

1 6.4. Workplan Implementation. GERC shall implement the
2 Workplans as approved by DHS in accordance with the approved
3 schedule.

4 6.5. Additional Contamination. If additional
5 contamination or releases not identified in the information
6 referred to in Paragraphs 6.1. and 6.2. of this Order is
7 discovered, further RI/FS work may become necessary to
8 characterize such new contamination which is discovered or to
9 respond to such new releases. If DHS believes that additional
10 work is required, it shall discuss the nature of such work with
11 GERC and develop a mutually agreeable schedule for completion of
12 such work. If no agreement can be reached, DHS shall give
13 written notice to GERC of the scope of the work, the reasons it
14 is necessary and a reasonable time period for submission of a
15 workplan for DHS approval.

16 6.6. Public Participation Plan. Within thirty (30)
17 calendar days of the effective date of this Order, GERC shall
18 prepare and submit for DHS review and approval a public
19 participation plan which describes how the public and the
20 adjoining community will be kept informed of activities conducted
21 at the Site and how GERC will be responding to inquiries from
22 concerned citizens.

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25 VII. REMEDIAL ACTION PLAN (RAP)

26 7.1. Draft Remedial Action Plan (RAP). Within sixty
27 (60) calendar days of DHS approval of the FS Report, Respondent
28 shall prepare and submit to DHS for review, comment and/or

1 approval a draft Remedial Action Plan (RAP). The RAP shall set
2 forth in detail appropriate steps to address hazardous air, soil,
3 and ground water contamination at the Site. The RAP shall be
4 prepared in accordance with the standards and requirements set
5 forth in California Health and Safety Code Section 25356.1. In
6 addition, the RAP shall contain a schedule for implementation of
7 all proposed removal and remedial actions.

8 7.2. Final Remedial Action Plan (RAP). The draft RAP
9 shall be approved or disapproved by DHS. Respondent shall
10 respond to any asserted inadequacies within thirty (30) calendar
11 days and, in turn, the resubmitted draft RAP shall be approved or
12 disapproved by DHS. At this time DHS may take action pursuant to
13 Paragraphs 9.8(a), (b), or (c) of this Order. Once approved by
14 DHS, DHS shall distribute the draft RAP for public notice and
15 comment and schedule the public hearing for final approval of the
16 RAP.

17 7.3. RAP Workplan. Within ninety (90) calendar days
18 after approval of the final RAP and in accordance with California
19 Health and Safety Code Section 25356.1, Respondent shall submit
20 to DHS a detailed RAP Workplan containing technical and
21 operational plans and engineering designs for implementation of
22 the approved remedial action alternative(s) and a schedule for
23 implementing the alternatives. The Workplan shall also describe
24 to the extent feasible the nature and design of the construction
25 or equipment to be employed, a site specific hazardous waste
26 transportation plan (if necessary), the identity, if known, of
27 any contractors, transporters and other persons conducting the

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1 remedial activities for Respondent, and post remedial sampling
2 and monitoring procedures as necessary.

3 7.4. RAP Implementation. Upon DHS approval of the final
4 RAP Workplan and schedule, Respondent shall implement the final
5 RAP as approved in accordance with the approved RAP Workplan and
6 schedule.

7 7.5. RAP Modifications. During the implementation of
8 the final RAP, DHS may inform Respondent in writing of such
9 additions, modifications, and revisions to the RAP Workplan as it
10 requires to implement the RAP. Respondent reserves all legal
11 rights in responding to any such further requests by DHS.

12 7.6. RAP Operation and Maintenance. Respondent shall be
13 responsible for all operation and maintenance requirements in
14 accordance with the final RAP.

15 7.7. Discontinuation of Remedial Technology. Any
16 remedial technology implemented by the final RAP shall be left in
17 place and operated by Respondent until discontinued as provided
18 in the RAP except to the extent that DHS determines and states in
19 writing that Respondent may discontinue some or all of such
20 remedial technology sooner because Respondent has met the
21 criteria specified in the final RAP for discontinuance of such
22 technology.

