



November 6, 2015

Assistant Attorney General
U.S. Environmental and Natural Resources Division
DOJENRD
PO Box 7611
Washington, DC 20044-7611

Re: **Consent Decrees United States v. Mosaic Fertilizer, LLC**
D.J. Ref. No. 907108388
Sent via email at: pubcomment-ees.enrd@usdoj.gov

Dear Assistant Attorney General:

PROPOSED SETTLEMENT WITH MOSAIC IS UNLAWFUL

The Areawide Environmental Impact Statement (AEIS), allegedly prepared by the US Army Corps of Engineers (USCOE) and the US Environmental Protection Agency (USEPA), was supposed to evaluate all of the adverse impacts from the proposed expansion of phosphate mining in Florida. The Ecology Party of Florida (Ecology Party) submitted extensive comments during the public comment period for the AEIS. Those comments included details of the failure of the AEIS to address the adverse impacts related to the fertilizer produced by phosphate mining in Florida.

None of those impacts was addressed in the draft or final AEIS. Therefore, 60-day notice letters were submitted on behalf of the Ecology Party and others, requesting that a supplemental AEIS be conducted to correct the gross deficiencies of the AEIS, including the failure to address all of the adverse impacts related to the fertilizer produced by phosphate mining in Florida. A copy of the revised 60-day notice letter for the AEIS is included as Attachment A.

No supplemental AEIS was conducted to address those inadequacies. Nevertheless, the EPA negotiated a "settlement" behind closed doors, to address a few gross and far-reaching violations associated with the fertilizer-related aspects of phosphate mining. That those fertilizer-related violations were subject to a settlement, despite not having been included in the AEIS is proof that the AEIS was not NEPA-compliant. In other words, the settlement of fertilizer-related harms not included in the AEIS is, *prima facie*, evidence that the AEIS omitted cumulative effects of phosphate mining, did not in fact, include very significant and costly effects of phosphate mining, and, therefore, did not meet NEPA requirements. Egregiously, the settlement made NO restrictions on the expansion of phosphate mining.

The proposed “settlement” with Mosaic also disregards any of the myriad adverse impacts from by-products of the mining, and processing of fertilizers: specifically, from harmful industrial waste-products (hydrofluosilicic acid) transported and sold throughout Florida and the US to be dumped into municipal waters for fluoridation. Those impacts were also addressed in our previous comments that were also ignored in the AEIS, further necessitating a supplemental AEIS that would lawfully include ALL the cumulative impacts related to phosphate mining.

Consequently, the proposed settlement with Mosaic is not only unlawful (and those fertilizer-related aspects of phosphate mining covered in the proposed settlement, as well as those not included in the settlement, including fluoridation, should be addressed in a supplemental AEIS to determine if any expansion of phosphate mining should be allowed), but the settlement is also proof of the unlawfulness of the AEIS.

ADDITIONAL GENERAL COMMENTS

The Ecology Party includes members affected directly and indirectly by Mosaic’s extensive violations and the failure of the agencies to enforce the federal laws that are being violated. Clearly the number and magnitude of violations by Mosaic justify that all mining and processing of phosphate rock should be halted until: 1) the supplemental AEIS has been completed; 2) Mosaic has complied with all of the federal laws; and 3) independent monitoring of impacts to all surface waters, ground waters, air quality and health impacts to humans and wildlife has been conducted.

ADVERSE HEALTH AND ENVIRONMENTAL IMPACTS FROM PARTICULATES

Comprehensive, continuous monitoring should be instituted to determine the magnitude and extent of adverse health and environmental impacts, such as those associated with particulate matter (PM) from gyp stacks and from the un-stabilized mined moonscapes that result from phosphate mining. An example of the PM “dust storms,” comparable to those from the Dust Bowl Era, is shown in the following photograph taken by one of our members in the vicinity of the family’s property, with the Four Corner phosphate mines in the background:



Not only has the USEPA failed to force Mosaic to comply with the federal Clean Air Act regarding PM (aka “dust”), but our members also have filed complaints with the Florida Department of Environmental Protection (FDEP), the State of Florida Health Department and the Environmental Protection Agency of Hillsborough County, Florida for years regarding this serious health issue. To date, no enforcement of these serious violations has occurred and the problems continue. The State of Florida Health Department has confirmed that exposure to PM represents a health threat, but this magnitude of PM pollution has continued unabated for years.

ADVERSE HEALTH AND ENVIRONMENTAL IMPACTS FROM AERIAL SPRAYING OF TOXIC HERBICIDES

Recently we have discovered that Mosaic has been using helicopters to spray glyphosate on mined land prior to reclamation. This was confirmed in an email from Mosaic’s Dee Allen to one of our members on August 27, 2015. A copy of that email is included as Attachment B. The “technical information” referenced by Ms. Allen in her email included no published scientific studies regarding the adverse effects of glyphosate.

The spraying of glyphosate by helicopters over Mosaic mines in the north mining area of the Four Corners mines has been observed and documented by two of our members. The local Development of Regional Impact (DRI) 263 involves reclamation of 53,000 acres. Therefore, the aerial assault by spraying glyphosate on this extensive mined area certainly is significant enough that the action should have been made public during the AEIS so that the public could have provided comments and the adverse impacts to humans, fish and wildlife and the environment could have been evaluated.

It is important to note that this aerial spraying of glyphosate is occurring immediately adjacent to private property of our members, including private property used for ranching. It also is important to note that according to Mosaic’s representatives, glyphosate is being sprayed aerially to kill “weeds” before mined areas are “reclaimed.”

We submitted documentation with our public comments in response to the AEIS, concluding that the invasive “weeds” that are widespread on and surrounding phosphate-mined areas are the result of irreversible alterations of the natural hydroperiods by the phosphate mining. Mosaic’s admission of having to rely on aerial spraying of Round Up to suppress those “weeds” prior to “reclamation” is further proof of the adverse impacts of the irreversible hydroperiod alterations that were not addressed in the AEIS.

Glyphosate is a broad-spectrum herbicide used in more than 750 products, including Roundup. That information was included in the published results of the meeting on March 2015 of 17 experts from 11 countries at the International Agency for Research on Cancer (IARC; Lyon, France). The purpose of the meeting was to assess the carcinogenicity of glyphosate and the organophosphate pesticides tetrachlorvinphos, parathion, malathion, and diazinon (*Lancet Oncol* 2015, Published Online March 20, 2015, [http://dx.doi.org/10.1016/S1470-2045\(15\)70134-8](http://dx.doi.org/10.1016/S1470-2045(15)70134-8)). A copy of that report is included with these comments as Attachment C.

The 17 experts in that meeting concluded that exposure of humans to glyphosate is associated with non-Hodgkin lymphoma in the USA, Canada and Sweden, based on case-control analysis. Additional experiments using laboratory animals revealed that glyphosate induced the incidence

of a rare tumor, renal tubule carcinoma and increased pancreatic islet-cell adenoma. Glyphosate also has been detected in the blood and urine of agricultural workers, indicating absorption of this chemical. Glyphosate and glyphosate formulations induced DNA and chromosomal damage in mammals, and in animal (including human) cells in vitro. Glyphosate degraded to aminomethylphosphoric acid (AMPA) by soil microbes, as well as glyphosate and glyphosate formulations all induced oxidative stress in rodents and in vitro. All of these results suggested that glyphosate probably is “carcinogenic to humans.”

