



County of San Diego

GLENN N. WAGNER, D.O.
CHIEF MEDICAL EXAMINER

OFFICE OF THE MEDICAL EXAMINER
5570 OVERLAND AVE., SUITE 101, SAN DIEGO, CALIFORNIA 92123-1206
TEL: (858) 694-2895 FAX: (858) 495-5956

INVESTIGATIVE REPORT

9/11/2012

CALL INFO	NAME OF DECEASED (LAST, FIRST MIDDLE) HOUGH, Thomas Alexander			AKA	HIO <input type="checkbox"/>	CASE NUMBER 12-01096
	INVESTIGATOR Leah Burton	REPORTED BY Sgt. Nemeth	REPORTING AGENCY San Diego Sheriff		PREVIOUS WAIVE #	
	CALL DATE AND TIME 05/20/2012 1818	ARRIVAL DATE AND TIME 05/20/2012 2148		RETURN DATE AND TIME 05/20/2012 2300		
DECEDENT	DATE AND TIME OF DEATH 05/20/2012 1730	DATE OF BIRTH 04/30/1940	AGE 72 Years	GENDER Male	RACE White	
	RESIDENCE (STREET, CITY, STATE, ZIP) 325 S. Melrose Drive Ste. 200 Vista, CA 92081			COUNTY San Diego	LAST SEEN ALIVE	
	SOCIAL SECURITY NO. 553-52-6730	CITIZENSHIP USA	OCCUPATION Unknown		PAID AUTOPSY <input type="checkbox"/>	
DEATH	LOCATION OF DEATH Vista Detention Facility			TYPE OF PLACE Other		
	ADDRESS (STREET, CITY, STATE, ZIP) 325 S. Melrose Drive Ste. 200 Vista, CA 92081					
	SUMMARY The decedent was a 72-year-old male who was incarcerated at the Vista Detention Facility. On 05/20/12, he was found unresponsive in his single occupancy cell by Medical Unit staff during a security check. Cardiopulmonary resuscitation was initiated, 9-1-1 called, and paramedics responded. Despite aggressive medical intervention, death was pronounced by a physician from a local hospital. Medical Examiner's jurisdiction invoked according to the California Government Code 27491: Deaths in prison or while under sentence.					
INCIDENT	LOCATION OF INCIDENT			INCIDENT PLACE TYPE AT WORK <input type="checkbox"/> AT RESIDENCE <input type="checkbox"/>		
	ADDRESS (STREET, CITY, STATE, ZIP)			COUNTY		
	DATE AND TIME OF INCIDENT	INVESTIGATING AGENCY San Diego Sheriff	OFFICER Detective Pearce	BADGE #	REPORT # 12125362	
	DECEDENT WAS	BELTED	HELMETED <input type="checkbox"/> Yes <input type="checkbox"/> No	POSITION	ON PRIVATE PROPERTY <input type="checkbox"/> Yes <input type="checkbox"/> No	
	VEHICLE			LICENSE NUMBER		STATE
NOTIFICATION	IDENTIFIED BY SDSO staff		METHOD Visual	DATE AND TIME 05/20/2012 1818		
	FUNERAL HOME Village Cremation		PROPERTY <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	PUBLIC ADMINISTRATOR <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	TYPE OF EXAM Autopsy	
	NAME OF NOK OR OTHER Ronald & Brian Hough	RELATIONSHIP Son	DATE NOTIFIED 7/4/2012 7:00:00 PM	NOTIFIED BY Evelyn Taylor		
	NAME OF NOK OR OTHER Public Administrator's Office	RELATIONSHIP Conservator	DATE NOTIFIED 5/21/2012 8:00:00 AM	NOTIFIED BY Leah Burton		

San Diego Medical Examiner
5570 Overland Avenue, Suite#101
San Diego, CA 92123-1206
(858) 694-2895

Case Number : 12-01096
Investigator : Leah Burton
Date of Death : 05/20/2012
Date Today : 09/11/2012

INVESTIGATIVE NARRATIVE

Decedent: Thomas Alexander Hough

Antemortem Events:

On 05/20/12 at approximately 2152 hours, the following information was provided by SDSO Detective D. Pearce at the scene. The decedent, Thomas Hough, was a 72 year old divorced Caucasian male who had been incarcerated at the Vista Detention Facility since 05/17/12 for a failure to register charge. He had dementia and could not be housed with the mainline population, so he was housed in the Medical Isolation Unit. He would have angry outbursts at staff, but had no physical altercations or known traumatic incidents since his arrival. A few days prior to his death, he choked on a bologna sandwich. The Heimlich maneuver was performed and a large piece of sandwich was expelled. He had diet restrictions due to his diabetes. He had no professional or social visits since his arrival and though he was allotted yard time twice a week, he chose not to use it. On 05/20/12, at approximately 1630 hours, nursing staff and a deputy provided dinner to the decedent in his cell. He was upset at being woken up so the food was left on his bed before staff left the cell. At 1705 hours, a deputy performing a security check noted the decedent was not breathing. Nursing staff was notified and a crash cart was brought to his cell. An automated external defibrillator (AED) device was activated and 9-1-1 called. Vista Fire Department Engine 1211 and medic unit 1291 were dispatched to the Medical Isolation Unit at the Vista Detention Facility at 325 S. Melrose Drive in Vista. Upon arrival, advanced cardiac life support measures were initiated to no avail. Despite aggressive medical intervention, death was pronounced at 1730 hours by Dr. Karis via radio from Tri-City Hospital. This office was notified of the death and the scene secured pending my arrival.

Past Medical, Surgical, and Social History:

According to SDSO medical records, the decedent had a medical history remarkable for ethanol abuse greater than 8 ounces in a day with withdrawal with passed seizures and delirium tremors. He had dementia, diabetes mellitus, a previous suicide attempt and psychiatric issues. He had severe irritability, periods of confusion and was unpredictable. He was a protective custody inmate due to his age and due to his previous charges of being a sex offender. He was provided the following medications during his incarceration: Librium, human insulin, Glucophage, Ventolin, Qvar, Remeron, lithium carbonate, and Risperdal.

On 05/21/12, the following information was obtained from Tri-City Hospital medical records for a visit date of 05/16/12. On 05/16/12, he presented to Tri-City Medical Center Emergency Department after being placed on a 5150 hold for being gravely disabled. Apparently, transit police had called SDSO to a bus station, because the decedent had refused to leave. He had been drinking alcohol. A CAT scan performed the previous day was negative for any type of transient ischemic attack or cerebrovascular accident. He was cleared of the 5150 hold by psychiatric staff and discharged at 1730 hours. The decedent had a medical history remarkable for multiple past ED visits, chronic obstructive pulmonary disease, diabetes mellitus type 2, depression, ethanol abuse with a history of withdrawal seizure, possible dementia, and was homeless.

Scene Description:

On 05/20/12, at approximately 2211 hours, the scene location and the decedent was viewed. The decedent was housed in a single occupancy cell. Newspapers and empty food items were on the unkempt cell floor. An AED machine and oxygen tank was by the cell's door. An open tray sat at the end of the bed on top of the mattress. The tray contained vegetables, a meat product, and nearby was a small container of a red liquid. The decedent

had been moved to the hallway outside his cell. No obvious illicit drugs, medications, suicide type notes were found at the scene.

Body Description:

The decedent was clad only in jail issued pants and socks. He was cool to the touch and flaccid with blanching livor mortis on the posterior aspects of the extremities and back. Congestion was noted to the face and neck. No ocular or buccal petechial hemorrhages were found. He was edentulous; no buccal trauma or trauma to the nasal bones or face was found. Vomit was on the floor next to and on the body. Poor hygiene was noted to the hands and feet. No ligature marks were on the neck; no injuries were found to the hands, arms or legs; no crepitus was found to the skull or chest. No obvious trauma was noted. Medical paraphernalia noted on the body consisted of defibrillator pads on the chest and an intravenous line established in left antecubital fossa.

HS&B Transportation personnel, H. Necochea and K. Stevens placed a yellow identification band on the decedent's right ankle, placed the body into a new white vinyl pouch and secured it with blue tamper-evident seal 1140609 hours. The body was then transported to the Medical Examiner's Office for examination

Special Requests:

None.

Identification:

The decedent was identified through SDSO records.

Tissue Donation:

Not pursued.

Antemortem Specimens:

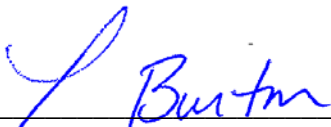
Not applicable.