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25 VIII. PAYMENT TO DHS

26 8.1. Past Costs. Within thirty (30) calendar days of
27 the effective date of this Order, GERC shall pay to DHS
28 fifty-seven thousand, thirty-one dollars and seventy-one cents

1 (\$57,031.71): forty thousand, three hundred and thirty-four
2 dollars and sixty-seven cents (\$40,334.67) for past oversight
3 activity from July 1, 1987 through June 30, 1988 and sixteen
4 thousand, six hundred and ninety-seven dollars and four cents
5 (\$16,697.04) for past oversight activity from July 1, 1988
6 through February 28, 1989 to reimburse DHS for these past costs
7 related to the Site and prior to the effective date.

8 8.2. Statutory Fees. GERC shall be liable for all costs
9 and fees owing to DHS or the Board of Equalization in accordance
10 with law. GERC shall pay all fees for oversight assessed
11 pursuant to California Health and Safety Code Section 25347.6,
12 upon billing by the Board of Equalization. Such fees shall be
13 paid prior to the commencement of the work phase for which DHS'
14 oversight occurs, unless such work phase has been wholly or
15 partially completed prior the execution of this agreement, in
16 which case such fees will be owing upon billing by and as
17 specified by the Board of Equalization.

18 8.3. Cost Recovery. In addition to liability for
19 oversight costs, failure or refusal of Respondent to comply with
20 this Order may make Respondent liable for any government costs
21 incurred, including those payable from Hazardous Substance
22 Account or the Hazardous Substance Cleanup Fund for any response
23 action at the Site, as provided in California Health and Safety
24 Code Section 25360 and other applicable provisions of law. Cost
25 recovery may also be pursued by DHS under the Comprehensive
26 Environmental Recovery, Compensation, and Liability Act (CERCLA).

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1 IX. OTHER PROVISIONS

2 9.1. Project Coordinator. Within fifteen (15) calendar
3 days of the effective date of this Order, Respondent shall submit
4 to DHS in writing the name and address of a project coordinator
5 from GERC whose responsibilities will be to receive all notices,
6 comments, approvals and other communications from DHS to
7 Respondent. Respondent may change the project coordinator upon
8 written notice to DHS.

9 9.2. Project Engineer/Geologist. The work performed
10 pursuant to this Order shall be under the direction and
11 supervision of a qualified professional engineer or a certified
12 geologist with expertise in hazardous waste site cleanup. The
13 name and address of the project manager or geologist chosen by
14 Respondent shall be submitted to DHS within fifteen (15) calendar
15 days of the effective date of this Order. Respondent may change
16 the project engineer/geologist upon written notice to DHS.

17 9.3. Monthly Summary Reports. Within thirty (30)
18 calendar days of the effective date of this Order and monthly
19 thereafter, Respondent shall submit a Summary Report of its
20 activities under the provisions of this Order. The Report shall
21 describe:

22
23 (a) specific actions taken by or on behalf of Respondent
24 during the previous calendar month,

25
26 (b) actions expected to be undertaken during the current
27 calendar month, and

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1 (c) all results of sample analyses, tests, and other data
2 generated or received by Respondent pursuant to this
3 Order.
4

5 The Summary Report shall be received by DHS by the 10th day of
6 each month. The frequency of such Summary Report may be modified
7 upon mutual agreement of DHS and Respondent.

8 9.4. Quality Control and Quality Assurance. All
9 sampling and analyses conducted by Respondent under this Order
10 shall be performed in accordance with the quality control and
11 quality assurance procedures submitted by Respondent and approved
12 by DHS pursuant to this Order.

13 9.5. Incorporation of Documents. All plans, schedules,
14 reports, specifications, and other documents that (1) require DHS
15 approval and (2) are required to be submitted by Respondent
16 pursuant to this Order are incorporated into this Order upon
17 written approval by DHS and shall be implemented by Respondent as
18 approved. Any noncompliance of such documents shall be a
19 noncompliance with this Order. If such noncompliance
20 contemplates additional site characterization, remediation, or
21 monitoring requirements beyond those set forth in this Order,
22 then such additional work shall be subject to Section 9.10 of
23 this Order.

