

Technical Report

Project K-1240

“Post-containment Management and Monitoring of Mercury Pollution in Site of Former PO “Khimprom” and Assessment of Environmental Risk Posed by Contamination of Groundwater and Adjacent Water Bodies of the Northern Industrial Area of Pavlodar”

For third quarter (April-May-June 2006)

(Tasks 1-4)

Leading Institute:

Non-profit JSC “Almaty Institute of Power Engineering and Telecommunications”, BG Chair of Environmental Technology

Address: 126, Baytursynov Str., Almaty, 050013, Kazakhstan

Almaty 2006

3. Brief description of the performed work:

The objectives of the work for the reported period are: (i) correction in allocation of funds in connection with actual change of the work plan due to JSC “Pavlodar Chemical Plant” (JSC PCP) bankruptcy, (ii) creation of a temporary chemical-analytical laboratory at Non-profit JSC “Almaty Institute of Power Engineering and Telecommunications” (AIPET) for conducting chemical analyses of taken samples for total mercury content, (iii) spring field work on storage pond – Lake Balkyldak, (iv) preparation and beginning of summer field work at the place of mercury pollution in Pavlodar, (v) preparatory work on creation of local model of groundwater mercury pollution area by means of software GMS 6.0.

I. Due to bankruptcy of JSC “Pavlodar Chemical Plant”, Rector of AIPET Mr. G.Daukeev and President of JSC “Caustik” Mr. R.Sharipov have exchanged of letters (see the enclosure) about condition of JSC “PCP” partner replacement in ISTC K-1240 project. Mutual understanding has been reached about need to carry out some part of work on the project by new local partner, staff of which is basically former staff of JSC “Pavlodar Chemical Plant”, Pavlodar. Artur Akhmetov was authorized to organize a team of 5 chemists in order to fulfill this work. It was decided to make a request to US Environmental Protection Agency to substitute JSC “Caustik” for former partner JSC PCP. Because it was impossible to postpone seasonal field work on the project AIPET had to undertake to implement big part of expedition work of 2006 by its own strength and also to create chemical-analytical laboratory in Almaty, which will be able to fulfill at least part of chemical-analytical work planned for JSC PCP. In order to do that an urgent correction of the project budget was required which stipulated for transfer of all funds of AIPET which were originally planned as travel expenses in 5-12 quarters for their use by AIPET in 4 quarter and also funds designed for purchase of expensive equipment for JSC PCP. Total planned work content was reduced, because need of paying travel expenses makes fulfillment of the same field work for AIPET staff more expensive than for any Pavlodar’s partners.

II. AIPET provided premise for the laboratory, created laboratory infrastructure and organized new chemical-analytical laboratory for work on sample preparation and analyses of liquid and solid samples for total mercury content with help of atomic fluorescent analyzer PS Analytical Millennium-Merlin, which has already been available at AIPET.

It was decided to use this instrument in Pavlodar for analysis of groundwater samples for total mercury content. On this purpose laboratory room belonging to JSC “Caustik” was rented and repaired. Necessary laboratory equipment was delivered there from Almaty and installed, including equipment for ultra fine cleaning of water and inert gas.

III. According to the work specification biologists of Pavlodar State University (PSU) have to do sampling of biota from the lake at the time of spawning period when water area of storage pond - Lake Balkyldak releases from ice. Four expeditions were organized to go to Lake Balkyldak: (i) for reconnaissance survey of pond, assessment of ecotopes as of ground condition, macrophytes, places for fish spawning, (ii) for sampling high water vegetation to determine species composition of flora and fauna, (iii) for fishing by stationary net to study species types of caught fish, biological analysis of fish and sampling for chemical analysis, (iv) for collection of mollusks and identification of their species. Unfortunately, methods, character and time of researches had not been agreed with AIPET, report about the performed work presented in the very general form. At present time and place of meeting of PSU team with expert from AIPET is being stipulated for discussion of conducted work and achieved results, and also for agreement of further work plan on research in mercury distribution on food chains in the storage pond Balkyldak.

IV. AIPET had prepared necessary expeditionary equipment and sent its team to Pavlodar by cross-country capacity auto (UAZ 31512-031) to conduct mercury monitoring of air, groundwater and soils.

Also two analysts were sent to Pavlodar for quick determination of total mercury content in groundwater samples, which do not recommended for preservation and long storage. The expedition work should take about two months.

