GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

March 27,1991

Rec'd April 1, 1991

Steve Alexander
New Mexico Environmental Improvement Division
Harold Runnels Building
1190 St. Francis Drive
Santa Fe, New Mexico 87504-0968

RE: CME Technical Reports

Dear Mr. Alexander:

Enclosed are two sets of the CME Technical Reports. One each for OW-11 and the Shallow Monitoring Wells.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale
Environmental Manager
Ciniza Refinery

enclosure: CME Technical Report (2)

CCR/sp

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION
HAZARDOUS WASTE PROGRAM

COMPREHENSIVE GROUNDWATER MONITORING EVALUATION REPORT (CME)

INSPECTION COVER SHEET

EPA I.D. NUMBER: NMD000333211-2

NAME OF FACILITY: Giant Refining Company

MAILING ADDRESS: Rt 2. Box 7
Gallup, N.M 87301

LOCATION: Exit 39 - I-40

TELEPHONE: (505) 722-3833

TYPE OF FACILITY: Treatment

DATE OF INSPECTION: March 4 5 6 & 7 1991

INSPECTION PARTICIPANTS:

NAME	AGENCY/COMPANY/POSITION	TELEPHONE
Bruce Swanton	NMEID	
Steve Alexander	NMEID	
Claud Rosendale	Giant Fox Alpha	505-722-[illegible]17
Lynn Shelton	Giant Fox A&ST	505-722-2227

TYPE OF EVALUATION:
(Check one)

Oversight: Federal:

Lead: Commercial TSD:

Other: Other:

PREPARED BY: _____ **DATE:** _____
CONCURRED BY: _____ **DATE:** _____

INSPECTION SUMMARY

GENERAL COMMENTS:

CLASS I - VIOLATIONS:

CLASS II - VIOLATIONS:

DEFICIENCIES:

INSPECTION RECOMMENDATIONS

SMW- Wells

CME TECHNICAL REPORT
* INTRODUCTION

FACILITY:

FACILITY DESCRIPTION:

WASTE MANAGEMENT UNITS REQUIRING GROUNDWATER MONITORING

UNIT NAME: Landfarm
* WASTE TYPE: K049 K050 K051 K052 D001, D007 Non-Hazardous
SIZE: 15 Acres
CONSTRUCTION: Earth Dikes
STATUS (Active, non-active, closed): Active
* YEARS OF OPERATION: 10 years

UNIT NAME:
WASTE TYPE:
SIZE:
CONSTRUCTION:
STATUS (Active, non-active, closed):
YEARS OF OPERATION:

UNIT NAME:
WASTE TYPE:
SIZE:
CONSTRUCTION:
STATUS (Active, non-active, closed):
YEARS OF OPERATION:

Have any RCRA units at the facility been granted a groundwater monitoring waiver?
YES/NO/NA NO

What was the date that the waiver was granted? N/A

Was the waiver granted for interim status, permitted status or both? N/A

If yes, then fill out a Groundwater Waiver Checklist for this unit and re-evaluate the appropriateness of the waiver.

SMD)

Site: Ginzo

Inspector: _____

Date: _____

★ SITE HYDROGEOLOGY - FACILITY PROVIDED INFORMATION

Use "Y" = yes, "N" = no, "N/A" = not applicable, "U" = unknown.

1. Did the owner/operator provide information on the following direct techniques in the hydrogeological assessment:

Y a. Logs of the soil borings/rock corings?

★ U b. Materials tests (e.g. grain size analyses, standard penetration tests, etc.)?

U c. Piezometer installation for water level measurements at different depths?

U d. Slug tests?

U e. Pump tests?

U f. Geochemical analyses of soil samples?

U g. All chemical/physical analysis data from cores or cuttings?

___ h. Other:

2. Did the owner/operator provide information on the following indirect techniques:

N a. Geophysical well logs?

N b. Tracer studies?

N c. Resistivity and/or electromagnetic conductance?

N d. Seismic Survey?

N e. Hydraulic conductivity measurements of cores?

★ N f. Aerial photography?

N g. Ground penetrating radar?

___ h. Other:

U 3. Did the owner/operator document and present the raw data from the site hydrogeological assessment?

U 4. Did the owner/operator document methods (criteria) used to correlate and analyze the information?

✓ 5. Did the owner/operator provide potentiometric contour maps of the site? Please attach a copy of the at least one of these maps.

If YES,

Do the potentiometric contour maps provide:

NA a. potentiometric contours at an appropriate interval?

__ b. north arrow?

__ c. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, process drains, storm drain, pipelines, etc.)?

__ d. locations of nearby water bodies, streams, arroyos?

__ e. locations of off-site wells that may potentially affect the direction of flow?

__ f. location of site boundaries?

__ g. location and boundaries of individual RCRA units?

__ h. surveyed locations of wells and borings?

✓ i. groundwater flow lines?

6. Did the owner/operator obtain and provide a regional hydrogeologic map?

If **YES**, does this hydrogeologic map indicate:

✓ a. Major areas of recharge/discharge?

Y b. Regional groundwater flow direction?

Y c. Potentiometric contours which are consistent with observed water level elevations?

7. Static Water Level Measurements:

U a. Was the well casing height measured by a licensed surveyor to the nearest 0.01 feet?

U b. Were the well water level measurements taken within a 24 hour

period?

If not, how long?

Y c. Were the well water level measurements taken to the nearest 0.01 feet?

U d. Were the well water levels allowed to stabilize after construction and development for a minimum of 24 hours prior to measurements?

If not, how long did they wait?

U e. Was the water level information obtained from (check appropriate one):

U (1) multiple piezometers placed in single borehole

U (2) vertically nested piezometers in closely spaced separate boreholes

U (3) upgradient and downgradient monitoring wells

U (4) a combination of piezometers and monitoring wells

8. How were the static water levels measured? (check method used)

U (1) Electric water sounder

(2) Wetted tape

(3) Air line

(4) Other (explain)

✓ 9. Was the well water level measured in wells with equivalent screened intervals at an equivalent depth below the saturated zone?

10. Seasonal and temporal fluctuations in groundwater:

✓ a. Do fluctuations in static water levels occur? Very Minimal

If yes, to what do the facility personnel attribute these fluctuations?

✓ (1) Off-site well pumping

✓ (2) On-site well pumping

(3) Intermittent natural variations (e.g., river stage. etc.)

