STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

FRANK H. MURKOWSKI, GOVERNOR
555 Cordova Street
Anchorage, AK 99501
PHONE: (907) 269-7566
FAX: (907) 269-7507
http://www.state.ak.us/dec/home.htm

June 6, 2003

FILE COPY

Mr. Dan Carpenter
Department of Health and Human Services
Engineering Services
4141 Ambassador Drive
Anchorage, AK 99508-5997

Subject: Record of Decision on No Further Remedial Action Plan with Institutional Controls Old Yukon-Kuskokwim Delta Region Hospital Site (Old Bethel Hospital), Airport Road, Bethel, Alaska, CS file #: Bethel Old PHS Hospital

Dear Mr. Carpenter:

The Alaska Department of Environmental Conservation (Department) has reviewed the Bethel Old Public Health Service (PHS) Hospital file and it is the decision of the Department to issue a No Further Remedial Action Planned status for the Old Yukon-Kuskokwim Delta Region Hospital site with Institutional Controls. The rationale for this decision is documented in the attached Record of Decision (ROD). Please review the ROD and any conditions that might be included in order for the No Further Remedial Action status to be effective. There is also a draft Notice of Environmental Contamination attached that must be recorded in the State's Recorder's Office following its review and approval by the interested parties.

If the Department of Health and Human Services (DHHS) agrees to the conditions listed in the Record of Decision, DHHS should develop a groundwater monitoring plan (prepared by a qualified party) and submit it to the Department for review and approval. Following approval of a groundwater monitoring plan, the institutional controls listed in the Notice of Environmental Contamination would then have to be recorded to meet the terms of the No Further Remedial Action Planned status

It should be noted that this property has elevated levels of soil contamination remaining on site that is not considered a risk based on site specific conditions outlined in the ROD. Any future development plans that would entail excavation and/or changes in the criteria used to make the decision will require the Department's review and approval to ensure the contamination does not become accessible and pose a risk in the future. The Department reserves the right to require additional site assessment, monitoring, remediation, and/or other necessary actions should future information become available that suggests that contamination at this site may pose a threat to human health or safety, or the environment.

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Any person who disagrees with the Record of Decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department's decision. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

Please submit work plans, reports, and other correspondence to Amanda Dreyer at the above address. If there are any questions, please do not hesitate to contact me at (907) 269-7658 or e-mail me at Jim_Frechione@dec.state.ak.us.

Sincerely,

Jim Frechione
Environmental Manager

cc: Marc Stemp, Bethel Native Corporation International, Inc.
Amanda Dreyer, ADEC

RECORD OF DECISION
For the
Bethel Old Public Hospital Site

FILE COPY

June 5, 2003

Site name and location
The Old Yukon-Kuskokwim Delta Region Hospital Site (Old Bethel Hospital) is located on Airport Road, Bethel, Alaska, and is more particularly described as Lot 4 (Tract E) of the United States Survey No. 4000, Section 17, Township 8 North, Range 71 West, Seward Meridian. It occupies approximately 15 acres, and is located at Latitude 60 degrees, 47', 32.0" and Longitude 161 degrees, 45', 20.8".

Name and mailing address of responsible person
Indian Health Service (IHS)
Attn: Dan Carpenter P.E.
4141 Ambassador Dr.
Anchorage, AK 99508

CS file number
File Number: Bethel Old PHS Hospital

Regulatory authority
Site Cleanup Rules under 18 AAC 75.325 – 18 AAC 75.390

Site Maps
A copy of the Site Plan is provided.

Physical characteristics of site
Bethel, Alaska, is located in the Yukon-Kuskokwim Delta region of western Alaska approximately 400 air miles west of Anchorage (see Figure 1). The region is comprised of gently rolling muskeg plains interspersed with small lakes and sloughs. The city of Bethel is bound by the Kuskokwim River on the east side.

The Old Bethel Hospital site is on a sandy bluff approximately 30 to 35 feet above, and 700 feet west of the Kuskokwim River, and is adjacent to the New Hospital and YKHC Administration Office, and the U.S. Fish and Wildlife Service Office.

