

ER Record I.D.# 0007559

ENVIRONMENTAL RESTORATION
Records Processing Facility
ER Record Index Form
(Side 1 of 2)

DATE RECEIVED: 08-07-92 PROCESSOR: BAD

Part I: Complete all fields; indicate if not applicable or appropriate; please write legibly.

DOCUMENT TO: R.L. Spaulding DOCUMENT DATE: 11/18/59
ORIGINATOR NAME: J.C. Anderson ORGANIZATION: GMV-7
SYMBOL: _____ PAGE COUNT: 7
SUBJECT/TITLE: Comments Concerning Scrap Disposal
At The Pit East of DF-15

RECORD TYPE (Circle relevant type for primary record; type of attachments should be selected on *Keywords List*):

- | | | | | |
|-------------------------|-----------|---------------------------------------|------------------------|------------------|
| Analytical Data | FAX | <input checked="" type="radio"/> Memo | Plan | Study |
| Chain-of-Custody | Figure | Microform | Procedure | Telephone Record |
| Computer Output | Form | Notebook | Purchase Request | Transcription |
| Contract | Interview | Personal Notes | Receipt Acknowledgment | Video |
| Controlled Distribution | Letter | Photo | Report | Work Plan |
| Drawing | Logbook | | Review | Other _____ |

RECORD CATEGORY: P
(P for Programmatic or R for Reference)

RECORD PACKAGE #: _____

RECORD FILMED (Y/N): Y

RECORD LOCATION: _____
(Indicate location of record if not filmed.)

Part II: Complete all fields; indicate if not applicable or appropriate; please write legibly. Use *ER Record Index Form Attachment Sheet* if needed.

ATTACHMENTS FILMED (Y/N): Y
(Were attachments to this record filmed?)

LOCATION: _____
(Indicate location of attachments.)

TECH AREA(S) <small>(LIST RELEVANT TECH AREAS)</small>	ADS NO(S) <small>(LIST RELEVANT ADS NOS)</small>	WBS NO(S) <small>(LIST RELEVANT WBS NOS)</small>	STRUCTURE NO(S)/MDA <small>(LIST RELEVANT STRUCTURE NOS/MDA)</small>
<u>40</u>	<u>1111</u>	<u>1.5.14</u>	<u>40-15</u>

33992



Part III: Complete all fields; indicate if not applicable or appropriate; please write legibly. Use *ER Record Index Form Attachment Sheet* if needed.

PRS NO(S)
LIST RELEVANT PRS NO(S)

DOCUMENT TO
LIST MULTIPLE DOCUMENTS

ORIGINATOR NAMES
LIST MULTIPLE ORIGINATORS

John L. Tucker

CORRECTION (Y/N): N
(Is this a correction to a record previously processed?)

CORRECTED #: _____
(If answer is Yes, please give ER Record # for corrected record.)

CORRECTION DESCRIPTION (Optional): _____

SUPERCEDE: _____ **REPLACE:** _____ **DELETE:** _____ **ADD:** _____ **REVISE:** _____

ATTACHMENT LIST

A) Map, _____, _____, _____, Fig. 7, _____

KEYWORDS: Circle relevant KEYWORDS from the list below for ER Record #: 0007559
MISCELLANEOUS (List other indexing criteria as necessary; please write legibly): TNT Scrap pellets