NA (4) Off-site, on-site construction or changing land use patterns?

__ (5) Deep well injection?

__ (6) Seasonal variations

✓ (7) Other:

NA b. Has the owner/operator documented sources and patterns that contribute to or affect the groundwater patterns below the waste management area?

11. Hydraulic conductivity

a. How were hydraulic conductivities of the subsurface material determined? Check as appropriate:

NA (1) Single well tests (slug tests)

__ (2) Multiple well tests (pump tests)?

✓ (3) Other (specify)

b. If single well tests were conducted, was it done by:

NA (1) Adding or removing a known volume of water?

__ (2) Pressurizing well casing?

✓ c. If single well tests were conducted in a highly permeable formation, were pressure transducers and high-speed recording equipment used to record the rapidly changing water levels?

12. If other hydrological properties have been evaluated, provide the following data if available:

a. Transmissivity:

b. Storage coefficient:

c. Leakage:

d. Permeability: NA

e. Porosity:

f. Specific capacity:

g. Other:

Site: Gin/29

Inspector: _____

Date: _____

☆ EVALUATION OF FACILITY FIELD PROCEDURES & FACILITY LAB PROCEDURES

If appropriate: use "Y" = yes, "N" = no, "N/A" = not applicaable, "U" = unknown.

A. MEASUREMENT OF WELL DEPTHS/WATER ELEVATIONS

N 1. Are measurements of both depth to standing water and depth to the bottom of the well made and recorded before purging unless the well has a dedicated, permanently installed pump that prevents total depth measurements?

N 2. Are all water elevations measured within a 24 hour period or less? Not allowed by S+A Plan

Y 3. Are all measurements calculated from the top of the well casing? (i.e., the water elevation and total depth are not measured from the bottom of the well)

Y 4. Are measurements for water elevations taken to the 0.01 feet? [illegible]

N/A 5. Are all total depth measurements recorded to the nearest 0.25 foot or less?

6. What devices are used? depth Sounder

N 7. Is there a visibly marked surveyed reference point on the well casing rim which was established by a licensed surveyor?

NA 8. Is this reference point accurate to the 0.01 foot with respect to sea level?

Y 9. Is the measuring equipment cleaned before and between well locations by washing with a non-phosphate detergent followed by a tap water rinse?

NA 10. If the well has evidenced organic contamination or inorganic contamination, are more stringent decontamination methods used such as a hexane rinse or a hydrochloric acid rinse, respectively?

NA 11. If a plastic or polytetrafluoroethylene (PTFE) measuring tape is used, is the tape checked periodically, at least once a year, with a steel tape for calibration purposes?

N 12. Does the owner/operator note in the field notebook whether there are there any nearby wells that could potentially impact the water elevation measurements?

N 13. At sites with relatively flat gradients, are the water elevations measured several times to ensure an accurate measurements?

B. DETECTION OF IMMISCIBLE LAYERS

N 1. Are procedures used which will detect heavy phase immiscible layers?

Y 2. Are procedures used which will detect light phase immiscible layers?

NA 3. Are procedures used to measure the thickness of the immiscible layers?

C. SAMPLING OF IMMISCIBLE LAYERS

NA 1. Are the immiscible layers sampled separately prior to well evacuation?

2. Do the procedures used minimize mixing with water soluble phases?

3. Describe how the immiscible samples are collected:

4. Are appropriate methods used to collect the immiscible samples?

D. WELL EVACUATION

Y 1. Are low yielding wells evacuated once to dryness?

Y 2. Are high yielding wells evacuated so that at least three casing volumes are removed?

NA 3. For high yielding wells, are measurements of pH, specific conductivity, and temperature obtained before, during and after purging in order to verify that these parameters have stabilized? (Stabilization indicates that well has been adequately purged.)

NA 4. If **NO**, has documentation been provided that demonstrates

that stabilization occurs at this well after a specific volume of water has been purged?

5. What device is used to evacuate the wells: Bailer

U 6. During purging, was the discharge rate slower than the rate used during development?

U 7. Was the purge rate slow enough to prevent recharging water rushing turbulently into the well?

N 8. Was the purge water containerized until the groundwater analytical results whether the water is contaminated? Permit approved disposal

NA 9. If the groundwater analyses evidence contamination, is the purge water treated on site in accordance with applicable and relevant regulations or disposed as hazardous waste?

Y 10. If any problems are encountered (e.g. equipment malfunction) are they noted in a field logbook?

E. SAMPLE WITHDRAWAL

Y 1. Are samples withdrawn with either fluorocarbon/resins or stainless steel sampling devices?

Y 2. Are sampling devices either bottom valve bailers or positive gas displacement bladder pumps?

Y 3. Are precautions used to ensure that all sampling equipment that could potentially come into contact with the sample is constructed of inert materials?

N 4. Is an inert bailer cord used?

N 5. If a non-inert bailer cord is used, is it discarded between sampling points? Different ropes are used for different wells

NA 6. If bladder pumps are used, are they operated in a continuous manner to prevent aeration of the sample?

NA 7. If bladder pumps are used, is a flow rate of 100ml/minute or less used to collect organic samples, metal samples, and any other samples which could be chemically unstable due to aeration and turbulence?

Y 8. If bailers are used, are they lowered slowly to prevent degassing of the water?

Y 9. If bailers are used, are the contents transferred to the

sample container in a way that minimizes agitation and aeration?

Y 10. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior in insertion into the well?

Y 11. If dedicated sampling equipment is not used, is all sampling equipment that could potentially come into contact with the sample, dissembled and thoroughly cleaned between samples?

___ 12. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps:

Y a. Nonphosphate detergent wash?

Y b. Tap water rinse?

N c. Dilute acid rinse HNO3 or HCL?

Y d. Distilled or deionized water rinse?

Y e. Air dry before use?

___ 13. If samples are for organic analysis, does the cleaning procedure include the following sequential steps:

Y a. Nonphosphate detergent/hot water wash?

Y b. Tap water rinse?

Y c. Distilled/deionized water rinse?

N d. Acetone rinse?

N e. Pesticide-grade hexane rinse?

F. IN-SITU OR FIELD ANALYSES

N 1. For low yielding wells, are official field measurements for pH, specific conductivity, and temperature obtained as soon as the well has recovered enough to yield water for a sample? S+A plan specifies it is last.