The site soils are silty, fine sands and fine, sandy silt. A shallow, unconfined aquifer is found at approximately 25 ft BGS. The Bethel area is underlain by continuous permafrost with thickness extending from 35 ft to 400 feet. In undisturbed areas the depth to permafrost is typically 8 to 30 inches below ground surface (bgs) depending on the ground cover and local exposure. In areas where the ground cover has been disturbed the depth to permafrost can increase to 10 to 20 feet or more. Groundwater is found beneath the permafrost layer at depths ranging from 380 to 450 feet bgs and this is the aquifer used for drinking water wells in the community.

Contaminants of Concern
Diesel Range Organic (DRO) contamination is the primary Contaminant of Concern (COC) for soil. Sampling of the shallow aquifer monitoring wells indicated that DRO is below the Alaska Department of Environmental Conservation (DEC) cleanup levels but benzene was detected in the shallow aquifer. Benzene levels were below DEC cleanup levels but it is a potential COC due to the possible inhalation pathway.

Current and expected future land use
Currently the land is federally owned by the Indian Health Service (IHS). Currently the site is being used as a land farm for contaminated soil. Possible future land use may include residential development, which might require on (and off) site transportation of contaminated soil, backfilling of the land spread containment pond, and leveling of the land farm area.

Determination of current and expected future use of groundwater
Currently the shallow aquifer is not used as a source of drinking water but it will be evaluated as a possible contaminant transport mechanism. The quality of the shallow groundwater aquifer has been monitored for the past 4 years with no petroleum contamination exceeding the 18 AAC 75.345 Table C levels. However, as a precautionary measure, the DEC will request an institutional control to prevent future use of the water in the shallow aquifer

The drinking water well on site is 450 ft bgs and extends through approximately 400 ft of permafrost. The permafrost may serve as a confining layer and prevents contamination from migrating to the underlying aquifer. It is anticipated that the deep well will be used by the future landowner. The DEC requests the drinking water well be sampled for DRO, gasoline range organics (GRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), polynuclear aromatic hydrocarbons (PAH), bacteria, and nitrates before it is used as a drinking water source.

Completed Exposure Pathways
The exposure pathways evaluated under this decision include ingestion and inhalation. The pathway to the deep groundwater aquifer (i.e. the drinking water aquifer) is not considered complete due to a thick permafrost layer. This assumption must be confirmed by drinking water samples and compliance with established 18 AAC 75 and 18 AAC 80 standards.

Surface Soil: Current and future receptors may come into contact with site related contaminants through incidental ingestion and dermal contact. Current exposures to surface soil are most likely for visitors to the new Public Health Service (PHS) hospital which may contact surface soil while they walk across the old PHS hospital site. Potential inhalation exposures to COCs associated with release of fugitive dust from surface soil through the air pathway are to be considered. If capping the contaminated soil with clean fill is implemented, then direct contact with surface soil would be an incomplete exposure pathway.

Subsurface Soil: Direct exposure to subsurface soil by site visitors does not represent a current exposure pathway. Future excavation activities, such as those associated with residential development, could result in transport of contaminants from subsurface soil to the surface, where they would be available for direct contact. If the soil were brought to the surface, then contact by site visitors, workers, or potential future on site residents would be possible through incidental

ingestion and dermal contact. Inhalation of dust associated with exposed subsurface soil would also be possible.

Soil: The alternative cleanup levels (ACLs) for soil were developed based on the assumption that there is no risk posed to human health or the environment if the soil at the site meets the ACLs.

Shallow Groundwater: The shallow groundwater is not used for drinking water, but vapor migration from groundwater via soil pore spaces to indoor air will be evaluated.

SITE INVESTIGATION HISTORY

Phase I Assessment

A Phase I Environmental Site Assessment was completed by Northwest Geological Services, Inc., in August 1989. The report developed a detailed history of the area and the site including hydrology, geology, climate, previous and present use, and neighboring facility use. The historical background information and visual inspection of the site was used to develop recommendations for conducting either a Phase II site assessment, or a site characterization of the facility. A storage tank survey was conducted in October 1991. The assessment of the existing tanks was conducted by locating the tanks, determining the volume and contents of each tank, assessing the condition of the tanks and associated piping, and conducting surface and subsurface soil and soil gas sampling around the tanks. The results of the sampling events indicated a significant amount of surface and subsurface petroleum hydrocarbon contamination.