Public Administrator:

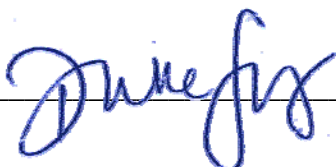
No referral made.

Other Important Factors:

None.

Signed:  07/16/12

Leah Burton
Medical Examiner Investigator

Approved by:  07/23/12



County of San Diego

GLENN N. WAGNER, D.O.
CHIEF MEDICAL EXAMINER

JONATHAN R. LUCAS, M.D.
CHIEF DEPUTY MEDICAL EXAMINER

OFFICE OF THE MEDICAL EXAMINER

5570 OVERLAND AVE., SUITE 101, SAN DIEGO, CALIFORNIA 92123-1206

TEL: (858) 694-2895 FAX: (858) 495-5956

AUTOPSY REPORT

Name: THOMAS ALEXANDER HOUGH **ME#:** 12-1096
Place of death: Vista Detention Facility **Age:** 72 Years
325 S. Melrose Drive, Ste. 200
Vista, CA 92081 **Sex:** Male
Date of death: May 20, 2012; 1730 Hours
Date of autopsy: May 21, 2012; 0945 Hours

CAUSE OF DEATH: HYPERTENSIVE CARDIOVASCULAR DISEASE

Contributing: DIABETES MELLITUS

MANNER OF DEATH: NATURAL

AUTOPSY SUMMARY:

- I. Hypertensive cardiovascular disease.
 - A. Cardiac hypertrophy (510 grams).
 - B. Nephrosclerosis.
- II. History of diabetes mellitus.
- III. History of dementia.
 - A. Mild bifrontal cortical atrophy.
- IV. No evidence of acute aspiration.
- V. Bilateral anterior rib fractures, consistent with resuscitation efforts.

OPINION: According to the Investigator's Report, this 72-year-old man was incarcerated at the Vista Detention Facility. He had a history of alcohol abuse with withdrawals, seizures and delirium tremens, "dementia", diabetes mellitus, "psychiatric issues", and a previous suicide attempt. He was in the medical isolation unit for his dementia. At 1630 hours, dinner was provided to the decedent and was left on his bed. At 1705 hours, a deputy found the decedent not breathing on a security check. A code was called and resuscitative efforts were initiated, but despite aggressive medical intervention, he was declared dead shortly thereafter. A few days prior to his death he had choked on a bologna sandwich, requiring the Heimlich maneuver.

The autopsy documented large, poorly masticated food chunks in the stomach and distal esophagus. However, only small particles were in the upper airway and trachea. There was no evidence of airway obstruction. The heart was enlarged and the kidneys were scarred, consistent with hypertension. There were no significant injuries. Toxicological testing detected therapeutic concentrations of chlordiazepoxide (and its metabolites) and lithium. The vitreous glucose was not elevated. No alcohol or illicit drugs were detected.

Therefore, based on these findings and the history and circumstances of the death as currently known, the cause of death is certified as **hypertensive cardiovascular disease** with **diabetes mellitus** listed as contributing. The manner is **natural**.

JONATHAN R. LUCAS, M.D.
Chief Deputy Medical Examiner

Date signed:

IDENTIFICATION: The body is identified by Medical Examiner's tags around the right ankle bearing the decedent's name and case number. Around the left wrist is a yellow band bearing the decedent's name, date of birth, "12534775", and the decedent's picture.

WITNESSES: There are no outside witnesses.

CLOTHING: The body is unclad when initially viewed. A separate bag of clothing accompanies the body and is not examined at this time.

EVIDENCE OF MEDICAL INTERVENTION:

1. There is a puncture in the left antecubital fossa with an overlying intravenous clear tag.
2. There are defibrillator pads on the right upper chest and left lateral thorax.
3. Accompanying the body is a bag of normal saline with tubing attached.
4. Over the sternum there is a 2 x 2 inch area of irregular, punctate and up to 3/8 inch, pale, yellow-orange abrasions.

EXTERNAL DESCRIPTION

The body is of a well-developed, well-nourished, average framed, 71 inch, 190 pound Caucasian man whose appearance is consistent with the given age of 72 years.