NA 2. For high yielding wells, are official field measurements for pH, specific conductivity, and temperature obtained as soon as the unofficial field measurements have stabilized?

Y 3. Are the official field measurements for pH recorded to

the 0.01 pH unit?

Y 4. Are the official field measurements for specific conductivity recorded to the nearest 10 umhos?

5. Indicate which of the following chemically unstable parameters are determined in the field:

Y pH? Y Temperature?

Y Specific conductivity?

N Redox potential? N Chlorine?

N Dissolved oxygen? N Turbidity?

— Other:

Y 6. If the sample is withdrawn from the well, is the parameter measured from a split portion?

N 7. Is monitoring equipment calibrated according to manufacturers' specifications? Two Stds.

Y 8. Is the date, procedure, and maintenance for equipment calibration documented in the field logbook?

G. SPECIAL HANDLING CONSIDERATIONS

Y 1. Are organic samples handled without filtering?

Y 2. Is one equipment blank prepared each day of groundwater sampling?

Y 3. Is one unfiltered sample taken for total metals?

H. SAMPLE LABELS

Y 1. Are sample labels used?

2. Do they provide the following information:

Y a. Sample identification number?

Y b. Name of collector?

Y c. Date and time of collection?

Y d. Place of collection?

Y e. Parameter(s) requested and preservatives used?

Y 3. Do they remain legible even if wet?

Y 4. Are sample seals placed on those containers to ensure samples are not altered?

Y 5. If individual bottle seals are not used, is the container for holding the bottles sealed?

I. FIELD LOGBOOK

Y Is a field logbook maintained?

If yes, does it document the following:

Y 1. Purpose of sampling (e.g., detection or assessment)?

N 2. Location of well(s)?

N 3. Total depth of each well?

Y 4. Static water level depth and measurement technique?

Y 5. Presence of immiscible layers and detection method?

NA 6. If immiscible layers exist, collection method for immiscible layers?7

Y 7. Well purging procedures?

Y 8. Sample withdrawal procedure?

Y 9. Dates and times of collection?

Y 10. Well sampling sequence?

N 11. Types of sample containers and sample identification number(s)

N 12. Preservative(s) used?

Y 13. Field analysis data and method(s)?

Y 14. typical well recharge rates?

J. CHAIN-OF-CUSTODY RECORD

Y 1. Is a chain-of-custody record included with each sample?

Y 2. Does it document the following:

Y a. Sample number?

Y b. Signature of collector?

Y c. Date and time of collection?

Y d. Sample type?

Y e. Station location?

Y f. Number of containers?

Y g. Parameters requested?

Y h. Signatures of persons involved in chain-of-custody?

Y i. Inclusive dates of custody?

B. LABORATORY LOGBOOK

U 1. Is a laboratory logbook maintained?

__ 2. Are experimental conditions (e.g., temperature, humidity, etc.) noted?

__ 3. If a sample for volatile analysis is received with headspace, is this noted?

__ 4. Are the results for all QC samples identified?

__ 5. Is the time, date, and name of person noted for each processing step included?

SNW

Site: Ginizg

Inspector: _____

Date: _____

Use "Y" = yes, "N" = no, "N/A" = not applicable, "U" = unknown.

☆ MONITORING WELLS - FACILITY PROVIDED INFORMATION

These questions should be answered for each different well design and construction present at the facility. Wells designed or constructed using the same procedures may be grouped.

1. Drilling Methods:

a. What drilling method was used for the well? Check which method was used.

Y (1) Hollow-stem auger

___ (2) Solid-stem auger

___ (3) Mud rotary

___ (4) Air rotary

___ (5) Reverse rotary

___ (6) Cable tool

___ (7) Jetting

___ (8) Air drill w/casing hammer

___ (9) Other (explain)

U b. Were any cutting fluids (including water) or additives used during drilling? If **YES**, specify,

(1) Type of drilling fluid (e.g., type of foam, Wyoming pure sodium bentonite, etc.):

(2) Source of water used:

U c. Was the drilling equipment steam-cleaned prior to drilling the well?

If other cleaning methods were used, please describe:

U d. Was compressed air used during drilling?

N/A e. If **YES**, was the air filtered to remove oil?

f. How were core samples obtained? Check sample collection method used.

___ split spoon ___ core drilling

___ shelby tube Y other: Continuous Sampler

___ g. Were the following analytical tests performed on the core samples or cuttings? Check which tests were performed.

Y Gross description of moisture content (e.g., moist, wet, saturated, etc.)

N Mineralogy (e.g. microscopic tests and x-ray diffraction)

N Petrographic analysis

N degree of sorting, size fraction (i.e. sieving), texture

N degree of crystalinity and cementation of matrixal variations

Y rock type(s) (e.g., limestone, granite, etc.)

Y soil type (sandy loam, sandy clay, etc.)

Y approximate bulk geochemistry (e.g., 5% feldspar, 80% limestone, etc.)

___ existence of microstructures that may effect or indicate fluid flow

U Falling head tests

U Static head tests

U Settling measurements

U Centrifuge tests

Y Column drawings

N Analyses for contaminants. If contaminants were identified, please list:

U h. Were the sample corings logged by a qualified professional in geology?

j. Does the lithology log (driller's log) include the following information:

Y (1) Hole name/number?

Y (2) Date started and finished?

Y (3) Driller's name?

Y (4) Hole location (i.e. map and elevation)?

N (5) Drill rig type and bit/auger size?

N (6) Gross petrography (e.g. rock type) of each geologic unit?

Y (7) Gross mineralogy of each geologic unit?

Y (8) Gross structural interpretation of each geologic unit and structural features (e.g. fractures, gouge material, solution channels, buried streams or valleys, identification of depositional material)?

Y (9) Development of soil zones and vertical extent and description of soil type?

U (10) Depth of water bearing unit(s) and vertical extent of each?

U (11) Depth and reason for termination of borehole?

Y (12) Depth that water was encountered in hole?

Y (13) Depth and location of any contaminant encountered in borehole?

U (14) Sample location/number?

U (15) Percent sample recovery?

Y (16) Narrative descriptions of geologic observations?

Y (17) Narrative descriptions of drilling observations?

