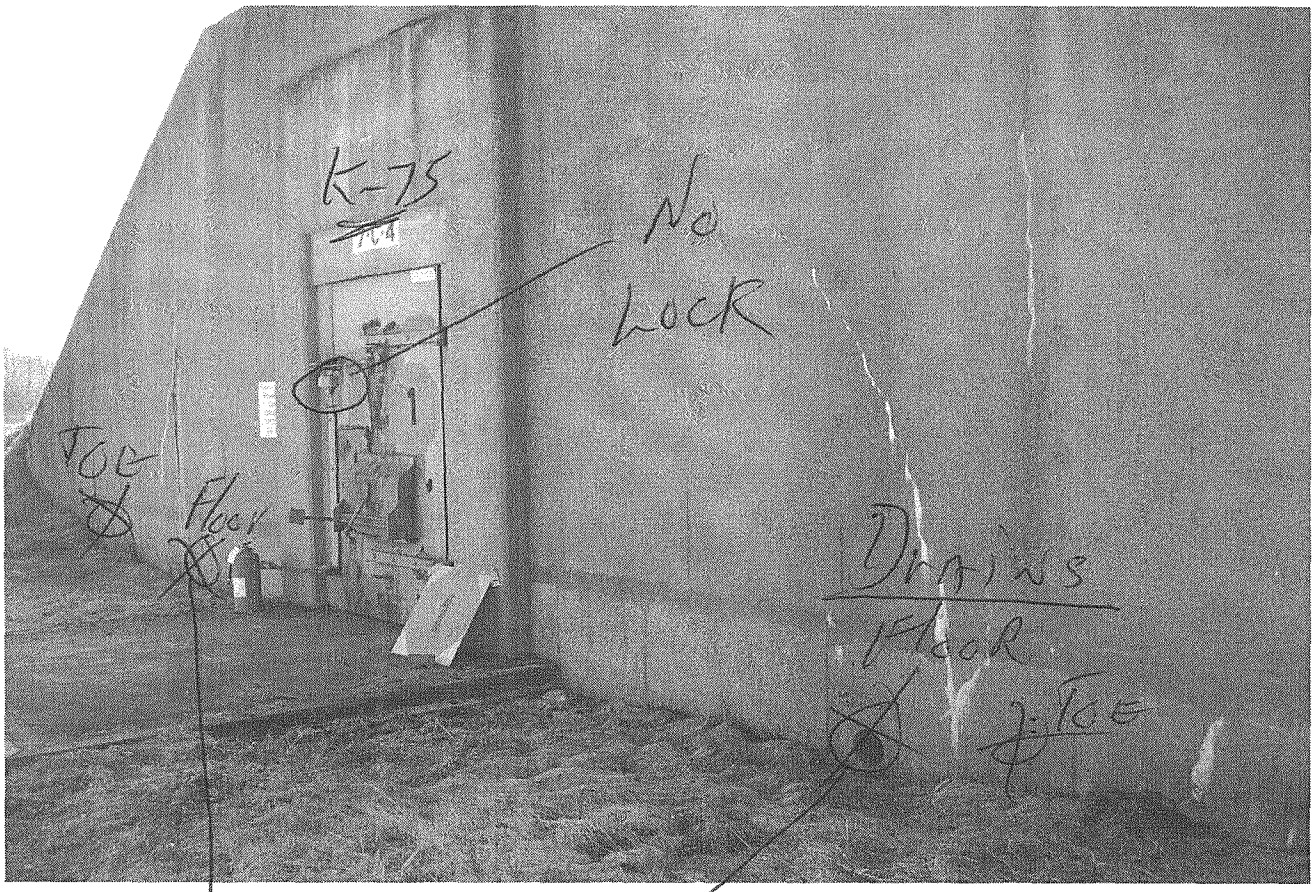
26 Nov



South East
Corner Calcium Deposit
@ Arch & Headwall Joint
Runs ≈ 4ft fm floor Up Joint

Arch crack Seeping
Small amount
of water into Scupper
≈ 10' Length shows
water presence in
Scupper

Igloo #: K-75 Potential Demo f/ Line-of-Sight SA Range Training




RVAAP IGLOO K-75
GRP-1A 26NOV2010

IGLOO INSPECTION FORM

Igloo #: **K-76 Potential Demo f/ Line-of-Sight SA Range Training**

Date: 26 NOV 18 Time: 1329 HRS Weather: Breezy Sunny 28°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 EXT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Overgrown in Briar Bushes — No Lock — Platform Raised 4' Above RR Bed Drainage Appears South w/ Ditchline — 18" VCT Tile Pipe Influent + Effluent Ends Pass-by the entire igloo Face — Both Types' Floor & Tops Drains Each Side of Access Door — Real Difficult Freeing Latch Arm w/ Axe Head Could Not Reseure Pin in Latch After Int. Inspection Lower Latch Arm Same Secured As Best Could B

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Walls-Arch & Scuppers Dry
Dunnage Stacked in South EAST Corner

Obvious downstream surface water pathway available to sample sediment? Y — Southward

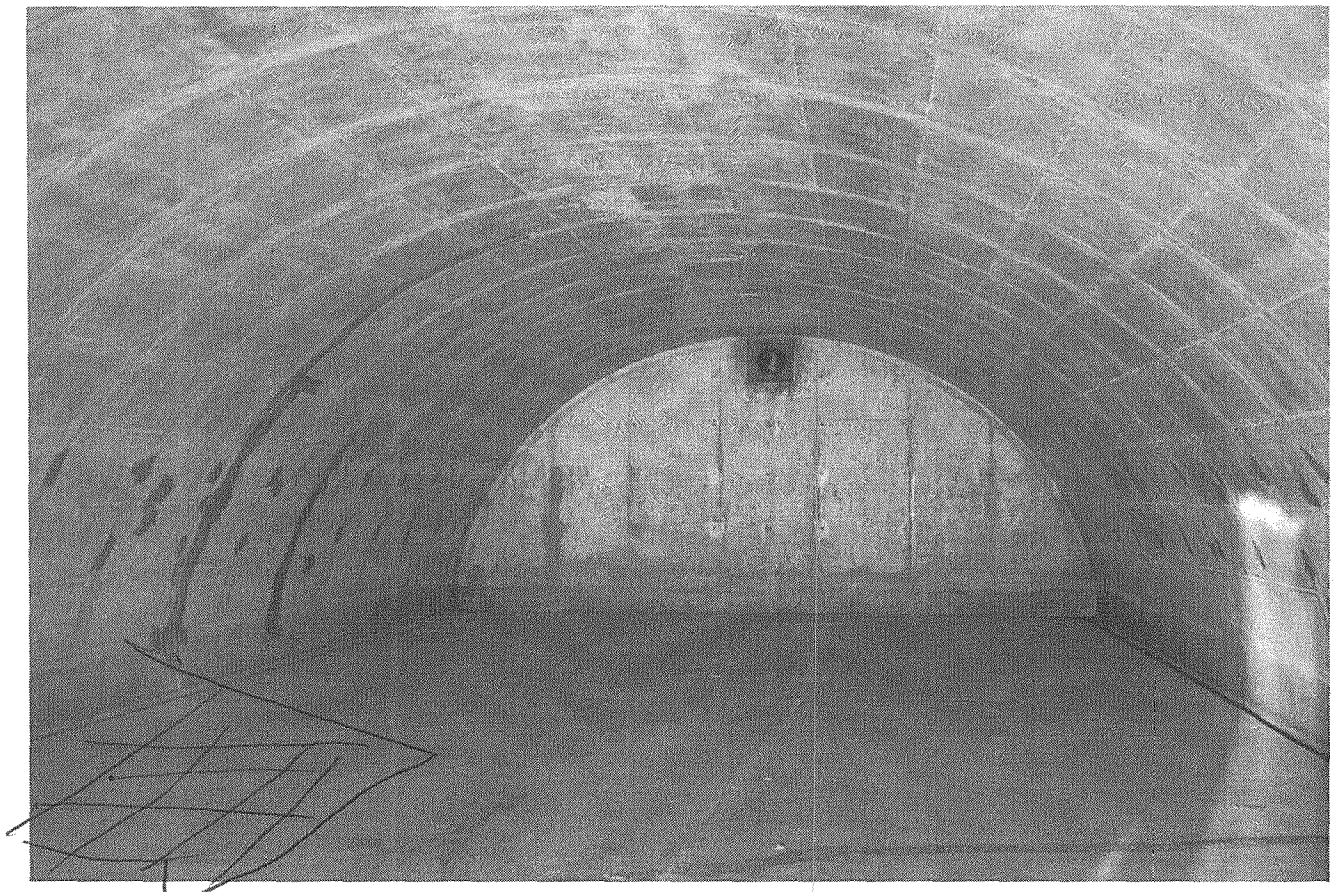
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y — 18" V

If yes what type? VC Tile Pipe ≈ 18"

Other Notes:

Igloo #: K-76 Potential Demo f/ Line-of-Sight SA Range Training

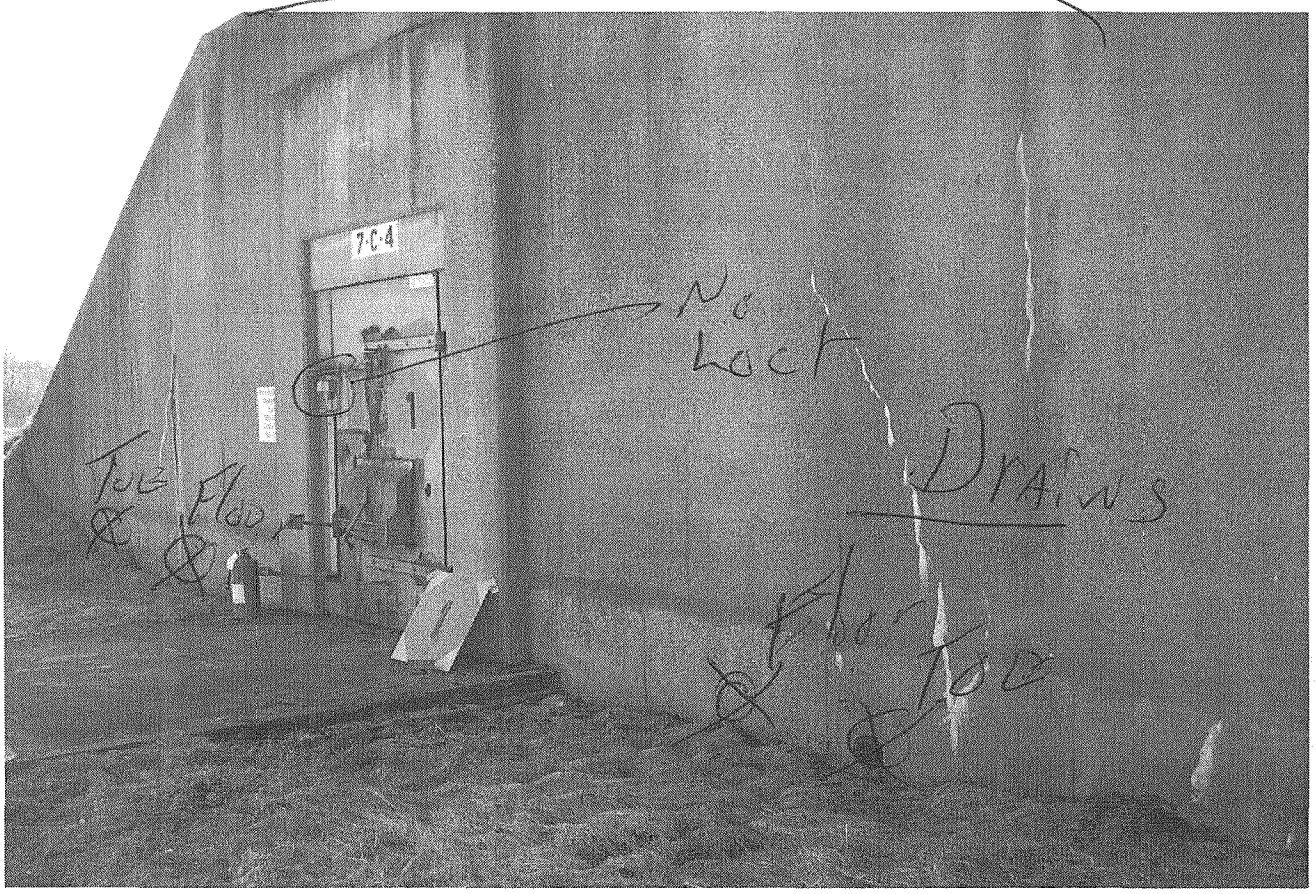
26 Nov '10



All Day

Stacked Dunnage

Igloo #: K-76 Potential Demo f/ Line-of-Sight SA Range Training




K-76
RVAAP IGLOO K-76
GRP-1A 26NOV2010

VIII. IGLOO AREA GROUP-1A

C. TRACK - L

IGLOO INSPECTION FORM

Igloo #: **L-84 Potential Demo f/ Line-of-Sight SA Range Training**

Date: 26 Nov '10 Time: 1459 Weather: Breezy - Sun & Clouds 29°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1 EXT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, spil staining, moisture near port holes, etc)

Did make it To Top & Inspect - Mostly Grasses Covering Top of Igloo - Cover thick concealing Headwall - Barrel Joint - No Noticeable Separation Floor & Toe Drains each side of Access Door Calcified Cracks on Hdwll Face - Large Deposit over North Floor Drain See Photo #1 - North Extent of Wall Significantly Cracked & Spalded - VCT 12" Bell & Spigot Pipe Runs N To S along Entire Breadth of Headwall

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Very Humid Inside - Water on Floor at entrance Door jam Severely deteriorated Exposed to Elements Int Headwall Sweating but ~~not~~ Moisture not from Ceiling Joint Between Hdwall & Arch - Damage Stacked on W-N-S Walls OVER Scuppers What Visual Could Be w/i the periphery - Scuppers were Dry - Floor Dry Except @ Arch and Access for

Obvious downstream surface water pathway available to sample sediment? Y - South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

If yes what type? 12" VCT Bell & Spigot Pipe

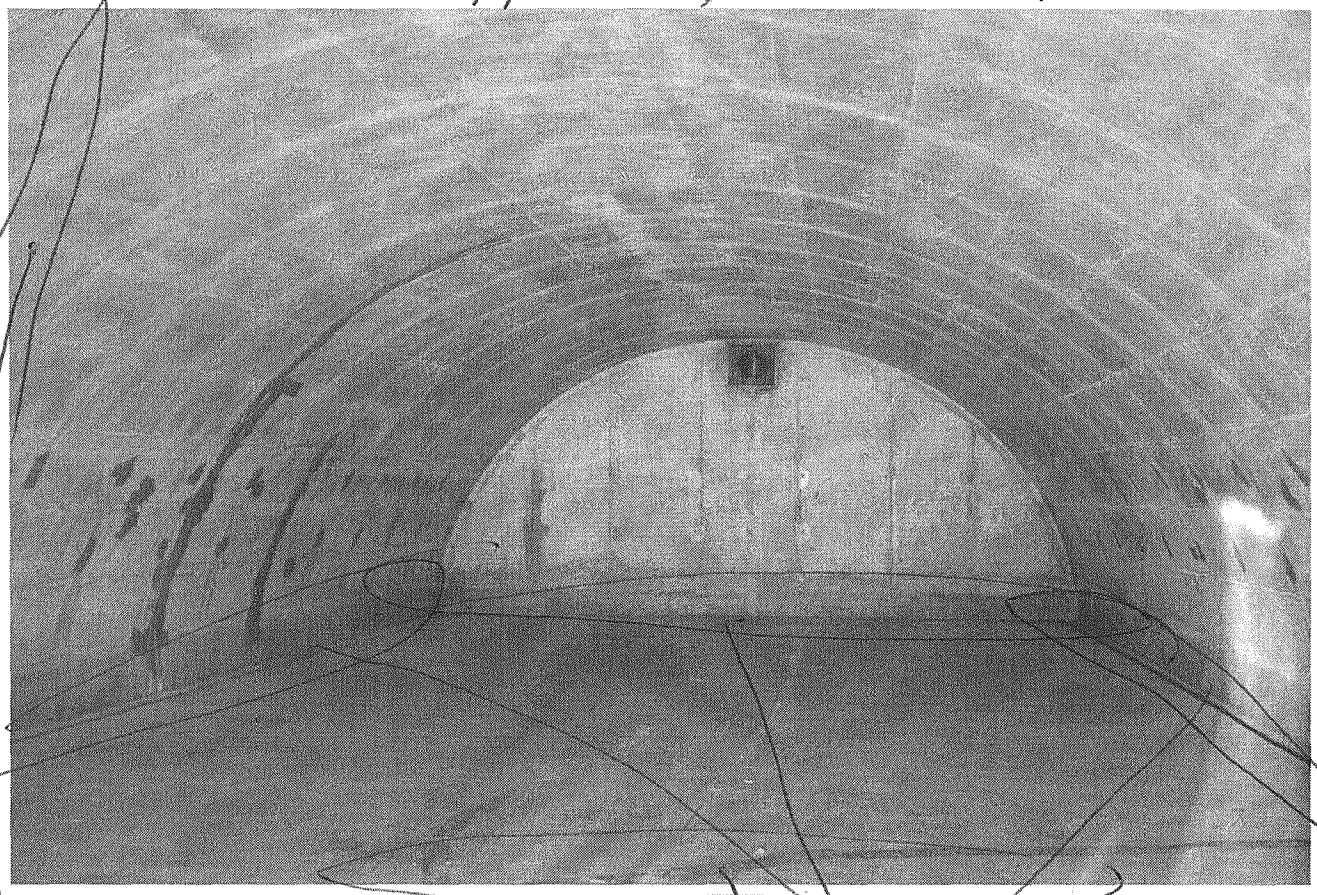
Other Notes:

Igloo #: L-84 Potential Demo f/ Line-of-Sight SA Range Training

26 Nov 10

Top

No Apparent/Noticeable Separation



Interior Humid

Stacked Dunnage

East Swerling

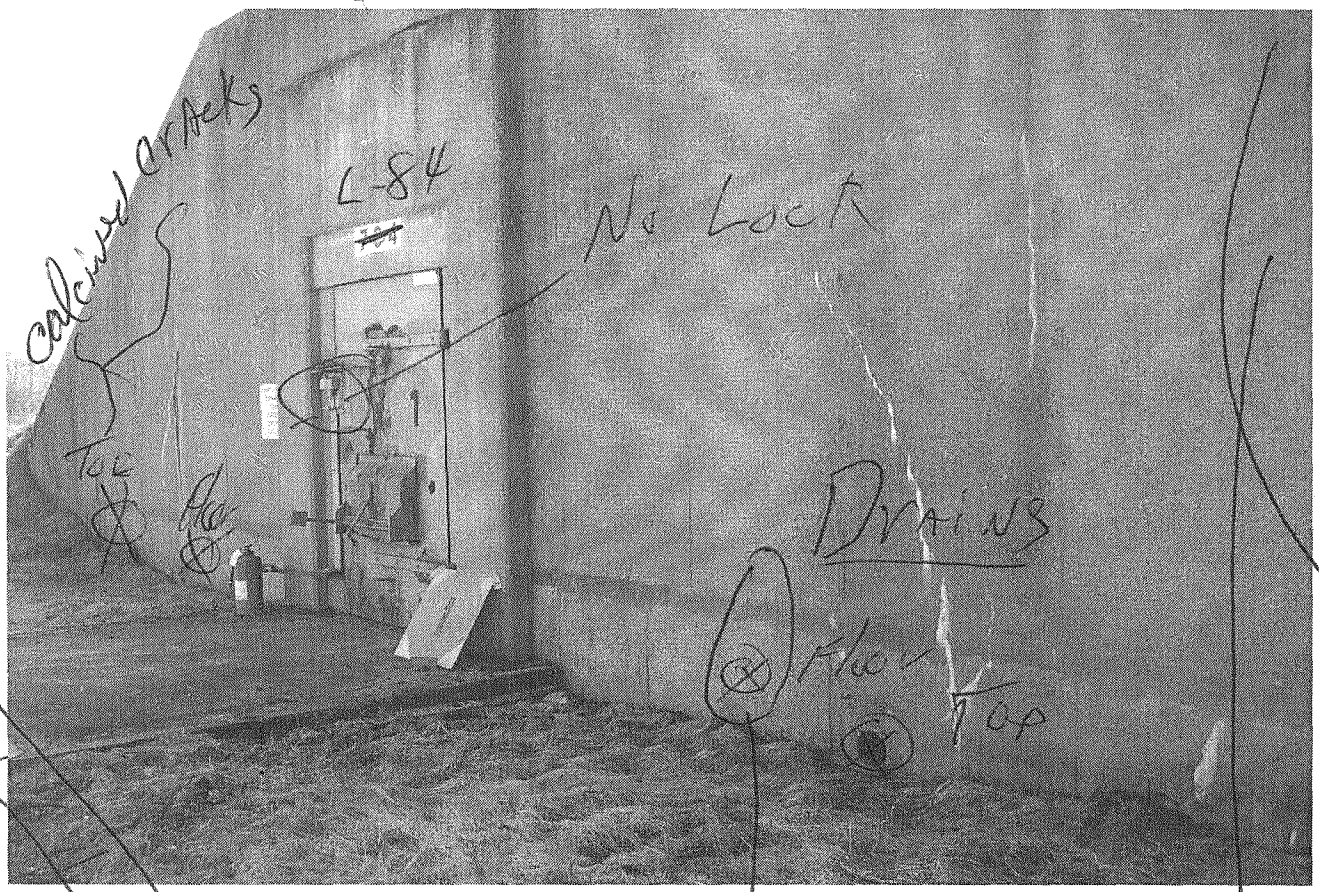
Door Warped w/ Jam Deterioration

Water on Floor Around Access Door

Igloo #: L-84 Potential Demo f/ Line-of-Sight SA Range Training

Nov 26, 2010

Visual Made - No Noticeable Separation




L-84
RVAAP IGLOO L-84
GRP-1A 26NOV2010

IGLOO INSPECTION FORM

Igloo #: L-85 Potential Demo f/LOS SA Range Train.

Date: 28 Nov '10 Time: 1430 Weather: Breezy Cloudy 29°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: #1E?

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top overgrown w/ Locust Trees & Briar thickets
Floor & Toe Drains Each side of Access
Door - Right (N) Hedwall facing EXT Has Two Noticeable
Water Seepage coming Down Wall
VCT Culvert Run N to S (drainage) PAST igloo
facing - No Lock on Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No Lock - Door threshold Leaking Water
Fm/ untight/warp door - Presume Rain & snowmelt
Leaking through NOT going Far AT ALL into
Interior N-S-West Walls Stacked w/ dunnage over
Top scuppers - What Can Be Seen Scuppers Dry
Headwall & Arch Not Leaking/Separated

Obvious downstream surface water pathway available to sample sediment? Y - Appears N to South Drain

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

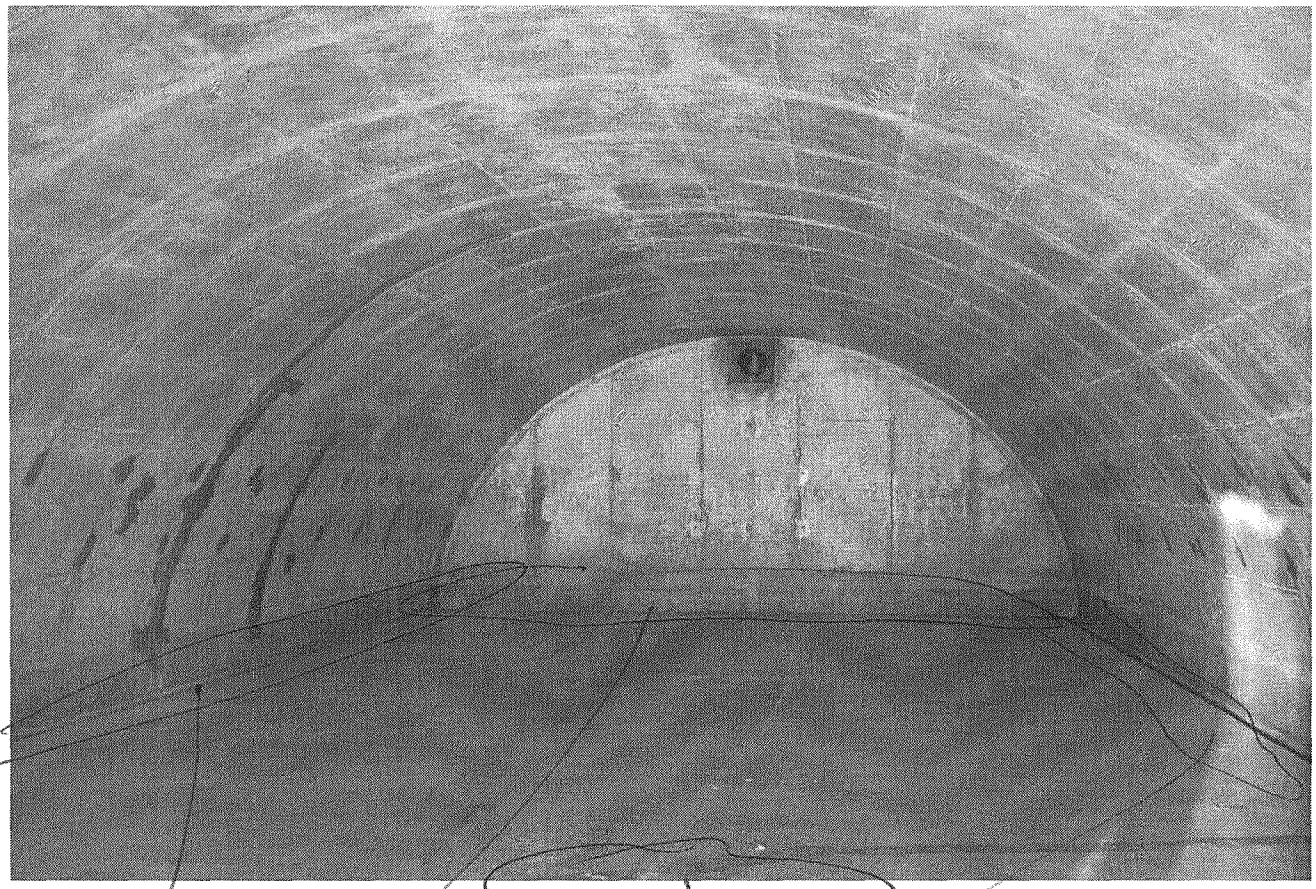
If yes what type? VCT - 18" Bell Spigot Pipe

Other Notes:

Beaver Invading Areas Certain Ditchlines
Filled To Railroad Grade Occuring Along All
of L-Track - ~~#~~ &

Igloo #: L-85 Potential Demo F/ LOS SA Range Training

26 Nov 10



Rampage & Dry

Little Water Puddle @ Door Threshold Rained All Yesterday on 25 Nov '10

Igloo #: L-85 Demo f/ LCS SA Range Trainer

26 Nov '18



Tracks in

Door Warped & Deteriorated


L-85
RVAAP IGLOO L-85
GRP-1A 26NOV2010


RVAAP IGLOO L-85 GRP-1A
26NOV2010 Standing in
doorway facing west

VIII. IGLOO AREA GROUP-1A

D. TRACK - P

Post #1 Notified of Change Relocate Fm/Q-to P Track

Called J. McGee - Strat on 4-Wheeler + Keys. F/ 1037

IGLOO INSPECTION FORM

Igloo #: **P-117 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1443 Weather: Calm - Overcast - 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P-117 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Igloo top covered in Maple Trees - Briars
No Apparent Headwall Separation - Igloo Face/Hdwall
Fair Condition w/ some cracks on outer Extremeties
10" Culvert VCT Running Full Length N-S Past
Igloo - Drainage N-S
No Lock on Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Relatively same as Q-Track Igloo - Door Leak
Concrete Floor Showing Moisture - Some Dunnage
(Not Like Q-Igloos) - ATR Cards on Floor -
Igloo Stored Comp B - Inner Door Falling Apart
Scuppers Dry - Past Repairs Made To Arch Crack

Obvious downstream surface water pathway available to sample sediment? Y - Heads South in Ditch

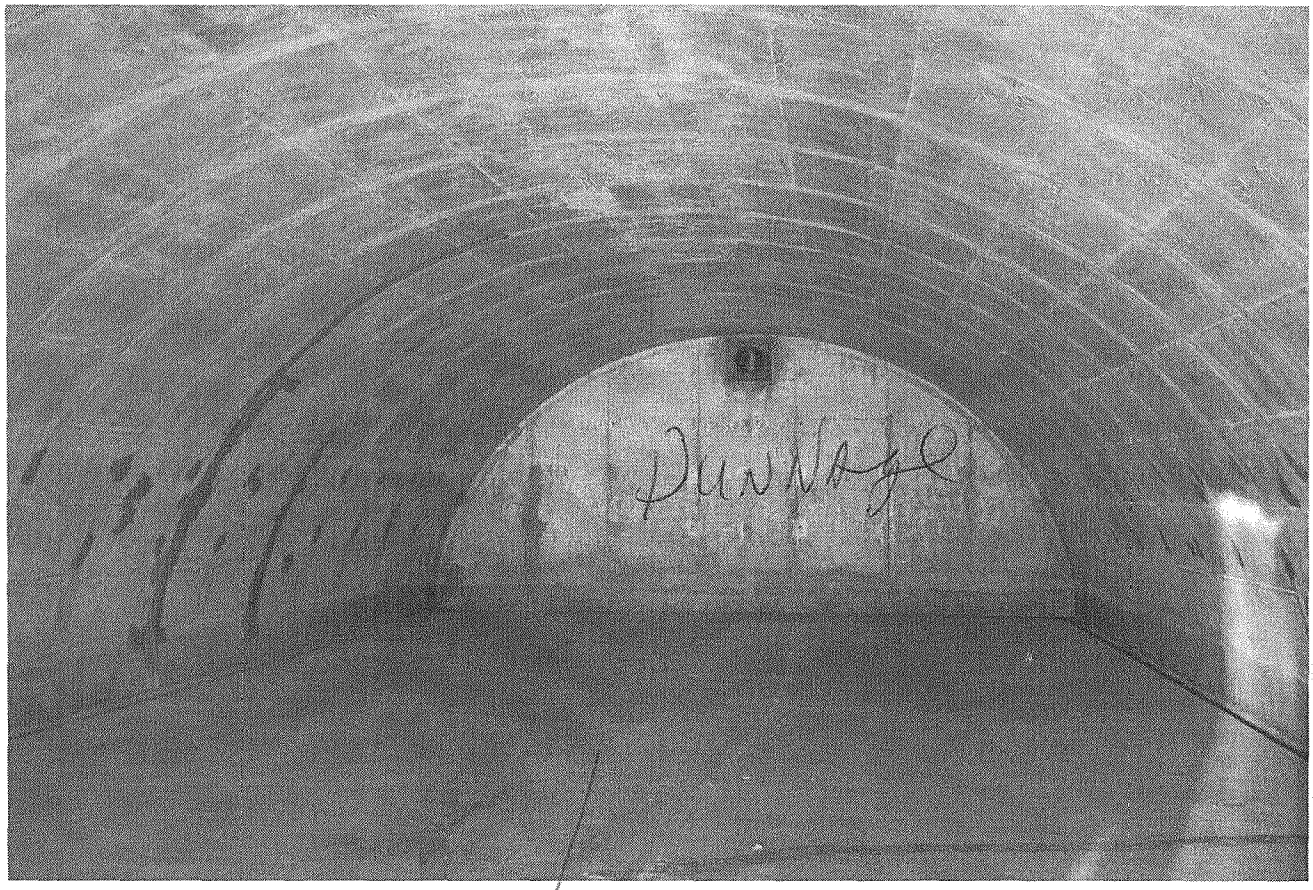
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

If yes what type? VCT 10" Pipe - Runs End 2 End of Headwall Face

Other Notes: End To End = North to Scout

Igloo #: P-117 Potential Tornado Shelter

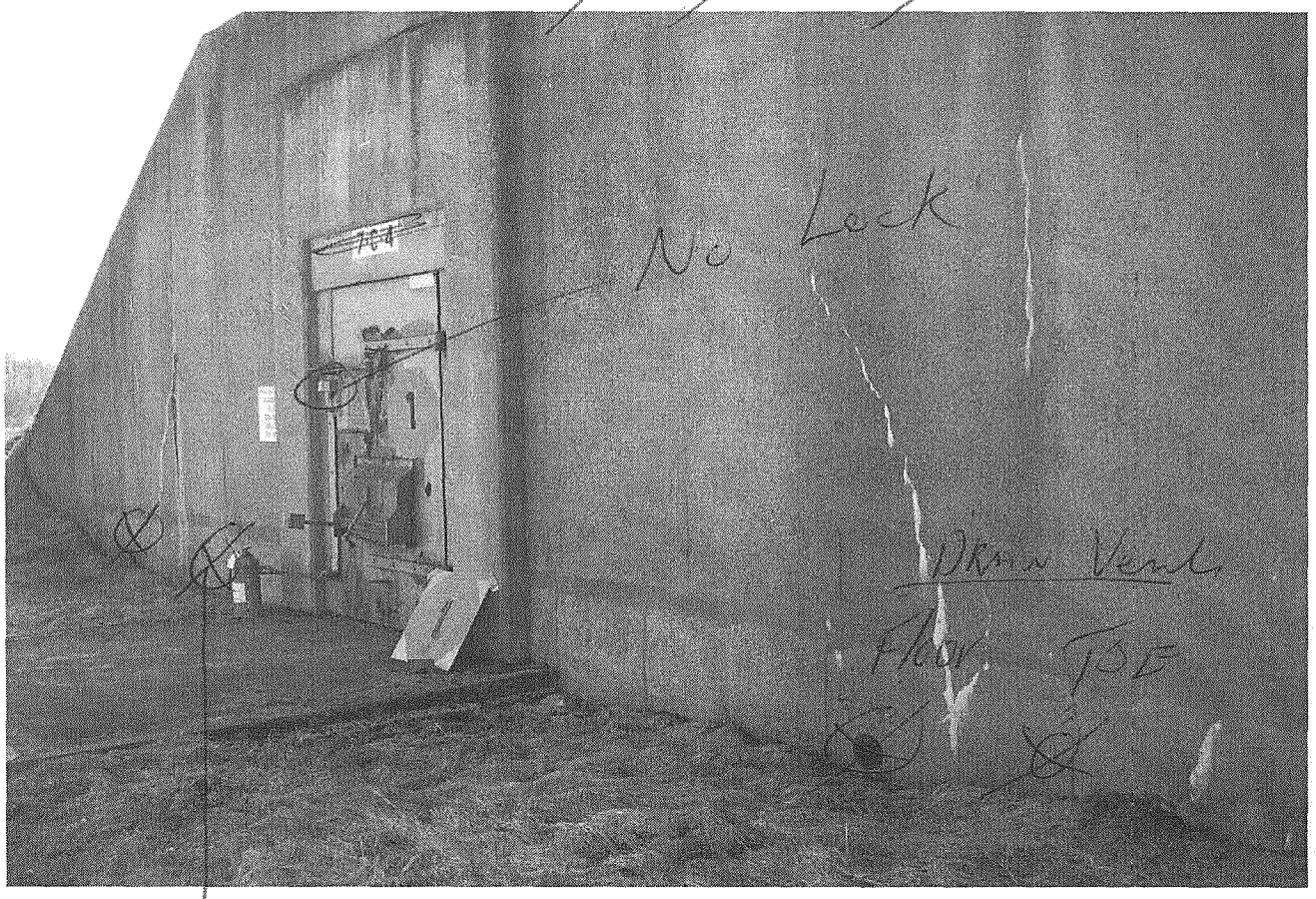
24 Nov '10



Floor Shows Moisture
No Standing Water
Seppears Dry

Igloo #: P-117 Potential Tornado Shelter

24 Nov 18




RVAAP IGLOO P-117
GRP-1A 24NOV2010
P-117

IGLOO INSPECTION FORM

Igloo #: **P-118 Potential Tornado Shelter**

Date: 24 Nov '16 Time: 1902 Weather: Calm - Overcast - 40° F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P-118 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Separation — Major Spalding on Headwall South of Door ≈ 2-3" deep ≈ 4' Long — 10" VCT Pipe Connects Drainage Ditches ~~Between~~ each end of iglod HAS Floor & Toe Drains

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Same as others in Q — Floor damp — Door Leaks (seal) Dunnage along walls — Scuppers Dry — Arch OKay