Abandon	Cadmium	Controlled Distribution	Evacuation	HSWA (Hazardous and Solid Waste Amendments)
Aboveground Tank	Caisson	Core	Evaluation	Hydrology
Absorption	Calibration	Corrective Action	Evaporator	Hygiene
Abstract	Canyon	Correspondence	Excavation	
Accelerator	Caponor	Criteria	Exclusion	
Access	Capacitor		Exhaust	
Accident	Caustic	Data	Experiment	Implementation
Accumulation	CEARP (Comprehensive Environmental Assessment and Response Program)	Deadline	Explosive	Implosion
Acid	Cement	Debris	Exposure	Impoundment
Active	CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)	Decision Analysis	Extension	Inactive
Administrative	Certification	Decommission	Extraction	Incinerator
ADS (Activity Data Sheet)	Cesium	Decontamination		Industrial
Adsorption	Chain-of-Custody	Deficiency	Facility	Injection Well
AEC (Atomic Energy Commission)	Chamber	Deliverables	Farm	Inorganic
Aerial	Change Control	Demolition	FAX	Inspection
Agenda	Change Order	Description	Fence	Installation
Agreement	Charge	Detection	Field	Interim
Air	Chart	Detonation	Field	Interim Action
Alpha	Checklist	Development	Figure	Internal
Americium	Chemical	Discharge	Filter	Interview
Analysis	Chromium	Disposal	FIMAD (Facility for Information Management, Analysis, and Display)	Inventory
Analytical	Cleanup	Documentation	Finding	Investigation
AOC (Area of Concern)	Clearance	DOE (Department of Energy)	Fire	IRM (Interim Remedial Measure)
Approval	Clothing	DOO (Data Quality Objectives)	Firing Site	Isotope
Aquifer	Closure	Draft	Fiscal	IWP (Installation Work Plan)
ARAR (Applicable, Relevant, or Appropriate Requirements)	CMI/RA (Corrective Measures Implementation/Remedial Action)	Drainage	Five Year Plan	
Archeology	CMS/FS (Corrective Measures Study/ Feasibility Study)	Drainline	Flowchart	Lab Job
Archive	Comment	Drawing	Fluid	Laboratory
Area	Committee	Drilling	Form	Lagoon
Arsenic	Community Relations	Drop Tower	Framework	Land
Asbestos	Compliance	Drum	Free	Landfill
Asphalt	Compressed Gas	Dry Well	Fuel	Laundry
Assessment	Computer Modeling	Dump		Leach
Audit	Computer Output	Duplicates	Gamma	Lead
	Concern		Gas	Leak
Bacteria	Concrete	Ecology	Generation	Legal
Barium	Concurrence	Effluent	Generic	Letter
Baseline	Configuration	EIS (Environmental Impact Statement)	Geochemistry	Limit
BCP (Baseline Change Proposal)	Construction	Emission	Geology	Lines
Beds	Container	Engineering	Geophysics	Liquid
Borned Area	Containment	Environmental	Glass Breaker	List
Beryllium	Contaminant	EPA (Environmental Protection Agency)	Glove Box	Log
Beta	Contract	Equipment	Graph	Logbook
Biology	Control	ERDA (Energy Research and Development Administration)	Guidance	
Blank		Erosion	Gun	Magazine
Boiler		Error	Handling	Management
Boneyard		ES&H (Environment, Safety, and Health)	Hazardous	Manhole
Buried		Estimate	Health	Map
Burn			HE (High Explosive)	Material
Burn Site			History	MDA (Material Disposal Area)
			Hole	Media
			Home Owner	Meeting