The straight, gray scalp hair measures up to 3/8 inch. There is slightly excoriated skin on the frontal scalp and vertex. The full moustache and beard measure up to 1/2 and 3/4 inches, respectively. The nose and facial bones are palpably intact. The eyes have blue irides, glistening corneae, and conjunctivae without hemorrhage, petechiae, or yellow discoloration. The nose is normally formed. The nares are unobstructed. There is a small amount of moist emesis on the face. The oral cavity is edentulous and atraumatic. The ears are normally formed without drainage. There are bilateral earlobe creases. The head and neck are congested. The neck is symmetrical and unremarkable.

The torso is unremarkable. The chest and abdomen are hairy. The abdomen is moderately obese and soft. The back is symmetrical and unremarkable. The extremities have no needle track marks, edema, deformities, or amputations. The fingernails are somewhat unevenly trimmed, slightly dirty, and extend up to 1/8 inch beyond the nailbeds, resulting in focal overhangs. The toenails are thickened and yellow, and dirty and poorly trimmed. The genitalia are of a normal circumcised man. The testes are palpable within the scrotum. The anus is unremarkable. There is faint, yellowish-brown discoloration of the proximal shins.

SCARS: None (including wrists).

TATTOOS: On the lateral right arm is a professional-appearing, multicolored tattoo of a

striped animal.

POSTMORTEM CHANGES: There is moderate to marked, symmetric rigor mortis of the upper and lower extremities, neck, and jaw. Livor mortis is posterior, red and blanches slightly with pressure. The body is cold (refrigerated).

EXTERNAL EVIDENCE OF INJURY

On the posterior distal left forearm there is a 3/8 x 1/4 inch scab. On the dorsal aspect of the proximal left great toe there is a 1/2 x 1/4 inch, chronic skin ulcer. On the lateral right knee there is a 1/8 inch scab.

INTERNAL EXAMINATION

BODY CAVITIES: The abdominal fat layer measures up to 7 cm. The organs are in their normal situs. The diaphragm is intact. There are few, easily broken, fibrous adhesions in each thoracic cavity. There are no adhesions in the abdomen. There are no abnormal collections of fluid or hemorrhage in the body cavities.

CARDIOVASCULAR SYSTEM: The heart weighs 510 grams and has a rounded shape and smooth, glistening epicardial surface. The coronary arteries pursue a normal right dominant course. Each major coronary artery has proximal calcific atherosclerotic stenosis of up to 40% - 50%.

The ventricles are not dilated. The myocardium is uniformly dark red and firm without pallor, hemorrhage, softening, or fibrosis. The left ventricle, right ventricle and interventricular septum measure 1.2 cm, 0.4 cm and 1.4 cm in thickness, respectively. The endocardial surfaces and four cardiac valves are unremarkable and without vegetations. The coronary ostia are normally placed and widely patent. There are no atrial or ventricular septal defects.

The aorta has moderate calcific atherosclerosis, primarily below the renal arteries. The vena cavae and pulmonary arteries are without thrombus or embolus.

RESPIRATORY SYSTEM: The right lung weighs 760 grams, and the left weighs 570 grams. Both lungs have smooth, glistening pleural surfaces, are well expanded, and there are a few fibrous adhesions as described above. The larger bronchi contain brown, thick liquid consistent with that seen in the stomach. The cut surfaces of the parenchyma reveal that the small airways also have similar material. No larger pieces of food are seen. The parenchyma is dark red, congested, subcrepitant, and emphysematous. No masses, hemorrhage, or consolidation are present.

HEPATOBIILIARY SYSTEM: The liver weighs 1870 grams and has a smooth, glistening,

intact capsule and uniformly red-brown parenchyma without fibrosis, hemorrhage, yellow discoloration, or masses. The gallbladder contains a small amount of liquid, yellow-green bile without calculi. The wall is not thickened.

The pancreas has unremarkable, lobulated, gray-tan parenchyma without fibrosis, hemorrhage, masses, or calcification.

HEMOLYMPHATIC SYSTEM: The spleen weighs 360 grams and has a smooth, glistening, intact capsule and soft, dark purple parenchyma with unremarkable, clearly visible white pulp. There are no enlarged lymph nodes.

GASTROINTESTINAL SYSTEM: The esophagus and gastroesophageal junction are unremarkable. The stomach contains 200 cc of thick, brown liquid and numerous particles of food including corn, beans, cheese slices, pink-tan meat product, and firm, light tan material. There are chunks that measure up to 1-3/4 x 3/4 x 1/2 inch. No pills or capsules are seen. The gastric and duodenal mucosae are unremarkable. The small intestine, vermiform appendix, and large intestine are unremarkable to inspection and palpation.