24 9.6. Submittals and Approvals. All submittals and
25 notifications from Respondent required by this Order shall be
26 sent simultaneously to:

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1 Regional Administrator
2 Toxic Substances Control Program
3 Region 4 (Long Beach)
245 West Broadway, Suite 350
Long Beach, CA 90802

4 Dr. Robert P. Ghirelli
5 Executive Officer
6 California Regional Water Quality
Control Board
7 Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

8 Mr. Paul LaCourreya
9 Site Screening Coordinator
Environmental Protection Agency, Region IX
10 Superfund Branch, T-4
215 Fremont Street
San Francisco, CA 94105

11 Mr. Jack Petralia
12 Los Angeles County
13 Department of Health Services
313 North Figueroa Street
Los Angeles, CA 90012

14
15 9.7. Communications. All approvals and decisions of DHS
16 made regarding such submittals and notifications shall be
17 communicated to Respondent in writing by the above named Regional
18 Administrator or designee. No informal advice, guidance,
19 suggestions or comments by DHS regarding reports, plans,
20 specifications, schedules, or any other writing prepared or
21 submitted by or for Respondent shall be construed to relieve
22 Respondent of its obligations to obtain such formal approvals.

23 9.8. DHS Review and Approvals. If after review of any
24 reports, workplan, schedule, remedial action plan, or other
25 document which Respondent is required to submit for DHS approval
26 pursuant to this Order, DHS determines that the document is not
27 satisfactory and cannot be approved, DHS shall return the
28 submitted document to Respondent with required changes. If

1 Respondent cannot agree to the required modifications, then DHS
2 may do the following:

3
4 (a) modify the document as deemed necessary and approve the
5 document as modified;

6
7 (b) return the document to Respondent with recommended
8 changes and a date by which Respondent must submit to
9 DHS a revised document incorporating the recommended
10 changes; or

11
12 (c) in cases where the document fails to comply with this
13 Order, make a determination of noncompliance pursuant to
14 California Health and Safety Code Section 25355.5(a)(2).

15
16 9.9 Modifications. Respondent may, by written request,
17 seek modification, termination, or revision of this Order or any
18 portion of this Order or any program or plan submitted pursuant
19 to this Order at any time. This Order and any applicable
20 program, plan, or schedule may be modified, terminated, or
21 revised by mutual written agreement of the parties at any time.
22 DHS reserves the right to take additional enforcement action
23 including issuing an additional order as provided by law. Any
24 mutually agreed modification to this Order shall be effective
25 upon execution by both Respondent and DHS and deemed incorporated
26 in this Order.

27 9.10 Dispute Resolution. Should Respondent object to
28 any DHS decision pursuant to Paragraphs 6.5, 9.5, 9.8, 9.9, and

1 9.13, Respondent shall notify DHS in writing of its objections
2 within fifteen (15) calendar days of receipt of the decision.
3 Within fifteen (15) calendar days from the receipt by DHS of the
4 notification of objection, DHS and Respondent will meet and
5 confer in an attempt to reach agreement. At the end of this
6 fifteen (15) calendar day discussion period or any time after
7 meeting or conferring with Respondent, DHS shall provide a
8 written statement of its decision to Respondent. That statement
9 is deemed to be a final DHS action. Should GERC not comply with
10 the terms of such action, and should DHS seek a judicial
11 resolution, any part of the action which GERC has not expressly
12 consented to shall be deemed an order pursuant to Health and
13 Safety Code Section 25355.5(a)(1)(B) instead of an agreement
14 pursuant to Health and Safety Code Section 25355.5(a)(1)(C).

15 9.11 Time Periods. Unless otherwise specified, time
16 periods begin from the effective date of this Order, "days" means
17 calendar days, and the effective date is the date of execution.

18 9.12 Extension Requests. If, for any reason, Respondent
19 is unable to perform any activity or submit any document within
20 the time required under this Order, Respondent may request, in
21 writing an extension of the time specified. The extension
22 request shall include a justification of the delay. All such
23 requests shall be in advance of the date on which the activity or
24 document is due.

25 9.13 Extension Approvals. If good cause exists for an
26 extension as set forth in Paragraph 9.12 of this Order, DHS will
27 grant the request and specify in writing a new schedule.
28 Respondent shall comply with the new schedule.