Memo	OSHA (Occupational Safety & Health Administration)	Radionuclide	Seminar	Testing
Mercury	OU (Operable Unit)	Rationale	Semivolatile	TLD (Thermoluminescent Dosimeter)
Metal	Outfall	RCRA (Resource, Conservation, and Recovery Act)	Septic	TOC (Table of Contents)
Microform	Outline	Reactor	Sewer	Townsite
Minimization	-----	Receipt	Shaft	Toxic
Minutes	PA/RFA (Preliminary Assessment /RCRA Facility Assessment)	Acknowledgment	Shell	Tracking
MIS (Management Information System)	PCB (Polychlorinated Biphenyl)	Recommendation	Shot	Training
Mixed Waste	Permit	Reconnaissance	Silver	Transcription
MOA (Memo of Agreement)	Personal Notes	Records	Site	Transfer
Model	Personnel	Recovery	Sludge	Transformer
Modification	Personnel Qualification	Recycle	Soil	Transport
Money (Allocation, Appropriation, Budget, Cost, Funding, etc.)	Photo	Reduction	Solid	Treatment
Monitoring	Personal Notes	Reference	Solvent	Trench
Monthly Report	Personnel Qualification	Regulation	SOP (Standard Operating Procedure)	Trip Report
Mortar Impact Area	Pilot Study	Release	SOW (Statement of Scope of Work)	Tritium
MOU (Memo of Understanding)	Pipe	Remediation	Specific	TRU (Transuranic)
MSA (Major System Acquisition)	Pit	Removal	Spill	TSCA (Toxic Substances Control Act)
-----	Plan	Report	Stack	Tuballoy
NEPA (National Environmental Policy Act)	Plant	Request	Standard	Tuff
NFA (No Further Action)	Plutonium	Requirements	Statistics	-----
Nitrate	Pollution	Research	Steamline	Underground
NMED (New Mexico Environmental Division)	Polonium	Resin Bed	Steel	Uranium
NMEID (New Mexico Environmental Improvement Division)	Polaroid	Resolution	Storage	Urine
NOD (Notice of Deficiency)	Potential	Resource	Strontium	USGS (United States Geological Survey)
Non-explosive	Presentation	Response	Structure	UST (Underground Storage Tanks)
Notebook	Prevention	Restoration	Study	Utility
Notification	Priority	Restriction	Subcontractor	-----
NPDES (National Pollutant Discharge Elimination System)	Procedure	Results	Subsurface	Validation
NRC (Nuclear Regulatory Commission)	Program	Review	Summary	Variance
Nuclear	Programmatic	Revision	Sump	VE (Value Engineering)
-----	Project	RFI/RI (RCRA Facility Investigation/Remedial Investigation)	Support	Ventilation
Observation	Project Leader	Risk	Surface	Ventilation
Off-gas	Propellant	RPF (Records Processing Facility)	Surveillance	Verification
Oil	Property	-----	Survey	Video
Open	Proposal	Safety	Swipe	Volatile
Open Burning	Protection	Salamander	SWMU (Solid Waste Management Unit)	Volume
Operation	Protocol	Salvage	System	-----
Order	PRS (Potential Release Site)	Sample	Tank	Warehouse
Organic	Public	Sampling Plan	Task	Waste
Organization	Pump	Sanitary	TCLP (Toxicity Characteristic Leaching Procedure)	Water
-----	Purchase Request	Satellite	TDD (Technical Document Description)	WBS (Work Breakdown Structure)
Quality	-----	Schedule	Technical	Weapon
QA (Quality Assurance)	Quality	Scope	Technical Team	Well
QP (Quality Procedure)	QA (Quality Assurance)	Scrap Detonation Site	Technology	Work
Quarterly Report	QP (Quality Procedure)	Screening	Telephone Record	Working Group
-----	Quarterly Report	Scrubber	Test Area	-----
Radioactive	Radioactive	Security		Zinc
Radiochemistry	Radiochemistry	Seep		

OFFICE MEMORANDUM

TO : R. L. Spaulding

FROM : J. C. Anderson and John L. Tucker

SUBJECT: COMMENTS CONCERNING SCRAP DISPOSAL AT THE PIT EAST OF DF-15

SYMBOL : QMX-7

DATE: November 18, 1959

Received by ER-RPF

AUG 07 1992

The chronology of events surrounding the finding of quantities of detonators that were supposedly destroyed by previous scrap disposal action at the disposal pit east of DF-15 is listed as follows: Some of the comments made here are the result of various people's memory and, thus, do not represent completely documented action.

- The condition surrounding the burn pit east of DF-15 was brought to the attention of L. B. Seely as being an unsafe situation due to the presence of small bits of explosive and an occasional undetonated detonator being observed on the ground. As a result of this report, a preliminary inspection of the area revealed that there were unexploded and recognizable stockpile-type detonators, in addition to fragments of undetonated explosive in the area surrounding the disposal pit. This finding prompted an extensive search of the area in an effort to pick up and remove the larger pieces of explosive and parts or whole detonators containing explosive. This search was conducted on October 22 and 23, 1959. The total time expended for this effort was about 100 man-hours. Figure 1 illustrates the general area covered. This area was screened twice. The first screening was made by traversing the area east and west marking the boundaries of the search area with spots of red paint. A second screening was made by traversing the area north and south, marking the boundary of the search area with rope. During this search, undetonated pellets, parts of pellets, parts of detonators with unexploded explosives, and complete and recognizable detonators were found.
- Some of the complete detonators found had their lot numbers and serial numbers sufficiently intact so that we could trace their history. The detonators listed below were recovered and were supposed to have been destroyed on the dates indicated.