Obvious downstream surface water pathway available to sample sediment? YES - Flows to South

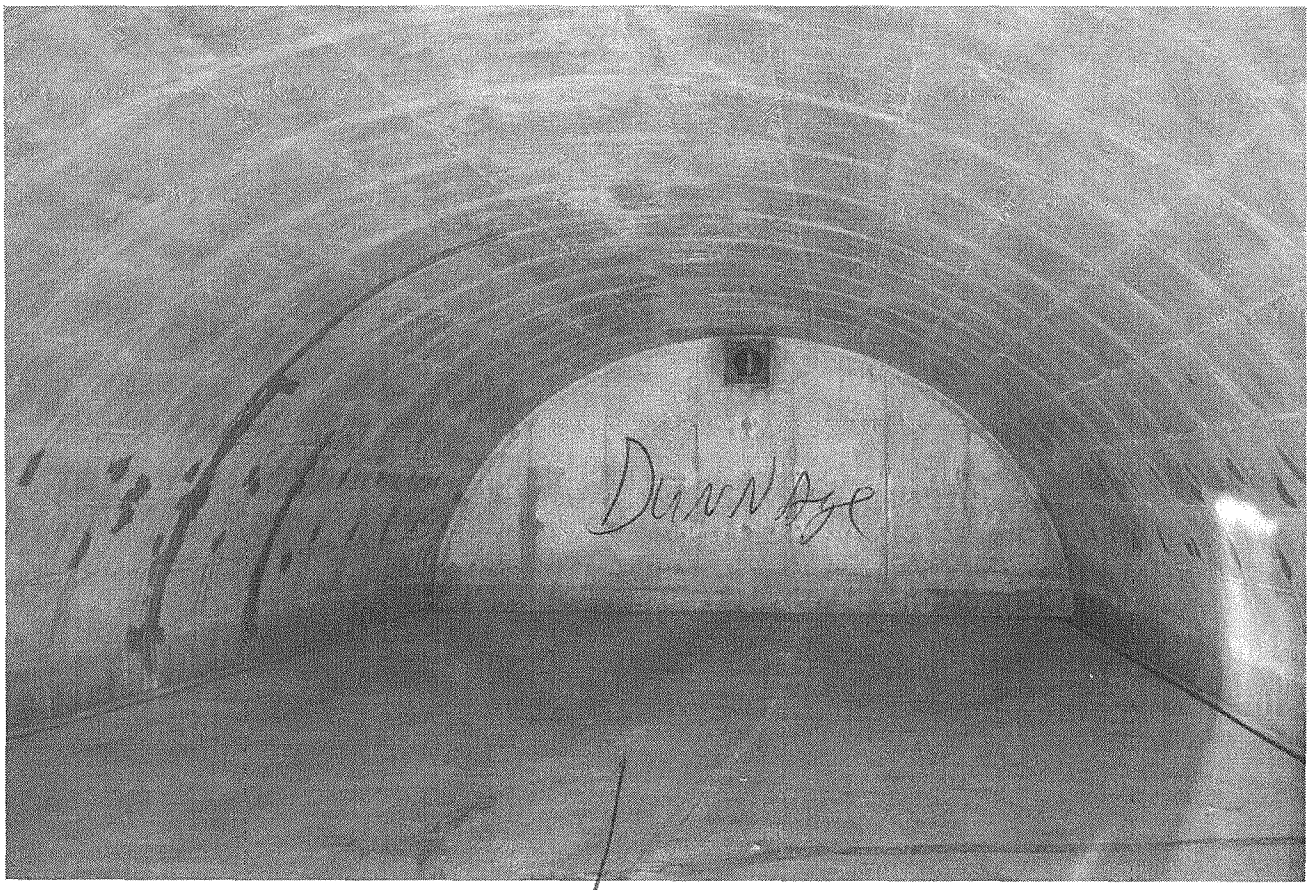
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? VCT Nte S Run Between Iglos RR Bed

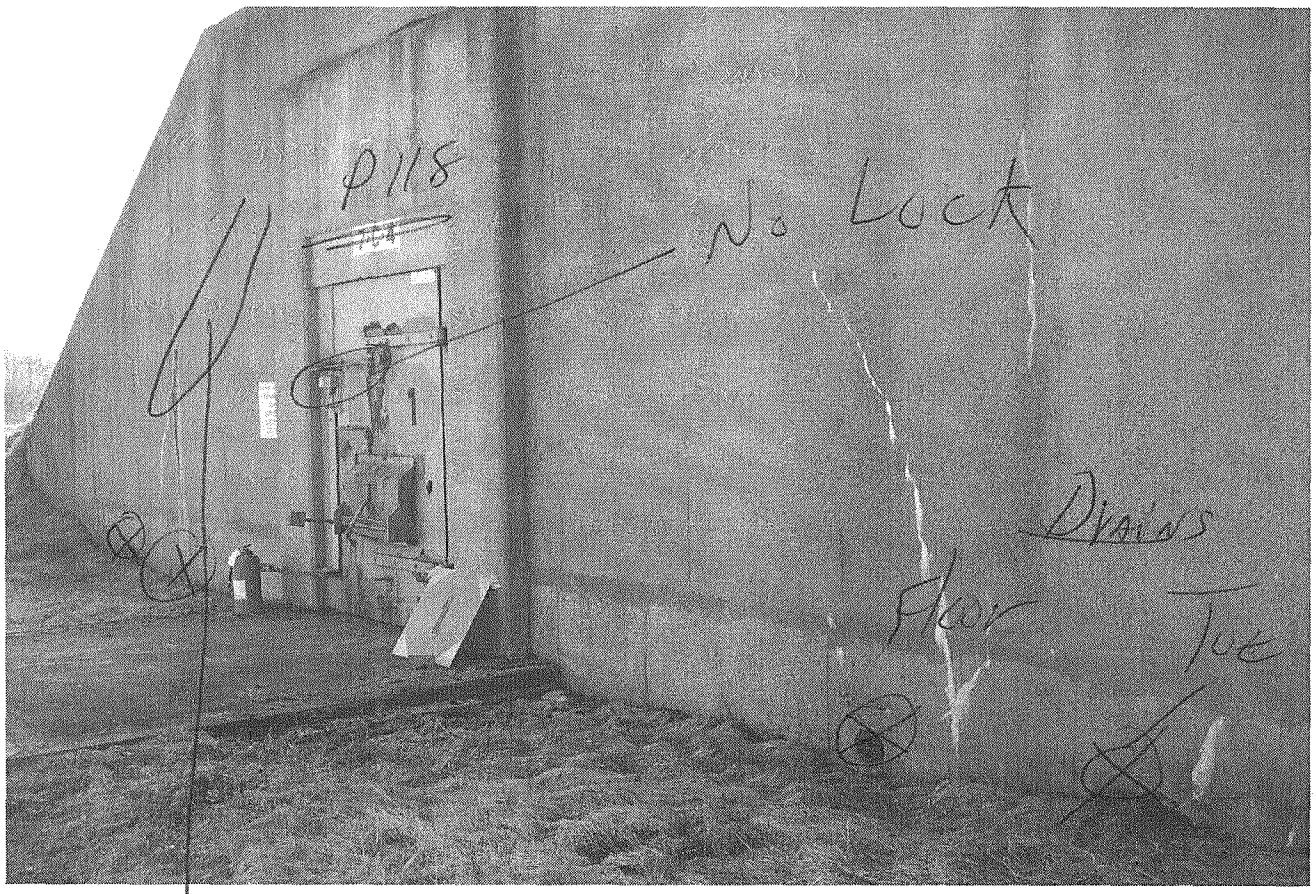
Other Notes:

Igloo #: P-118 Potential Tornado Shelter

24 Nov '10



Igloo #: P-118 Potential Tornado Shelter




RVAAP IGLOO P-118
GRP-1A 24NOV2010
P-118

IGLOO INSPECTION FORM

Igloo #: **P-119 Potential Tornado Shelter**

Date: 08MAR 2011 Time: 1525 Hrs Weather: 39°F Overcast - Breeze

Inspector: E.S. Cheng & T.M. CHANDA - USACE-LRL Picture ~~Numbers~~: Yes

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Toe & Floor drain vents present both sides of Headwall - Some Calcification Surface cracking Appears to be some Settling @ Barrel & Headwall Seam ~~@~~ Sub Surface N-S Culvert runs past loading platform w/ ~~@~~ VCP ≅ 12"

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Arch - Headwall Seam Severe Spalding on Both sides & Above doorway @ West. Headwall & Arch Seam — Rebar Exposed — Interior Relatively Dry — Dunnage on N-W & S Walls Covering over Scuppers

Obvious downstream surface water pathway available to sample sediment? Yes Somewhat

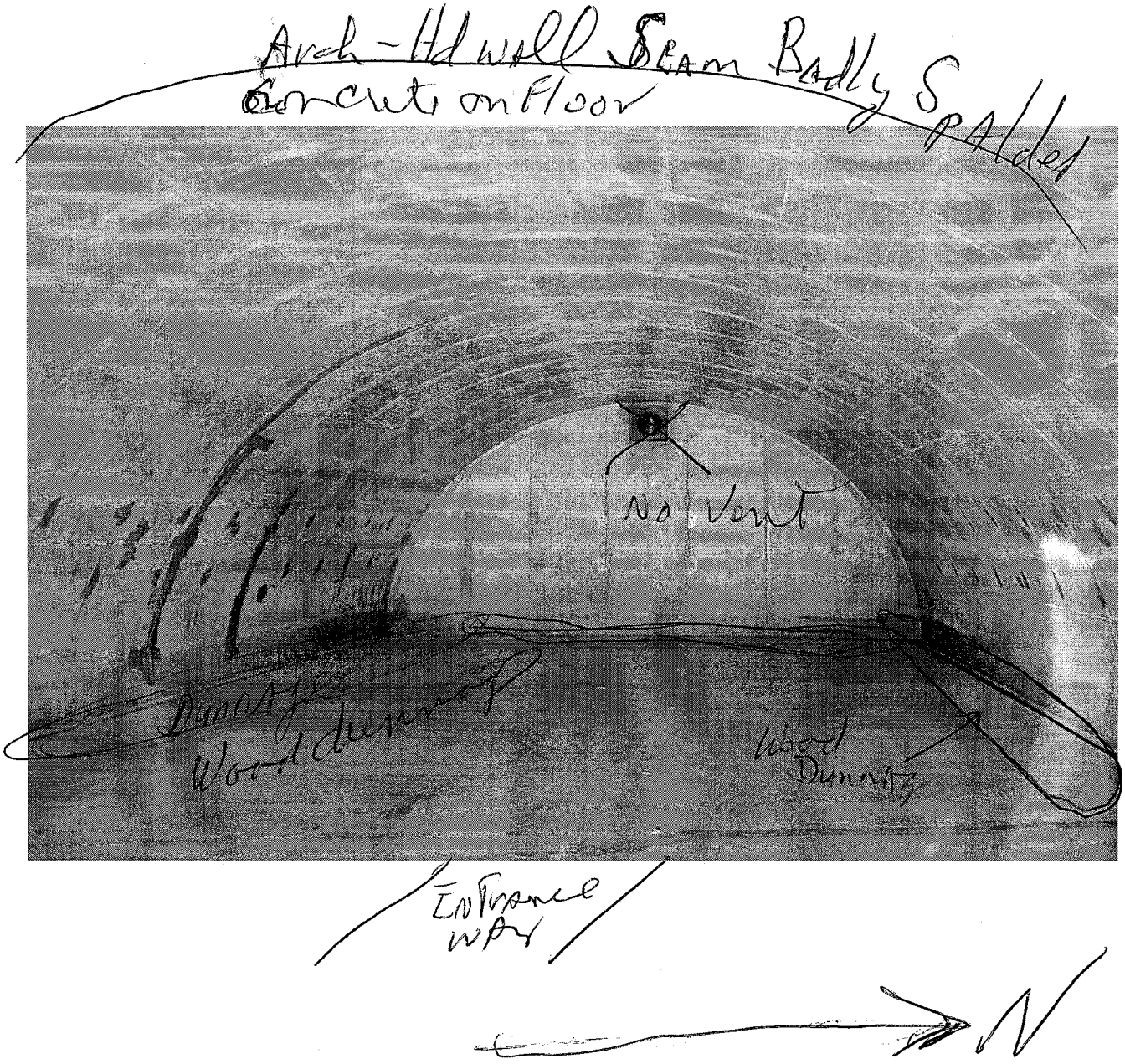
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y - 12" VCP Closed

If yes what type? Glazed Vitrified Clay Pipe

Other Notes: ~~@~~ Previous Visit in Nov, 2010 - Did Not Inspect This Igloo

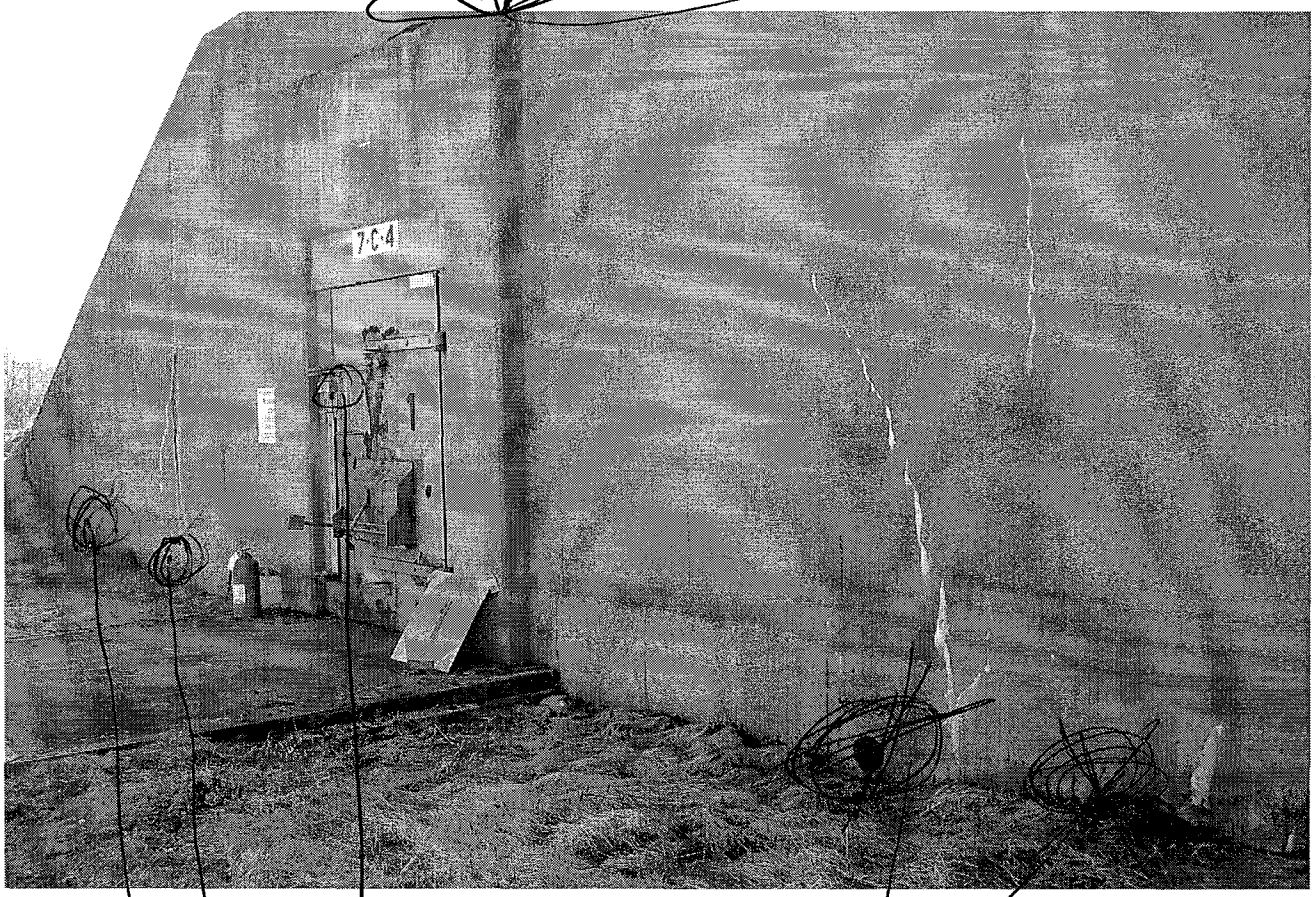
Igloo #: **P-119 Potential Tornado Shelter**

08 Mar 2011 Chanda - Chang



Igloo #: **P-119 Potential Tornado Shelter**

08 MAR 2011 Chandra-Cheng



IGLOO INSPECTION FORM

Igloo #: **P-119 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 1520 Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Skipped — Due To Time Constraints

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Based on Q-Track Igloo Inspection — Don't Expect Differences Move To P-120

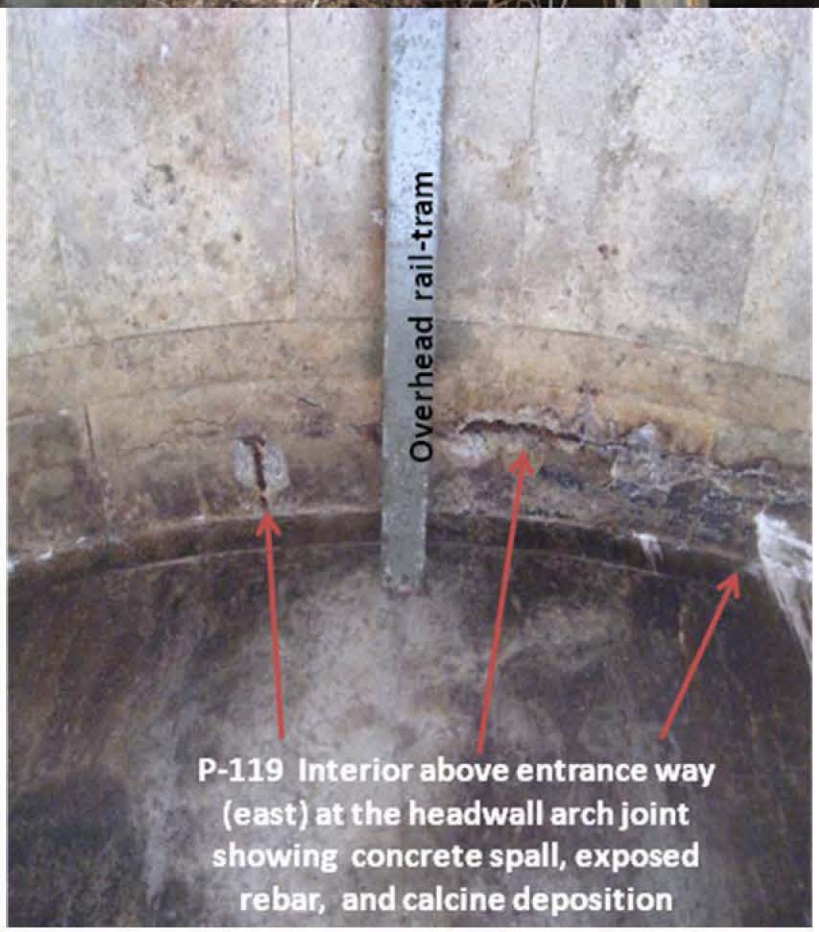
Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


P-119
RVAAP IGLOO P-119
GRP-1A 08MAR 2011


Overhead rail-tram
P-119 Interior above entrance way (east) at the headwall arch joint showing concrete spall, exposed rebar, and calcine deposition

IGLOO INSPECTION FORM

Igloo #: **P-120 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 1530 Hrs Weather: Overcast – Calm – 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P120 – #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top over grown - Briars / Weeds –
No Apparent Separation
Headwall Fall shows Calcined Cracks on Outer
Wings – VCT Culvert Pipe N-S Run
Toe & Floor Drain vents Both Sides of Door
Igloo Side Drainage Ditch w Standing Water

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Floor Dry & Scuppers Dry
Wood Dunnage – Arch Okay Historical
Patch Work – Upper Arch - Headwall Joint
Some Calcification No Water

Obvious downstream surface water pathway available to sample sediment? Y – Southward in Ditch

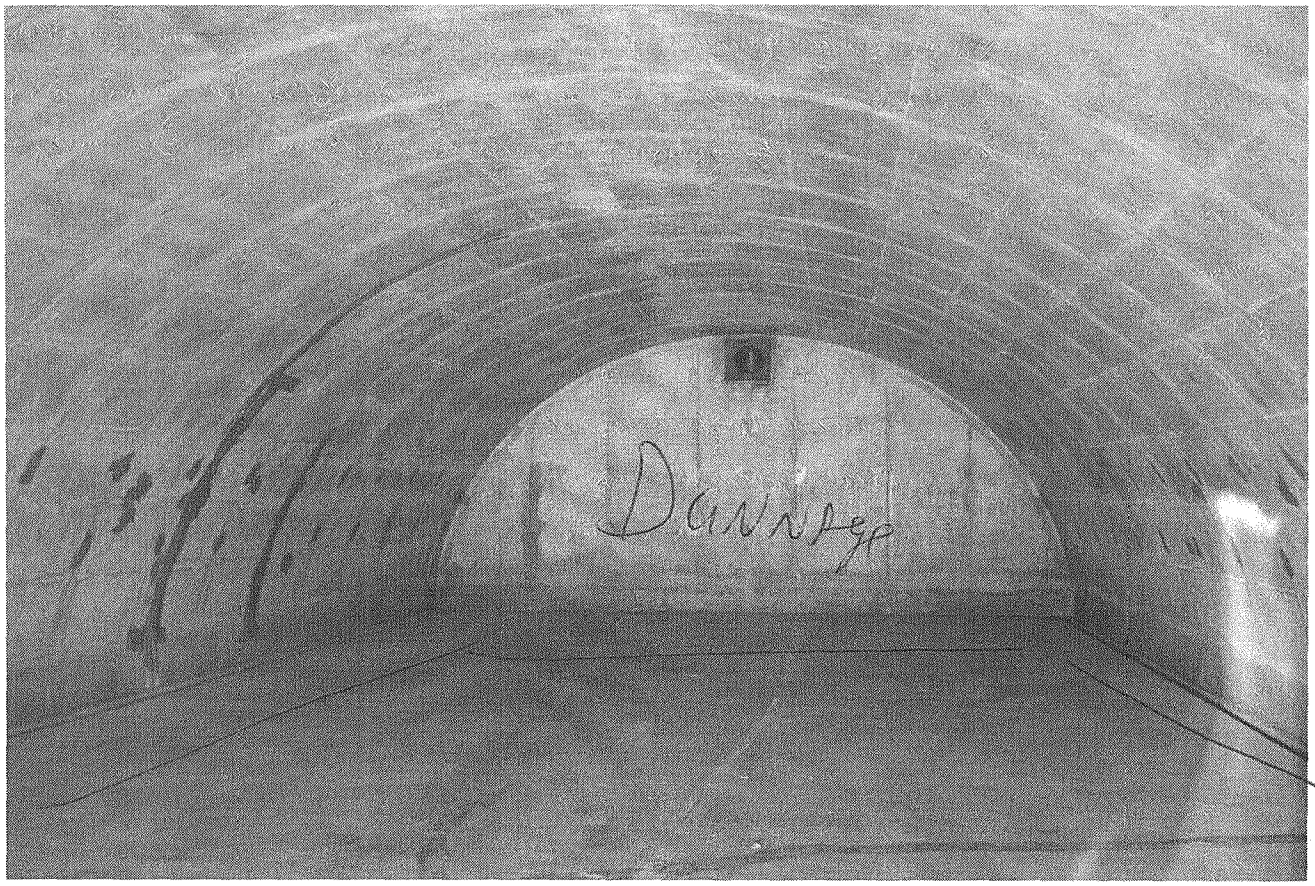
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y –

If yes what type? VCT Pipe 10" – Run N-S Length East Igloo Front

Other Notes: N

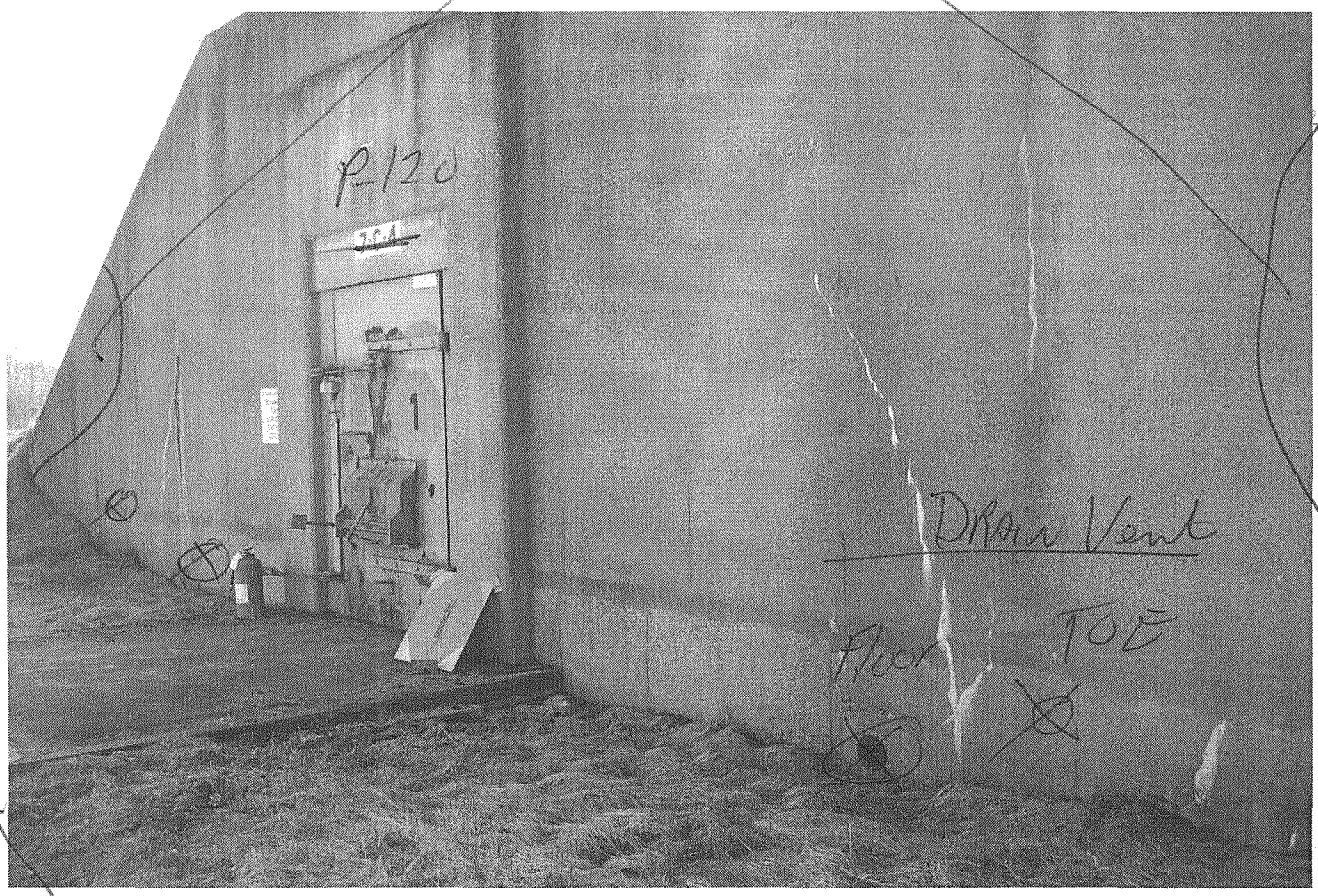
Igloo #: P-120 Potential Tornado Shelter

24 Nov '10



Floor Dry

Igloo #: **P-120 Potential Tornado Shelter**




RVAAP IGLOO P-120
GRP-1A 24NOV2010
P-120

IGLOO INSPECTION FORM

Igloo #: **P-121 Potential Tornado Shelter**

Date: 08MAR 2011 Time: 1511 HRS Weather: OVERCAST 39°F

Inspector: E.S. Cheng & T.M. CHANDA - USACE-LRL Picture ~~Numbers:~~ Yes - Taken

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Some calcified surficial cracking on South Face of Hdwall - Floor & Toe Drain Vent Both sides of Entrance - Track access - Subsurface culvert present running w/ N to S Flow - Headwall-Barrel Seam overgrown in Brush Small Tree dead center on Barrel-Hdwall Seam

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Relatively Dry ~~Exp~~) except around Doorway due to weatherseal Deterioration No water in Scuppers — Hdwall-Arch Seam appears water Tight

Obvious downstream surface water pathway available to sample sediment? Y - Flow South

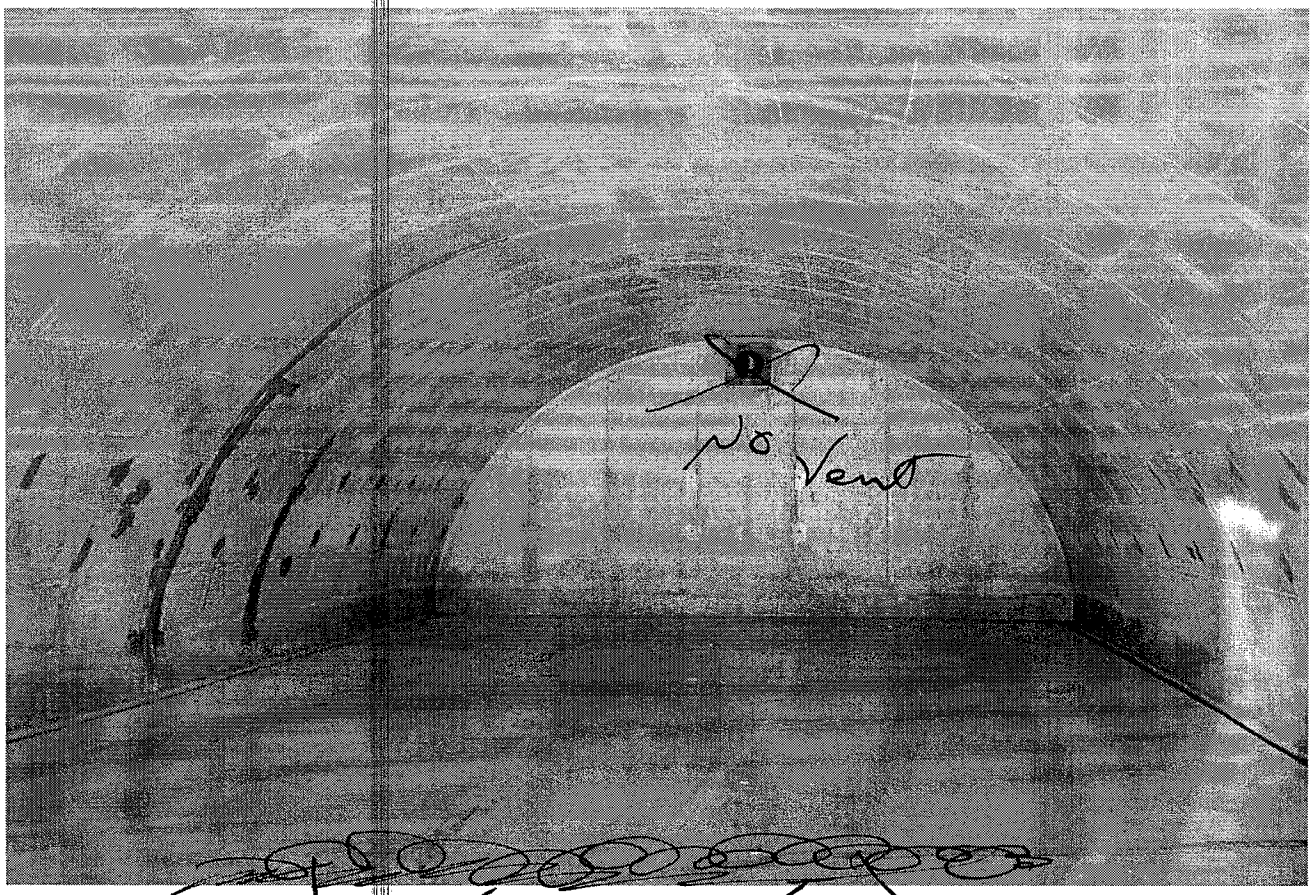
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? yes

If yes what type? 12" Glazed Vitreous Clay Pipe

Other Notes: Revisit to this Igloo - Previous Nov 2010 ~~E~~ did Not Inspect due to Time constraints

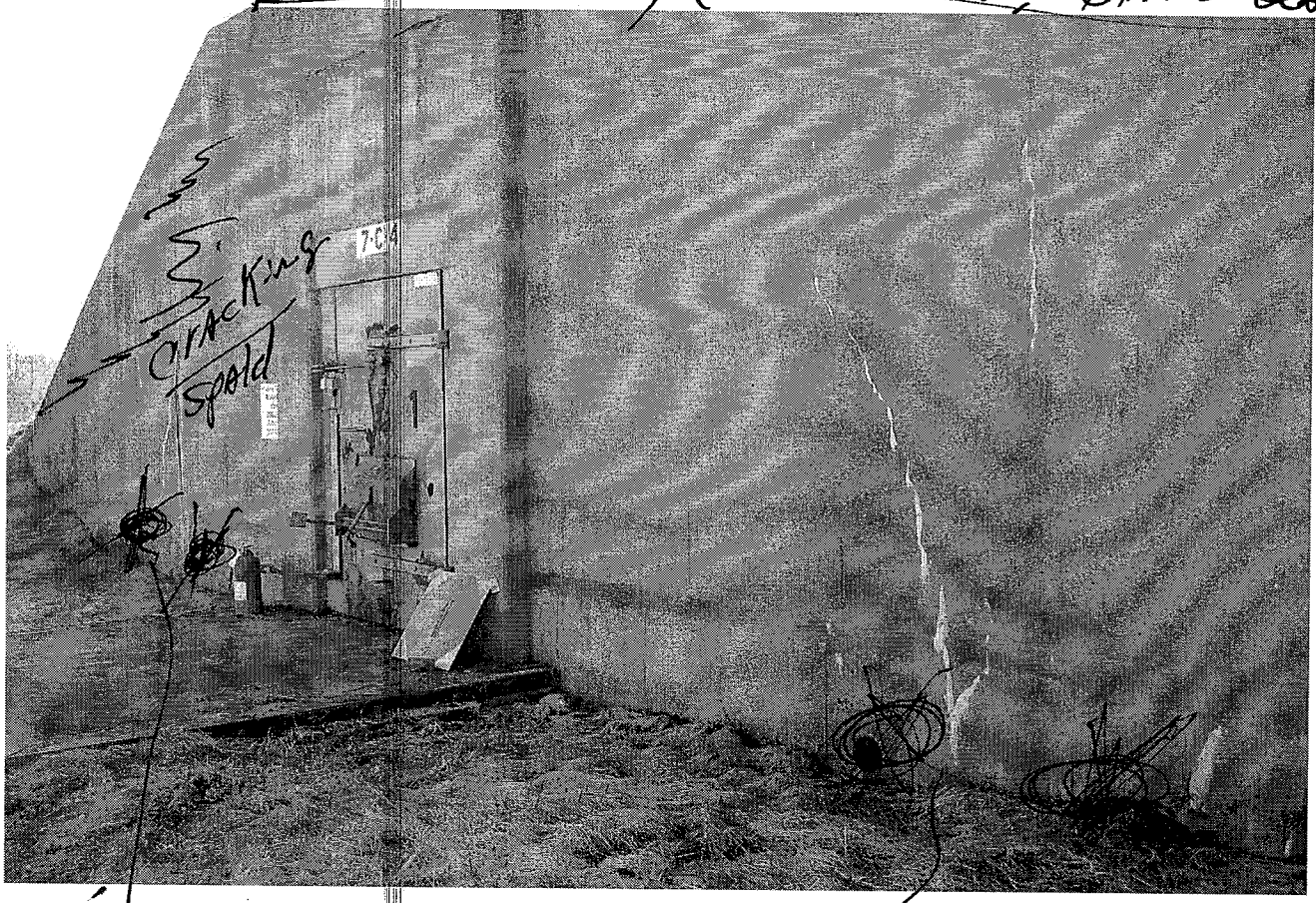
Igloo #: **P-121 Potential Tornado Shelter**

08 Mar 2011 by: Cheng & Chando



Igloo #: P-121 Potential Tornado Shelter — Rail Accessed

Cheng & Chanda



IGLOO INSPECTION FORM

Igloo #: **P-121 Potential Tornado Shelter**

Date: 24 Nov '16 Time: 1342 Hrs Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Due To Time Constraints - Igloo Not Inspected