1 9.14 Site Access. DHS and/or its authorized
2 representatives shall have the authority to enter and move freely
3 about the Site identified in Exhibit 1 upon reasonable notice to
4 Respondent and at reasonable times, for the purpose of, inter
5 alia: reviewing the progress of Respondent in carrying out the
6 terms of this Order, conducting such tests as DHS may deem
7 necessary, and verifying the data submitted to DHS by
8 Respondent. DHS and/or its authorized representative shall have
9 the authority to inspect records, operation logs, sampling and
10 analytic data, and contracts related to this Order at the offices
11 of Respondent in Hanford, California, during normal working
12 hours. DHS, at all times, shall take reasonable steps to avoid
13 interfering with any activities or operations on the Site.
14 Nothing in this paragraph is intended or shall be construed to
15 limit in any way the right to entry or inspection that DHS or any
16 other agency may otherwise have under law.

17 9.15 Sampling, Data and Document Availability.
18 Respondent shall permit DHS and/or its authorized representatives
19 to inspect and copy all sampling, testing, monitoring, or other
20 data generated by Respondent or on Respondent's behalf in any way
21 pertaining to work undertaken pursuant to this Order. Respondent
22 shall maintain the data, reports, and other documents prepared
23 pursuant to this Order. All data, reports, and other documents
24 shall be preserved by Respondent for a minimum of six (6) years
25 after the conclusion of all activities under this Order. If DHS
26 requests that some or all of these documents be preserved for a
27 longer period of time, Respondent shall either comply with that
28 ///

1 request, deliver the documents to DHS, or permit DHS to copy the
2 documents prior to destruction.

3 9.16 Compliance with Applicable Laws. Respondent shall
4 carry out this Order in compliance with all applicable local,
5 state, and federal requirements, including, but not limited to,
6 requirements to obtain permits and to assure worker safety.

7 9.17 Endangerment During Implementation. In the event
8 that the Regional Administrator of Region 4 of the Toxic
9 Substances Control Program of DHS (or equivalent in any successor
10 agency) determines that any activities or circumstances
11 associated with the Site are creating an imminent or substantial
12 endangerment to the health and welfare of people on the Site or
13 in the surrounding area or to the environment, the Regional
14 Administrator (or equivalent) may order Respondent to stop
15 further implementation of this Order for such period of time as
16 needed to abate the endangerment. In such event, all deadlines
17 contained in this Order shall be appropriately revised.

18 9.18 Additional Enforcement Actions. By issuance of
19 this Order, DHS does not waive the right to take any further
20 enforcement actions. Both parties reserve the right to enforce
21 the provisions of this Order.

22 9.19 Government Liabilities. The State of California
23 shall not be liable for any injuries or damages to persons or
24 property resulting from acts or omissions by Respondent, its
25 officers, directors, employees, agents, receivers, trustees,
26 successors, or of any persons, including, but not limited to,
27 firms, corporations, subsidiaries, contractors, or consultants in
28 carrying out activities pursuant to this Order. This paragraph

1 shall not apply to actions which were approved by DHS and were
2 carried out in a non-negligent manner, in which case, liability
3 shall be pursuant to law.

4 9.20 Reservation of Rights. Nothing in this Order is
5 intended or shall be construed to limit the rights of any of the
6 parties hereto with respect to claims arising out of or relating
7 to the deposit or disposal of hazardous substances at any
8 location other than the Site property subject to this Order.
9 Nothing in this Order is intended or shall be construed to limit
10 or preclude DHS from taking appropriate action in order to
11 enforce this Order or from taking any other action authorized by
12 law in connection with matters not covered under this Order, and
13 DHS may take such other action as authorized by law to protect
14 the public health and welfare or the environmental and recovering
15 the costs thereof. Except as otherwise provided in Paragraph
16 1.5. of this Order, nothing in this Order is intended or shall be
17 construed to limit Respondent's exercise of rights to
18 administrative or judicial review pursuant to federal and state
19 common or statutory law.

20 9.21 Severability. The requirements of this Order are
21 severable, and both parties shall comply with each and every
22 provision hereof notwithstanding the effectiveness of any other
23 provision.