Type	Lot No.	Det. S/N	Burn Can No.	Date of Destruction
LE20	1135	24450	106	11-26-58
LE20	1135	025192	108	11-26-58
LE22	1064	002647	97	11-21-58
LE22	1064	003405	97	11-21-58
LE22	1088	017475	97	11-21-58
LE22	1101	27975	97	11-21-58
LE22	1101	27938	97	11-21-58
LE22	1101	027749	97	11-21-58
LE22	1101	027961	97	11-21-58

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<u>Type</u>	<u>Lot No.</u>	<u>Det. S/N</u>	<u>Burn Can No.</u>	<u>Date of Destruction</u>
1E23	1065	96968	94	11-21-58
1E23	1065	89265	94	11-21-58
1E23	1065	97378	94	11-21-58
1E23	1065	96343	94	11-21-58
1E23	1065	97334	94	11-21-58
1E23	1065	96265	94	11-21-58
1E23	1065	97734	94	11-21-58
1E23	1065	96859	94	11-21-58
1E23	1065	97741	94	11-21-58
1E23	1065	96449	94	11-21-58
1E23	1135	71084	94	11-21-58
1E23	1135	69593	94	11-21-58
1E23	1135	71278	94	11-21-58
1E23	1148	79902	95	11-21-58
1E23	1065	97793	94	11-21-58
1E23	1065	90017	94	11-21-58
1E23	1065	88043	94	11-21-58
1E23	1135	71546	94	11-21-58
1E23	1135	71938	95	11-21-58

3. Several other detonators were found as follows:

<u>Type</u>	<u>Lot No.</u>	<u>Det. S/N</u>	<u>Return to Explosive Loading (Date)</u>
1E20	124	050864	Nov. 1957
1E20	304	005254	Dec. 1952
1E20	304	81847	Dec. 1952
1E20	199	096943	Apr. 1953
1E20	1121	002496	Aug. 1953
1E20	1121	002712	Aug. 1953
1E22	1086	054716	June 1953
1E23	1091	13675	Aug. 1953

Our records indicate that all of these detonators were rejected at one time or other and returned to the explosive loading section for destruction. Because of the practices followed there, we are unable to determine the date of the scrap shot during which this material was supposed to have been destroyed.

4. There were other nearly intact detonators found from which it was impossible to read either the lot number and/or the complete serial number; consequently, we cannot make a search of the records because of the incomplete information. In addition, as previously noted, a considerable number of detonator fragments containing explosives were found. All told, the pockets of nine 1E20 storage boxes were filled with the miscellaneous materials recovered.

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5. The history of the scrap pit east of Chamber 15 is summarized from DF Site records as follows:

<u>Date</u>	<u>No. of Shots</u>	<u>Can Numbers Destroyed</u>	<u>Issue Slip Numbers</u>	<u>Remarks</u>
10-5-55	6	--	--	Detonated, no details available
10-6-55	2	--	--	Detonated, no details available
10-7-55	1	--	--	Burned approximately 35 pounds of pellets
11-21-58	4	87 thru 101	14476 thru 14481	Detonated with miscellaneous scrap; approximately 50 pounds per shot. All went well as near as we could tell on these shots. Pit very dusty.
11-26-58	1	102 thru 116	14492 thru 14497	Shot did not propagate even with 15 pounds of TNT interspersed between layers. Area screened and quite a few LE20's were picked up. Weather caused shut-down of operations. Dets stored in Magazine 10.*
12-3-58	5	--	--	Remains from 11-26-58 and miscellaneous scrap with 40 pounds of TNT per shot. Area rescreened.**
12-9-58	8	117 thru 136	14504 thru 14512	40 pounds of TNT per shot
12-12-58	7	137 thru 156	14516 thru 14524	40 pounds of TNT per shot
1-14-59	5	157 thru 183	14551 thru 14560	40 pounds of TNT per shot

* The search conducted following this shot consisted of four people screening an area surrounding the pit for about a 150-foot radius for a period of about one hour. This is not a recorded fact, but is as people remember the action today. No one remembers picking up anything other than LE20's at that time.

** The area screening referred to here was conducted before any of the shots were fired on this date. It is remembered that two people spent about one hour searching an area of about 150-foot radius from the pit. The only material remembered being picked up at this time was a few LE20's in the pit.

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It is to be noted in paragraph 2 that the only dates from which we have recovered detonators are November 21 and November 26, 1958. Since all of the LE22's and LE23's recovered were of the November 21, 1958 date, it is reasonable to assume that had the search of November 26, 1958 or December 3, 1958 revealed any of these items being found, it would have been noted; however, such is not the case. Therefore, it is assumed that these items were not visible at that time.