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- None

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


P-121
RVAAP IGLOO P-121
GRP-1A 27APRIL 2011
Scupper
Moisture Area
P-121 Looking south onto central part of patched floor and scupper area with adjacent moisture on floor
Overhead tram-rail
P-121 Looking south onto interior wall & ceiling with patchwork on arch crack

IGLOO INSPECTION FORM

Igloo #: **P-122 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1543 Hrs Weather: Calm - Overcast ~~Cloud~~ 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P122 #1

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Locust Trees Growing Over Top Igloo
VCT Pipe N & S Run past Igloo Rear
Brush Weeds - Calcined Cracks showing
on Face of Headwall - Locust Trees growing
in Joint Area of Headwall & Barrel

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dunnage - Moisture (wet) on floor @ entrance - Door
Seal Problem - Snow melt likely - Dunnage
Most Floor - Has Dampness of Concrete
Spalding in Upper Arch N.East Corner-can see
Re Bar

Obvious downstream surface water pathway available to sample sediment? Y - N-S Flow

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

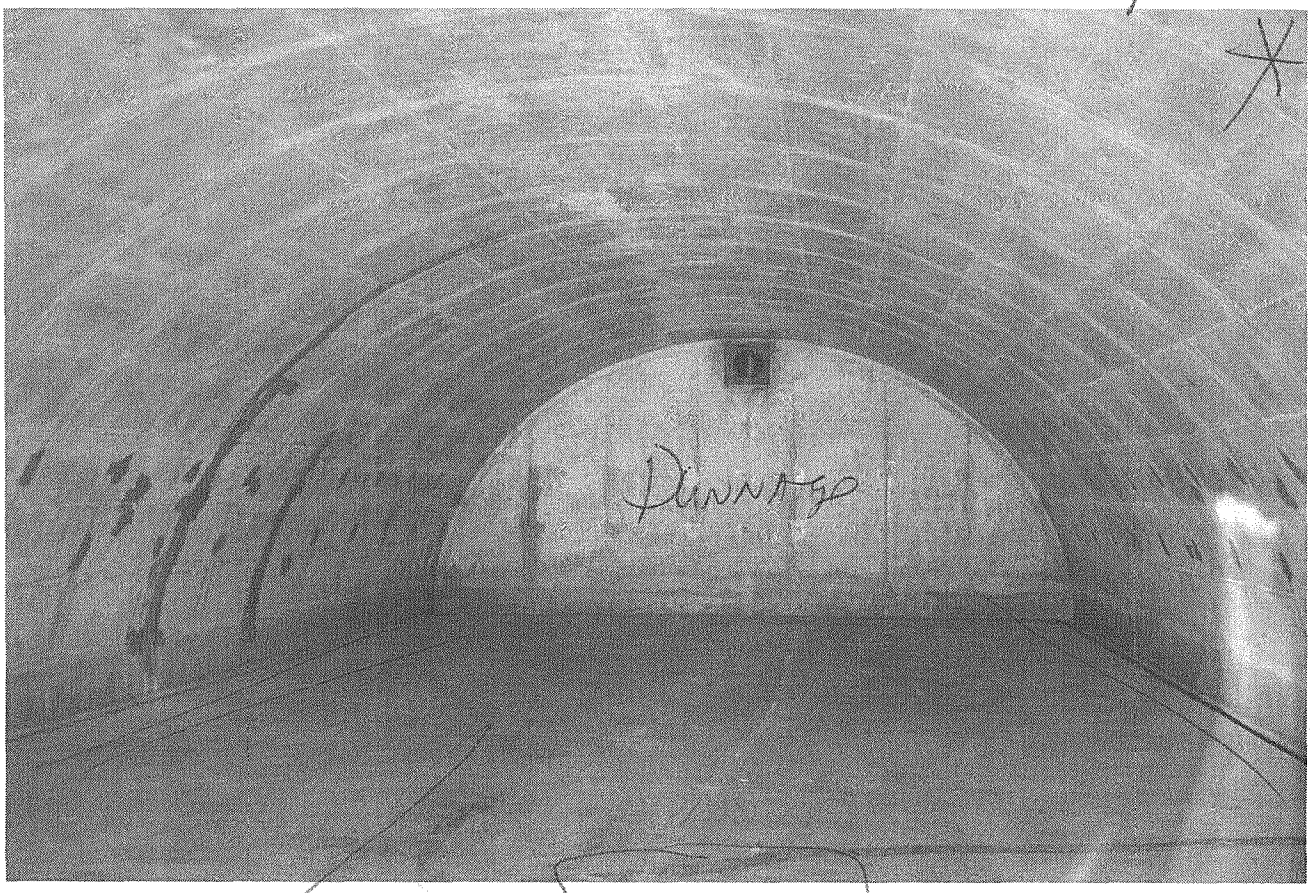
If yes what type? VCT 10" - N-S Run End to End of igloo Front

Other Notes:

Igloo #: P-122 Potential Tornado Shelter

24 Nov '10

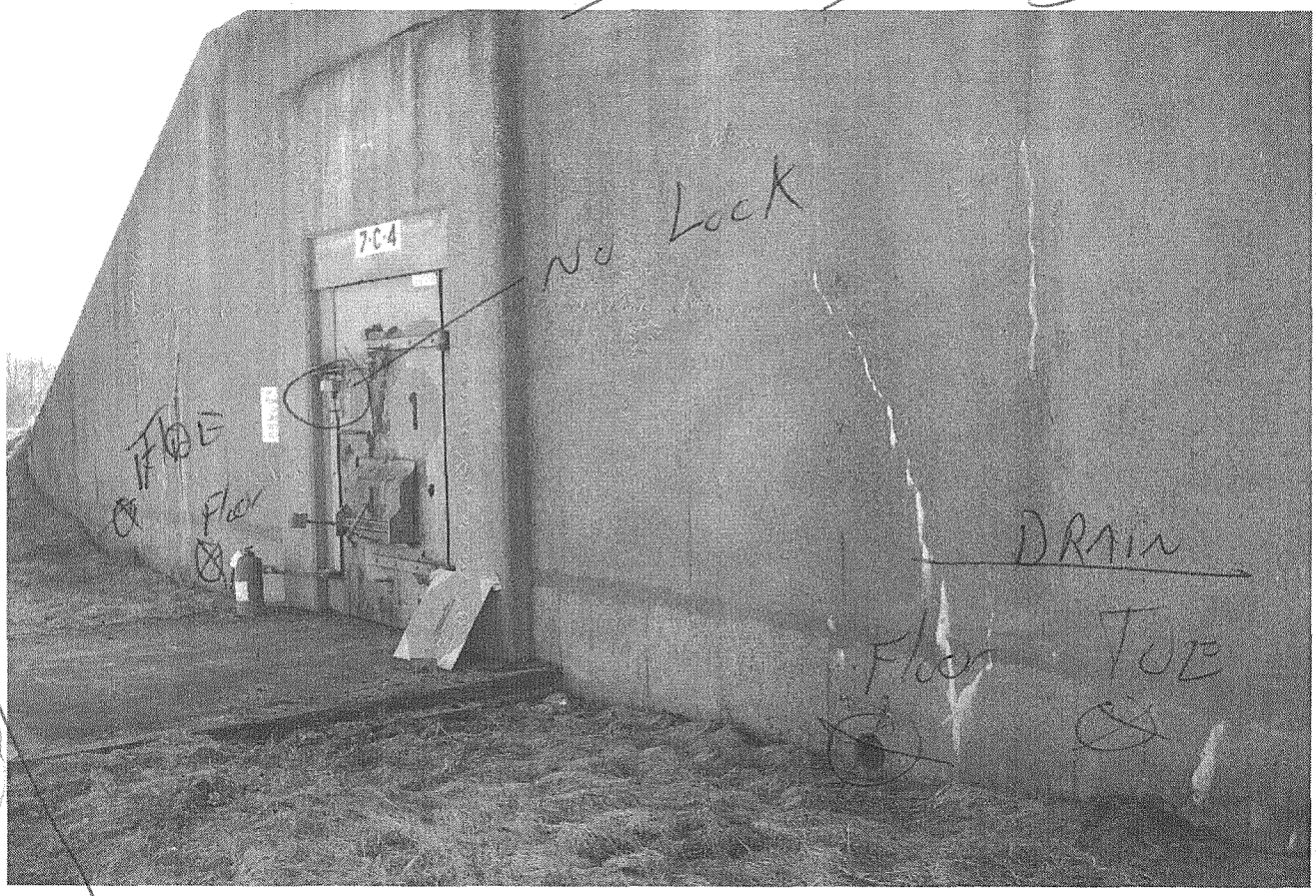
Arch Spalding
Section —
RE Bar Exposed



Floor Shows moisture in Concrete

Wet Area at Door

Igloo #: **P-122 Potential Tornado Shelter**



Note: Many Floor Drain Vent Covers Are Missing – Being Made of Brass (those that still Remain) Someone May come along and Collected them F/ Salvage'

IGLOO INSPECTION FORM

Revisit

Igloo #: **P-123 Potential Tornado Shelter**

Date: ~~10~~ 08 MAR 2011 Time: 1456 Hrs Weather: Overcast 42°F

Inspector: E.S. Cheng & T.M.Chanda - USACE-LRL Picture ~~Numbers~~: Yes - Note Exterior Photo NOT Taken ONLY Interior

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc) No Hdwall-Barrel Separation

Ext Headwall Face Showing seepage — Toe & Floor Drain Vents present Both sides of doorway Flowage/Drainage South Direction; 12" VC Pipe Subsurface Running N-S underground adjacent to East lip of loading platform
Access Road Behind P-123 - Begins @ off W-E Rd Just North P-124 — No Exterior Photo - Miscue

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Scuppers Dry - Headwall-Arch Seam over doorway w/ Severe Spalding - Rebar Exposed & concrete on floor - Dunnage (wood) Stacked on N-S-W Walls —

Obvious downstream surface water pathway available to sample sediment? Yes Flow Path South

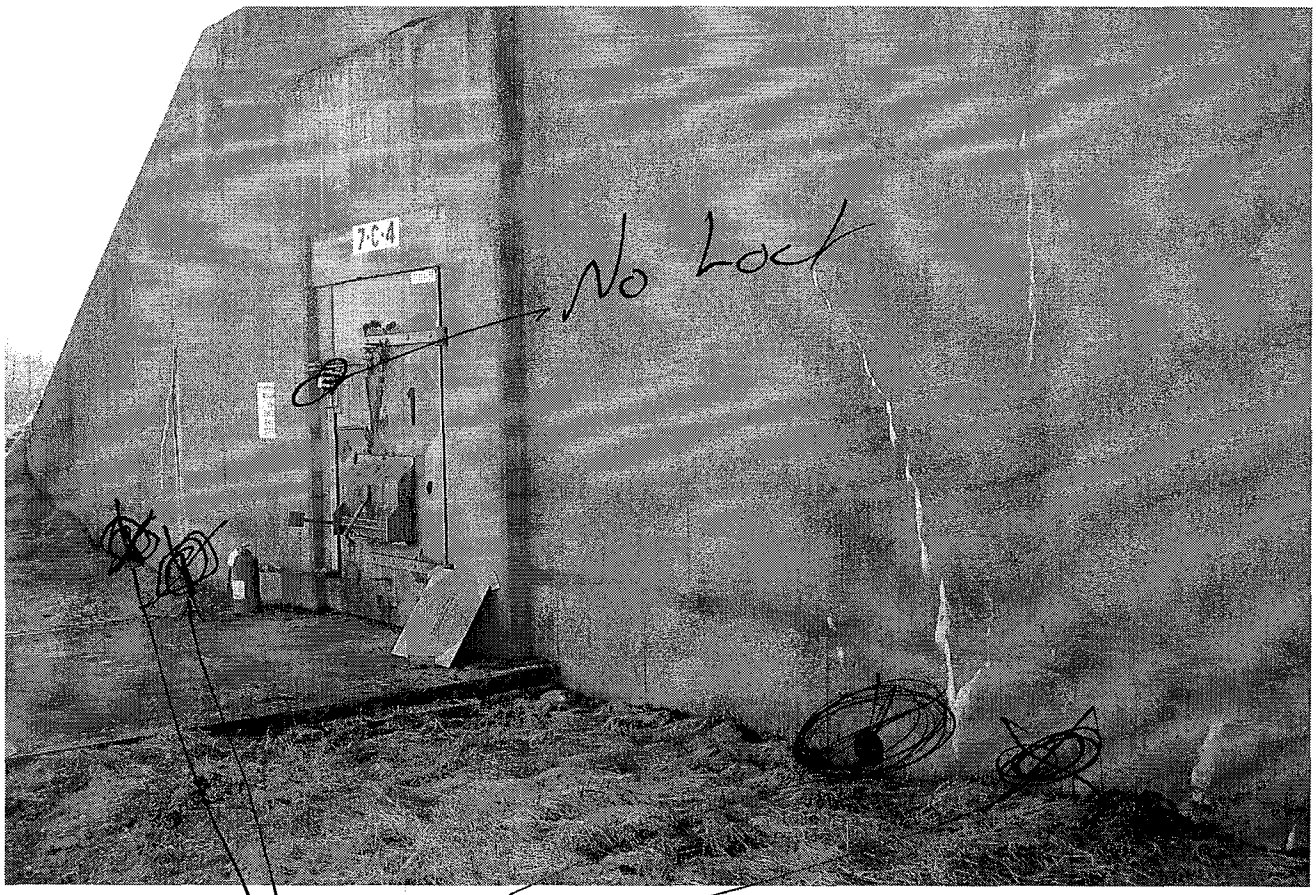
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? V. Treans Clay Pipe

Other Notes: Missed photos I will return to take exterior + interior photos week of ~~4-8~~ Apr. '11 by E. Cheng EE-C
18-22 Apr. '11 [illegible]
[illegible]

Igloo #: **P-123 Potential Tornado Shelter**

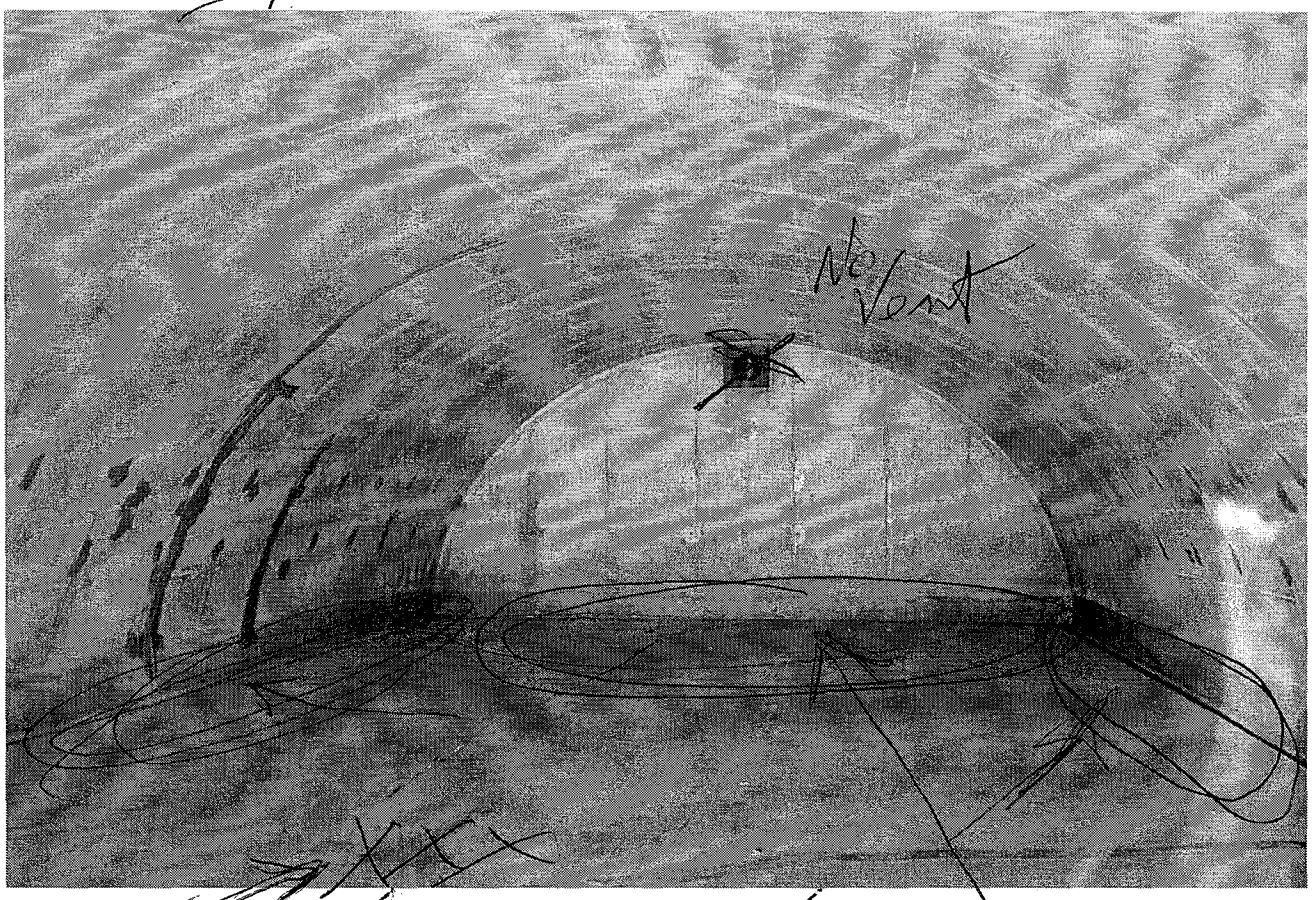
Cheng + Chandra 08 Nov 2011



Igloo #: **P-123 Potential Tornado Shelter** 08 Mar 11

Chenda + Cheng

spalding – Rebar Exposed



Post #1 Check-In @ 1600 hrs

IGLOO INSPECTION FORM

Igloo #: **P-123 Potential Tornado Shelter**

Date: 24Nov16 Time: 1603 Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Skipped No Inspect

Driving Post Igloo - Top Cap of Headwall - Severely deteriorated Concrete gravel all over platform

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:




P-123 Interior looking east –hdwall patchwork with exposed rebar near entranceway



P-123 Interior looking east – arch-hdwall seam patch with exposed rebar

IGLOO INSPECTION FORM

Igloo #: **P-124 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 1605 Weather: Calm Overcast 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P124 #1 EXT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Covered in Briars - What Could Be seen - No Separation Appparent - Cracks in Outer Wing Walls of Headwall
Toe & Floor Vent Drains - No Covers
24" Culvert opened to North - Seen No openn in Ditch on South side

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Floor Wet around Entrance Door - Door Warped allowing water to Enter - Dunnage on Floor along walls - Scuppers Dry

Obvious downstream surface water pathway available to sample sediment? Y - Only on North End DRAINAGE Ditch

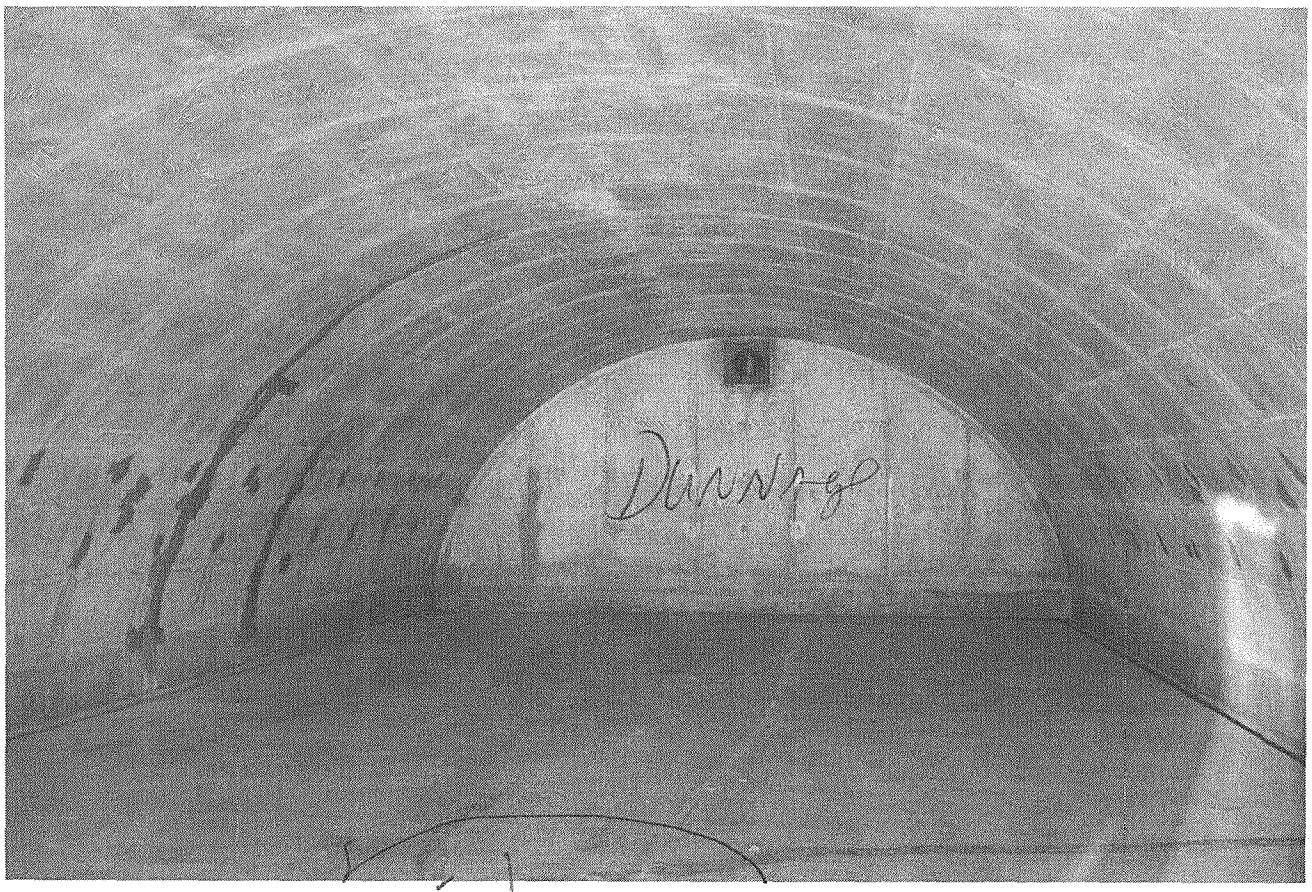
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

If yes what type? 24" VCT Pipe DRAINING North END of Ditch line

Other Notes:

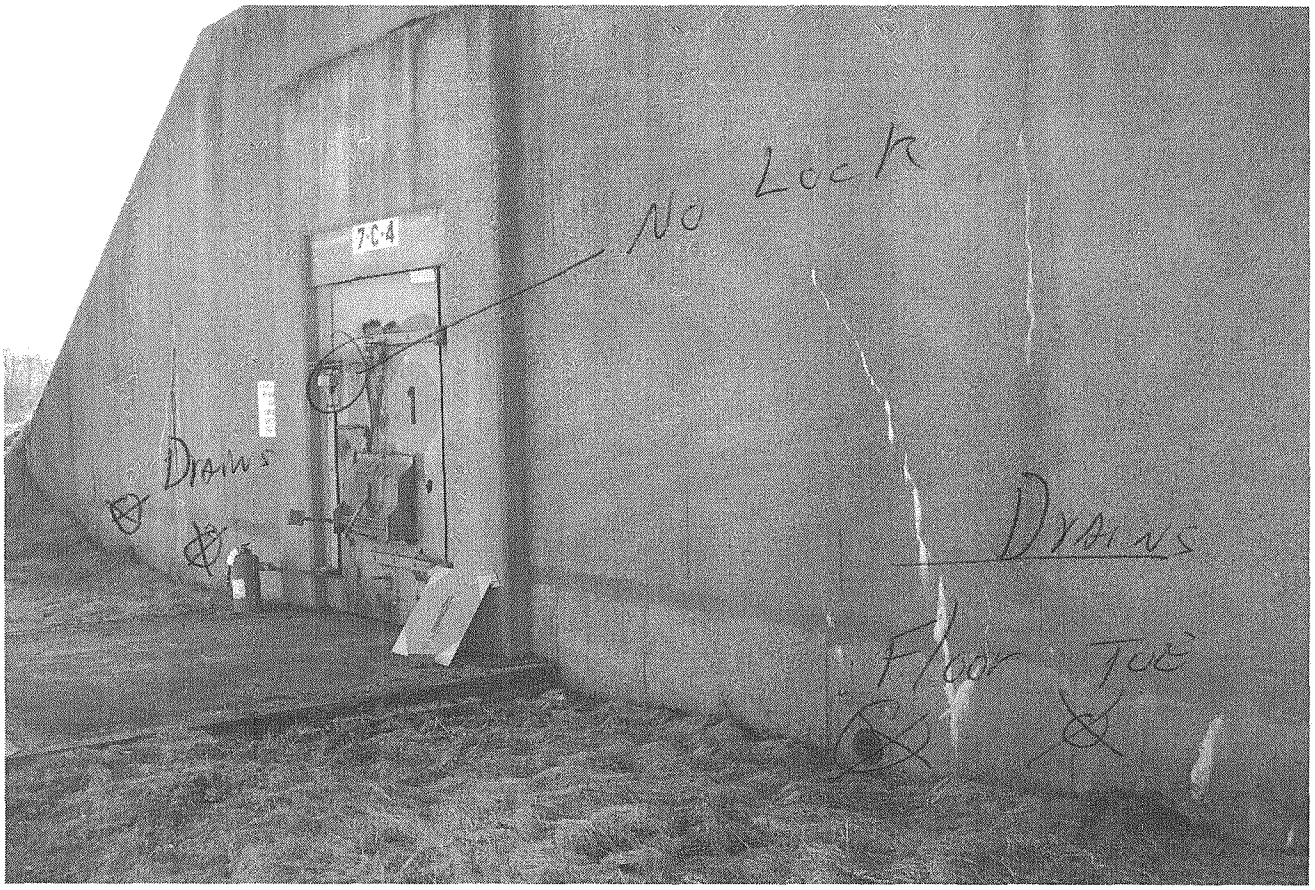
Igloo #: P-124 Potential Tornado Shelter

24 Nov '15



Wet fan / Door Being Wiped
Allowing Water Seepage
Scuppers Dry

Igloo #: P-124 Potential Tornado Shelter




RVAAP IGLOO P-124
GRP-1A 24NOV2010
P-124

IGLOO INSPECTION FORM

Igloo #: **P-125 Potential Tornado Shelter**

Date: 08MAR 2011 Time: 1442 Weather: 39°

Inspector: E.S. Cheng & T.M.Chanda - USACE-LRL Picture ~~Numbers~~: Interior & Ext.

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Igloo Unsecured No Lock — ~~No~~ Surface Buried 12" Vit. Clay Pipe between RR bed & Loading platform — A few immature trees on North Slope No Headwall - Barrel Seam Separation apparent Calcium Crack deposition on South wing of Headwall

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Door Weatherseal Severly deteriorated No Vent on West Wall — Condensation on Walls & Floor w/ water standing around entranceway due to Snow & Rain Leaking past door Weather seal — Extensive patchwork @ Arch Headwall Seam — Significant Spalding occuring over Entranceway — Relatively Dry Floor & Sandpapers except Around Door

Obvious downstream surface water pathway available to sample sediment? (wet-dry?) Yes flow south

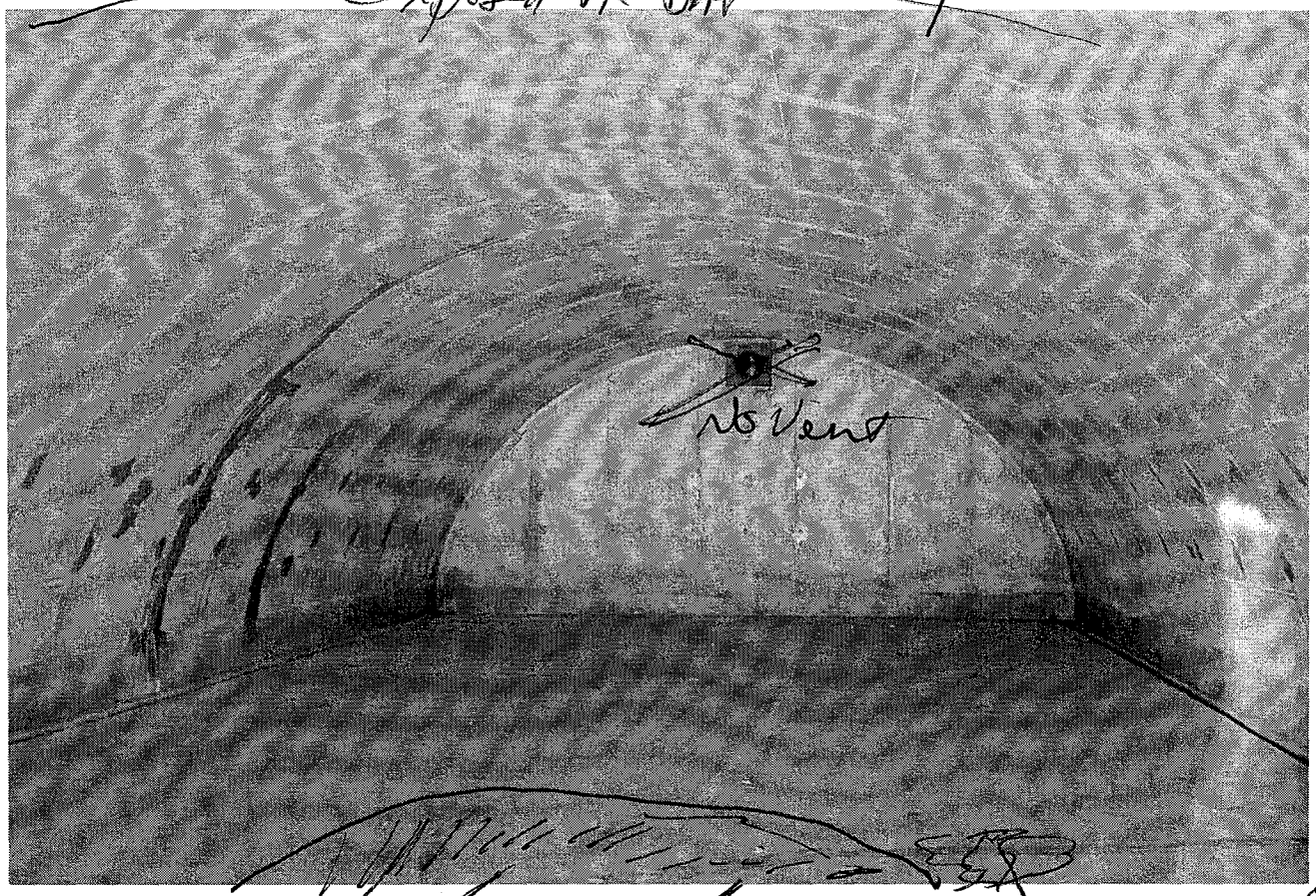
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? 12" Vitroous Clay Tile - Buried Between Loading Platform & RR

Other Notes:

Igloo #: **P-125 Potential Tornado Shelter** 08 Mar 11

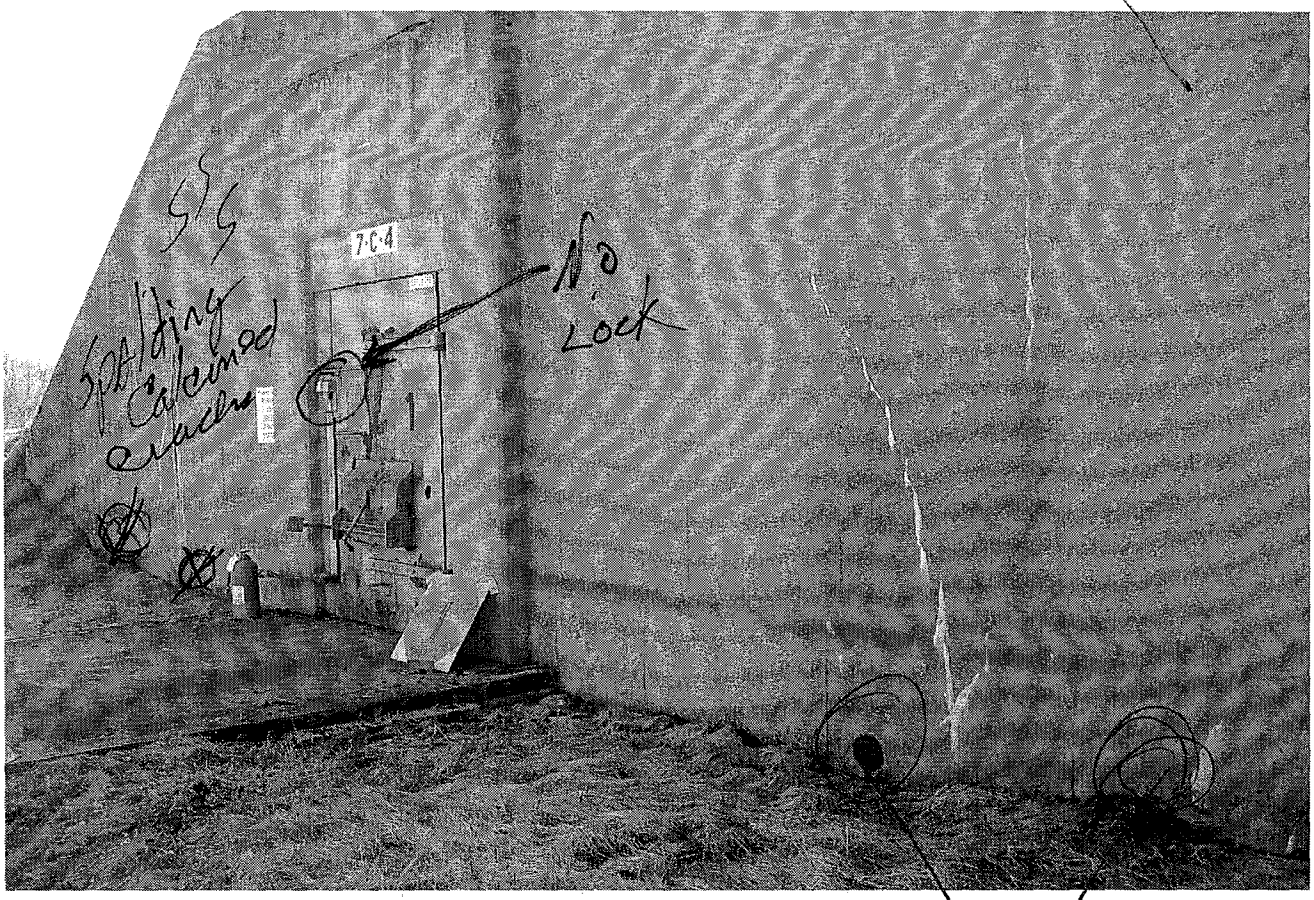
Cheng & Chandler



Igloo #: **P-125 Potential Tornado Shelter** 08 Mar '11

Rail Access Cheng & Chanda

Trees



Door & Jamb Vent Both Sides of Entrance

IGLOO INSPECTION FORM

Igloo #: **P-125 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 1632 Weather:

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Inspection
Time Constraints
Skip