24 9.22 Certification of Completion. Upon compliance with
25 all provisions of this Order, DHS shall issue to Respondent a
26 certification that the remedial action has been completed, the
27 Site has been deleted from the Expenditure Plan for the Hazardous

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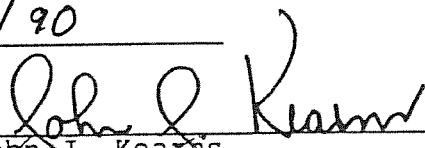
1 Substance Cleanup Bond Act of 1984, and the imminent and
2 substantial endangerment has been abated.

3 9.23 Parties Bound. This Order applies to and is
4 binding upon Respondent and its corporate successors and assigns
5 and is binding upon DHS and any successor agency with
6 responsibility for and jurisdiction over the subject matter of
7 this Order.

8 9.24 Representative Authority. Each undersigned
9 representative of the parties to this Order certifies that he or
10 she is fully authorized to enter into the terms and conditions of
11 this Order and to execute and to legally bind such party to this
12 document.

13
14
15 Date of DHS Signature:

3/2/90

16 
17 John J. Kearns
18 Regional Administrator
19 Toxic Substances Control Program

20 Date of GERC Signature:

3-5-90

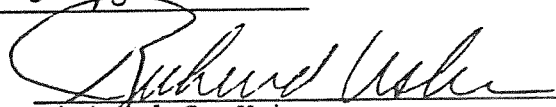
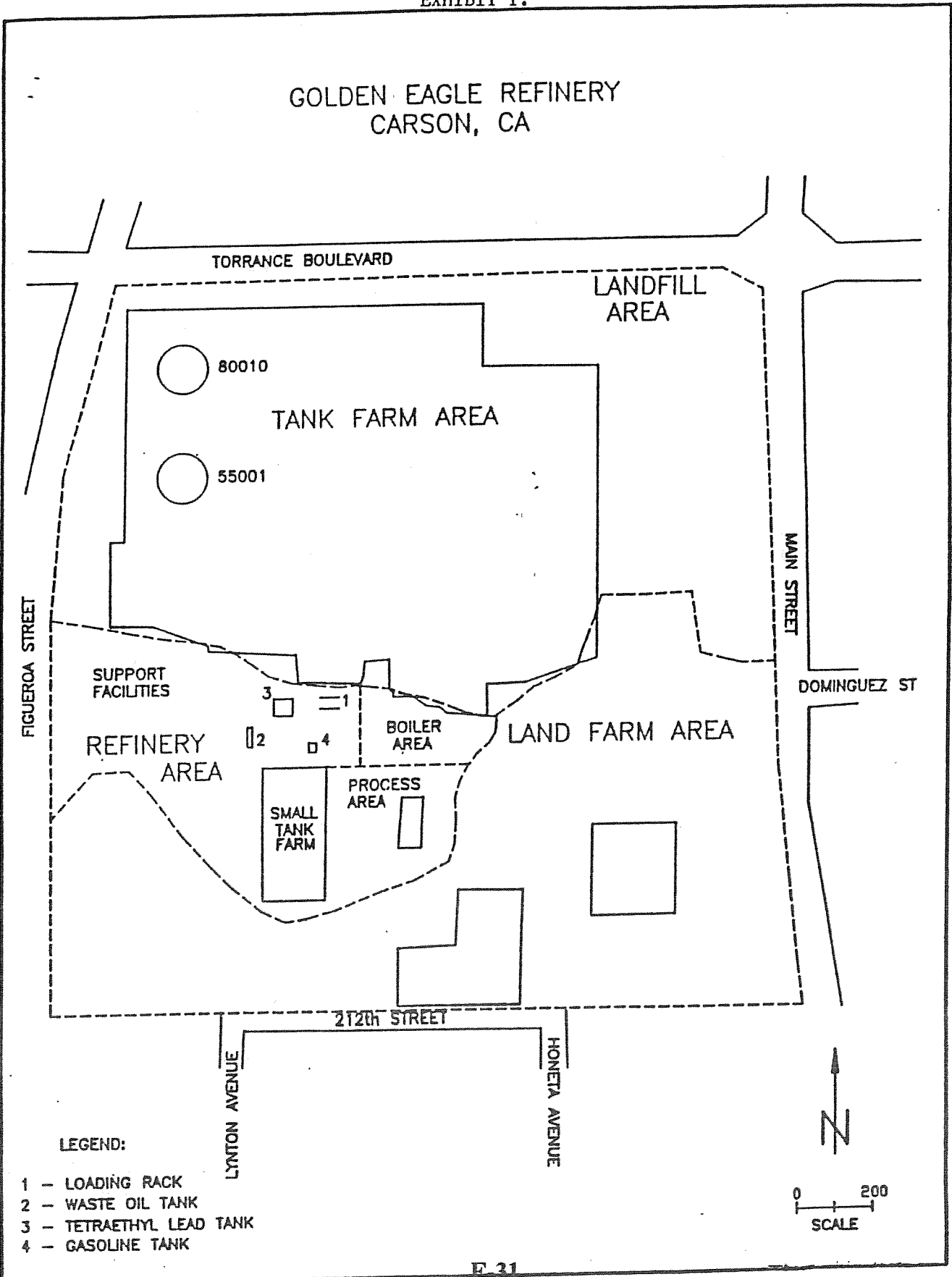
21 
22 Richard S. Usher
23 Vice President
24 Golden Eagle Refining Company, Inc.