According to a “notice of intent” issued by the Cal/EPA’s California’s Office of Environmental Health Hazard Assessment (OEHHA) in early September, glyphosate will be added to the published list of chemicals known to cause cancer or birth defects or other reproductive harm. It appears that California will be the first state in the US to make this determination about glyphosate. In June of this year, France banned the sale of Roundup in garden centers because of concerns over toxicity. Many years of scientific research have linked Roundup (with glyphosate as the active ingredient) to a slew of health and environmental problems, as well as to the record decline of monarch butterflies (<http://ecowatch.com/2015/09/08/california-becomes-first-state-to-label-monsantos-roundup-as-a-carcinogen/>).

The AEIS did not reveal that glyphosate was being used in routine aerial spraying of mined areas, and that use, with its inevitable consequences, rightfully should have been included and analyzed in the AEIS as one of the cumulative adverse effects of phosphate mining. The topic (along with any information about harms from exposure to glyphosate) was not included and that is yet another glaring flaw of the AEIS. The fact is human case-control studies were conducted during 2000, approximately a decade before the AEIS was released, so the omission is inexcusable. The USEPA concluded in 1993 that if glyphosate reaches surface water, it is not broken down readily by water or sunlight, yet the USEPA apparently failed to consider any adverse impacts specifically based on Florida’s environment and sandy soils (Registration Decision Fact Sheet for Glyphosate (EPA-738-F-93-011)" (PDF). *R.E.D. FACTS*. United States Environmental Protection Agency, 1993). These gross inadequacies are inexcusable considering that the USEPA shared responsibility with the USCOE for the AEIS on proposed expansion of phosphate mining.

Lest it be suggested that using atrazine in place of glyphosate is an alternative, then the required supplemental AEIS would demand inclusion of atrazine toxicity as one of the cumulative effects of phosphate mining. As of 2014, atrazine was the second-most widely used herbicide after glyphosate in the US. It is not a viable alternative to glyphosate because in 2007, the USEPA determined that current studies suggest atrazine is an endocrine disruptor. Additionally, atrazine contaminates ground water. In fact, in 2012, Syngenta (manufacturer of atrazine) was the defendant in a class-action lawsuit concerning the levels of atrazine in human water supplies. Syngenta agreed to pay \$105 million to reimburse more than one thousand water systems for "the cost of filtering atrazine from drinking water ("A Valuable Reputation: Tyrone Hayes said that a chemical was harmful, its maker pursued him" (http://www.newyorker.com/reporting/2014/02/10/140210fa_fact_aviv?currentPage=all) by Rachel Aviv, *The New Yorker*, 10 February 2014)).

The European Union (EU) banned the use of atrazine in 2004, when the EU found groundwater levels exceeding the limits set by regulators, and Syngenta could neither show that this could be prevented nor that the levels in the ground water were safe (European Commission. 2004/248/EC). Despite these facts, the USEPA still allows the use of atrazine in the US and has made no attempt to evaluate groundwater contamination by glyphosate or the impacts of humans, wildlife, and fish from the aerial spraying of glyphosate by Mosaic at phosphate mining sites. No matter the herbicide(s) used in phosphate mining, the AEIS must include its harm as one of the cumulative effects in the AEIS and the current AEIS did not.

ADDITIONAL EVIDENCE OF IRREVERSIBLE ALTERATIONS OF NATURAL HYDROPERIODS AND DEGRADATION OF PRIVATE PROPERTY

Additional evidence of the irreversible alteration of natural hydroperiods from phosphate mining and the fallacy of “augmentation” (e.g., (Water Use Permit (WUP) 13228.002, Alafia River Augmentation/Exchange Project) can be seen in the following photograph of the Little Manatee River completely dewatered in 2012, as well as the springs, creeks and shallow wells on private property of our members that have been dewatered:



As a result of the inadequacies described above, we have members whose private property has been degraded significantly by Mosaic’s phosphate mining. Examples of that degradation include the loss of spring flow and ground water from private wells, in addition to loss of flow in creeks and rivers, which were Waters of the US.

A specific example of the altered hydroperiods/water levels and harm to private properties is the wells on the Killebrew ranch that Mosaic tested in 2009 after mining extensively south of that

private property and subsequently mining thousands of acres north of the Killebrew ranch. Results from one of those wells tested during 2009 showed levels of radiation at the high end of the normal range for radiation. The recommendation was to close that well due to high levels of radiation. That well, combined with surface water no longer available due to phosphate mining, provided water used on the Killebrew ranch for cattle and farming. The mining associated with the Killebrew ranch involved approximately 53,000 acres of mining, with pits more than 70 feet-deep, under one DRI and future mining under additional DRIs involving many more thousands of acres. **This category of adverse impacts by Mosaic's phosphate mining and processing was not addressed in the AEIS or in this proposed "settlement" with Mosaic.**

ADVERSE IMPACTS TO PERSONAL HEALTH

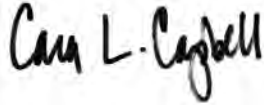
The Killebrew ranch, referenced above, pre-dated the advent of phosphate mining in that area. Since the onset of phosphate mining, the Killebrew family has suffered a litany of ills, including but not limited to thyroid problems, chronic obstructive pulmonary disease (COPD) and seizures. Four members of the family suffer from COPD (including level 4 COPD) and five family members have thyroid problems, including grandchildren as young as thirteen years old. One grandchild suffers from seizures. Two family members have skeletal problems. Another son suffers from early onset Multiple System Atrophy (MSA) Parkinsons. His neurologist informed him that contaminated well water is a common denominator among those with this type of Parkinsons. High radiation levels in wells, in addition to contamination by glyphosate both could be factors in these illnesses in this family and countless other families in the vicinity of Mosaics phosphate mining and processing facilities. The constant assault from excessive PM levels clearly results in a health threat that permeates those private properties and homes.

RECOMMENDATIONS

1. The proposed "settlement" with Mosaic is unlawful and should be considered null and void.
2. The proposed "settlement" should be seen for what it is: evidence that a supplemental AEIS is required.
3. All phosphate mining and processing in southern Florida that was not initiated prior to the initiation of the AEIS should halted until:
 - a. the previously requested Supplemental AEIS is completed to address all of the deficiencies described in this letter and in our previous 60-day notice letters related to the deficiencies of the AEIS;
 - b. a procedure is implemented to enclose all PM matter generated by the phosphate mining and processing to the footprint of the mining and processing;
 - c. all "variances" to phosphate mining and processing permits (e.g., restoring pre-mining contours and maintaining pre-mining groundwater levels) granted by FDEP and the water management district that alter requirements to original permits and federal laws be declared null and void, and compliance with those permits and laws be completed;
 - d. the Corps' grossly inadequate groundwater model for southern Florida is replaced by a groundwater model that incorporates at least all of the previously mapped fractures throughout southern Florida; and
 - e. restitution is made, in full, to all of the individuals for personal and private-property harm and for all of the environmental harm.

4. All applications of glyphosate and other herbicides should be prohibited from all mine sites, including “reclaimed” mine sites, regardless of the ownership and management of currently or previously mined sites to determine a more realistic magnitude and extent of groundwater impacts associated with existing and proposed phosphate mining, beyond the “650 feet maximum range” from the footprint of the mines.