2. Monitoring Well Construction Materials

a. Identify well construction materials (by number) and diameters (ID/OD)

(1) Primary Casing:

material: Stainless Steel

diameter: 2" OD

(2) Secondary or outside casing (double construction)

material: N/A

diameter:

(3) Screen

material: Stainless Steel

diameter: 2" OD,

(4) Sump

material: U

(5) Centralizers

material: U

N/A b. If PVC materials were used, did they bear the National Sanitation Foundation logo for potable water applications (NSF-pw) or American Society of Testing Materials (ASTM)?

Y c. Were inert materials used below and including the static water level within the well?

d. How are the sections of casing and screen connected? Check type of connection. U

___ Pipe sections threaded

___ Couplings (friction) with adhesive or solvent

___ Couplings (friction) with retainer screws

___ Other (specify)

U e. Were the materials steam-cleaned prior to installation?

If no, how were the materials cleaned?

f. Well Intake Design and Well Development

Y (1) Was a well intake screen installed?

Y (2) Was the screen manufactured?

(3) Provide the slot size: 0.010"

g. If well construction logs were provided, do they

Y 1. depict the dimensions, locations, elevations and depths of the screen, casing, sump, bentonite seal, bentonite-cement seals and other annular seals, filter pack, centralizers?

___ 2. specify materials of construction (casing, screen, sump, centralizers)?

0.010" 3. specify the screen slot size?

46.5', 54.6' 4. specify the total depth of the well? 43.5', 69.9', 73.9', 70.8'

U 5. specify the filter pack grain size?

U 6. specify the mineralogy of the filter pack (e.g., 96% silica, 4% feldspar)?

Y 7. specify the surveyed elevation of the top of casing?
6880.73, 6881.73, 6882.15, 6877.74, 6875.68, 6878.35

Y h. Was a tailpipe or sump installed?

(1) How far does the sump extend below the screen? 7.50', 15.83', 3.50', 7.28', 7.72', 7.18'

Y (2) Was the sump capped with an inert bottom?

If **NO**, explain:
Bentonite Plug

U i. Was a filter pack installed? If so:

(1) Specify which wells have an artificial filter pack:

___ (2) Does the filter pack consist of inert, siliceous granular material?

___ (3) How was the filter pack installed?

___ (4) What is the particle size range:

i. Well development

U (1) Was the well developed?

U (2) Check which method was used:)

___ surge block ___bailer ___air

___ surging ___water pumping

___ other: _____

U (3) What were the turbidity readings? (Please indicate well number)

U j. Was only an additive free bentonite slurry used as a sealant within the saturated zone

3. Surface protection of the well.

Y a. Is the surficial expression of the well above grade?

N b. Is the surficial expression of the well below grade?

If **YES**, please describe surface configuration of the well.

Steel Casing with latch and lock anchored by concrete

Y c. Is the upper portion of the borehole sealed with a concrete cap to divert drainage away from the casing?

Y d. Are the dimensions of the concrete cap at least 3 feet by 3 feet by 4 inches thick?

Y e. If motor vehicles can approach the well, is the well fitted with an above-ground protective device and bumper guards?

Y f. Has the protective cover been installed with locks to prevent tampering?

N 4. Have any facility wells been abandoned or plugged? If yes,

NA a. Was only an additive free bentonite slurry used as a plug within the saturated zone?

If **NO**, specify what type of material was used as the additive.

b. How thick was this plug:

NA c. Was a different plug used in the unsaturated zone? If yes,

NA (1) If yes, did the plug consist of a bentonite-cement slurry?

NA (2) If bentonite-cement was not used, specify the materials used (grit and type):

NA (3) Was the plug emplaced as a slurry in a continuous process to the surface using a tremie pipe?

NA d. Were the plugs appropriate for the site conditions and ensure an adequate seal and do not adversely affect groundwater chemistry? (E.g., cement was not used in the saturated zone, backfill was not used, bentonite grout was used in the saturated zone, etc)

NA e. Was the casing removed before the wells were plugged?

If **NO**, describe how the screen and filter pack were plugged:

WELL DATA SUMMARY

WELL NO.	UP,DOWN,OR SIDE GRAD?	DATE DRILLED	TOTAL DEPTH	STATIC WATER LEVEL*	SCREENED INTERVAL **

* Indicate date measured and elevation of top of casing and static water level.

** Indicate elevation of top and bottom

SMU

Site: Ciniza Refinery

Inspector: _____

Date: _____

★ GENERAL FACILITY-PROVIDED INFORMATION

Use "Y" = yes, "N" = no, "N/A" = not applicable, "U" = unknown.

1. Has the owner/operator prepared the following:

Y a. Narrative description of geology?

Y b. Geologic cross sections?

Y c. Geologic and soil maps?

Y d. Boring/coring logs?

Y e. Structure contour maps of the differing water bearing zones and confining layer? Ciniza Sand

U f. Narrative description and calculation of ground-water flows?

Y g. Water table/potentiometric map?

U h. Hydrologic cross sections?

2. If cross sections were provided, do they:

Y a. identify the types and characteristics of the geologic materials present?

U b. define the contact zones between different geologic materials?

U c. identify potential flow zones of high permeability or fracture?

N d. reference directions (e.g., north, south)

N e. give detailed borehole information including:

N (1) location and number of boreholes?

N (2) depth of termination?

N (3) location of screen (if applicable)?

N (4) depth of zone(s) of saturation?

N (5) abandonment of hole procedure?

N (6) concurrent water elevation measurements and date of measurement?

3. If a facility map was provided, does the it include:

N a. topographic contours at a maximum interval of two-feet?

N b. scale of 1 inch = 100 feet for flat gradients and a scale no greater than 1 inch = 200 feet for steeper gradients?

Y c. north arrow?

Y d. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, process drains, storm drain, pipelines, etc.)?

Y e. descriptions of nearby water bodies, streams, arroyos?

N f. descriptions of off-site wells?

Y g. site boundaries?

Y h. individual RCRA units?

Y i. delineation of the waste management areas within 1000 feet of the RCRA unit? (e.g., recovery trenches, recovery wells, waste handling areas, tanks, API or oil separators, container storage areas, solid waste management units)?

Y j. surveyed locations of wells and borings?

U k. Did the owner/operator provide a facility topographic map which was constructed by a licensed surveyor?

l. How many regulated units does the facility have? 1

NA (1) If more than one regulated unit, does the waste management area encompass all regulated units?

