NM1 - 6

INSPECTIONS & DATA

Complaints received regarding CRI

DATE	TIME	CASE NO.	BY
05-02-1998	2054	00230H598	State Police response to call
05-12-1998	2327	00401H598	State Police response to call
09-09-1998	night shift	Letter 09-11-98	Mississippi Potash
09-10-1998	night shift	Letter 09-11-98	Mississippi Potash

CRI

CONTROLLED RECOVERY INC.

P.O. BOX 388, HOBBS, NM 88241
(505) 393-1079 • FAX (505) 393-3615

November 4, 1998

Martyne J. Kieling
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87504

RE: Complaint concerning odors Controlled Recovery, Inc. facility

Dear Ms. Kieling,

Enclosed please find copy of my letter to Chris Williams (NMOCD Hobbs) of October 6, 1998 and attachments.

The generator has improved the process in their plant, and Controlled Recovery, Inc. is now mixing the stream with dry solids in our solid pit.

This was discussed with and agreed to by Chris Williams and Wayne Price as a test at our site last month and seems to have solved the problems.

I have discussed this with Mr. Jeff Campbell of Mississippi Potash and he seems satisfied with the result.

We plan to continue this method to confront the odor.

Please call if I may provide additional information.

Sincerely,

Ken Marsh

CRI
CONTROLLED RECOVERY INC.

P.O. BOX 388, HOBBS, NM 88241
(505) 393-1079 • FAX (505) 393-3615

October 6, 1998

Mr. Chris Williams
New Mexico Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico 88241

RE: Complaint concerning odors at Controlled Recovery, Inc. Halfway Facility

Dear Mr. Williams,

I am aware of the complaints you mention in your letter of October 6, 1998.

I have had phone and fax communication with Mr. Campbell of Mississippi Potash, Mr. Norman Driskell of the Safety Department of Martin Transport and Ms. Kristin Koblis of Duke Energy Field Services.

We have discussed the odor problem and possible solutions, which include treatment before transporting, treatment at Controlled Recovery, Inc., process change, and use of odor control chemicals.

We have also considered the health risks that could be associated with the odor and have exchanged various material data information.

Controlled Recovery, Inc. has conducted numerous H2S checks since this information was conveyed to us. There have been no levels to cause concern.

Controlled Recovery, Inc. personnel have not reported any symptoms similar to those mentioned in the Mississippi Potash letter.

We do not have any knowledge or experience that indicates a health hazard. We do however, agree at times there is a nuisance odor.

Controlled Recovery, Inc. will continue to work on a solution to the odor problem and be a good neighbor to the community.

We are in the process of trying different approaches to our handling of the suspected waste stream and will discuss the methods and the effectiveness of them with you in the near future.

Controlled Recovery, Inc. does not require or ask for any modification of our existing order, which you refer to as an operating permit.

Controlled Recovery, Inc. will be proactive in resolution of these complaints.

I am enclosing copies of the information I mention in the above paragraph.

Please call if I may provide additional information.

Sincerely,

Ken Marsh

CAMEO™ Chemical Identification Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Information

Chemical Name: SODIUM HYDROXIDE, [LIQUID]

UN Number:	1824	**Health:**	3
STCC:	4935240 4935206 4935245 4935251 4935647 4935652 4935655	**Flammability:**	0
CHRIS:	CSS	**Reactivity:**	1
Reg. Chemical:	YES	**Special:**	
RTECS:	WB4900000	**Formula:**	HNaO
CAS Number:	1310732		
Label:	CORROSIVE		

Synonyms:

AETZNATRON

ASCARITE

CAUSTIC SODA

CAUSTIC SODA (DOT)

CAUSTIC SODA SOLUTION

CAUSTIC SODA, SOLUTION

COLLO-GRILLREIN

COLLO-TAPETTA

HYDROXYDE DE SODIUM (FRENCH)

LEWIS-RED DEVIL LYE

LYE

LYE (DOT)

NATRIUMHYDROXID (GERMAN)

NATRIUMHYDROXYDE (DUTCH)

SODA, CAUSTIC

SODA LYE

SODIO(IDROSSIDO DI) (ITALIAN)

SODIUM HYDRATE

SODIUM HYDRATE (DOT)

SODIUM HYDROXIDE

SODIUM HYDROXIDE (ACGIH,DOT,OSHA)

SODIUM HYDROXIDE (LYE)

SODIUM HYDROXIDE SOLUTION

SODIUM HYDROXIDE, [LIQUID]

SODIUM HYDROXIDE, LIQUID

SODIUM HYDROXIDE (NA(OH))

SODIUM(HYDROXYDE DE) (FRENCH)

WHITE CAUSTIC

Regulatory Information

CERCLA:	YES		**EHS:**	NO	
RQ:	1000	**LBS**	**EHSTPQ:**		**LBS**

SEC 112R: NO **SEC 313:** NO

CAA RQ: **LBS** **RCRA:**

State Chemical:

Regulatory Names:

SODIUM HYDROXIDE

Hazards Analysis

Physical State:

Level of Concern: **gm/m3**

Liquid Factor Ambient:

Liquid Factor Boiling:

Liquid Factor Molten:

CAMEO™ Response Information Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Name: SODIUM HYDROXIDE, [LIQUID]

CAS Number: 1310732

NFPA Degrees of Hazard:

Health: 3	**Flammability:** 0
Reactivity: 1	**Special:**

General Description:

Sodium hydroxide liquid is the water solution of sodium hydroxide. It is used in chemical manufacturing, petroleum refining, paper making, cleaning compounds, and for many other uses. The concentrated solutions will dissolve in additional water with the evolution of heat. It is corrosive to metals and tissue. It weighs 12.7 lbs/gallon. (© AAR, 1991)

Physical Properties:

Flash Point: Not Applicable. Not flammable. (USCG, 1991)

Lower Exp Limit: Not Applicable. Not flammable. (USCG, 1991)

Upper Exp Limit: Not Applicable. Not flammable. (USCG, 1991)

Auto Igtn Temp: Not Applicable. Not flammable. (USCG, 1991)

Melting Point: Not Applicable. (USCG, 1991)

Vapor Pressure: Not Applicable. (USCG, 1991)

Vapor Density (air = 1): Not Applicable. (USCG, 1991)

Specific Gravity, Liquid: 1.5 at 68° F (USCG, 1991)

Boiling Point: >266° F at 760 mm (USCG, 1991)

Molecular Weight: 40 (NIOSH, 1994)

IDLH: 10 mg/m3 (NIOSH, 1994)

Fire Hazard:
Not flammable. (USCG, 1991)

Health Hazards:

LIQUID: Will burn skin and eyes. Harmful if swallowed. (USCG, 1991)

Fire Fighting:

Extinguish fire using agent suitable for type of surrounding fire (material itself does not burn or burns with difficulty). Use water in flooding quantities as fog. Apply water from as far a distance as possible. (© AAR, 1991)

Non-Fire Response:

Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Apply water spray or mist to knock down vapors. Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder. Neutralize with vinegar or other dilute acid. Water spill: Neutralize with dilute acid. (© AAR, 1991)

Protective Clothing:

Breakthrough Times:
○ less than 1 hr
◑ 1 to 3 hrs
● more than 3 hrs
* limited data

	FABRIC	GLOVES	BOOTS	FACESHIELD
NAT RUB+NEOP	. . . . .	●		
PE/EVAL/PE	. . . . .	●		

Wear rubber overclothing (including gloves). (USCG, 1991)

First Aid:

If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.
If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly.
If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.
If this chemical has been swallowed, get medical attention immediately. (NIOSH, 1994)

CAMEO™ Chemical Identification Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Information

Chemical Name: ETHYL MERCAPTAN

UN Number:	2363	**Health:**	
STCC:	4908169	**Flammability:**	
CHRIS:	EMC	**Reactivity:**	
Reg. Chemical:	YES	**Special:**	
RTECS:	KI9625000	**Formula:**	C2H6S
CAS Number:	75081		
Label:	FLAMMABLE LIQUID		

Synonyms:

AETHANETHIOL (GERMAN)

AETHYLMERCAPTAN (GERMAN)

ETANTIOLO (ITALIAN)

ETHAANTHIOL (DUTCH)

ETHANETHIOL

ETHANETHIOL (OSHA)

ETHYL HYDROSULFIDE

ETHYL MERCAPTAN

ETHYL MERCAPTAN (ACGIH,DOT,OSHA)

ETHYL SULFHYDRATE

ETHYL THIOALCOHOL

ETHYLMERCAPTAAN (DUTCH)

ETHYLMERKAPTAN (CZECH)

ETILMERCAPTANO (ITALIAN)

LPG ETHYL MERCAPTAN 1010

MERCAPTOETHANE

THIOETHANOL

THIOETHYL ALCOHOL

Regulatory Information

CERCLA:	NO		**EHS:**	NO	
RQ:		**LBS**	**EHSTPQ:**		**LBS**
SEC 112R:	YES		**SEC 313:**	NO	
CAA RQ:	10000	**LBS**	**RCRA:**		

State Chemical:

Regulatory Names:

ETHANETHIOL
ETHYL MERCAPTAN

Hazards Analysis

Physical State:

Level of Concern: gm/m3

Liquid Factor Ambient:

Liquid Factor Boiling:

Liquid Factor Molten:

CAMEO™ Response Information Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Name: ETHYL MERCAPTAN

CAS Number: 75081

NFPA Degrees of Hazard:

Health:	**Flammability:**
Reactivity:	**Special:**

General Description:

Ethyl mercaptan is a clear colorless liquid with an overpowering garlic-like odor. It also smells like a skunk. In low concentrations, leaks of this material smell like natural gas because mercaptans are added to natural gas as an odorant. It is also used as a stabilizer for adhesives. It has a flash point of -55 deg. F. and a boiling point of 97 deg. F. It is lighter than water and is very slightly soluble in water. Its vapors are heavier than air. Breathing vapors may irritate nose and throat. Ethyl mercaptan may be toxic if swallowed, by inhalation or by contact. (© AAR, 1991)

Physical Properties:

Flash Point: <0° F (oc) (USCG, 1991)

Lower Exp Limit: 2.8 % (USCG, 1991)

Upper Exp Limit: 18 % (USCG, 1991)

Auto Igtn Temp: 572° F (USCG, 1991)

Melting Point: -234° F (USCG, 1991)

Vapor Pressure: 459.59 mm at 70° F (USCG, 1991)

Vapor Density (air = 1): 2.1 (USCG, 1991)

Specific Gravity, Liquid: 0.826 at 68° F (USCG, 1991)

Boiling Point: 93.9° F at 760 mm (USCG, 1991)

Molecular Weight: 62.1 (USCG, 1991)

IDLH: 500 ppm (NIOSH, 1994)

TLV TWA: 0.5 ppm (©ACGIH, 1991)

Fire Hazard:

FLAMMABLE. POISONOUS GASES ARE PRODUCED IN FIRE. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Irritating fumes of sulfur dioxide are generated. Vapor is heavier than air and may travel long distance to a source of ignition and flash back; containers may explode in a fire; offensive fumes are released when heated. (USCG, 1991)

Health Hazards:

VAPOR: POISONOUS IF INHALED. LIQUID: POISONOUS IF SWALLOWED. (USCG, 1991)

Fire Fighting:

Do not extinguish fire unless flow can be stopped or safely confined. Use water in flooding quantities as fog. Solid streams of water may spread fire. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use foam, dry chemical, or carbon dioxide. (© AAR, 1991)

Non-Fire Response:

Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Attempt to stop leak if without undue personnel hazard. Use water spray to knock-down vapors. (© AAR, 1991)

Protective Clothing:

Breakthrough Times:

○ less than 1 hr

◑ 1 to 3 hrs

● more than 3 hrs

* limited data

	FABRIC	GLOVES	BOOTS	FACESHIELD
PTFE TEFLON	. . . . .	◑		

Wear goggles and self-contained breathing apparatus. (USCG, 1991)

First Aid:

If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. If this chemical has been swallowed, get medical attention immediately. (NIOSH, 1994)

CAMEO™ Chemical Identification Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Information

Chemical Name: METHYL MERCAPTAN

UN Number:	1064	**Health:**	
STCC:	4920355	**Flammability:**	
CHRIS:	MMC	**Reactivity:**	
Reg. Chemical:	YES	**Special:**	
RTECS:	PB4375000	**Formula:**	CH_4S
CAS Number:	74931		
Label:	POISON GAS, FLAMMABLE GAS		

Synonyms:

MERCAPTAN METHYLIQUE (FRENCH)

MERCAPTOMETHANE

METHAANTHIOL (DUTCH)

METHANETHIOL

METHANETHIOL (OSHA)

METHANTHIOL (GERMAN)

METHVTIOLO (ITALIAN)

METHYL MERCAPTAN

METHYL MERCAPTAN (ACGIH,DOT,OSHA)

METHYLMERCAPTAAN (DUTCH)

METILMERCAPTANO (ITALIAN)

RCRA WASTE NUMBER U153

THIOMETHANOL

Regulatory Information

CERCLA:	YES		**EHS:**	YES	
RQ:	100	**LBS**	**EHSTPQ:**	500	**LBS**
SEC 112R:	YES		**SEC 313:**	YES	
CAA RQ:	10000	**LBS**	**RCRA:**	U153	

State Chemical:

Regulatory Names:

METHANETHIOL
METHYL MERCAPTAN
THIOMETHANOL

Hazards Analysis

Physical State: G

Level of Concern: .079 gm/m3

Liquid Factor Ambient:

Liquid Factor Boiling:

Liquid Factor Molten:

CAMEO™ Response Information Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Name: METHYL MERCAPTAN

CAS Number: 74931

NFPA Degrees of Hazard:

Health: **Flammability:**

Reactivity: **Special:**

General Description:

Methyl mercaptan is a colorless gas with a very strong disagreeable odor of rotten cabbage. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite or chemical type burn. It is slightly soluble in water. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket. It weighs 7.3 lbs/gallon. (© AAR, 1991)

Physical Properties:

Flash Point: 0° F (unspc) (EPA, 1990)

Lower Exp Limit: 3.9 % (USCG, 1991)

Upper Exp Limit: 21.8 % (USCG, 1991)

Melting Point: -189.4° F (EPA, 1990)

Vapor Pressure: 1 to 400 mm at -131.26 to 44.24° F (EPA, 1990)

Vapor Density (air = 1): 1.66 (USCG, 1991)

Specific Gravity, Liquid: 0.892 at 42.8° F (USCG, 1991)

Boiling Point: 42.7° F at 760 mm (EPA, 1990)

Molecular Weight: 48.11 (EPA, 1990)

IDLH: 150 ppm (NIOSH, 1994)

TLV TWA: 0.5 ppm (©ACGIH, 1991)

Fire Hazard:

Combustion produces irritating sulfur dioxide. Flash back along vapor track may occur. Very dangerous when exposed to heat, flame, or oxidizers. On decomposition it emits highly toxic fumes of sulfur oxides. It will react with water, steam or acids to produce toxic and flammable vapors; and can react vigorously with oxidizing materials. Irritating sulfur dioxide is produced upon combustion. When heated to decomposition, it emits highly toxic fumes and flammable vapors. Incompatible with mercuric oxide and oxidizing materials. Avoid direct sunlight, and areas of high fire hazards. Hazardous polymerization may not occur.