In Pavlodar PSU team should join them to continue taking samples of bottom sediments and biota from the storage pond Balkyldak, and also Institute of Hydrogeology and Hydrophysics (IHH) and Stepnogorsk monitoring laboratory teams to negotiate with administration of Pavlodar Chemical Plant on collaborative research of groundwater contaminated with oil products from this plant. Besides IHH should do seasonal research of groundwater tables within all territory of Northern industrial area of Pavlodar.

V. Additional fund data on groundwater table regime in Northern industrial area of Pavlodar and also information about oil content in groundwater in this area were collected by IHH. For that two persons from Institute were sent to Kokchetav city in May, to the Republic Center of geological information "Kazgeoinform".

Modeling software GMS 6.0 has been purchased; its functions and new possibility for simulation of mercury transport with groundwater have been studied. Regional model of hydro-geological conditions of Northern industrial area in Pavlodar was converted to new version of GMS 6.0 software. On results of schematization of hydro-geological conditions which were carried out in the second quarter, 20 schematic transversal cross sections, stratigraphy model and than conceptual scheme of the local model of the area of groundwater mercury contamination were produced by means of GMS.

4. Executed stages:

Task 1, stage 1-3 - partly,

Task 2, stage 1- completed, stage 2, 3 - partly,

Task 3, stage 1 - partly,

Task 4, stage 1 – completed, stage 2, 4 – partly.

5. Important business trip:

For AIPET - several business trips from Almaty to Pavlodar for preparation and fulfillment of field work in the area of mercury contamination; for IHH - two business trips to Kokchetav for collection of fund hydro-geological materials.

6. Main acquired equipment:

GMS 6.0 software had been acquired for IHH; Order of other expensive equipment had been stopped because of delay with correction of the project budget.

8. Current state of affairs:

Work is going according to reduced work plan because of absence of key Pavlodar partner JSC PCP. AIPET undertook bigger part of JSC PCP work. PSU fulfilled plan of spring field work on Lake Balkyldak partly only.

AIPET had to do unplanned work on organization of chemical-analytical laboratory on its own basis instead of organization monitoring laboratory by JSC PCP.

9. Delays, problems, suggestions:

JSC “Caustik” agrees to become a partner on K-1240 project on suggested conditions and provides help already in carrying out summer field work on mercury monitoring. It is necessary to do all formal procedures on including JSC “Caustik” into numbers of Institutes participants on the project as soon as possible. Delay in this process can result in significant reduction in carried out work content compared to planned work, because cost of field work is much more for AIPET than for its Pavlodar partners.

PSU cannot organize field work on storage pond Balkyldak independently. Professor K. Bazarbekov who is team leader and dean of biological and chemical faculty practically kept himself out of organization work of his team.

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ANNEX

To Mr. R.T. SHARIPOV,
President of JSC “Caustic”, Pavlodar

Dear Rustam Turaevich,

Due to bankruptcy of JSC “Pavlodar Chemical Plant” (JSC PCP) its participation in three-year ISTC project K-1240 “Post-containment Management and Monitoring of Mercury Pollution in Site of Former PO “Khimprom” and Assessment of Environmental Risk Posed by Contamination of Groundwater and Adjacent Water Bodies of the Northern Industrial Area of Pavlodar” started on the 1st of October, 2005 has stopped.

We offer to JSC “Caustic” to become a participant in this project instead of JSC PCP since JSC “Caustic” asked to consider it as a successor of JSC PCP in ISTC projects. Moreover it is located at the territory of the former PO “Khimprom”, Pavlodar and most engineering and technical personnel has transferred from JSC PCP to JSC “Caustic”.

We would like to keep Arthur Darazhatovich AKHMETOV as a sub manager of JSC “Caustic” group in ISTC project K-1240, who was a sub manager of analogous group in JSC PCP. Besides it is necessary to involve five members of the Chemical Laboratory staff having experience in chemical and analytical works in the project. We also request your permission for these personnel to work on ISTC project K-1240 in working time and also extra-time if necessary provided there is no any detriment to their direct work. We also count on assistance of JSC “Caustic” administration in field and analytical works connected with mercury contamination monitoring in the territory of JSC “Caustic” (e.g. providing access to observation hydro-geological wells, soil sampling and Hg measurement in the air, disposal of scientific equipment used in K-1240 project within the industrial area and the Laboratory’s rooms, water and power supply etc.)

In case of your consent we are ready to start an official procedure of involving JSC “Caustic” in ISTC project K-1240 as an Institute Participant and adjusting a scope of works and their funding. However this procedure takes some time (it is necessary to receive approval of Kazakhstan government, ISTC in Moscow and US Environmental Protection Agency which is an official partner in this project in USA). We ask you to start rendering assistance in field works on ISTC project K-1240 after getting principle (verbal) agreement of Michael Valentine, ISTC Senior Project Manager before the official procedure completion.