Site Characterization Report

In August of 1993 the Corps of Engineers contracted EMCON to perform a Site Characterization to delineate and characterize impacts to soil and groundwater at 20 underground storage tank (UST)/aboveground storage tank (AST) sites, in two spill areas, a building site, and a drum storage area at the old hospital site. The field work conducted in November 1993, consisted of drilling and sampling 46 soil borings. Most of the soil borings were advanced to the top of groundwater, to permafrost, or to 30 feet below the ground surface, except for nine borings in the spill areas. The nine borings were advanced to delineate the surface impact from spills. Sixteen of the borings were converted to groundwater monitoring wells and were subsequently developed and sampled. Approximately 250 soil samples were recovered from the borings and 14 groundwater samples were recovered from the monitoring wells. Petroleum hydrocarbon constituents were encountered at most UST/AST sites.

DRO concentrations exceeded the DEC Level B cleanup guideline of 200 mg/kg in soils from 16 of the 20 site. The depth of impact at the tank sites extended from approximately 6 to 18 feet bgs, but typically exhibited limited lateral extent. In the spill areas, the zone of impact was generally shallow yet more laterally extensive. The groundwater quality in the perched aquifer was also impacted. DRO concentration was detected in all groundwater samples collected, and benzene was present in 7 of the 14 samples. Maximum DRO and benzene concentrations were 11 mg/L and 0.039 mg/L, respectively. The approximate volume of impacted soils with petroleum hydrocarbons concentrations above recommended cleanup levels was estimated to be 2,123 - 5,053 cubic yards (cy) in the UST/AST areas and 475-550 cy in the two spill areas.

Soil samples collected and analyzed from 16 of the 20 UST/AST sites had measured concentrations of DRO which exceeded DEC cleanup levels of 200 mg/kg. The maximum detected DRO was 66,700 mg/kg in boring PHS 22 located near tank BL 22. Soil samples collected from borings located at tank sites BL 19 and BL 07 had total BTEX concentrations which exceeded the DEC cleanup level of 15 mg/kg. Spill area number 2 had three of four near surface samples in which DRO concentrations exceeded cleanup levels. An estimated volume of 800 cy of soil has been impacted by diesel range petroleum hydrocarbons. BTEX constituents were below detection limits in the soil samples collected and analyzed from this spill area. Two of the five borings located in the vicinity of Spill Area number 3 had near surface samples which exceeded recommended cleanup levels for DRO. Visual observations during the site investigation indicate that approximately 100 square feet to 200 square feet of surficial soils may be impacted by releases of asphaltic roofing material from the drums up to a depth of 0.5 feet bgs. A review of the analytical results from groundwater samples collected from the 14 wells installed at the facility indicates that groundwater (when present) has been impacted by DRO in the vicinity in each source area. Additionally, groundwater in the vicinity of Tanks BL 17, BH 18, and BL 29 has been impacted by benzene at concentrations that exceed the drinking water MCLs for benzene.

Risk Evaluation Investigation Report

The purpose of the Risk Evaluation Investigation (REI) was to calculate human health risk-based alternative cleanup levels (ACLs) for known petroleum contamination of soil associated with underground and above ground storage tanks at the site and to perform a limited ecological evaluation of Kuskokwim River sediments. The ACLs are compared to the existing contaminant concentrations to determine if corrective actions are necessary at the site. If corrective actions are necessary, the ACLs will be used to determine whether the proposed corrective action of removing the top 3 feet of known petroleum contaminated soil and backfilling with clean fill will be sufficiently protective of human health. The field investigation, which was conducted during summer and fall 1995, was designed to delineate permafrost; determine aquifer parameters, hydraulic gradient, and groundwater flow direction in the supra-permafrost aquifer underlying the site; confirm soil contamination; and determine the nature of groundwater, which is migrating off site. A geophysical survey using ground penetrating radar indicated that the depth to permafrost is more than 20 feet along the northern and southern borders of the site and is generally less than 20 feet deep along the eastern and western boundaries. Groundwater flow in the shallow supra-permafrost aquifer underlying the site is to the south-southeast. Groundwater hydraulically down gradient of the site was found to be contaminated.