(EPA, 1990)

Health Hazards:

Can cause death by respiratory paralysis. It is an eye and respiratory tract irritant. Exposure results in pulmonary edema and hepatic and renal damage. (EPA, 1990)

Fire Fighting:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Evacuate area endangered by gas. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire.

Small fires: let burn unless leak can be stopped immediately. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Stay away from ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Cool container with water using unmanned device until well after fire is out. Isolate area until gas has dispersed. Preferably let fire burn, stop gas flow. Fires may be extinguished with dry chemical, foam, or carbon dioxide. (EPA, 1990)

Non-Fire Response:

Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Attempt to stop leak if without undue personnel hazard. Use water spray to knock-down vapors. Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder. Water spill: Use natural barriers or oil spill control booms to limit spill travel. If dissolved, in region of 10 ppm or greater concentration, apply activated carbon at ten times the spilled amount. Use mechanical dredges or lifts to remove

immobilized masses of pollutants and precipitates. (© AAR, 1991)

Protective Clothing:

Breakthrough Times:
○ less than 1 hr
◑ 1 to 3 hrs
● more than 3 hrs
* limited data

	FABRIC	GLOVES	BOOTS	FACESHIELD
BLUE MAX			●	
RESPONDER			●	

For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (©EPA, 1990)

First Aid:

Warning: Effects may be delayed. Caution is advised.

Signs and Symptoms of Acute Methyl Mercaptan Exposure: Signs and symptoms of acute exposure to methyl mercaptan may include fever, cough, shortness of breath, a feeling of tightness and burning in the chest, pulmonary edema, respiratory distress, respiratory paralysis, and respiratory failure/collapse. Headache, loss of the sense of smell, dizziness, staggering gait, and heightened emotions may occur. Memory loss, damage to the central and peripheral nervous systems, tremor, convulsions, and coma may also occur. Gastrointestinal symptoms include difficulty swallowing, redness of the tongue and pharynx, nausea, vomiting, abdominal pain, and diarrhea. Urinary disturbances may also be found. Methyl mercaptan may irritate the eyes and mucous membranes.

Emergency Life-Support Procedures: Acute exposure to methyl mercaptan may require decontamination and life support for the victims. Emergency personnel should wear protective clothing appropriate to the type and degree of contamination. Air-purifying or supplied-air respiratory equipment should also be worn, as necessary. Rescue vehicles should carry supplies such as plastic sheeting and disposable plastic bags to assist in preventing spread of contamination.

Inhalation Exposure:

1. Move victims to fresh air. Emergency personnel should avoid self-exposure to methyl mercaptan.

2. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
3. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
4. RUSH to a health care facility.

Dermal/Eye Exposure:
1. Remove victims from exposure. Emergency personnel should avoid self-exposure to methyl mercaptan.
2. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
3. Remove contaminated clothing as soon as possible.
4. If eye exposure has occurred, eyes must be flushed with lukewarm water for at least 15 minutes.
5. Wash exposed skin areas THOROUGHLY with soap and water.
6. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
7. RUSH to a health care facility.

Ingestion Exposure:
1. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
2. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
3. Vomiting may be induced with syrup of Ipecac. If elapsed time since ingestion of methyl mercaptan is unknown or suspected to be greater than 30 minutes, do not induce vomiting and proceed to Step 4. Ipecac should not be administered to children under 6 months of age.
Warning: Ingestion of methyl mercaptan may result in sudden onset of seizures or loss of consciousness. Syrup of Ipecac should be administered only if victims are alert, have an active gag-reflex, and show no signs of impending seizure or coma. If ANY uncertainty exists, proceed to Step 4.
The following dosages of Ipecac are recommended: children up to 1 year old, 10 mL (1/3 oz); children 1 to 12 years old, 15 mL (1/2 oz); adults, 30 mL (1 oz). Ambulate (walk) the victims and give large quantities of water. If vomiting has not occurred after 15 minutes, Ipecac may be readministered. Continue to ambulate and give water to the victims. If vomiting has not occurred within 15 minutes after second administration of Ipecac, administer activated charcoal.

4. Activated charcoal may be administered if victims are conscious and alert. Use 15 to 30 g (1/2 to 1 oz) for children, 50 to 100 g (1-3/4 to 3-1/2 oz) for adults, with 125 to 250 mL (1/2 to 1 cup) of water.
5. Promote excretion by administering a saline cathartic or sorbitol to conscious and alert victims. Children require 15 to 30 g (1/2 to 1 oz) of cathartic; 50 to 100 g (1-3/4 to 3-1/2 oz) is recommended for adults.
6. RUSH to a health care facility. (EPA, 1990)

CAMEO™ Chemical Identification Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Information

Chemical Name: PROPYL MERCAPTAN

UN Number:	2402	**Health:**	
STCC:	4908160	**Flammability:**	
CHRIS:	PMN	**Reactivity:**	
Reg. Chemical:	NO	**Special:**	
RTECS:	TZ7300000	**Formula:**	C3H8S
CAS Number:	107039		
Label:	FLAMMABLE LIQUID		

Synonyms:

1-MERCAPTOPROPANE

1-PROPANETHIOL

1-PROPANETHIOL (DOT)

1-PROPYL MERCAPTAN

3-MERCAPTOPROPANOL

N-PROPANETHIOL

N-PROPYL MERCAPTAN

N-PROPYLTHIOL

PROPANE-1-THIOL

PROPANETHIOL

PROPANETHIOLS

PROPYL MERCAPTAN

PROPYL MERCAPTAN (DOT)

PROPYLTHIOL

Regulatory Information

CERCLA:		**EHS:**	
RQ:	**LBS**	**EHSTPQ:**	**LBS**
SEC 112R:		**SEC 313:**	
CAA RQ:	**LBS**	**RCRA:**	

State Chemical:

Regulatory Names:

Hazards Analysis

Physical State:

Level of Concern: gm/m3

Liquid Factor Ambient:

Liquid Factor Boiling:

Liquid Factor Molten:

CAMEO™ Response Information Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Name: **PROPYL MERCAPTAN**

CAS Number: 107039

NFPA Degrees of Hazard:

Health:	**Flammability:**
Reactivity:	**Special:**

General Description:

Propyl mercaptan is a clear colorless liquid with an offensive odor. It has a flash point of -5 deg. F. It is lighter than water and very slightly soluble in water. Its vapors are heavier than air. (© AAR, 1991)

Physical Properties:

Flash Point: 5° F (oc) (USCG, 1991)

Melting Point: -171° F (USCG, 1991)

Vapor Pressure: 134.56 mm at 70° F (USCG, 1991)

Vapor Density (air = 1): 2.6 (USCG, 1991)

Specific Gravity, Liquid: 0.841 at 68° F (USCG, 1991)

Boiling Point: 153° F at 760 mm (USCG, 1991)

Molecular Weight: 76.2 (USCG, 1991)

IDLH: No data (NIOSH, 1994)

Fire Hazard:

FLAMMABLE. POISONOUS GASES ARE PRODUCED IN FIRE. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Toxic sulfur dioxide is generated. (USCG, 1991)

Health Hazards:

VAPOR: If inhaled will cause difficult breathing. LIQUID: Irritating to skin and eyes. Harmful if swallowed. (USCG, 1991)

Fire Fighting:

Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may spread fire. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use foam, dry chemical, or carbon dioxide. (© AAR, 1991)

Non-Fire Response:

Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Attempt to stop leak if without undue personnel hazard. Use water spray to knock-down vapors. (© AAR, 1991)

Protective Clothing:

Breakthrough Times:

○ less than 1 hr

◑ 1 to 3 hrs

● more than 3 hrs

* limited data

	FABRIC	GLOVES	BOOTS	FACESHIELD
PTFE TEFLON	●			

Wear goggles and self-contained breathing apparatus. (USCG, 1991)

First Aid:

INHALATION: remove victim from contaminated atmosphere; give artificial respiration and oxygen if needed; observe for premonitory signs of pulmonary edema. EYES: flush with water for 15 minutes; if irritation persists, see a physician. SKIN: flush with water; wash with soap and water. INGESTION: induce vomiting and follow with gastric lavage. (USCG, 1991)

CAMEO™ Chemical Identification Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Information

Chemical Name: BUTYL MERCAPTAN

UN Number:	2347	**Health:**	
STCC:	4909133	**Flammability:**	
CHRIS:	BTM	**Reactivity:**	
Reg. Chemical:	NO	**Special:**	
RTECS:	EK6300000	**Formula:**	C4H10S
CAS Number:	109795		
Label:	FLAMMABLE LIQUID		

Synonyms:

1-BUTANETHIOL

1-BUTYL MERCAPTAN

1-MERCAPTOBUTANE

BUTANETHIOL

BUTANETHIOL (OSHA)

BUTYL MERCAPTAN

BUTYL MERCAPTAN (DOT,OSHA)

BUTYL MERCAPTANS

BUTYLTHIOL

N-BUTANETHIOL

N-BUTYL MERCAPTAN

N-BUTYL MERCAPTAN (ACGIH)

N-BUTYL THIOALCOHOL

N-BUTYLTHIOL

NCI-C60866

THIOBUTYL ALCOHOL

Regulatory Information

CERCLA:		**EHS:**	
RQ:	**LBS**	**EHSTPQ:**	**LBS**
SEC 112R:		**SEC 313:**	
CAA RQ:	**LBS**	**RCRA:**	

State Chemical:

Regulatory Names:

Hazards Analysis

Physical State:

Level of Concern: gm/m3

Liquid Factor Ambient:

Liquid Factor Boiling:

Liquid Factor Molten:

CAMEO™ Response Information Data Sheet

CHEMTREC (800) 424-9300 or (202) 483-7616

Chemical Name: **BUTYL MERCAPTAN**

CAS Number: 109795

NFPA Degrees of Hazard:

Health:	**Flammability:**
Reactivity:	**Special:**

General Description:

Butyl mercaptan is a clear, colorless liquid with a strong skunk-like odor. It has a flash point in the range of -15 deg. F. to 35 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air. (© AAR, 1991)

Physical Properties:

Flash Point: 55° F (oc) (USCG, 1991)

Melting Point: -176.2° F (USCG, 1991)

Vapor Pressure: 35.53 mm at 70° F (USCG, 1991)

Vapor Density (air = 1): 6.5 (USCG, 1991)

Specific Gravity, Liquid: 0.841 at 68° F (USCG, 1991)

Boiling Point: 229.3° F at 760 mm (USCG, 1991)

Molecular Weight: 90.2 (USCG, 1991)

IDLH: 500 ppm (NIOSH, 1994)

TLV TWA: 0.5 ppm (©ACGIH, 1991)

Fire Hazard:

FLAMMABLE. Irritating gases may be produced when heated. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Irritating sulfur dioxide may form. Vapors are heavier than air and may travel long distance to a source of ignition and flash back. (USCG, 1991)

Health Hazards:

VAPOR: POISONOUS IF INHALED. Irritating to eyes. LIQUID: Irritating to skin and eyes. Harmful if swallowed. (USCG, 1991)

Fire Fighting:

Do not extinguish fire unless flow can be stopped or safely confined. Use water in flooding quantities as fog. Solid streams of water may spread fire. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide. (© AAR, 1991)

Non-Fire Response:

Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Attempt to stop leak if without undue personnel hazard. Use water spray to disperse vapors and dilute standing pools of liquid. (© AAR, 1991)

Protective Clothing:

Breakthrough Times:
○ less than 1 hr
◑ 1 to 3 hrs
● more than 3 hrs
* limited data

BLUE MAX ● *	BUTYL ○ *
PTFE TEFLON ●	PVAL ● *
RESPONDER ● *	

These protective clothing recommendations are based on experimental data for another chemical with similar chemical properties and structure. Because material recommendations for chemicals in the same classification will generally, but not always, be appropriate, use caution when following these recommendations.

Wear goggles and self-contained breathing apparatus. (USCG, 1991)

First Aid:

If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly.
If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep

the affected person warm and at rest. Get medical attention as soon as possible. If this chemical has been swallowed, get medical attention immediately. (NIOSH, 1994)

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 3:30	Date 10-8-98 ~~3:30~~

Originating Party	Other Parties
Wayne Price	Martyne Kieling

Subject: CRI odors

Discussion: 9:00 Am odors Caustic Mercaptain Waste

~~Will~~ Voluntary to Quit taking waste of this type

Conclusions or Agreements

Distribution

Signed

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
DISTRICT I Hobbs
PO BOX 1980
Hobbs, NM 88241-1981
(505) 393-6161

Jennifer A. Salisbury
CABINET SECRETARY

October 6, 1998

Mr. Ken Marsh
Controlled Recovery, Inc. (CRI)
P.O. Box 388
Hobbs, NM 88241

Re: Complaints concerning Odors generated at the CRI Surface Waste Management facility Permit # R-9166 located in S/2 N/2 & N/2 S/2 of Sec 27-Ts20s-R32e NMPM Lea County, New Mexico.

Dear Mr. Marsh:

The New Mexico Oil Conservation Division (NMOCD) District I has received complaints concerning repulsive odors coming from CRI's surface waste management facility located at the above referenced site.. A copy of documented complaints are attached for your reference.

The NMOCD District I office is respectfully requesting CRI's assistance in resolving this issue. NMOCD District I is requesting that CRI investigate this situation and provide to the NMOCD by October 15, 1998 your findings and recommendations. Please note if your findings and recommendations requires a modification in your existing operating permit please notify the NMOCD Environmental Bureau of your plans.