UROGENITAL SYSTEM: The right kidney weighs 230 grams, and the left weighs 240 grams. The capsules strip with moderately granular, red-brown subcapsular surfaces. The corticomedullary architecture is unremarkable. The pelves are not dilated. The ureters maintain uniform caliber into an unremarkable bladder. The bladder contains approximately 2 cc of cloudy, yellow urine. The bladder wall is muscular, but not thickened. The prostate gland is not enlarged.

ENDOCRINE SYSTEM: The thyroid gland is symmetrical and has dark red-purple parenchyma without masses or cysts. The adrenal glands have the usual golden cortical ribbon and unremarkable medullae. The pituitary gland is unremarkable.

MUSCULOSKELETAL SYSTEM: There are anterior, focally hemorrhagic fractures of the right 2nd - 7th ribs and the left 2nd - 8th ribs. There are moderately hemorrhagic parasternal fractures of the right 3rd - 6th ribs and parasternal fractures of the left 6th and 7th ribs. The vertebrae, sternum, clavicles, and pelvis are without fracture. The ribs are slightly brittle. The musculature is normally distributed and unremarkable.

HEAD: The scalp is atraumatic. The skull has no fracture. There is no epidural or subdural hemorrhage.

CENTRAL NERVOUS SYSTEM: The fresh brain weighs 1400 grams and is normal size and shape. There is mild bifrontal cortical atrophy. There is no cerebral swelling. There is no evidence of herniation. There are no cortical contusions. The leptomeninges are thin and glistening. There is no subarachnoid hemorrhage. The cerebral vessels are without aneurysms or atherosclerosis. The substantia nigra is normally pigmented.

The cerebral hemispheres are symmetrical with unremarkable sulci and gyri. The white and gray matter, deep nuclei, and ventricles are symmetrical and unremarkable. The brainstem and cerebellum have the usual patterns. There are no focal hemorrhages, masses, infarcts, or other lesions.

NECK: The trachea and larynx are lined by glistening, light tan mucosa. There are a few small food particles within the pharynx and larynx and a small amount of brown, thick fluid below the vocal cords. There is no obstructing material. There are large, chunky food boluses in the distal esophagus similar in appearance to those in the stomach. The cervical vertebrae, hyoid bone, and tracheal and laryngeal cartilages are without fracture. The unremarkable tongue, anterior strap muscles and paratracheal soft tissues are without hemorrhage.

SPECIMENS

TOXICOLOGY: The following specimens are submitted for toxicology: central and peripheral blood, vitreous, gastric contents (strained), and liver.

HISTOLOGY: Portions of tissues and major organs are retained in formalin. Sections of heart (1), liver (1), kidney (1), lungs (2) are submitted for microscopic examination.

PHOTOGRAPHS: The usual facial photographs and photographs of the gastric contents are taken.

RADIOLOGY: None.

MICROSCOPIC EXAMINATION

HEART (1 section): There is mild, diffuse interstitial fibrosis, primarily in the subendocardium. There mild hypertrophic changes of myocytes. There is no necrosis or inflammation.

LIVER (1 section): There is patchy macrovesicular steatosis involving less than 25% of the section. The portal areas exhibit fibrosis and a mild chronic inflammatory infiltrate. There is multifocal interlobular extension.

KIDNEY (1 section): Rare sclerotic glomeruli are present. There is no fibrosis. The vasculature is unremarkable. There is no inflammation. No excess crystals are visible under polarized light.

LUNGS (2 sections): Many of the alveolar spaces are enlarged. The vessels are mildly thickened. There is no inflammation.

JRL:lcb

D: 5/21/12 T: 5/23/12

Rev. 8/31/12 lcb



County of San Diego

GLENN N. WAGNER, D.O.
CHIEF MEDICAL EXAMINER

JONATHAN R. LUCAS, M.D.
CHIEF DEPUTY MEDICAL EXAMINER

OFFICE OF THE MEDICAL EXAMINER
5570 OVERLAND AVE., Ste #101, SAN DIEGO, CALIFORNIA 92123-1206
TEL: (858) 694-2895 FAX: (858) 495-5956