Sincerely,



Cara L. Campbell, Chair
chair@ecologyparty.org

Attachments:

- A. 60-day notice letter
- B. email confirming routine aerial spraying of Round Up by Mosaic
- C. 3/15 report on glyphosate and organophosphate pesticides by 17 experts from 11 countries at the International Agency for Research on Cancer

cc:

Lt. General Thomas Bostick, USCOE Chief (hq-publicaffairs@usace.army.mil)
Gina McCarthy, USEPA Administrator (McCarthy.Gina@epa.gov)
Sally Jewell, USDOJ Secretary (SallyJewell@ios.doi.gov)
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May 29, 2014

NOTICE OF INTENT TO SUE
VIA CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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ERIC H. HOLDER JR., ESQ.
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**Re: REVISED 60-DAY NOTICE OF INTENT TO SUE
VIOLATIONS OF THE ENDANGERED SPECIES ACT; THE CLEAN WATER ACT;
THE CLEAN AIR ACT AND THE SAFE DRINKING WATER ACT REGARDING**

PROPOSED EXPANSION OF PHOSPHATE MINING IN CENTRAL FLORIDA

Dear Madams and Sirs:

This is to advise that our law firm has been retained to represent the following (collectively “the adversely affected parties”) with respect to the Final Area-wide Environmental Impact Statement (AEIS) and the Addendum to the Final AEIS (“the revised Final AEIS”) for proposed expansion of phosphate mining in central Florida (“proposed project”):

ManaSota-88, Inc. (“ManaSota-88”)
Ecology Party of Florida, Inc. (“the Ecology Party”)

Protect the Peninsula's Future
Northeast Georgia Children's Environmental Health Coalition ("the Coalition")
Clallam County Citizens for Safe Drinking Water ("CCC for Safe Drinking Water")
King County Citizens Against Fluoridation (KCCAF)
Sydney Bacchus, Ph. D. ("Dr. Bacchus")
Jack Cook ("Mr. Cook")
Dan Hilliard ("Mr. Hilliard")

ManaSota-88, the Ecology Party, individual members of these organizations, scientists and economists, the US Geological Survey ("USGS") and other agencies, organizations and individuals submitted detailed comments to the US Army Corps of Engineers (the "Corps") and US Environmental Protection Agency ("USEPA") describing gross deficiencies in the AEIS regarding evaluation of adverse environmental impacts of phosphate mining in central Florida. Examples of those comments, which include significant adverse impacts to the human environment that the Corps and USEPA failed to take a hard look at, are attached hereto as "Exhibit A" and are listed under the attachments, below. Not all of those comments were addressed or even included in the Final AEIS or the revised Final AEIS. Neither the Final AEIS nor the revised Final AEIS resolved those adverse impacts. Electronic copies of the Draft AEIS, Final AEIS and revised Final AEIS for the proposed project are available at the following link: <http://yosemite.epa.gov/oeca/webeis.nsf/viAllByDate?SearchView&Query=%28Central+Florida+Phosphate%29&SearchOrder=4&SearchMax=0&SearchWV=true&SearchFuzzy=true&Start=1>

For example, the comment letter provided by Dr. Nora Demers on April 22, 2011 ("Exhibit A1") expressed concerns that the arbitrary AEIS Study Area boundaries don't include the Gulf "dead zone" which is well-established as resulting from runoff of agricultural fertilizers produced by existing phosphate mines and would continue if phosphate mining continues. Those fertilizers also are known to be causing eutrophication of ground waters and surface waters, including springs, throughout Florida. Dr. Sydney Bacchus submitted formal comment letters, including a comment letter with new information on February 27, 2012, with evidence that adverse impacts to wetlands from phosphate mining extends more than three miles (5 kilometers) beyond the Mosaic Fertilizer, LLC ("Mosaic") mine-site boundaries. The comments submitted to the Corps on May 22, 2013 by Sarasota County ("Exhibit A6") addressed the inadequacy of proposed mitigation and lack of consideration for mitigation that is known to be unsuccessful; the failure to resolve problems with aquifer recharge and drawdown; the inadequate assessment of cumulative impacts; the long-term adverse impacts of Clay Settling Areas ("CSAs"); the failure to address phosphogypsum stacks (aka "gypsum stacks" and "gypstacks") and alternatives such as importation of phosphate; and the fact that the consultants work for Mosaic and cannot be unbiased. Dr. Richard Weisskoff's comments, submitted on May 31, 2013 ("Exhibit A7"), described significant deficiencies in the economic analysis included in the AEIS. Those deficiencies included the failure of the AEIS to address adverse environmental justice impacts of the proposed expansion of phosphate mining. June 3, 2013 comments by the Ecology Party of Florida ("Exhibit A8") also described unaddressed adverse impacts beyond the AEIS Study Area.

Although the AEIS documents are posted on the USEPA web site and the majority of the adverse impacts not addressed in the AEIS are regulated by the USEPA, the preceding link identifies the Corps as the Lead Agency and the AEIS contact person is Corps' staff member John Fellows (see "Exhibit B"). In addition to the comments regarding adverse impacts of phosphate mining in Florida, that were directed to federal agencies involved with the AEIS, these agencies also received an earlier 60-day notice of intent to sue dated March 8, 2013 from this law firm. A copy of that 60-day notice is attached hereto as "Exhibit C."

That 60-day notice also referenced phosphate mine waste from existing phosphate mines in the Central Florida Phosphate District (“CFPD”) that was the AEIS scope area, also known as the area of impact, for four additional, proposed phosphate mines. One of the adverse impacts described in that 60-day notice was from some of the phosphate mining waste produced in the CFPD, transported beyond the boundaries of the CFPD and disposed of in municipal water supplies in Athens-Clarke County, Georgia and other municipalities as chemicals for fluoridation. Figure ES-1 of the Executive Summary for the Final AEIS shows the location of the CFPD and the four proposed phosphate mine projects, in addition to the areas where historical and ongoing mining has occurred in the CFPD. The CFPD only includes areas in Charlotte, DeSoto, Hardee, Lee, Manatee, Polk, and Sarasota Counties, Florida. A copy of that 23-page Executive Summary, which was obtained from the following link, is attached hereto as “Exhibit D:” [FINAL Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District: April 2013: Executive Summary - ExecutiveSummary.pdf](#)

This 60-day notice revises and updates: a) the March 8, 2013 60-day notice, and b) the other comments regarding adverse impacts of phosphate mining submitted in response to the AEIS for the proposed new phosphate mines that the agencies failed to take a hard look at in the Final AEIS and in the revised Final AEIS. The analyses for water quality and economics described in the Final AEIS did not change in the revised Final AEIS after the Final AEIS was completed. Although review of the surface water analysis in the Final AEIS revealed that corrections were necessary, the corrections to the surface water analysis in the Addendum did not resolve the deficiencies described in the USGS comment letter included in Exhibit A or any of the adverse impacts from groundwater alterations addressed in comment letters for the AEIS. Examples of adverse impacts that the Final AEIS and revised Final AEIS failed to take a hard look at include the following:

1. constraining the purpose and needs statement to extracting phosphate ore, without any recognition of public interest and environmental protection of natural resources, which limited consideration of alternatives such as importing phosphate or no action;
2. Piney Point phosphate fertilizer mine waste;
3. failure to include the massive, catastrophic and radioactive adverse impacts of phosphogypsum stacks and associated hazardous waste byproducts which have no use and cannot be disposed of;
4. increased radiation contamination and air pollution caused by phosphate mining;
5. phosphate mine waste used for fluoridation of municipal waters;
6. conflict of interest of contractor hired by the Corps to model and evaluate adverse impacts of phosphate mining for the AEIS;
7. phosphate fertilizer causing eutrophication of ground water and surface waters;
8. the arbitrary and capricious restriction of the AEIS study area to the boundaries of the CFPD, which excludes adverse impacts to the Floridan aquifer system from phosphate mining in the Suwannee River basin and adverse impacts from fluoridation and fertilizers beyond the boundaries of the CFPD;
9. the inability of AEIS model, created by the Corps’ contractor CH2M Hill, to address adverse water quality and hydrologic impacts of the preceding inadequacies, within and beyond the boundaries of the CFPD;
10. the long-term impacts of CSAs, which constitute at least 40% of the mined areas and adversely affect hydrology and the land, permanently limiting all future use of those and surrounding lands;
11. environmental injustice, including from adverse impacts of the proposed project beyond the boundaries of the CFPD;
12. adverse impacts to federally threatened and endangered species, including from adverse impacts of the proposed project beyond the boundaries of the CFPD;

13. the inability of the AEIS “mitigation” to address the adverse impacts of the preceding inadequacies from the proposed project, within and beyond the boundaries of the CFPD; and
14. the inability of the AEIS economic analysis to address the adverse impacts of the preceding inadequacies, within and beyond the boundaries of the CFPD.

Clearly, the failure of the federal agencies to take a hard look at the adverse impacts listed above prevents the Final AEIS and the revised Final AEIS from fairly evaluating the environmental and economic impacts of the Applicants’ four proposed mines and, more accurately, the direct, indirect and cumulative impacts of phosphate mining in the area of impact – the regional aquifer system. This reality refutes the following statement on page ES-1 of the Executive Summary for the Final AEIS:

This Final AEIS (and the Draft AEIS on which it is based) evaluates the environmental and economic impacts of the Applicants’ four proposed mines (the Applicants’ Preferred Alternatives), as well as the impacts associated with a No Action Alternative and other reasonably foreseeable alternatives in the Central Florida Phosphate District (CFPD).

“Exhibit E,” attached hereto, provides examples of adverse environmental and economic impacts related to the Piney Point phosphate fertilizer waste. “Exhibit E1” is a June 22, 2011 summary of the Piney Point problems from 1966 to 2011. “Exhibit E2” is May 11, 2014 description of the current problems with the Piney Point phosphate fertilizer waste and proposed \$25 million cost to taxpayers to inject that phosphate fertilizer waste into the aquifer system in Manatee County. This document identifies CH2M Hill as the contract engineering company for this project, again pointing to a conflict of interest with this firm’s role in arbitrarily narrowing the adverse impacts considered in the AEIS.

The comment letter from the Ecology Party of Florida dated April 22, 2011 and “Exhibit F,” attached hereto, provides additional evidence of a conflict of interest with AEIS Contractor CH2M Hill. “Exhibit F1” is a contract dated August 2, 2012, in the amount of \$162,315.00 between Manatee County and CH2M Hill, represented by Wendy Nero, Vice President and Area Manager from CH2M Hill’s Tampa, Florida office. The contract is for wells to inject phosphate mine waste into the Floridan aquifer system. At the time this contract was negotiated, CH2M Hill was under contract with the Corps to produce the AEIS for increased phosphate mining in the CFPD that includes Manatee County. On May 13, 2014, Manatee County Commissioners held a public workshop on the proposed injection well for Piney Point phosphate waste where CH2M Hill responded to questions as the county’s contractor for that proposed disposal well. A copy of the video of that meeting can be viewed at the following link:
<http://www.mymanatee.org/home/government/board-of-commissioners/bocc-meetings/agendas/commision-meeting-video.html?referencedDocumentUUID=5b9e2423-08c2-4f7a-a929-9c182c2c9182>

Clearly CH2M Hill had an unexplored financial incentive to exclude addressing the adverse impacts from phosphate mine waste, primarily from phosphogypsum, in the AEIS when that company would be receiving more than \$150,000 from Manatee County to dispose of that waste. “Exhibit F” includes additional documents demonstrating a potential conflict of interest beyond the fact that CH2M Hill would be the Manatee County contractor to dispose of the Piney Point phosphate fertilizer waste by injecting it into the Floridan aquifer system. “Exhibits F2 and F3” are documents verifying that CH2M Hill was hired by the Seattle Public Utilities (“SPU”) to design, build and operate water treatment facilities in Washington state, beyond the boundaries of the CFPD, to add phosphate mine waste for fluoridation. That water treatment facility included a \$200 million filtration system. The declaration of no conflict of interest to

the Corps in this instance is not the only time CH2MHill has been less than truthful in its disclosures.¹

“Exhibit G,” attached hereto, addresses the massive radiation exposure caused by phosphate mining in central Florida. “Exhibit G1” is an example of this massive radiation exposure prepared in January 21, 2010 and “Exhibit G2” is water quality data showing high levels of radiation in a well on private property adjacent to phosphate mining in the CFPD. The following excerpts are from “Exhibit G1”:

In addition, the massive cost of cleaning up the Florida sites as high as \$11 billion, or nine times EPA's annual Superfund budget could also serve as a lightning rod in the debate over the Superfund program's finances, where activists and congressional Democrats are pushing to reinstate the expired Superfund tax on industry and establish stricter financial assurance rules requiring companies to prove they can afford to clean up environmental contamination.

To date, more than 10 square miles of potentially contaminated former phosphate mining lands near Lakeland, FL, have been developed for residential use, sources say. According to EPA's Web site, the agency is evaluating 23 former phosphate mining sites as part of its "Florida Phosphate Initiative," although one EPA source says 23 is "probably an understatement" and that the real number is closer to 28.

The agency's Superfund database lists numerous former mining sites in the Lakeland area, and according to the EPA source, some of the phosphate sites include the former Tenoric Mine operated by the Borden Chemical Company and other former phosphate sites operated by the Agrico Chemical Company and the Mobil Chemical Company. The corporate successors to Borden, Agrico and Mobil declined to comment.

“Exhibit H,” attached hereto, includes examples of Material Safety Data Sheets (“MSDS”) and Certificate of Analysis (“COA”) for fluoridation chemicals originating from phosphate mine waste produced in the Florida, but transported and disposed of in municipal water in other states. Specifically,

¹ “Exhibits F4-F6” are documents verifying that during the same time period CH2M Hill was the contractor to the Corps for the AEIS, CH2M Hill committed fraud during work performed under contract for other federal agencies. “Exhibit F4” describes a \$1.5 million settlement and criminal charges in September 2011 with US Department of Justice regarding false claims and kickbacks relating to a federal contract to manage mixed radioactive waste at a nuclear site in south-central Washington state. “Exhibit F5” states that CH2M Hill will pay \$18.5 million to resolve a US Department of Justice investigation into fraud at the Hanford Nuclear Facility. “Exhibit F6” states that CH2M Hill admits to the fraud committed at the US Department of Energy’s Hanford Nuclear Facility and will pay \$18.5 million. Documents provided in “Exhibits F2-F6” were obtained from the following links:

http://www.ch2m.com/corporate/services/engineer_procure_construct_and_design-build/assets/ProjectPortfolio/Cedar.pdf

<http://www.ncppp.org/resources/case-studies/waterwastewater-infrastructure/ch2m-hill-seattle-cedar-water-treatment-facility/>

http://seattletimes.com/html/localnews/2016289655_apcoch2mhillsettlement.html

<http://www.bizjournals.com/seattle/news/2013/03/06/ch2m-hill-to-pay-settlement-in-hanford.html>

http://www.bizjournals.com/seattle/morning_call/2013/03/ch2m-hill-units-admit-to-fraud-at.html

Exhibits H1-H4 include documents for phosphate mine waste disposed of in municipal water in Athens-Clarke County, Georgia (“GA”); Nashville, Tennessee (“TN”); Port Angeles, Washington and Seattle, Washington (“WA”), respectively. Seattle Public Utilities (“SPU”), in King County, is the largest water district in that state that uses phosphate mine waste for fluoridation of municipal water. Approximately 1.5 million residents are exposed to that water. Seattle and its wholesale customers alone provide water to about 78% of the population of King County as well as 43,000 people in the southwest corner of Snohomish County.