Sincerely Yours,

Chris Williams- NMOCD District I Supervisor

CW/wp: file cri (on CT) computer

cc: Roger Anderson-NMOCD Environmental Bureau Chief
Martyne Kieling-NMOCD Environmental Bureau
CRI-Hobbs file

attachments-yes

SEND TO OIL CONSERVATION OFFICE AUTH/SGT LEAL

NEW MEXICO STATE POLICE
DISTRICT THREE
CALLS FOR SERVICE FORM

ATTN. Wayne Price

DATE: 050298 TIME: 2054 CASE NR 00230HS98

REPORTING PARTY: LOVINGTON SO CALL BACK NR

NATURE OF CALL: 10-44 ___ 10-45 ___ DOMESTIC ___ OTHER STRONG ODOR

LOCATION OF CALL: HALFWAY BAR, ~~LOVING~~ US 62-180

DETAILS: STRONG SMELL POSS NAT GAS SEE OPSIL LOG

WEAPONS INVOLVED: YES ___ NO ___ UNKN ✓ SHOTS FIRED: YES ___ NO ___ UNKN ✓

HOW REPORTED: PHONE ✓ 10-12 ___ 911 ___ OFFICER ___ OTHER

OFFICER ASSIGNED MASSIS ASSISTING OFFICER/AGENCY

SUPERVISOR(S) AGENT

10-55 ___ FIRE ___ WRECKER ___ OMI ___ CATTLE INSPECTOR ___ STATE COMM ___ OTHER

REPORT TAKEN: YES ___ NO ✓ UNABLE TO LOCATE ___

CALL RECEIVED BY: CASE

Received
OCD

NEW MEXICO STATE POL[illegible]

DISTRICT THREE

CALLS FOR SERVICE FORM

DATE: 05/29/98 TIME: 2327 CASE NR.: 0040/HS98

REPORTING PARTY: Jeanie McKane CALL BACK NR. 887-7260

NATURE OF CALL: 10-44___ 10-45___ DOMESTIC___ OTHER ✓

LOCATION OF CALL 1/2 Way Bar

DETAILS Bad [illegible] smell made her throat hurt

WEAPONS INVOLVED: YES___ NO ✓ UNKN___ SHOTS FIRED: YES___ NO ✓ UNKN___

HOW REPORTED: PHONE ✓ 10-12___ 911___ OFFICER___ OTHER___

OFFICER ASSIGNED___ ASSISTING OFFICER/AGENCY___

SUPERVISOR(S) Leal AGENT___

10-55___ FIRE___ WRECKER___ OMI___ CATTLE INSPECTOR___ STATE COMM___ OTHER___

REPORT TAKEN: YES___ NO ✓ UNABLE TO LOCATE___

CALL RECEIVED BY: Lyn

Officer Massis advise he ✓ into it on 1½ week ago. No health hazard.

State of New Mexico
ENVIRONMENT DEPARTMENT
District IV
1914 W. Second St.
Roswell, New Mexico 88201
(505) 624-6046

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

FAX TRANSMITTAL

DATE: 6/3/98 TIME: 3:50 PAGE: 1 OF 1
(INCLUDES COVER PG)

PLEASE DELIVER THE FOLLOWING PAGES:

TO: Wayne Price, Env. Eng

LOCATION: [redacted] OCD Hobbs

TELEPHONE NUMBER: 393-6161 FAX NUMBER: 393-0720

FROM: Bill Huber AQB
NMED DISTRICT 4
ROSWELL NM 88201

TELEPHONE NUMBER: (505) 624-6046 FAX NUMBER: (505) 624-2023

****

COMMENTS: Complaint on CRI at Halfway Bar from lady that lives in Bar. Smells. Are there any hazardous materials in the vapors?

Mississippi Potash, Inc.

We Make Things Grow®

September 11, 1998

Mr. Chris Williams
District Supervisor
Environmental Bureau
Oil & Conservation Division
New Mexico Minerals and Natural Resources

Re: Controlled Recovery, Inc., Emissions

Dear Chris:

Mississippi Potash, Inc., (MPI) owns mine sites and process plants near Controlled Recovery, Inc., (CRI) facility located on the south side of highway 62/180 approximately 45 miles west of Hobbs, New Mexico.

In the recent past, MPI received complaints from its employees who operate trucks that haul ore from MPI's West Plant to MPI's North Plant. These truck driver complaints described a fowl odor near the North Plant and when encountering this odor, the truck drivers experience headache and nausea. This odor is similar to odor encountered along the north and westerly boundaries of CRI's facility, which emanates from CRI.

On Thursday September 10, 1998, Glen Moore MPI's personnel director, received a number of complaints from the underground mine personnel at the East mine. The East mine is located approximately one mile west of the CRI facility. The complaints were consistent, in that, a number of mine personnel experience headache, nausea and had to evacuate their work area. Additionally, these employees lost their appetite and did not eat during their shift. According to these complaints this episode occurred on September 9 & 10, 1998 during the night shift. The odor penetrated the mine up to two miles. These written complaints are attached to this letter. Verbally, these employees expressed to me that at different times the odor is more concentrated than others and seems to have increased to a higher level over the past couple of months.

Surface personnel at the East Plant have complained at different times about the odor over the past year and a half. Anyone can pass the CRI facility early in the morning on any given day and experience the fowl odor. This odor is very nauseating.

P.O. Box 101 • 1996 Potash Mines Road • Carlsbad, New Mexico 88220
Phone (505) 887-5591 • FAX (505) 887-0705

According to 20NMAC 2.72 Subparts 402, a facility that has toxic emissions above the pound per hour limit established by New Mexico Environment Improvement Board and listed in subpart 502 must obtain a construction permit from the New Mexico Environment Department Air Quality Bureau. To my knowledge CRI has not quantified emissions to determine whether or not they should obtain a permit.

MPI contends the emissions from CRI poses a substantial threat to the health of MPI employees and a hazard to the environment. Please address this problem as soon as possible. In addition to a health hazard, no faciltiy should be allowed emissions with such a repulsive smell.

Respectfully,

Jeff Campbell,
MPI Environmental Coordinator

9-8-98

9-9-98

on these Day were working graveyards. Odor was So Bad Around Shop. Area's All the way to mouth of 193. So Bad. Diesel Mechanic was Complaining of Head Aches Nausea So was Maint foreman & Shifter. So Bad Ruin our appetite

Edward L Dennis Sr

9-11-98

9-8-98
9-9-98

On the dates above the odor was so bad underground in the office and shop areas. Shop/Diesel Mechanic complained of headaches and nasaua. Shifters could not stay in their offices very long and couldnt ~~[illegible]~~ eat their dinner. Smell has been found as far as 2 miles in

Amos B McCoy
Barbara A Doughty

Controlled Recovery, Inc.
P.O. Box 369 Hobbs, NM 88241
Phone: (505)393-1079 Fax: (505)393-3615

CRI

Fax

To:	Jeff Campbell	**From:**	Ken Marsh
Fax:	(505)887-0929	**Pages:**	4, including cover
Phone:		**Date:**	09/10/98
Re:		**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments:** If you have any questions or if I can be of further assistance, please feel free to give me a call at the office.

Spent Caustic

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: Liquid Energy Corp. (Generator)
EMERGENCY TELEPHONE NO.: (800)424-9300 (CHEMTREC)
ADDRESS (Number, Street, City, State and ZIP Code): 2002 Timberloch Place The Woodlands, TX 77380
PRODUCT IDENTIFICATION: Spent Caustic
TRADE NAME AND SYNONYMS: Sodium Hydroxide, Spent
CAS NUMBER: 1310-73-2
EPA NUMBER: Not Applicable
FORMULA: HNaO
DOT CLASSIFICATION: Corrosive (UN 1824)

SECTION II - HAZARDOUS INGREDIENTS

% AND TLV OF EACH (if applicable)		
Water	90%	
Sodium Hydroxide	9%	ACGIH TLV:c1 2mg/m^3
Other	1%	

See attached analysis for trace contaminants.

SECTION III - PHYSICAL DATA

BOILING POINT (°F)	Not Determined (ND)	SPECIFIC GRAVITY (H_2O=1)	1.114
VAPOR PRESSURE (mm Hg.)	ND	PERCENT, VOLATILE BY VOLUME (%)	0
VAPOR DENSITY (AIR=1)	ND	EVAPORATION RATE (=1)	0
SOLUBILITY IN WATER	100%	pH	12.95
APPEARANCE	Amber Liquid	ODOR	Mercaptan smell

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	AUTOIGNITION TEMPERATURE	FLAMMABLE LIMITS % BY VOLUME	LEL	UEL
>140°F			ND	ND

EXTINGUISHING MEDIA: N/A

SPECIAL FIRE FIGHTING PROCEDURES (HNaO): NFPA Hazard Ratings - Health - 3, Flammability - 0, Reactivity - 1
(Note - Reactivity for spent caustic is higher due to sulfur compounds)

UNUSUAL FIRE AND EXPLOSION HAZARDS: Firefighters should wear self-contained positive pressure breathing apparatus and avoid skin contact.

HAZARDOUS PRODUCTS OF COMBUSTION: Sulfides and Hydrogen Gas (with metals)

(Continued on ...)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) (As HNaO)
OSHA: PEL-TWA 2 mg/m^3
ACGIH: TLV-CL 2 mg/m^3
OTHER:

EFFECTS OF OVEREXPOSURE
ACUTE: major potential hazard to skin and eyes
CHRONIC: None

EMERGENCY AND FIRST AID PROCEDURES
Inhalation - move to fresh air, if breathing stops, administer artifical respiration.

Skin - remove clothing and wash skin with water for at least 15 minutes.

Eyes - wash with water for 15 minutes thoroughly. Ingestion - give water, do not induce vomiting.

SECTION VI - REACTIVITY DATA

STABILITY
UNSTABLE
STABLE: Stable

CONDITIONS TO AVOID
mixture with water, acid or incompatible materials can cause splattering.

INCOMPATABILITY (Materials to avoid)
Chlorinated and flourinated hydrocarbons, acetaldehyde, acrolein, aluminum, malaic anhydrid

HAZARDOUS DECOMPOSITION PRODUCTS
will not decompose

HAZARDOUS POLYMERIZATION
OCCURS
DOES NOT OCCUR: Does not occur

CONDITIONS TO AVOID
contains sulfides and can generate harmful vapors

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Cleanup personnel must wear proper protective equipment. Contain spilled material and prevent run-off. Neutralize with water or hydrochloric acid. Reportable quantity (RQ) is 1000 lb. for sodium hydroxide. Notify NRC (800)424-8802 for spills >RQ.

WASTE DISPOSAL METHOD (Ingure conformity with local disposal regulations)

Recovered liquids may be sent to a permitted waste management facility. Since this spent caustic is RCRA - exempt, it is not a hazardous waste. The material comes from the sweetening process in the Dagger Draw gas processing facility.

SECTION VIII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Use NIOSH/MSHA high-efficiency particulate filter with full facepiece or SCBA.

VENTILATION
LOCAL EXHAUST: as necessary to remain below 2 mg/m^3 at all times.
MECHANICAL (General)
SPECIAL
OTHER

PROTECTIVE GLOVES
Neoprene, PVC or rubber gloves

EYE PROTECTION
Chemical goggles and faceshield

OTHER PROTECTIVE EQUIPMENT

PVC rain suit, rubber boots w/pant legs over boots.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid all contact with skin. Do not add water to caustic.

OTHER PRECAUTIONS

SEP 1998
RECEIVED
Hobbs
OCD

SECTION X - ISSUANCE DATE

DATE OF ISSUE: MTH. 3 DAY 7 YR. 95

REVIEWED BY:

NEW X REVISED SUPERSEDES: MTH. DAY YR.

TITLE: Manager, Environmental & Safety

TRACE Contaminates Based on Analysis of Spent Caustic

NMED

Sodium Sulfate	26 ppm		
Sodium Chlorate	19 ppm		
Aluminum	10 mg/l		
Calcium	74 mg/l		
Copper	27 mg/l		
Cadmium	1 mg/l		
Cobalt	113 mg/l		
Iron	28 mg/l		
Lead	0.1 mg/l		
Magnesium	382 mg/l		
Manganese	0.4 mg/l		
Molybdenum	<5.0 mg/l		
Nickel	2 mg/l		
Potassium	104 mg/l		
Sodium	1400 mg/l		
Silver	2 mg/l		
Silicon	51 mg/l		
Zinc	604 mg/l	OEL mg/m³	Lb/hr
Methyl Mercaptan METHANETHIOL	79 ppm	1.0	0.01667
Ethyl Mercaptan	259 ppm	1.0	0.0667
2 - Propyl Mercaptan	24 ppm		
1 - Propyl Mercaptan	182 ppm		
Methyl Disulfide	14 ppm		
2 - Butyl Mercaptan	463 ppm	1.5	0.10
Methyl Propyl Sulfide	6 ppm		
1 - Butyl Mercaptan	19 ppm	1.5	0.10
Sulfur Compounds	55 ppm		
C_6 + hydrocarbon	58 ppm		

ZONMAC 2.72 502 TOXIC AIR POLLUTANTS & EMISSIONS

IDLH 150ppm

AMERICAN CONFERENCE GOVERNMENT INDUSTRIAL HYGIENISTS (ACGIH) 8hr TWA

NIOSH CEILING 0.5ppm (1mg/m³ 15min)