EXHIBIT 1.

GOLDEN EAGLE REFINERY
CARSON, CA



LEGEND:

- 1 - LOADING RACK
- 2 - WASTE OIL TANK
- 3 - TETRAETHYL LEAD TANK
- 4 - GASOLINE TANK

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EXHIBIT 2

Health Effects Associated with Chemicals
Discovered on the Golden Eagle Property

Arsenic (As). Arsenic is well absorbed through all routes of exposure: ingestion, inhalation, and dermal absorption. Acute ingestion of a high dose of arsenic may cause a burning sensation in the mouth, nausea, and then vomiting. These sensations are followed by muscular twitches; liver, kidney, and heart dysfunctions; and then by delirium, coma, and death. Chronic exposure to arsenic is associated with a persistent metallic taste in the mouth, hyperkeratosis, anemia, and peripheral nerve disease. Chronic exposure to arsenic has also been shown to increase the risk of developing skin cancer, aplastic anemia, and leukemia.

Benzene. Benzene is a highly volatile chemical and is readily absorbed through all routes of exposure: ingestion, inhalation, and dermal absorption. Acute exposure to high concentrations of benzene may result in depression of the central nervous system or arrhythmias. Chronic exposure to benzene may result in blood disorders such as aplastic anemia and leukemia. Benzene is mobile in soil and may migrate into the ground water.

Chromium (Cr). Chromium has two biologically important oxidation states: trivalent (III) and hexavalent (VI). Trivalent chromium (CrIII) is a nutritionally essential trace metal thought to play a role in the metabolism of insulin and the regulation of blood glucose. Hexavalent chromium (CrVI) is a corrosive and ulcerogenic agent. Chronic inhalation of hexavalent chromium has been associated with the development of lung disease, including cancer, in humans.

Dichloroethane (DCE). Acute exposure to dichloroethane is associated with weeping eyes and chest constriction and pain. Both chronic and acute exposure to 1,2-dichloroethane may result in depression of the central nervous system and liver, kidney, adrenal, and lung damage. Chronic exposure to 1,2-dichloroethane is associated with the loss of appetite. This compound has been shown to cause cancer in animals and is considered a potential human carcinogen.

Ethylbenzene. Ethylbenzene poisoning may occur through all routes of exposure: ingestion, inhalation, and dermal absorption. Inhalation of ethylbenzene may result in eye, nose, and throat irritation. Higher exposures may result in drowsiness, fatigue, and headaches. Liver and kidney damage have been reported in animals treated with ethylbenzene. Damage to the heart has been reported in humans occupationally exposed to this compound. Ethylbenzene is mobile in soil and may migrate into the ground water.