The MSDS obtained from the Athens-Clarke County municipal water office verifies that phosphate mine waste produced by Mosaic is disposed of in that municipal water supply (“Exhibit H1”). The MSDS for the fluoridation chemicals by the Nashville municipal water office indicates those chemicals are obtained from KC Industries, LLC in Mulberry, Florida, which is within the CFPD (“Exhibit H2”). The COA for the Port Angeles order of hydrofluorosilicic acid was from J. R. Simplot (“Exhibit H3”). That company is a supplier of agricultural and food supplies and chemicals for farms and industrial applications (see: <http://www.simplot.com/>). That company apparently provided the COA for the fluorosilicic acid from BHS Specialty Chemicals, which manufactures and supplies industrial chemicals (including water fluoridation chemicals) for business through its suppliers in Jacksonville, Florida (see: <http://www.bhsmarketing.com/>). That order was transported across the country in liquid form, presumably by rail to the vicinity of Port Angeles then, delivered to Port Angeles by tanker truck. The only corporation consistently providing phosphates and wet hydrofluorosilicic acid at 23 percent slurry is Mosaic out of the CFPD. The COA for Port Angeles shows a high level of lead in this fluoridation chemical, at 3.7 ppm. The MSDS dated January 2010 obtained this month from the Seattle municipal water office as the current MSDS verifies that the fluoridation chemicals used by Seattle Public Utilities (“SPU”) also were obtained from J. R. Simplot Company.

“Exhibit H” also includes a map of the US states (AR, CA, CT, GA, IL, KY, LA, MN, NE, NV, OH, RI, SD), Puerto Rico, Washington, DC that require fluoridation of all municipal water (“Exhibit H5” in red). The MSDS documents in “Exhibit H” from TN and WA illustrate that fluoridation also occurs in municipalities that are not located in states where fluoridation is mandatory. Neither the Final AEIS nor the revised Final AEIS considered the adverse impacts of phosphate mine waste from Florida phosphate mines that is disposed of in municipal water within or beyond the boundaries of the CFPD.

Adverse human impacts from phosphate mine waste disposed of in municipal water for fluoridation represent the greatest danger to infants, the elderly, people with debilitated kidneys, people with multiple chemical sensitivities (“MCS”), low income populations and at least some people with autism. Examples of adverse human impacts from phosphate mine waste discharged into municipal water for fluoridation include reduced IQ in infants, malfunctioning thyroid, migraines and chronic headaches, arthritic pain, dental and skeletal fluorosis, brittle bones, gastrointestinal pain and itchy rashes from consuming that contaminated water or products made with that contaminated water or from transdermal exposure to that contaminated water. Transdermal exposure occurs from bathing, showering or swimming in municipal pools filled with that contaminated water because those contaminants are absorbed through the skin. Similar contaminated municipal water also has been attributed to an increase in the number of fractures in the legs of racehorses, leading to an increase in the death of these horses.

The areas and pathways of contamination with phosphate mine waste are increased when that mine waste is disposed of in municipal water as fluoridation. Examples include:

1. discharge of treated municipal wastewater, contaminated with residual mine waste, into surface waters and ground waters that flow beyond the municipal water service area;
2. land application of municipal sewage sludge, contaminated with residual mine waste, within or beyond the municipal water service area;
3. the sale or free distribution of products made with municipal sewage sludge, contaminated with residual mine waste, to areas within or beyond the municipal water service area;
4. airborne distribution of particulates from open-air composting of municipal sewage sludge, contaminated with residual mine waste;
5. fluoridated municipal water taken on by water craft, including ferries, then transported and discharged at locations beyond the municipal water service area;
6. food packed in ice made from fluoridated water, whether or not that food is shipped to a location beyond the municipal water service area;
7. beverages made with fluoridated water and sold or shipped to locations beyond the municipal water service area; and
8. contamination of vegetables grown in gardens irrigated with municipal water and transported beyond the municipal water service area.

Adverse environmental impacts also occur from municipal water using phosphate mine waste for fluoridation. Examples include surface waters that should be fishable and swimmable, but are contaminated with phosphate mine waste from pathways 1 through 5, above. These and other pathways also result in the unpermitted taking of federally endangered and threatened species.

NATIONAL ENVIRONMENTAL POLICY ACT

The purpose of the National Environmental Policy Act is set forth in 42 U.S.C. § 4331:

(a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this chapter, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may:

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment. (Emphasis added).

ENDANGERED SPECIES ACT

The ESA, 16 U.S.C. 460, *et seq.* provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the U.S. or elsewhere. Enacting the ESA, Congress declared that “the United States has pledged itself as a sovereign state in the international community to conserve to the extent practicable the various species of . . .wildlife . . . facing extinction.” 16 U.S.C. § 1531(a)(4). One of the stated purposes of the Act is “to provide a program for the conservation of . . .endangered species and threatened species.” *Id.* § 1531(b). The ESA defines an “endangered species” as “any species which is in danger of extinction.” *Id.* § 1532(6). A “threatened species” is one that is likely to become endangered within the foreseeable future. *Id.* § 1532(20). Section 9 of the ESA prohibits the “taking” of any endangered species. *Id.* § 1538(a). The Act defines the term “take” very broadly to include “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19). The term “harass” is defined as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.” 50 C.F.R. § 17.3. The term “harm” is defined as “an act which actually kills or injures wildlife, [which] . . . may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” *Id.*

CLEAN WATER ACT

The Clean Water Act (CWA) 33 U.S.C. §1251, *et seq.* (1972) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry and others. The CWA makes it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit is obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

SAFE DRINKING WATER ACT

The purpose of the SWDA, 42 U.S.C. §§ 300f, *et seq.*, is to “assure that water supply systems serving the public meet minimum national standards for protection of public health.” Safe Drinking Water Act, Legislative History, H.R. Rep. No. 93-1185 (1974), reprinted at 1974 U.S.C.C.A.N 6454. The Act thus authorizes the EPA to: establish federal standards applicable [to public water supplies] for protection from harmful contaminants, and establish a joint federal-state system for assuring compliance with these standards and for protecting underground sources of drinking water.” *Id.* at 6454-55.

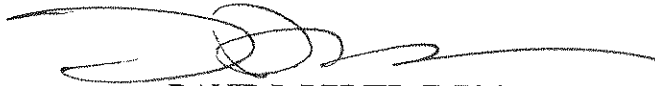
CLEAN AIR ACT

The Clean Air Act (CAA) 42 U.S.C. §7401, *et seq.* (1970), is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. Section 112 of the Clean Air Act addresses emissions of hazardous air pollutants. The 1990 Clean Air Act Amendments revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants.