0.5ppm

0.5ppm

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA) unless noted otherwise	IDLH	Physical description	Chemical and physical properties: MW, BP, SOL, Fl.P, IP, Sp, Gr, flammability	Chemical and physical properties: VP, FRZ, UEL, LEL	Incompatibilities and reactivities	Measurement method (See Table 1)
Ethyl ether $C_2H_5OC_2H_5$ 60-29-7 KI5775000 1155 26	Diethyl ether, Diethyl oxide, Ether, Ethyl oxide, Solvent ether 1 ppm = 3.08 mg/m³	NIOSH See Appendix D OSHA† 400 ppm (1200 mg/m³)	1900 ppm [LEL]	Colorless liquid with a pungent, sweetish odor. [Note: A gas above 94°F.]	MW: 74.1 BP: 94°F Sol: 8% Fl.P: -49°F IP: 9.53 eV Sp.Gr: 0.71 Class IA Flammable Liquid	VP: 440 mm FRZ: -177°F UEL: 36.0% LEL: 1.9%	Strong oxidizers, halogens, sulfur, sulfur compounds [Note: Tends to form explosive peroxides under influence of air and light.]	Char; Ethyl acetate; GC/FID; III [#1610]
Ethyl formate CH_3CH_2OCHO 109-94-4 LQ8400000 1190 26	Ethyl ester of formic acid, Ethyl methanoate 1 ppm = 3.08 mg/m³	NIOSH/OSHA 100 ppm (300 mg/m³)	1500 ppm	Colorless liquid with a fruity odor.	MW: 74.1 BP: 130°F Sol(64°F): 9% Fl.P: -4°F IP: 10.61 eV Sp.Gr: 0.92 Class IB Flammable Liquid	VP: 200 mm FRZ: -113°F UEL: 16.0% LEL: 2.8%	Nitrates; strong oxidizers, alkalis & acids [Note: Decomposes slowly in water to form ethyl alcohol and formic acid.]	Char; CS₂; GC/FID; III [#1452]
Ethylidene norbornene C_9H_{12} 16219-75-3 RB9450000	ENB, 5-Ethylidenebicyclo(2.2.1)-hept-2-ene, 5-Ethylidene-2-norbornene [Note: Due to its reactivity, ENB may be stabilized with tert-butyl catechol.] 1 ppm = 5.00 mg/m³	NIOSH C 5 ppm (25 mg/m³) OSHA† none	N.D.	Colorless to white liquid with a turpentine-like odor.	MW: 120.2 BP: 298°F Sol: ? Fl.P(oc): 101°F IP: ? Sp.Gr: 0.90 Class II Combustible Liquid	VP: 4 mm FRZ: -112°F UEL: ? LEL: ?	Oxygen [Note: ENB should be stored in a nitrogen atmosphere since it reacts with oxygen.]	None available
Ethyl mercaptan CH_3CH_2SH 75-08-1 K19625000 2363 27	Ethanethiol, Ethyl sulfhydrate, Mercaptoethane 1 ppm = 2.58 mg/m³	NIOSH C 0.5 ppm (1.3 mg/m³) [15-min] OSHA† C 10 ppm (25 mg/m³)	500 ppm	Colorless liquid with a strong, skunk-like odor. [Note: A gas above 95°F.]	MW: 62.1 BP: 95°F Sol: 0.7% Fl.P: -55°F IP: 9.29 eV Sp.Gr: 0.84 Class IA Flammable Liquid	VP: 442 mm FRZ: -228°F UEL: 18.0% LEL: 2.8%	Strong oxidizers [Note: Reacts violently with calcium hypochlorite.]	Filter*; HCl/DCE; GC/FPD; III [#2542]

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilit and reactivities
					MW, BP, SOL Fl.P, IP, Sp, Gr, flammability	VP, FRZ UEL, LEL	
Methyl mercaptan CH_3SH 74-93-1 PB4375000 1064 13	Mercaptomethane, Methanethiol, Methyl sulfhydrate 1 ppm = 2.00 mg/m³	NIOSH C 0.5 ppm (1 mg/m³) [15-min] OSHA† C 10 ppm (20 mg/m³)	150 ppm	Colorless gas with a disagreeable odor like garlic or rotten cabbage. [Note: A liquid below 43°F. Shipped as a liquefied compressed gas.]	MW: 48.1 BP: 43°F Sol: 2% Fl.P: NA (Gas) (oc) 0°F (Liq) IP: 9.44 eV RGasD: 1.66 Sp.Gr: 0.90 (Liquid at 32°F) Flammable Gas Class IA Flammable Liquid	VP: 1.7 atm FRZ: -186°F UEL: 21.8% LEL: 3.9%	Strong oxidize bleach, cop aluminum, nic copper alloys
Methyl methacrylate $CH_2=C(CH_3)COOCH_3$ 80-62-6 OZ5075000 1247 26 (inhibited)	Methacrylate monomer, Methyl ester of methacrylic acid, Methyl-2-methyl-2-propenoate 1 ppm = 4.16 mg/m³	NIOSH/OSHA 100 ppm (410 mg/m³)	1000 ppm	Colorless liquid with an acrid, fruity odor.	MW: 100.1 BP: 214°F Sol: 1.5% Fl.P(oc): 50°F IP: 9.70 eV Sp.Gr: 0.94 Class IB Flammable Liquid	VP: 29 mm FRZ: -54°F UEL: 8.2% LEL: 1.7%	Nitrates, oxidiz peroxides, str alkalis, moistu [Note: May po if subjected heat, oxidize ultraviolet li Usually cont inhibitor suc hydroquinor
Methyl parathion $(CH_3O)_2P(S)OC_6H_4NO_2$ 298-00-0 TG0175000 2783 55	Azophos®; O,O-Dimethyl-O-p-nitrophenylphosphorothioate; Parathion methyl 	NIOSH 0.2 mg/m³ [skin] OSHA† none	N.D.	White to tan, crystalline solid or powder with a pungent, garlic-like odor. [pesticide] [Note: The commercial product in xylene is a tan liquid.]	MW: 263.2 BP: 289°F Sol(77°F): 0.006% Fl.P: ? IP: ? Sp.Gr: 1.36 Combustible Solid	VP: 0.00001 mm MLT: 99°F UEL: ? LEL: ?	Strong oxidize water [Not explosi when heated 122°F.]
Methyl silicate $(CH_3O)_4Si$ 681-84-5 VV9800000 2606 57	Methyl orthosilicate, Tetramethoxysilane, Tetramethyl ester of silicic acid, Tetramethyl silicate 1 ppm = 6.37 mg/m³	NIOSH 1 ppm (6 mg/m³) OSHA† none	N.D.	Clear, colorless liquid. [Note: A solid below 28°F.]	MW: 152.3 BP: 250°F Sol: Soluble Fl.P: 205°F IP: ? Sp.Gr: 1.02 Class IIIB Combustible Liquid	VP(77°F): 12 mm FRZ: 28°F UEL: ? LEL: ?	Oxidizers; ha fluorides of rh molybdenum

Vulcan CHEMICALS

TECHNICAL DATA SHEET

TECHNICAL & ENVIRONMENTAL SERVICES 1-800-873-4898

Industrial Odor Control Using Vulcan Chemicals VX-456

Industrial Odors

Domestic sewage is a large volume source of odorous waste. Sulfides and mercaptans are the most common odor-causing constituents in sewage. Of these compounds, hydrogen sulfide (H_2S) is typically the most objectionable odor-bearing compound found in these wastes. Although odors are a problem in all types of waste streams, odor control in domestic sewage will be used for illustration throughout this bulletin.

Biological activity, particularly the anaerobic decomposition of compounds containing sulfur, is responsible for the formation of most odorous sulfur compounds, primarily H_2S. Sulfate ion (SO_4^{-2}) is the most common starting material for the generation of H_2S. Sulfate reducing bacteria (e.g. *Desulfovibrio desulfuricans*) in the absence of oxygen metabolize sulfate ions and organic matter to form H_2S, as illustrated by the following equation.

$$SO_4^{-2} + \text{organic matter} \xrightarrow[\text{Bacteria}]{} H_2S + CO_2$$

H_2S has an odor similar to rotten eggs, and is toxic even at low concentrations. Its odor threshold is extremely low, perceptible in air at 0.002 parts per million (ppm). The effort to control odor is often driven by the need to prevent the release of odors to nearby surrounding areas. Since H_2S is corrosive towards steel and concrete, its control will also result in increased life and lower maintenance costs for facilities and piping.

A variety of treatment chemicals such as hypochlorite (sodium or calcium), potassium permanganate ($KMnO_4$), ferric chloride, ferrous sulfate, hydrogen peroxide and chlorine have been widely used for the control of odor in wastes. Several requirements for these chemicals to be used in treatment of odor in waste are that they must be cost effective and must work well on a variety of malodorous compounds, while not producing undesirable by-products or reacting with compounds not responsible for malodors.

What is VX-456

Vulcan Chemical's new odor control product, VX-456, is a liquid mixed oxidant designed for use in controlling malodors associated with waste materials. VX-456 rapidly oxidizes sulfidic products and other compounds responsible for malodor present in waste treatment processes. It also inhibits the re-formation of malodors, particularly sulfidic, and thus also imparts residual control. This residual odor control is a feature not achieved with any other oxidant odor control formulations or treatment products.

Field and lab studies have shown VX-456 to be effective for control of odors in sewage at 1/5th the dose level required for $KMnO_4$ and 1/50th to 1/100th the dose needed with various iron salts (dose by dry weight of oxidant). The more efficient performance of VX-456 makes it cost competitive with alternative products.

Performance Features and Benefits

What VX-456 does not do is equally as important as what it will do. VX-456 is a selective oxidant, and does not oxidize phenols, organic solvents, and organic matter. This selectivity allows for the use of much lower doses of VX-456 to control malodors from compounds such as sulfides, mercaptans, and such. Additionally, since VX-456 is a weaker oxidant than some other treatment chemicals, it does not adversely affect beneficial bacteria present in waste treatment facilities. VX-456 does not contribute heavy metals to the solids produced in sludge de-watering processes as is common when using other treatments such as iron salts. VX-456 does not adversely affect the polymers used in waste treatment facilities, and may in fact improve polymer performance in some cases. VX-456 does not form chlorinated organic compounds or trihalomethanes.

Corrosion Issues

VX-456 is alkaline, but contains a corrosion control additive to prevent corrosion to iron piping and concrete. Since VX-456 destroys corrosive H_2S, damage to equipment and structures is also reduced by its use.

Dosing with VX-456

Waste streams, whether municipal sewage or industrial waste, are unique; each must be tested individually to determine the proper odor control dose. Since the need for malodor control is sometimes seasonal, the dose required during cold weather is generally less than that required for warmer weather.

Field tests have shown that sewage sludge typically requires from 50-2000 ppm by weight of VX-456 liquid to control malodors. VX-456 is typically dosed by means of a liquid metering pump directly from the originally supplied drum, tote, or the customer's tank.

Determination of Dosage Requirements

Since many odors cannot be measured directly, the required dose for a particular waste stream is generally determined by measurement of a waste characteristic that is related to the odor. This measurement is then used to prescribe the amount of treatment chemical required to achieve the desired level of control. Frequently, measurement of the sulfide residual is the method of choice. Alternately, measurement of the waste's oxidative-reductive potential (ORP) is another means of odor quantification.

Sulfide Residual Testing

Colormetric tests and titrations can also be used to measure sulfide residuals if the waste sample's opacity, color, and thickness does not hinder the tests. If the sample can be filtered or centrifuged, such tests may still be possible on sludges. In some cases the customer's process may already require a clarification step prior to performing these tests on the supernatant. Testing may be done by kit or by laboratory titration. Some commonly used methods of sulfide detection and quantification are described in Appendix 2.

Oxidation/Reduction Potential Testing

Many odor causing compounds (such as sulfides and mercaptans) present in waste are chemically reductive (electro-negative) in nature. In such cases the electrical potential of the waste stream is directly related to its odor level. The electrical potential of a solution can easily be determined with the use of an oxidation-reduction probe (ORP) connected to a suitable voltage meter, (e.g. a pH meter with a millivolt setting).

ORP readings that are very electro-negative indicate that the waste contains high concentrations of reductive chemicals and will have strong malodor. Sewage sludges with sulfidic odors have very negative ORPs, usually from -150 to -250 mv. Following treatment, the ORP becomes less negative and may become positive (greater than zero) with sufficient dosing. When the measured ORP reaches -100 mv, odor in the waste is usually non-offensive. Further treatment giving an ORP value of 0 or greater will result in sludge free of any malodors.

Storage, Handling, and Disposal

VX-456 must be stored, handled, and disposed of according to proper means, which are safe and in compliance with federal, state, and local regulations. These practices are similar to those followed for other common, oxidation chemicals used for odor control. A material safety data sheet (MSDS) and other information concerning storage, handling, and disposal of VX-456 is available upon request

Further Information

More detailed information on VX-456 is available on request through the Vulcan Chemicals Technical Service Department. Call or write:

Technical Service Department
Vulcan Chemicals
PO Box 530390
Birmingham, Alabama 35253-0390
1-800-873-4598

References

Standard Methods For the Examination of Water and Wastewater. 19th Edition 1995, page 4-127.

"Sulfide Determination - Methylene Blue Method". Fogo and Poppwsky, *Analytical Chemistry* 21: 732-724. 1949.

Oxidation-Reduction Potential Tests: Adapted from a method described in "Successful Storage Lagoon Odor Control", Richard A. Poduska and B.D. Anderson, *Journal of the Water Pollution Control Federation*, Vol. 53, Number 3, pp. 299-310, March, 1981.

APPENDIX 1: Case Studies

Sludge De-watering Case Study

A customer in the Eastern US was using two centrifuges for de-watering 80 thousand gallons per day of sewage sludge. They were using $KMnO_4$ to control odor prior to two centrifuges. Dosage was based on the presence of H_2S in the centrate.

Process Testing

To allow a side-by-side comparison, one centrifuge feed was dosed with VX-456 and the other with $KMnO_4$. Initially, VX-456 was dosed (126 ppm) on an equal dry weight basis to the $KMnO_4$ used by the customer. Samples of the liquid centrate were analyzed for hydrogen sulfide by the methylene blue method. Following treatment, the $KMnO_4$ side had 0.1 ppm sulfide residual, while the VX-456 side had none. The dose rate of VX-456 was reduced to ½ and then to ⅓ of the original dose with the centrate remaining sulfide-free. VX-456 was not just cost competitive with $KMnO_4$ in this case study, but actually reduced the customer's odor control budget by 1/3. An added benefit was the residual control of odor obtained with the VX-456.

Jar testing

Plastic bottles were filled with sewage sludge taken prior to centrifugation. Four dose rates were tested with VX-456 or $KMnO_4$. Dosing was measured using micro pipettes. The samples were stirred and ORP was recorded 5 minutes after dosing. After 24 hours of room temperature storage in capped bottles the samples were re-tested for ORP. A distinct performance advantage of VX-456 to that of $KMnO_4$ was observed when the two treatment chemicals were compared on a dry weight of oxidant basis, as seen in Figure 1.