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

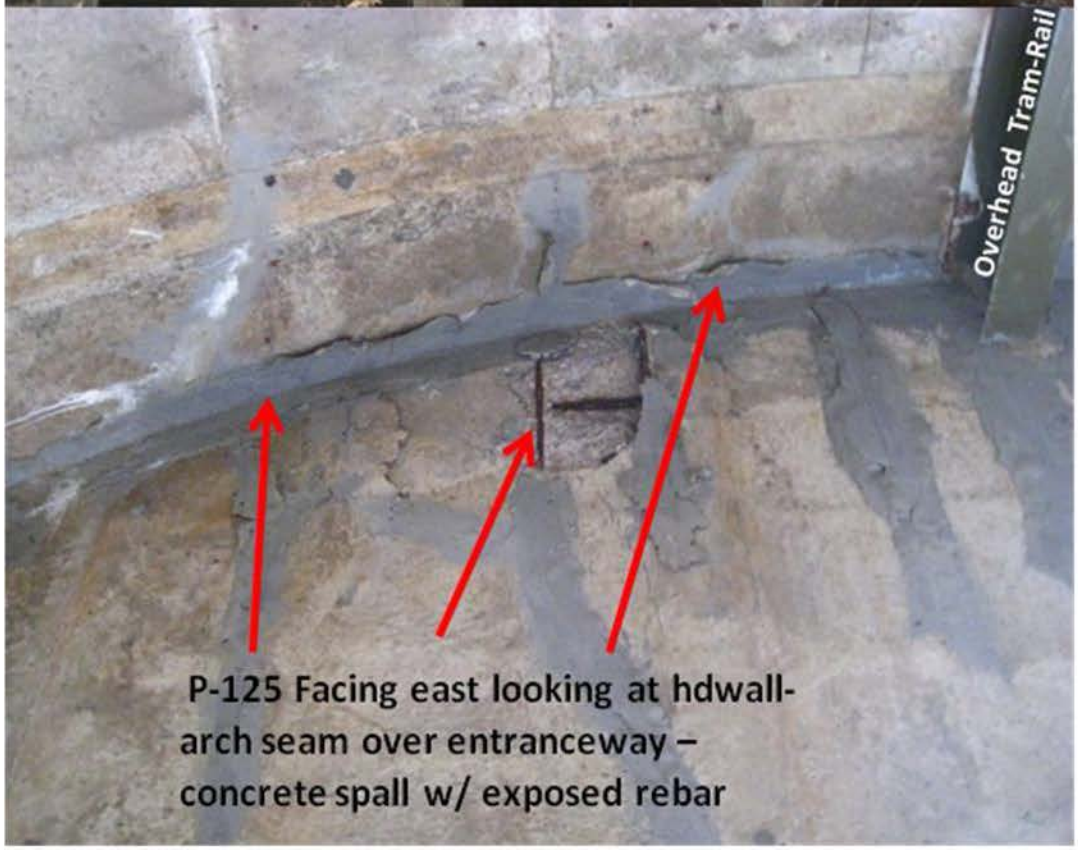
Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


P-125
RVAAP IGLOO P-125
GRP-1A 08MAR2011


Overhead Tram-Rail
P-125 Facing east looking at hdwall-arch seam over entranceway – concrete spall w/ exposed rebar

IGLOO INSPECTION FORM

Igloo #: **P-126 Potential Tornado Shelter**

Date: 08MAR 2011 Time: 1424 Hrs Weather: Overcast 39°

Inspector: E.S. Cheng & T.M.Chanda - USACE-LRL Picture ~~Numbers~~: Exterior = Need Revisit F/ Ltr. Photo

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Severe Spalding on South Face of Headwall Concrete Topcoat Failing, Exposed Re-bar w/ Active Seepage Behind Topcoat - Significant Calcine deposition on lower portion of Hdwall North Face w/ some spalding breaking through Also Noticed long Tradinal crack w/ Calcine deposit above the Top Door ~~Door~~ Pier = Toe Drain Vents Both Sides - No Apparent Hdwall Barrel Separation Briars infest Top Area w/ some Vines - Water in Ditches Flowing S

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No apparent Arch - Hdwall seepage @ Seam But Calcine deposits on wall (Lower) would indicate some Type Seep - ~~Dam~~ Some Damage on Floor in Back West Wall - Scuppers Dry - Floor appears Damp to Touch - No Ventilation - Warm Enclosed Environment

Obvious downstream surface water pathway available to sample sediment? Yes Flowage to South Tm/ Igloo

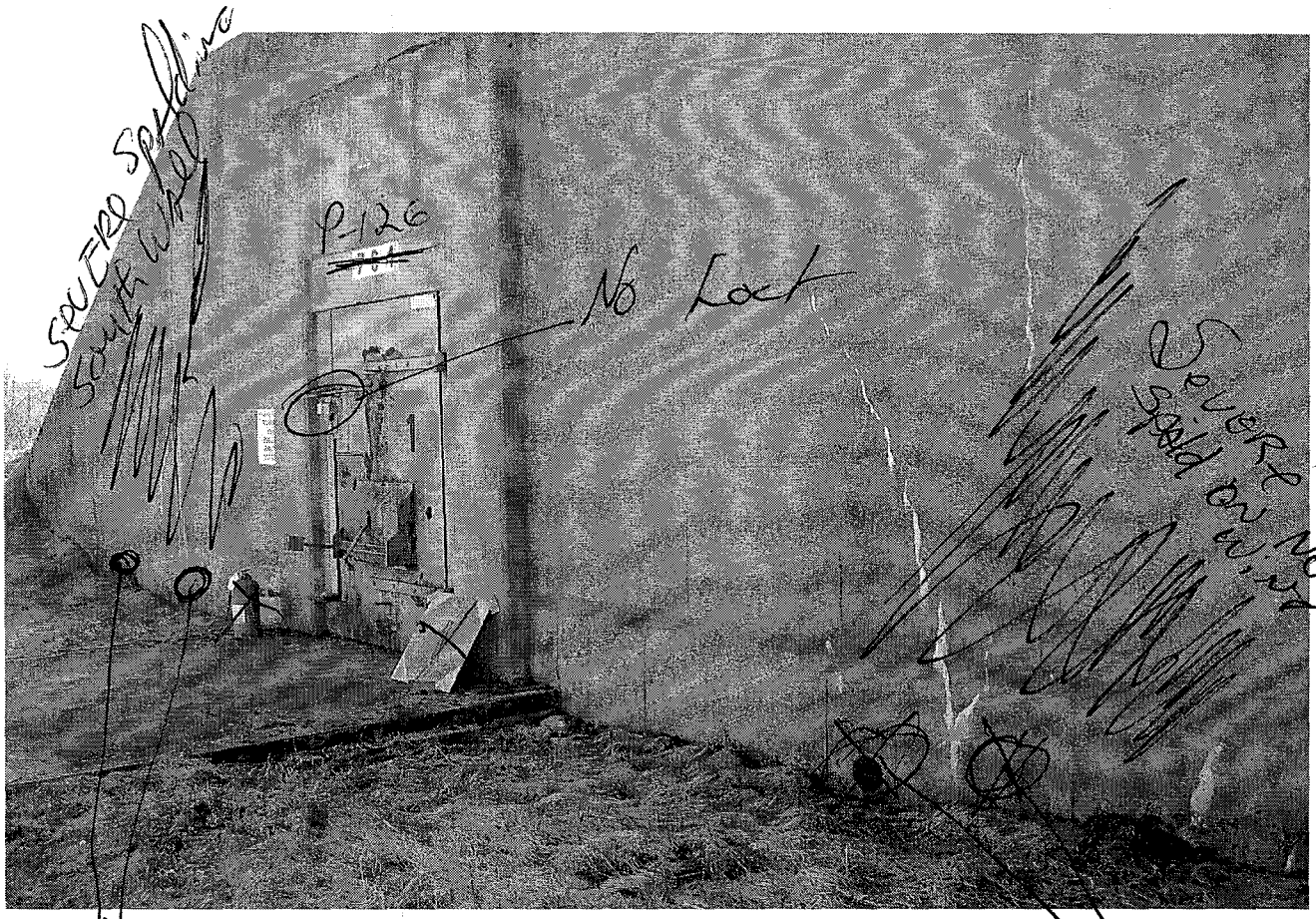
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y.

If yes what type? 12" V. Trans Clay Pipe

Other Notes: First V.

Igloo #: **P-126 Potential Tornado Shelter**

Cheng + Chanda 08 Mar 2011
LRL-USACE

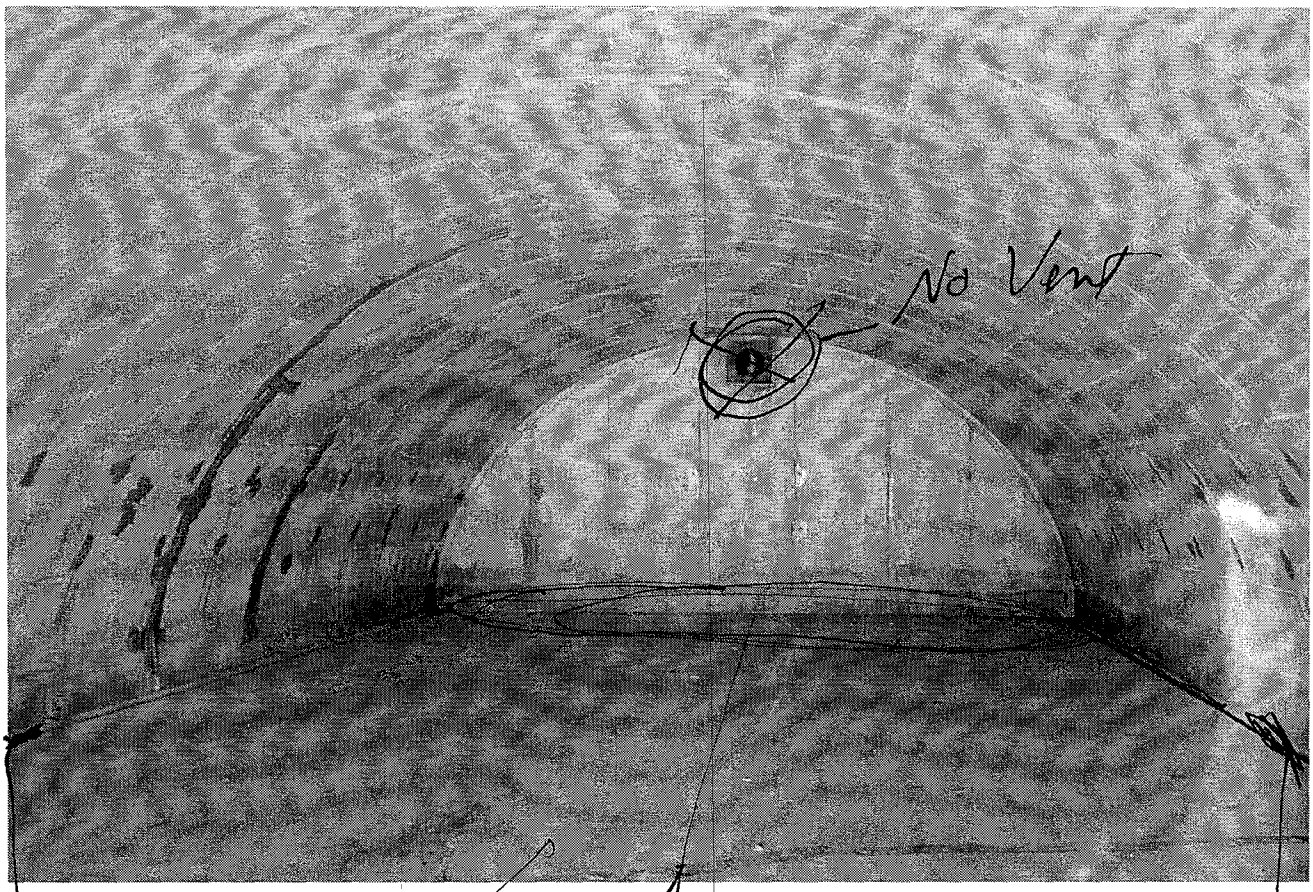


Toe of Floor Drain Vent
Present Both Sides

Igloo #: **P-126 Potential Tornado Shelter**

08 Nov '2011
Inspected by Cheng & Chandra - USACE-LRL

* Note: Upon Return to LRL duty station found interior photos



IGLOO INSPECTION FORM

Igloo #: **P-126 Potential Tornado Shelter**

Date: 24Nov'10 Time: 1635 Weather: Calm - Overcast - 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P-126 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Drive-By No Inspection

Headwall Facing Severly Deteriorated Took Photo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

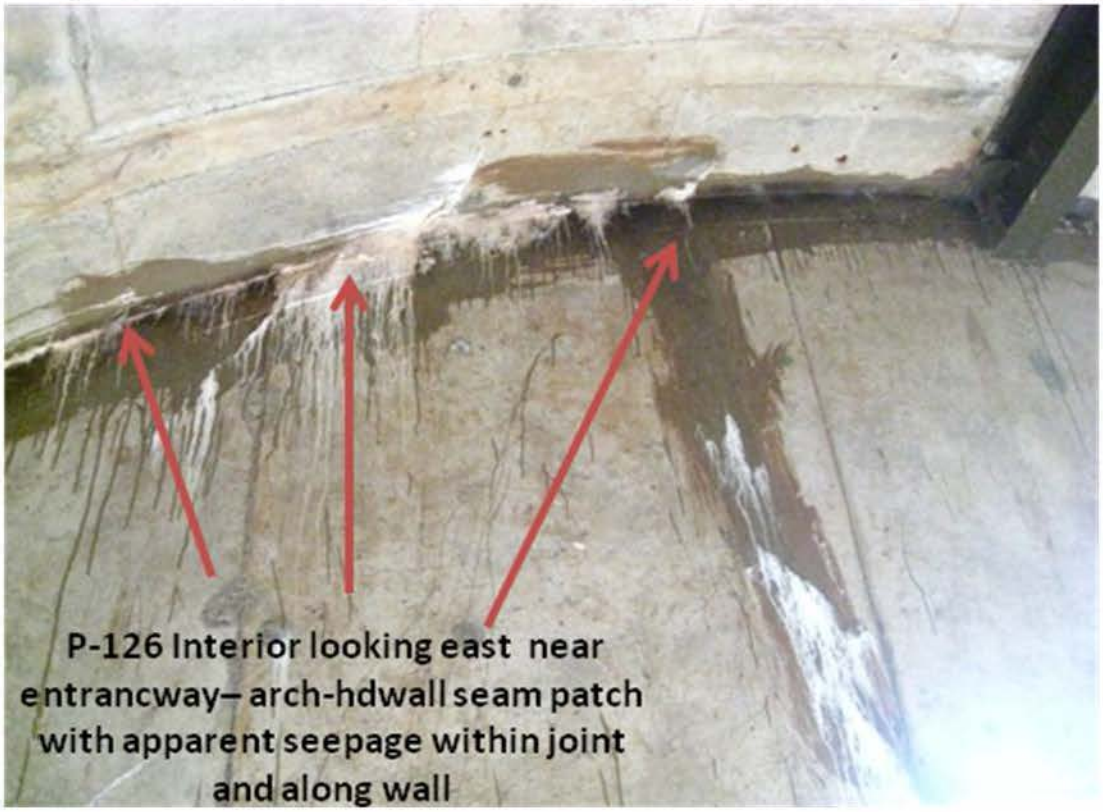
Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


P-126
RVAAP IGLOO P-126
GRP 1-A 24NOV2010


P-126 Interior looking east near entrancway– arch-hdwall seam patch with apparent seepage within joint and along wall

IGLOO INSPECTION FORM

Igloo #: **P-127 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1638 Weather: Calm Overcast - 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: P-127 #1 EX

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Covered in Brush - Cottonwood Saplings growing on Igloo along Headwall - Barrel Joint - No Apparent Separation
Drainage Culvert Opening on N-side Ditchline w/ None on South Side
Area Relatively Clear of Brush around Front of Headwall Face and Platform

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Interior - Clean & Dry - Suprisingly!
Some Patch work on Arch -

Obvious downstream surface water pathway available to sample sediment? Yes - Flow North

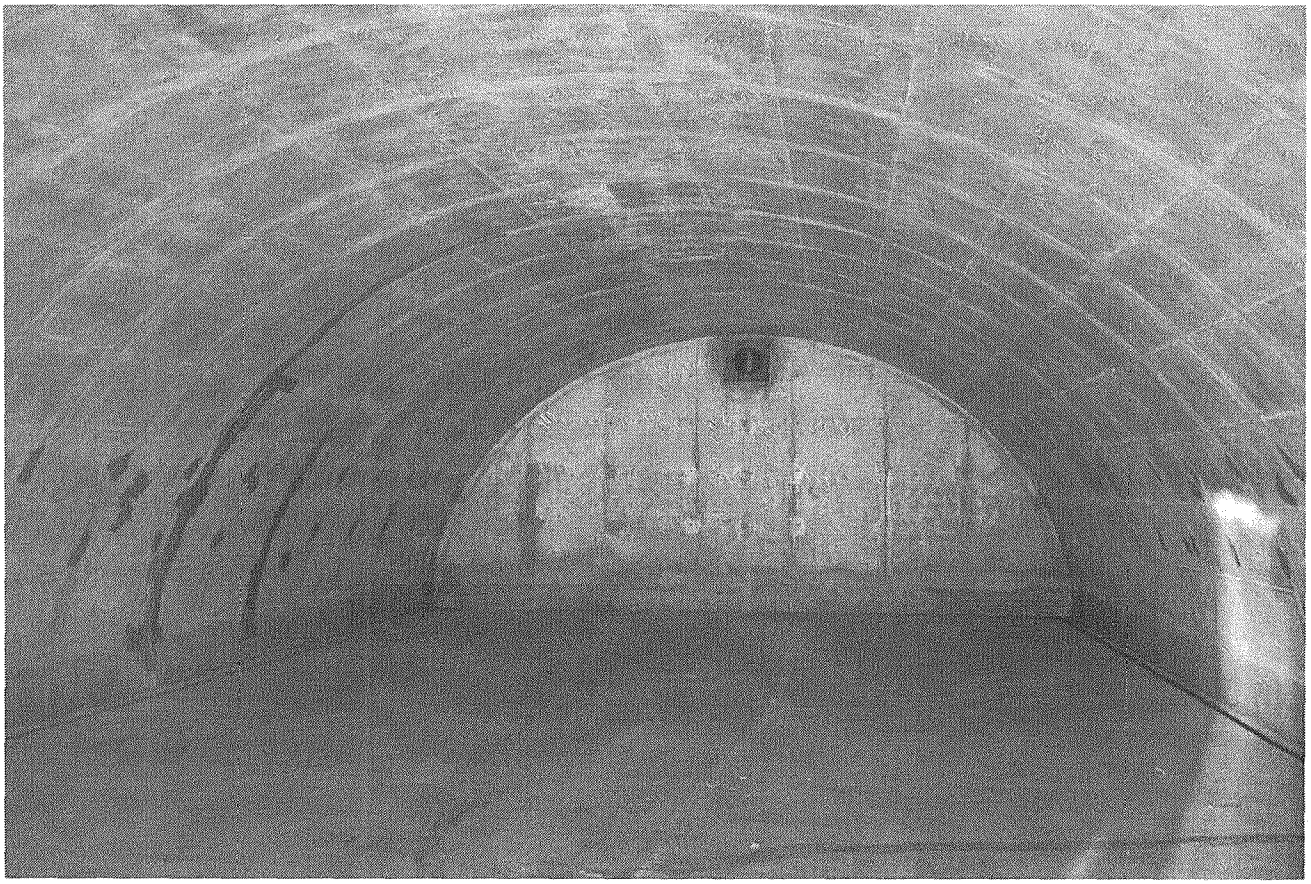
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y: only on N side Ditchline

If yes what type? VCT Pipe 10" pipe N. side Ditchline Pipe Damage

Other Notes:

Igloo #: P-127 Potential Tornado Shelter

24 Nov '10



Clean & Dry
No Dunnage!!

Igloo #: P-127 Potential Tornado Shelter

Trees Brush



Headwall Face in Good Condition

End of Day - Quitting Finish Grp 7 - Qit Track


RVAAP IGLOO P-127
GRP 1-A 24NOV2010

VIII. IGLOO AREA GROUP-1A

E. TRACK - Q

IGLOO INSPECTION FORM

Igloo #: **Q-128 Tornado Shelter**

Date: 24 Nov '16 Time: 1417 HRS Weather: Calm - Cloudy - 40° F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q128 - #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top - Briar infested - Not Passable w/o difficulty
Face & Cap of Headwall Heavy Spalded -
W/ Top-Coat Flaking - Platform covered w/ Concrete
Fragments - Top Cap Has Exposed Re Bar
10" VCT Culvert N-S Run Past ~~Culvert~~ Igloo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No Access Door Warped
Latch Arm Seized - Can Move Latch
Pin But Cannot Pull Away Fm/ Pin-Hole
2 people w/ pry Bar Could open

Obvious downstream surface water pathway available to sample sediment? Y - South Drainage

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

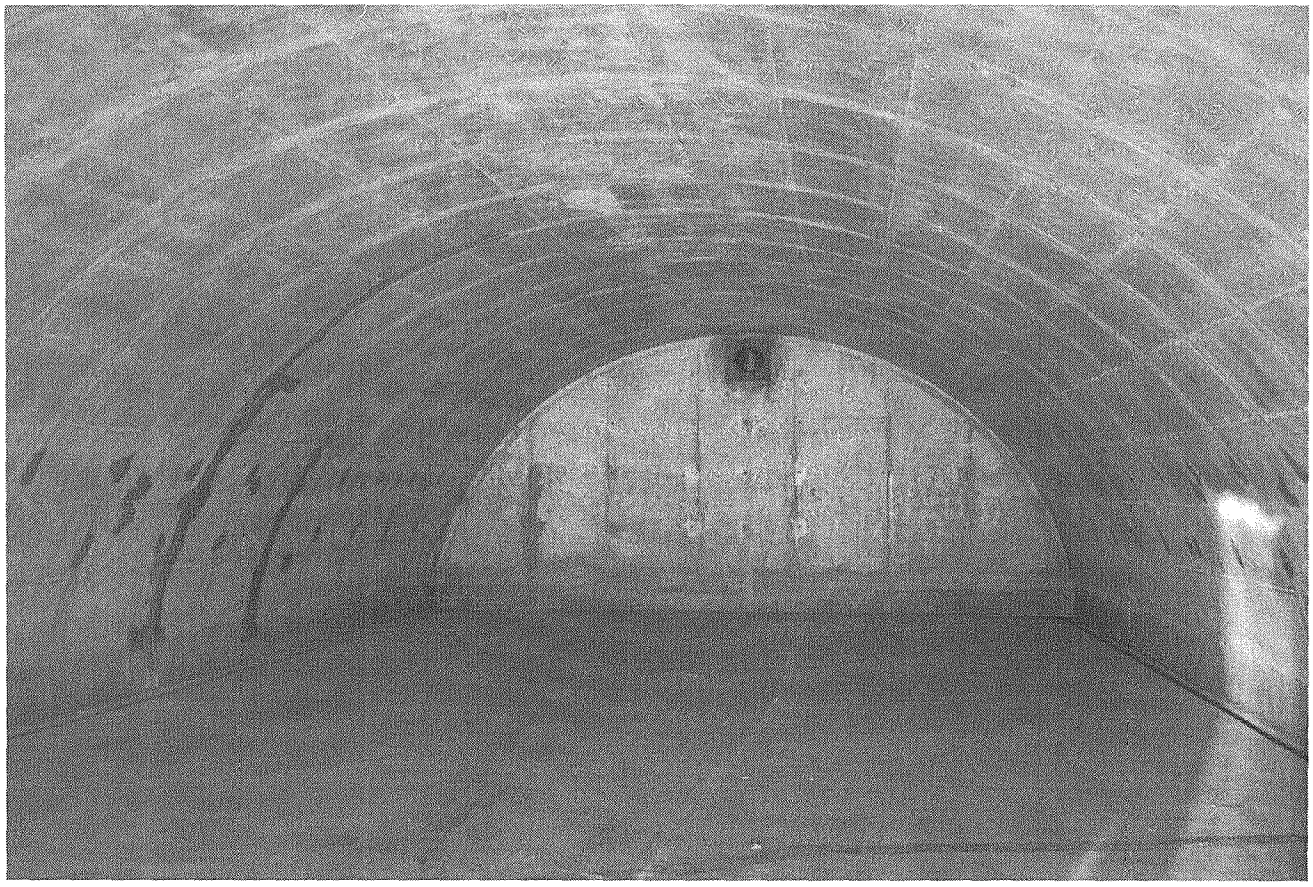
If yes what type? 10" VCT Pipe N-S Run Past Igloo in Front of Igloo

Other Notes:

Igloo #: Q-128 Tornado Shelter

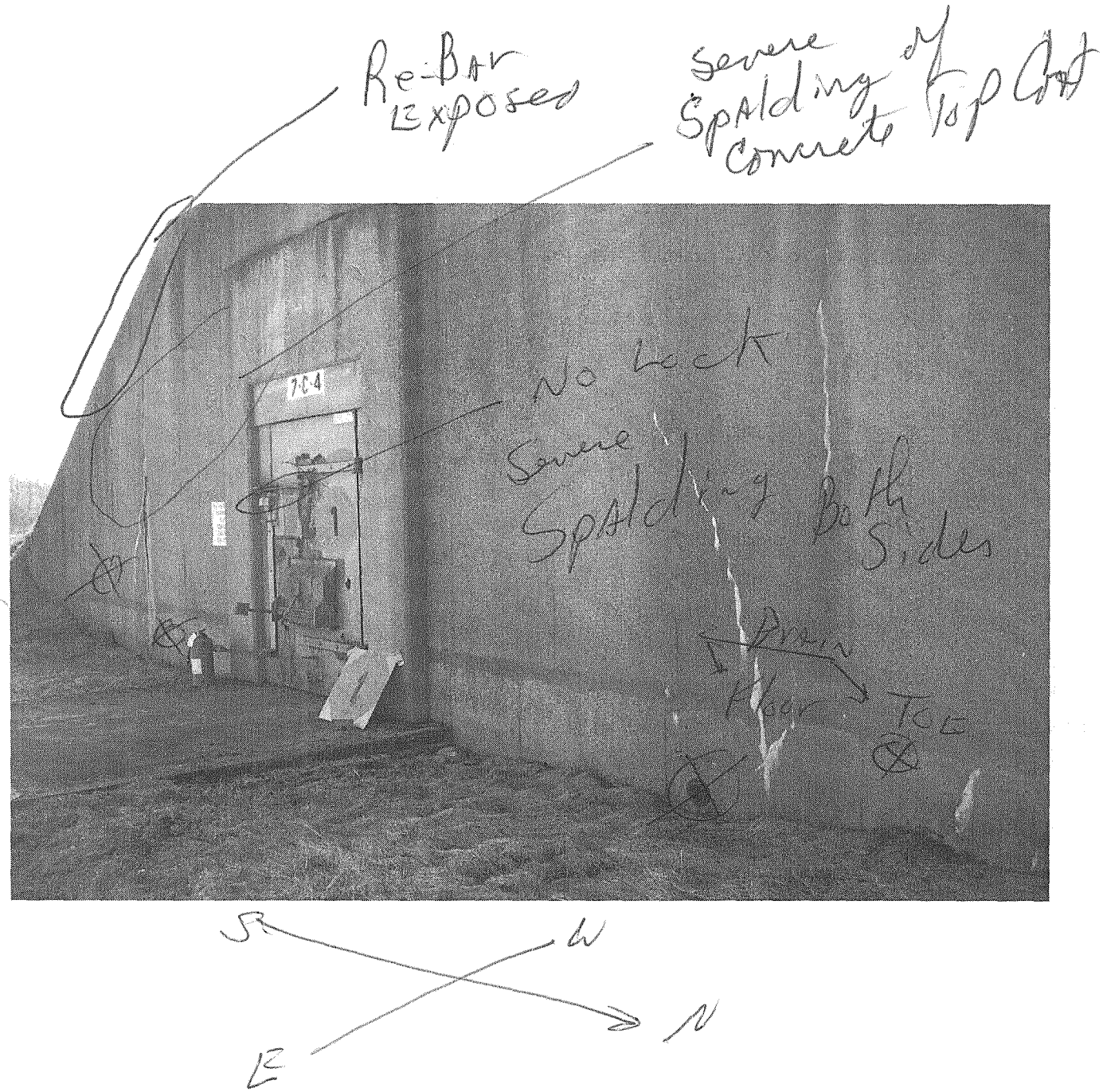
24 Nov 10

No Access
Door Warped - latch Arm
Seized



Tried w/ Axe Handle —
Too Much Pressure on latch Arm from
Warped Door

Igloo #: Q-128 Tornado Shelter



IGLOO INSPECTION FORM

Igloo #: **Q-128 Potential Tornado Shelter**

Date: **APR 2011** 4/27/11 Time: 0939 Weather: partly cloudy, mild, 55°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

COMPLETED EXTERIOR SURVEY 24 NOV 2010

- deteriorating concrete, exposed rebar

Igloo Interior: To Be Completed
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- exposed rebar on interior of headwall
- relatively dry
- evidence of crack repair

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

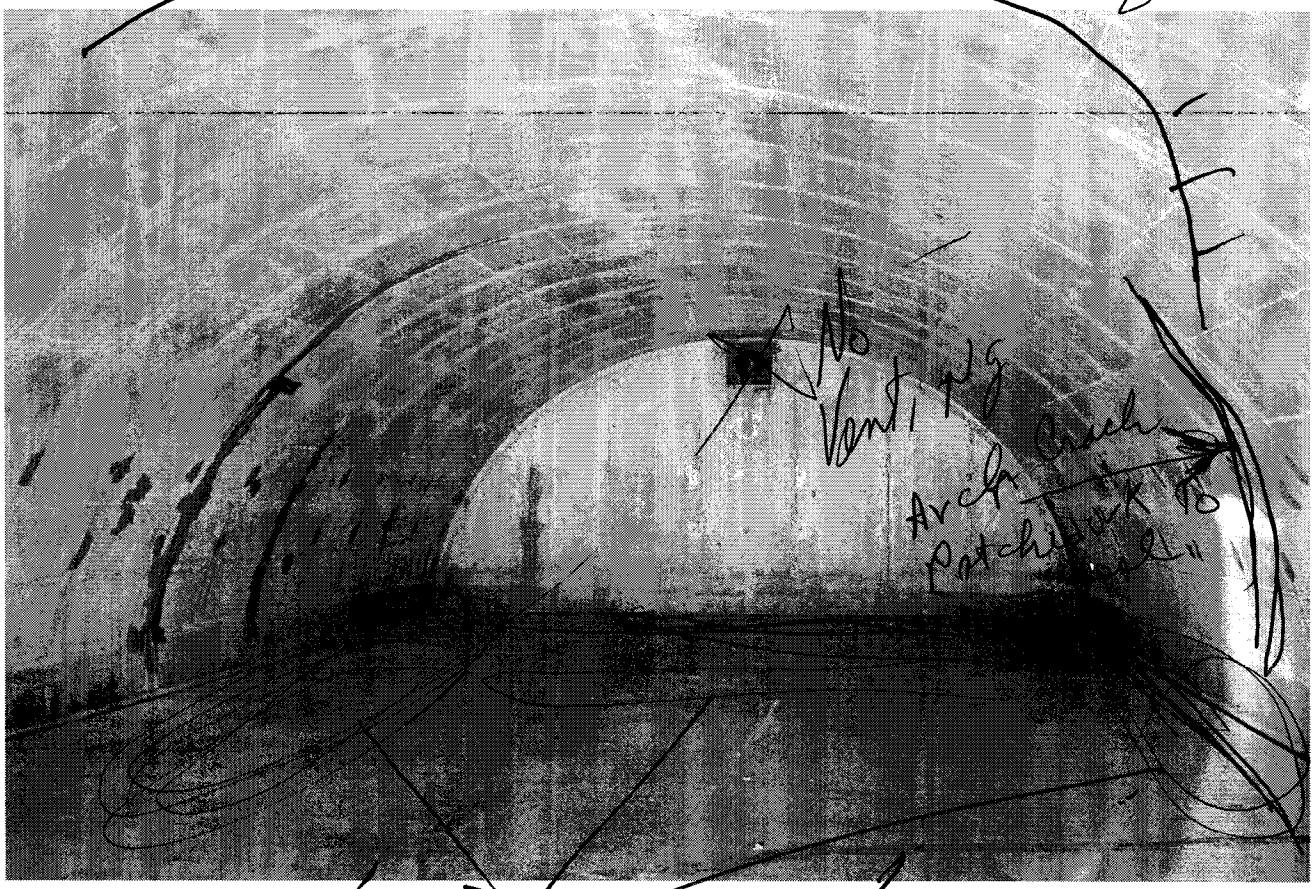
Other Notes:

To Be Completed

Igloo #: Q-128 Potential Tornado Shelter

E.S. Cheng - USACE-LRL &

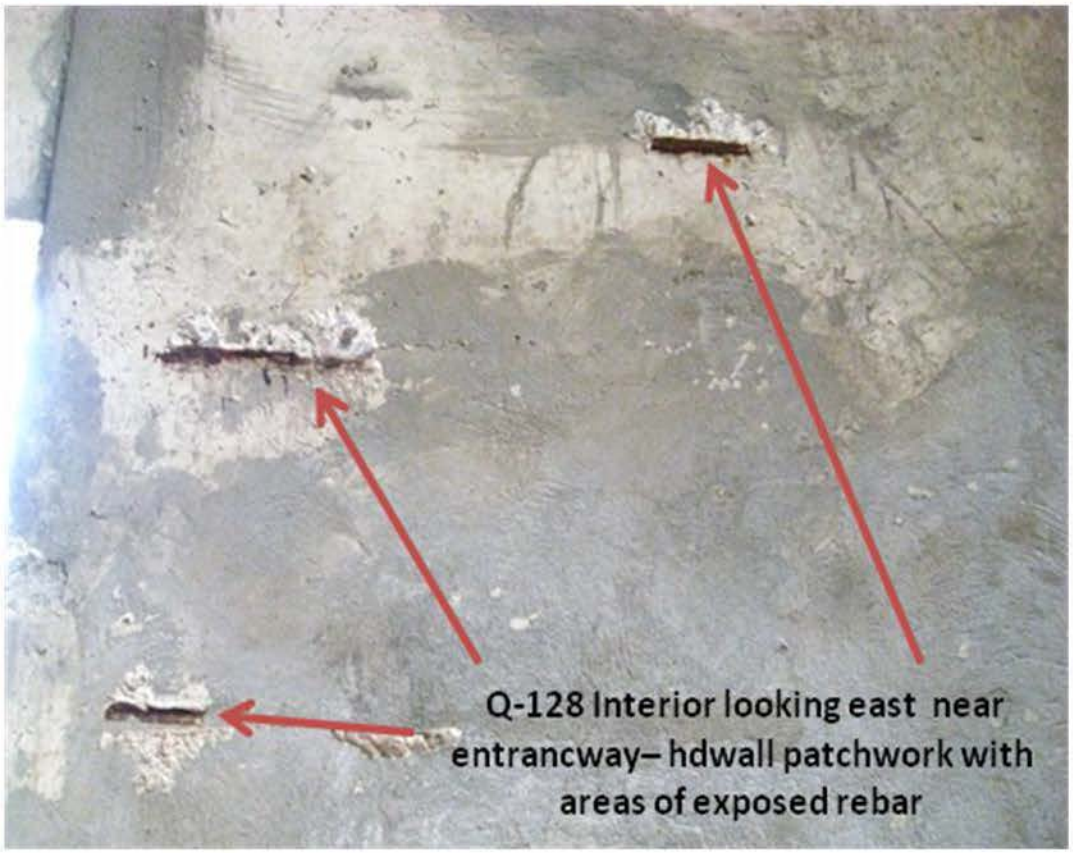
APRIL 22 2011



Igloo #: **Q-128 Potential Tornado Shelter**




RVAAP IGLOO Q-128
GRP 1-A 24NOV2010


Q-128 Interior looking east near entrancway– hdwall patchwork with areas of exposed rebar

1400 Hrs Check-In W/ Post #1

IGLOO INSPECTION FORM

Igloo #: **Q-129 Tornado Shelter**

Date: 24 Nov '10 Time: 1400 Hrs Weather: Calm - Cloudy - 40°F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q-129 #1 Ext.