NA (2) Is a waste management area delineated on the facility map for each regulated unit?

4. Does the facility keep records of the following:

Y a. analyses for groundwater parameters?

Y b. calculations of means and variances?

Y c. static water level elevations taken at each sampling event?

Y d. calculations of statistical differences?

Y e. assessment plan outline?

Y f. assessment plan?

Y g. analyses of samples taken during assessment monitoring?

Y h. results of the assessment plan:

Y (a) rates of migration?

Y (b) vertical and horizontal extent of migration?

Y (c) concentrations of hazardous waste, hazardous waste constituents, or hazardous constituents?

Y i. copies of groundwater monitoring annual reports?

OW-11

CME TECHNICAL REPORT
* INTRODUCTION

FACILITY:

FACILITY DESCRIPTION:

WASTE MANAGEMENT UNITS REQUIRING GROUNDWATER MONITORING

UNIT NAME: Landfarm
WASTE TYPE: K049, K052, K051, K052, D001, D002 non hazardous
SIZE: 15 acres
CONSTRUCTION: Earth dikes
STATUS (Active, non-active, closed): Active
YEARS OF OPERATION: 10 years

UNIT NAME:
WASTE TYPE:
SIZE:
CONSTRUCTION:
STATUS (Active, non-active, closed):
YEARS OF OPERATION:

UNIT NAME:
WASTE TYPE:
SIZE:
CONSTRUCTION:
STATUS (Active, non-active, closed):
YEARS OF OPERATION:

Have any RCRA units at the facility been granted a groundwater monitoring waiver?
YES/NO/NA
NO

What was the date that the waiver was granted? NA

Was the waiver granted for interim status, permitted status or both? NA

If yes, then fill out a Groundwater Waiver Checklist for this unit and re-evaluate the appropriateness of the waiver.

Site: Cinz 9

Inspector: _____

Date: _____

★ GENERAL FACILITY-PROVIDED INFORMATION

Use "Y" = yes, "N" = no, "N/A" = not applicable, "U" = unknown.

1. Has the owner/operator prepared the following:

Y a. Narrative description of geology?

Y b. Geologic cross sections?

Y c. Geologic and soil maps?

Y d. Boring/coring logs?

Y e. Structure contour maps of the differing water bearing zones and confining layer?

U f. Narrative description and calculation of ground-water flows?

Y g. Water table/potentiometric map?

U h. Hydrologic cross sections?

2. If cross sections were provided, do they:

Y a. identify the types and characteristics of the geologic materials present?

U b. define the contact zones between different geologic materials?

U c. identify potential flow zones of high permeability or fracture?

N d. reference directions (e.g., north, south)

N e. give detailed borehole information including:

N (1) location and number of boreholes?

N (2) depth of termination?

N (3) location of screen (if applicable)?

N (4) depth of zone(s) of saturation?

N (5) abandonment of hole procedure?

N (6) concurrent water elevation measurements and date of measurement?

3. If a facility map was provided, does the it include:

N a. topographic contours at a maximum interval of two-feet?

N b. scale of 1 inch = 100 feet for flat gradients and a scale no greater than 1 inch = 200 feet for steeper gradients?

Y c. north arrow?

Y d. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, process drains, storm drain, pipelines, etc.)?

Y e. descriptions of nearby water bodies, streams, arroyos?

N f. descriptions of off-site wells?

Y g. site boundaries?

Y h. individual RCRA units?

Y i. delineation of the waste management areas within 1000 feet of the RCRA unit? (e.g., recovery trenches, recovery wells, waste handling areas, tanks, API or oil separators, container storage areas, solid waste management units)?

Y j. surveyed locations of wells and borings?

U k. Did the owner/operator provide a facility topographic map which was constructed by a licensed surveyor?

l. How many regulated units does the facility have? _____

NA (1) If more than one regulated unit, does the waste management area encompass all regulated units?

NA (2) Is a waste management area delineated on the facility map for each regulated unit?

4. Does the facility keep records of the following:

Y a. analyses for groundwater parameters?

Y b. calculations of means and variances?

Y c. static water level elevations taken at each sampling event?

Y d. calculations of statistical differences?

Y e. assessment plan outline?

Y f. assessment plan?

Y g. analyses of samples taken during assessment monitoring?

Y h. results of the assessment plan:

Y (a) rates of migration?

Y (b) vertical and horizontal extent of migration?

Y (c) concentrations of hazardous waste, hazardous waste constituents, or hazardous constituents?

Y i. copies of groundwater monitoring annual reports?

Site: Ginizg

Inspector: _____

Date: _____

Use "Y" = yes, "N" = no, "N/A" = not applicable, "U" = unknown.

☆ MONITORING WELLS - FACILITY PROVIDED INFORMATION

These questions should be answered for each different well design and construction present at the facility. Wells designed or constructed using the same procedures may be grouped.

1. Drilling Methods:

a. What drilling method was used for the well? Check which method was used.

U ___ (1) Hollow-stem auger

___ (2) Solid-stem auger

___ (3) Mud rotary

___ (4) Air rotary

___ (5) Reverse rotary

___ (6) Cable tool

___ (7) Jetting

___ (8) Air drill w/casing hammer

___ (9) Other (explain)

U b. Were any cutting fluids (including water) or additives used during drilling? If **YES**, specify,

(1) Type of drilling fluid (e.g., type of foam, Wyoming pure sodium bentonite, etc.):

(2) Source of water used:

U c. Was the drilling equipment steam-cleaned prior to drilling the well?

If other cleaning methods were used, please describe:

U d. Was compressed air used during drilling?

U e. If **YES**, was the air filtered to remove oil?

f. How were core samples obtained? Check sample collection method used.

U

___ split spoon ___ core drilling

___ shelby tube ___ other:

___ g. Were the following analytical tests performed on the core samples or cuttings? Check which tests were performed.

U Gross description of moisture content (e.g., moist, wet, saturated, etc.)

U Mineralogy (e.g. microscopic tests and x-ray diffraction)

U Petrographic analysis

U degree of sorting, size fraction (i.e. sieving), texture

U degree of crystalinity and cementation of matrixal variations

U rock type(s) (e.g., limestone, granite, etc.)

Y soil type (sandy loam, sandy clay, etc.)

U approximate bulk geochemistry (e.g., 5% feldspar, 80% limestone, etc.)