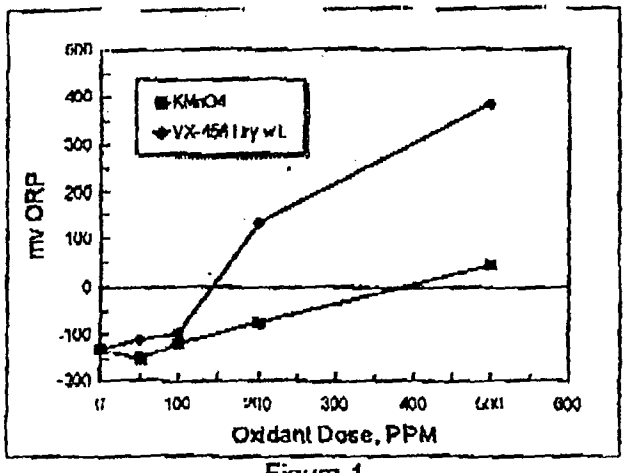


Figure 1

Initial Odor Destruction
Increasing ORP = Decreasing Odor

VX-456 is not a one component solution. Dry weight of oxidant for this comparison was calculated using the components responsible for immediate control of odor. Residual control of odor was also greater for VX-456 than for $KMnO_4$ after 24 hours from initial dosing.

Due to the excellent performance and cost savings of VX-456 over $KMnO_4$, this customer has since begun using VX-456 for odor control of their sewage sludge. Switching to VX-456 also eliminated the need to solution dry $KMnO_4$ for odor control, providing a manpower savings in addition to the chemical savings.

VX-456 Residual Control Evaluation Case Study

Because it is a unique blend of oxidants, after rapidly destroying malodor, VX-456 also inhibits the reformation of odors. To further document VX-456 performance advantages for residual odor control, a test was conducted on sewage sludge comparing VX-456 to $KMnO_4$.

Figure 2 compares the advantage of VX-456 for residual odor control over $KMnO_4$. An oxidant dose of 5000 ppm (dry wt. basis) was used to illustrate maximum benefit. Tests have shown when the ORP of a waste becomes more negative than -100 mv, the waste should be re-dosed to control odor. Note that in this test the sample treated with $KMnO_4$ would have required re-treatment within 24 hours from the initial dose, while the sample treated with VX-456 maintained adequate odor control for 48 hours.

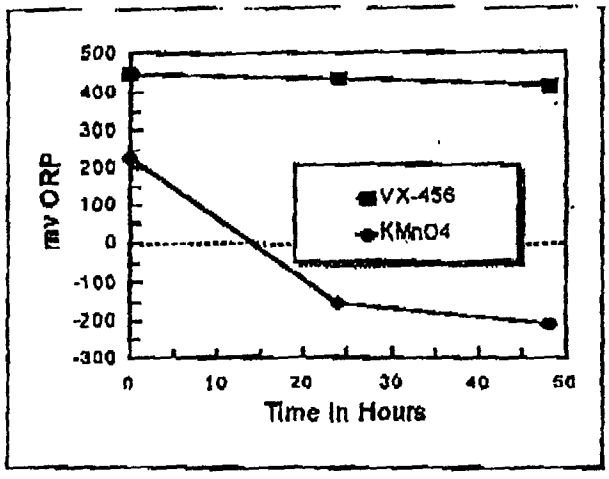


Figure 2

Odor Control Over Time
Single 5000 PPM Dose

Cost Comparison of VX-456 with $KMnO_4$

VX-456 is very cost competitive with $KMnO_4$ for immediate control of odor, and is sometimes less expensive since it is a more selective oxidant, i.e. less VX-456 is required for equal treatment. VX-456 can offer, under certain conditions in sewage sludge treatment, even further cost savings over $KMnO_4$. After initial treatment with $KMnO_4$, malodor can return within 24 hours requiring the sludge to be re-treated to maintain acceptable odor. When the sludge requires re-treatment after 24 hours with the same $KMnO_4$ dose, the cost of effective treatment is actually doubled. With proper dosing, VX-456 is able to maintain residual odor control beyond 24 hours and may provide control up to 72 hours after initial treatment. To illustrate the additive costs that could result from multiple treatments, Figure 4 illustrates treatment costs of a given flow of waste treated one day and held for 3 days with an equal amount of new sludge added daily for 3 days. This might be the case for a holiday weekend where a waste treatment facility would collect and hold waste until the next regular work day. The sludge treated with $KMnO_4$ might require re-treatment each day along with the new material for the day. The VX-456 treated sludge may not require re-treatment for the same 3 days, with only the new added sludge requiring treatment.

Note that the treatment costs for VX-456 and $KMnO_4$ for day 1 are similar (actually VX-456 is 21% lower), but that the cost difference escalates rapidly for $KMnO_4$ when re-treatment is needed.

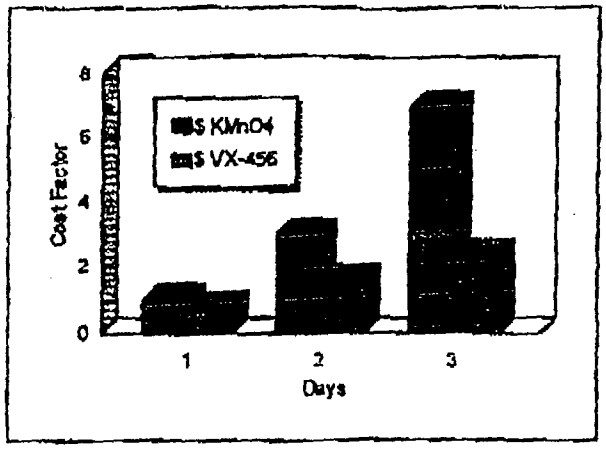


Figure 3

Cost Comparison: $KMnO_4$ vs. VX-456
Initial Dosing (Day 1) and Re-dosing (Days 2 & 3)

APPENDIX 2 Analytical Methods

Test Kits for Sulfide Detection

Note: Test kits for sulfide detection are only applicable for use with relatively clear solutions. They cannot be used on sludges that are not filtered or centrifuged.

HACH method 8131 (methylene blue)
The reaction of sulfide with N,N-dimethyl-p-phenylenediamine oxalate produces a blue color of intensity depending on the concentration of sulfide present. A spectrophotometer or other means of color evaluation is used to quantify the sulfide, which is a direct correlation of the blue color.

CHEMetrics K-9510 and R-9503
The CHEMetrics kit is similar to the HACH method, but uses vacuum vials containing the proper reagent. The vial tips are broken off while immersed in the sample. The vacuum in the vial draws in the correct volume of sample. The color of the vial is compared to standards to determine the sulfide concentration.

Test Kit Suppliers

HACH Company
PO Box 389
Loveland, Co. 80539
1-800-669-2932 or
970-669-3050

CHEMetrics, Inc.
Route 28
Claverton, Va. 22016
1-800-356-3072 or
703-788-9026

Laboratory Methods For Sulfide Detection

Methylene Blue Method
This method is a methylene blue laboratory version of the HACH method. A clear sample is required for this analysis. *(Standard Methods 4500-S^{2-} D)*

Iodometric Method
This method, which is usually done in the laboratory, relies on the back titration of iodine with sodium thiosulfate. Since sulfide also reacts with iodine in the same manner as sodium thiosulfate the contribution of total iodine reaction by the sulfide can be determined by the decrease in thiosulfate required. Starch is added as an indicator near the endpoint to produce a blue color for final titration. A clear sample is required for this analysis. *(Standard Methods 4500-S^{2-} F)*

Cup Test for Odor Control Treatment
Approximate treatment requirements for wastewater and sludges can be determined utilizing a cup test. The test can be done using any small container to hold the sample. A method of quantitatively adding the odor control chemical is required.

Procedure
1) Weigh or dispense 100 grams (100 ml) of sample into a 250 ml container. Specific gravity of most sewage sludges is nearly 1.0 (100 ml = 100g).

2) Add VX-456 quantitatively by using one of the following measuring methods.

1: Digital pipette:
0.050 ml VX-456 = 635 ppm Dose

2: Dropper @ 45 degrees:
1 drop = 450 ppm Dose

3: Analytical balance:
0.02 grams = 200 ppm Dose

3) Mix the sample by stirring or capping and shaking.

4) Measure the odor-causing compounds after a specified time (5 minutes for ORP) by one of the test methods discussed above.

Calculation of Bulk Dosage Rate

$$\text{Dose Factor} = \frac{\text{ml VX-456 from Cup Test}}{\text{ml of sludge treated}}$$

Example, for undiluted sludge, requiring 0.05 ml VX-456 in a cup test:

$$\text{Dose Factor} = \frac{0.05 \text{ ml VX-456}}{100 \text{ ml sludge}} = 0.0005$$

Example Calculation:
for 100,000 gal./day of Sludge

(0.0005)(100,000 gal/day) = 50 gal. VX-456/day

50 gal. x 10.67 lb./gal. = 533 lb. VX-456/day

(Density of VX-456 = 10.67 lb./gal.)

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury
CABINET SECRETARY

Oil Conservation Div.
Environmental Bureau
2040 S. Pacheco
Santa Fe, NM 87505

Memorandum of Meeting or Conversation

Telephone __X___
Personal _____

Time:
Date: October 1, 1998

Originating Party: Wayne Price

Other Parties: Mike Stubblefield-NMOCD Dist II

Subject: Duke Energy Gas plant -GW185 (formally Liquid Energy) liquid waste disposal at CRI causing complaints from the public due to the repulsive odors.

Discussion: NMOCD Environmental inquiry concerning liquid caustic/mercaptan waste being generated at Duke gas plant and disposal at CRI. Requested Mike to check out gas plant location. Determined during conversation this is actually the old Liquid Energy gas plant which is permitted by OCD.

Mike indicated this waste was at one time being disposed of into open ponds near Artesia, NM and there were numerous complaints. OCD District II requested this disposal practice be changed due to the complaints from the general public.

Conclusions or Agreements:

Signed: _____

CC: NMOCD District I & II

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
DISTRICT I HOBBS
PO BOX 1980, Hobbs, NM 88241
(505) 393-6161
FAX (505) 393-0720

Jennifer A. Salisbury
CABINET SECRETARY

Inter-Office *Memo*

September 12, 1998

To: Lori Wrotenbery & Roger Anderson

From: Wayne Price-Pet. Engr. (District I) Wayne Price

Re: Complaints concerning Odors from CRI.

Dear: Lori & Roger:

Chris has ask me to forward both of you complaint letters from various parties concerning the odors from Controlled Recovery Inc. (CRI). I have investigated and these odors are very strong and repulsive as far away as one mile up and down the highway. I have attempted over three months ago to obtain information from Mr. Marsh CRI concerning this waste stream, but CRI has not responded to my request.

After reviewing the MSDS, which was obtained by Mississippi Potash from CRI, it appears this waste (Spend Caustic & Mercaptan) is a health hazard. It is has a health ranking of 3, and a reactivity ranking of 1, on a scale of 0-4 with 4 being the highest. According to Jeff Campbell MPI's Environmental Coordinator, he has researched the NM Air Quality regulations and this waste and the mercaptan constituents is also on the Toxic Pollutant list.

Since this facility is permitted under NMOCD Rule 711 in which public health issues are part of the application requirements, 711.B.(1) (m), I therefore recommend we set up a meeting with CRI to resolve this issue.

cc: Chris Williams-District I Supervisor

GENERATOR NAME
LIQUID ENERGY (GW 185)
IS NOW DUKE ENERGY!

Price, Wayne

From: Price, Wayne
Sent: Thursday, September 10, 1998 1:26 PM
To: 'Roger Anderson'
Cc: 'Chris Williams'
Subject: CRI Nuisance odors

Dear Roger:

The District office received a complaint from the Mississippi Potash Company Mr. Jeff Campbell (505-234-3881). Mr, Campbell informed us that they had to evacuate part of their mine area due to the strong smell from CRI. He indicated it was drawn into one of the inlet air shafts and some of his workers became ill.

Per your request please find attached copies of reports made by the NM State Police and a copy of a fax sent to us from the NMED AQB back in the summer of this year.

I meet Mr. Marsh and the NMED AQB person (Mr. Bill Huber) on site at CRI. The smell was coming from the water side disposal ponds and Mr. Marsh indicated it was a Mercaptans waste received from a gas plant near Carlsbad.

Mr. Huber indicated since this was an OCD permitted facility he though that the responsibility lies with OCD. He indicated this would be classified as a Nuisance odor and they do not have a regulation for this unless if it would be hazardous and harmful to the public.

The odor was quite strong and repulsive at the source and would burn your eyes and irritate mucus membranes.

I ask Mr. Marsh to send in a report to OCD to include where he was receiving this waste, it's make-up, and any MSDS information.

As of this date OCD has not received this information. Mr. Marsh's indicated that this problem was not under our regulatory authority, but would follow-up on this issue and assist us in solving this problem.


CRI-Complaint1.tif.tiff


CRI-Complaint2.tif.tiff


CRI-Complaint3.tif.tiff

SEND TO OIL CONSERVATION OFFICE AUTH/SGT LEAL

NEW MEXICO STATE POLICE
DISTRICT THREE
CALLS FOR SERVICE FORM

ATTN. Wayne Price

DATE: 050298 TIME: 2054 CASE NR. 00230HS98
REPORTING PARTY: LOVINGTON SO CALL BACK NR
NATURE OF CALL: 10-44 10-45 DOMESTIC OTHER STRONG ODOR
LOCATION OF CALL: HALFWAY BAR ~~LEA 180~~ US 62-180
DETAILS: STRONG SMELL POSS NAT GAS SEE DESK LOG

WEAPONS INVOLVED: YES NO UNKN ✓ SHOTS FIRED: YES NO UNKN ✓
HOW REPORTED: PHONE ✓ 10-12 911 OFFICER OTHER
OFFICER ASSIGNED MASSIS ASSISTING OFFICER/AGENCY
SUPERVISOR(S) AGENT
10-55 FIRE WRECKER OMI CATTLE INSPECTOR STATE COMM OTHER

REPORT TAKEN: YES NO ✓ UNABLE TO LOCATE
CALL RECEIVED BY: CASE

NEW MEXICO STATE POLICE

DISTRICT THREE

CALLS FOR SERVICE FORM

DATE: 05/29/98 TIME: 2327 CASE NR.: 0041/HS98

REPORTING PARTY: Jeanie McKane CALL BACK NR. 887-7260

NATURE OF CALL: 10-44___10-45___DOMESTIC___OTHER ✓

LOCATION OF CALL 1/2 Way Bar

DETAILS Bad [redacted] smell made her throat hurt

WEAPONS INVOLVED: YES___NO ✓UNKN___ SHOTS FIRED: YES___NO ✓UNKN___

HOW REPORTED: PHONE ✓10-12___911___OFFICER___OTHER

OFFICER ASSIGNED ASSISTING OFFICER/AGENCY

SUPERVISOR(S) Leal AGENT

10-55___FIRE___WRECKER___OMI___CATTLE INSPECTOR___STATE COMM___OTHER

REPORT TAKEN: YES___NO ✓UNABLE TO LOCATE___ Officer Mannis advise he ✓ into it on 1½ week ago. No health hazard.