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top of Igloo Brier infested — Difficult to No Access to view Barrel-Hdwall Seam
A Trees growing in Area South of end of Top Headwall outside Barrel Area - Floor Vents No Screen
TOE Drains Present - Both Sides of Access Door
No Culvert Pipe Running N-S Past Igloo
Standing water in South drainage ditch

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No Access Door Warped
Latch Arms Seized - Could Not Remove
Retaining Pin - Tried Axe Handle As Pry
But No Movement

Obvious downstream surface water pathway available to sample sediment? y — Towards Sump

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? N

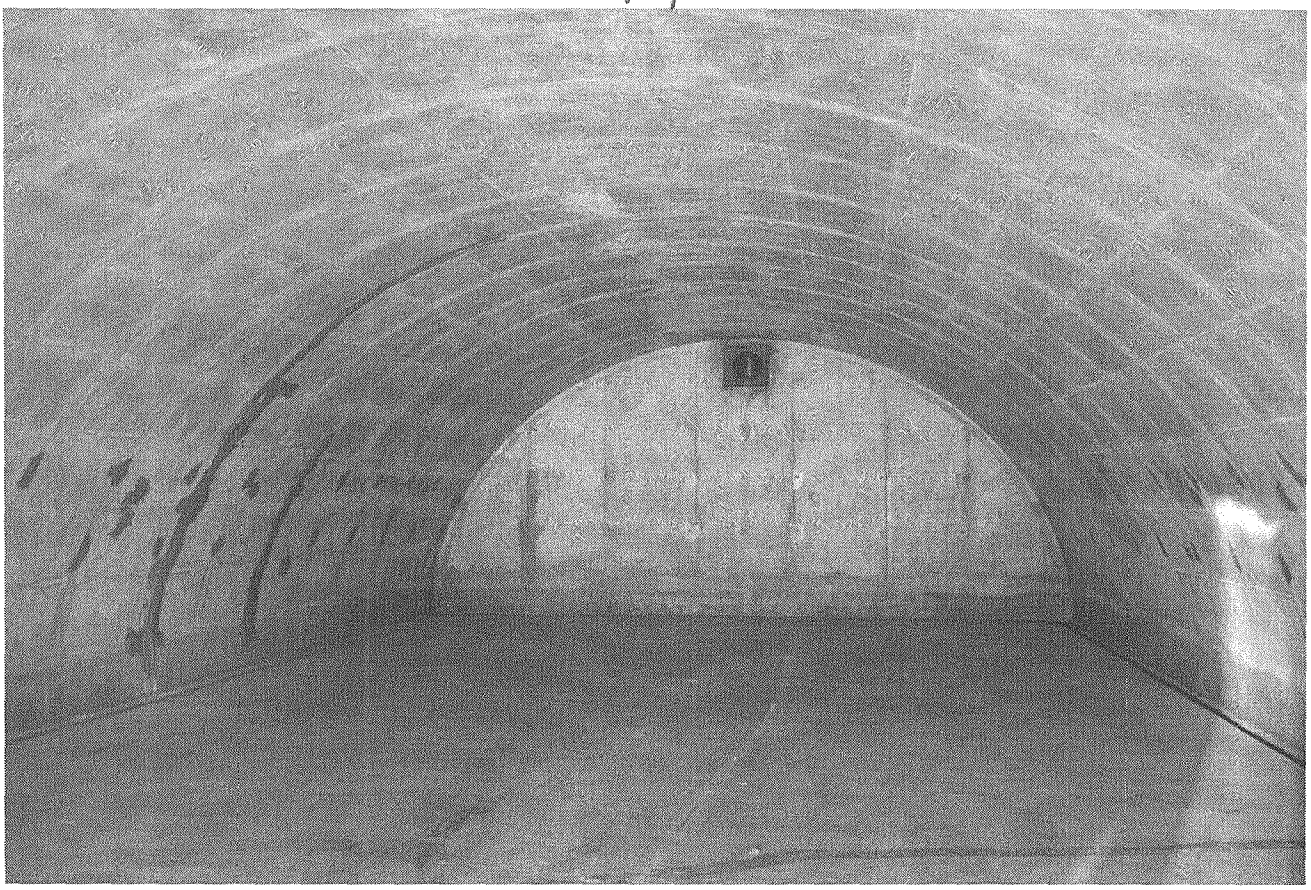
If yes what type? X

Other Notes:

Igloo #: Q-129 Tornado Shelter

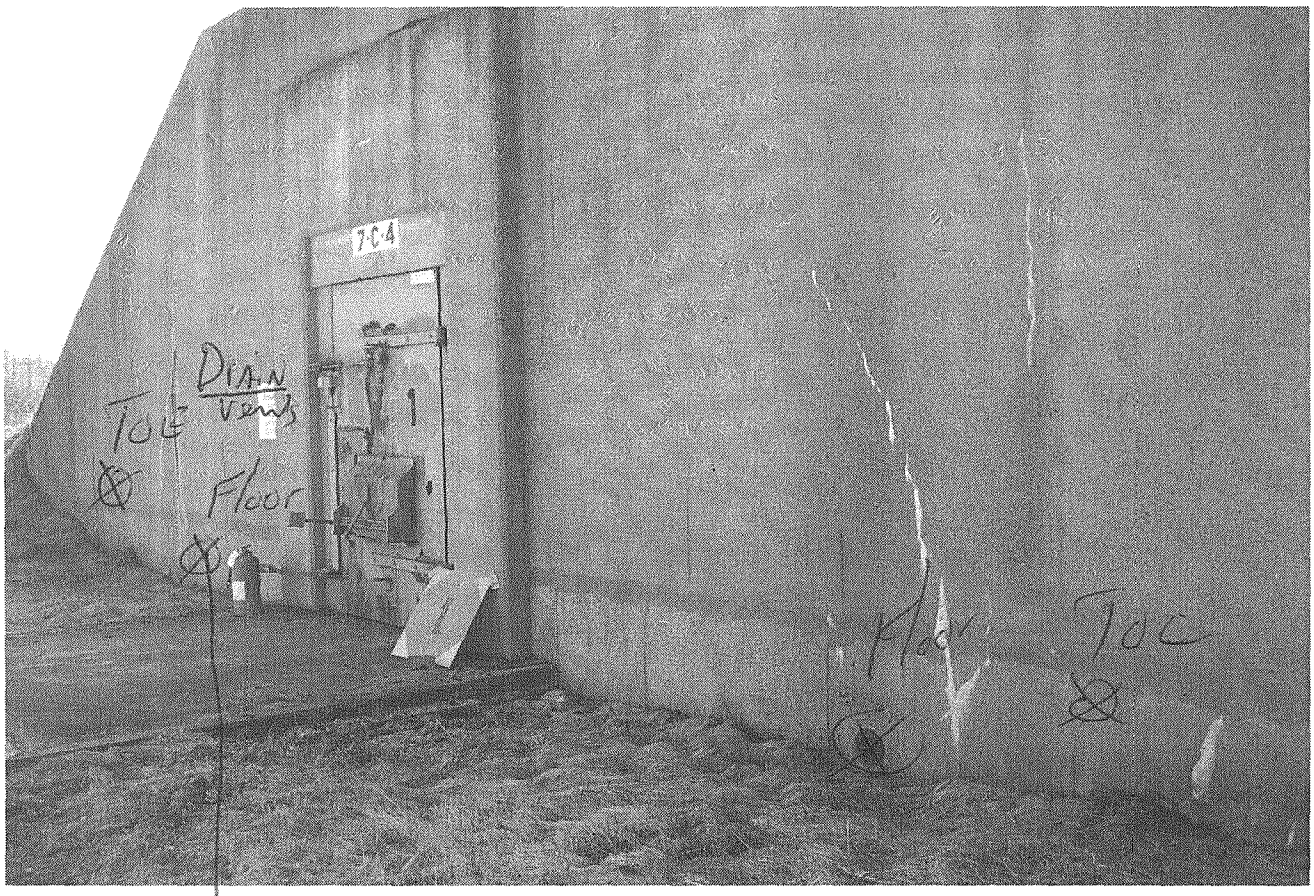
24 Nov/10

No Access
Door Warped
Top Latch Arm Seized



Igloo #: Q-129 Tornado Shelter

24 Nov '10
JM



Floor DRAIN Shows Moisture Stain
W/ Green Algae Coloration

IGLOO INSPECTION FORM

Igloo #: **Q-129 Potential Tornado Shelter**

Date: **APR 2011** 4/27/11 Time: 0953 Weather: partly cloudy, mild, 55°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

COMPLETED EXTERIOR SURVEY 24 NOV 2010

Igloo Interior: To be Completed
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- relatively dry
- evidence of crack repair

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

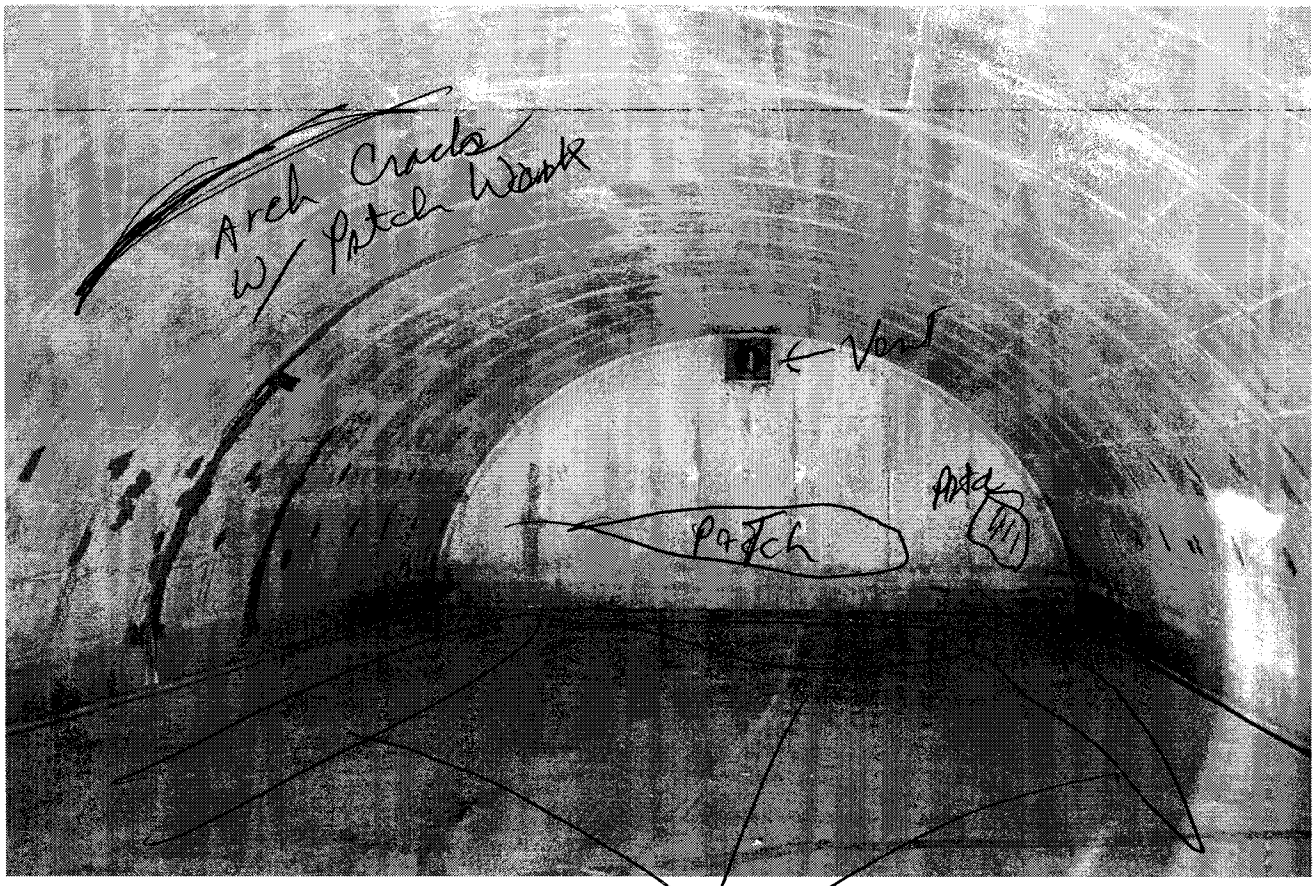
If yes what type?

Other Notes:

Igloo #: **Q-129 Potential Tornado Shelter**

E.S. Cheng - USACE-LRL &

APRIL 22 2011



Igloo #: **Q-129 Potential Tornado Shelter**




RVAAP IGLOO Q-129
GRP 1-A 24NOV2010


Exhaust Vent
to Outside Air
Overhead Tramrail
Q-129 Interior looking west towards backwall –walls and ceiling show significant amount of patchwork – room contains dunnage & relatively dry

IGLOO INSPECTION FORM

Igloo #: **Q-130 Tornado Shelter**

Date: 24 Nov Time: 1345 Weather: Calm - Cloudy 40s °F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top of Barrel Briar infested
Mshe Prosumptions fm interior / Access Door
10" VCT Full Run N-S Pass Plat form Warped
South Face of Hdwll Has Horizontal Crack @
lower pour Seam - Bottom Portion Calcified
Cracks also around Floor Drain Vent

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Not Entered Access Door Warped
Latch Arms Upper in Tight Position
Tried to loosen w/ Axe Handle - Arm Would
Not Budge - Need 2 people & Pry Bar

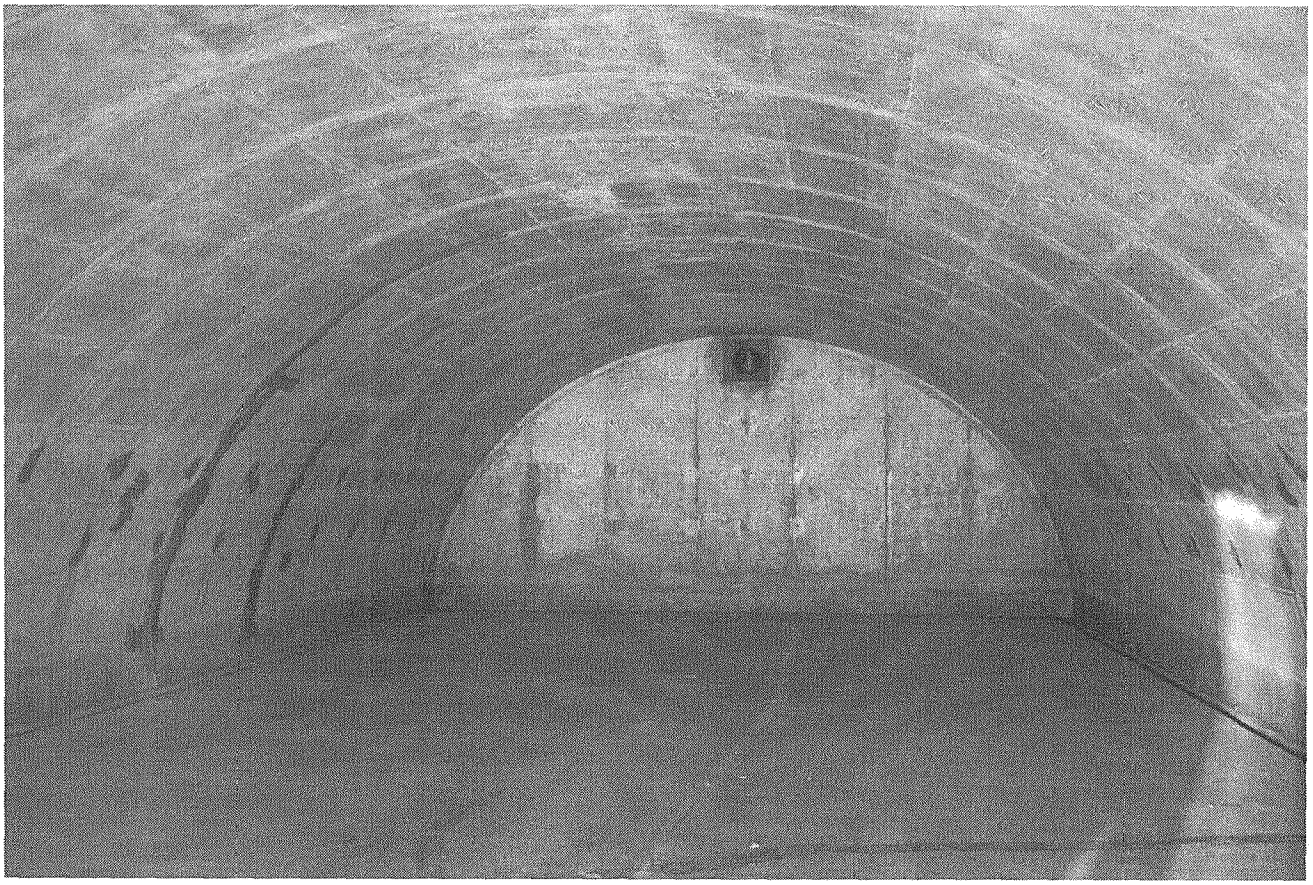
Obvious downstream surface water pathway available to sample sediment? Yes - Flow Ditch South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? X

If yes what type? VCT 10" Pipe - Runs Full length of Igloo Between Platform & RR Bed

Other Notes:

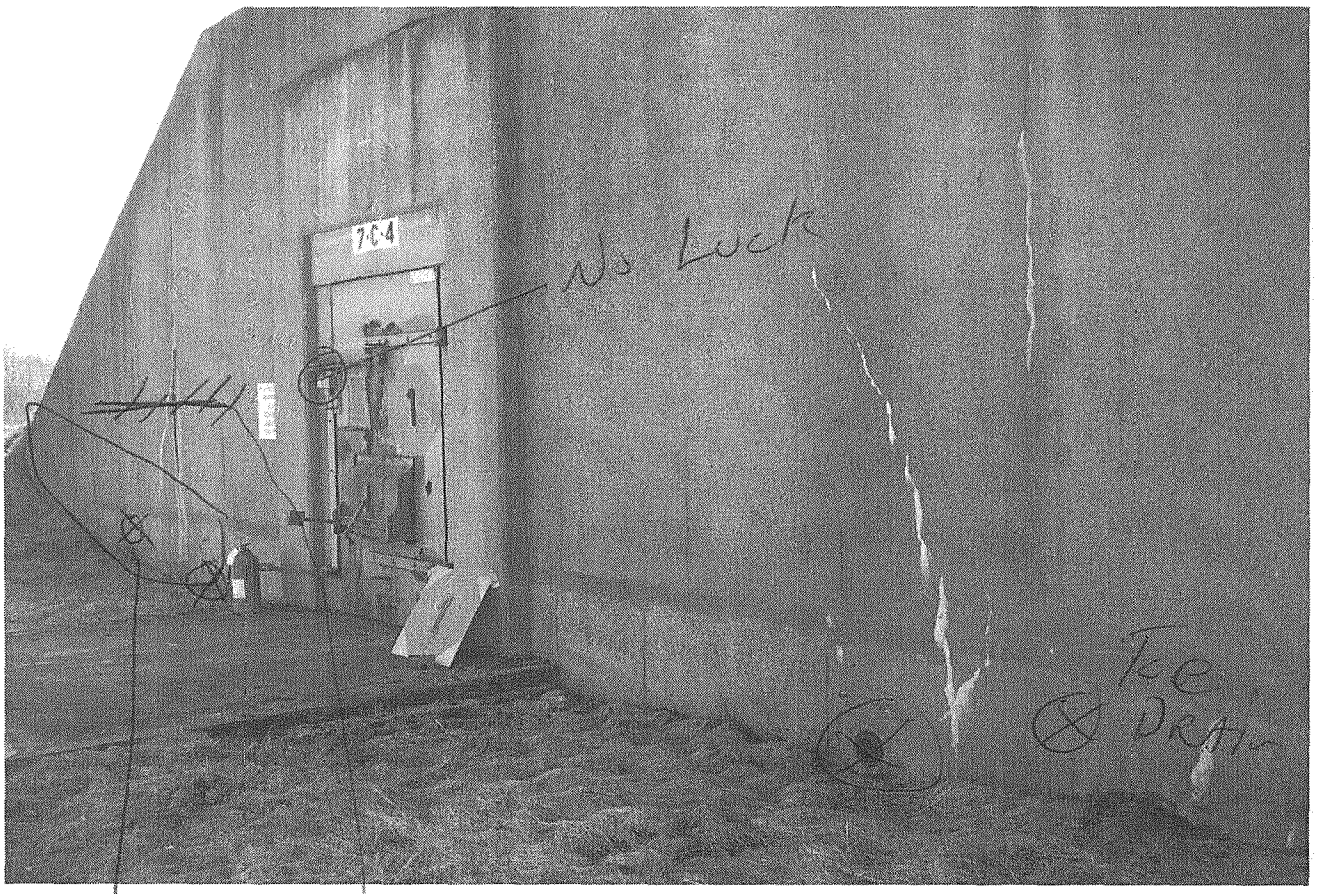
Igloo #: Q-130 Tornado Shelter



No Access

~~Door~~, Door Warped
Latch Arm Seized
Requires 2 people + Pry Bar

Igloo #: Q-130 Tornado Shelter



IGLOO INSPECTION FORM

Igloo #: **Q-130 Potential Tornado Shelter**

Date: 4/27/11 **APR 2011** Time: 1001 Weather: cloudy, 60°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

COMPLETED EXTERIOR SURVEY 24 NOV 2010

- cracks and staining evident on exterior of headwall

Igloo Interior: To Be Completed
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- moisture on interior of headwall
- evidence of moisture leakage from two areas along ceiling
- evidence of patchwork on headwall.
- no rodent's nest in drainage trench.

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

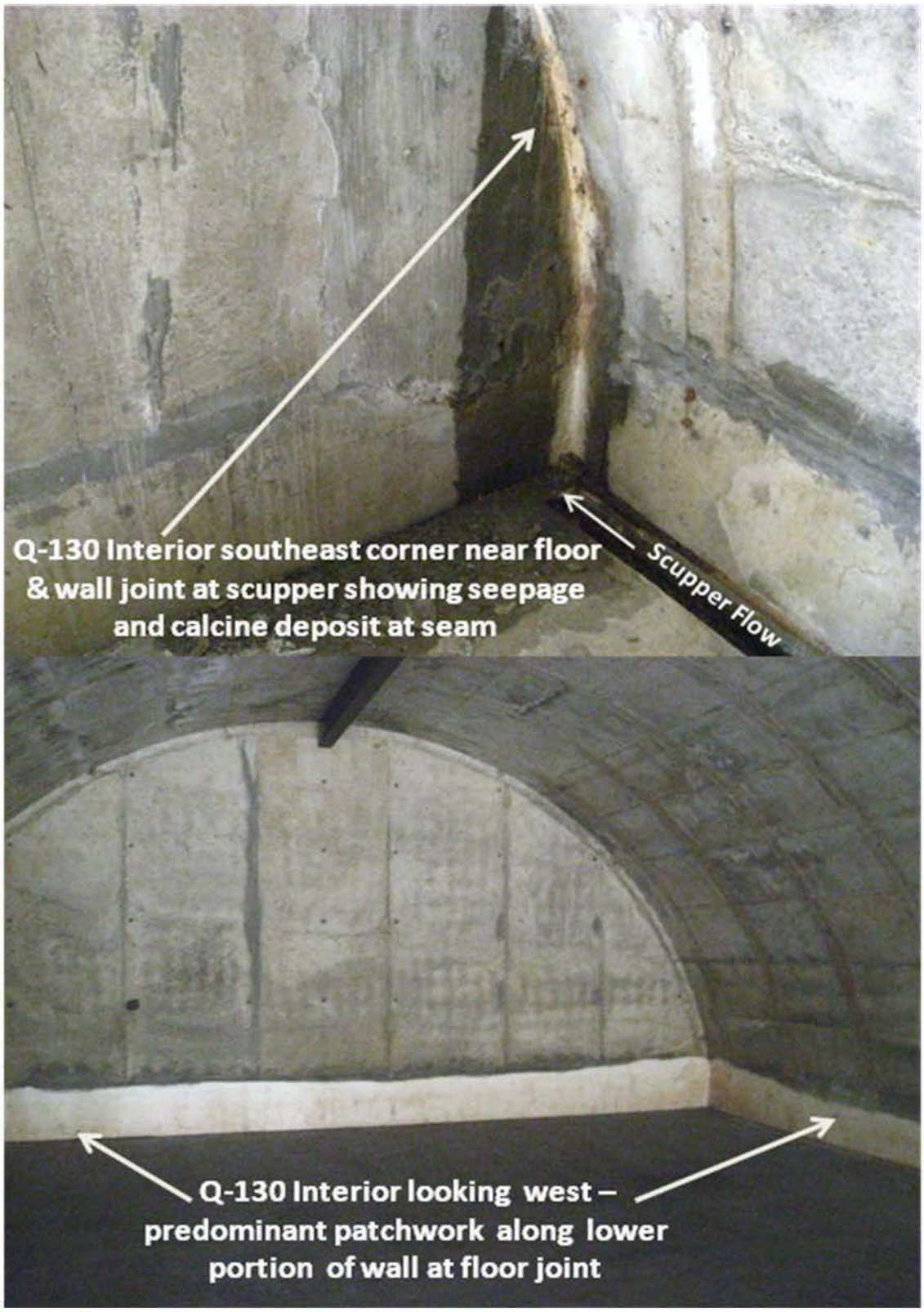
If yes what type?

Other Notes:

Igloo #: **Q-130 Potential Tornado Shelter**




RVAAP IGLOO Q-130
GRP 1-A 24NOV2010


Q-130 Interior southeast corner near floor & wall joint at scupper showing seepage and calcine deposit at seam
Scupper Flow
Q-130 Interior looking west – predominant patchwork along lower portion of wall at floor joint

IGLOO INSPECTION FORM

Igloo #: **Q-131 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1325 Weather: Cloudy - Calm - 40s F°C

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q131 #1 B x T

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Evidence of Hdwall - Barrel Seperation
Overgrown w/ weeds & Brush/Briars
Front Hdwl showing slight Cracks
& Calcium Deposits - 10" VCT Pipe - Full
length of Hdwll Face

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Moisture in Concrete - No Standing Water
Scuppers Dry — Lots of Dunnage
Interior Looks Good

Obvious downstream surface water pathway available to sample sediment? Y - Flows South

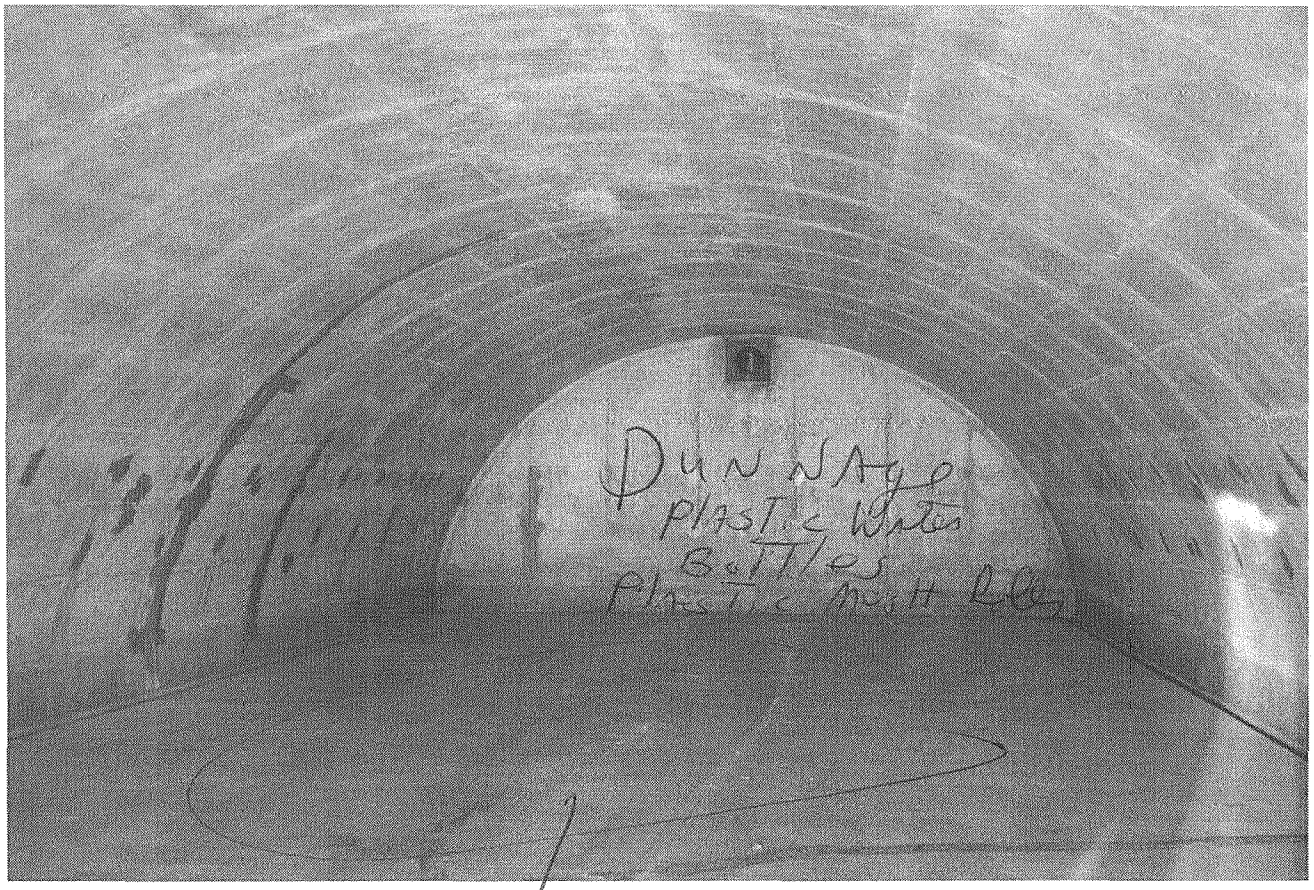
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Y

If yes what type? VCT 10" Pipe - Buried - Runs Full length of Trackside

Other Notes: N

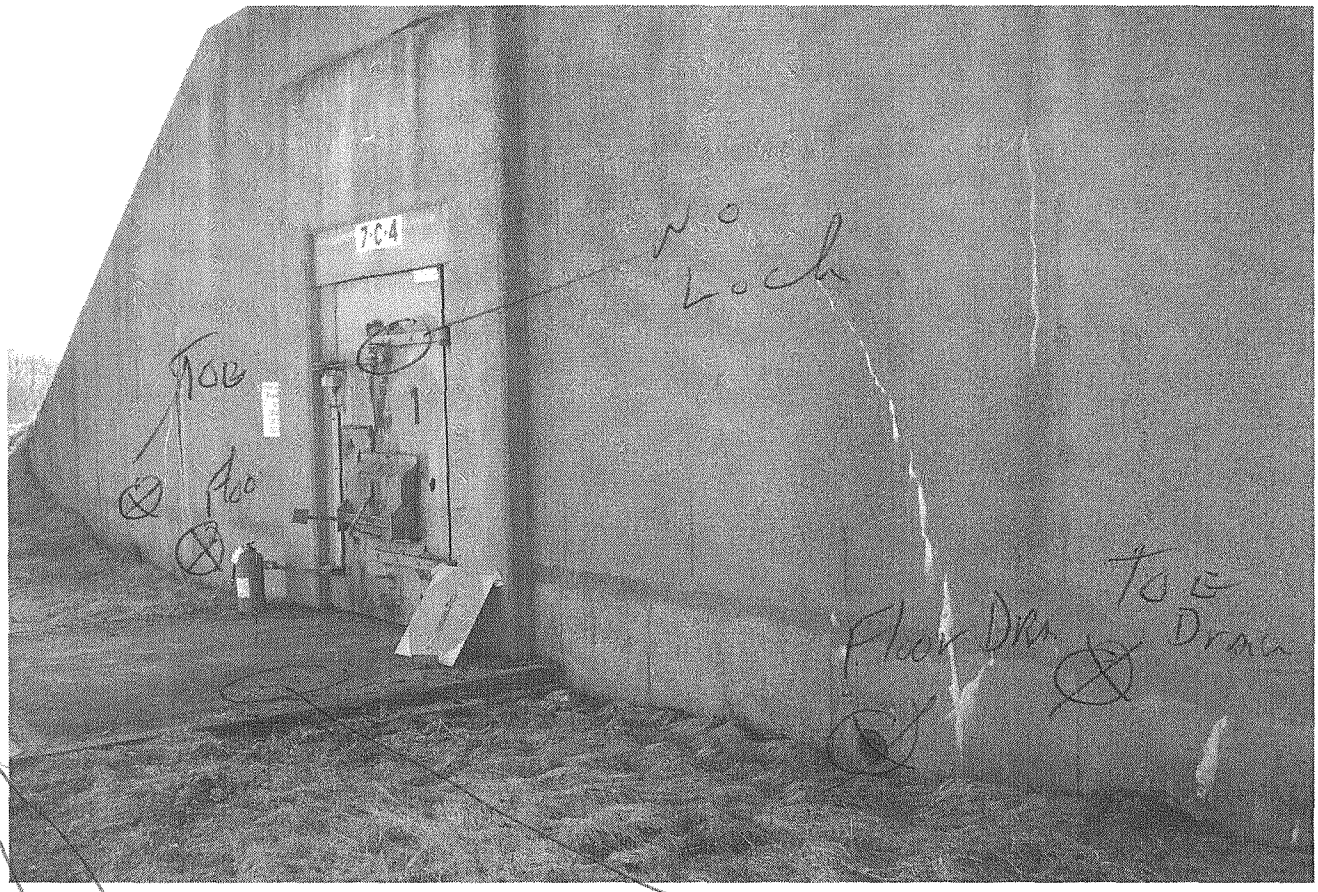
Igloo #: Q-131 Potential Tornado Shelter

24 NOV '10



Floor moisture in Concrete

Igloo #: Q-131 Potential Tornado Shelter



Platform Elevated As w/ all Q Track Igloos


Q-131
RVAAP IGLOO Q-131
GRP 1-A 24NOV2010

IGLOO INSPECTION FORM

Igloo #: **Q-132 Potential Tornado Shelter**

Date: 24 Nov Time: 1312 Weather: Calm - Cloudy 40s F°

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q-132 #1 / 13 & 14

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Top Headwall Covered in Briars Can't ~~see~~ - get to Hdwll - Barrel Joint - Hdwll Face OKay - Minor Calcification on South End of Wall - Standing water in Both Ditches - Toe & Floor drains Both Sides of Access Door 10" VCT Pipe Full length in FRONT of Igloo

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Inside Dry - No Water
Extreme amount of Dunnage

Obvious downstream surface water pathway available to sample sediment? Y - Flow South Ditches

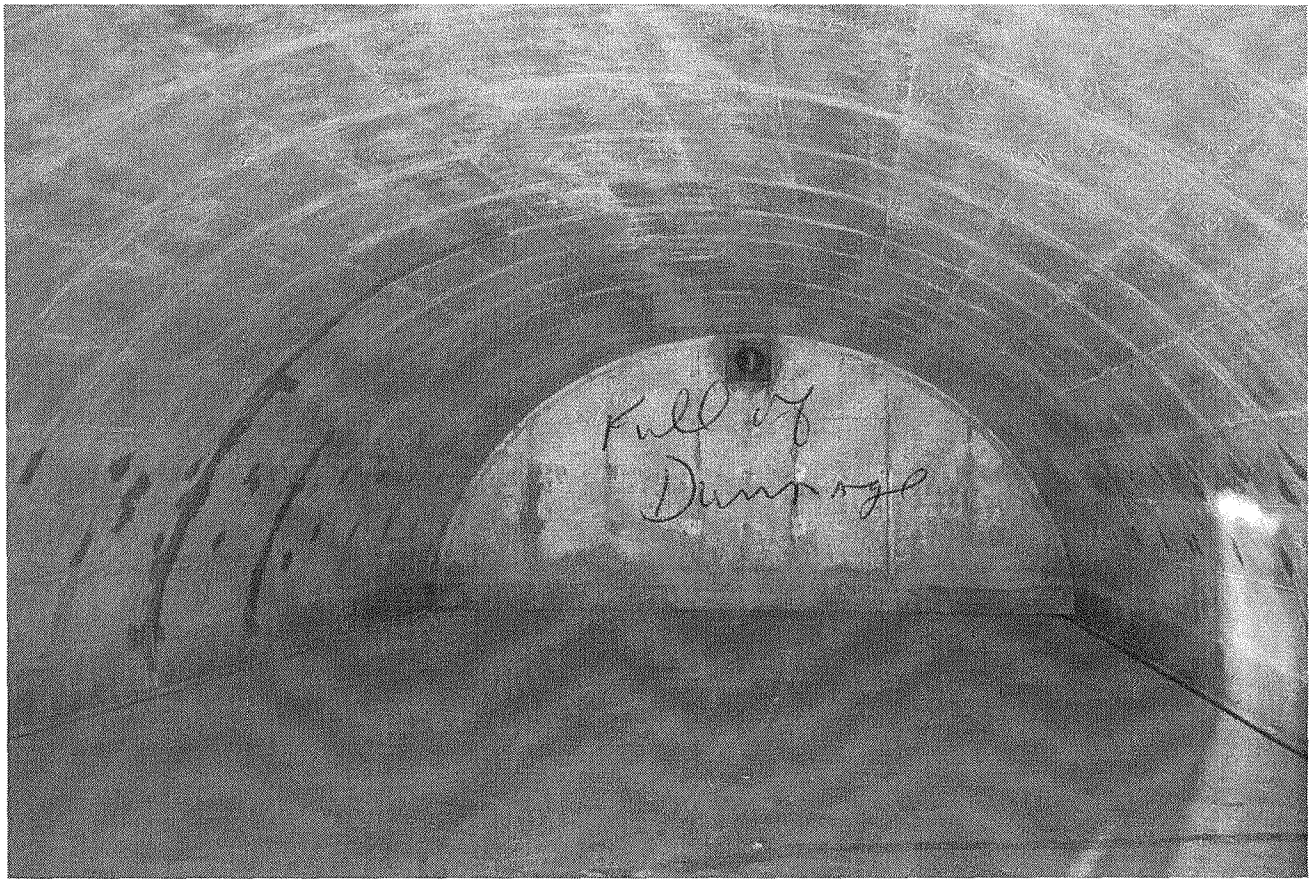
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? VCT Pipe - Full Run - Igloo Length