Rector

G.Zh. DAUKEEV

To Mr. DAUKEEV G.Zh., Rector of
Almaty Institute of Power Engineering
and Telecommunications

Dear Gumarbek Zhusupbekovich

JSC “Caustic” has considered your offer about collaboration on ISTC project K-1240 and gives its consent to JSC “Caustic” personnel’s participation in this project and also to conducting analytical and other works in working time without any detriment to their direct job. JSC “Caustic” will provide assistance to other participants of the project in conducting field and analytical works within the territory of JSC “Caustic”.

List of the project participants from JSC “Caustic”:

TSHAI Alexandra Ivanovna
EPIFANTSEVA Tat’yana Mikhail’lovna
MUHUTDINOVA Sophia Mikhail’lovna
PARFENOVA Lyubov’ Vasil’evna
BORISOVA Galina Konstantinovna

With respect,
President

P. Sharipov

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Председателю правления
АО "Каустик", г. Павлодар
господину Шарипову Р.Т.

Глубокоуважаемый Рустам Тураевич,

В связи с банкротством АО "Павлодарский химический завод" (АО ПХЗ) его участие в начавшемся 1 октября 2005 г. трехгодичном проекте МНТЦ К-1240 "Последемеркуризационное управление ртутным загрязнением на территории бывшего ПО <Химпром>, а также оценка риска для окружающей среды от загрязнения подземных вод и прилегающих водоемов Северной промышленной зоны г. Павлодара", прекращается.

Мы предлагаем АО "Каустик" стать участником этого проекта вместо АО ПХЗ, поскольку АО "Каустик" просит считать его правопреемником АО ПХЗ по проектам МНТЦ, он располагается на территории бывшего ПО "Химпром" г. Павлодар и большая часть инженерно-технического персонала перешла работать с АО ПХЗ на АО "Каустик".

Мы хотели бы сохранить в качестве руководителем группы АО "Каустик" в проекте МНТЦ К-1240 Артура Даражатовича Ахметова, являвшегося руководителем аналогичной группы в АО ПХЗ. Кроме него в состав этой группы необходимо ввести пять работников химической лаборатории, имеющих опыт проведения химико-аналитических работ. Мы также просим Вас разрешить этим сотрудникам работать по проекту К-1240 в рабочее время и иметь возможность оставаться на своем рабочем месте дополнительное время при условии выполнения ими своих основных обязанностей. Мы также рассчитываем на содействие

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руководства АО "Каустик" в проведении полевых и химико-аналитических работ, связанных с мониторингом ртутного загрязнения на территории АО "Каустик" (например, в обеспечении доступа к наблюдательным гидрогеологическим скважинам, в отборе проб грунтов и замеров содержания ртути в воздухе, в размещении на промплощадке и в лабораторных помещениях научного оборудования, используемого в проекте K-1240, в обеспечении водой, электроэнергией и т.п.).

В случае Вашего согласия мы готовы начать официальную процедуру включения АО "Каустик" в качестве Института-участника проекта МНТЦ K-1240, согласованию объема работ и их финансирования. Однако эта процедура займет некоторое время (необходимо будет провести согласования с Правительством Казахстана, Правлением МНТЦ в Москве и Американским агентством по охране окружающей среды - официальным партнером этого проекта в США). Мы просим Вас начать оказывать содействие в проведении полевых работ по проекту K-1240 после получения принципиального (устного) согласия Главного куратора проектов МНТЦ Майкла Валентайна до окончания завершения официальной процедуры.

Ректор



Даукеев Г.Ж.

Акционерлік
қ о г а м ы



Акционерное
общество

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Кадровый МНП БИФРЕН
А. Шарипов
2.06.06

Ректору Алматинского
института энергетики и связи
Даукееву Г.Ж.

О сотрудничестве
по проекту K-1240

Уважаемый Гумарбек Жусупбекович!

АО «Каустик» рассмотрело Ваше предложение о совместной работе по проекту МНПЦ K-1240 и дает свое согласие на участие сотрудников АО «Каустик» в данном проекте и проведении химико-аналитических и других работ в рабочее время, без ущерба основной работе. АО «Каустик» будет оказывать содействие другим участникам проекта в проведении полевых и химико-аналитических работ на территории АО «Каустик».

Список специалистов для участия в проекте:

- Цхай Александра Ивановна
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- Мухутдинова Софья Михайловна
- Парфенова Любовь Васильевна
- Борисова Галина Константиновна

С уважением,
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