CALL RECEIVED BY: Lyn

State of New Mexico
ENVIRONMENT DEPARTMENT
District IV
1914 W. Second St.
Roswell, New Mexico 88201
(505) 624-6046

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

FAX TRANSMITTAL

DATE: 6/3/98 TIME: 3:50 PAGE: 1 OF 1
(INCLUDES COVER PG)

PLEASE DELIVER THE FOLLOWING PAGES:

TO: Wayne Price, Env. Eng

LOCATION: OCD Hobbs

TELEPHONE NUMBER: 393-6161 FAX NUMBER: 393-0720

FROM: Bill Huber AQB
NMED DISTRICT 4
ROSWELL NM 88201

TELEPHONE NUMBER: (505) 624-6046 FAX NUMBER: (505) 624-2023

****

COMMENTS: Complaint on CRI (Oil reclamation pit) at Halfway Bar from lady that lives in Bar. Smells. Are there any hazardous materials in the vapors?

Mississippi Potash, Inc.

We Make Things Grow®

September 11, 1998

Mr. Chris Williams
District Supervisor
Environmental Bureau
Oil & Conservation Division
New Mexico Minerals and Natural Resources

Re: Controlled Recovery, Inc., Emissions

Dear Chris:

Mississippi Potash, Inc., (MPI) owns mine sites and process plants near Controlled Recovery, Inc., (CRI) facility located on the south side of highway 62/180 approximately 45 miles west of Hobbs, New Mexico.

In the recent past, MPI received complaints from its employees who operate trucks that haul ore from MPI's West Plant to MPI's North Plant. These truck driver complaints described a fowl odor near the North Plant and when encountering this odor, the truck drivers experience headache and nausea. This odor is similar to odor encountered along the north and westerly boundaries of CRI's facility, which emanates from CRI.

On Thursday September 10, 1998, Glen Moore MPI's personnel director, received a number of complaints from the underground mine personnel at the East mine. The East mine is located approximately one mile west of the CRI facility. The complaints were consistent, in that, a number of mine personnel experience headache, nausea and had to evacuate their work area. Additionally, these employees lost their appetite and did not eat during their shift. According to these complaints this episode occurred on September 9 & 10, 1998 during the night shift. The odor penetrated the mine up to two miles. These written complaints are attached to this letter. Verbally, these employees expressed to me that at different times the odor is more concentrated than others and seems to have increased to a higher level over the past couple of months.

Surface personnel at the East Plant have complained at different times about the odor over the past year and a half. Anyone can pass the CRI facility early in the morning on any given day and experience the fowl odor. This odor is very nauseating.

P.O. Box 101 • 1996 Potash Mines Road • Carlsbad, New Mexico 88220
Phone (505) 887-5591 • FAX (505) 887-0705

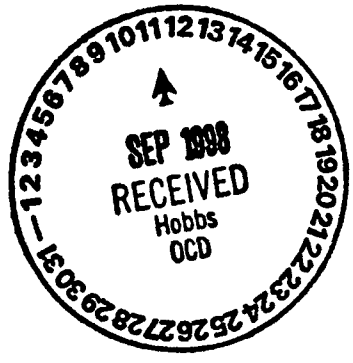
According to 20NMAC 2.72 Subparts 402, a facility that has toxic emissions above the pound per hour limit established by New Mexico Environment Improvement Board and listed in subpart 502 must obtain a construction permit from the New Mexico Environment Department Air Quality Bureau. To my knowledge CRI has not quantified emissions to determine whether or not they should obtain a permit.

MPI contends the emissions from CRI poses a substantial threat to the health of MPI employees and a hazard to the environment. Please address this problem as soon as possible. In addition to a health hazard, no faciltiy should be allowed emissions with such a repulsive smell.

Respectfully,

Jeff Campbell

Jeff Campbell,
MPI Environmental Coordinator



9-8-98

9-9-98

onthese Day were working graveyards. Ordor was So Bad Around Shop. Area's All the way to mouth of 193. So Bad. Diesel Mechanic was Complaining of Head Aches Nausea So was maint foreman & Shifter. So Bad Ruin our appetite

Edward L Downs Sr

9-11-98

9-8-98
9-9-98

On the dates above the odor was so bad underground in the office and shop areas. Shop/Diesel Mechanic complained of headaches and nasaua. Shifters could not stay in their offices very long and couldnt ~~~~ eat their dinner. Smell has been found as far as 2 miles in

Truman B McCarty
Barbara A Doughty

Controlled Recovery, Inc.
P.O. Box 369 Hobbs, NM 88241
Phone: (505)393-1079 Fax: (505)393-3615

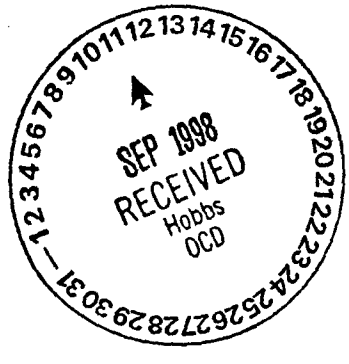
CRI

Fax

To:	Jeff Campbell	**From:**	Ken Marsh
Fax:	(505)887-0929	**Pages:**	4, including cover
Phone:		**Date:**	09/10/98
Re:		**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments:** If you have any questions or if I can be of further assistance, please feel free to give me a call at the office.



06/JUN. 9. 1998 3:13PM 1 SOLFSI 2477

Spent Caustic

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: Liquid Energy Corp. (Generator)	EMERGENCY TELEPHONE NO.: (800)424-9300 (CHEMTREC)
ADDRESS (Number, Street, City, State and ZIP Code): 2002 Timberloch Place The Woodlands, TX 77380	
PRODUCT IDENTIFICATION: Spent Caustic	TRADE NAME AND SYNONYMS: Sodium Hydroxide, Spent
CAS NUMBER: 1310-73-2 / EPA NUMBER: Not Applicable / FORMULA: HNaO	DOT CLASSIFICATION: Corrosive (UN 1824)

SECTION II - HAZARDOUS INGREDIENTS

% AND TLV OF EACH (if applicable)

Water	90%	
Sodium Hydroxide	9%	ACGIH TLV:cl 2mg/m^3
Other	1%	

See attached analysis for trace contaminants.

SEP 1998 RECEIVED Hobbs OCD

SECTION III - PHYSICAL DATA

BOILING POINT (°F)	Not Determined (ND)	SPECIFIC GRAVITY (H_2O=1)	1.114
VAPOR PRESSURE (mm Hg.)	ND	PERCENT, VOLATILE BY VOLUME (%)	0
VAPOR DENSITY (AIR=1)	ND	EVAPORATION RATE (=1)	0
SOLUBILITY IN WATER	100%	pH	12.95
APPEARANCE	Amber Liquid	ODOR	Mercaptan smell

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	AUTOIGNITION TEMPERATURE	FLAMMABLE LIMITS % BY VOLUME	LEL	UEL
>140°F			ND	ND

EXTINGUISHING MEDIA
N/A

SPECIAL FIRE FIGHTING PROCEDURES
(HNaO) NFPA Hazard Ratings - Health - 3, Flammability - 0, Reactivity - 1
(Note - Reactivity for spent caustic is higher due to sulfur compounds)

UNUSUAL FIRE AND EXPLOSION HAZARDS
Firefighters should wear self-contained positive pressure breathing apparatus and avoid skin contact.

HAZARDOUS PRODUCTS OF COMBUSTION
Sulfides and Hydrogen Gas (with metals)

MatCat

(Continued on ...)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) (As HNaO)
OSHA: PEL-TWA 2 mg/m^3
ACGIH: TLV-CL 2 mg/m^3
OTHER:

EFFECTS OF OVEREXPOSURE
ACUTE: major potential hazard to skin and eyes
CHRONIC: None

EMERGENCY AND FIRST AID PROCEDURES
Inhalation - move to fresh air. If breathing stops, administer artifical respiration.
Skin - remove clothing and wash skin with water for at least 15 minutes.
Eyes - wash with water for 15 minutes thoroughly. Ingestion - give water, do not induce vomiting.

SECTION VI - REACTIVITY DATA

STABILITY
UNSTABLE
STABLE: Stable
CONDITIONS TO AVOID: mixture with water, acid or incompatible materials can cause splattering.

INCOMPATABILITY (Materials to avoid): Chlorinated and flourinated hydrocarbons, acetaldehyde, acrolein, aluminum, malaic anhydrid

HAZARDOUS DECOMPOSITION PRODUCTS: will not decompose

HAZARDOUS POLYMERIZATION
OCCURS
DOES NOT OCCUR: Does not occur
CONDITIONS TO AVOID: contains sulfides and can generate harmful vapors

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Cleanup personnel must wear proper protective equipment. Contain spilled material and prevent run-off. Neutralize with water or hydrochloric acid. Reportable quantity (RQ) is 1000 lb. for sodium hydroxide. Notify NRC (800)424-8802 for spills >RQ.

WASTE DISPOSAL METHOD (Ensure conformity with local disposal regulations)
Recovered liquids may be sent to a permitted waste management facility. Since this spent caustic is RCRA - exempt, it is not a hazardous waste. The material comes from the sweetening process in the Dagger Draw gas processing facility.

SECTION VIII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Use NIOSH/MSHA high-efficiency particulate filter with full facepiece or SCBA.

VENTILATION
LOCAL EXHAUST: As necessary to remain below 2 mg/m^3 at all times.
MECHANICAL (General)
SPECIAL
OTHER

PROTECTIVE GLOVES: Neoprene, PVC or rubber gloves
EYE PROTECTION: Chemical goggles and faceshield

OTHER PROTECTIVE EQUIPMENT
PVC rain suit, rubber boots w/pant legs over boots.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid all contact with skin. Do not add water to caustic.

OTHER PRECAUTIONS

SEP 1998
RECEIVED
Hobbs
OCD

SECTION X - ISSUANCE DATE

DATE OF ISSUE: MTH. 3 DAY 7 YR. 95
REVIEWED BY:
TITLE: Manager, Environmental & Safety
NEW X REVISED SUPERSEDES: MTH. DAY YR.

TRACE Contaminates Based on Analysis of Spent Caustic

NMAC 2.72 502 TOXIC AIR POLLUTANTS & EMISSIONS NMED

Sodium Sulfate	26 ppm		
Sodium Chlorate	19 ppm		
Aluminum	10 mg/l		
Calcium	74 mg/l		
Copper	27 mg/l		
Cadmium	1 mg/l		
Cobalt	113 mg/l		
Iron	28 mg/l		
Lead	0.1 mg/l		
Magnesium	382 mg/l		
Manganese	0.4 mg/l		
Molybdenum	<5.0 mg/l		
Nickel	2 mg/l		
Potassium	104 mg/l		
Sodium	1400 mg/l		
Silver	2 mg/l		
Silicon	51 mg/l		
Zinc	604 mg/l	OEL mg/m³	Lb/hr
Methyl Mercaptan METHANETHIOL	79 ppm	1.0	0.01667
Ethyl Mercaptan	259 ppm	1.0	0.0667
2 - Propyl Mercaptan	24 ppm		
1 - Propyl Mercaptan	182 ppm		
Methyl Disulfide	14 ppm		
2 - Butyl Mercaptan	463 ppm	1.5	0.10
Methyl Propyl Sulfide	6 ppm		
1 - Butyl Mercaptan	19 ppm	1.5	0.10
Sulfur Compounds	55 ppm		
C_6 + hydrocarbon	58 ppm		

IDLH 150ppm

AMERICAN JOINT GOVERNMENT INDUSTRIAL HYGIENISTS (ACGIH) 8hr TWA NIOSH CEILING 0.5ppm (1mg/m³ 15min)

0.5ppm

0.5ppm

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA, unless noted otherwise)	IDLH	Physical description	Chemical and physical properties MW, BP, SOL Fl.P, IP, Sp, Gr, flammability	 VP, FRZ UEL, LEL	Incompatibilities and reactivities	Measurement method (See Table 1)
Ethyl ether $C_2H_5OC_2H_5$ 60-29-7 KI5775000 1155 26	Diethyl ether, Diethyl oxide, Ether, Ethyl oxide, Solvent ether 1 ppm = 3.08 mg/m³	NIOSH See Appendix D OSHA† 400 ppm (1200 mg/m³)	1900 ppm [LEL]	Colorless liquid with a pungent, sweetish odor. [Note: A gas above 94°F.]	MW: 74.1 BP: 94°F Sol: 8% Fl.P: -49°F IP: 9.53 eV Sp.Gr: 0.71 Class IA Flammable Liquid	VP: 440 mm FRZ: -177°F UEL: 36.0% LEL: 1.9%	Strong oxidizers, halogens, sulfur, sulfur compounds [Note: Tends to form explosive peroxides under influence of air and light.]	Char; Ethyl acetate; GC/FID; III [#1610]
Ethyl formate CH_3CH_2OCHO 109-94-4 LQ8400000 1190 26	Ethyl ester of formic acid, Ethyl methanoate 1 ppm = 3.08 mg/m³	NIOSH/OSHA 100 ppm (300 mg/m³)	1500 ppm	Colorless liquid with a fruity odor.	MW: 74.1 BP: 130°F Sol(64°F): 9% Fl.P: -4°F IP: 10.61 eV Sp.Gr: 0.92 Class IB Flammable Liquid	VP: 200 mm FRZ: -113°F UEL: 16.0% LEL: 2.8%	Nitrates; strong oxidizers, alkalis & acids [Note: Decomposes slowly in water to form ethyl alcohol and formic acid.]	Char; CS_2; GC/FID; III [#1452]
Ethylidene norbornene **C_9H_{12}** **16219-75-3** **RB9450000**	**ENB,** **5-Ethylidenebicyclo(2.2.1)-hept-2-ene,** **5-Ethylidene-2-norbornene** **[Note: Due to its reactivity, ENB may be stabilized with tert-butyl catechol.]** **1 ppm = 5.00 mg/m³**	**NIOSH** **C 5 ppm** **(25 mg/m³)** **OSHA†** **none**	**N.D.**	**Colorless to white liquid with a turpentine-like odor.**	**MW: 120.2** **BP: 298°F** **Sol: ?** **Fl.P(oc): 101°F** **IP: ?** **Sp.Gr: 0.90** **Class II Combustible Liquid**	**VP: 4 mm** **FRZ: -112°F** **UEL: ?** **LEL: ?**	**Oxygen** **[Note: ENB should be stored in a nitrogen atmosphere since it reacts with oxygen.]**	**None available**
Ethyl mercaptan CH_3CH_2SH 75-08-1 K19625000 2363 27	Ethanethiol, Ethyl sulfhydrate, Mercaptoethane 1 ppm = 2.58 mg/m³	NIOSH C 0.5 ppm (1.3 mg/m³) [15-min] OSHA† C 10 ppm (25 mg/m³)	500 ppm	Colorless liquid with a strong, skunk-like odor. [Note: A gas above 95°F.]	MW: 62.1 BP: 95°F Sol: 0.7% Fl.P: -55°F IP: 9.29 eV Sp.Gr: 0.84 Class IA Flammable Liquid	VP: 442 mm FRZ: -228°F UEL: 18.0% LEL: 2.8%	Strong oxidizers [Note: Reacts violently with calcium hypochlorite.]	Filter*; HCl/DCE; GC/FPD; III [#2542]