It is remembered that miscellaneous scrap was received from various places within the Group for inclusion in the shots as indicated above. Since no record was kept of the type of material and from whom it was received, there is no way now to determine the contents of this category of material. This explains in part why the detonators listed in paragraph 3 above cannot be traced as to the date of destruction. It was the practice of the Surveillance Section in those days to return rejected detonators to the Explosive Loading Section for inclusion in the material that they were holding for future scrap shots. As indicated by some of the dates, this material was kept on hand for several years before it was disposed of. The practice then was to indicate that a stockpile detonator was destroyed for record accountability purposes when it was returned to the Explosive Loading Section for destruction.

It is to be noted that "burn" cans 102 through 116 were signed for by the destruction personnel on October 26, 1958; however, due to the weather and the fact that the one shot initiated on that date did not propagate, the remaining material was destroyed on December 3, 1958. At this time, there is no way to determine what "burn" cans were a part of the November 26, 1958 shot. Since it is known that the November 26, 1958 shot did spread LE20 detonators about the landscape, it is assumed that the LE20 detonators listed in paragraph 2 as November 26, 1958 for date of destruction were among those scattered on that date. The reason for this assumption is that starting with the shots on December 3, 1958, 40 pounds of TNT were used per shot. All succeeding shots were boosted with 40 pounds of TNT. Since we found no recognizable detonators from the scrap shots of December 9, 1958 and thereafter (which were similarly boosted), it is assumed that the December 3, 1958 shots also effectively destroyed the material.

6. Although considerable quantities of recognizable items or parts containing explosives or fragments of pellets were recovered during this search, it is not believed that all such items have been found and removed from the premises. There are many cracks and crevices in the surrounding tufa formation in which and under which recognizable detonators or bits of explosives may still be located. Also, because the pit and surrounding area have been noted as being very dusty on November 21, 1958 and November 26, 1958, it is quite possible that when undetonated items impacted they were driven beneath the surface and

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may remain there for indefinite periods. One instance to verify this conclusion was witnessed on November 12, 1959 when a party of people, including Roy Heider, R. L. Spaulding, A. D. Van Vessel, Earl Rutledge, and J. C. Anderson, were in the area to consider means of making the area somewhat more safe. Two pieces of detonators with some explosive were picked up in the area previously screened. It is believed that these items had been exposed by being washed out following the previous screening of the area by the intervening rains. Thus, it is concluded that no single search of the area could account for all items that were thrown out of the pit undetonated.

7. Since all of the items listed in paragraph 2 and 3 are classified objects, this fact must be considered in addition to any future safety consideration for this site. Since the purpose of this memo is to discuss the results of the search, neither the safety nor the security considerations involved are considered.
8. Early in 1959, because of the large quantity of detonators being removed from stockpile for destruction by GMX-7, it was decided that a mass destruction technique using nitromethane held many advantages over the procedures described above. This technique was tried out at GMX-8 with considerable success. Since GMX-6 was willing to use this technique for disposition of our materials in this way as a fill-in job, the destruction activities at the pit below DF-15 were halted. Since March 5, 1959 through September 16, 1959, 248 cans of detonators for destruction were shipped to GMX-8 and were destroyed by using the nitromethane procedure.

Because of the sad experience of finding some recognizable detonators surrounding our disposal pit, it was decided that search of the area around the Lower Slobbovia firing point should be conducted to see if similar articles could be recovered there. Consequently, on October 26, 1959, about ten man-hours of time were expended in this search. Although metal and plastic fragments of detonators were recovered, no security items or parts of detonators containing explosive were found. Because of the ground cover surrounding the area it would be impossible in a search of this nature to find very many of the items searched for if they in fact existed. It is the opinion of those who took part in this search that the method of destruction was quite good and that there is a good chance that all HE was destroyed. However, we cannot be completely certain about this.

9. In conclusion, it is believed that:
 - a. Detonators were scattered about the landscape at the scrap disposal pit below DF-15 on at least two occasions, on November 21, 1958, and on November 26, 1958.

R. L. Spaulding

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- b. That there are still parts of detonators with explosives and parts of pellets in the area that are presently below the surface which may be exposed by future ground erosion.
- c. That 40 pounds of flake TNT per shot seem to do an adequate job of destruction since no recognizable items were found as a result of the destructions in which this procedure was used.
- d. That the nitromethane method of destruction is much the better procedure and apparently gives more complete destruction of the items being detonated.