The Risk Assessment (RA) assumed a corrective action involving removal of the top 3 feet of petroleum contaminated soil and replacement with clean fill. The purpose of the RA was to develop ACLs that are protective of human health, assuming that the corrective action was implemented, and to determine whether further remediation is required. The RA evaluated the potential exposure pathways resulting from the soil and groundwater contamination. If the corrective action was implemented, inhalation of vapors from contaminated subsurface soil would be the only plausible exposure route related to soil. However, this exposure pathway was assumed to be incomplete, so ACLs for soil could not be developed assuming that the corrective action was implemented.

The ACLs for soil were developed for direct contact with soil assuming that the corrective action (removal of 3 feet of surface soil and replace with clean fill) was not implemented in order to determine the extent of remediation necessary to be protective of human health and the environment. These soil ACLs also are applicable if potential future excavation activities (e.g., associated with construction) result in transport of contaminants in subsurface soils to the groundwater.

Assuming no corrective action, diesel range organics are the only COC in soil. If the corrective action was implemented, then there would be no COCs in soil, unless future construction results in transport of COPCs in subsurface soil to the surface. Implementation of the proposed corrective action protects human health by preventing contact with soil COCs. Benzene is the only COC in groundwater regardless of whether corrective action is implemented. The RA evaluated the potential for adverse effects to aquatic wildlife in the Kuskokwim River from contamination in site associated groundwater. Five contaminants of potential ecological concern were detected in three monitoring wells located hydraulically down gradient from the site. Concentrations of four organic compounds exceeded surrogate ecological benchmark values; however, given the conservative assumptions used, the potential for adverse effects to aquatic wildlife in the Kuskokwim River is expected to be minor. Therefore, no significant population effects to aquatic wildlife in the Kuskokwim River are expected.

Completed Removal Actions

All of the known areas of contamination were at least partially excavated and contaminated soil was stockpiled during the 1998 field season, prior to the time when cold temperatures prevented further excavation. During the 1999 field season, the remainder of the areas of known contamination were excavated to a maximum depth of 15 ft bgs. During the summer of 2000, an unlined landfarming treatment cell was constructed and the stockpiles of contaminated soil were placed into the 4.5 acre treatment cell for remediation. After two seasons of active landfarming, it was determined that the ACL was achieved. The sampling of the soils underlying the treatment cell prior to and after remediation confirmed that no significant DRO contamination was identified.

Establishment Of Cleanup Levels

The DEC letters dated April 13th and 21st of 1998 established the ACLs for the site. This determination was made in part by the recommendations that were made in the Site/Investigation/Risk Assessment prepared by Ecology and Environment, a consultant to the IHS and the U.S. Army Corps of Engineers. The future owner of the land, Bethel Native Corporation (BNC), had input into the ACL determination and was in full agreement with the determination.

Alaska Department of Environmental Conservation Decision

Based on the information provided to date, the DEC approves an alternative soil cleanup level of 6,000 mg/kg DRO for the site provided Institutional Controls are attached to the property. The DEC recognizes that the concentration of DRO may exceed the established ACLs in some areas of the site but the extent of contamination is limited and should not pose a risk - if the institutional controls are followed. The DEC has determined that the hazardous substances

remaining on site do not pose a risk to human health or the environment and no further remedial action is required. This determination is subject to the following conditions:

1. If the soil above the established ACLs becomes accessible in the future (for example through excavation or soil drilling), or if future information indicates the contamination poses a risk to human health or the environment, then additional investigative or cleanup action may be required. The areas that contain contamination above the ACLs are: pits BL 18, UG 6, and BL 07. The depth at which the pits may be excavated without encountering soil above ACLs is 10 ft bgs. Any excavation below this depth should be conducted in accordance with a DEC approved work plan.
2. The transport of soil from this site requires prior DEC approval in accordance with 18 AAC 75.325 (i)
3. A groundwater monitoring plan that includes monitoring wells (MW) A, B, C1, 6, 9, 14, and 15 shall be prepared and submitted to the DEC for review and approval. It is recommended that monitoring events be conducted on a yearly basis until decreasing trend(s) in groundwater contamination is established and to monitor potential off site migration.
4. It is recommended that the land spread area be capped with a layer of topsoil and revegetated with native grass to reduce the potential for off site migration of dust.
5. The drinking water well must be sampled for DRO, GRO, BTEX, PAH, bacteria, and nitrates before it may be used as a drinking water source. It must meet the 18 AAC 75 and 18 AAC 80 standards prior to use as a drinking water source.

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department's decision. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

ADEC Site Remediation Section Manager Approval:

Jim Frechione

Jim Frechione, Environmental Conservation Manager

6-6-03
Date

cc: Amanda Dreyer, ADEC

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION & RESPONSE
CONTAMINATED SITES REMEDIATION PROGRAM
555 CORDOVA STREET, SECOND FLOOR
ANCHORAGE, AK 99501-2617

TELEPHONE: (907) 269-7658
FAX: (907) 269-7649

April 13, 1998

Dan Carpenter
U.S. Public Health Service (PHS)
3925 Tudor Center Drive
Anchorage, AK 99508-5997

RE: Old Bethel Hospital

Dear Mr. Carpenter:

The Alaska Department of Environmental Conservation, Contaminated Sites Remediation Program, (ADEC) has reviewed the risk assessment document prepared for the Old Bethel Hospital site. We also had the opportunity to discuss the various issues associated with the site at our January 21 and February 18, 1998 meetings. Since the meeting participants included representatives of the Public Health Service-Alaska Area Native Health Service (PHS); Bethel Native Corporation (BNC); Corps of Engineers (COE); and ADEC, it afforded all interested parties an opportunity to reach conceptual agreement of the corrective actions necessary to remediate contamination at this site. Please note the following information related to this project.

The Risk Evaluation Investigation Report for the Old Public Health Service Hospital Bethel, Alaska (the Report) site identified areas of soil and groundwater contamination associated with past activities. The Report recommended soil cleanup levels based on the potential risk diesel range and gasoline range organic contaminants pose to human health via the ingestion or inhalation pathways. The groundwater was reportedly impacted but was identified (or considered) as a non-potable water source. Furthermore, the Report indicated that the groundwater pathway would not reach any potential receptors (ecological or human). It was determined that monitoring, at an agreed upon point of compliance, and institutional controls could address groundwater quality issues. The rationale is that if the contamination is removed or eliminated as a source; the groundwater contamination should decrease or disappear over time, as verified through monitoring.

Proposed Alternative Cleanup Levels: The soil cleanup levels proposed for this site are based on the risk posed to human health via the inhalation/ingestion pathway. It was determined in the Report that a diesel range organic (DRO) concentration of 5,900 parts per million (ppm), or less,

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in the soil would be protective of human health at this site. This level was proposed for the soil horizon between 3 feet to 10 feet below ground surface (bgs). A more stringent DRO cleanup standard of 3,500 ppm for 0 feet to 3 feet bgs was proposed in agreement between PHS and BNC. The cleanup level for gasoline range organics (GRO) established at this site is 1,400 ppm. This is based on the risk to human health determinations and the maximum allowable concentration as established by the draft 18 AAC 75 regulations. It should be noted that the approval of alternative cleanup levels at this site is conditional on the placement of institutional controls on the property. This will ensure the contamination remaining at the site is identified in the land records by future users or owners of the property. Any concentration in excess of these established levels would require corrective action as determined by ADEC.

The ADEC staff attending the meeting concurred with this proposed cleanup level but qualified their concurrence with the condition that the final cleanup level must be approved by the Contaminated Sites Remediation Program Manager. A recommendation from ADEC staff will be forwarded to the Program Manager for approval of the alternative cleanup levels listed in this letter.