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities
					MW, BP, SOL Fl.P, IP, Sp, Gr, flammability	VP, FRZ UEL, LEL	
Methyl mercaptan CH_3SH 74-93-1 PB4375000 1064 13	Mercaptomethane, Methanethiol, Methyl sulfhydrate 1 ppm = 2.00 mg/m³	NIOSH C 0.5 ppm (1 mg/m³) [15-min] OSHA† C 10 ppm (20 mg/m³)	150 ppm	Colorless gas with a disagreeable odor like garlic or rotten cabbage. [Note: A liquid below 43°F. Shipped as a liquefied compressed gas.]	MW: 48.1 BP: 43°F Sol: 2% Fl.P: NA (Gas) (oc) 0°F (Liq) IP: 9.44 eV RGasD: 1.66 Sp.Gr: 0.90 (Liquid at 32°F) Flammable Gas Class IA Flammable Liquid	VP: 1.7 atm FRZ: -186°F UEL: 21.8% LEL: 3.9%	Strong oxidize blea[illegible], cop alum[illegible]m, nic copper alloys
Methyl methacrylate $CH_2=C(CH_3)COOCH_3$ 80-62-6 OZ5075000 1247 26 (inhibited)	Methacrylate monomer, Methyl ester of methacrylic acid, Methyl-2-methyl-2-propenoate 1 ppm = 4.16 mg/m³	NIOSH/OSHA 100 ppm (410 mg/m³)	1000 ppm	Colorless liquid with an acrid, fruity odor.	MW: 100.1 BP: 214°F Sol: 1.5% Fl.P(oc): 50°F IP: 9.70 eV Sp.Gr: 0.94 Class IB Flammable Liquid	VP: 29 mm FRZ: -54°F UEL: 8.2% LEL: 1.7%	Nitrates, oxidiz peroxides, str alkalis, moistu [Note: May po if subjected heat, oxidize ultraviolet li Usually cont inhibitor suc hydroquinor
Methyl parathion $(CH_3O)_2P(S)OC_6H_4NO_2$ 298-00-0 TG0175000 2783 55	Azophos®; O,O-Dimethyl-O-p-nitrophenylphosphorothioate; Parathion methyl	NIOSH 0.2 mg/m³ [skin] OSHA† none	N.D.	White to tan, crystalline solid or powder with a pungent, garlic-like odor. [pesticide] [Note: The commercial product in xylene is a tan liquid.]	MW: 263.2 BP: 289°F Sol(77°F): 0.006% Fl.P: ? IP: ? Sp.Gr: 1.36 Combustible Solid	VP: 0.00001 mm MLT: 99°F UEL: ? LEL: ?	Strong oxidize water [Note: Explosi w[illegible]heated 1[illegible].]
Methyl silicate $(CH_3O)_4Si$ 681-84-5 VV9800000 2606 57	Methyl orthosilicate, Tetramethoxysilane, Tetramethyl ester of silicic acid, Tetramethyl silicate 1 ppm = 6.37 mg/m³	NIOSH 1 ppm (6 mg/m³) OSHA† none	N.D.	Clear, colorless liquid. [Note: A solid below 28°F.]	MW: 152.3 BP: 250°F Sol: Soluble Fl.P: 205°F IP: ? Sp.Gr: 1.02 Class IIIB Combustible Liquid	VP(77°F): 12 mm FRZ: 28°F UEL: ? LEL: ?	Oxidizers; he fluorides of rh molybdenum

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Drawer 26110
Santa Fe, New Mexico 87502-0110

GARY E. JOHNSON
Governor

PETER MAGGIORE
Secretary

FAX COVER SHEET

DATE: 9-10-98

TO: ROGER ANDERSON

COMPANY NAME: OCD

PHONE: 7-7152 **FAX:** 7-8177

FROM: JIM NELLESSEN/ NMED-AQB

PHONE: 7-0048 **FAX:** 7-0045

NO. OF PAGES (Including cover sheet) 11

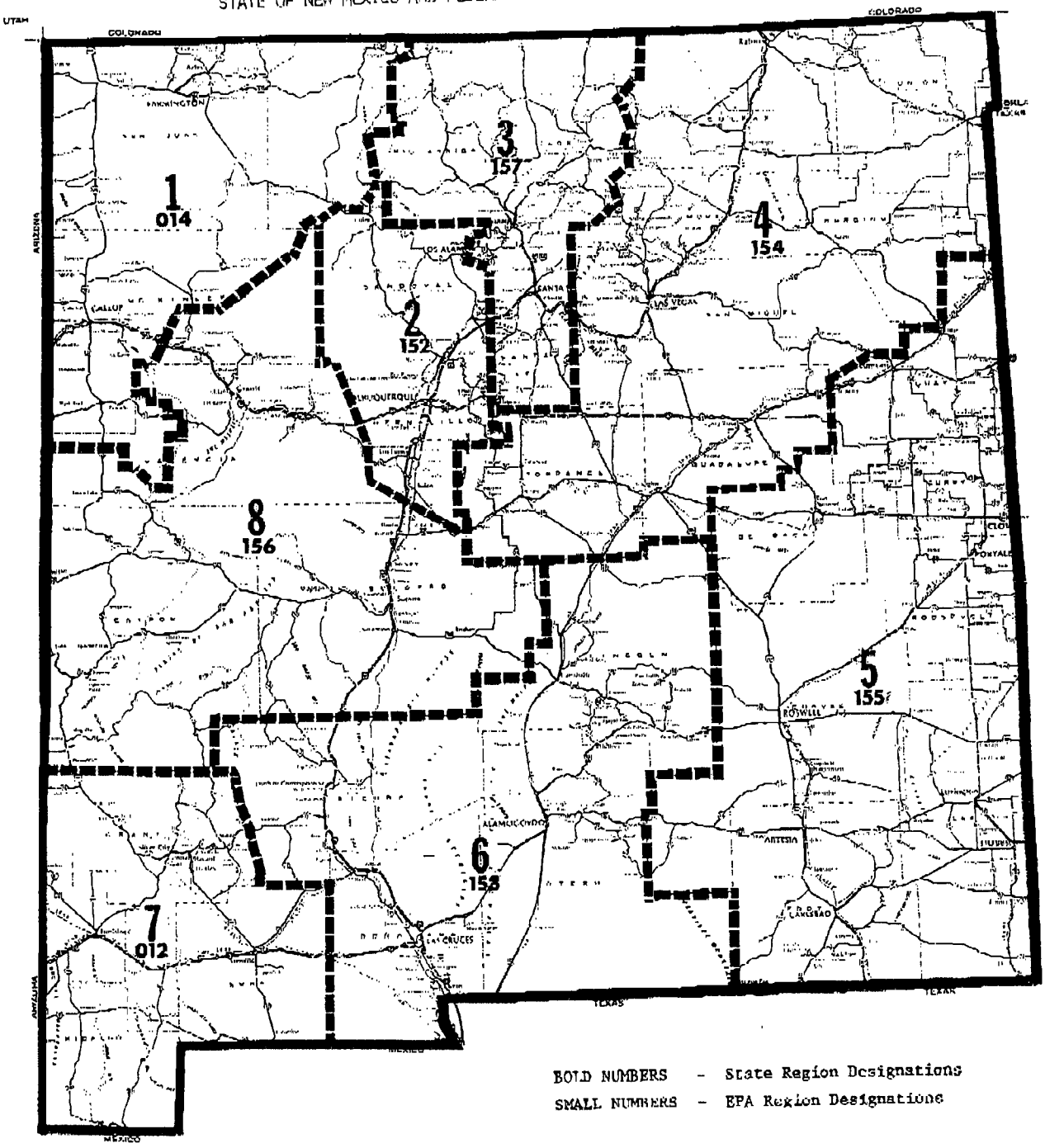
Message:

Pecos-Permian Basin is Region 5

Total reduced sulfur definition - pg 4 of Definitions rule. Total reduced sulfur standards on pgs 3-4 of ambient Standards rule.

If you do not receive the entire contents of this fax, please call the above number. Thank you!

STATE OF NEW MEXICO AND FEDERAL EPA AIR QUALITY CONTROL REGIONS



BOLD NUMBERS - State Region Designations
SMALL NUMBERS - EPA Region Designations

New Mexico consists of 8 Air Quality Control Regions. Five of these Air Quality Regions are intrastate, while 3 are interstate. The Four Corners Interstate Region, Region 1, includes portions of Arizona, Colorado and Utah as well as part of New Mexico. The El Paso-Las Cruces-Alamogordo Interstate Region, Region 6, includes several counties in Texas as well as 4 counties in New Mexico. The Arizona-New Mexico Southern Border Interstate Region, Region 7, includes portions of Southeastern Arizona and Southwestern New Mexico. The remaining regions, Region 2, 3,4,5 and 8, cover areas totally within the boundaries of the State of New Mexico.

The State consists of 32 counties covering a total area of approximately 120,000 square miles. The population based on the 1980 census was 1,299,968. This yields a population density of 11 people per square mile for the entire state with 37% of this total located in Bernalillo County.

The topography varies from desert plains to high mountains. Elevations range from 2850 to 13,161 feet above sea level.

NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD
P. O. BOX 26110/1190 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87502-0110

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 2 AIR QUALITY
PART 2 DEFINITIONS

SUBPART 1- GENERAL PROVISIONS

100. **ISSUING AGENCY:** New Mexico Environmental Improvement Board. [10-27-95]

101. **SCOPE:** The provisions of this Part shall apply to all New Mexico regulations regarding air quality, and codified as 20 NMAC 2.3 through 20 NMAC 2.99. [10-27-95]

102. **STATUTORY AUTHORITY:** The Environmental Improvement Board " shall promulgate regulations and standards in ... air quality management" (NMSA 1978, Section 74-1-8.A) and "the Environmental Improvement Board... shall adopt... regulations to attain and maintain national ambient air quality standards and prevent or abate air pollution..." (NMSA 1978, Section 74-2-5.B). [10-27-95]

103. **DURATION:** Permanent. [10-27-95]

104. **EFFECTIVE DATE:** October 27, 1995. [10-27-95]

105. **OBJECTIVE:** To provide specific definitions for terms used and not defined in air quality regulations 20 NMAC 2.3 through 20 NMAC 2.99. [10-27-95]

106. **AMENDMENT AND SUPERSESSION OF PRIOR REGULATIONS:** This Part supersedes AQCR 100, originally filed on January 23, 1970, and subsequently amended and refiled on May 26, 1971, September 1, 1971, September 14, 1973, June 14, 1974, July 15, 1974, February 7, 1983, May 26, 1983, August 1, 1988, and May 29, 1990. [10-27-95]

107. **DOCUMENTS:** Documents cited in this Part may be viewed at the New Mexico Environment Department, Air Quality Bureau, Runnels Building, 1190 Saint Francis Drive, Santa Fe, NM 87503. [10-27-95]

108 - 199. [RESERVED]

SUBPART II - DEFINITIONS

200. **DEFINITIONS:** The following definitions apply to all Parts of 20 NMAC Chapter 2.
[10-27-95]

A. **"Administrator"** means the Administrator of the United States Environmental Protection Agency (US EPA) or his or her designee. [10-27-95]

B. **"Aerodynamic diameter"** means the diameter of a sphere of unit density which behaves aerodynamically the same as the particle of the test substance. It is used to predict where particles of different size and density may be deposited in the respiratory tract. [10-27-95]

C. **"Air contaminant"** means any airborne substance, including but not limited to, any particulate matter, fly ash, dust, fumes, gas, mist, smoke, vapor, micro-organisms, radioactive material, any combination thereof or any decay or reaction product thereof. [10-27-95]

D. **"Air pollution"** means the emission, except as such emission occurs in nature, into the outdoor atmosphere of one or more air contaminants in such quantities and duration as may with reasonable probability injure human health, animal or plant life, or as may unreasonable interfere with the public welfare, visibility or the reasonable use of property. [10-27-95]

E. **"Asbestos"** includes chrysolite, crocidolite, amosite, anthophylite, tremolite, and actinolite. [10-27-95]

F. **"Board"** means the New Mexico Environmental Improvement Board or its successor agency or authority. [10-27-95]

G. **"Carbon monoxide"** means the chemical compound containing one atom of carbon and one atom of oxygen. [10-27-95]

H. **"Department"** means the New Mexico Environment Department or its successor agency or authority, as represented by the Department Secretary or his or her designee. [10-27-95]

I. **"Federal Act"** means the Federal Clean Air Act, as amended, 42 U.S.C. Sections 7401 et seq. [10-27-95].

J. **"Flue"** means, any duct for air, gases, or the like, such as a stack or chimney. [10-27-95]

K. **"Fugitive dust" or "Fugitive particulate matter"** means particulate emissions which escape to the atmosphere due to leakage; materials handling, transfer or storage; travel over unpaved roads or parking areas; or other industrial activities, and which are not ducted through exhaust systems. [10-27-95]

L. **"Heavy metal"** means any metal having an atomic number greater than 21. [10-27-95]

M. **"Hydrogen sulfide"** means the chemical compound containing two atoms of hydrogen and one atom of sulfur. [10-27-95]