U existence of microstructures that may effect or indicate fluid flow

U Falling head tests

U Static head tests

U Settling measurements

U Centrifuge tests

U Column drawings

U Analyses for contaminants. If contaminants were identified, please list:

U h. Were the sample corings logged by a qualified professional in geology?

j. Does the lithology log (driller's log) include the following information:

Y (1) Hole name/number?

N (2) Date started and finished?

N (3) Driller's name?

Y (4) Hole location (i.e. map and elevation)?

N (5) Drill rig type and bit/auger size?

N (6) Gross petrography (e.g. rock type) of each geologic unit?

N (7) Gross mineralogy of each geologic unit?

N (8) Gross structural interpretation of each geologic unit and structural features (e.g. fractures, gouge material, solution channels, buried streams or valleys, identification of depositional material)?

N (9) Development of soil zones and vertical extent and description of soil type?

N (10) Depth of water bearing unit(s) and vertical extent of each?

N (11) Depth and reason for termination of borehole?

N (12) Depth that water was encountered in hole?

N (13) Depth and location of any contaminant encountered in borehole?

N (14) Sample location/number?

N (15) Percent sample recovery?

Y (16) Narrative descriptions of geologic observations?

Y (17) Narrative descriptions of drilling observations?

2. Monitoring Well Construction Materials

a. Identify well construction materials (by number) and diameters (ID/OD)

(1) Primary Casing:

material: PVC

diameter: 4.0"

(2) Secondary or outside casing (double construction)

material: NA

diameter:

(3) Screen

material: PVC

diameter: 4.0"

(4) Sump

material: NA

(5) Centralizers

material: NA

U b. If PVC materials were used, did they bear the National Sanitation Foundation logo for potable water applications (NSF-pw) or American Society of Testing Materials (ASTM)?

U c. Were inert materials used below and including the static water level within the well?

d. How are the sections of casing and screen connected? Check type of connection.

U Pipe sections threaded

U Couplings (friction) with adhesive or solvent

U Couplings (friction) with retainer screws

U Other (specify)

U e. Were the materials steam-cleaned prior to installation?

If no, how were the materials cleaned?

f. Well Intake Design and Well Development

Y (1) Was a well intake screen installed?

Y (2) Was the screen manufactured?

(3) Provide the slot size: U

g. If well construction logs were provided, do they

Y 1. depict the dimensions, locations, elevations and depths of the screen, casing, sump, bentonite seal, bentonite-cement seals and other annular seals, filter pack, centralizers?

___ 2. specify materials of construction (casing, screen, sump, centralizers)?

U 3. specify the screen slot size?

150.0' 4. specify the total depth of the well?

U 5. specify the filter pack grain size?

U 6. specify the mineralogy of the filter pack (e.g., 96% silica, 4% feldspar)?

6923 7. specify the surveyed elevation of the top of casing?

Y h. Was a tailpipe or sump installed?

(1) How far does the sump extend below the screen? 85'0"

U (2) Was the sump capped with an inert bottom?

If **NO**, explain:

U i. Was a filter pack installed? If so:

(1) Specify which wells have an artificial filter pack:

U (2) Does the filter pack consist of inert, siliceous granular material?

U (3) How was the filter pack installed?

U (4) What is the particle size range:

i. Well development

U (1) Was the well developed?

U (2) Check which method was used:)

___ surge block ___bailer ___air

___ surging ___water pumping

___ other: _____

U (3) What were the turbidity readings? (Please indicate well number)

U j. Was only an additive free bentonite slurry used as a sealant within the saturated zone

3. Surface protection of the well.

Y a. Is the surficial expression of the well above grade?

N b. Is the surficial expression of the well below grade?

If **YES**, please describe surface configuration of the well.
Steel casing with latch & lock

Y c. Is the upper portion of the borehole sealed with a concrete cap to divert drainage away from the casing?

Y d. Are the dimensions of the concrete cap at least 3 feet by 3 feet by 4 inches thick?

Y e. If motor vehicles can approach the well, is the well fitted with an above-ground protective device and bumper guards?

Y f. Has the protective cover been installed with locks to prevent tampering?

N 4. Have any facility wells been abandoned or plugged? If yes,

NA a. Was only an additive free bentonite slurry used as a plug within the saturated zone?

If **NO**, specify what type of material was used as the additive.

b. How thick was this plug:

NA c. Was a different plug used in the unsaturated zone? If yes,

NA (1) If yes, did the plug consist of a bentonite-cement slurry?

NA (2) If bentonite-cement was not used, specify the materials used (grit and type):

NA (3) Was the plug emplaced as a slurry in a continuous process to the surface using a tremie pipe?

NA d. Were the plugs appropriate for the site conditions and ensure an adequate seal and do not adversely affect groundwater chemistry? (E.g., cement was not used in the saturated zone, backfill was not used, bentonite grout was used in the saturated zone, etc)

NA e. Was the casing removed before the wells were plugged?

If **NO**, describe how the screen and filter pack were plugged:

WELL DATA SUMMARY

WELL NO.	UP,DOWN,OR SIDE GRAD?	DATE DRILLED	TOTAL DEPTH	STATIC WATER LEVEL*	SCREENED INTERVAL **

* Indicate date measured and elevation of top of casing and static water level.

** Indicate elevation of top and bottom

Site: Gi 29

Inspector: _____

Date: _____

☆ SITE HYDROGEOLOGY - FACILITY PROVIDED INFORMATION

Use "Y" = yes, "N" = no, "N/A" = not applicable, "U" = unknown.

1. Did the owner/operator provide information on the following direct techniques in the hydrogeological assessment:

Y a. Logs of the soil borings/rock corings?

U b. Materials tests (e.g. grain size analyses, standard penetration tests, etc.)?

U c. Piezometer installation for water level measurements at different depths?

U d. Slug tests?

U e. Pump tests?

U f. Geochemical analyses of soil samples?

U g. All chemical/physical analysis data from cores or cuttings?

___ h. Other:

2. Did the owner/operator provide information on the following indirect techniques:

N a. Geophysical well logs?

N b. Tracer studies?

N c. Resistivity and/or electromagnetic conductance?

N d. Seismic Survey?

N e. Hydraulic conductivity measurements of cores?

N f. Aerial photography?

N g. Ground penetrating radar?

___ h. Other:

U 3. Did the owner/operator document and present the raw data from the site hydrogeological assessment?