By failing to take a hard look in the Final AEIS and revised Final AEIS at the adverse impacts described above, the referenced agencies have ignored the direct, indirect, secondary and cumulative adverse impacts of its actions on the human environment, federally endangered and threatened species and public drinking water supplies. The actions referenced above will result in unacceptable environmental degradation to air and water, the taking of federally endangered and threatened species and the destruction of regional habitat needed for feeding, reproduction, and shelter. The above-mentioned citizens and organizations request that, before the issuance of federal permits for the four phosphate mines proposed in the AEIS and any additional federal permits for phosphate mining within the region of the Floridan aquifer system, that a supplemental AEIS be completed to address all of the deficiencies described above. The above-mentioned citizens and organizations also request that the supplemental AEIS be conducted without the involvement of CH2M Hill. Additionally, the above-mentioned citizens and organizations request that federal authorization be suspended for the municipalities referenced above to discharge wastewater, land-apply municipal sludge and sell or distribute products made with municipal sewage sludge unless or until the USEPA completes an EIS addressing all of the direct, indirect, secondary and cumulative impacts of using phosphate mine waste for fluoridation of municipal waters or those municipalities cease using phosphate mine waste for fluoridation of municipal waters.

To the extent necessary, this correspondence shall constitute notice of our clients' intent to sue under the referenced federal Acts for violations of those Acts with respect to all impacts and aspects of this project. If you have any questions, please contact me. Thank you.

Very truly yours,



DAVID P. REINER, II, ESQ.

Attachments:

- A. Examples of Comments Regarding Adverse Impacts from Proposed Phosphate Mining
 - 1. 4/22/11 comments by Nora Demers, Ph. D. (without attachments)
 - 2. 4/25/11 comments by Ecology Party of Florida (without attachments)
 - 3. 7/27/12 comments by Winchester Environmental Associates, Inc.
 - 4. 7/31/12 comments by USGS comment letter
 - 5. 3/25/13 comments by Norma Killebrew
 - 6. 5/22/13 comments by Sarasota County
 - 7. 5/31/13 comments by Richard Weisskoff, Economics Professor (without attachments)
 - 8. 6/3/13 comments by Ecology Party of Florida (without attachments)
- B. Lead Agency and Contact Person for AEIS
- C. 3/18/13 60-Day Notice
- D. AEIS Scope Area in CFPD
- E. Piney Point Phosphate Fertilizer Contamination Documents
 - 1. 6/22/11 Summary of Piney Point Adverse Impacts from Fertilizers from 1966-2011
 - 2. 5/11/14 Proposed Deep Well Injection of Piney Point Phosphate Fertilizer Mine Waste
- F. Evidence of Conflict of Interest with AEIS Contractor CH2M Hill
 - 1. 8/2/12 contract for Manatee County to pay CH2M Hill \$162,315
 - 2. CH2M Hill Hired by Seattle Public Utilities to Design-Build-Operate Cedar Treatment Facility
 - 3. 2006 CH2M Hill Seattle Cedar Water Treatment treated with Fluoride and \$200 million filtration
 - 4. 9/22/11 CH2M Hill to Pay \$1.5 million in Settlement with US
 - 5. 3/6/13 CH2M Hill Will Pay \$18.5 Million to Resolve US Department of Justice investigation into Fraud at the Hanford Nuclear Facility
 - 6. 3/8/13 CH2M Hill admits to fraud committed at the US Department of Energy's Hanford Nuclear Facility and will pay \$18.5 million
- G. Radiation Exposure
 - 1. 1/21/10 Example of Massive Florida Radiation Exposure from Phosphate Mining
 - 2. Water quality data showing high levels of radiation in a well on private property adjacent to phosphate mining in the CFPD
- H. Fluoridation Mine Waste Documents
 - 1. Athens-Clarke County, GA Fluoridation MSDS from Mosaic
 - 2. Nashville, TN Fluoridation MSDS from KC Industries, LLC
 - 3. Port Angeles, WA Fluoridation COA from Simplot Phosphates, LLC (aka J.R. Simplot)
 - 4. Seattle, WA Fluoridation MSDS from J.R. Simplot
 - 5. Map of States with Mandatory Fluoridation Laws

cc: **COL. ALAN M. DODD**
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EXHIBITS TO THIS

REVISED 60-DAY NOTICE OF INTENT TO SUE
VIOLATIONS OF THE ENDANGERED SPECIES ACT; THE CLEAN WATER ACT; THE
CLEAN AIR ACT AND THE SAFE DRINKING WATER ACT REGARDING
PROPOSED EXPANSION OF PHOSPHATE MINING IN CENTRAL FLORIDA

CAN BE DOWNLOADED AT THE FOLLOWING LINK

<https://reinerslaw.sharefile.com/d/s9b49a292ff7464cb>



From: Allen, Deedra M FishHawk
<Deedra.Allen@mosaicco.com>
Date: Thursday, August 27, 2015
Subject: RE: helicopters and MU 19?
To: tiff313 <tiff313@aol.com>

Hi Norma

This is what I found out:

The aerial herbicide applied yesterday morning in MU 19 was a glyphosate based herbicide (glyphosate is the active chemical in Roundup).

This application was made to eliminate unwanted vegetation in preparation for reclamation planting. The spraying was complete by approximately 8:45 am. The area did not receive rain until the afternoon, such that it would have had time to dry. The aerial treatment was completed yesterday, so the helicopter is not scheduled to be back. Runoff from the treated area is directed to a sump, such that if any of this material was in the runoff, it would have been prevented from reaching areas south of SR 674.

Attached is a Fact Sheet about glyphosate published by the National Pesticide Information Center (NPIC) which provides technical information on herbicides, pesticides and insecticides. The NPIC describes their mission as:

The NPIC provides objective, sciencebased information about pesticides and pesticiderelated topics to enable people to make informed decisions. NPIC operates under a cooperative agreement between Oregon State University and the U.S. Environmental Protection Agency.

This fact sheet indicates glyphosate binds tightly to soil, does not pose a threat to groundwater and has low toxicity to fish and wildlife, even if carried in sediment to surface water bodies.

Hopefully this addresses your concerns.

Dee

Deedra Allen, P.E., J.D. | Sr. Manager – Regulatory Affairs | FishHawk Office
The Mosaic Company | 13830 Circa Crossing Drive | Lithia, Florida 33547

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| C: 8638601038 <tel:8638601038>

| E: deedra.allen@mosaicco.com W: www.mosaicco.com <<http://www.mosaicco.com>>

From: tiff313@aol.com [<mailto:tiff313@aol.com>]

Sent: Thursday, August 27, 2015 10:02 AM

To: Allen, Deedra M FishHawk

Subject: helicopters and MU 19?

Ms. Allen,

We have observed helicopters utilizing airspace over the property immediately north of St. Rd. 674 and our place...known as MU 19...think FSCO MU 19 or immediately adjacent. We are concerned as to what these helicopters are spraying on that portion of Mosaic's property. We have observed that the helicopters are flying quite low to the ground, I would guess to minimize the "drift" of the spray. If so, we appreciate that as "drift" from pesticides have an extended reach according to research. It is with this in mind, we would appreciate knowing the type of pesticide/defoliant? or

fertilizer? that is being sprayed. As you are aware, Santa Sweets, aka AgMart occupied that area prior to Mosaic's mining and dumped both fertilizers and defoliants/pesticides with abandon.