The issue of DRO contaminated soil below the 10 foot bgs depth was raised and the PHS requested an alternative cleanup level for those soils at the maximum allowable concentration proposed by the draft 18 AAC 75 regulations (Table B). ADEC recognizes that these soils do not pose a risk to human health through ingestion or inhalation but migration to groundwater may result from elevated levels of contamination remaining in the ground. Even though it is a non-potable water source the potential migration to ecological receptors would be evaluated through the groundwater monitoring plan. Therefore, ADEC staff will recommend that DRO soil contamination below the 10 feet bgs depth be established at the maximum allowable concentration (12,500 ppm) as proposed by the draft 18 AAC 75 regulations. Any exceedance of established groundwater quality levels at this site may require corrective action as determined by ADEC.

Groundwater: Groundwater impacts have been identified where benzene was detected in monitoring wells at the site. The shallow groundwater aquifer is not considered the drinking water aquifer for this area but it may serve as a possible pathway to the ecosystem of the Kuskokwim River. Therefore, it is recommended that a point of compliance for groundwater monitoring be established at (or near) the property boundary of the Old Hospital site to ensure contamination is diminishing through natural attenuation and/or will not migrate from the site. A groundwater monitoring plan should be prepared and submitted to ADEC for review and approval prior to implementation.

Conclusion: ADEC staff have reviewed the alternative cleanup levels proposed for the Old Bethel Hospital Site and conceptually agree they will not pose a risk to the public's health or the environment. However, the cleanup levels proposed in this letter are recommendations requiring the approval of the Project Manager of the Contaminated Sites Remediation Program. This letter is meant to serve as staff approval of the levels which will now be forwarded to the Program Manager for review and approval.

The DRO cleanup level proposed for the site is 5,900 ppm as determined by the Report. This is considered a risk based cleanup level protective of human health. There was reference to 6,000 ppm in our meeting and in BNC's proposed agreement but ADEC will consider the alternative cleanup level as that concentration calculated in the Report. The proposed GRO cleanup level is 1,400 ppm (instead of 1,500 ppm) due to a revision in the draft 18 AAC 75 regulations. This soil concentration is considered as the maximum allowable GRO level at this site.

The cleanup levels proposed in this letter would be applicable from the ground surface to 15 feet bgs. However, PHS and BNC have agreed (with ADEC concurrence) to apply a more stringent cleanup level (3,500 ppm) from 0 feet to 3 feet bgs. PHS requested that the 5,900 ppm and 1,400 ppm apply between 3 feet and 10 feet bgs. Below the 10 foot depth, the maximum allowable concentrations for GRO (1,400 ppm) and DRO (12,500 ppm) were requested. ADEC staff agreed to consider these levels provided groundwater contamination does not exceed cleanup standards at the point of compliance and institutional controls be incorporated into the land records to reflect elevated levels of contamination remain at the site.

The proposed cleanup levels stated in this letter will be forwarded to the ADEC Program Manager for consideration and approval. However, ADEC recognizes that PHS must acquire funding for this project and the purpose of this letter is intended to document the conceptual approval by staff personnel of the remedial approach developed for this site.

If you have any questions or comments, please contact me at 269-7658 or Shah Alam at 269-7530.

Sincerely,

Jim Frechione
Environmental Specialist

JF:el

cc: Linda Himmelbauer, ADEC, Juneau
Shah Alam, ADEC, Anchorage
Bob Carlson, ADEC, Bethel
Jay Farmwald, PHS
Marc Stemp, BNC
Lynn Kent, ADEC, Juneau

TONY KNOWLES, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION & RESPONSE
CONTAMINATED SITES REMEDIATION PROGRAM
555 CORDOVA STREET, SECOND FLOOR
ANCHORAGE, AK 99501-2617

TELEPHONE: (907) 269-7658
FAX: (907) 269-7649
http://www.state.ak.us/dec/home/htm

April 21, 1998

Dan Carpenter
U.S. Public Health Service (PHS)
3925 Tudor Center Drive
Anchorage, Alaska 99508-5997

RE: Old Bethel Hospital

Dear Mr. Carpenter:

The Alaska Department of Environmental Conservation, Contaminated Sites Remediation Program, (ADEC) wrote an April 13, 1998 letter to you summarizing the results of the meetings our agencies held on January 21 and February 18, 1998. As stated in that letter, alternative cleanup levels for the Old Bethel Hospital site were conceptually agreed to by the participants of the meetings, which included representatives of the Public Health Service-Alaska Area Native Health Service (PHS); Bethel Native Corporation (BNC); Corps of Engineers (COE); and ADEC. In order to clarify several points raised in the April 13, 1998 letter, please note the following information.