U 4. Did the owner/operator document methods (criteria) used to correlate and analyze the information?

N 5. Did the owner/operator provide potentiometric contour maps of the site? Please attach a copy of the at least one of these maps.

If YES,

Do the potentiometric contour maps provide:

NA a. potentiometric contours at an appropriate interval?

__ b. north arrow?

__ c. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, process drains, storm drain, pipelines, etc.)?

__ d. locations of nearby water bodies, streams, arroyos?

__ e. locations of off-site wells that may potentially affect the direction of flow?

__ f. location of site boundaries?

__ g. location and boundaries of individual RCRA units?

__ h. surveyed locations of wells and borings?

✓ i. groundwater flow lines?

6. Did the owner/operator obtain and provide a regional hydrogeologic map?

If **YES**, does this hydrogeologic map indicate:

N a. Major areas of recharge/discharge?

Y b. Regional groundwater flow direction?

Y c. Potentiometric contours which are consistent with observed water level elevations?

7. Static Water Level Measurements:

U a. Was the well casing height measured by a licensed surveyor to the nearest 0.01 feet?

U b. Were the well water level measurements taken within a 24 hour

period?

If not, how long?

✓ c. Were the well water level measurements taken to the nearest 0.01 feet?

U d. Were the well water levels allowed to stabilize after construction and development for a minimum of 24 hours prior to measurements?

If not, how long did they wait?

U e. Was the water level information obtained from (check appropriate one):

U (1) multiple piezometers placed in single borehole

U (2) vertically nested piezometers in closely spaced separate boreholes

U (3) upgradient and downgradient monitoring wells

U (4) a combination of piezometers and monitoring wells

8. How were the static water levels measured? (check method used)

U (1) Electric water sounder

__ (2) Wetted tape

__ (3) Air line

__ (4) Other (explain)

✓ 9. Was the well water level measured in wells with equivalent screened intervals at an equivalent depth below the saturated zone?

10. Seasonal and temporal fluctuations in groundwater:

✓ a. Do fluctuations in static water levels occur?

If yes, to what do the facility personnel attribute these fluctuations?

NA (1) Off-site well pumping

__ (2) On-site well pumping

✓ (3) Intermittent natural variations (e.g., river stage. etc.)

NA (4) Off-site, on-site construction or changing land use patterns?

___ (5) Deep well injection?

___ (6) Seasonal variations

___ (7) Other:

NA b. Has the owner/operator documented sources and patterns that contribute to or affect the groundwater patterns below the waste management area?

11. Hydraulic conductivity

a. How were hydraulic conductivities of the subsurface material determined? Check as appropriate:

NA (1) Single well tests (slug tests)

___ (2) Multiple well tests (pump tests)?

___ (3) Other (specify)

b. If single well tests were conducted, was it done by:

NA (1) Adding or removing a known volume of water?

___ (2) Pressurizing well casing?

___ c. If single well tests were conducted in a highly permeable formation, were pressure transducers and high-speed recording equipment used to record the rapidly changing water levels?

12. If other hydrological properties have been evaluated, provide the following data if available:

a. Transmissivity:

b. Storage coefficient:

c. Leakage:

d. Permeability:

e. Porosity:

f. Specific capacity:

g. Other:

NA

Site: Gin 29

Inspector: _____

Date: _____

☆ EVALUATION OF FACILITY FIELD PROCEDURES & FACILITY LAB PROCEDURES

If appropriate: use "Y" = yes, "N" = no, "N/A" = not applicaable, "U" = unknown.

A. MEASUREMENT OF WELL DEPTHS/WATER ELEVATIONS

N 1. Are measurements of both depth to standing water and depth to the bottom of the well made and recorded before purging unless the well has a dedicated, permanently installed pump that prevents total depth measurements?

N 2. Are all water elevations measured within a 24 hour period or less? Not allowed by SEA Plan

Y 3. Are all measurements calculated from the top of the well casing? (i.e., the water elevation and total depth are not measured from the bottom of the well)

Y 4. Are measurements for water elevations taken to the 0.01 feet? accuracy in question

NA 5. Are all total depth measurements recorded to the nearest 0.25 foot or less?

6. What devices are used? Depth sounder

N 7. Is there a visibly marked surveyed reference point on the well casing rim which was established by a licensed surveyor?

NA 8. Is this reference point accurate to the 0.01 foot with respect to sea level?

Y 9. Is the measuring equipment cleaned before and between well locations by washing with a non-phosphate detergent followed by a tap water rinse?

NA 10. If the well has evidenced organic contamination or inorganic contamination, are more stringent decontamination methods used such as a hexane rinse or a hydrochloric acid rinse, respectively?

NA 11. If a plastic or polytetrafluoroethylene (PTFE) measuring tape is used, is the tape checked periodically, at least once a year, with a steel tape for calibration purposes?

N 12. Does the owner/operator note in the field notebook whether there are there any nearby wells that could potentially impact the water elevation measurements?

N 13. At sites with relatively flat gradients, are the water elevations measured several times to ensure an accurate measurements?

B. DETECTION OF IMMISCIBLE LAYERS

N 1. Are procedures used which will detect heavy phase immiscible layers?

Y 2. Are procedures used which will detect light phase immiscible layers?

NA 3. Are procedures used to measure the thickness of the immiscible layers?

C. SAMPLING OF IMMISCIBLE LAYERS

NA 1. Are the immiscible layers sampled separately prior to well evacuation?

NA 2. Do the procedures used minimize mixing with water soluble phases?

NA 3. Describe how the immiscible samples are collected:

NA 4. Are appropriate methods used to collect the immiscible samples?

D. WELL EVACUATION

Y 1. Are low yielding wells evacuated once to dryness?

Y 2. Are high yielding wells evacuated so that at least three casing volumes are removed?

NA 3. For high yielding wells, are measurements of pH, specific conductivity, and temperature obtained before, during and after purging in order to verify that these parameters have stabilized? (Stabilization indicates that well has been adequately purged.)

NA 4. If **NO**, has documentation been provided that demonstrates

that stabilization occurs at this well after a specific volume of water has been purged?

5. What device is used to evacuate the wells: Submersible Pump

N 6. During purging, was the discharge rate slower than the rate used during development?

U 7. Was the purge rate slow enough to prevent recharging water rushing turbulently into the well?