TOXICOLOGY REPORT

Name: **HOUGH, Thomas Alexander**
Medical Examiner Number: **12-01096**
Date of Death: **05/20/2012**
Time of Death: **17:30**
Pathologist: **Jonathan R. Lucas, M.D.**
Specimens Received: **Central Blood, Gastric, Liver, Peripheral Blood 1, Peripheral Blood 2, Vitreous**
Date Specimens Received: **05/22/2012**

<u>Test Name (Method of Analysis)</u>	<u>Specimen Tested</u>	<u>Result</u>
<u>Alcohol Analysis (GC/FID-Headspace)</u>	Peripheral Blood 2	
Alcohol (Ethanol)		Not Detected
Acetone, Methanol, Isopropanol		Not Detected
<u>Drugs of Abuse Screen (ELISA)</u>	Central Blood	
Cocaine metabolites		Not Detected
Amphetamines		Not Detected
Opiates		Not Detected
Benzodiazepines		Presumptive Positive
Fentanyl		Not Detected
Cannabinoids		Not Detected
<u>Base Screen (GC/MS)</u>	Peripheral Blood 1	
Chlordiazepoxide		Detected
Norchlordiazepoxide		Detected
Nordiazepam		Detected
<u>Benzodiazepines (HPLC/DAD)</u>	Peripheral Blood 1	
Chlordiazepoxide		0.84 mg/L
Demoxepam		Detected
Norchlordiazepoxide		Detected
Nordiazepam		0.09 mg/L
<u>Vitreous Chem Panel (Cobas c111)</u>	Vitreous	
Glucose		32 mg/dL
Chloride		130 mmol/L
Creatinine		0.3 mg/dL
Potassium		7.9 mmol/L
Sodium		152 mmol/L
VUN		51 mg/dL

Lithium

Peripheral Blood 1

See attached report from NMS

End Results

Approved and Signed: _____
08/28/2012 Iain M. McIntyre, Ph.D.
Forensic Toxicology Laboratory Manager
(All Inquiries/Correspondence)

Reviewed: _____
Phyllis Mallett
Toxicologist II



NMS Labs

CONFIDENTIAL

3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437

Phone: (215) 657-4900 Fax: (215) 657-2972

e-mail: nms@nmslabs.com

Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

Toxicology Report

Report Issued 06/13/2012 16:29

Last Report Issued 05/29/2012 09:06

To: 79C
San Diego County Medical Examiner
Attn: Toxicology Laboratory
5570 Overland Ave - Ste 101
San Diego, CA 92123

Patient Name NP
Patient ID 12-01096
Chain 11423138
Age Not Given
Gender Not Given
Workorder 12176608

Page 1 of 2

Positive Findings:

Table with 4 columns: Compound, Result, Units, Matrix Source. Row 1: Lithium, 0.21, mEq/L, Peripheral Blood

See Detailed Findings section for additional information

Testing Requested:

Table with 2 columns: Analysis Code, Description. Row 1: 2520B, Lithium, Blood

Specimens Received:

Table with 6 columns: ID, Tube/Container, Volume/Mass, Collection Date/Time, Matrix Source, Miscellaneous Information. Row 1: 001, Clear Vial, 0.75 mL, Not Given, Peripheral Blood

All sample volumes/weights are approximations.

Specimens received on 05/24/2012.



CONFIDENTIAL

Workorder 1217660
Chain 11423138
Patient ID 12-01096

Page 2 of 2

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Lithium	0.21	mEq/L	0.028	001 - Peripheral Blood	ICP/OES

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. Lithium - Peripheral Blood:

Lithium is a monovalent cation that belongs to the group of alkali metals. It has been utilized for several decades as an effective mood-stabilizing therapy in certain forms of mania and endogenous depression. It appears to be utilized in the neurotransmitters involved in the pathogenesis of mania and depression.

The normal physiological serum level of lithium is 0.0001 - 0.0003 mEq/L. Effective therapeutic range is 0.5 - 1.3 mEq/L serum 12 hr following administration.

Toxicity is manifested at levels of lithium in excess of 2 mEq/L. The symptoms include nausea, vomiting, diarrhea, weakness, ataxia, blurred vision, confusion, stupor and coma. Death usually occurs when the concentration exceeds 5 mEq/L.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded three (3) months from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

Analysis Summary and Reporting Limits:

Acode 2520B - Lithium, Blood - Peripheral Blood

-Analysis by Inductively Coupled Plasma/Optical Emission Spectrometry (ICP/OES) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Lithium	0.028 mEq/L		