Other Notes: No

Igloo #: Q-132 Potential Tornado Shelter

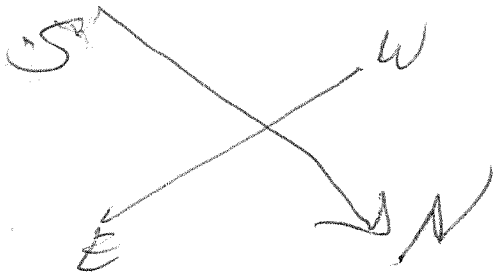
24 Nov '10

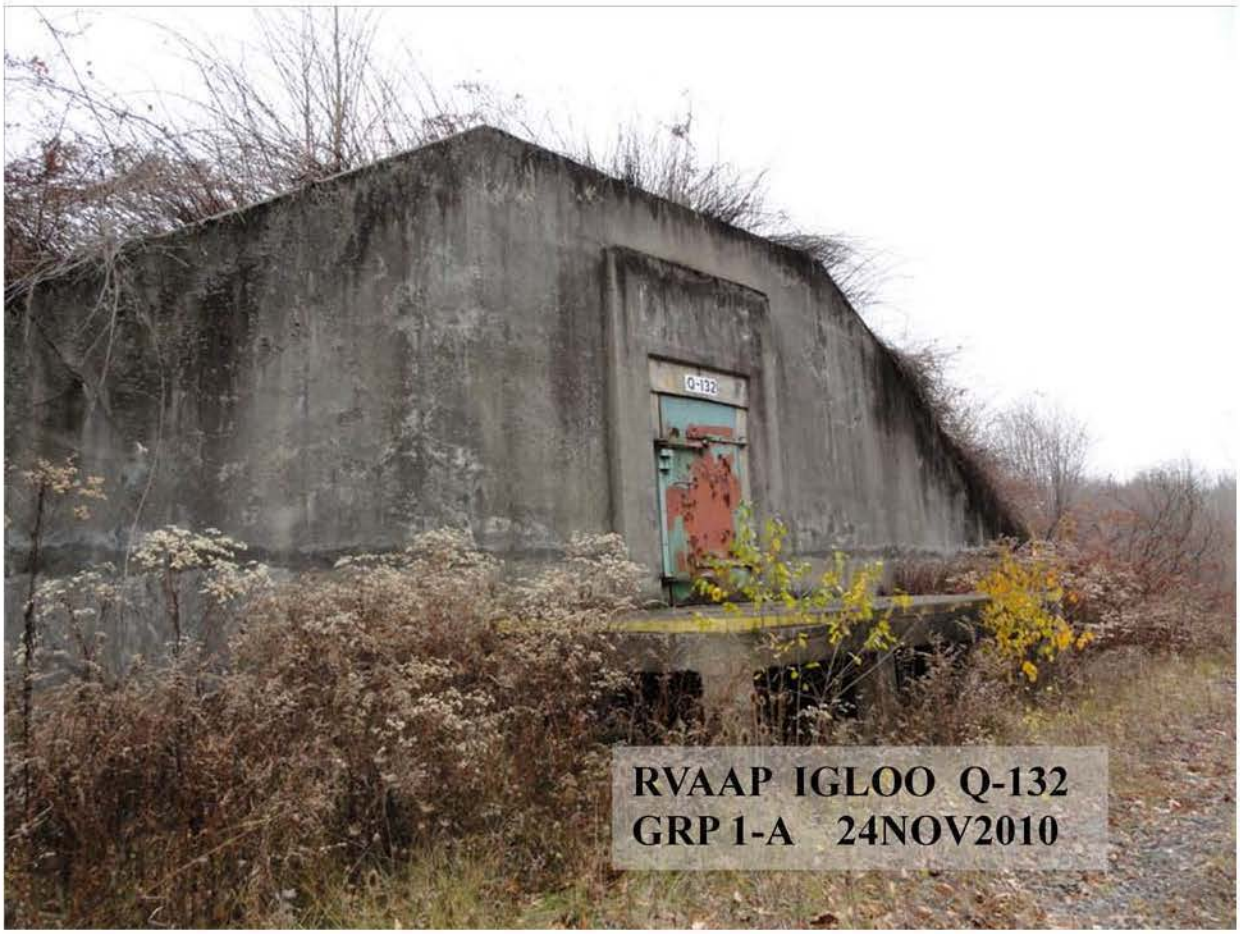


Scuppers Dry —

Igloo #: Q-132 Potential Tornado Shelter






Q-132
RVAAP IGLOO Q-132
GRP 1-A 24NOV2010

IGLOO INSPECTION FORM

Igloo #: **Q-133 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1246 Weather: Calm - P. Sunny - 40s °F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q-133 #1 EXT #2 INTER NE CORNER INTERIOR Calcined Deps

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Seperation - Hdwl Barrel
10" Culvert Runs full Iglo length along Trackside — Calcined Crack on South end Wall Face — Briars Invaded on Top!
Standing Water Both E & W of Trackside Floor & Toe Drains Both Sides of Platform

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dunnage-Same As Q134 — 139 A Lot Dunnage Wor Northeast Barrel Headwall Seam Shows Calcined Deposits - No water on Floor on Scuppers Concrete moist on Floor near access Door Most Dunnage Seen — Good Odor!

Obvious downstream surface water pathway available to sample sediment? Y - South drain - W/ standing H_2O

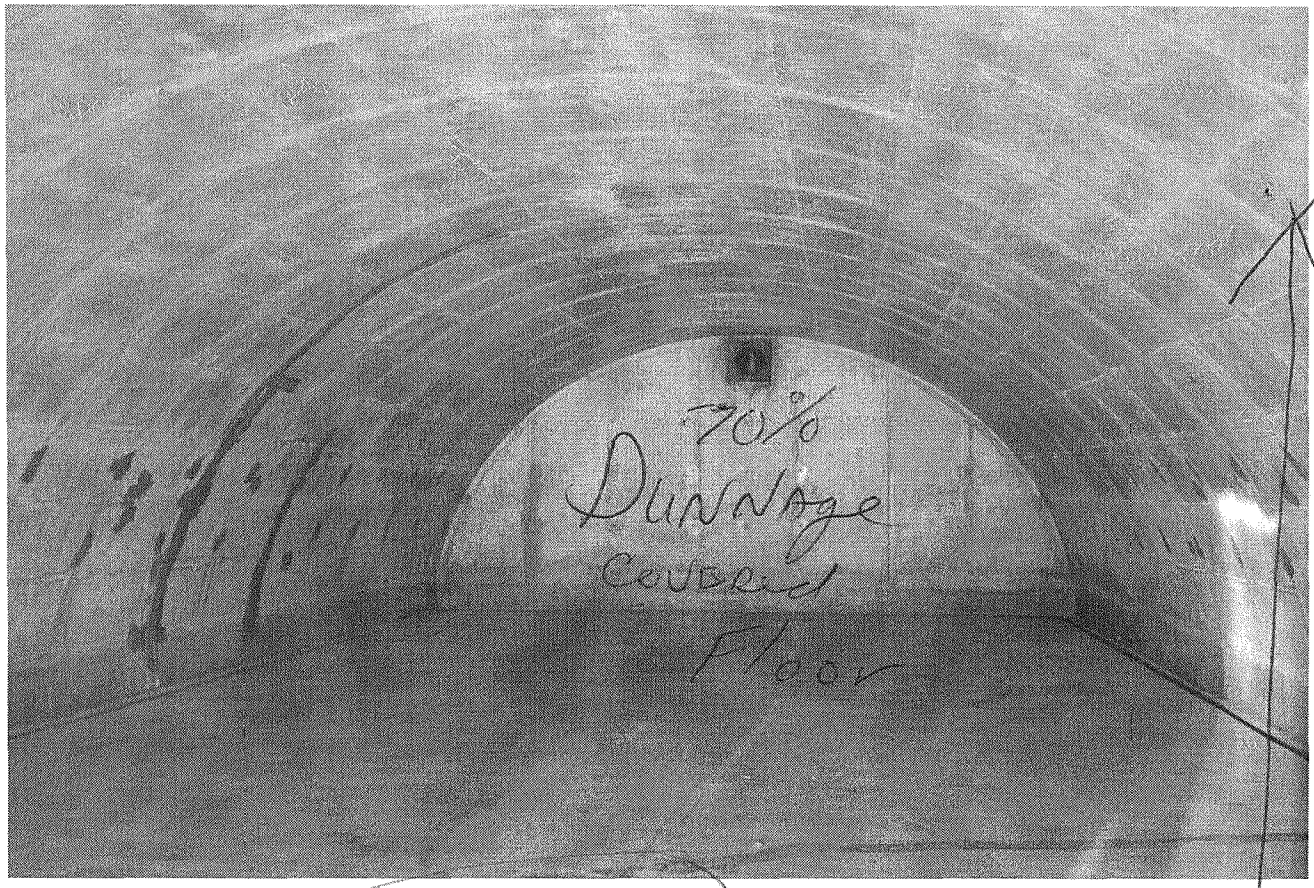
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? VCT Pipe — Runs full length of Between Iglos & Tracks

Other Notes:

Igloo #: Q-133 Potential Tornado Shelter

24Nov'10



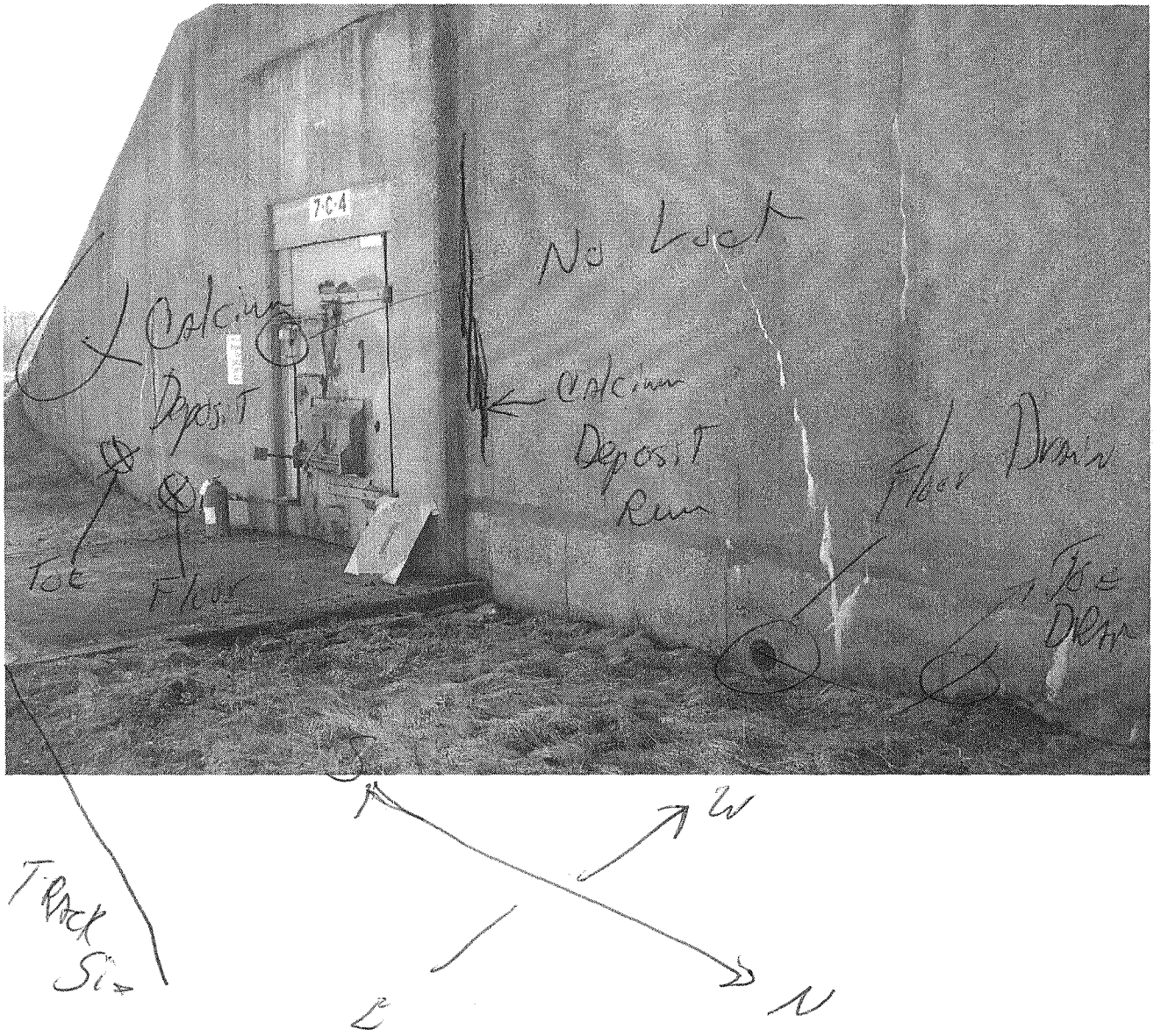
Scuppers Dry

Moisture on Floor AT Entrance

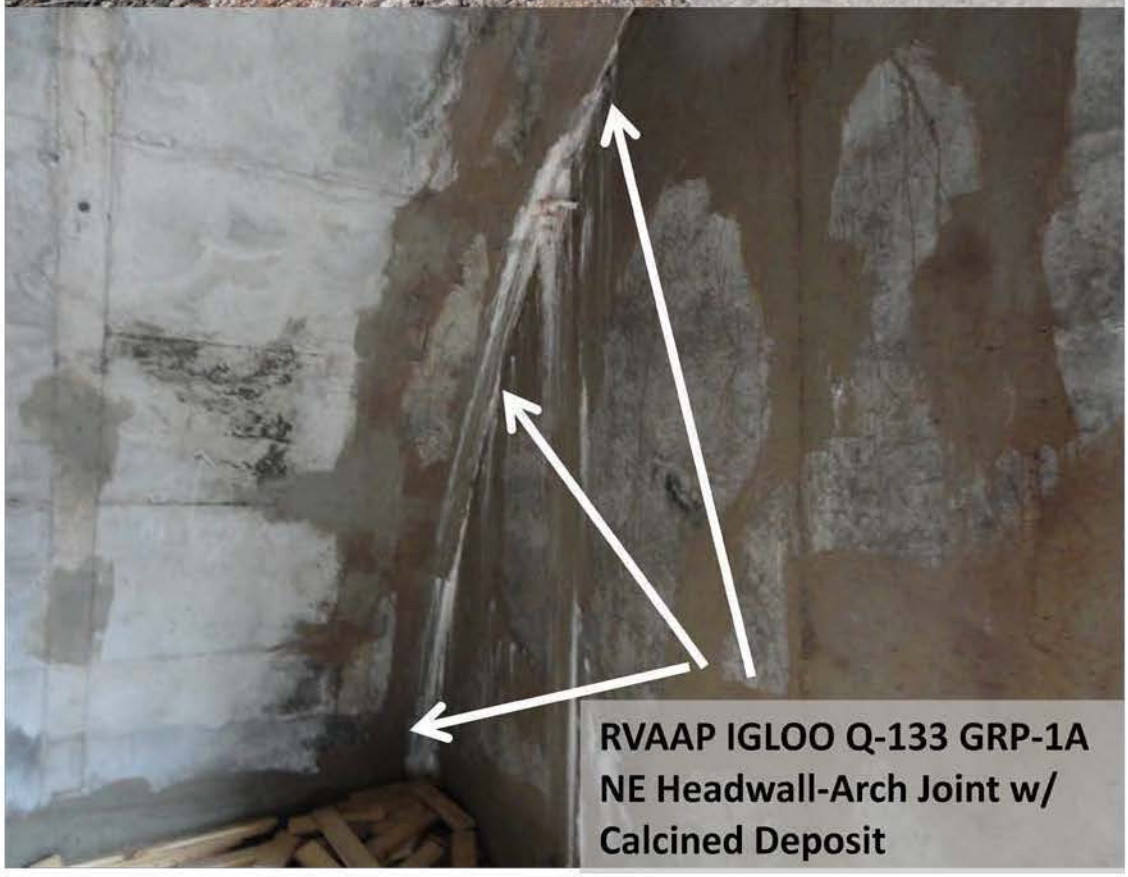
Photo →

Hd WH & Barrel Seam w/ Calcined Deposit

Igloo #: Q-133 Potential Tornado Shelter




Q-133
RVAAP IGLOO Q-133
GRP-1A 24NOV2010


RVAAP IGLOO Q-133 GRP-1A
NE Headwall-Arch Joint w/
Calcined Deposit

IGLOO INSPECTION FORM

Igloo #: **Q-134 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1226 Weather: Calm - Overcast - 40s °F

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q134 Ext #1 - #2 South Ext Floor Drain

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Same Concrete cap deterioration same end - Read Q135 Report (Headwall Outer Extents show cracks)
Ext. Barrel - Headwall No Separation
Culvert Pipe - Runs full length of Hdwall between Platform & RR Bed
Each side Access Door Has Floor & Toe Drain
South Floor Drain Heavily Calcified Deposit
Standing Water in Igloo side & opposite Side Ditch Lines

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Door Warped - A Lot of Pressure on Upper Latch Arm - Couldn't Pull secure-pin.
Need long crowbar & another person To open
Did NOT ENTER!

Obvious downstream surface water pathway available to sample sediment? Y - South drainage w/ Ditch

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes - VCT Buried

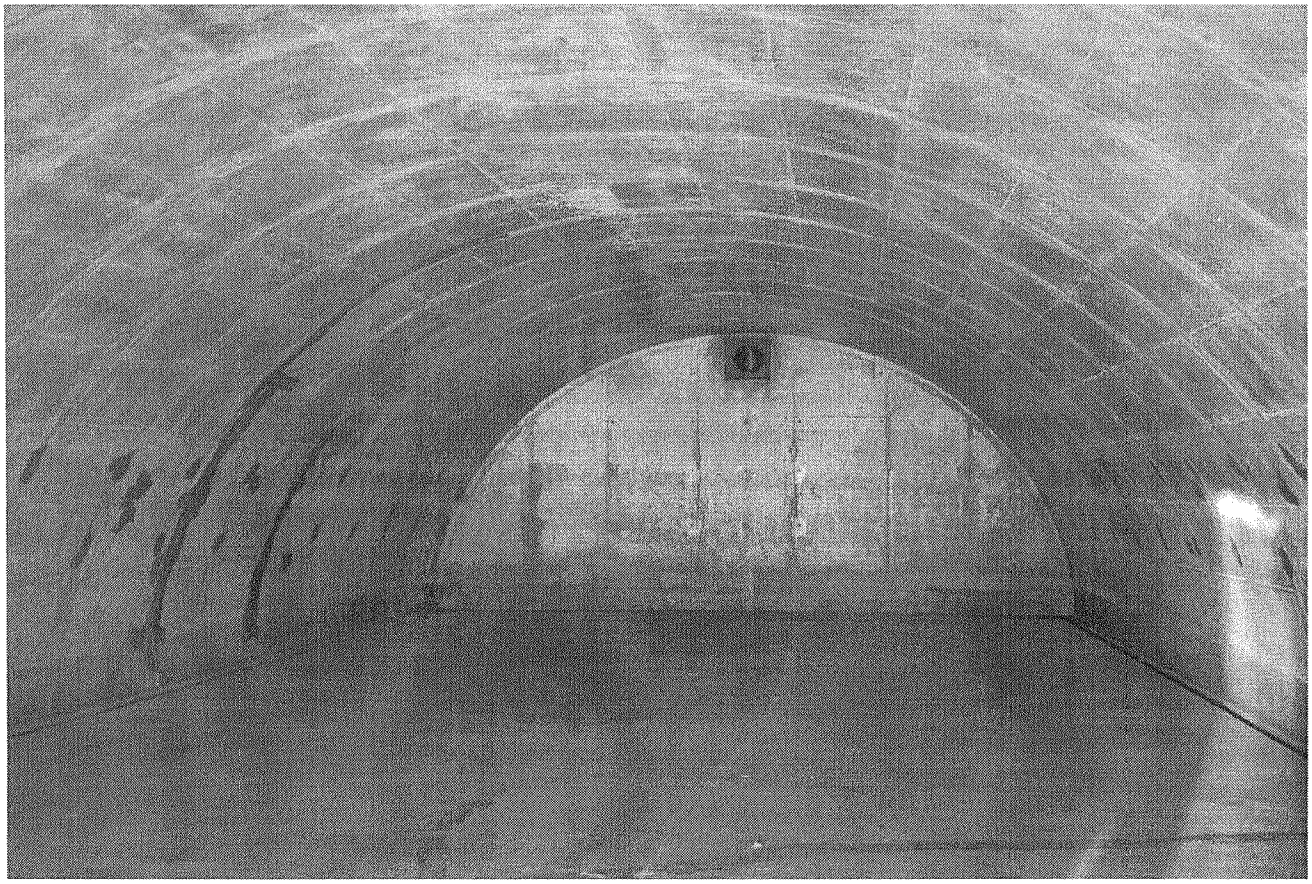
If yes what type? VCT Buried pipe - Runs East length of Igloo between Platform &

Other Notes:

Could Not Access Interior - Need 2 people & Leverage Open

Igloo #: **Q-134 Potential Tornado Shelter**

24Nov'10



Could not Access – Latch Arms under Door ~~Beam~~ Pressure (Warped)
will Take 2 people

Igloo #: Q-134 Potential Tornado Shelter



IGLOO INSPECTION FORM

Igloo #: **Q-134 Potential Tornado Shelter**

Date: APR 2011 4/27/11 Time: 1012 Weather: cloudy, overcast, 60°F

Inspector: E.S. Cheng - USACE-LRL & Picture Numbers:

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

COMPLETED EXTERIOR SURVEY 24 NOV 2010

Igloo Interior: To Be Completed
(Items to note: cracks in walls/floor, moisture present, staining, etc)

- relatively dry
- evidence of crack repair

Obvious downstream surface water pathway available to sample sediment?

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

Other Notes:


RVAAP IGLOO Q-134
GRP-1A 24NOV2010


RVAAP IGLOO Q-134 GRP-1A
Calcine Exudation Around
Uncovered Exterior Floor Drain


Q-134 Interior looking northeast corner at hdwall-arch joint near entance-way – patchwork with calcine deposition indicating seepage


Q-134 Interior looking north arch-wall - y – failing patchwork along the pour joint – dunnage on floor

IGLOO INSPECTION FORM

Checking w/ PST #1 / 1200 HRS
1200 Hrs / Called Morgan @ OHARNG
Called about potential PCP Treated Dunnage and Q-Track Igloos

Igloo #: **Q-135 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 1158 Weather: Calm - Overcast - 40

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q135 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Ext HdWll - Barrel Separation Lower South Top Edge of Hdwll Severe Deterioration of Concrete Cap - Calcine Deposits All Top & Bottom Wall - Both Toe + Floor Drain Each side of Access Door VCT Culvert Pipe (Buried) Runs Length (N-S) Between Platform & RR Bed

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dunnage Stacked - Floor Shows Dampness Entering through Door Seal and/or seam Joint of Platform & Headwall

Obvious downstream surface water pathway available to sample sediment? yes - Appears N to S

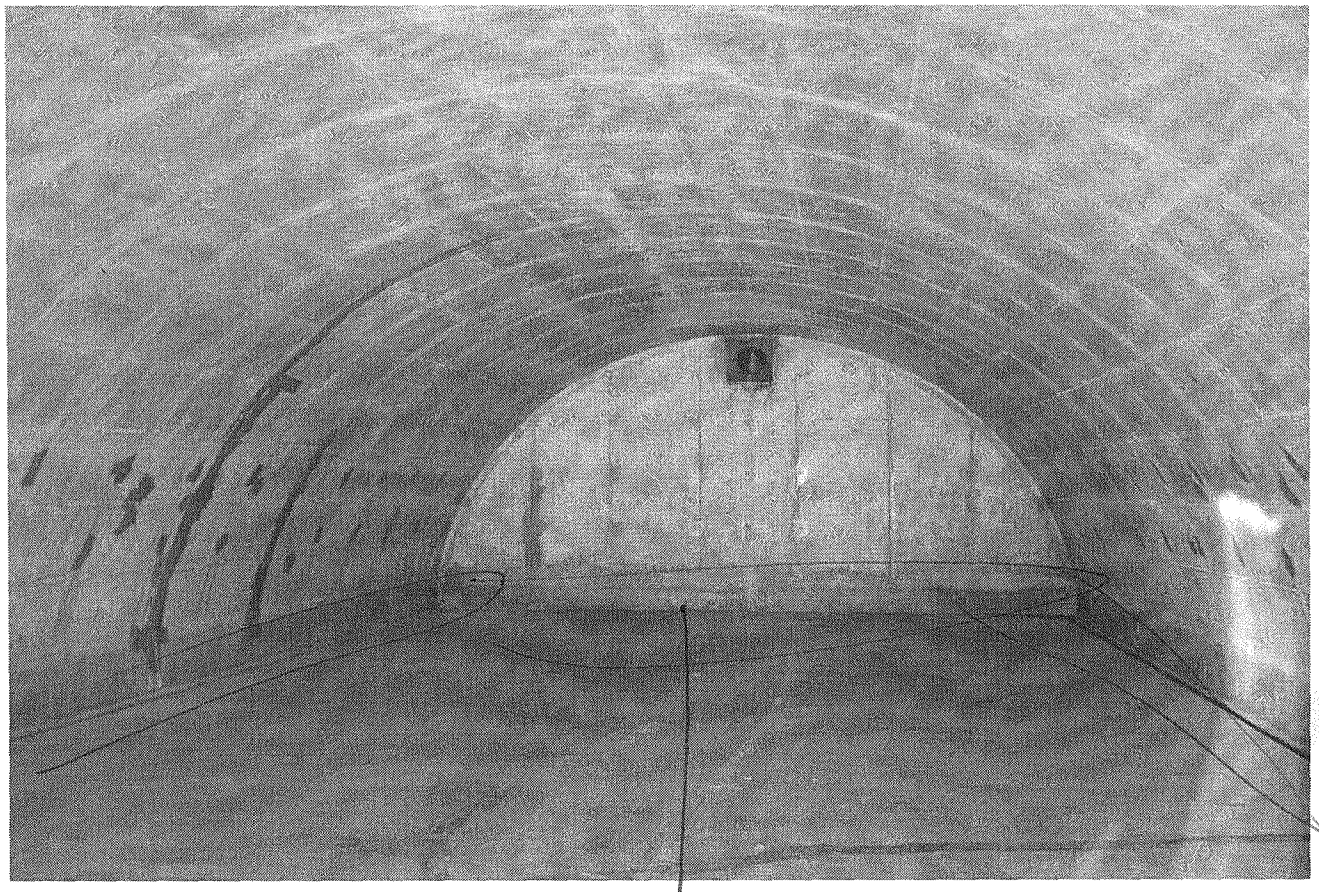
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? yes - VCT Pipe

If yes what type? Vitreous Clay 10" - Buried Along edge of RR Bed in Front of Igloo

Other Notes:

Igloo #: Q-135 Potential Tornado Shelter

24Nov10

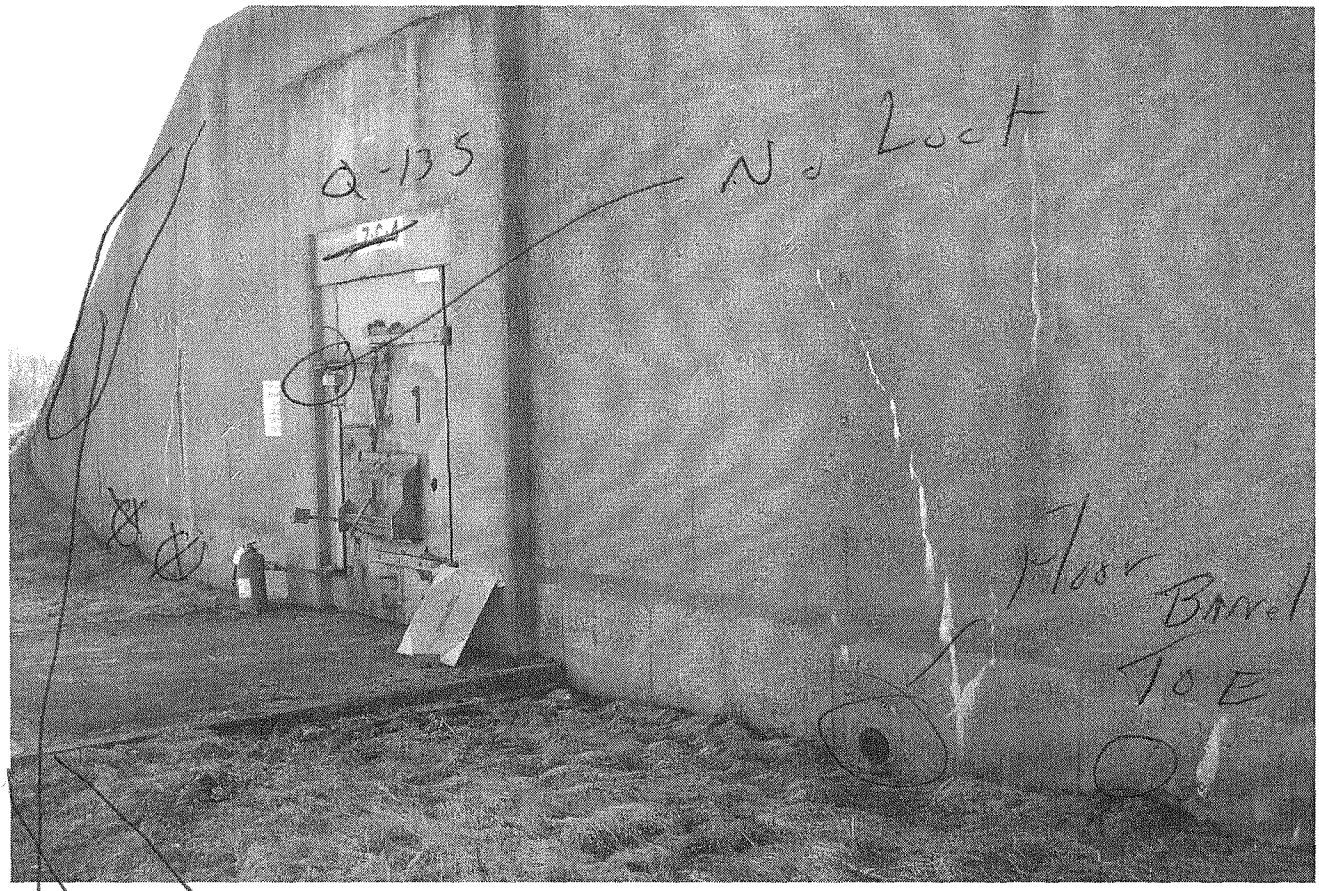


Scuppers
Dry

Damage
Floor Damp
Water Leakage Around Door seal &
Ext. Platform & Headwall

Igloo #: Q-135 Potential Tornado Shelter

24 Nov 10



RR Bed

UNG VCT Pipe

Severe Concrete Cap Deterioration


RVAAP IGLOO Q-135
GRP-1A 24NOV2010

IGLOO INSPECTION FORM

Igloo #: **Q-136 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1140 Weather: Calm - 40s °F - Overcast

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q136 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Outer Headwall Separation
Floor Vents on Hdwall Uncovered (No Screen)
Minor Calcine Deposit on Both Face Ends
10" Buried VCT Pipe in Front Runs Full length of Hdwll
Standing water in ditch East side of Tracks
(Igloo on West Side)

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Accessible - Door operates Well -
Dunnage Stacks same as Q137-138-139
Scuffers - Patchwork of cracks in Floor & Arches
Much inscriptions fm 1953-1954 ERA -
Drawings - Recovered 4 ea. AT R Cards
saying Comp B was stored in this igloo

Obvious downstream surface water pathway available to sample sediment? Y - Kind of a Terrain Lo-Spot

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? - yes - 10" Buried VCT pipe

If yes what type? VCT Pipe Runs Length of Hdwll along edge of Adds

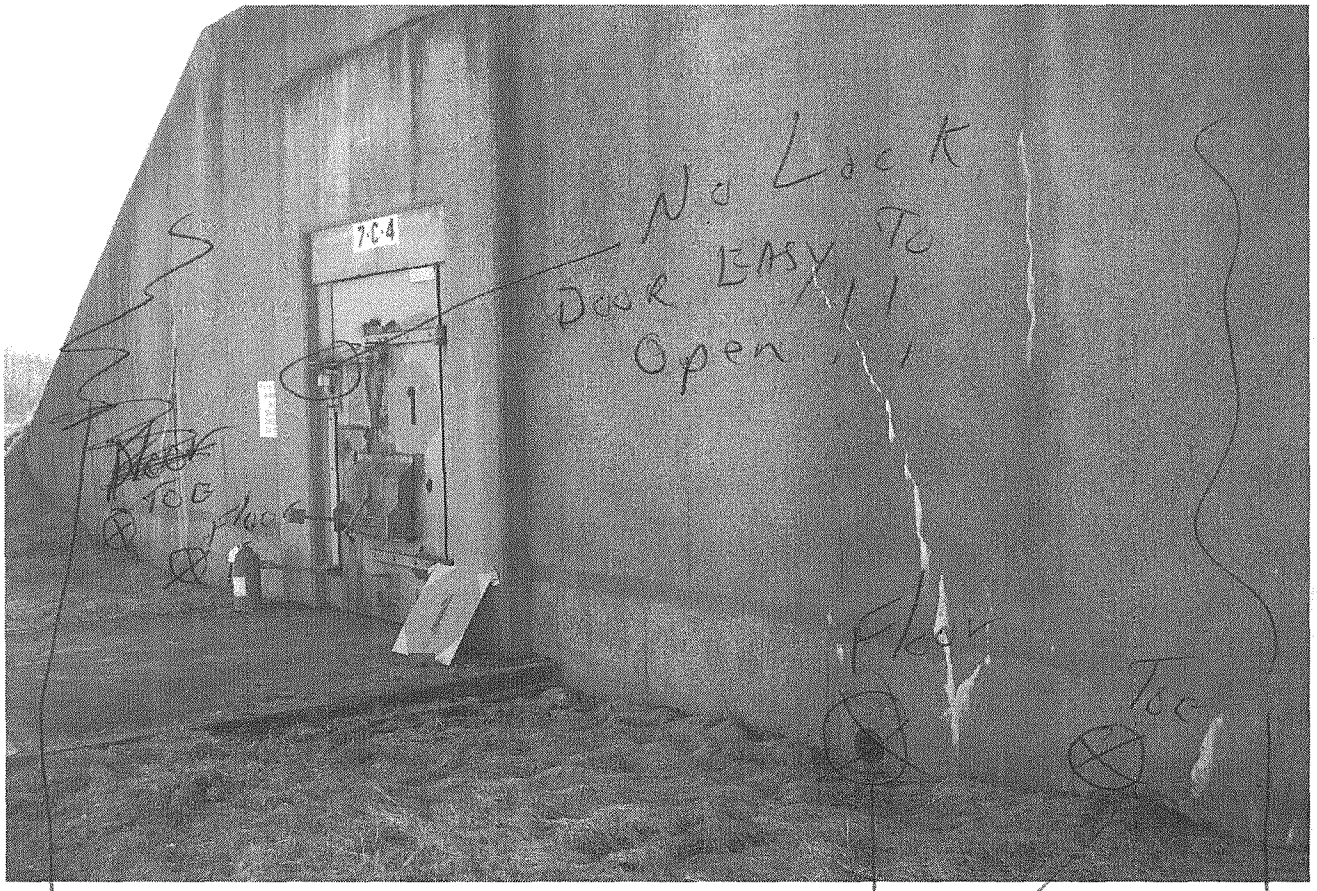
Other Notes: Wasps / Could Be a problem @ this igloo in Warmer Months

Igloo #: Q-136 Potential Tornado Shelter



Patch Repairs on Floor & Arch Cracks
Dunnage on N-S-W walls.
1953-54 Inscription

Igloo #: Q-136 Potential Tornado Shelter




Q-136
RVAAP IGLOO Q-136
GRP-1A 24NOV2010

Federal Stock Number	NOMENCLATURE	LOCATION	T/S
1376-00-C28-3306	Comp B Grade A	Q-136	

LOT NUMBER	CONDITION	AMOUNT PER PKG.	NO. PKGS. PER STACK	NO. LIGHT PKGS. PER STACK
Hol-052-595	A	60	142	

DATE	DOCUMENT NUMBER	+ OR −	QUANTITY RECEIVED + ISSUED −	BALANCE	SIGNATURE
3-4-75	K809-203	+	8520	8520	
5/1/75	TS-450-75			8520	
4-15-76	IS-527-76			8520	
5-24-77	IS-503-77			8520	
7-14-78	IS-496-78			8520	
6-7-79	IS-502-79			8520	
5-2-80	IS-542-80			8520	
6-10-81	IS-523-81			8520	
8-2-82	IS-524-82			8520	
7-29-83	IS-547-83			8520	
7-26-84	IS-541-84			8520	
6-12-85	IS-519-85			8520	
7-16-86	IS-485-86			8520	

AMC FORM 1385 3 MAR 66

MAGAZINE DATA CARD
(AMCR 740-3)

PREVIOUS EDITION IS OBSOLETE.