Using your engineering skills, We are sure that you are aware that the topography slopes downward across both Mosaic property and ours toward what remains of the Little Manatee River...believe that in digging terminology that is called "flood plain." Of course the flood plain does not extend to the area just north of 674, but allows one to "see" the downward slope.

We are also concerned about whatever being sprayed may soak down into water sources and contaminate what wells we have left since hardpan has been removed from the adjacent property and reclamation does not "restore" hardpan or karsts features.

That being said, we are concerned about the heavy spraying observed August 26, 2015, of that portion immediately north of our property. We are concerned as to what is being sprayed...observed numerous trips to refuel? or gather more spray from a tanker and subsequent frequent spraying. The weather became stormy yesterday and we received quite a flood of water exiting from Mosaic property (MU 19) and are concerned not so much with drift as with what chemicals are exiting Mosaic property and flooding both our property and the remains of the Little Manatee River.

Could you enlighten us as adjacent property owners as to what Mosaic is spraying across from our property? We hold our lives and our children's lives with care and concern.

Thank you,

Norma and John Killebrew

8136342634 <tel:8136342634>

Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate

In March, 2015, 17 experts from 11 countries met at the International Agency for Research on Cancer (IARC; Lyon, France) to assess the carcinogenicity of the organophosphate pesticides tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate (table). These assessments will be published as volume 112 of the IARC Monographs.¹

The insecticides tetrachlorvinphos and parathion were classified as “possibly carcinogenic to humans” (Group 2B). The evidence from human studies was scarce and considered inadequate. Tetrachlorvinphos induced hepatocellular tumours (benign or malignant) in mice, renal tubule tumours (benign or malignant) in male mice,² and spleen haemangioma in male rats. Tetrachlorvinphos is a reactive oxon with affinity for esterases. In experimental animals, tetrachlorvinphos is systemically distributed, metabolised, and eliminated in urine. Although bacterial mutagenesis tests were negative, tetrachlorvinphos induced genotoxicity in some assays (chromosomal damage in rats and in vitro) and increased cell proliferation (hyperplasia in rodents). Tetrachlorvinphos is banned in the European Union. In the USA, it continues to be used on animals, including in pet flea collars.

For parathion, associations with cancers in several tissues were observed in occupational studies, but the evidence in humans remains sparse. In mice, parathion increased bronchiolo-alveolar adenoma and/or carcinoma in males, and lymphoma in females. In rats, parathion induced adrenal cortical adenoma or carcinoma (combined),³ malignant pancreatic tumours, and thyroid follicular cell adenoma in males, and mammary gland adenocarcinoma (after subcutaneous injection in females).⁴ Parathion is rapidly absorbed and distributed. Parathion metabolism

to the bioactive metabolite, paraoxon, is similar across species. Although bacterial mutagenesis tests were negative, parathion induced DNA and chromosomal damage in human cells in vitro. Parathion markedly increased rat mammary gland terminal end bud density.⁴ Parathion use has been severely restricted since the 1980s.

The insecticides malathion and diazinon were classified as “probably carcinogenic to humans” (Group 2A). Malathion is used in agriculture, public health, and residential insect control. It continues to be produced in substantial volumes throughout the world. There is limited evidence in humans for the carcinogenicity of malathion. Case-control analyses of occupational exposures reported positive associations with non-Hodgkin lymphoma in the USA,⁵ Canada,⁶ and Sweden,⁷ although no increased risk of non-Hodgkin lymphoma was observed in the large Agricultural Health Study cohort (AHS). Occupational use was associated with an increased risk of prostate cancer in a Canadian case-control study⁸ and in the AHS, which reported a significant trend for

aggressive cancers after adjustment for other pesticides.⁹ In mice, malathion increased hepatocellular adenoma or carcinoma (combined).¹⁰ In rats, it increased thyroid carcinoma in males, hepatocellular adenoma or carcinoma (combined) in females, and mammary gland adenocarcinoma after subcutaneous injection in females.⁴ Malathion is rapidly absorbed and distributed. Metabolism to the bioactive metabolite, malaaxon, is similar across species. Malaaxon strongly inhibits esterases; atropine reduced carcinogenesis-related effects in one study.⁴ Malathion induced DNA and chromosomal damage in humans, corroborated by studies in animals and in vitro. Bacterial mutagenesis tests were negative. Compelling evidence supported disruption of hormone pathways. Hormonal effects probably mediate rodent thyroid and mammary gland proliferation.

Diazinon has been applied in agriculture and for control of home and garden insects. There was limited evidence for diazinon carcinogenicity in humans. Positive associations for non-Hodgkin lymphoma, with



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For more on the IARC Monographs see <http://monographs.iarc.fr>

Upcoming meetings

June 2–9, 2015, Volume 113:
Some organochlorine insecticides and some chlorophenoxy herbicides
Oct 6–13, 2015, Volume 114:
Red meat and processed meat

Monograph Working Group Members

A Blair (USA)—Meeting Chair;
L Fritschi (Australia);
J McLaughlin; C M Sergi (Canada);
G M Calaf (Chile); F Le Curieux (Finland); I Baldi (France);
F Forastiere (Italy); H Kromhout (Netherlands); A 't Mannetje (New Zealand); T Rodriguez [unable to attend] (Nicaragua);
P Eggehy [unable to attend]

	Activity (current status)	Evidence in humans (cancer sites)	Evidence in animals	Mechanistic evidence	Classification*
Tetrachlorvinphos	Insecticide (restricted in the EU and for most uses in the USA)	Inadequate	Sufficient	..	2B
Parathion	Insecticide (restricted in the USA and EU)	Inadequate	Sufficient	..	2B
Malathion	Insecticide (currently used; high production volume chemical)	Limited (non-Hodgkin lymphoma, prostate)	Sufficient	Genotoxicity, oxidative stress, inflammation, receptor-mediated effects, and cell proliferation or death	2A†
Diazinon	Insecticide (restricted in the USA and EU)	Limited (non-Hodgkin lymphoma, leukaemia, lung)	Limited	Genotoxicity and oxidative stress	2A†
Glyphosate	Herbicide (currently used; highest global production volume herbicide)	Limited (non-Hodgkin lymphoma)	Sufficient	Genotoxicity and oxidative stress	2A†

EU=European Union. *See the International Agency for Research on Cancer (IARC) preamble for explanation of classification system (amended January, 2006). †The 2A classification of diazinon was based on limited evidence of carcinogenicity in humans and experimental animals, and strong mechanistic evidence; for malathion and glyphosate, the mechanistic evidence provided independent support of the 2A classification based on evidence of carcinogenicity in humans and experimental animals.