N. **"Kraft pulp"** means the fibrous cellulose material produced in a Kraft mill. [10-27-95]

O. **"Lead"** means elemental lead; alloys in which one of the elements is lead; or compounds containing lead, which are measured as elemental lead. [10-27-95]

P. **"mg/m³"** means milligrams per cubic meter. [10-27-95]

Q. **"Nitrogen dioxide"** means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term "nitrogen dioxide," for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide. [10-27-95]

R. **"Non-methane hydrocarbons"** means any combination of hydrocarbons (chemical compounds consisting of hydrogen and carbon) excluding only the molecule methane. [10-27-95]

S. **"Ozone"** means the chemical compound having the molecular composition of three oxygen atoms. [10-27-95]

T. **"Particulate matter"** means any airborne, finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers. [10-27-95]

U. **"Particulate matter emissions"** means all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by: applicable reference methods; an equivalent or alternative method specified by the Administrator; or a test method specified in the New Mexico State Implementation Plan. [10-27-95]

V. **"Person"** means any individual; partnership; corporation; association; municipality; the State or political subdivision of the State; and any agency, department, or instrumentality of the United States and any of their officers, agents, or employees. [10-27-95]

W. **"Photochemical oxidents"** means those oxidizing chemical compounds which are the products of photo initiated reactions involving organic compounds and nitrogen oxides, consisting primarily of ozone and peroxyacetyl nitrate (PAN). [10-27-95]

X. **"PM_{10}"** means particulate matter with an aerodynamic

diameter less than or equal to a nominal 10 micrometers. [10-27-95]

Y. "**PM_{10} emissions**" means finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 10 micrometers, emitted to the ambient air, as measured by: an applicable reference method; an equivalent or alternative method specified by the EPA Administrator; or a test method specified in the New Mexico State Implementation Plan. [10-27-95]

Z. "**ppm**" means parts per million by volume. [10-27-95]

AA. "**Ringelmann scale**" means the grading of opacity, appearance, density or shade of a smoke emission, in determining the light-obscuring power of smoke. [10-27-95]

BB. "**Schedule of compliance**" means a schedule or timetable, acceptable to the Board, which clearly sets out in detail, the steps to be taken in achieving the objectives of a regulation or standard. [10-27-95]

CC. "**Secretary**" means the Secretary of the New Mexico Environment Department or his or her designee. [10-27-95]

DD. "**Smoke**" means small gas-borne particles resulting from incomplete combustion, consisting predominantly, by not exclusively, of carbon, soot and combustible material. [10-27-95]

EE. "**Sulfur dioxide**" means the chemical compound containing one atom of sulfur and two atoms of oxygen, for the purposes of ambient determinations. The term sulfur dioxide, for the purposes of stack emissions monitoring, shall include sulfur dioxide (chemical compound containing one atom of sulfur and two atoms of oxygen), and other oxides of sulfur which may test as sulfur dioxide. [10-27-95]

FF. "**Total reduced sulfur**" means any combination of sulfur compounds, except sulfur dioxide and free sulfur, which test as total reduced sulfur, including, but not limited to, hydrogen sulfide, methyl mercaptan, and ethyl mercaptan. [10-27-95]

GG. "**Total suspended particulates (TSP)**" means particulate matter as measured by the method described in 40 CFR Part 50, Appendix B. [10-27-95]

HH. "**ug/m^3**" means micrograms per cubic meter. [10-27-95]

II. "**US EPA**" means the United States Environmental Protection Agency. [10-27-95]

JJ. "**Volatile organic compound (VOC)**" means any organic compound which participates in atmospheric photochemical reactions;

that is, any organic compound other than those which the Administrator designates as having negligible photochemical reactivity. [10-27-95]

NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD
P.O. BOX 26110/1190 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87502-0110

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 2 AIR QUALITY (STATEWIDE)
PART 3 AMBIENT AIR QUALITY STANDARDS

100. **ISSUING AGENCY:** Environmental Improvement Board. [11-30-95]

101. **SCOPE:** All geographic areas within the jurisdiction of the Environmental Improvement Board. [11-30-95]

102. **STATUTORY AUTHORITY:** Environmental Improvement Act, NMSA 1978, Section 74-1-8(A)(4) and Air Quality Control Act, NMSA 1978, Sections 74-2-1 et seq., including specifically, Section 74-2-5(A) and (B). [11-30-95]

103. **DURATION:** Permanent. [11-30-95]

104. **EFFECTIVE DATE:** November 30, 1995. [11-30-95]

105. **OBJECTIVE:** The objective of this Part is to establish ambient air quality standards for the areas of New Mexico under the jurisdiction of the Environmental Improvement Board. [11-30-95]

106. **AMENDMENT AND SUPERSESSION OF PRIOR REGULATIONS:** This Part amends and supersedes Air Quality Control Regulations ("AQCR") 200 - Preamble and 201 - Ambient Air Quality Standards last filed January 27, 1970 and June 15, 1981, respectively.

A. All references to AQCR 200 or 201 in any other rule shall be construed as a reference to this Part.

B. The amendment and supersession of AQCR 200 and 201 shall not affect any administrative or judicial enforcement action pending on the effective date of such amendment nor the validity of any permit issued pursuant to AQCR 200 or 201. [11-30-95]

107. **DEFINITIONS:** In addition to the terms defined in Part 2 -

Definitions, as used in this Part: [11-30-95]

"Part" means an air quality control regulation under Title 20, Chapter 2 of the New Mexico Administrative Code, unless otherwise noted; as adopted or amended by the Board. [11-30-95]

108. **PREAMBLE:** Ambient Air Quality Standards are not intended to provide a sharp dividing line between air of satisfactory quality and air of unsatisfactory quality. They are, however, numbers which represent objectives that will preserve our air resources.

It is understood that at certain times, due to unusual meteorological conditions, these standards may be exceeded for short periods of time without the addition of specific pollutants into the atmosphere. The adoption of these statewide ambient air quality standards does not prohibit the promulgation of standards for specific areas, functions, and conditions within the state such as air sheds, municipalities, and certain counties, as authorized under the Act.

As scientific data accumulates on the effects of a contaminant, these standards may be revised or additional standards added. [11-30-95]

109. **TOTAL SUSPENDED PARTICULATES:**

A. The maximum allowable concentrations of total suspended particulate in the ambient air are as follows:

		MAXIMUM CONCENTRATION
1.	24-hour average	150 ug/m^3
2.	7-day average	110 ug/m^3
3.	30-day average	90 ug/m^3
4.	Annual geometric mean	60 ug/m^3

[11-30-95]

110. **SULFUR COMPOUNDS:** The maximum allowable concentrations of the following sulfur containing air contaminants in the ambient air are as follows: [11-30-95]

MAXIMUM CONCENTRATION

A. Sulfur Dioxide

1. For the state except on the area within 3.5 miles of the Chino Mines Company smelter furnace stack at Hurley.

a.	24-hour average	0.10 ppm
b.	Annual arithmetic average	0.02 ppm

2. For the area within 3.5 miles of the Chino Mines Company smelter furnace stack at Hurley.

a.	24-hour average not be exceeded more than once per year	0.14 ppm
b.	3-hour average, not to be exceeded more than once per year	0.50 ppm
c.	Annual arithmetic average	0.03 ppm

[11-30-95]

B. Hydrogen Sulfide

1. For the state, except the Pecos-Permian Basin Intrastate Air Quality Control Region (1-hour average, not to be exceeded more than once per year).

0.010 ppm

2. For the Pecos-Permian Basin Intrastate Air Quality Control Region (1/2 hour average).

0.100 ppm

3. For within corporate limits of municipalities within the Pecos-Permian Basin Intrastate Air Quality Control Region (1/2 hour average).

0.030 ppm

4. For within five miles of the corporate limits of municipalities having a population of greater than twenty thousand and within the Pecos-Permian Basin Intrastate Air Quality Control Region (1/2 hour average).

0.030 ppm

[11-30-95]

C. Total Reduced Sulfur

1. For the state, except the Pecos-Permian Basin Intrastate Air Quality Control Region except for hydrogen sulfide (1/2 hour average).

0.003 ppm

2. For the Pecos-Permian Basin Intrastate Air Quality Control Region, except for hydrogen sulfide (1/2 hour average).

0.010 ppm

3. For within corporate limits of municipalities within the Pecos-Permian Basin Intrastate Air Quality Control Region, except for hydrogen sulfide (1/2 hour average).

0.003 ppm

4. For within five miles of the corporate limits of municipalities having a population of greater than twenty thousand and within the Pecos-Permian Basin Intrastate Air Quality Control Region, except for hydrogen sulfide (1/2 hour average).

0.003 ppm

[11-30-95]

111. **OTHER AIR CONTAMINANTS:** The maximum allowable concentrations of the following air contaminants in the ambient air are as follows: [11-30-95]

	MAXIMUM CONCENTRATION
A. Carbon Monoxide	
1. 8 - hour average	8.7 ppm
2. 1 - hour average	13.1 ppm
[11-30-95]	
B. Nitrogen Dioxide	
1. 24 - hour average	0.10 ppm
2. Annual arithmetic average	0.05 ppm
[11-30-95]	

DATE: 9/10/98

To ROGER ANDERSON -
OCD

From
WAYNE PRICE - ENVIRONMENTAL ENGR. - NMOCD DISTRICT I

Energy & Minerals Department

Telephone Number 505-393-6161 FAX # 505-393-0720

- ☐ For Your Files
- ☐ Prepare a Reply for My Signature
- ☐ For Your Review and Return
- ☐ For Your Information
- ☐ For Your Handling
- ☐ For Your Approval
- ☐ As Per Your Request
- ☐ For Your Signature
- ☐ Please Advise
- ☐ For Your Attention

RE: CRI - COMPLAINT
ODORS.

TOTAL # of PAGES INCL COVER 5

Price, Wayne

From: Price, Wayne
Sent: Thursday, September 10, 1998 1:26 PM
To: 'Roger Anderson'
Cc: 'Chris Williams'
Subject: CRI Nuisance odors

Dear Roger:

The District office received a complaint from the Mississippi Potash Company Mr. Jeff Campbell (505-234-3881). Mr. Campbell informed us that they had to evacuate part of their mine area due to the strong smell from CRI. He indicated it was drawn into one of the inlet air shafts and some of his workers became ill.

Per your request please find attached copies of reports made by the NM State Police and a copy of a fax sent to us from the NMED AQB back in the summer of this year.

I meet Mr. Marsh and the NMED AQB person (Mr. Bill Huber) on site at CRI. The smell was coming from the water side disposal ponds and Mr. Marsh indicated it was a Mercaptans waste received from a gas plant near Carlsbad.

Mr. Huber indicated since this was an OCD permitted facility he though that the responsibility lies with OCD. He indicated this would be classified as a Nuisance odor and they do not have a regulation for this unless if it would be hazardous and harmful to the public.

The odor was quite strong and repulsive at the source and would burn your eyes and irritate mucus membranes.

I ask Mr. Marsh to send in a report to OCD to include where he was receiving this waste, it's make-up, and any MSDS information.

As of this date OCD has not received this information. Mr. Marsh's indicated that this problem was not under our regulatory authority, but would follow-up on this issue and assist us in solving this problem.


CRI-Complaint1.tif.tif


CRI-Complaint2.tif.tif


CRI-Complaint3.tif.tif

State of New Mexico
ENVIRONMENT DEPARTMENT
District IV
1914 W. Second St.
Roswell, New Mexico 88201
(505) 624-6046

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

FAX TRANSMITTAL

DATE: 6/3/98 TIME: 3:50 PAGE: 1 OF 1
(INCLUDES COVER PG)

PLEASE DELIVER THE FOLLOWING PAGES:

TO: Wayne Price, Env. Eng

LOCATION: [redacted] OCD Hobbs

TELEPHONE NUMBER: 393-6161 FAX NUMBER: 393-0720

FROM: Bill Huber AQB
NMED DISTRICT 4
ROSWELL NM 88201

TELEPHONE NUMBER: (505) 624-6046 FAX NUMBER: (505) 624-2023

****

COMMENTS: Complaint on CRI at Halfway Bar from lady that lives in Bar. Smells. Are there any hazardous materials in the vapors?

SEND TO OIL CONSERVATION
OFFICE AUTH/SGT LEAL

DISTRICT THREE
CALLS FOR SERVICE FORM

ATTN. Wayne Price

DATE: 050298 TIME: 2054 CASE NR. 00230H598
REPORTING PARTY: LOVINGTON SO CALL BACK NR
NATURE OF CALL: 10-44 10-45 DOMESTIC OTHER STRONG ODOR
LOCATION OF CALL: HALFWAY BAR, ~~LEA CO~~ US 62-180
DETAILS: STRONG SMELL POSS NAT GAS SEE OPSL LOG

WEAPONS INVOLVED: YES NO UNKN ✓ SHOTS FIRED: YES NO UNKN ✓
HOW REPORTED: PHONE ✓ 10-12 911 OFFICER OTHER
OFFICER ASSIGNED MASSIS ASSISTING OFFICER/AGENCY
SUPERVISOR(S) AGENT
10-55 FIRE WRECKER OMI CATTLE INSPECTOR STATE COMM OTHER

Received
MAY 1998
OCD

REPORT TAKEN: YES NO ✓ UNABLE TO LOCATE
CALL RECEIVED BY: CASE

NEW MEXICO STATE POLICE

DISTRICT THREE

CALLS FOR SERVICE FORM

DATE: 05 12 98 TIME: 2327 CASE NR.: 00401HS98

REPORTING PARTY: Jeanie McKane CALL BACK NR. 887-7260

NATURE OF CALL: 10-44___10-45___DOMESTIC___OTHER ✓

LOCATION OF CALL 1/2 Way Bar

DETAILS Bad [illegible] smell made her throat hurt.

WEAPONS INVOLVED: YES___NO ✓ UNKN___ SHOTS FIRED: YES___NO ✓ UNKN___

HOW REPORTED: PHONE ✓ 10-12___911___OFFICER___OTHER___

OFFICER ASSIGNED___ ASSISTING OFFICER/AGENCY___

SUPERVISOR(S) [illegible] AGENT___

10-55___FIRE___WRECKER___OMI___CATTLE INSPECTOR___STATE COMM___OTHER___

REPORT TAKEN: YES___NO ✓ UNABLE TO LOCATE___ Officer Massis advise he ✓ into it on 1 1/2 week ago. No health hazard.

CALL RECEIVED BY: [illegible]