N 8. Was the purge water containerized until the groundwater analytical results whether the water is contaminated?

NA 9. If the groundwater analyses evidence contamination, is the purge water treated on site in accordance with applicable and relevant regulations or disposed as hazardous waste?

Y 10. If any problems are encountered (e.g. equipment malfunction) are they noted in a field logbook?

E. SAMPLE WITHDRAWAL

Y 1. Are samples withdrawn with either fluorocarbon/resins or stainless steel sampling devices?

Y 2. Are sampling devices either bottom valve bailers or positive gas displacement bladder pumps?

Y 3. Are precautions used to ensure that all sampling equipment that could potentially come into contact with the sample is constructed of inert materials?

N 4. Is an inert bailer cord used?

N 5. If a non-inert bailer cord is used, is it discarded between sampling points?

NA 6. If bladder pumps are used, are they operated in a continuous manner to prevent aeration of the sample?

NA 7. If bladder pumps are used, is a flow rate of 100ml/minute or less used to collect organic samples, metal samples, and any other samples which could be chemically unstable due to aeration and turbulence?

Y 8. If bailers are used, are they lowered slowly to prevent degassing of the water?

Y 9. If bailers are used, are the contents transferred to the

sample container in a way that minimizes agitation and aeration?

Y 10. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior in insertion into the well?

Y 11. If dedicated sampling equipment is not used, is all sampling equipment that could potentially come into contact with the sample, dissembled and thoroughly cleaned between samples?

___ 12. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps:

Y a. Nonphosphate detergent wash?

Y b. Tap water rinse?

N c. Dilute acid rinse HNO3 or HCL?

Y d. Distilled or deionized water rinse?

Y e. Air dry before use?

___ 13. If samples are for organic analysis, does the cleaning procedure include the following sequential steps:

Y a. Nonphosphate detergent/hot water wash?

Y b. Tap water rinse?

Y c. Distilled/deionized water rinse?

N d. Acetone rinse?

N e. Pesticide-grade hexane rinse?

F. IN-SITU OR FIELD ANALYSES

N 1. For low yielding wells, are official field measurements for pH, specific conductivity, and temperature obtained as soon as the well has recovered enough to yield water for a sample? S+A plan spec [illegible]

N/A 2. For high yielding wells, are official field measurements for pH, specific conductivity, and temperature obtained as soon as the unofficial field measurements have stabilized?

Y 3. Are the official field measurements for pH recorded to

the 0.01 pH unit?

Y 4. Are the official field measurements for specific conductivity recorded to the nearest 10 umhos?

5. Indicate which of the following chemically unstable parameters are determined in the field:

Y pH? Y Temperature?

Y Specific conductivity?

N Redox potential? N Chlorine?

N Dissolved oxygen? N Turbidity?

_ Other:

Y 6. If the sample is withdrawn from the well, is the parameter measured from a split portion?

N 7. Is monitoring equipment calibrated according to manufacturers' specifications? Two sets

Y 8. Is the date, procedure, and maintenance for equipment calibration documented in the field logbook?

G. SPECIAL HANDLING CONSIDERATIONS

Y 1. Are organic samples handled without filtering?

Y 2. Is one equipment blank prepared each day of groundwater sampling?

Y 3. Is one unfiltered sample taken for total metals?

H. SAMPLE LABELS

Y 1. Are sample labels used?

2. Do they provide the following information:

Y a. Sample identification number?

Y b. Name of collector?

Y c. Date and time of collection?

Y d. Place of collection?

Y e. Parameter(s) requested and preservatives used?

Y 3. Do they remain legible even if wet?

Y 4. Are sample seals placed on those containers to ensure samples are not altered?

Y 5. If individual bottle seals are not used, is the container for holding the bottles sealed?

I. FIELD LOGBOOK

Y Is a field logbook maintained?

If yes, does it document the following:

Y 1. Purpose of sampling (e.g., detection or assessment)?

N 2. Location of well(s)?

N 3. Total depth of each well?

Y 4. Static water level depth and measurement technique?

Y 5. Presence of immiscible layers and detection method?

NA 6. If immiscible layers exist, collection method for immiscible layers?7

Y 7. Well purging procedures?

Y 8. Sample withdrawal procedure?

Y 9. Dates and times of collection?

Y 10. Well sampling sequence?

N 11. Types of sample containers and sample identification number(s)

N 12. Preservative(s) used?

Y 13. Field analysis data and method(s)?

Y 14. typical well recharge rates?

J. CHAIN-OF-CUSTODY RECORD

Y 1. Is a chain-of-custody record included with each sample?

Y 2. Does it document the following:

Y a. Sample number?

Y b. Signature of collector?

Y c. Date and time of collection?

Y d. Sample type?

Y e. Station location?

Y f. Number of containers?

Y g. Parameters requested?

Y h. Signatures of persons involved in chain-of-custody?

Y i. Inclusive dates of custody?

B. LABORATORY LOGBOOK

✓ 1. Is a laboratory logbook maintained?

__ 2. Are experimental conditions (e.g., temperature, humidity, etc.) noted?

__ 3. If a sample for volatile analysis is received with headspace, is this noted?

__ 4. Are the results for all QC samples identified?

✓ 5. Is the time, date, and name of person noted for each processing step included?

File: S&A.FAC 8/21/90

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION
HAZARDOUS WASTE PROGRAM

COMPREHENSIVE GROUNDWATER MONITORING EVALUATION REPORT (CME)

INSPECTION COVER SHEET

EPA I.D. NUMBER: _____

NAME OF FACILITY: _____

MAILING ADDRESS: _____
_____
_____
__

LOCATION: _____

TELEPHONE: _____

TYPE OF FACILITY: _____
_____
_____

DATE OF INSPECTION: _____
_____

INSPECTION PARTICIPANTS:

NAME	AGENCY/COMPANY/POSITION	TELEPHONE

TYPE OF EVALUATION:
(Check one)

Oversight: Federal:

Lead: Commercial TSD:

Other: Other:

PREPARED BY: _____ **DATE:** _____
CONCURRED BY: _____ **DATE:** _____

INSPECTION SUMMARY

GENERAL COMMENTS:

CLASS I - VIOLATIONS:

CLASS II - VIOLATIONS:

DEFICIENCIES:

INSPECTION RECOMMENDATIONS