The soil cleanup levels proposed for this site are based on the risk posed to human health via the inhalation/ingestion pathway. It was determined in the Risk Evaluation Investigation Report for the Old Public Health Service Hospital Bethel, Alaska (the Report) that a diesel range organic (DRO) concentration of 5,983 parts per million (ppm), or less, in the soil would be protective of human health at this site. The number was rounded to 5,900 ppm in the April 13 letter; however, the 6,000 ppm concentration is appropriate and will be forwarded to the ADEC Program Manager for the recommended alternative cleanup level at this site. This level was proposed for the soil horizon between 3 feet to 10 feet below ground surface (bgs). A more stringent DRO cleanup standard of 3,500 ppm for 0 feet to 3 feet bgs was proposed in agreement between PHS and BNC. The cleanup level for gasoline range organics (GRO) established at this site is 1,400 ppm. This is based on the risk to human health determinations and the maximum allowable concentration as established by the draft 18 AAC 75 regulations. It should be noted that the approval of alternative cleanup levels at this site is conditional on the placement of institutional controls on the property. This will ensure the contamination remaining at the site is identified in the land records by future users or owners of the property. Any concentration in excess of these established levels would require corrective action as determined by ADEC.

The issue of DRO contaminated soil below 10 foot bgs was raised and the PHS requested that no corrective action be employed based on the rationale that the contamination at this depth does not pose a human health

risk. While the draft 18 AAC 75 regulations establish the soil cleanup standards to apply from the surface to 15 feet bgs, ADEC concurs (for this particular site) that the contaminant levels below 10 feet bgs do not pose a human health risk via ingestion or inhalation. The draft regulations referenced above establish maximum allowable concentrations (12,500 ppm for DRO and 1,400 ppm for GRO) of contamination to remain in the soil with the condition that it not be present as "free product" or that it does not migrate. The ADEC's policy regarding free product phase contamination is that if the contaminant exceeds its saturation point in a soil matrix, it must be removed to avoid its potential migration. Whereas this policy is applicable at the Old Bethel Hospital site, ADEC acknowledges that DRO and GRO saturation points will vary according to site specific conditions (primarily soil type). The site assessment information identified two locations below 10 bgs where DRO contamination (13,700 ppm and 12,800 ppm) exceeded the maximum allowable concentration of 12,500 ppm. If the soil types at these locations is such that contamination is not in its free product phase, ADEC would not require remedial action at this time. However, PHS is requested to provide site specific information regarding soil types and estimated saturation points of the contamination in these two locations.

With respect to the perched groundwater at this site, ADEC concurs with the results of the February, 1998 transport modeling effort which concluded there would be minimal (if any) impact to ecological surface receptors from the elevated contamination levels remaining on site. ADEC and PHS agreed that a groundwater monitoring plan would be implemented to insure the model conclusions were accurate and contamination was not migrating off site and potentially impacting surface receptors down gradient from this site. Any exceedance of established groundwater quality levels at the point(s) of compliance may require corrective action as determined by ADEC.

All other conditions stated in the April 13, 1998 letter remain as stated unless they are amended in this letter.

If you have any questions or comments, please contact me at 269-7658 or Shah Alam at 269-7530.

Sincerely,

Jim Frechione
Environmental Specialist

JF/bc G:\EQ-CLER\JFRECHIO\BTLHSPT2.WPD

cc: Linda Himmelbauer, ADEC, Juneau
Shah Alam, ADEC, Anchorage
Bob Carlson, ADEC, Bethel
Jay Farmwald, PHS
Marc Stemp, BNC
Lynn Kent, ADEC, Juneau