J. C. Anderson
J. C. Anderson

John L. Tucker
John L. Tucker

JCA/JLT:eel

Attachment: Figure 1

Distribution:

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R. W. Drake
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Earl Rutledge
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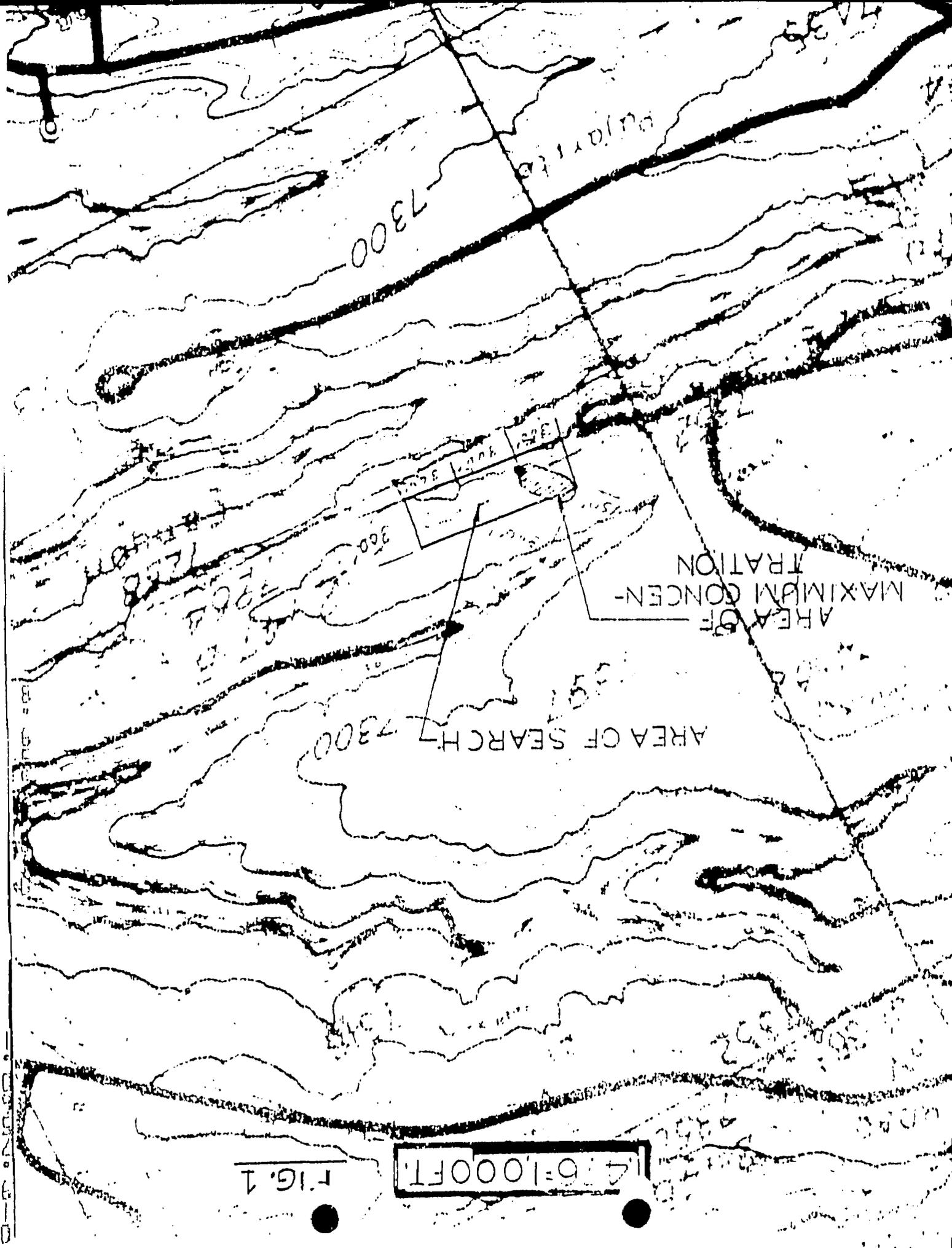


FIG. 1

1/4 MILE (1000 FT.)