ATR Cards Retrieved fm/ Q-136—24NOV10 tmc

Federal Stock Number	NOMENCLATURE	LOCATION	T/S
1376-00-C28-3306	Comp B Grade A	Q-136	

LOT NUMBER	CONDITION	AMOUNT PER PKG.	NO. PKGS. PER STACK	NO. LIGHT PKGS. PER STACK
Hol-052-595	A	60	57	1 @ 57

DATE	DOCUMENT NUMBER	+ OR −	QUANTITY RECEIVED + ISSUED −	BALANCE	SIGNATURE
3-4-75	K809-203	+	3450	3450	
5/1/75	TS-450-75			3420	
4-15-76	IS-527-76			3420	
5-24-77	IS-503-77			3420	
6-7-79	IS-502-79			3420	
5-80	IS-521-80			3420	
6-10-81	IS-523-81			3420	
8-2-82	IS-524-82			3420	
7-29-83	IS-547-83			3420	
7-26-84	IS-541-84			3420	
6-12-85	IS-519-85			3420	
7-16-86	IS-485-86			3420	
7-8-87	IS-242-87			3420	

AMC FORM 1385 3 MAR 66

MAGAZINE DATA CARD
(AMCR 740-3)

PREVIOUS EDITION IS OBSOLETE.

AEBD

Federal Stock Number	NOMENCLATURE			LOCATION	T/S
1376-00-628-3306	Comp B			Q-136	
LOT NUMBER	CONDITION	AMOUNT PER PKG.	NO. PKGS. PER STACK	NO. LIGHT PKGS. PER STACK	
HOL 053-5395	A	60#	142	1 @ 142	

DATE	DOCUMENT NUMBER	+ OR −	QUANTITY RECEIVED + ISSUED −	BALANCE	SIGNATURE
7-8-87	IS-242-87			8520	
8-12-88	IS-242-88			8520	W Atkinson
9-26-89	IS-546-89			8,520	
7-19-90	IS-564-90			8520	
8-13-91	IS-570-91			8520	
7/7/92	IS-691-92			8520	
8/18/93	IS-584-93			8520	JLT
6/21/94	IS-572-94			8520	
5-10-95	IS-572-95			8,520	REM.
4-11-96	IS-572-96			8,520	REM.
3/24/97	IS-572-97			8520	
1/16/98	IS 572-98			8520	
9-9-98	Fm 142 c60			8520	

ATR Cards Retrieved fm/ Q-136—24NOV10 tmc

1376-00-628-3306 AEBB

Federal Stock Number	NOMENCLATURE			LOCATION	T/S
~~VT 10650~~	COMP B			Q-136	
LOT NUMBER	CONDITION	AMOUNT PER PKG.	NO. PKGS. PER STACK	NO. LIGHT PKGS. PER STACK	
HOL-053-5394		60#	57	1 @ 57	

DATE	DOCUMENT NUMBER	+ OR −	QUANTITY RECEIVED + ISSUED −	BALANCE	SIGNATURE
8-12-88	IS-242-88			3420	W Atkinson
9-26-89	IS-546-89			3,420	
7-19-90	IS-564-90			3420	
8-13-91	IS-570-91			3420	
7/7/92	IS-691-92			3420	
8/18/93	IS-584-93			3420	JLT
6/21/94	IS-572-94			3,420	
5-10-95	IS-572-95			3,420	REM.
4-11-96	IS-572-96			3420	REM.
3/24/97	IS 572-97			3420	
1/15/98	IS 572-98			3420	
9-9-98	Fm 57 c60			3420	
5/30/00			− 3 180	3240	

54 e60

NSN/DODIC: 1376-00-628-3306 | NOMENCLATURE: COMP B

LOT NUMBER	SEC	RCG	MISC 1	MISC 2	SITE LOCATION	GRID LOCATION
HOL 053-5395					Q136	

DATE	DOCUMENT NUMBER	RECEIVED FROM OR ISSUED TO	+ OR −	QUANTITY RECEIVED (+) OR ISSUED (−)	BALANCE	SIGNATURE
30MAY00		LO85	+	2 BOXES	8640	
6-16-00	GOLDEN CARGO	2000 144 c/60			8640	

ATR Cards Retrieved
fm/ Q-136—24NOV10
tmc

AMC FORM 1365
1 MAR 87

MAGAZINE DATA CARD (AMC-R 740-25)

(PREVIOUS EDITION MAY BE USED UNTIL EXHAUSTED)

CONTINUE ON REVERSE

NSN/DODIC: 1376-00-628-3306 | NOMENCLATURE: COMP-B

LOT NUMBER	SEC	RCG	MISC 1	MISC 2	SITE LOCATION	GRID LOCATION
HOL053-5394					Q-136	

DATE	DOCUMENT NUMBER	RECEIVED FROM OR ISSUED TO	+ OR −	QUANTITY RECEIVED (+) OR ISSUED (−)	BALANCE	SIGNATURE
6-16-00	GOLDEN CARGO	54 c 60			3240	

AMC FORM 1365
1 MAR 87

MAGAZINE DATA CARD (AMC-R 740-25)

(PREVIOUS EDITION MAY BE USED UNTIL EXHAUSTED)

CONTINUE ON REVERSE

IGLOO INSPECTION FORM

Igloo #: **Q-137 Potential Tornado Shelter**

Date: 24 Nov Time: 1105 Hrs Weather: Overcast - Calm - Low 40.

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q137 - #1 Ext #2 Floor Door #3 Interior Inspection

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Apparent Barrel - Hdwall Seam Separation
Hdwll Face on outer Ends Highly Calcined
Cracks — Floor Vent Shows High Calcium deposits
Found A 10' VCT Pipe Running Underground
Running Along Railside Below Platform For Drainage
Floor & Toe Drainage Both Sides of Access Door

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dunnage in Scuppers
Door Very Difficult To open - Very Warped
Note! When pulling pins on Door latches -
Stand Clear - Latch Arms will Blow open
Fast being under pressure of warped door
Be Careful - Floor Looks damp inside -
NE Corner Have Arch Crack But Not Outside
Seepage - Same w/ ~~South~~ West Wall

Buried Culvert Pipe Below Front Platform

Obvious downstream surface water pathway available to sample sediment? Y-N - Slight pitch NtoS

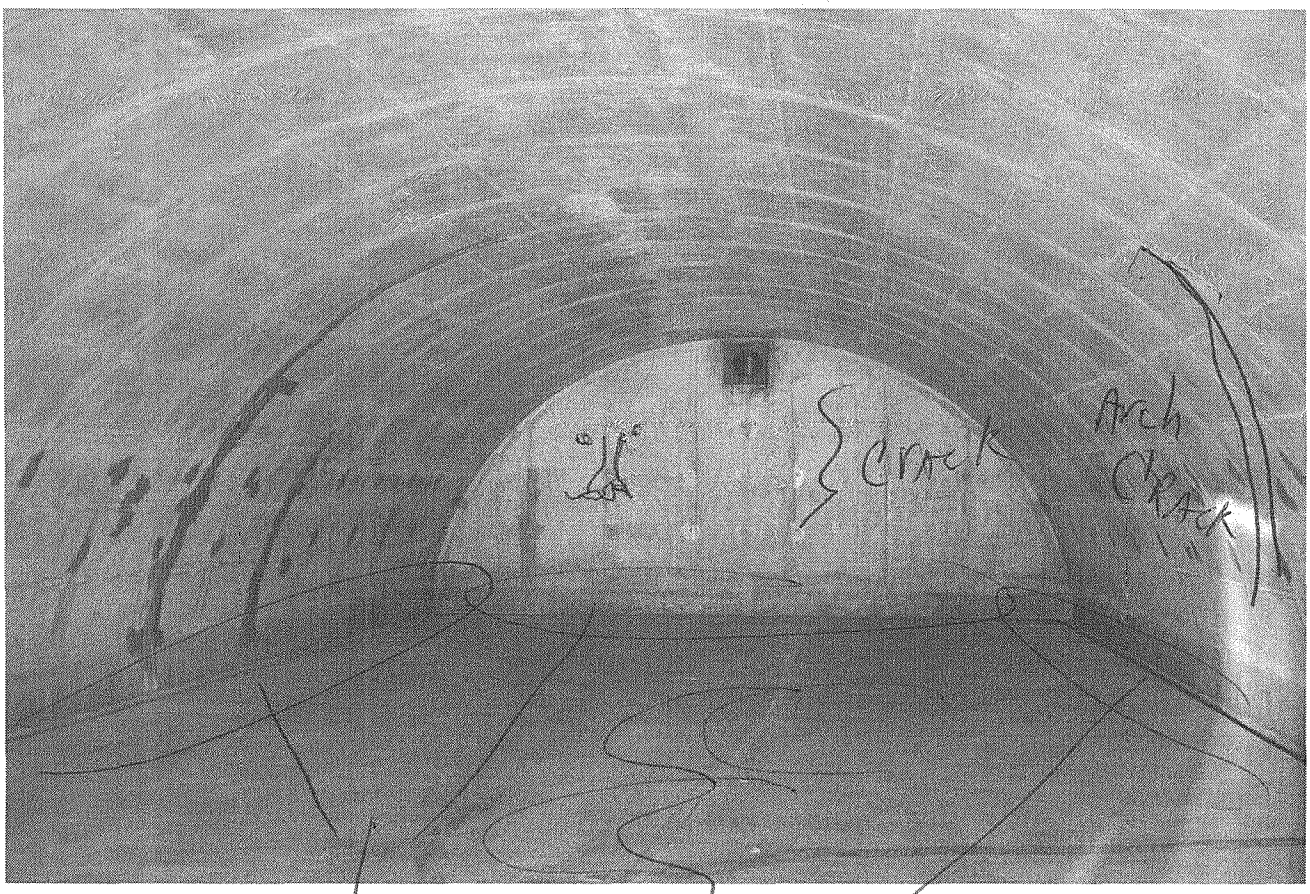
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? Yes

If yes what type? Vitreous Clay Tile Running Length of

Other Notes: Headwall draining To Ditch

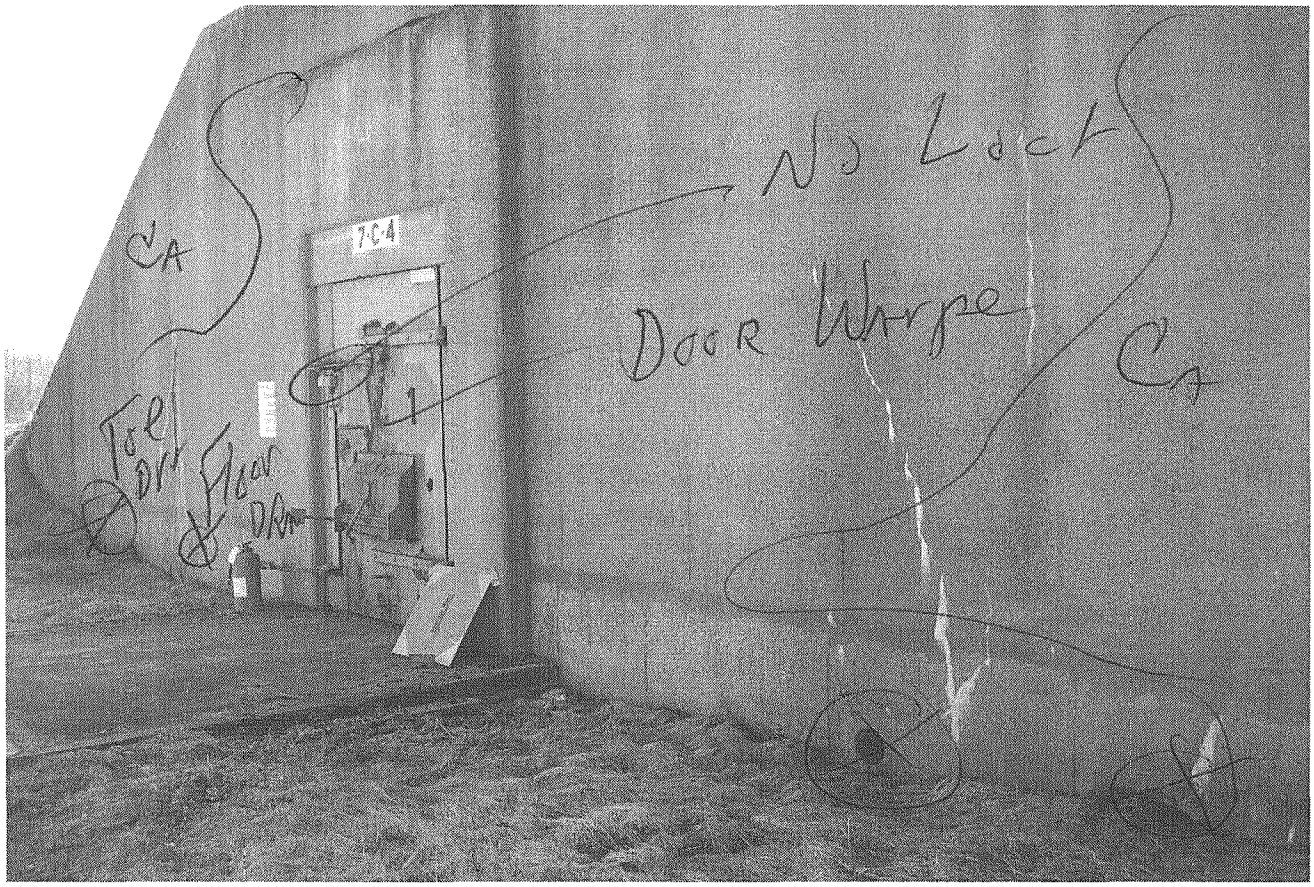
Igloo #: Q-137 Potential Tornado Shelter

24 Nov '19



Igloo #: Q-137 Potential Tornado Shelter

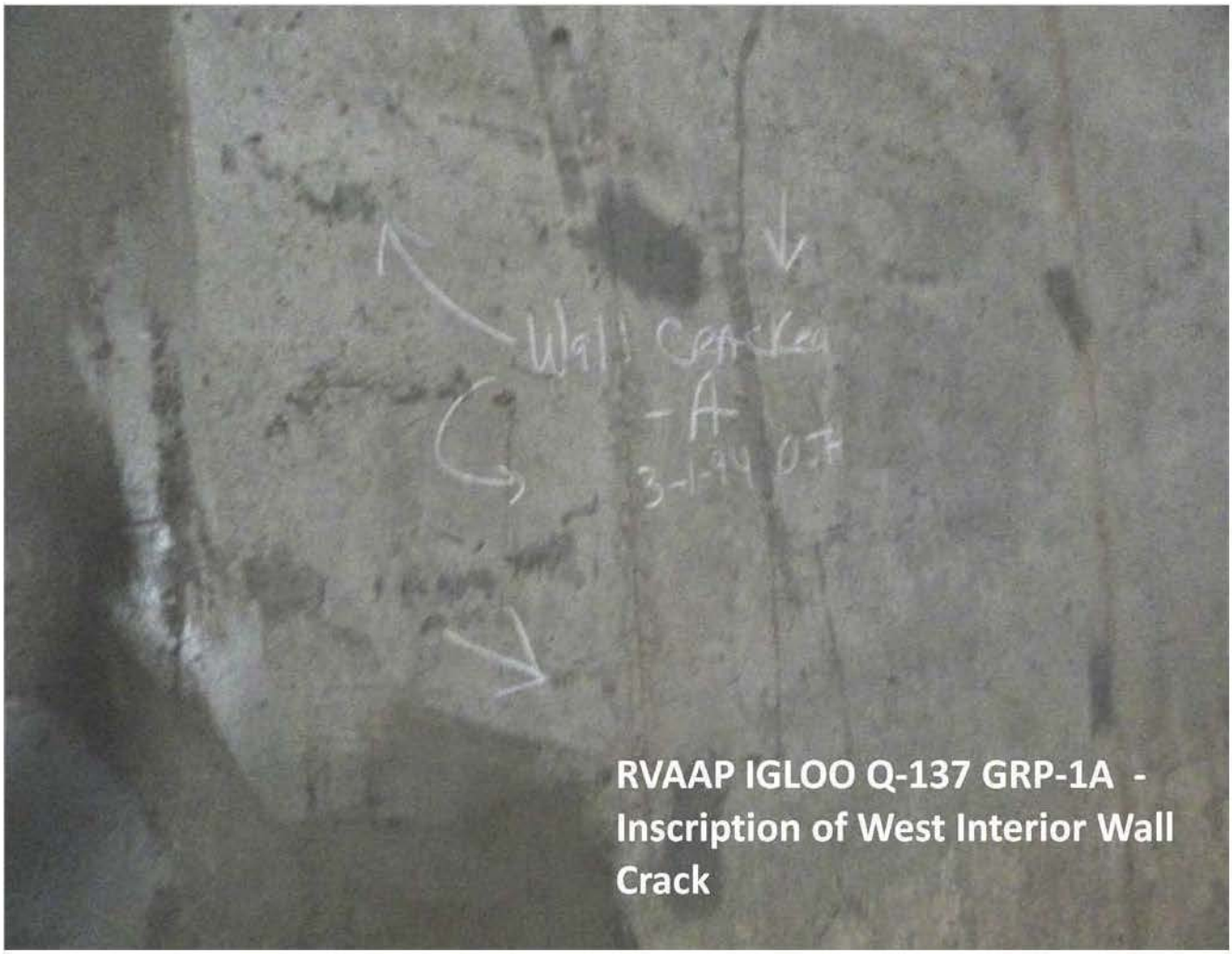
24 Nov 10



Head Wall - Calcined Cracks
Both Face Ends


Q-137
RVAAP IGLOO Q-137
GRP-1A 24NOV2010


RVAAP IGLOO Q-137 GRP-1A -
Calcined Exudation Around
Covered Floor Drain



RVAAP IGLOO Q-137 GRP-1A - Inscription of West Interior Wall Crack

IGLOO INSPECTION FORM

Igloo #: **Q-138 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 1040 Weather: Overcast - C

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q-138 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

South End of HdWL Crack due to growth of tree - Crack away fm / Barrel Toe - Elevated Stoop 5'
No Lock on Door
Sample Area Will be Weed infested

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Door is Warped - Water (Not Heavy!) Leaking in around door Frame - In-past Had problems w/ Door - ~~New~~ Stainless Steel door Hinges attached - A Lot Wood Dunnage inside - N-S & West Walls Stacked Wood - White Residue on Floor Near North Wall - (Mold-Fungus?) - Rodents Access

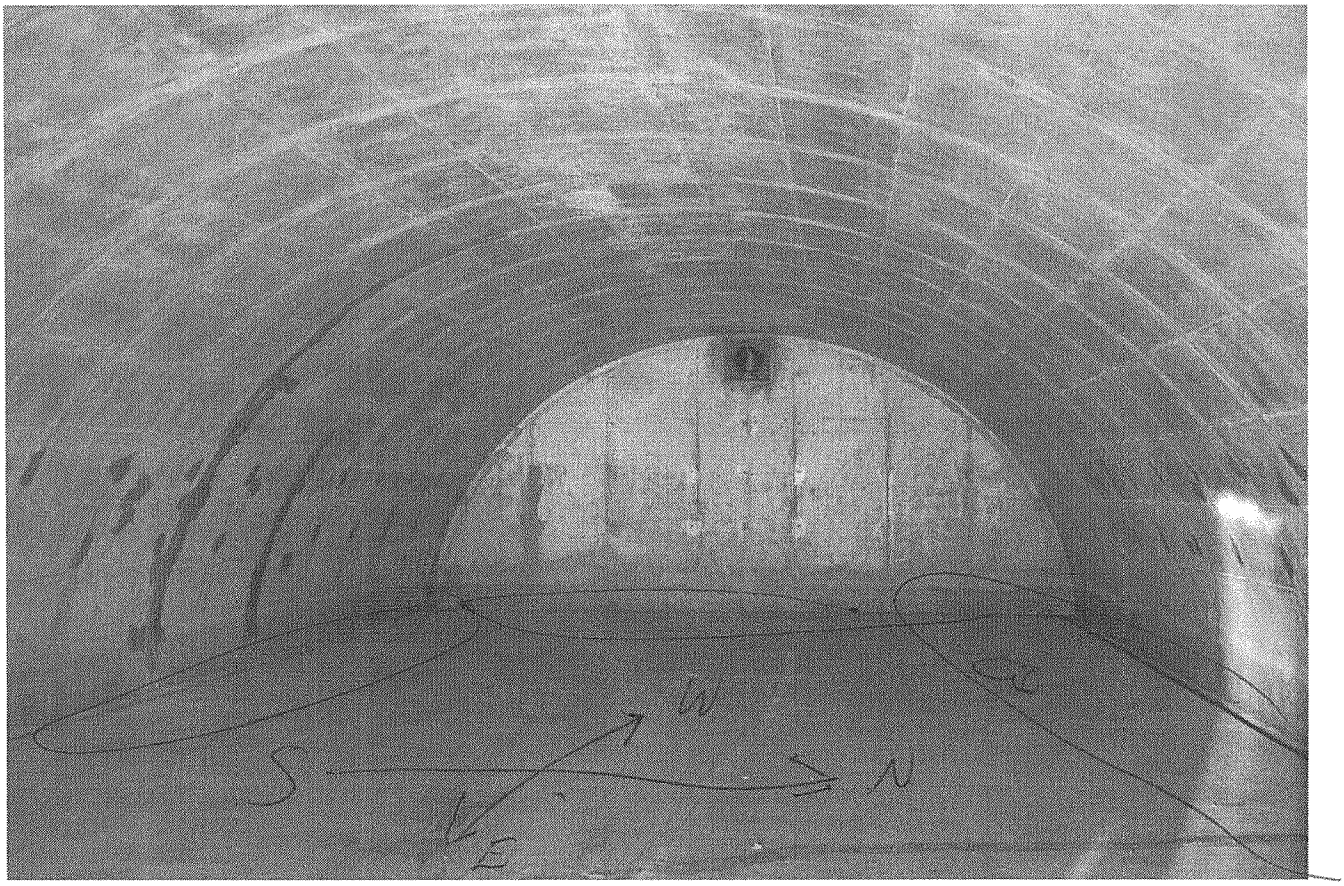
Obvious downstream surface water pathway available to sample sediment? Field Determine Determination

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway?

If yes what type?

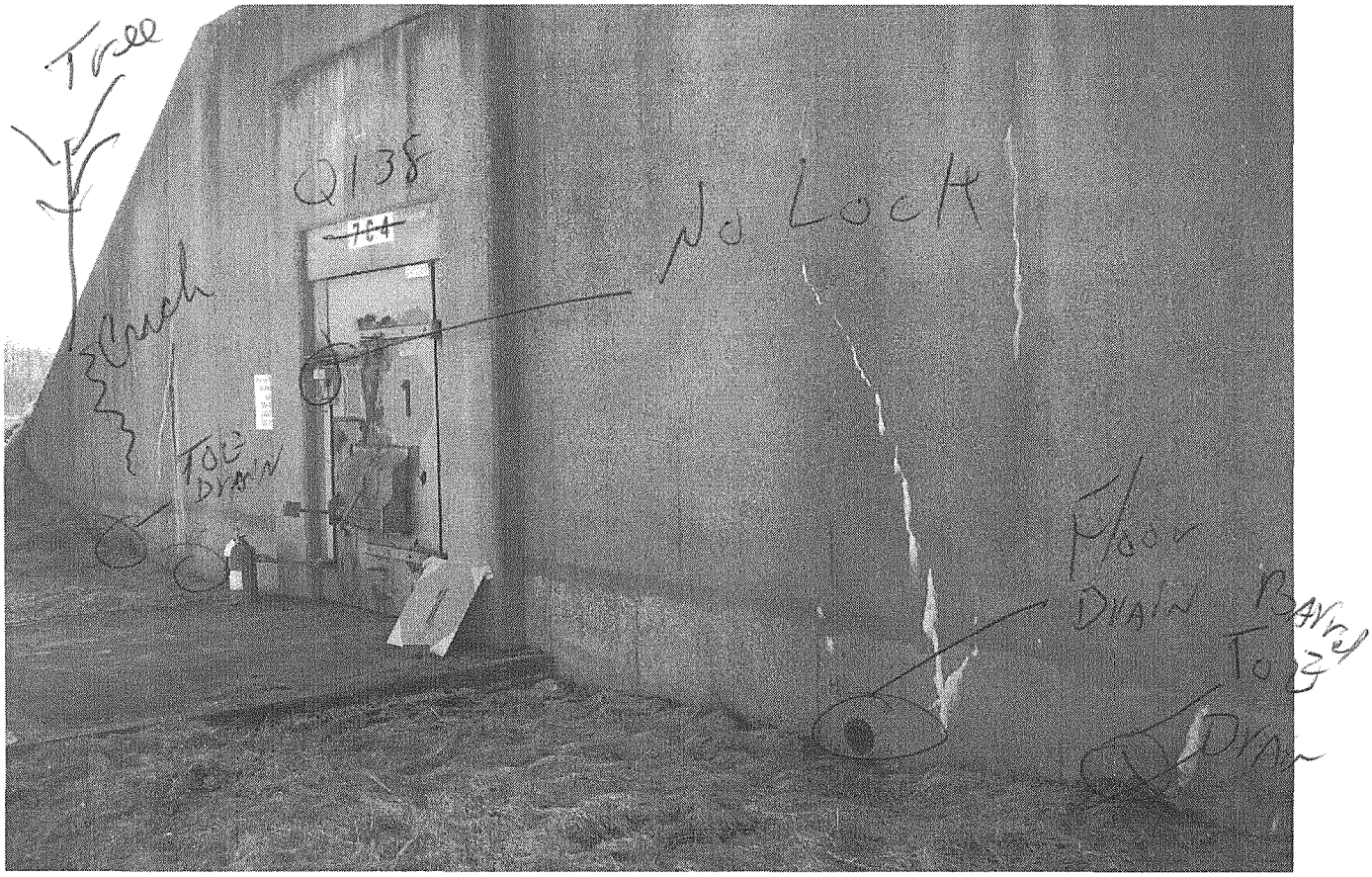
Other Notes: Door Warped - Very Hard to Open

Igloo #: Q-138 Potential Tornado Shelter



A lot of Dunnage Stacked on west, south, & N. walls — Entrance Door area on floor wet Door is Warped Allowing Water into inside Room Has odor (PCP?) — White Coating (Mold-fungus) on Floor Near North Wall

Igloo #: Q-138 Potential Tornado Shelter




Q-138
RVAAP IGLOO Q-138
GRP-1A 24NOV2010

IGLOO INSPECTION FORM

Moved Fm Grp 7 - 6 1A
GRP 7 Cleared & Secured SFC Hautein Brau

Igloo #: **Q-139 Potential Tornado Shelter**

Date: 24 Nov '10 Time: 1090 Weather: Overcast 38°F - Cal

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: Q-139 #1 Ext, #2 S. int. Wall Wood, #3 N int Wall Wood

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

No Exterior Hdwall Separation — Has Floor Drain AND Barrel Toe Drain which is larger than what Has Be Seen - this is 3-4" Vit. Clay Tile — Stoop is Elevated W/ STAirs (Weeds/overgrown) ELEVATED 5' off ground No Lock — DOOR Secured (Closed w/ Latch ARM Secured in place w/ Pin

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Mostly Dry — Lots of Wood/Dunnage Stacked w/i Scuppers — Inspected what could - Dry
Water seep Between Pnel & Door - Snow Melt Under Door
Overhead ~~beam / TRAIN~~ IN I-beam in ~~Ceiling~~ Ceiling
No TRAM works Attached to beam — UPON Entering Strong Solvent Smell — Wood May Be Treated w/ Penta chlorophenol (PCP) - NOT Handle w/ Bare Gloves — Called Patterson Informed Him — Need To Call K. Taite — Its Guard Problem Relatively

Obvious downstream surface water pathway available to sample sediment? Yes - Both Ways N & S - Flow

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? NO

If yes what type? X

Other Notes:

Igloo #: Q-139 Potential Tornado Shelter

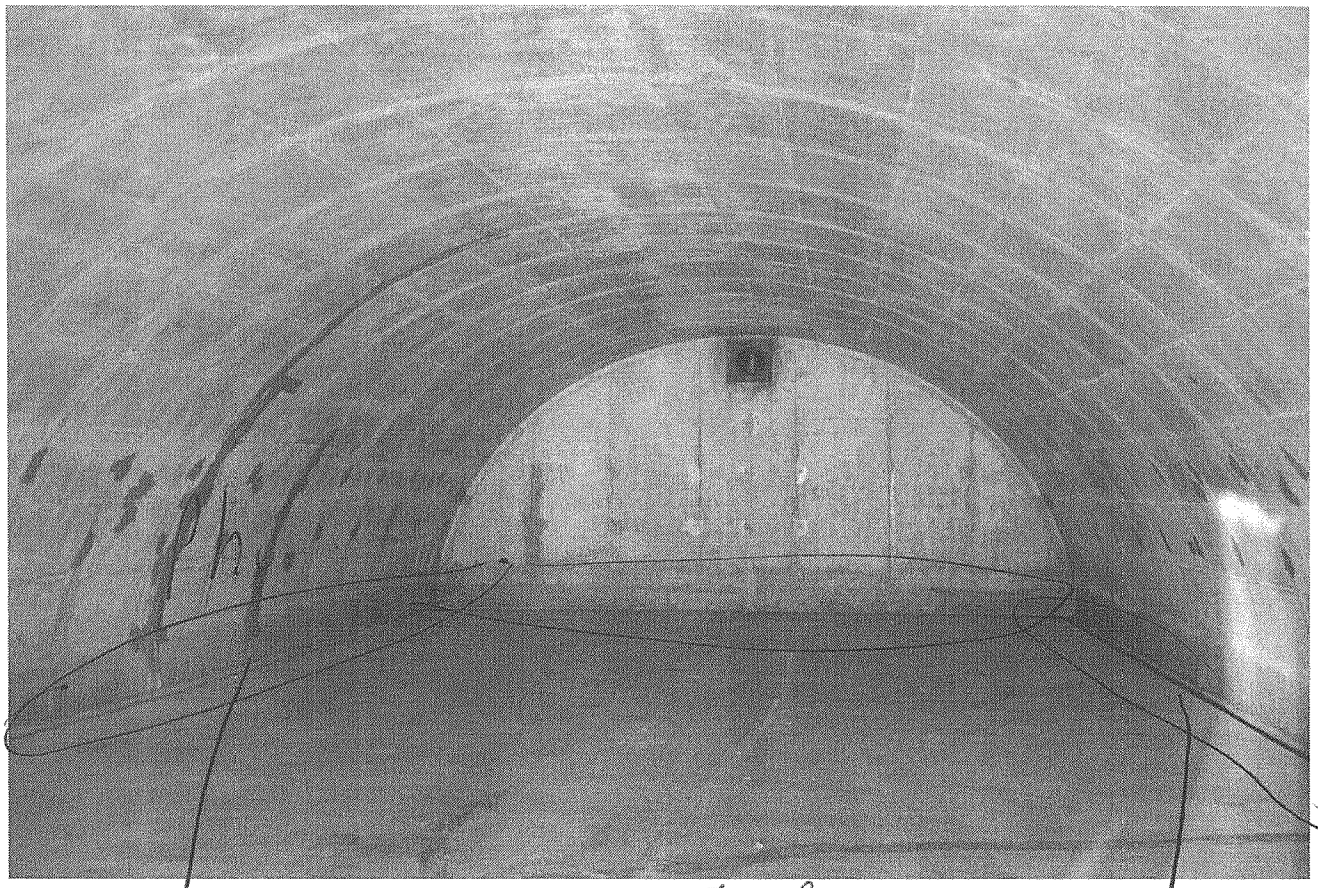
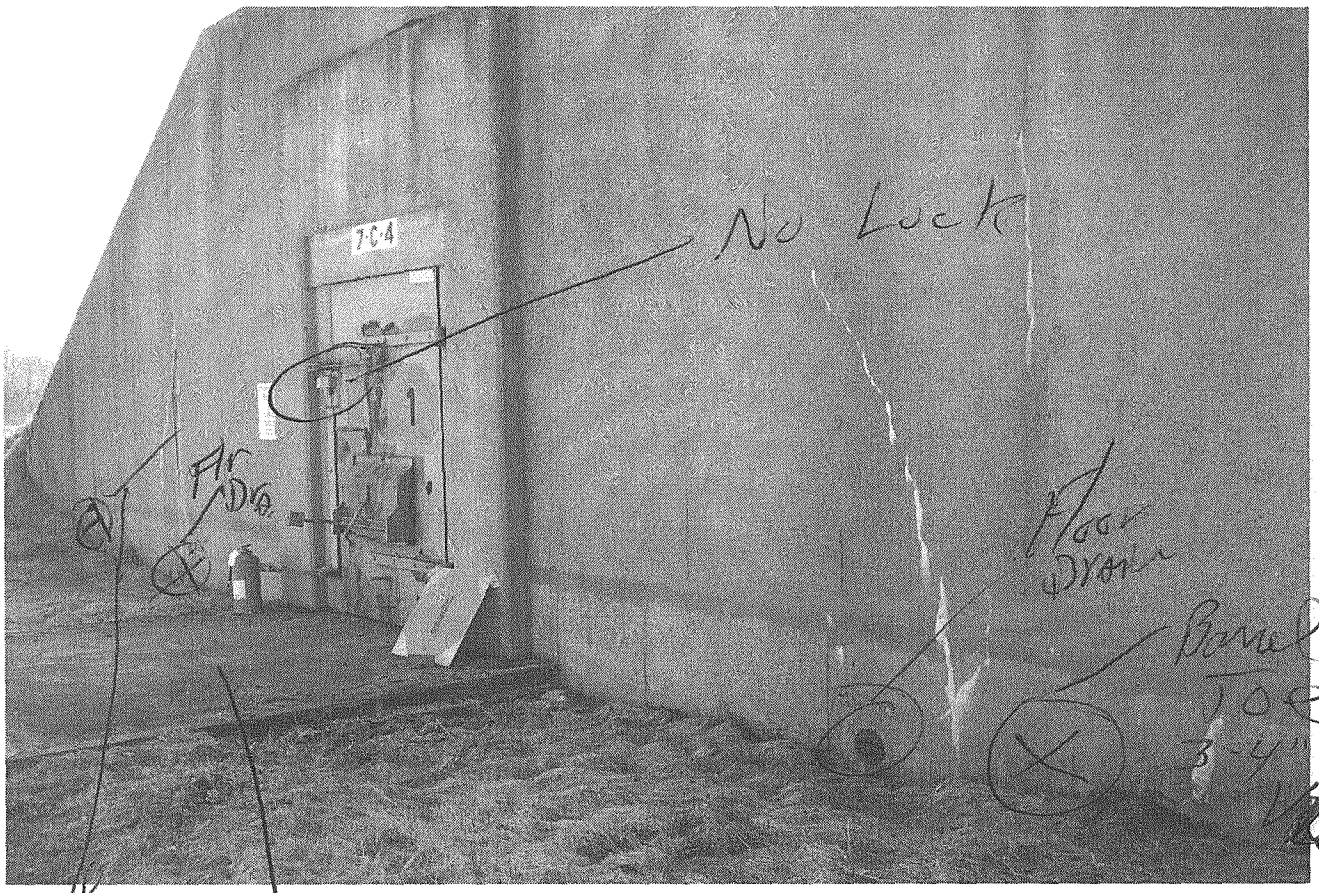


Photo #2

Stacked
Wood Dunnage
May Be Treated
w/ Pentachlorophenol
Don't Touch w/ BARE Hands

9/18/13

Igloo #: Q-139 Potential Tornado Shelter

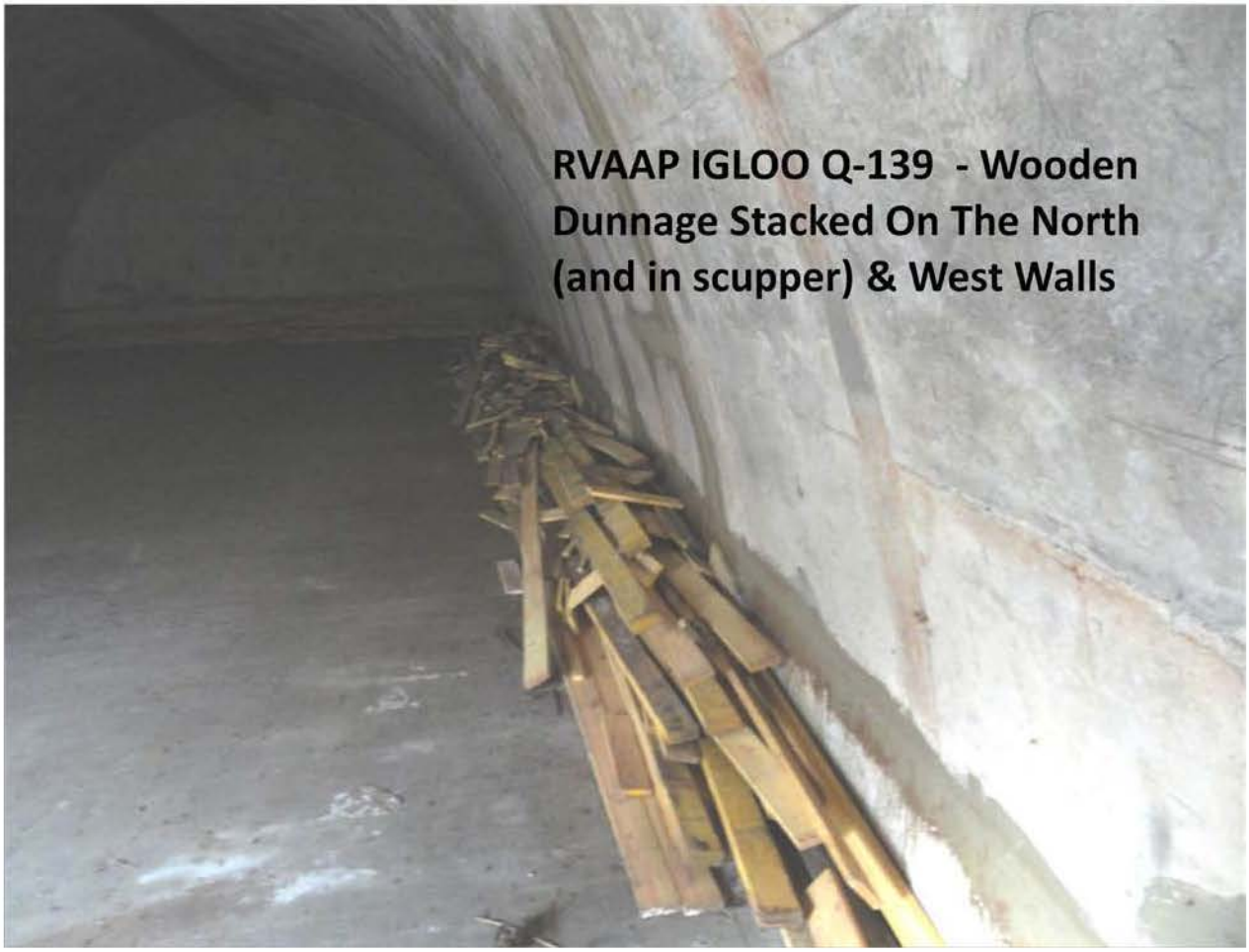


Stoop ~~Elevated~~ Elevated 5' off Trackside

RR Ballast to Stoop


Q-139
RVAAP IGLOO Q-139
GRP-1A 24NOV2010


RVAAP IGLOO Q-139
GRP-1A - South and
West Wall w/ Wooden
Dunnage


RVAAP IGLOO Q-139 - Wooden
Dunnage Stacked On The North
(and in scupper) & West Walls

IX. IGLOO AREA GROUP-7

A. TRACK - HA

IGLOO INSPECTION FORM

Igloo #: **HA-305 Potential Tornado Shelter**

Date: 24Nov'10 Time: 0740 Hrs Weather: Cloudy - Calm - 40°

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: HA 305 #1 EXT

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Weathered but, Appears To Be Good Shape - No Apparent Headwall - Barrel Separation - Grass - Shrub thick - Only Has Interior Floor Drains Exiting Bottom Ea. Side of Access Door - Igloo last Row @ East Fenceline South of Smalley Rd.