Table: IARC classification of some organophosphate pesticides

G D Jahnke; C W Jameson; M T Martin; M K Ross; I Rusyn; L Zeise (USA)

Invited Specialists

C Portier (Switzerland)

Representatives

M E Gouze, for the French Agency for Food, Environment and Occupational Health and Safety (France); J Rowland, for the US Environmental Protection Agency (USA)

Observers

M K Boye Jensen, for Cheminova (Denmark); B Fervers, for the Léon Bérard Centre (France); E Giroux, for University Jean-Moulin Lyon 3 (France); T Sorahan, for Monsanto Company (USA); C Strupp, for the European Crop Protection Association (Belgium); P Sutton, for the University of California, San Francisco (USA)

IARC/WHO Secretariat

L Benbrahim-Tallaa; R Carel; F El Ghissassi; Sonia El-Zaemey; Y Grosse; N Guha; K Z Guyton; C Le Cornet; M Leon; D Loomis; H Mattock; C Scoccianti; A Shapiro; K Straif; J Zavadil

For the Preamble to the IARC

Monographs see <http://monographs.iarc.fr/ENG/Preamble/index.php>

For declarations of interests see <http://monographs.iarc.fr/ENG/Meetings/vol112-participants.pdf>

indications of exposure–response trends, were reported by two large multicentre case-control studies of occupational exposures.^{5,6} The AHS reported positive associations with specific subtypes, which persisted after adjustment for other pesticides, but no overall increased risk of non-Hodgkin lymphoma.¹¹ Support for an increased risk of leukaemia in the AHS was strengthened by a monotonic increase in risk with cumulative diazinon exposure after adjustment for other pesticides. Multiple updates from the AHS consistently showed an increased risk of lung cancer with an exposure–response association that was not explained by confounding by other pesticides, smoking, or other established lung cancer risk factors.¹² Nonetheless, this finding was not replicated in other populations. In rodents, diazinon increased hepatocellular carcinoma in mice and leukaemia or lymphoma (combined) in rats, but only in males receiving the low dose in each study. Diazinon induced DNA or chromosomal damage in rodents and in human and mammalian cells in vitro. Some additional support for human relevance was provided by a positive study of a small number of volunteers exposed to a diazinon formulation.¹³

Glyphosate is a broad-spectrum herbicide, currently with the highest production volumes of all herbicides. It is used in more than 750 different products for agriculture, forestry, urban, and home applications. Its use has increased sharply with the development of genetically modified glyphosate-resistant crop varieties. Glyphosate has been detected in air during spraying, in water, and in food. There was limited evidence in humans for the carcinogenicity of glyphosate. Case-control studies of occupational exposure in the USA,¹⁴ Canada,⁵ and Sweden⁷ reported increased risks for non-Hodgkin lymphoma that persisted after adjustment for other pesticides. The AHS cohort did not show a significantly increased risk

of non-Hodgkin lymphoma. In male CD-1 mice, glyphosate induced a positive trend in the incidence of a rare tumour, renal tubule carcinoma. A second study reported a positive trend for haemangiosarcoma in male mice.¹⁵ Glyphosate increased pancreatic islet-cell adenoma in male rats in two studies. A glyphosate formulation promoted skin tumours in an initiation-promotion study in mice.

Glyphosate has been detected in the blood and urine of agricultural workers, indicating absorption. Soil microbes degrade glyphosate to aminomethylphosphoric acid (AMPA). Blood AMPA detection after poisonings suggests intestinal microbial metabolism in humans. Glyphosate and glyphosate formulations induced DNA and chromosomal damage in mammals, and in human and animal cells in vitro. One study reported increases in blood markers of chromosomal damage (micronuclei) in residents of several communities after spraying of glyphosate formulations.¹⁶ Bacterial mutagenesis tests were negative. Glyphosate, glyphosate formulations, and AMPA induced oxidative stress in rodents and in vitro. The Working Group classified glyphosate as “probably carcinogenic to humans” (Group 2A).

We declare no competing interests.

Kathryn Z Guyton, Dana Loomis, Yann Grosse, Fatiha El Ghissassi, Lamia Benbrahim-Tallaa, Neela Guha, Chiara Scoccianti, Heidi Mattock, Kurt Straif, on behalf of the International Agency for Research on Cancer Monograph Working Group, IARC, Lyon, France

International Agency for Research on Cancer, Lyon, France

- 1 International Agency for Research on Cancer Volume 112: Some organophosphate insecticides and herbicides: tetrachlorvinphos, parathion, malathion, diazinon and glyphosate. IARC Working Group. Lyon; 3–10 March 2015. *IARC Monogr Eval Carcinog Risk Chem Hum* (in press).
- 2 Parker CM, Van Gelder GA, Chai EY, et al. Oncogenic evaluation of tetrachlorvinphos in the B6C3F1 mouse. *Fundam Appl Toxicol* 1985; 5: 840–54.

- 3 National Toxicology Program. Bioassay of parathion for possible carcinogenicity. *Natl Cancer Inst Carcinog Tech Rep Ser* 1979; 70: 1–123.
- 4 Cabello G, Valenzuela M, Vilaxa A, et al. A rat mammary tumor model induced by the organophosphorous pesticides parathion and malathion, possibly through acetylcholinesterase inhibition. *Environ Health Perspect* 2001; 109: 471–79.
- 5 Waddell BL, Zahm SH, Baris D, et al. Agricultural use of organophosphate pesticides and the risk of non-Hodgkin's lymphoma among male farmers (United States). *Cancer Causes Control* 2001; 12: 509–17.
- 6 McDuffie HH, Pahwa P, McLaughlin JR, et al. Non-Hodgkin's lymphoma and specific pesticide exposures in men: cross-Canada study of pesticides and health. *Cancer Epidemiol Biomarkers Prev* 2001; 10: 1155–63.
- 7 Eriksson M, Hardell L, Carlberg M, Akerman M. Pesticide exposure as risk factor for non-Hodgkin lymphoma including histopathological subgroup analysis. *Int J Cancer* 2008; 123: 1657–63.
- 8 Band PR, Abanto Z, Bert J, et al. Prostate cancer risk and exposure to pesticides in British Columbia farmers. *Prostate* 2011; 71: 168–83.
- 9 Koutros S, Beane, Freeman LE, et al. Risk of total and aggressive prostate cancer and pesticide use in the Agricultural Health Study. *Am J Epidemiol* 2013; 177: 59–74.
- 10 US Environmental Protection Agency. Peer review of malathion: 18-month carcinogenicity study in mice. http://www.epa.gov/opp00001/chem_search/cleared_reviews/csr_PC-057701_undated_004.pdf (accessed March 6, 2015).
- 11 Alavanja MC, Hofmann JN, Lynch CF, et al. Non-Hodgkin lymphoma risk and insecticide, fungicide and fumigant use in the agricultural health study. *PLoS ONE* 2014; 9: e109332.
- 12 Jones RR, Barone-Adesi F, Koutros S, et al. Incidence of solid tumors among pesticide applicators exposed to the organophosphate insecticide diazinon in the Agricultural Health Study: an updated analysis. *Occup Environ Med* 2015 (in press).
- 13 Hatjian BA, Mutch E, Williams FM, Blain PG, Edwards JW. Cytogenetic response without changes in peripheral cholinesterase enzymes following exposure to a sheep dip containing diazinon in vivo and in vitro. *Mutat Res* 2000; 472: 85–92.
- 14 De Roos AJ, Zahm SH, Cantor KP, et al. Integrative assessment of multiple pesticides as risk factors for non-Hodgkin's lymphoma among men. *Occup Environ Med* 2003; 60: E11.
- 15 WHO/FAO. Glyphosate. Pesticides residues in food 2004 Joint FAO/WHO Meeting on Pesticides Residues. Part II Toxicological. IPCS/WHO 2004; 95–162. http://www.who.int/foodsafety/areas_work/chemical-risks/jmpr/en/ (accessed March 6, 2015).
- 16 Bolognesi C, Carrasquilla G, Volpi S, Solomon KR, Marshall EJ. Biomonitoring of genotoxic risk in agricultural workers from five Colombian regions: association to occupational exposure to glyphosate. *J Toxicol Environ Health A* 2009; 72: 986–97.