Lead (Pb). A significant source of human exposure to lead comes from lead batteries, lead based paints, and

1 gasoline. Lead is absorbed through all routes of exposure:
2 ingestion, inhalation, and dermal absorption. Lead is a
3 bioaccumulative poison: increasing amounts build up in the body
4 until noticeable symptoms and disability occur. Lead poisoning
5 in children is characterized by occasional vomiting, convulsions,
6 and coma. With chronic, low level exposure to lead, learning
7 deficits in young children may be the only measurable effect of
8 lead intoxication. In older children and adults, the effects of
9 lead may be more subtle and nonspecific with decreased fertility
10 and fatigue as the only signs.

11 Methyl Ethyl Ketone (MEK). Methyl ethyl ketone is an
12 organic solvent with a relatively high water solubility. Methyl
13 ethyl ketone can be absorbed through oral and inhalation
14 exposures. Toxicity studies in animals suggest that methyl ethyl
15 ketone can cause liver and neurological impairment. In humans,
16 irritation of the mucous membranes has been reported.

17 Nickel (Ni). Inorganic nickel is poorly absorbed by the
18 gastrointestinal tract. Dermal exposure can result in an
19 allergic dermatitis. Nickel carbonyl is extremely toxic. Early
20 signs and symptoms of nickel carbonyl intoxication include
21 headaches, nausea, vomiting, stomach or chest pains, and
22 persistent coughing. These symptoms may progress into a fever,
23 leukocytosis, pneumonia, cerebral edema, and death. Inhalation
24 of nickel and nickel compounds is associated with nasal and lung
25 cancers. Cancer of the kidneys has also been reported in workers
26 occupationally exposed to nickel.

27 Perchloroethylene (PCE). Acute exposure to
28 perchloroethylene may cause depression of the central nervous
system and liver damage. Skin contact can cause chemical
burns. Inhalation exposure can cause eye and respiratory tract
irritation. Perchloroethylene has been shown to cause liver
tumors in mice and is a suspected human carcinogen.

Phthalates. The toxic effect of phthalates include eye,
nose, and throat irritation. Inhalation or ingestion can result
in gastrointestinal disturbances. In animal studies, certain
phthalate compounds have been shown to cause testicular damage
and birth defects. Some phthalate derivatives have also been
shown to produce cancer in animals.

Toluene. Toluene is highly volatile and is readily
absorbed through all routes of exposure: ingestion, inhalation,
and dermal absorption. The major health effect of toluene is
depression of the central nervous system. This depression is
characterized by euphoria, abnormal gait, vomiting, tachycardia,
and respiratory paralysis. Death has been known to occur after
very high exposures. Toluene is mobile in soil and may migrate
into the ground water.

Trichloroethylene (TCE). Acute exposure to
trichloroethylene may cause liver and kidney damage. Chronic
exposure may result in dizziness, headache, nausea, fatigue, and

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cardiac arrhythmias. Trichloroethylene has been shown to cause cancer in mice and is a suspected human carcinogen.

Vinyl Chloride. Inhalation of vinyl chloride causes headaches, dizziness, abdominal pain, and numbness and tingling of the extremities. Vapors of vinyl chloride may cause an eye irritation. Long term inhalation of vinyl chloride is associated with liver damage and liver cancer in humans.

Xylene. Xylene is readily absorbed by inhalation or dermal absorption. Exposure to xylene can result in dizziness, excitement, flushing of the face, drowsiness, incoordination, abnormal gait, tremor, confusion, coma, respiratory depression, and cardiac arrhythmias. In humans exposed to xylene, damage to the liver and kidneys has also been reported. Long term, high level inhalation exposure to xylene has been reported to cause deafness in animals.

Zinc (Zn). Zinc is a nutritionally essential trace metal with relatively low toxicity. Ingestion of excess zinc may result in nausea, vomiting, and diarrhea. Exposure to zinc (oxide or chloride) fumes, primarily in an occupational setting, results in "metal fume fever". These attacks are characterized by chills, fever, profuse sweating, and muscular weakness.

RECEIVED

MAR 13 1963

TOXIC SUBSTANCES CONTROL DIVISION
REGION 4
LONG BEACH