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

No Access - Private Lock (Non-Brac) of Ohio Guard RTI Unit Storing TRning Supplies

Obvious downstream surface water pathway available to sample sediment? Water Shed Both Ways

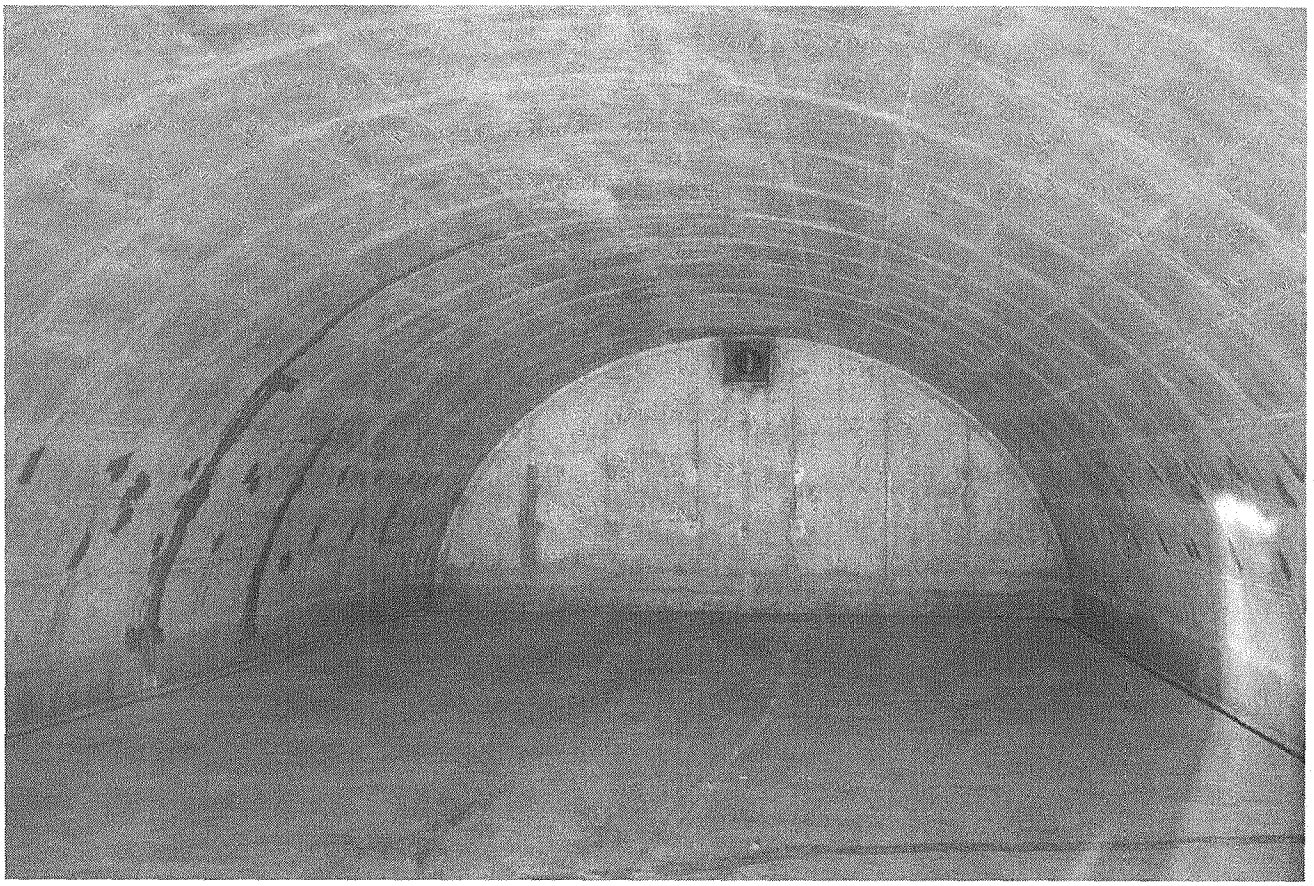
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? DRAINAGE is NE No

If yes what type?

Other Notes: Rail Access Igloo - Ballast To Front Stoop 10' of Grass Between Hdwl & Railroad Ballast - Should Be Relative Ease F/ MI Sample

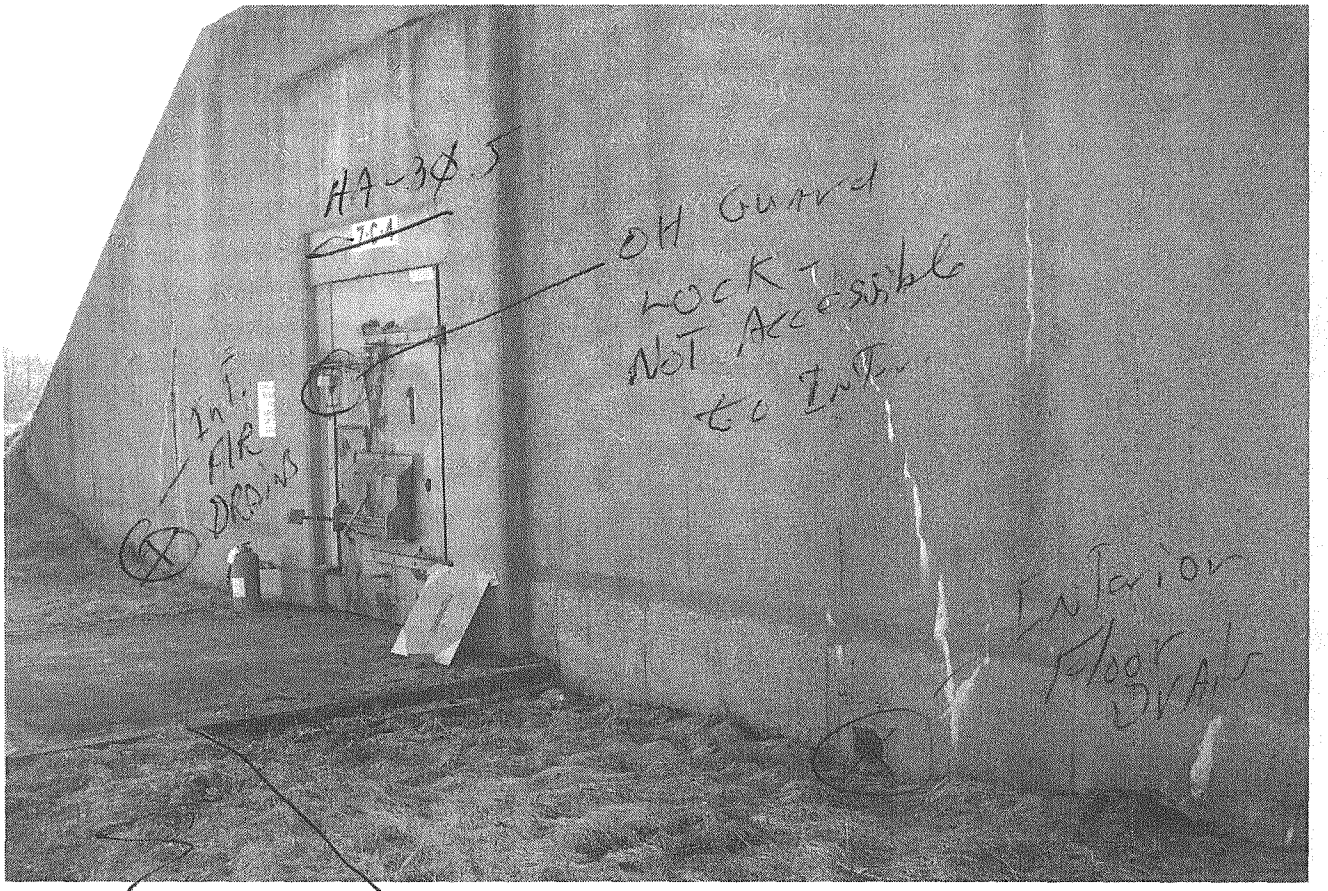
Igloo #: HA-305 Potential Tornado Shelter

24NOV 16



Interior Not Accessible
Ohio Guard Unit Lock - Unit Not
on Post - No Int. inspection

Igloo #: HA-305 Potential Tornado Shelter




HA-305
RVAAP IGLOO HA-305
GRP-7 24NOV2010

IGLOO INSPECTION FORM

Igloo #: **HA-306 Potential Tornado Shelter**

Date: 24 Time: Ø751 Weather: Overcast - Calm - 40s

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: HA-306 #1 Ext #2 Inter. Wood

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Brush/Weeds overgrown Over Hdwl - Barrel Seem - No seeable separation - Only Interior Floor Drains Exit Fm/ Hdwll - Access door Closed But No lock present - Railroad Ballast to Stoop - Hdwll Shows No Repair Work - ~~Dead snake in Southwest~~ ℄

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Dry - No Leakage fm/ Arch - Scuppers Dry - Interior contains ≅ 50-75 Lengths of 1"x4"x12' planking - Met SFC Huffenbauer @ Ø807 Hrs - Relayed Interior Cache Dead Snake in SouthEast Scupper

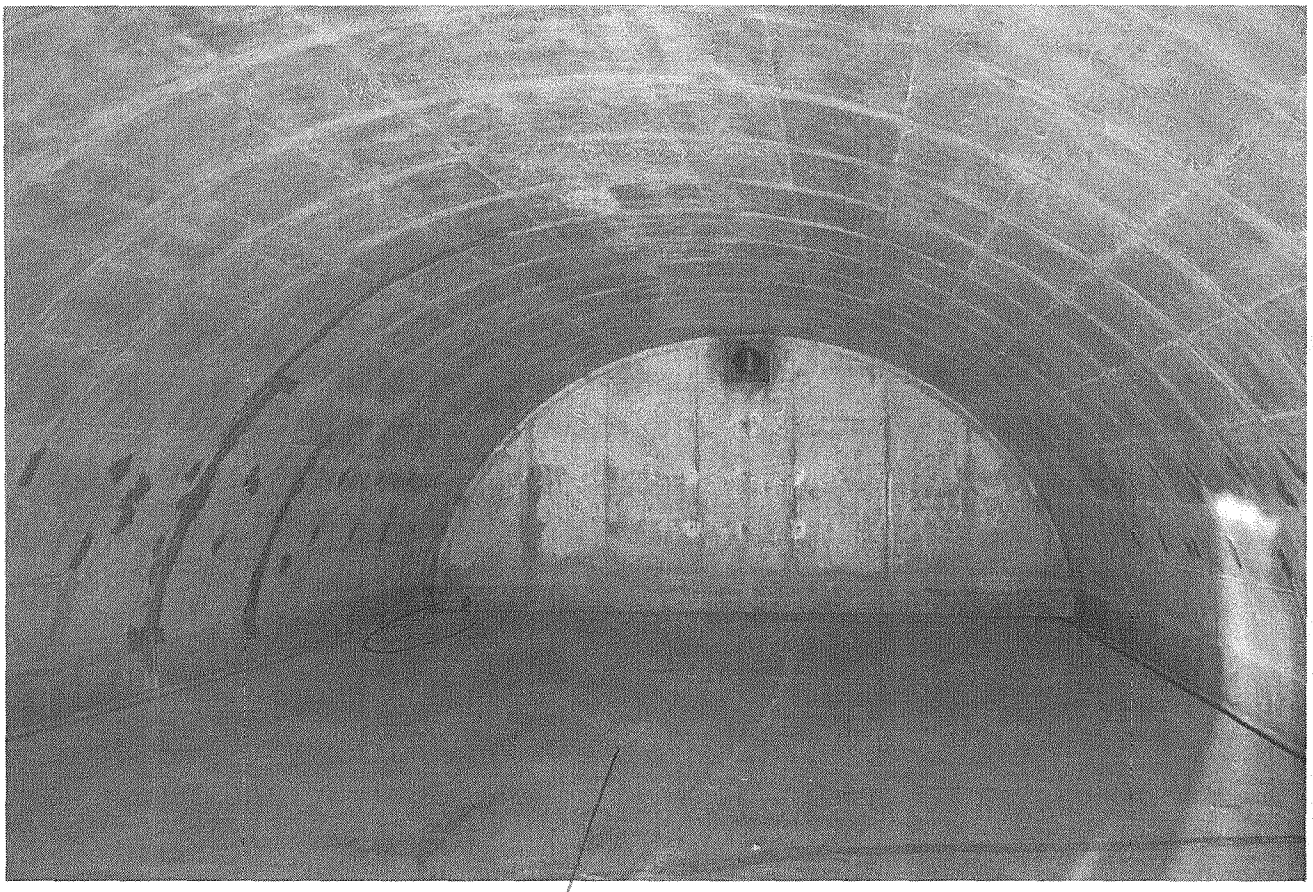
Obvious downstream surface water pathway available to sample sediment? Water sheds N & S fm Stoop Drng ≅ 40' ℄ of Stoop

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? X

Other Notes: Should Be Able to 12" MI Sample Between Hdwl & RR Ballast all the way to shallow ditchle

Igloo #: HA-306 Potential Tornado Shelter



Contain: Wooden Planting on Floor and inside Near Access Door

Igloo #: HA-306 Potential Tornado Shelter



Interior Floor Drains only

No Moisture

RR Ballast To Stop


HA-306
RVAAP IGLOO HA-306
GRP-7 24NOV2010


RVAAP IGLOO HA-306
GRP-7 Interior Looking
East fm/ West Wall

IX. IGLOO AREA GROUP-7

B. TRACK - HB

IGLOO INSPECTION FORM

Igloo #: **HB-311 Potential Tornado Shelter**

Date: 24 Nov 10 Time: 0911 Hrs Weather: Cloudy - 30s °F - Calm

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: HB-311 #1 Ext

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Ext Seam between Barrel + Headwall No Apparent Separation only Interior Floor drain Vents on Hdwll Face - Hvy Brush on Both Sides of Stoop - Drainage Relatively Flat To North & South - No Lock on Closed Door - Headwall in good shape

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc)

Clean & Dry - Same Red AS HB 312 Color on Floor - Appears to be paint based on Lap lines Running E to W on Flr Scuppers Dry (over Spray or Roller - Appears To Be Different Repair Patch occurred over the years - e.g. Grout Seams - Plastic Spakling Compound

Obvious downstream surface water pathway available to sample sediment? No - Contour Relatively Flat

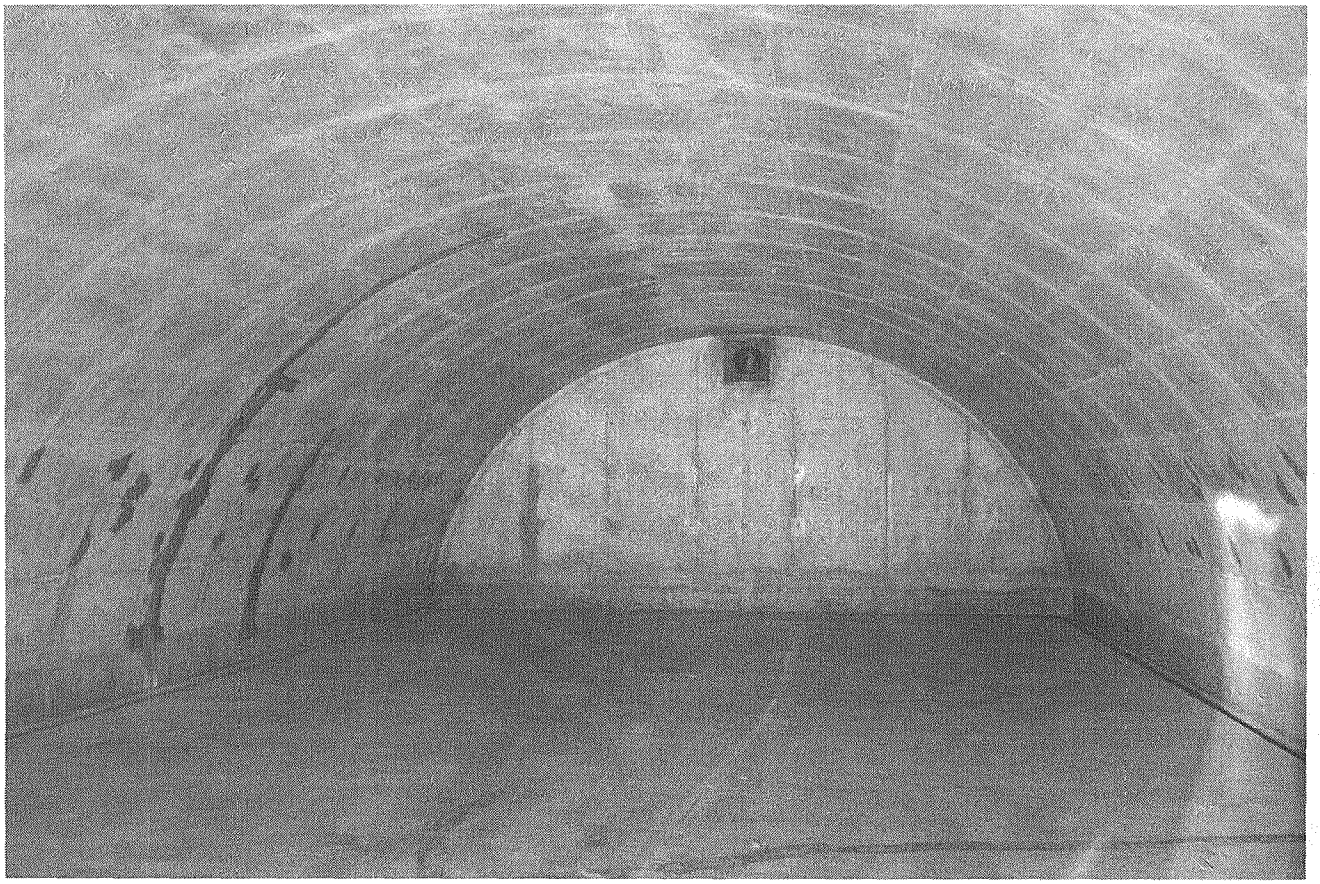
Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? No

If yes what type? X

Other Notes: Bring Brush Axe / Machete +/ Sampling

Igloo #: HB-311 Potential Tornado Shelter

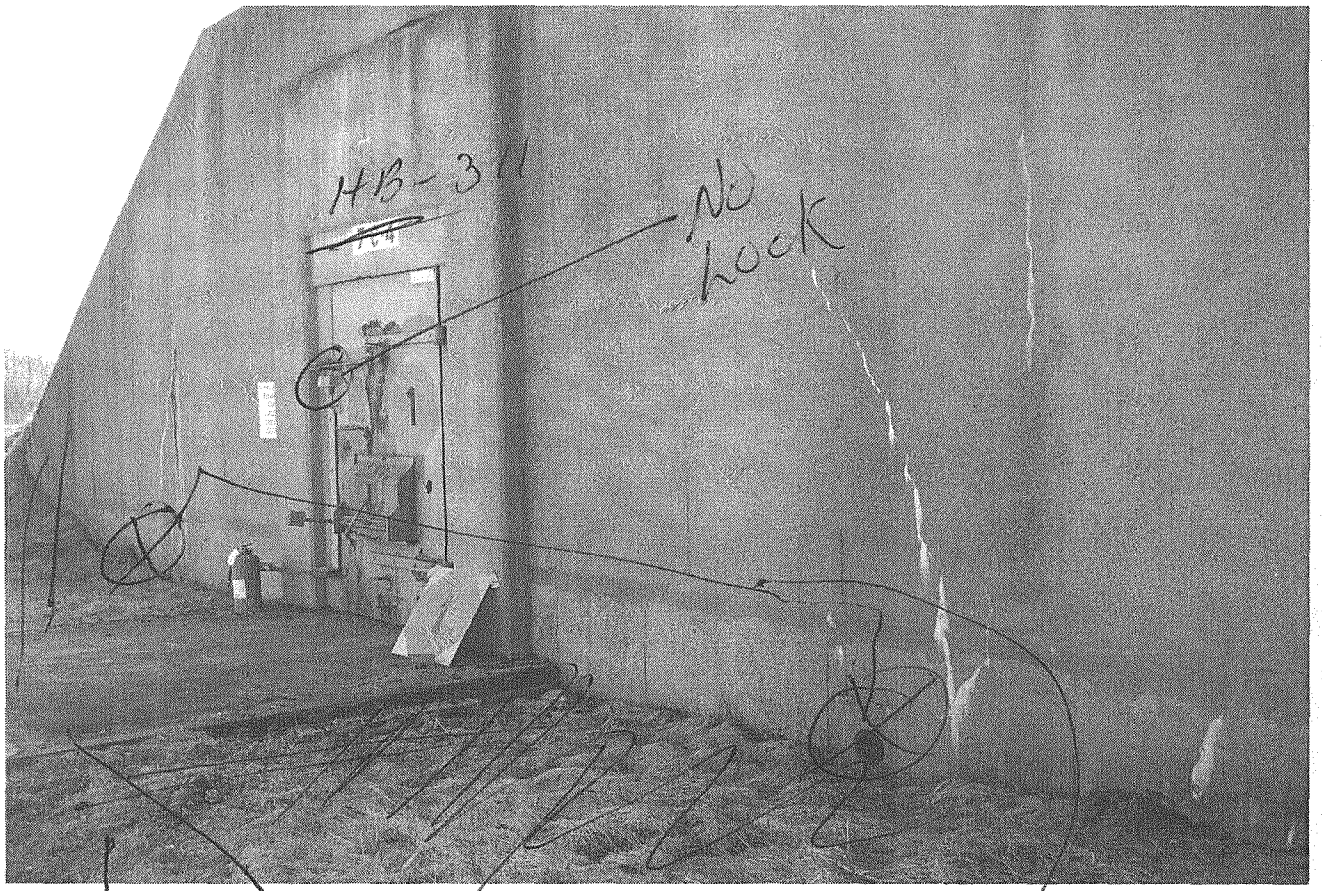
24 Nov 10



same Red Floor Coat @ HB-312
Patch work in Int. Arch
Clean Dry

Igloo #: HB-311 Potential Tornado Shelter

24 Nov 10




HB-3!!
RVAAP IGLOO HB-311
GRP-7 24NOV2010

IGLOO INSPECTION FORM

Igloo #: **HB-312 Potential Tornado Shelter**

Date: Time: 0849 Weather: Cloudy

Inspector: **USACE - LRL - T.M. Chanda** Picture Numbers: HB 312 #1 Exter #2 Interior Lumb #3 Red Floor Coating

Igloo Exterior:
(Items to note: headwall seperation, headwall condition, soil staining, moisture near port holes, etc)

Igloo Door Unsecured - opened to Elements Limited View of Exterior Top F/ Barrel & Hdwall Seam As Best Can Be determined OK. - only Int Drain @ Headwall face EA. side of access door - RR Ballast To Stoop ← Exterior Wall in Good Condition

Igloo Interior:
(Items to note: cracks in walls/floor, moisture present, staining, etc) Inside Dry - No Standing H_2O

Red Coating on floor - Maybe Paint (?) Floor Has painted yellow lines - Red color does NOT Extend past Bottom Door Seal - Seal (~~S~~) painted green - North Floor surface has appearances of moisture but No water in Sluppers - Lumber/Dunnage inside strewn about Found Human Prescence Plastic Water Bottles - Sugar Packs

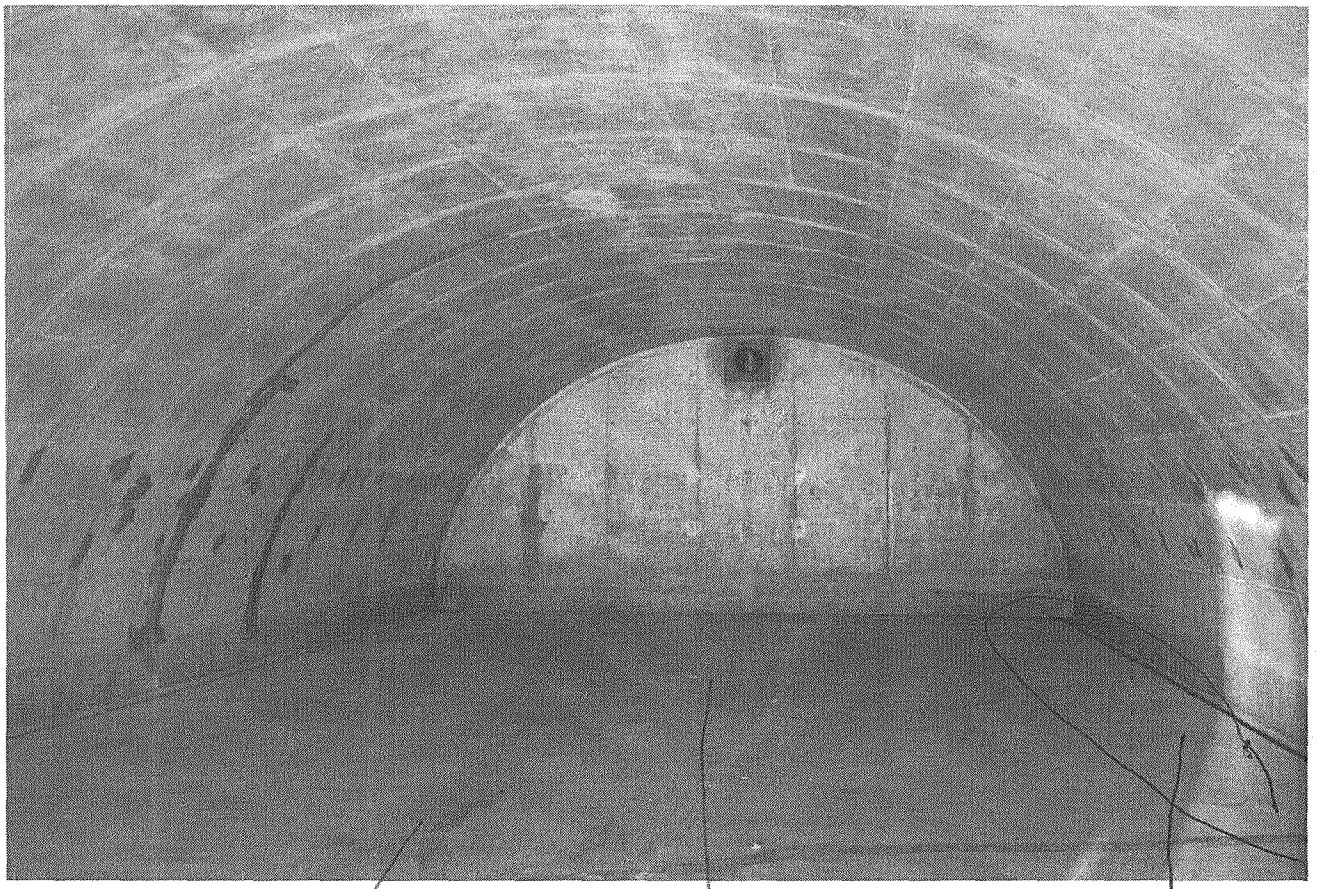
Obvious downstream surface water pathway available to sample sediment? Yes - North or South after Hdwll Natural Drainage Goes N to South

Is a downstream storm drain or culvert present within 70' of igloo along obvious surfacewater pathway? NO

If yes what type? X

Other Notes: Ditchlines inundated w/ Hvy Brush - Definitely Need Machete to Hack-thru F/ sampling

Igloo #: HB-312 Potential Tornado Shelter



Igloo #: **HB-312 Potential Tornado Shelter**

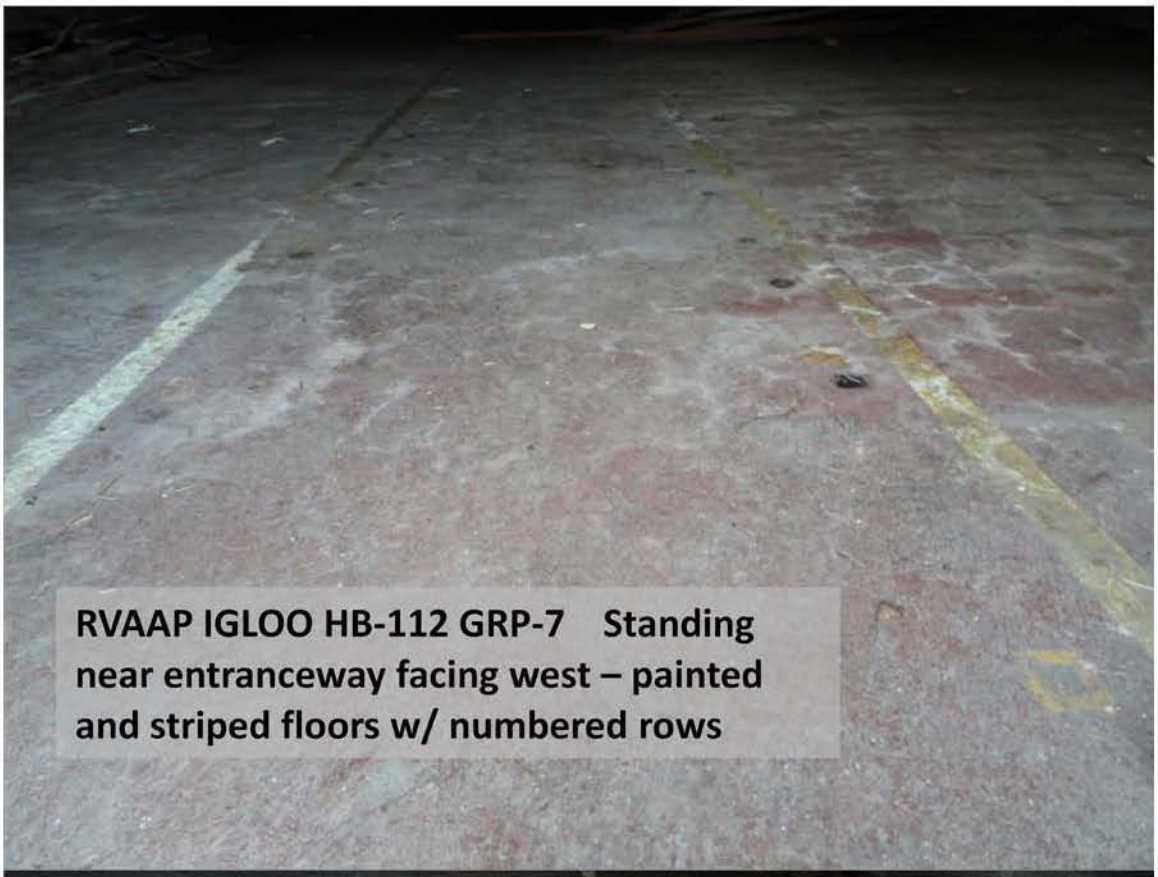




RVAAP IGLOO HB-112
GRP-7 24NOV2010



RVAAP IGLOO HB-112 GRP-7 Standing in entranceway looking west – painted and striped floors w/ accumulated wooden dunnage



RVAAP IGLOO HB-112 GRP-7 Standing near entranceway facing west – painted and striped floors w/ numbered rows



RVAAP IGLOO HB-112 GRP-7 Standing near entranceway facing west – painted and striped floors w/ numbered rows w/ accumulated wooden dunnage